

Staff Report to Council

Engineering Department

FILE: 11-5240-01/20

REPORT DATE: December 10, 2020 MEETING DATE: December 15, 2020

TO: Mayor and Council

FROM: Salia Ahrabian, Manager of Engineering and Facilities

SUBJECT: Soil Removal and Fill Deposit Permit Application – 18385 Old
Dewdney Trunk Road

CHIEF ADMINISTRATIVE OFFICER REVIEW/APPROVAL:



RECOMMENDATION(S): THAT Council:

- A. Approve the issuance of a Soil Removal and Fill Deposit Permit for 18385 Old Dewdney Trunk Road to deposit 2912m³ of structural fill, with the following conditions:
 - A.1 Issuance of a Highway Use Permit for hauling along the Neaves Road and Old Dewdney Trunk Road truck routes, prohibiting roadside parking or staging; AND
 - A.2 Prohibiting filling activities on Saturdays, Sundays and statutory holidays and restricting operations to the hours between 7:00 a.m. and 5:00 p.m. any other day of the week; AND
 - A.3 Execution and monitoring of Erosion and Sediment Control (ESC) measures as prescribed by Braun Geotechnical Ltd. and as required per provincial best management practices and qualified professional reports; AND
 - A.4 Implementation of all geotechnical recommendations for site preparation, foundation design and field review as recommended by Braun Geotechnical Ltd; AND
 - A.5 Compliance with all relevant legislation and permitting requirements, including municipal, regional, provincial and federal jurisdictions; OR
- B. Other.

PURPOSE:

The City has received a Soil Removal and Fill Deposit application to permit import of approximately 2912m³ of structural fill for the construction of an abattoir to support Hopcotts operation and meat processing needs at 18385 Old Dewdney Trunk Road.

☒ Information Report

☒ Decision Report

☐ Direction Report

DISCUSSION:

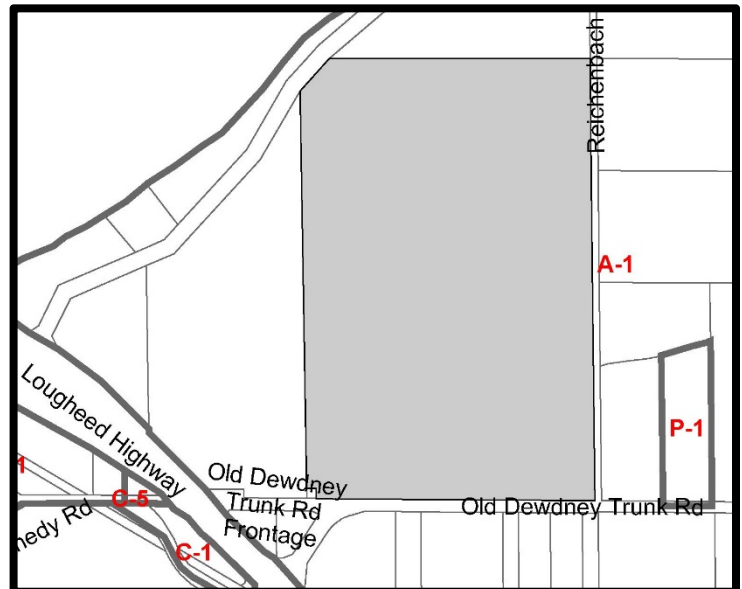
Background:

Applicant: Nick Faber
Owner: Fredrick Hopcott
Civic Address: 18385 Old Dewdney Trunk Rd.
Parcel Area: 41.16 ha (101.7 acres)
OCP: Agricultural – 20 ha minimum parcel size
Zoning: General Agriculture A-1

The subject property is located within the Agricultural Land Reserve, bound by Old Dewdney Trunk Road to the south, and the Pitt River located approximately 60 m northwest; situated inside the cities designated flood plain.

Official Community Plan and Zoning

Official Community Plan (OCP) land use designation for the subject property is Agricultural and is zoned A-1. The parcel is comprised of 70 acres of cranberry fields, 27 acres of corn fields, cattle and feed barns with 600 head of cattle and a butcher shop (Hopcott Premium Meats).



Soil Removal and Fill Deposit Proposal

The purpose of the Proposed Fill Placement Activities is to import preload and structural fill to meet the minimum flood plain elevation (2.45 metres Geodetic Survey of Canada datum for locations in the Rural Floodplain) in anticipation for the construction of an abattoir; 100% of the cattle going to the abattoir will be coming from the farm operation.

Staff received and reviewed the soil permit application with the following summary of details:

- The total area of the Proposed Fill Placement Activities is 0.12 ha (1,227 m²)
- The proposed volume of materials to be placed on the Property is 2912 m³ ;
- The proposed maximum depth of material to be placed on the Property is 3.1 m;
- The type of material proposed to be placed on the Property is 25mm minus, high fines surfacing aggregate and 75mm minus select/crushed granular subbase for the purpose of pre-load and structural fill associated with the abattoir and access driveway to the abattoir; and
- The estimated duration of preload surcharge is 16-24 months to achieve the required compaction.

The following associated Qualified Professional reports and plans were submitted with the application:

- Erosion and Sediment Control Plan, Braun Geotechnical Ltd.
- Geotechnical Report, Braun Geotechnical Ltd.
- Preload Plan, Braun Geotechnical Ltd.
- Topographic survey
- Site plan

Flood protection

In accordance with Schedule A of the City's *Floodplain Designation and Construction Control Bylaw No. 2384, 2008*, the designated floodplain for rural areas is 1.85m geodetic datum and the associated flood construction level (FCL) for buildings is 2.45m geodetic datum.

Agricultural Land Commission (ALC)

The Applicant submitted a Notice of Intent (NOI) for Placement of fill on ALR land to the Agricultural Land Commission (ALC); on November 27, 2020, city staff received notification from the ALC that the Proposed Fill Placement Activities have been approved. No further interaction is required with the ALC unless the project size and scope changes where the thresholds established under the ALC Act or Regulations are not being met. Should the scope change the applicant will be required to file an application with the ALC.

Agricultural Advisory Committee (AAC)

The intent of the soil removal and fill deposit works was presented to the Agricultural Advisory Committee with specifics of the application, on December 10, 2020. The Committee moved to fully support the Soil Removal and Fill Deposit Application for 18385 Old Dewdney Trunk Road.

Archaeological Sites

According to mapping data made available by the Ministry of Forests, Lands, and Natural Resource Operations, no archaeological sites are identified on the site. It is expected that, if archaeological artifact finds are discovered during the fill process, the contractor would report these finds directly to appropriate provincial authorities.

Relevant Policy, Bylaw, or Legislation:

The Soil Removal and Fill Deposit Regulation Bylaw No. 2593, 2013 regulates the placement of fill or the removal of soil or other material on land in the City.

The Highway and Traffic Bylaw No. 2836, 2020 regulates traffic and the use of highways and other areas in the City.

Council Policy C030, Geotechnical Report Guidelines, provides information to prospective applicants and their engineering professionals on when geotechnical reports are required and set out the standards and requirements to be addressed in those reports.

ANALYSIS:

Geotechnical

Placement of structural fill and subsequent preload shall conform to all recommendations and monitoring requirement, as outlined in the Geotechnical report submitted by Braun Geotechnical Ltd, dated October 13, 2020 (rev1) and the Preload plan (rev2), sealed on October 15, 2020. A summary of fill placement and preload requirements as dictated by Braun Geotechnical are as followings:

Site Stripping: Subgrade preparation below the proposed building should include removal of existing vegetation, organic soils, and any existing fills to at least 1.5m horizontally beyond the proposed building footprint areas, to expose the underlying natural silt. The exposed subgrade should be reviewed by Braun Geotechnical prior to placing structural fills.

Structural Fill: Structural fill should consist of clean, free draining sand and/or sand and gravel or equivalent with less than 5% fines (percent passing the #200 sieve). Structural fill should typically be placed and compacted in maximum 1 ft (300 mm) loose lifts with each lift compacted to at least 95% Modified Proctor Density (MPD). Braun Geotechnical should also be contacted to review fill quality, and placement and compaction procedures.

Preloading: Prior to construction, proposed building footprint areas should be preload-surcharged to reduce anticipated settlements resulting from the compression and consolidation due to extra loading. For the proposed structure, the preload surcharge should extend to at least 2.75m above the proposed top of slab elevation and should

typically extend horizontally to at least 1.5m beyond the building footprint at this level. Following surcharge removal, the exposed structural fill surface should typically be re-compacted. Prior to commencing fill placement a minimum of 5 settlement gauges should be installed for the building with the gauges established at least 1.5m from the crest of preload slopes. A preload duration of 16 to 24 weeks is anticipated based on previous experience in the study site area. However, the actual preloading duration will be determined based on review and assessment of the settlement gauge data.

Once preload surcharge has been achieved the preload material will be used as backfill and road access material. No material will be exported from the site.

Erosion and Sediment Control

ESC measures as outlined in the ECS plan will be implemented during fill placement and excavation. The implementation and maintenance of erosion and sediment control measures will be monitored and reported on an ongoing basis by Braun Geotechnical.

Road and Site Access

According to the provisions of the Soil Removal & Fill Deposit Regulation Bylaw, "dirt, mud, and debris resulting from a removal or deposit operation which is tracked onto public roads must be removed daily or as directed by the Director."

Access to the subject property for fill activities is via Old Dewdney Trunk Road; fill will be hauled in locally from Pitt River Quarry, as such the majority of hauling trucks will be confined to Neaves Road and Old Dewdney Trunk Road which form part of the City of Pitt Meadows truck route network.

The applicant is hopeful to complete the hauling activities for the placement of structural fill and preload surcharge within 1 month; equating to approximately 15 trucks a day (1-2 trucks an hour), based on an average 10m³ truck load. The filling at this site will coincide with other adjacent fill sites in the City and staff do not foresee an issue with the capacity of our road network, although we retain the right to monitor and revise the conditions, as needed.

Operations Hours

The filling would be prohibited on Saturdays, Sundays and statutory holidays and restricted to the hours between 7:00 a.m. to 5:00 p.m. on weekdays.

COUNCIL STRATEGIC PLAN ALIGNMENT

- ☐ Principled Governance ☐ Balanced Economic Prosperity ☐ Corporate Excellence
☐ Community Spirit & Wellbeing ☐ Transportation & Infrastructure Initiatives
☒ Not Applicable
-

FINANCIAL IMPLICATIONS

- ☐ None ☐ Budget Previously Approved ☐ Referral to Business Planning
☒ Other

The City would receive a levy of \$0.50/m³ for the material being imported onto the site. Should the permit be approved, to deposit 2912m³, levies of \$1456.00 would be collected into the Transportation Road Levies Reserve.

PUBLIC PARTICIPATION

- ☒ Inform ☐ Consult ☐ Involve ☐ Collaborate ☐ Empower
-

KATZIE FIRST NATION CONSIDERATIONS

- Referral ☐ Yes ☒ No
-

SIGN-OFFS

Written by:

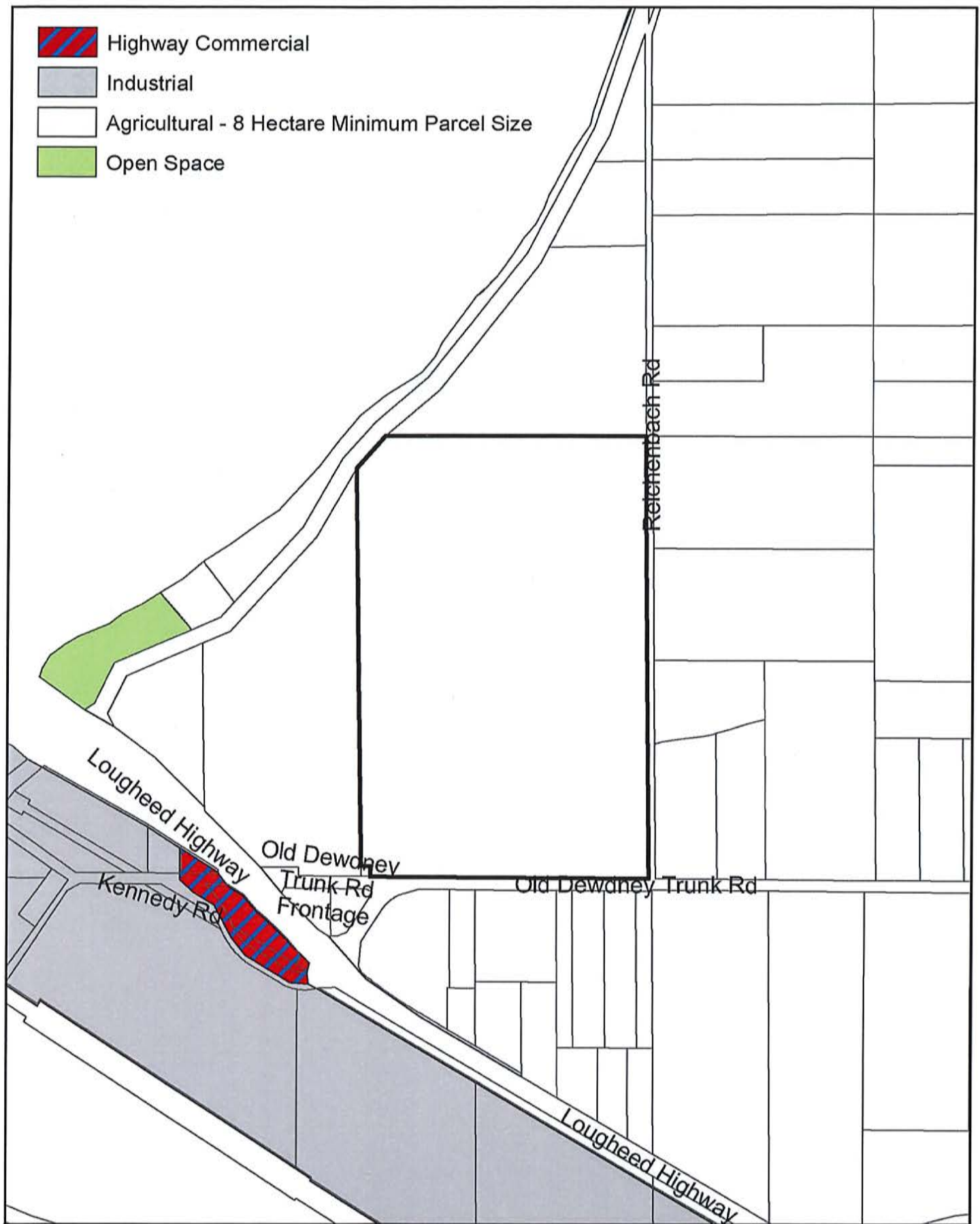
Ashley Seed, Engineering Technician

Reviewed by:

Salia Ahrabian, Manager of Engineering and Facilities

ATTACHMENT(S):

- A. Neighbourhood OCP Map
- B. Aerial Photo Map
- C. Site Plan
- D. Erosion and Sediment Control Plan, Braun Geotechnical Ltd.
- E. Geotechnical Report, Braun Geotechnical Ltd.
- F. Preload Plan, Braun Geotechnical Ltd.
- G. Notice of Intent to place fill on Land in the ALR- Decision Package
- H. Amendment to Approval-Notice of Intent to place fill on Land in the ALR



18385 Old Dewdney Trunk Rd Neighbourhood OCP





18385 Old Dewdney Trunk Rd

0 25 50 100 150 200
Meters

Map Created: 2020/11/30

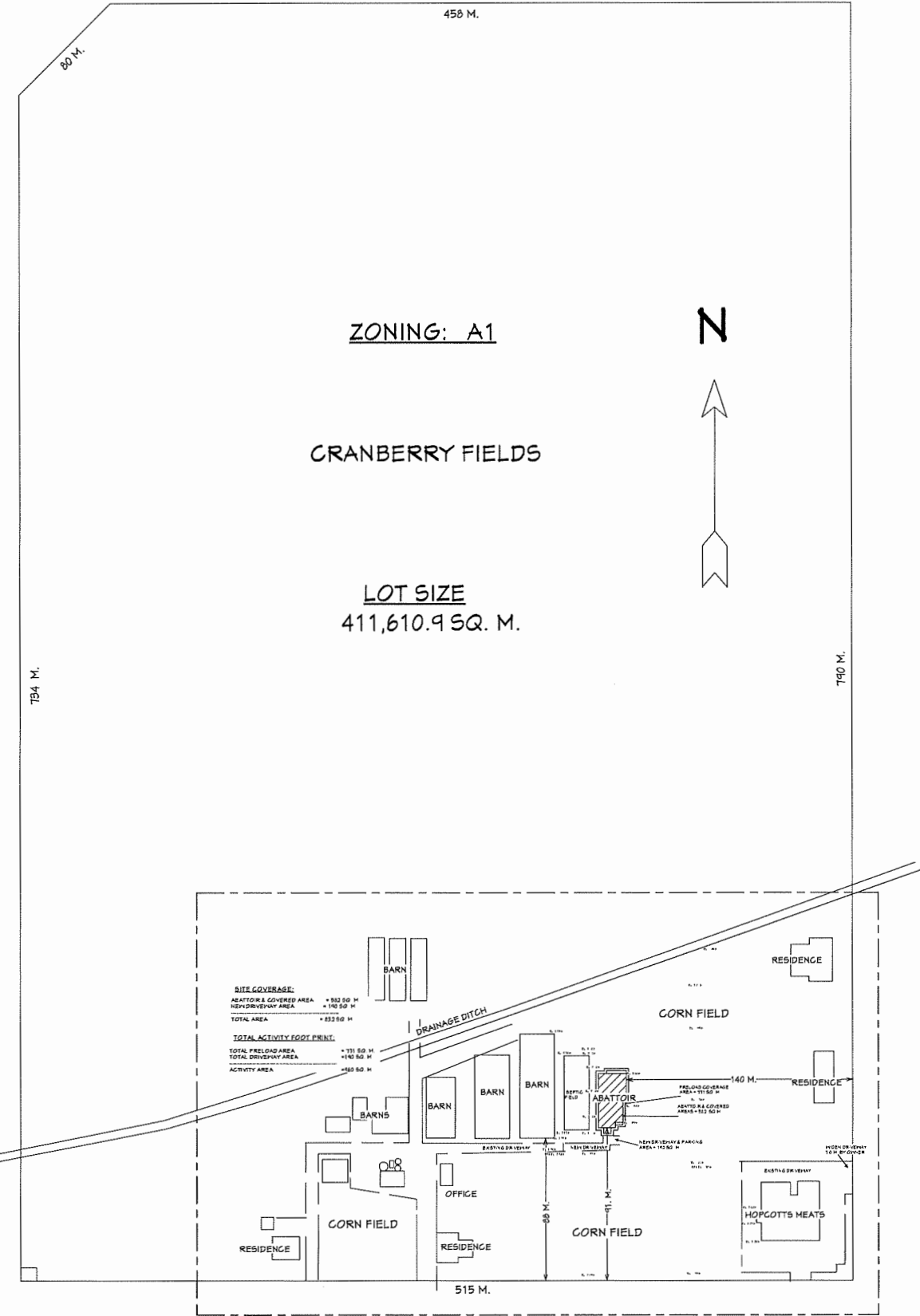
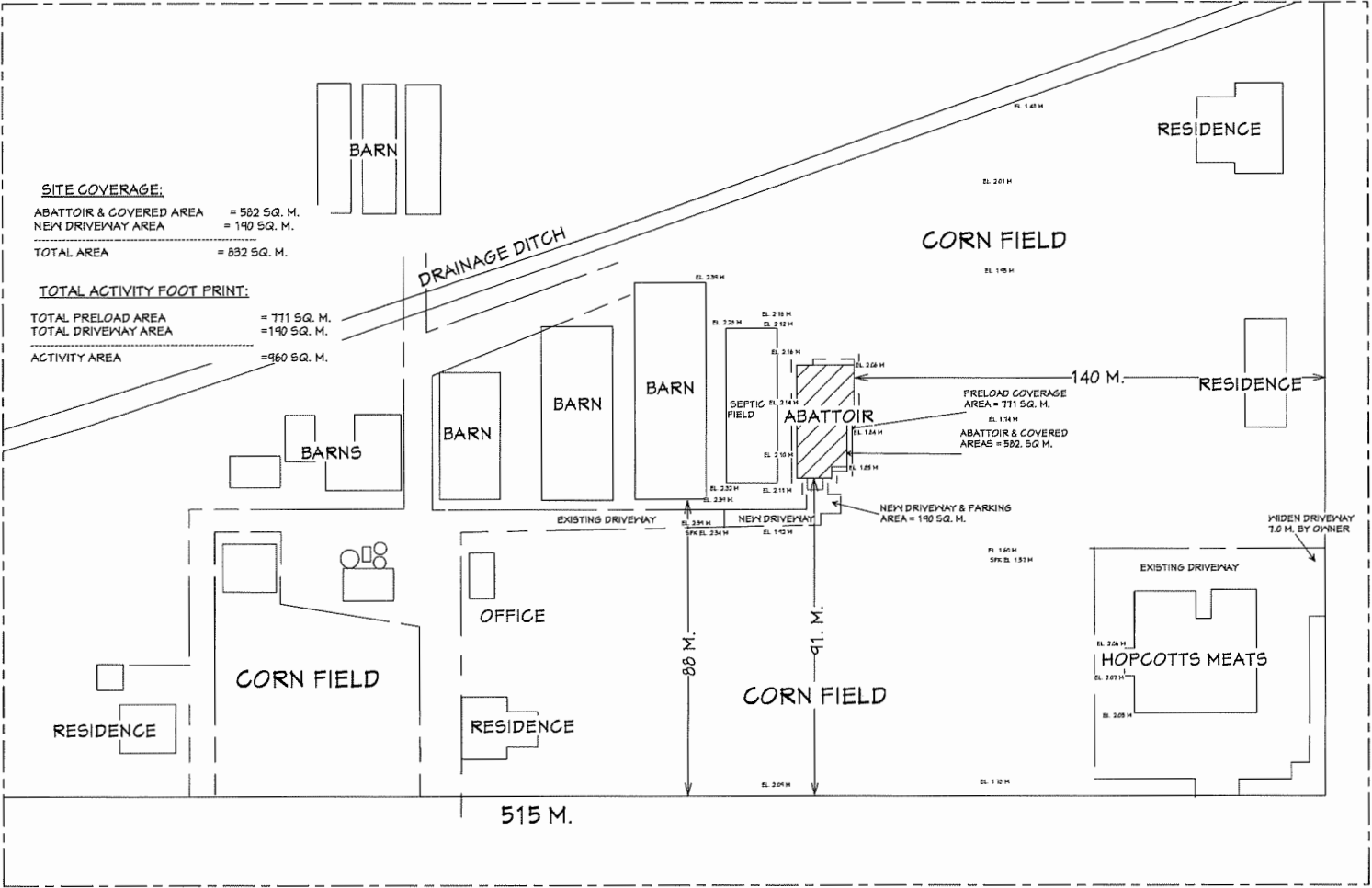


ADDRESS :

18385 OLD DEWDNEY TRUNK RD.
PITT MEADOWS, B.C.

LEGAL ADDRESS:

BLOCK 6, PLAN RP439, SEC. 15
ROLL NUMBER 0438.00
ZONING: A1



REVISION TABLE	
NUMBER	DATE

SHEET TITLE:
SITE PLAN

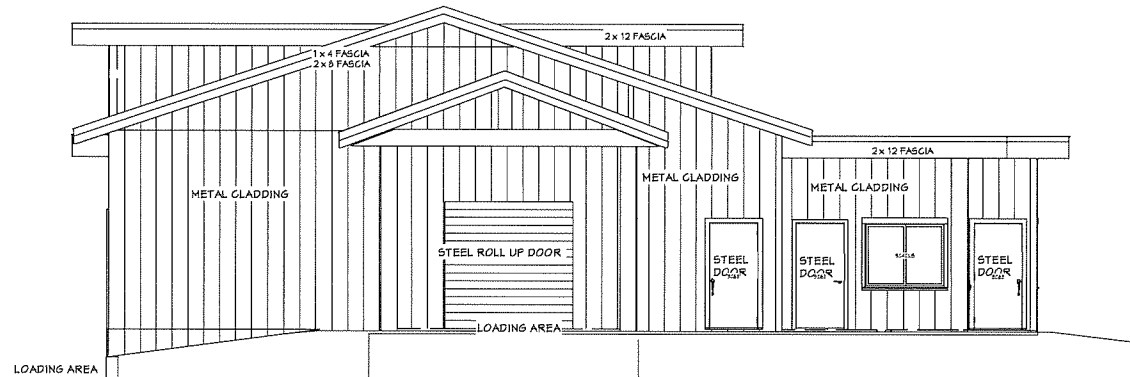
PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

DRAWINGS PROVIDED BY:
JENT CONSTRUCTION LTD.
29552 DOGWOOD AVE.
MAPLE RIDGE, B.C. V2X 4S5
PH. 604-240-8021

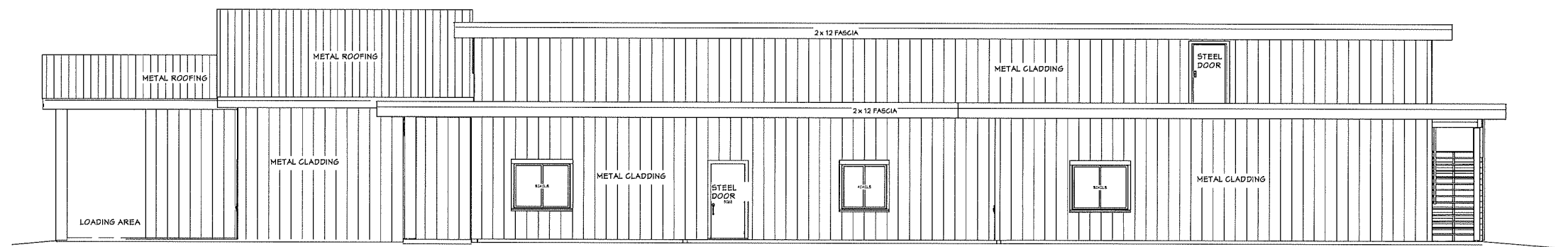
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2020-10-15

SCALE:

SHEET:
A-1



FRONT ELEVATION



RIGHT ELEVATION

REVISION TABLE	
NUMBER	DATE

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FRONT ELEVATION
RIGHT ELEVATION

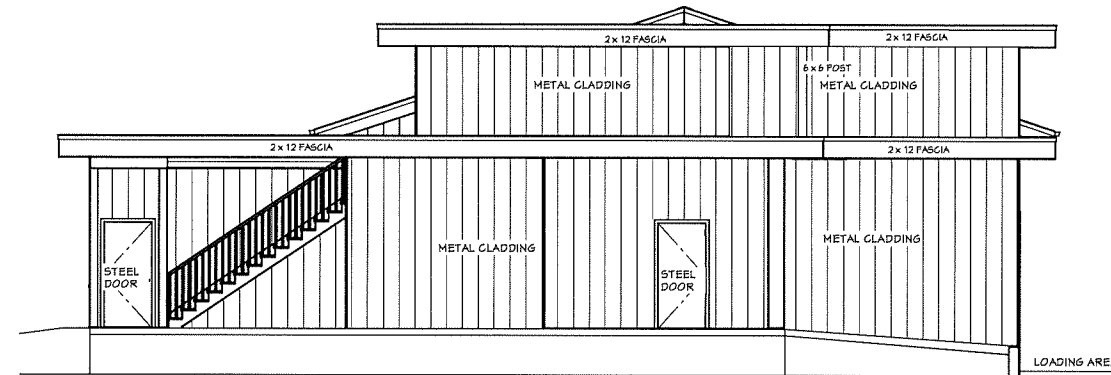
PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

DRAWINGS PROVIDED BY:
JENT CONSTRUCTION LTD.
23532 DOGHNOOD AVE.
NAPLE RIDGE, B.C. V2X 4S5
PH. 604-240-8021

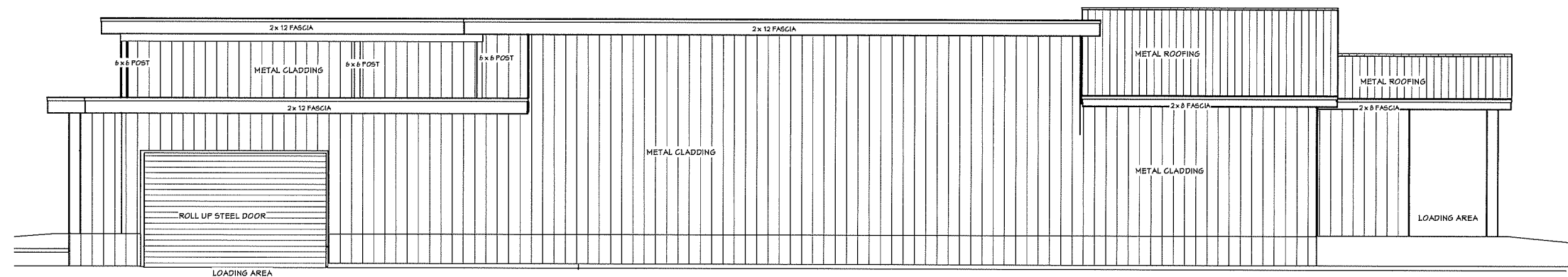
DATE:
2020-10-15

SCALE:
3/16" = 1'-0"

SHEET:
A-2



REAR ELEVATION



LEFT ELEVATION

REVISION TABLE	
NUMBER	DATE

SHEET TITLE:
REAR ELEVATION
LEFT ELEVATION

PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

DRAWINGS PROVIDED BY:
JENT CONSTRUCTION LTD.
23532 DOGWOOD AVE.
MAPLE RIDGE, B.C. V2X 4S5
PH. 604-240-8021

DATE:

2020-10-15

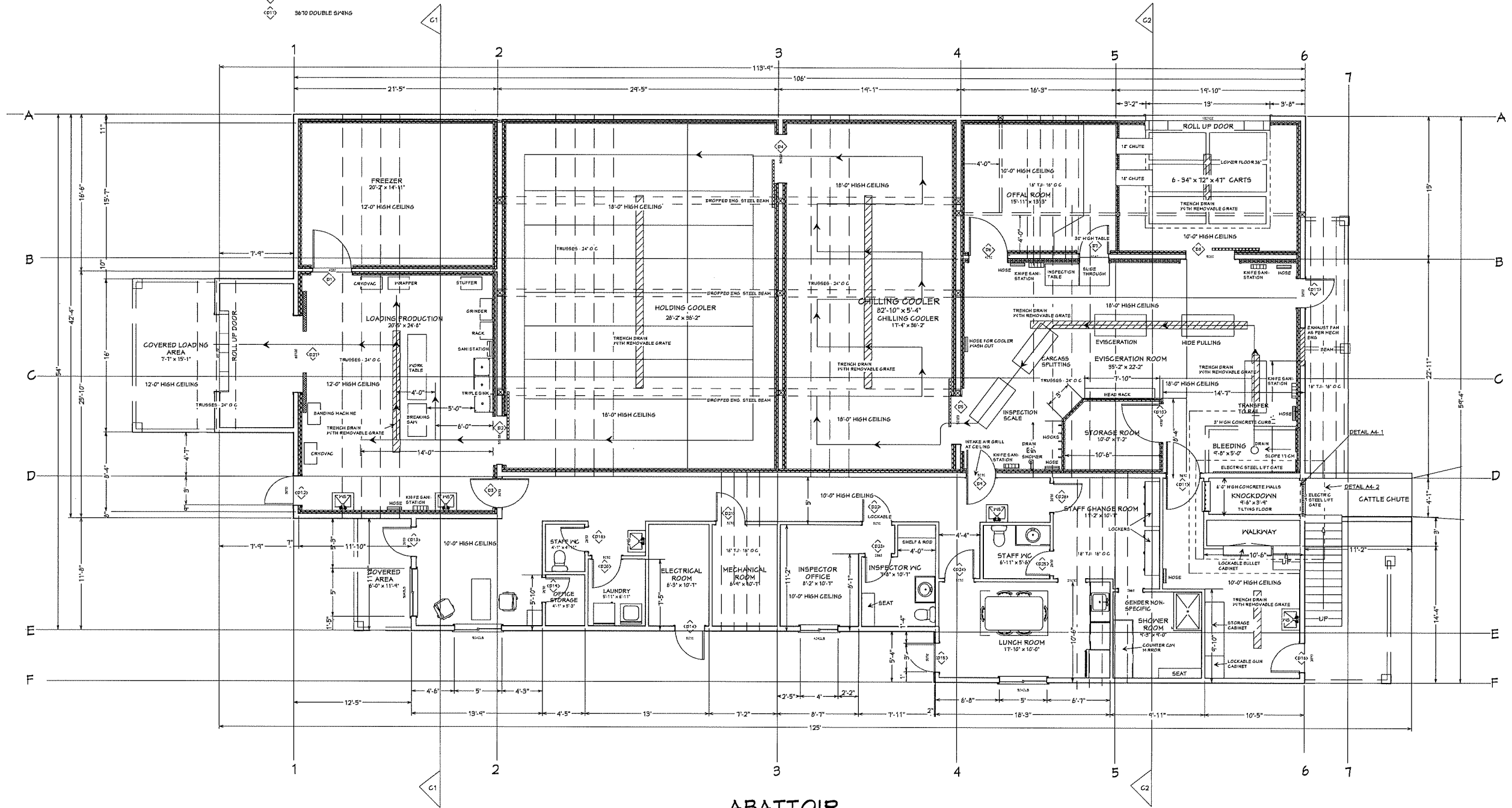
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3/16" = 1'-0"

SHEET:

A-3

DOOR SCHEDULE		
INSULATED DOORS	EXTERIOR INSULATED	INTERIOR SOLID CORE
4050 LEFT HAND SWING	3070 LEFT HAND SWING OUT	2670 RIGHT HAND SWING
50100 TRACK SLIDER	3070 RIGHT HAND SWING OUT	2670 LEFT HAND SWING
3070 DOUBLE SWING	3070 LEFT HAND SWING OUT	3070 RIGHT HAND SWING
50100 TRACK SLIDER	3070 RIGHT HAND SWING OUT	3070 LEFT HAND SWING
50100 TRACK SLIDER	3070 LEFT HAND SWING	3070 LEFT HAND SWING (LOCKABLE)
4070 LEFT HAND SWING	3070 LEFT HAND SWING OUT	2670 RIGHT HAND SWING
3040 RIGHT HAND SWING	3070 RIGHT HAND SWING	3070 LEFT HAND SWING
5060 TRACK SLIDER	3070 LEFT HAND SWING	2670 RIGHT HAND SWING
3070 DOUBLE SWING	3070 RIGHT HAND SWING	3070 LEFT HAND SWING
4070 RIGHT HAND SWING	3070 LEFT HAND SWING	3070 LEFT HAND SWING
3670 DOUBLE SWING	3070 RIGHT HAND SWING	3070 LEFT HAND SWING



ABATTOIR
BUILDING AREA
5162 sq ft

REVISION TABLE			
NUMBER	DATE	REVISED BY	DESCRIPTION

SHEET TITLE:
FLOOR PLAN

PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

DRAWINGS PROVIDED BY:
JENT CONSTRUCTION LTD.
23532 DOGWOOD AVE.
MAPLE RIDGE, B.C. V2X 4S5
PH. 604-240-8021

DATE:

2020-10-15

SCALE:

3/16" = 1'-0"

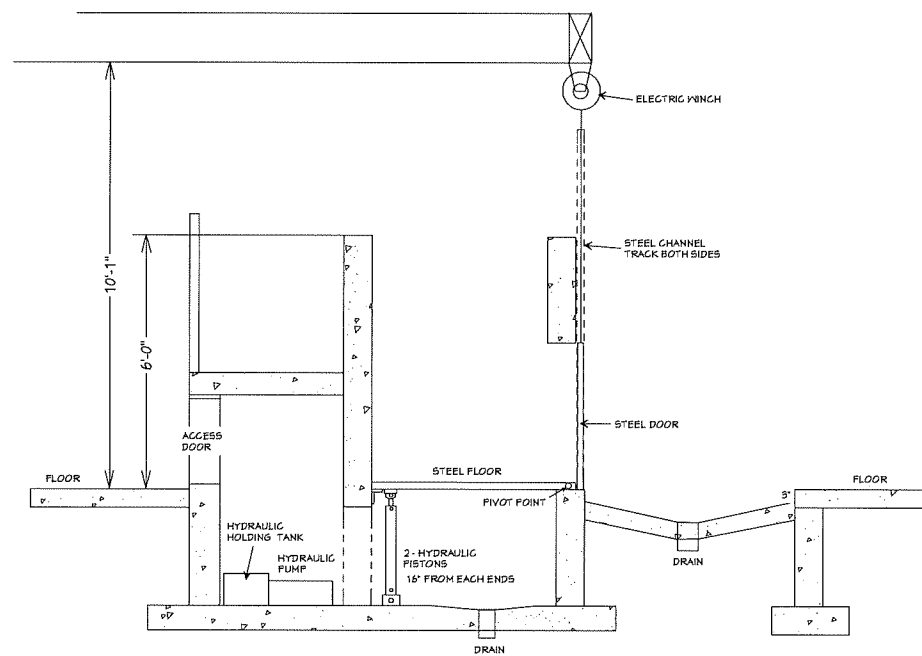
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A-4

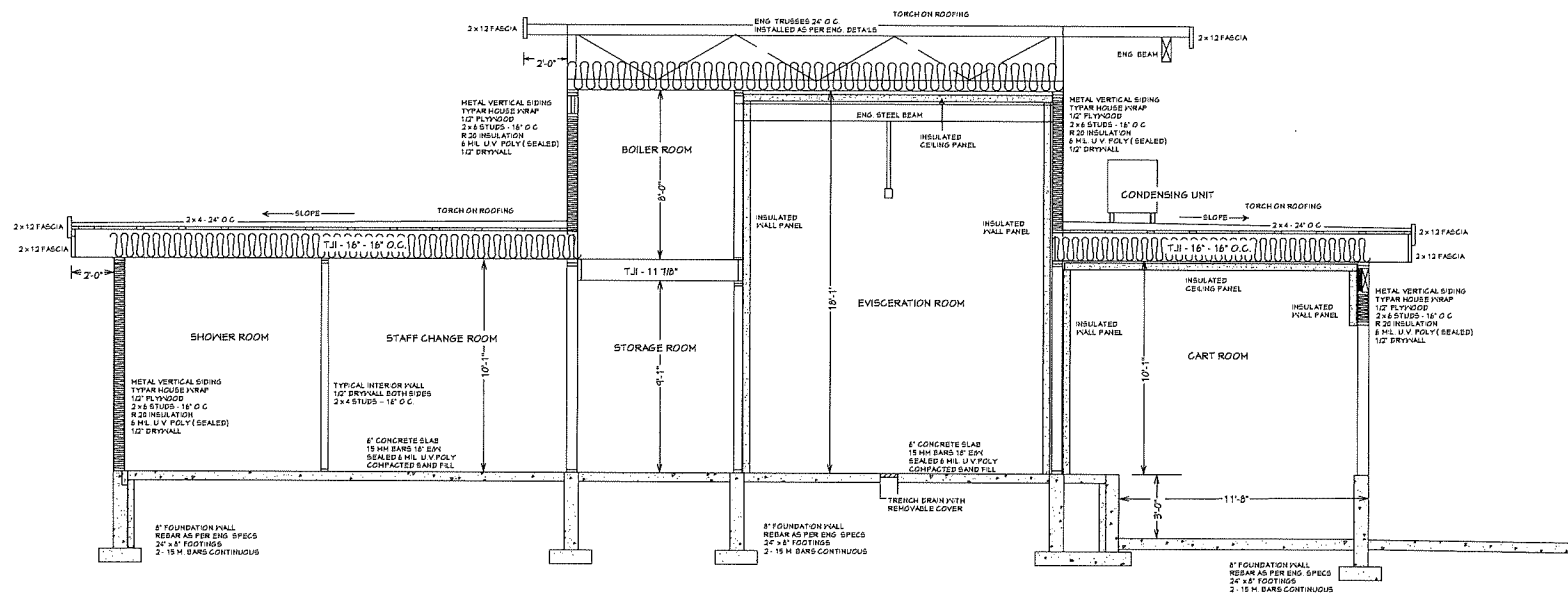


PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

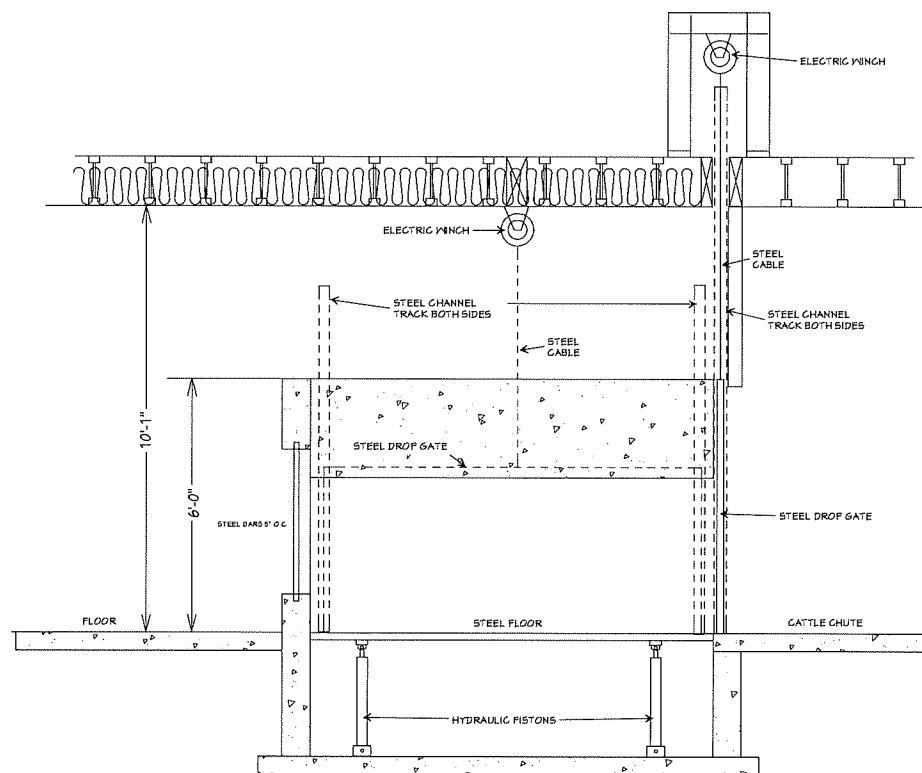
A-5



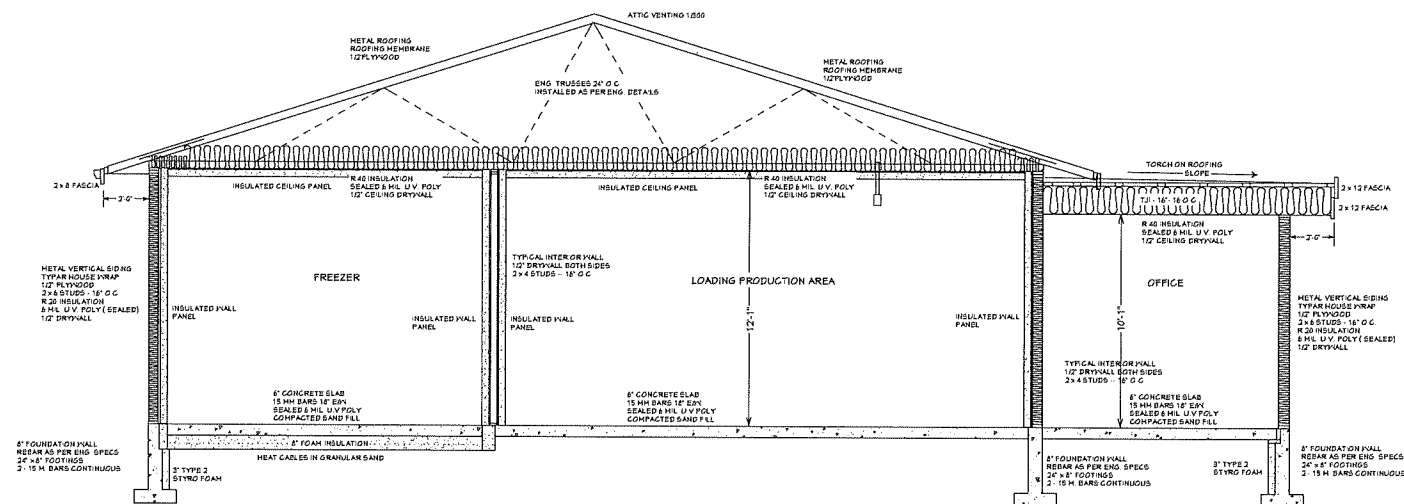
DETAIL A4-1



CROSS SECTION C2



DETAIL A4-2



CROSS SECTION C1

NUMBER	DATE	REVISION	DESCRIPTION

SHEET TITLE:
DETAILS
CROSS SECTIONS

PROJECT DESCRIPTION:
HOPCOTT FARMS
ABATTOIR

DRAWINGS PROVIDED BY:
JENT CONSTRUCTION LTD.
25532 DOGWOOD AVE.
MAPLE RIDGE, B.C. V2X 4S5
PH. 604-240-8021

DATE:

2020-10-15

SCALE:

1/4" = 1'-0"

SHEET:

A-6

CLIENT:

JENT CONSTRUCTION LTD.
20164 123A AVENUE
MAPLE RIDGE, BC V2X 6A7

PROJECT DESCRIPTION:

EROSION AND SEDIMENT CONTROL
PROPOSED ABATTOIR
18361 OLD DEWDNEY TRUNK ROAD
PITT MEADOWS, BC

CONSULTANT:

BRAUN GEOTECHNICAL LTD.
102 - 19049 95A AVENUE
SURREY, BC
V4N 4P3
Ph: 604-513-4190
Fax: 604-513-4195
email: info@braungeo.com

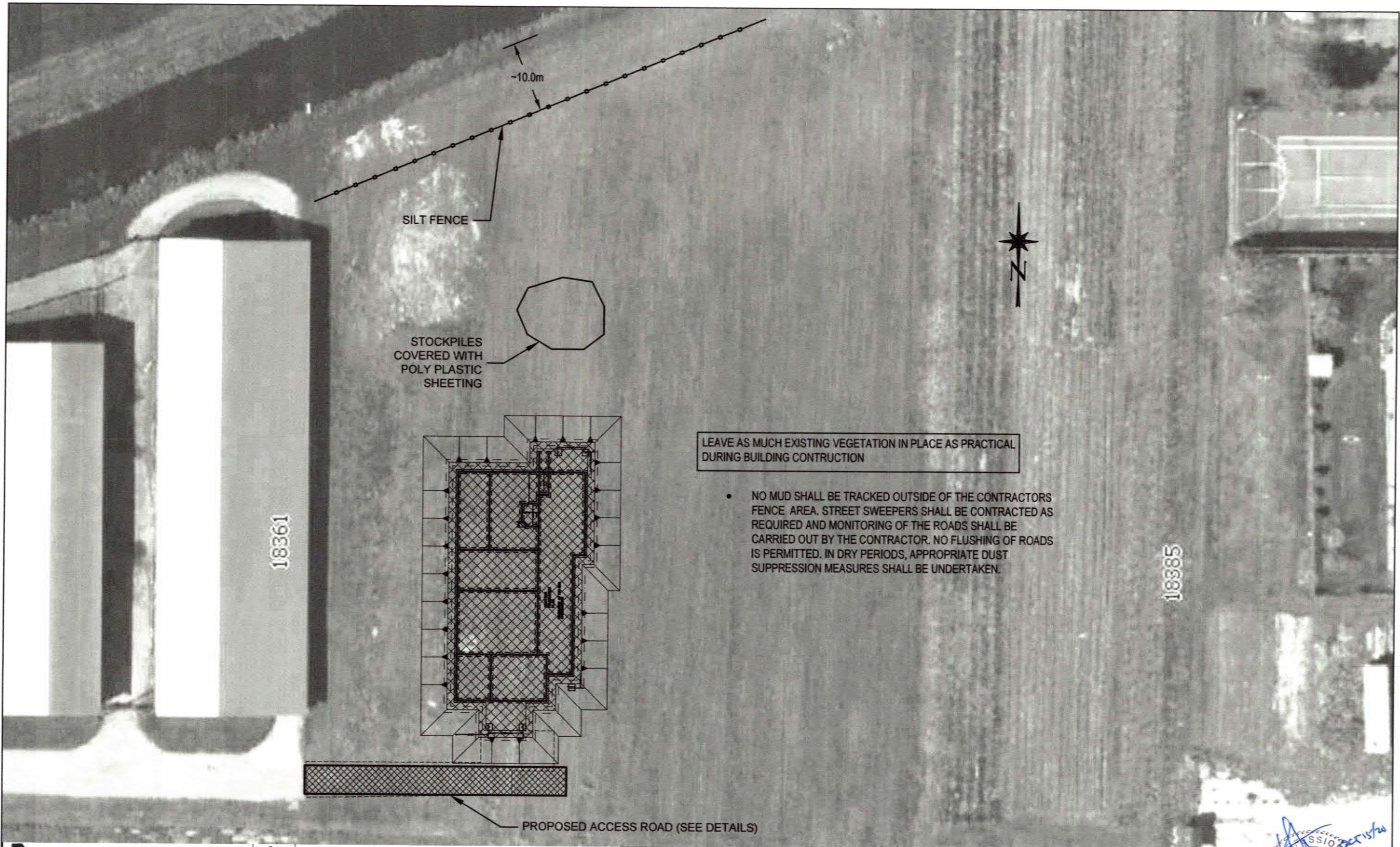
DRAWING LIST

01	COVER SHEET
02	PLAN
03	DETAILS
04	NOTES



Rev.	Description	Date	Client	Title				
REV 0	ISSUED FOR REVIEW	2020-10-09	Jent Construction Ltd.	EROSION AND SEDIMENT CONTROL COVER				
REV 1	REVISED BUILDING LOCATION	2020-10-14	Project Proposed Abattoir 18361 Old Dewdney Trunk Road, Pitt Meadows, BC					
			Project no. 20-8704	Drawn DD	Design JW	Checked SS	Date October 9, 2020	Scale N/A
							Drawing no. 20-8704-ESC-01	





LEAVE AS MUCH EXISTING VEGETATION IN PLACE AS PRACTICAL DURING BUILDING CONSTRUCTION

- NO MUD SHALL BE TRACKED OUTSIDE OF THE CONTRACTORS FENCE AREA. STREET SWEEPERS SHALL BE CONTRACTED AS REQUIRED AND MONITORING OF THE ROADS SHALL BE CARRIED OUT BY THE CONTRACTOR. NO FLUSHING OF ROADS IS PERMITTED. IN DRY PERIODS, APPROPRIATE DUST SUPPRESSION MEASURES SHALL BE UNDERTAKEN.

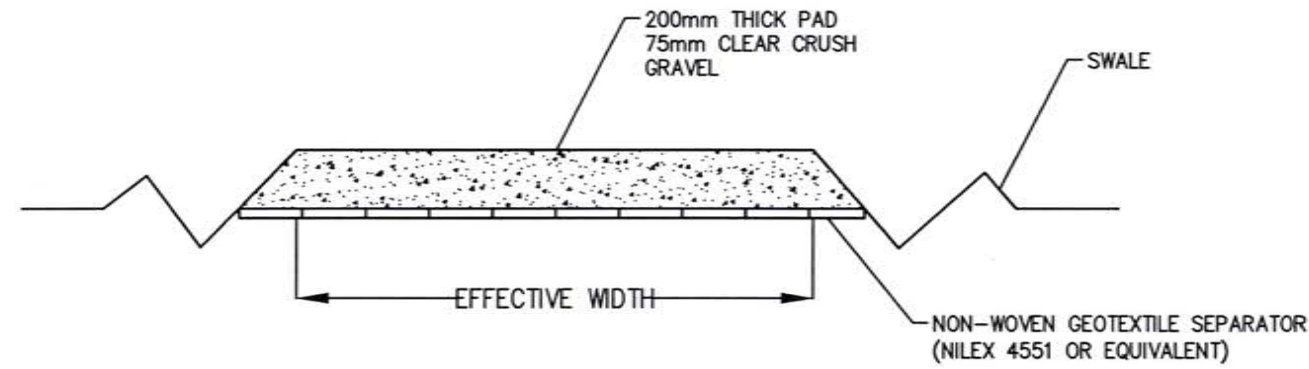


Rev.	Description	Date
REV 0	ISSUED FOR REVIEW	2020-10-09
REV 1	REVISED BUILDING LOCATION	2020-10-14

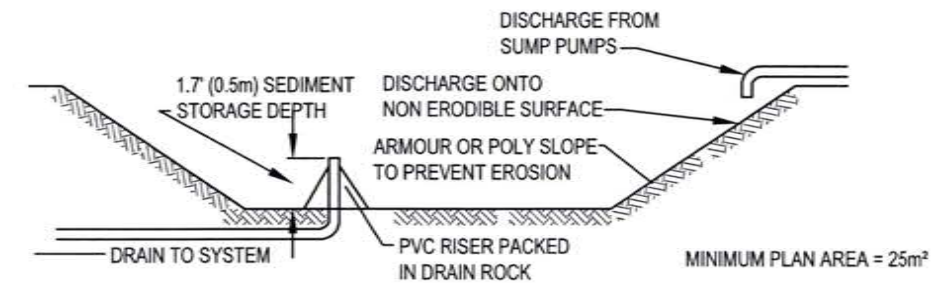
Client Jent Construction Ltd.			
Project Proposed Abattoir 18361 Old Dewdney Trunk Road, Pitt Meadows, BC			
Project no. 20-8704	Drawn DD	Design JW	Checked SS

Title EROSION AND SEDIMENT CONTROL PLAN		
Date October 9, 2020	Scale 1:500	Drawing no. 20-8704-ESC-02

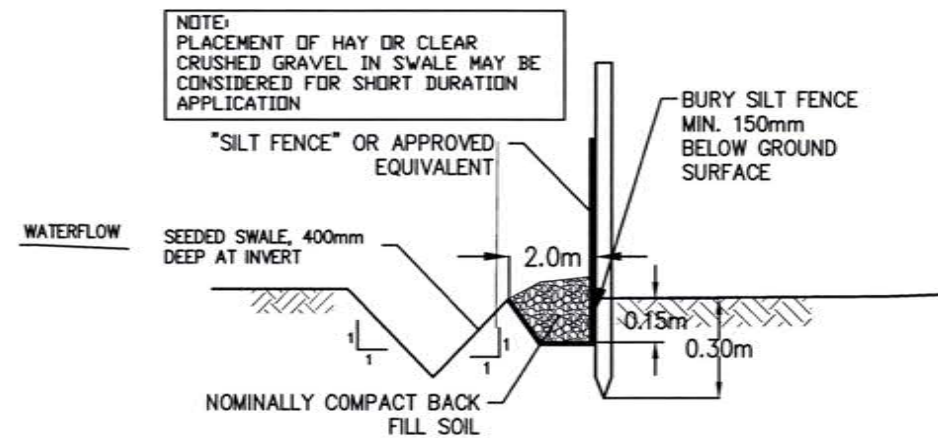




ACCESS ROAD SECTION DETAIL
(NTS)



TYPICAL SEDIMENT POND SECTION (IF REQUIRED)
(NTS)



TYPICAL SILT FENCE DETAIL (IF REQUIRED)
(NTS)

NOTES:

1. Sediment Control

- 1.1. The Owner and/or Site Contractor are responsible for all erosion and sediment control methods on site, in accordance with the City of Pitt Meadows and Land Development Guidelines for the Protection of Aquatic Habitat manual published by BC Ministry of Water, Land and Air Protection, and Fisheries and Oceans Canada (available on line through the following website:
<http://www.dfo-mpo.gc.ca/Library/165353.pdf>).
- 1.2. All work shall be undertaken and completed in such a Manner as to prevent the release of sediment laden water into any water course, storm sewer, or drainage system.
- 1.3. The erosion and sediment control works shall remain in place and shall be maintained until sediment laden water from the construction activities is no longer generated.
- 1.4. No sediment laden water from the work site shall be pumped out or otherwise discharged directly to a storm sewer system, water course, or other drainage system.
- 1.5. Sediment Ponds and/or mechanical filtration equipment may be required to meet the discharge from the property.

2. Reviews

- 2.1. Once the erosion and sediment control works have been completed, and before the start of any other on-site construction, the erosion and sediment control works shall be reviewed by Braun Geotechnical to ensure that they are installed and constructed in accordance with the approved drawings. Any deficiencies in the sediment control works shall be corrected before proceeding with any other on-site construction.
- 2.2. Throughout the duration of the project daily reviews of all components of the erosion and sediment control works shall be conducted by the contractor to verify that they are functioning properly and the inspections shall be documented in a log book. During periods of significant rainfall, Braun Geotechnical should be contacted to carry out field reviews on a minimum weekly basis to review that the sediment control works are functioning properly.
- 2.3. If on site detention of water is deemed necessary by Braun Geotechnical, details of the proposed facility would be provided.

3. Monitoring and Sampling (If Required)

- 3.1. Dip tests shall be taken at the discharge point for the sediment control works and screened by turbidity testing for NTU's and pH:
 - Within four hours of the initial discharge.
 - Weekly, except where there is no discharge during the week.
 - During or immediately after the significant rainfall event (25 mm within 24 hrs)

If NTU exceeds 20 over background (measured at the nearest stream receptor), storm water samples shall be collected in approved sample bottles. The samples shall be delivered or sent to an approved laboratory to be analysed for total suspended solids (TSS) and pH determination.
- 3.2. The total suspended solids (TSS) levels must not be greater than the following:
 - i.) 25mm/l during the summer months (May 15-Oct 15)
 - ii.) 75mm/l during the winter months (Oct 15-May 15)and pH must be between 6.0 and 9.0.
- 3.3. If the measured TSS levels exceed the seasonal limits or if the pH is less than 6.0 or greater than 9.0, the Contractor may be required to cease activities until appropriate remedial measures have been undertaken and the TSS levels are less than the above limits.

4. Maintenance

- 4.1. Should any part of the sediment control works become damaged or blocked or in any other way not function properly, the Contractor shall take all steps necessary to repair and/or remove such damage, or blockage, or other cause of malfunction, and shall immediately contact Braun Geotechnical (Consultant).
- 4.2. All storm drains within the vicinity of the site shall be inspected daily. Any sediment accumulated by the storm drain inlet protection device shall be removed. The drain protection device shall be cleaned and replace when they have become blinded by sediment.
- 4.3. Gravel access pad to be checked daily and maintained as required by the Contractor.

5. Enforcement

- 5.1. Failure to implement an Erosion Sediment Control Plan or comply with the Erosion Sediment Control Criteria may result in a Stop Work Order. This responsibility is with the Project Environmental Monitor (Braun Geotechnical).



Rev.	Description	Date	Client	Title				
REV 0	ISSUED FOR REVIEW	2020-10-09	Jent Construction Ltd.	EROSION AND SEDIMENT CONTROL NOTES				
REV 1	REVISED BUILDING LOCATION	2020-10-14	Project Proposed Abattoir 18361 Old Dewdney Trunk Road, Pitt Meadows, BC					
			Project no. 20-8704	Drawn DD	Design JW	Checked SS	Date October 9, 2020	Scale N/A
							Drawing no. 20-8704-ESC-04	





***Foundations,
Excavation &
Shoring
Specialists***

Braun Geotechnical
102 - 19049 95A Ave.
Surrey, BC
V4N 4P3
Tel: 604-513-4190
Fax: 604-513-4195
info@braungeo.com

www.braungeo.com

Foundations

***Excavation &
Shoring***

Slope Stability

Natural Hazards

***Pavement Design
and Management***

***Reinforced Soil
Walls and Slopes***

October 15, 2020 (rev1)
Our File: 20-8704

Via email: jent1@shaw.ca

Jent Construction Ltd.
20164 123A Avenue
Maple Ridge, BC V2X 6A7

Attn: Nick Faber

**Re: Preliminary Geotechnical Exploration Report
Proposed Abattoir – Hopcott Meats
18385 Old Dewdney Trunk Road, Pitt Meadows, BC**

1.0 INTRODUCTION

As requested, Braun Geotechnical Ltd. has carried out a geotechnical assessment for the above-referenced project. The geotechnical work scope was determined during project discussions with Mr. Faber. The scope of work included a geotechnical exploration and provision of geotechnical recommendations for the project. No consideration has been given to any environmental aspects.

Braun Geotechnical should be forwarded structural drawings when they become available and be provided the opportunity to comment on potential geotechnical aspects of the foundation design.

2.0 SITE DESCRIPTION AND PROPOSED DEVELOPMENT

The subject site is located at 18385 Old Dewdney Trunk Road in the City of Pitt Meadows, BC. It is understood that the project includes construction of an abattoir along with a gravel surfaced access road and parking area.

Based on a preliminary site plan provided by Jent Construction Ltd., it is understood that the proposed structure would be located within the existing corn field, east of the existing barn structure/ septic field and south of the existing drainage channel (Cranberry Slough). At the time of our field exploration, the site was observed to be generally flat lying with the proposed building area covered with corn plants.

Detailed design drawings for the proposed building were not available for review at the time of report preparation.

It is understood that the study site is located in an area considered protected by a 'standard' dike (Pitt Meadows dike system) and that the City of Pitt Meadows has established a Flood Construction Level (FCL) for their designated rural floodplain areas (including the study site) at an elevation of El. 2.45m (Bylaw No. 2384). It is understood that the FCL was established in approximately 2007 and is based on a flood event having a 200-year recurrence interval.

3.0 DESK STUDY INFORMATION

The desk study phase of geotechnical exploration was non-intrusive in nature, and involved review of available geological and geotechnical information. Geotechnical report for the nearby Hopcott Meats commercial building addition project was also obtained and reviewed.

3.1 Anticipated Soil Conditions

A review of available published and in-house geological information indicated that the study site area is underlain by Fraser River Sediments (Fc) comprising overbank silty to silt clay loam normally up to 2m thick overlying 15m or more of deltaic and distributary channel fill sandy to silt loam with interbedded fine to medium sand and minor silt beds (Fd).

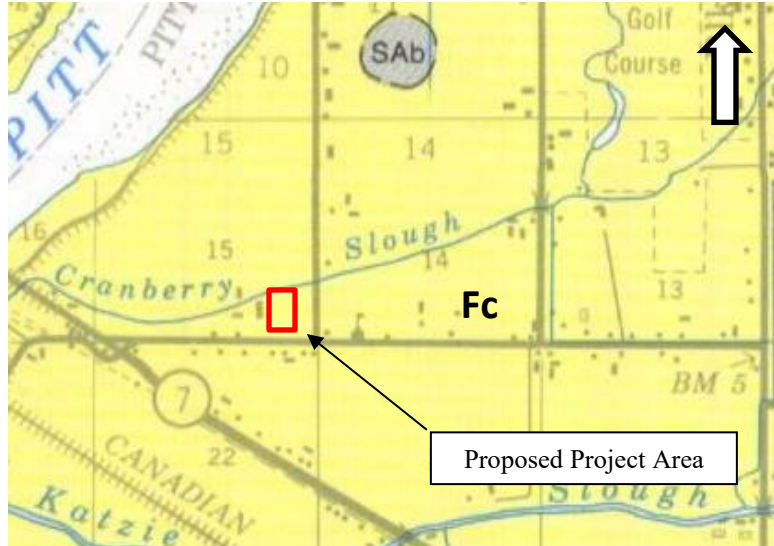


Figure 1 - Geological Survey of Canada, 1980

3.2 Previous Geotechnical Explorations

A geotechnical exploration was completed in 2015 by Golder Associates Inc. for the commercial building addition project at 18385 Old Dewdney Trunk Road, in the immediate vicinity of the subject site. Factual information presented in the report included four solid stem auger holes (AH15-01 to -04) advanced to depths up to 12.2m below ground surface, with Dynamic Cone Penetration Test (DCPT).

The 2015 auger hole logs are included as attachments to the report as background information and the approximate locations are shown on the attached plan (Dwg. 20-8704-01).

4.0 GEOTECHNICAL EXPLORATION

Three Test Holes (TH20-01, -02 & -03) were advanced on September 3, 2020, using a truck mounted solid stem auger drill in the near vicinity of the proposed building location. Access to the exact location of the proposed building was restricted by the existing corn field. Test holes were drilled to the depths ranging approximately 6.1 to 9.1m.

Concurrent with the auger drilling, a Seismic Cone Penetration Test (SCPT20-01) was advanced to effective refusal at a depth of approximately 19m where high cone tip resistance was encountered. The CPT measures the tip resistance on a stainless steel cone that is pushed in at a rate of approximately 2 cm/s. Pore water pressures near the cone tip and soil friction on the sides of the CPT probe are also measured using electronic transducers. Soil profile and engineering properties of soils can be obtained from correlations with the CPT data.

Dynamic Cone Penetration Testing (DCPT) was conducted adjacent to TH20-01 to a depth of 9.1m. Local experience indicates that the DCPT results can be approximately correlated with Standard Penetration Test (SPT) N-values to shallow depths, which provide an estimate of relative in-situ density of granular soils and shear strength of cohesive soils.

The soil conditions were logged in the field by Braun Geotechnical and representative disturbed soil samples were collected from the augers for routine laboratory testing and further classification.

The approximate test locations are shown on the enclosed Location Plan (Dwg. 20-8704-01).

5.0 SOIL AND GROUNDWATER CONDITIONS

The findings of the test hole exploration are provided on the attached test hole logs and should be referred to for detailed subsurface conditions at test locations. A generalized subsoil profile based on the test hole information is provided below.

FILL/ ORGANICS

Dark-brown, damp, firm, silty ORGANICS was encountered near surface within TH20-01 & -02 to approximately 0.3m depth.

Grey-brown, damp, compact, silty SAND with trace organics (FILL) was encountered near surface within TH20-03 to 0.5m depth. Dark-brown, damp, firm, organic rich SILT was encountered below to approximately 1.2m depth.

Stiff/ Firm SILT

Grey to grey-brown, damp, stiff SILT with trace fine sand was encountered below organics within TH20-01 & -02 to approximately 1.1m depth.

Grey, occasionally rust mottled, damp, firm SILT with trace to some sand was encountered below within the test holes to approximately 1.5m depth.

Soft to Firm Clayey SILT

Grey to grey-brown, damp to moist, soft to firm, clayey SILT with trace to some organics/ fibers and trace sand was encountered below within the test holes to the depths of approximately 4.6 to 6.7m. Interlayers of silty fine SAND/ fine sandy SILT was also encountered within this clayey SILT layer. Natural moisture content of the clayey SILT generally ranged from 45 to 86 percent, with an average of about 55 percent. The high moisture content may also be attributed to the presence of organics/ fibers within the silt layer.

Fine Sandy SILT/ Silty Fine SAND

Grey, moist to wet, stiff, fine sandy SILT with trace organic fibers was encountered below within TH20-01 & -02 to the depths of test hole exploration at 9.1m.

Grey, wet, loose to compact, silty fine SAND was encountered below within TH20-03 to the depth of test hole exploration at 6.1m.

SCPT20-01 encountered soft to firm clayey SILT/ silty CLAY (with sandy silt/ silty sand interlayers) to approximately 15m over stiff to v. stiff sandy SILT/ dense silty SAND to approximately 18m, and underlain by very dense SAND/ silty SAND to the depth of SCPT refusal at 19m.

GROUNDWATER

Semi-static groundwater was encountered within the test holes at the time of drilling below depths ranging from 3.0 to 4.6m (average 3.8m below ground surface). Groundwater levels and near-surface run-off flows are expected to fluctuate seasonally and with drainage condition.

The subsurface conditions described above were encountered at the test hole locations only. Subsurface conditions at other site locations could vary.

6.0 DISCUSSION AND RECOMMENDATIONS

6.1 General

The geotechnical test holes encountered near surface topsoil/ organic rich soils, overlying natural soft to firm silt/ clayey silt with fine sand interlayers and underlain by stiff sandy silt/ loose to compact silty fine sand.

The natural silt/ clayey silt is considered to be susceptible to settlement from application of any significant additional weight from site filling and/or building loads. It is considered that subgrade preparation by the preload method may be used to reduce long-term settlement below the proposed structure.

The following sections provide our geotechnical recommendations for site preparation, foundation design and onsite pavement structures.

6.2 Site Preparation

6.2.1 Site Stripping

Subgrade preparation below the proposed building should include removal of existing vegetation, organic soils, and any existing fills to at least 1.5m horizontally beyond the proposed building footprint areas, to expose the underlying natural silt. These materials should also be removed below proposed access roads and any other settlement sensitive structures. Final trimming should be carried out using an excavator equipped with a smooth bucket.

The natural firm silt is considered susceptible to general construction traffic damage. As such, a minimum 300mm thick layer of structural fill should be placed on the prepared subgrade to prepare a suitable working layer for construction traffic access. Note that for heavy truck and equipment traffic, the structural fill thickness may need to be increased to reduce potential for subgrade damage.

The exposed subgrade should be reviewed by Braun Geotechnical prior to placing structural fills.

6.2.2 Structural Fill

Structural fill should consist of clean, free draining sand and/or sand and gravel or equivalent with less than 5% fines (percent passing the #200 sieve). Structural fill should typically be placed and compacted in maximum 1 ft (300 mm) loose lifts with each lift compacted to at least 95% Modified Proctor Density (MPD). Structural fills placed under foundations should extend beyond the edges of the foundations a distance equal to the thickness of confined structural fill.

Density testing during site fill placement should be carried out on a regular basis to confirm adequacy of compaction, and the results forwarded to Braun Geotechnical for review. Braun Geotechnical should also be contacted to review fill quality, and placement and compaction procedures.

6.2.3 Preloading

Prior to construction, proposed building footprint areas should be preload-surcharged to reduce anticipated settlements resulting from the compression and consolidation due to extra loading. For the proposed structure, the preload surcharge should extend to at least 2.75m above the proposed top of slab elevation and should typically extend horizontally to at least 1.5m beyond the building footprint at this level.

The toe of the preload-surcharge fill should be kept back from existing settlement sensitive structures. For planning purposes the toe of the fill should be kept back from existing structures a distance equal to the preload height, and where this is not feasible (ie. close to existing septic field), temporary lock blocks may be used to retain preload fills. The preload-surcharge (fill above slab elevation) need not be compacted except where required for trafficability. Following surcharge removal, the exposed structural fill surface should typically be re-compacted.

Prior to commencing fill placement a minimum of 5 settlement gauges should be installed for the building on a “Dice Five” orientation with the gauges established at least 1.5m from the crest of preload slopes. Settlement gauges should consist of 25mm thick plywood sheet base plates, approximately 600mm square, with a metal floor flange attached using nuts and bolts to firmly affix each settlement gauge riser to its base plate. A steel pipe with a minimum diameter of 38mm should be threaded into the flange. The base of the settlement gauges should be placed on the stripped subgrade or on a properly placed and compacted permanent structural fill, and the steel pipe extended approximately 150mm above the top of preload for monitoring by the surveyor. Settlement gauge riser pipe that extends well above preload surface is prone to vandalism and construction damage and should be avoided if possible.

The top of the riser pipe should be surveyed prior to placement of preload fill. The settlement gauges should then be read at 0, 3, 5, 7, and 14 days after preload placement, and once every two weeks thereafter. The initial settlement gauge readings are important for predicting settlement performance of the site under preload treatment. The survey of settlement gauges should be carried out by a British Columbia Land Surveyor (BCLS) using a level rod survey to an accuracy of less than 2mm. The survey results should be forwarded to Braun Geotechnical for review. It is also recommended that the constructed preload-surcharge fill mounds be field surveyed to confirm location.

A preload duration of 16 to 24 weeks is anticipated based on previous experience in the study site area. However, the actual preloading duration will be determined based on review and assessment of the settlement gauge data.

6.3 Geotechnical & Flood Hazard Assessment

In accordance with geotechnical reporting requirements presented in the City of Pitt Meadows document, “Geotechnical Report Guidelines, July 21, 2015”, it is our opinion that the “land may be used safely for the use intended”. The intended use is defined as a development of a new abattoir building designed and constructed in accordance with the current 2018 BC Building Code. Safe use is considered to be in reference to hazard acceptability criteria presented in the government document, “*Hazard Acceptability Thresholds for Development Approvals by Local Government, 1993.*” Geotechnical hazards with potential to impact the project area were considered and included mountain stream erosion, avulsion, debris flows, debris floods, rock fall small-scale and large scale landslides, seismic slope stability and liquefaction potential.

Geotechnical and flood hazards with credible potential to impact the study site are considered to be limited to soil liquefaction and Fraser River flooding. Discussion of these hazards are presented below.

6.3.1 Liquefaction Assessment

For fine-grained soils, the Liquefaction Task Force Report provides guidance on assessment of liquefaction potential based on soil properties determined from Atterberg Limit tests. Fine-grained soils with a Plasticity Index (PI) <7 are to be assumed as having “sand-like” behaviour unless the use of cyclic shear testing is completed to determine cyclic resistance. Soils with $7 < PI < 12$ are considered less “sand-like” and therefore less likely to liquefy. Soils with $PI > 12$

are assumed to have “clay-like” behaviour where the cyclic strain development is gradual while retaining much of its original strength (except for the case of sensitive soils).

Bray & Sancio (2006) criteria for liquefaction susceptibility are presented in the Liquefaction Task Force Report. These criteria are based on composition and natural state soil samples subjected to laboratory testing. Laboratory test data from soil samples collected from the adjacent project by Golder are shown on the liquefaction susceptibility chart below.

FINE SOIL LIQUEFACTION SUSCEPTIBILITY (BRAY & SANCIO, 2006)

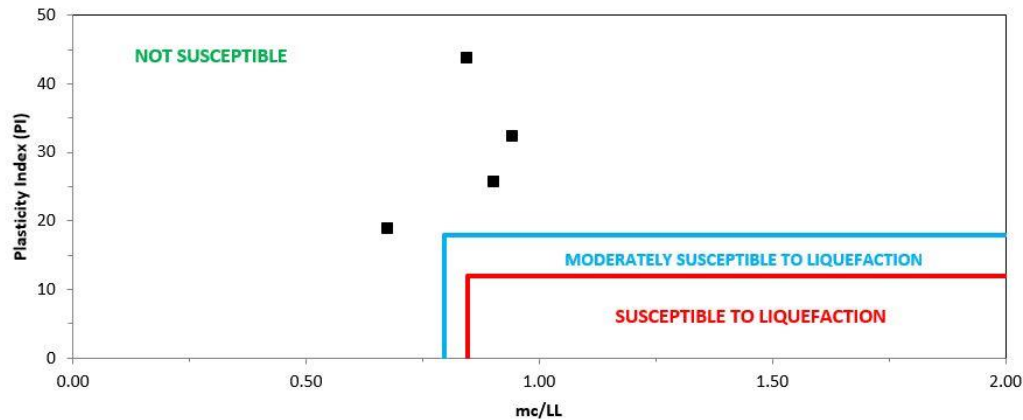


Figure 2 - Application of Bray & Sancio (2006) Criteria for Liquefaction Susceptibility

The above plot indicates that all test on fine-grained soil samples from the adjacent site can be considered likely to exhibit gradual cyclic strain development. As such, rapid and substantial degradation of shear stiffness and elevated pore pressures sufficient to induce liquefaction-like cyclic softening response are not expected to occur during earthquake shaking based on the test data.

Additionally, structural fills placed below footings and the natural near surface firm to stiff silt are also expected to provide suitable resistance to potential for punch-through type bearing failure of foundations in the event of unexpected rapid cyclic strain softening behaviour of the silt subgrade during earthquake shaking.

6.3.2 Fraser River Flooding Discussion

As discussed previously, the study site is located in an area considered protected by a ‘standard’ dike with a Flood Construction Level (FCL) established by City of Pitt Meadows at El. 2.45m that includes an allowance of 0.6m for freeboard. Based on the Fraser River Hydraulic Model Update Report (2008), it is understood that the crest elevation of the existing Pitt Meadows ‘Middle Dike’ is above the design flood water level along the entire length. However, it is also understood that the established design flood water level does not consider climate change impacts.

A Fraser River flood modelling was carried out in 2014 to study the effects of sea level rise and climate change on the Fraser River water level. The 1894 flood event used in the model is considered approximately equivalent to a flood event with a 1:500 years return period. The study indicated that for a moderate climate change and 1.0m sea level rise, the estimated flood level of Pitt River (near Pitt River Bridge) may increase by up to approximately 1.3m by the year 2100 and that are higher than current middle dike crest elevations.

In view of the above, it is recommended that the building designer should consider flood-resistance measures in design elements of the buildings, including a minimum elevation of 1.0m above floor slab for electrical and/ or mechanical components that would likely be severely damaged in the event of inundation by flood water.

Additional risk of damage to onsite and offsite properties and/or injury/fatality greater than currently exists due to the construction of the abattoir building is considered unlikely. Note that Fraser River flooding is considered a ‘slow’ hazard in that river monitoring information allows sufficient time for evacuation of occupants and materials during a flood event.

6.4 Foundation Design

Conventional shallow strip and spread foundation support is considered feasible following the proposed preload treatment. A minimum 0.3m thick structural fill zone should be provided immediately below the concrete foundations to provide for a working surface during construction and to improve bearing resistance.

The following soil resistance (bearing) values may be adopted for preliminary foundation design:

Foundation Subgrade	Limit States Design		Working Stress Design
	Factored Ultimate Bearing Resistance(ULS)	Serviceability Limit State (SLS)	Allowable Bearing Pressure DL + LL
Compacted Structural Fill	150 kPa (~3,100 psf)	100 kPa (~2,000 psf)	100 kPa (~2,000 psf)

The above design bearing pressures for soil subgrade assume the following:

- Strip and pad footings have minimum widths of 450mm (18”) and 600mm (24”), respectively.
- Footings are founded at least 450mm (18”) below final finished adjacent grade for frost protection and confinement.
- Foundation subgrade is prepared as described in “Site Preparation”.
- All load-bearing surfaces are reviewed and accepted by the Geotechnical Engineer.
- Foundation bearing surfaces are no higher than 2H:1V (horizontal to vertical) from the base or toe of adjacent foundation elements and no higher than 1H:1V from the base or toe of sumps, utility structures, or other buried structures.

6.5 Seismic Considerations

The current BC Building Code identifies a site as Site Class E that is underlain by a soil profile with an average shear wave velocity of less than 180 m/s to a depth of 30m (or if within 30m the profile contains more than 3m of soil with a plasticity index (I_p) greater than 20, moisture content (w_n) greater than or equal to 40%, and undrained shear strength (s_u) less than 25kPa).

Based on the available subsurface information, the proposed building structure may be designed for Site Class E seismic parameters.

6.6 Slab on Grade

The slab on grade should be underlain by a drainage layer comprising a minimum 100mm (4”) thick well-compacted free draining sand and gravel. Polyethylene sheeting should be provided beneath the floor slab to reduce potential slab dampness.

Compaction testing should be completed on all underslab fills to confirm that all fill placed below the building has been compacted to at least 95% MPD.

6.7 Backfill

Any backfill placed around the perimeter of the building should consist of free-draining granular material such as sand or sand and gravel with less than 5% fines. The material should be compacted to at least 95% of MPD for its full depth. Site grades should slope away from the building, and slopes should promote drainage of surface water to a suitable discharge location.

6.8 Gravel Access Road/ Parking Area

Gravel access road and parking area subgrade preparation should be carried out as described in Sections 6.2.1 and 6.2.2 above. Zones of wet, loose/ soft or deleterious soils encountered at subgrade level should be sub-excavated and replaced with Select/ Crushed Granular Subbase (MMCD SGSB/ CGSB) material. Recommended gravel access road/ parking area structure is provided as follows.

<i>Onsite Gravel Access Road & Parking Area</i>	<i>Material</i>
150mm	25mm minus High Fines Surfacing Aggregate (BC MoTI HFSA)
300mm	75mm minus Select/ Crushed Granular Subbase (MMCD SGSB/ CGSB)

Note the thickness of the SGSB/ CGSB layer may be reduced to 200mm for subgrades comprised of compacted structural fill at least 200mm thick.

7.0 GEOTECHNICAL FIELD REVIEW

Geotechnical field reviews are required by the Geotechnical Engineer of Record to confirm that the recommendations of the geotechnical report are understood and followed. Geotechnical field reviews should be arranged by the Contractor to address the following:

- Review stripping of fill, topsoil, and other unsuitable materials below the building footprint and pavement areas;
- Review and density testing of structural fill placed below building areas;
- Review preload monitoring data gathered by others;
- Confirm suitability of exposed footing subgrade;
- Review of perimeter drain installation (if required);
- Review and density testing of perimeter fill;
- Review and density testing of pavement structure fills.

8.0 CLOSURE

This report should be considered preliminary and is subject to review and revision as required, once layout and structural drawings have been finalized.

This report is prepared for the exclusive use of Jent Construction Ltd., the Owner, and their designated representatives and may not be used by other parties without the written permission of Braun Geotechnical Ltd. The City of Pitt Meadows may also rely on the findings of this report.

If the development plans change, or if during construction soil conditions are noted to be different from those described in this report, Braun Geotechnical should be notified immediately in order that the geotechnical recommendations can be confirmed or modified, if required. Further, this report assumes that field reviews will be completed by Braun Geotechnical during construction.

The site Contractor should make their own assessment of subsurface conditions and select the construction means and methods most appropriate to the site conditions.

This report should not be included in the specifications without suitable qualifications approved by the geotechnical engineer.

The use of this report is subject to the conditions on the Report Interpretation and Limitations sheet which is included with this report. The reader's attention is drawn specifically to those conditions, as it is considered essential that they be followed for proper use and interpretation of this report.

We hope the above meets with your requirements. Should any questions arise, please do not hesitate to contact the undersigned.

Yours truly,

Braun Geotechnical Ltd.


Euraj Vivekanandan, EIT
Geotechnical Engineer

Encl: Report Interpretation and Limitations
Test Hole Location Plan
Test Hole Logs
SCPT Data
Appendix A - Golder Associates 2015 Auger Hole Logs

Braun Geotechnical Ltd.


James Wetherill, P.Eng.
Geotechnical Engineer



REPORT INTERPRETATION AND LIMITATIONS

1. STANDARD OF CARE

Braun Geotechnical Ltd. (Braun) has prepared this report in a manner consistent with generally accepted engineering consulting practices in this area, subject to the time and physical constraints applicable. No other warranty, expressed or implied, is made.

2. COMPLETENESS OF THIS REPORT

This Report represents a summary of paper, electronic and other documents, records, data and files and is not intended to stand alone without reference to the instructions given to Braun by the Client, communications between Braun and the Client, and/or to any other reports, writings, proposals or documents prepared by Braun for the Client relating to the specific site described herein.

This report is intended to be used and quoted in its entirety. Any references to this report must include the whole of the report and any appendices or supporting material. Braun cannot be responsible for use by any party of portions of this report without reference to the entire report.

3. BASIS OF THIS REPORT

This report has been prepared for the specific site, development, design objective, and purpose described to Braun by the Client or the Client's Representatives or Consultants. The applicability and reliability of any of the factual data, findings, recommendations or opinions expressed in this document pertain to a specific project as described in this report and are not applicable to any other project or site, and are valid only to the extent that there has been no material alteration to or variation from any of the descriptions provided to Braun. Braun cannot be responsible for use of this report, or portions thereof, unless we were specifically requested by the Client to review and revise the Report in light of any alterations or variations to the project description provided by the Client.

If the project does not commence within 18 months of the report date, the report may become invalid and further review may be required.

The recommendations of this report should only be used for design. The extent of exploration including number of test pits or test holes necessary to thoroughly investigate the site for conditions that may affect construction costs will generally be greater than that required for design purposes. Contractors should rely upon their own explorations and interpretation of the factual data provided for costing purposes, equipment requirements, construction techniques, or to establish project schedule.

The information provided in this report is based on limited exploration, for a specific project scope. Braun cannot accept responsibility for independent conclusions, interpretations, interpolations or decisions by the Client or others based on information contained in this Report. This restriction of liability includes decisions made to purchase or sell land.

4. USE OF THIS REPORT

The contents of this report, including plans, data, drawings and all other documents including electronic and hard copies remain the copyright property of Braun Geotechnical Ltd. However, we will consider any reasonable request by the Client to approve the use of this report by other parties as "Approved Users." With regard to the duplication and distribution of this Report or its contents, we authorize only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of this Report by those parties. The Client and "Approved Users" may not give, lend, sell or otherwise make this Report or any portion thereof available to any other party without express written permission from Braun. Any use which a third party makes of this Report – in its entirety or portions thereof – is the sole responsibility of such third parties. BRAUN GEOTECHNICAL LTD. ACCEPTS NO RESPONSIBILITY FOR DAMAGES SUFFERED BY ANY PARTY RESULTING FROM THE UNAUTHORIZED USE OF THIS REPORT.

Electronic media is susceptible to unauthorized modification or unintended alteration, and the Client should not rely on electronic versions of reports or other documents. All documents should be obtained directly from Braun.

5. INTERPRETATION OF THIS REPORT

Classification and identification of soils and rock and other geological units, including groundwater conditions have been based on exploration(s) performed in accordance with the standards set out in Paragraph 1. These tasks are judgemental in nature; despite comprehensive sampling and testing programs properly performed by experienced personnel with the appropriate equipment, some conditions may elude detection. As such, all explorations involve an inherent risk that some conditions will not be detected.

Further, all documents or records summarizing such exploration will be based on assumptions of what exists between the actual points sampled at the time of the site exploration. Actual conditions may vary

significantly between the points investigated and all persons making use of such documents or records should be aware of and accept this risk.

The Client and "Approved Users" accept that subsurface conditions may change with time and this report only represents the soil conditions encountered at the time of exploration and/or review. Soil and ground water conditions may change due to construction activity on the site or on adjacent sites, and also from other causes, including climactic conditions.

The exploration and review provided in this report were for geotechnical purposes only. Environmental aspects of soil and groundwater have not been included in the exploration or review, or addressed in any other way.

The exploration and Report is based on information provided by the Client or the Client's Consultants, and conditions observed at the time of our site reconnaissance or exploration. Braun has relied in good faith upon all information provided. Accordingly, Braun cannot accept responsibility for inaccuracies, misstatements, omissions, or deficiencies in this Report resulting from misstatements, omissions, misrepresentations or fraudulent acts of persons or sources providing this information.

6. DESIGN AND CONSTRUCTION REVIEW

This report assumes that Braun will be retained to work and coordinate design and construction with other Design Professionals and the Contractor. Further, it is assumed that Braun will be retained to provide field reviews during construction to confirm adherence to building code guidelines and generally accepted engineering practices, and the recommendations provided in this report. Field services recommended for the project represent the minimum necessary to confirm that the work is being carried out in general conformance with Braun's recommendations and generally accepted engineering standards. It is the Client's or the Client's Contractor's responsibility to provide timely notice to Braun to carry out site reviews. The Client acknowledges that unsatisfactory or unsafe conditions may be missed by intermittent site reviews by Braun. Accordingly, it is the Client's or Client's Contractor's responsibility to inform Braun of any such conditions.

Work that is covered prior to review by Braun may have to be re-exposed at considerable cost to the Client. Review of all Geotechnical aspects of the project are required for submittal of unconditional Letters of Assurance to regulatory authorities. The site reviews are not carried out for the benefit of the Contractor(s) and therefore do not in any way effect the Contractor(s) obligations to perform under the terms of his/her Contract.

7. SAMPLE DISPOSAL

Braun will dispose of all samples 3 months after issuance of this report, or after a longer period of time at the Client's expense if requested by the Client. All contaminated samples remain the property of the Client and it will be the Client's responsibility to dispose of them properly.

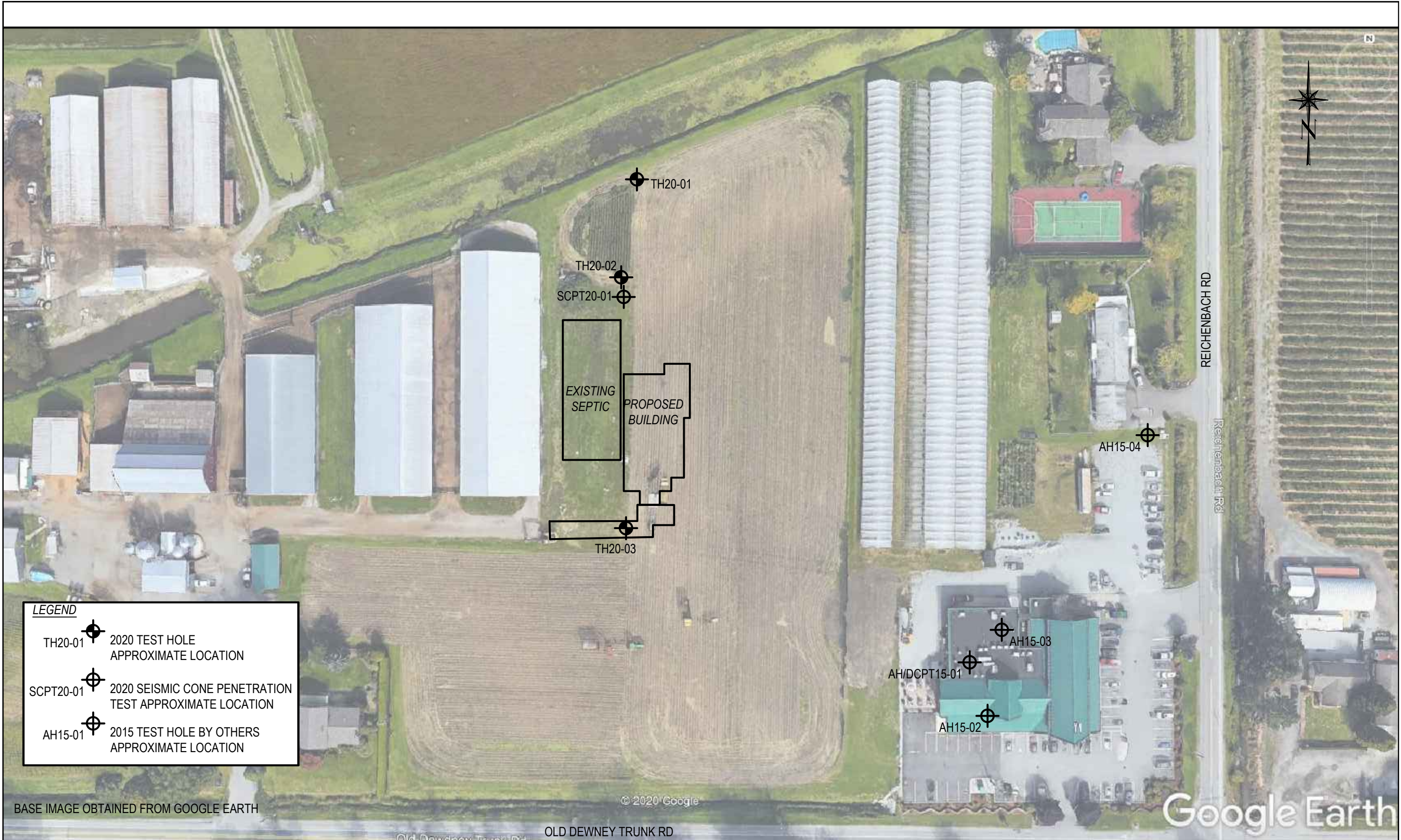
8. SUBCONSULTANTS AND CONTRACTORS

Engineering studies frequently requires hiring the services of individuals and companies with special expertise and/or services which Braun Geotechnical Ltd. does not provide. These services are arranged as a convenience to our Clients, for the Client's benefit. Accordingly, the Client agrees to hold the Company harmless and to indemnify and defend Braun Geotechnical Ltd. from and against all claims arising through such Subconsultants or Contractors as though the Client had retained those services directly. This includes responsibility for payment of services rendered and the pursuit of damages for errors, omissions or negligence by those parties in carrying out their work. These conditions apply to specialized subconsultants and the use of drilling, excavation and laboratory testing services, and any other Subconsultant or Contractor.

9. SITE SAFETY

Braun Geotechnical Ltd. assumes responsibility for site safety solely for the activities of our employees on the jobsite. The Client or any Contractors on the site will be responsible for their own personnel. The Client or his representatives, Contractors or others retain control of the site. It is the Client's or the Client's Contractors responsibility to inform Braun of conditions pertaining to the safety and security of the site – hazardous or otherwise – of which the Client or Contractor is aware.

Exploration or construction activities could uncover previously unknown hazardous conditions, materials, or substances that may result in the necessity to undertake emergency procedures to protect workers, the public or the environment. Additional work may be required that is outside of any previously established budget(s). The Client agrees to reimburse Braun for fees and expenses resulting from such discoveries. The Client acknowledges that some discoveries require that certain regulatory bodies be informed. The Client agrees that notification to such bodies by Braun Geotechnical Ltd. will not be a cause for either action or dispute.




LEGEND

TH20-01 2020 TEST HOLE APPROXIMATE LOCATION

SCPT20-01 2020 SEISMIC CONE PENETRATION TEST APPROXIMATE LOCATION

AH15-01 2015 TEST HOLE BY OTHERS APPROXIMATE LOCATION

	Rev.	Description	Date	Client Jent Construction Ltd.				Title LOCATION PLAN			
				Project Proposed Abattoir 18361 Old Dewdney Trunk Road, Pitt Meadows, BC							
				Project no.	Drawn	Design	Checked	Date	Scale	Drawing no.	
				20-8704	DC	EV	JW	October 15, 2020	1:1000	20-8704-01	

Test Hole Log: TH20-01

File: 20-8704

Project: Proposed Abattoir

Client: Jent Construction Ltd.

Location: 18361 Old Dewdney Trunk Road, Pitt Meadows, BC



Depth ft m	Thickness (mm)	Sample	Soil Description	Sample #	Water cont.	DCPT (Blows per ft)											Remarks
						0	10	20	30	40	50	60					
0	0		GRASS OVER			0	10	20	30	40	50	60					
ft	m		ORGANIC TOPSOIL														
		○	grey to grey-brown, rust-mottled, damp, stiff SILT, trace fine sand	S1	30%												
1		○	grey, occasionally rust-mottled, damp, soft to firm SILT, trace to some fine sand	S2	39%												
5		○	grey, moist, soft, clayey SILT, trace fine sand, trace organics	S3	48%												
2		○	grey, moist, soft, fine sandy SILT	S4	42%												
10		○		S5	38%												
4		○	grey, moist, loose, silty fine SAND	S6	34%												
15		○	grey, moist, firm, clayey SILT, trace wood	S7	47%												
5		○		S8	57%												
20		○	grey, moist, firm to stiff, clayey SILT, trace fine sand	S9	47%												
7		○	grey, moist, stiff, fine sandy SILT, trace organic fibers	S10	34%												
25		○															
8																	
30			End of Test Hole @ 9.1m														
9																	
10																	
35																	
11																	

Water Level
(at time of drilling)

Equipment: Truck Mounted Auger Rig
Sampling Method: Grab Off Auger Flight
Hammer Type: Automatic Trip
(140 lb, 30" Drop)

Datum: Ground Surface
Water Depth: 4.6m
(at time of drilling)

Logged By: EV
Exploration Date: September 3, 2020
Dwg No.: 20-8704-TH01
Page: 1 of 1

Test Hole Log: TH20-02

File: 20-8704

Project: Proposed Abattoir

Client: Jent Construction Ltd.

Location: 18361 Old Dewdney Trunk Road, Pitt Meadows, BC



Depth	Thickness (mm)	Sample	Soil Description	Sample #	Water cont.	Remarks
0			GRASS OVER			
0			ORGANIC TOPSOIL			
ft			grey to grey-brown, rust-mottled, damp, stiff SILT, trace fine sand	S1	32%	
m			grey, occasionally rust-mottled, damp, firm SILT, trace fine sand	S2	40%	
1			grey-brown, damp, soft, clayey SILT, trace fine sand, trace organic fibers	S3	45%	
5			- grey below 2.7m - moist below 3.0m	S4	48%	
2				S5	63%	
10			grey, moist, soft to firm, fine sandy SILT	S6	34%	
3			grey, moist, soft, clayey SILT, trace organics, trace wood	S7	86%	
4			grey, moist to wet, loose, silty fine SAND, trace organic fibers	S8	38%	
15			grey, moist, soft to firm, clayey SILT, trace fine sand, trace organic fibers	S9	54%	
5			grey, wet, stiff, fine sandy SILT, occasional organic fibers	S10	36%	
20				S11	43%	
6				S12	36%	
7			End of Test Hole @ 9.1m			
25						
8						
30						
9						
35						
11						

Water Level
(at time of drilling)

Equipment: Truck Mounted Auger Rig
Sampling Method: Grab Off Auger Flight

Datum: Ground Surface
Water Depth: 3.9m
(at time of drilling)

Logged By: EV
Exploration Date: September 3, 2020
Dwg No.: 20-8704 - TH02
Page: 1 of 1

Test Hole Log: TH20-03

File: 20-8704
 Project: Proposed Abattoir
 Client: Jent Construction Ltd.
 Location: 18361 Old Dewdney Trunk Road, Pitt Meadows, BC



Depth ft m	Thickness (mm)	Sample	Soil Description	Sample #	Water cont.	Remarks
0			GRASS OVER			
0			grey-brown, damp, compact, silty SAND, trace organics (FILL)			
1		○	dark-brown, damp, firm, organic rich SILT, trace sand	S1	71%	
5		○	grey, occasionally rust-mottled, damp, firm SILT, trace to some fine sand	S2	41%	
2		○	grey, damp to moist, soft to firm, clayey SILT, trace sand, trace organic fibers	S3	60%	
10			- moist below 3.0m			Water Level (at time of drilling)
4		○		S4	49%	
15		○	grey, wet, loose to compact, silty fine SAND	S5	37%	
20		○		S6	37%	
6			End of Test Hole @ 6.1m			
7						
25						
8						
30						
9						
10						
35						
11						

Equipment: Truck Mounted Auger Rig
 Sampling Method: Grab Off Auger Flight

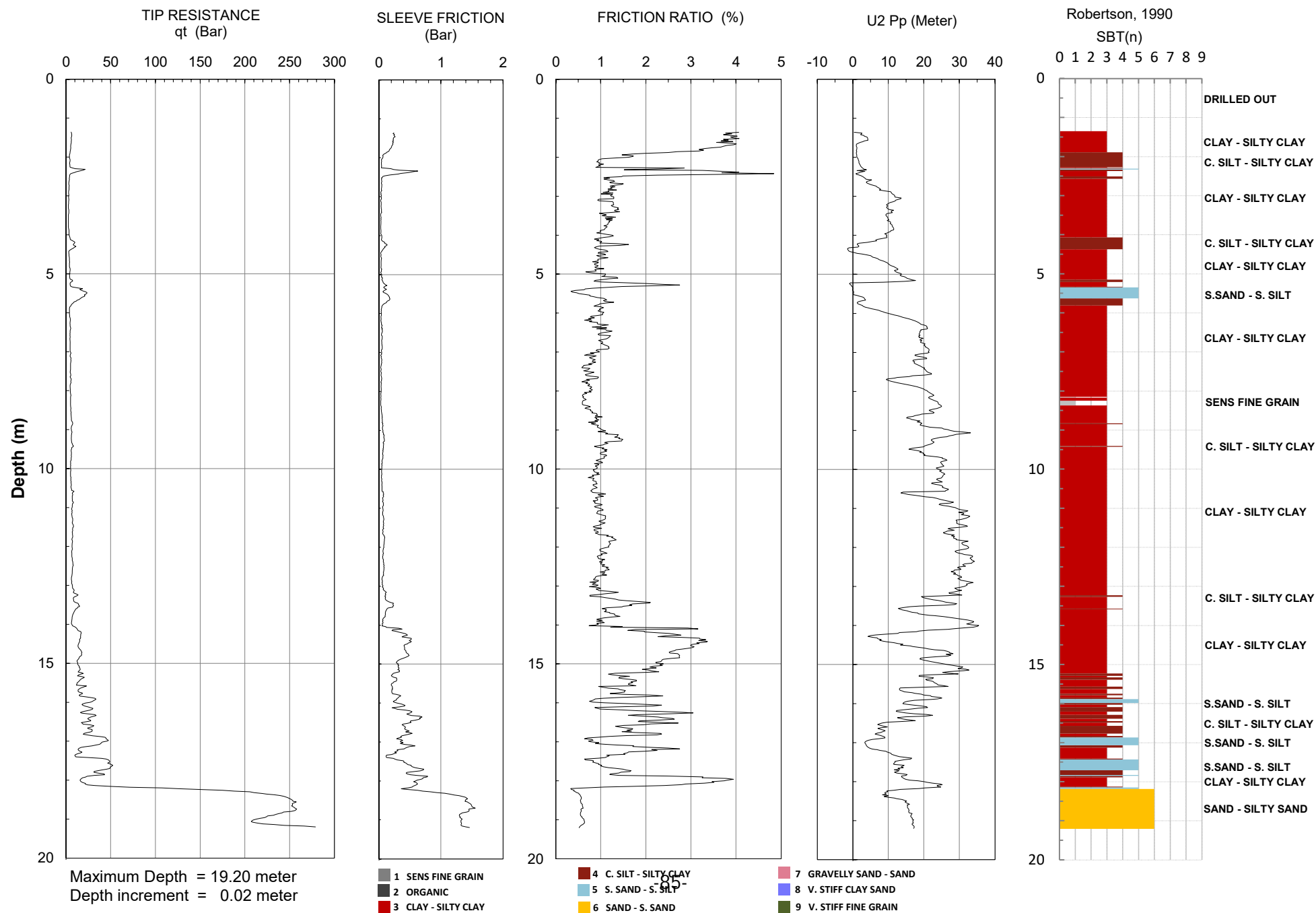
Datum: Ground Surface
 Water Depth: 3.0m
 (at time of drilling)

Logged By: EV
 Exploration Date: September 3, 2020
 Dwg No.: 20-8704-TH03
 Page: 1 of 1



Operator: Schwartz Soil Technical
Sounding: SCPT20 - 01
Cone ID: 1190

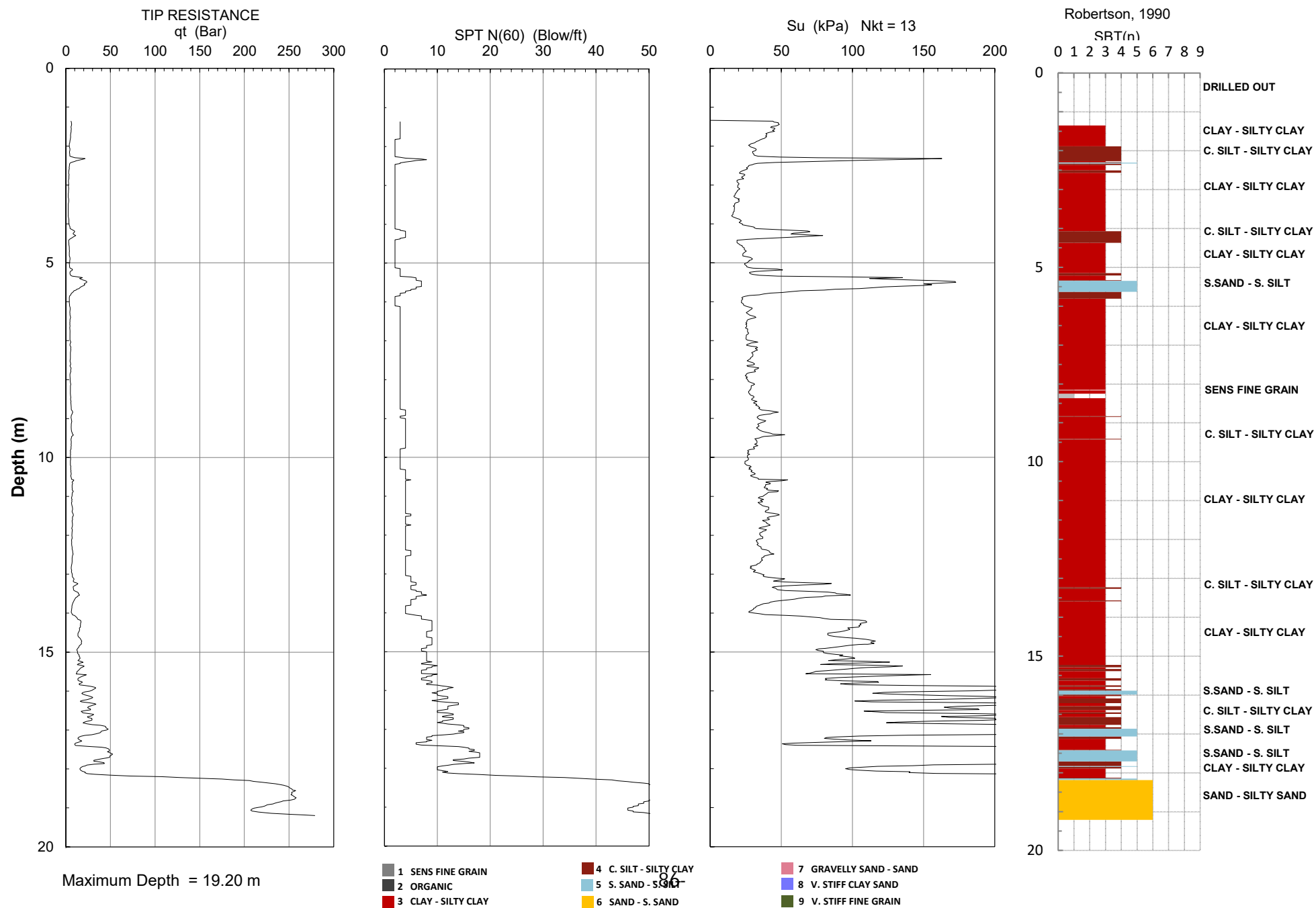
Date: September 2, 2020
Site: Hopcott Abbatoir, Pitt Mdws
Braun project no: 20-8704





Operator: Schwartz Soil Technical
Sounding: SCPT20 - 01
Cone ID: 1190

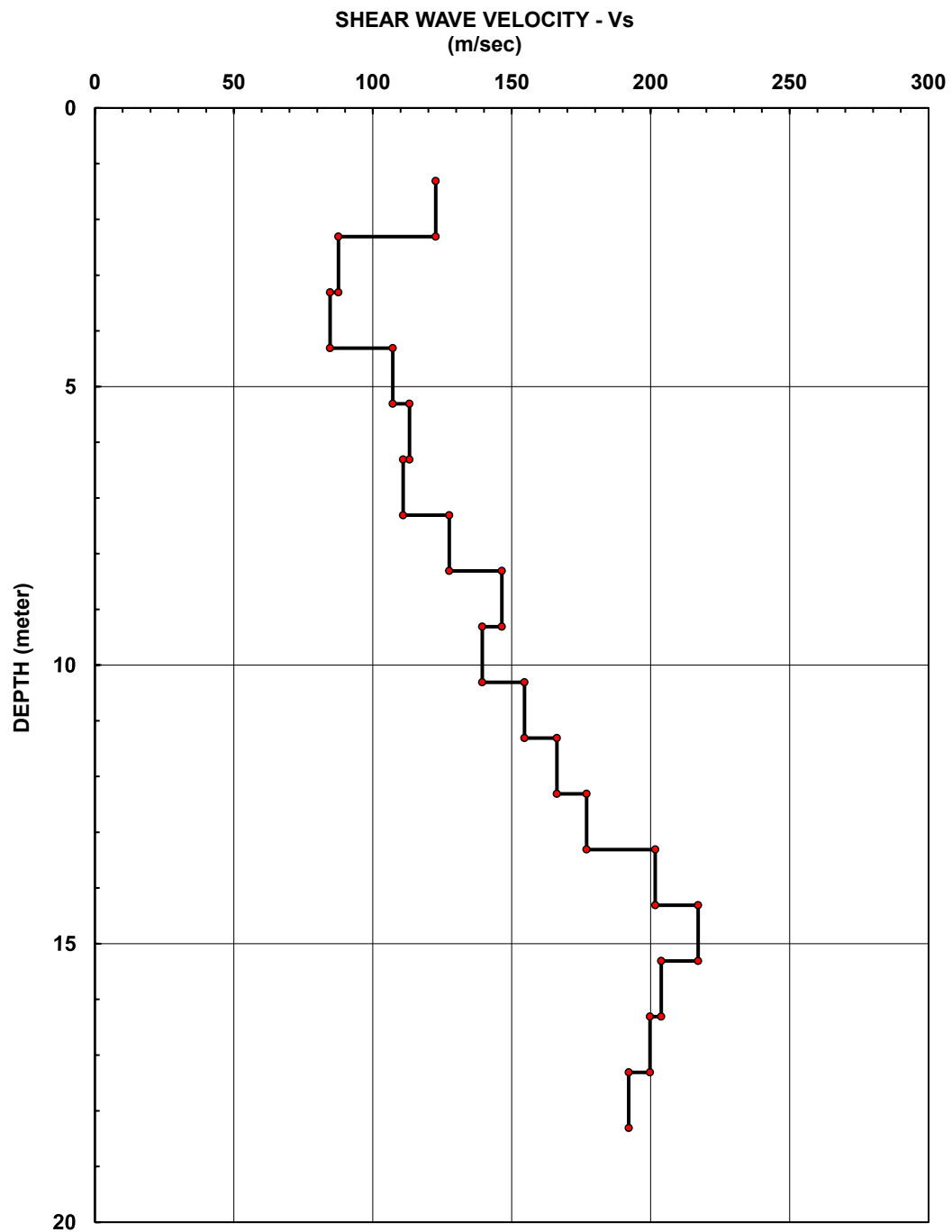
Date: September 2, 2020
Site: Hopcott Abbatoir, Pitt Mdws
Braun project no: 20 - 8704



SHEAR WAVE VELOCITY PROFILE

Client: Braun Geotechnical
Test: SCPT20 - 01
Site: Hopcott Abbatoir
Pitt Meadows, BC

Date: Sept 2, 2020
Cone ID: DPG1190
Source offset: 0.81 m
Source: Beam



SHEAR WAVE VELOCITY DATA

Client: Braun Geotechnical			Date: Sept 2, 2020		
Test: SCPT20 - 01			Cone ID: DPG1190		
Site: Hopcott Abbatoir			Source offset: 0.81 m		
Pitt Meadows, BC			Source: Beam		
Cone tip Depth (m)	Geophone Depth (m)	Wave Path (m)	Wave Path Difference (m)	Wave Travel Time interval (ms)	Interval Velocity (m/sec)
1.56	1.31	1.54	0.91	7.40	123
2.56	2.31	2.45	0.96	10.95	88
3.56	3.31	3.41	0.98	11.55	85
4.56	4.31	4.39	0.99	9.20	107
5.56	5.31	5.37	0.99	8.75	113
6.56	6.31	6.36	0.99	8.95	111
7.56	7.31	7.35	0.99	7.80	128
8.56	8.31	8.35	1.00	6.80	146
9.56	9.31	9.35	1.00	7.15	139
10.56	10.31	10.34	1.00	6.45	155
11.56	11.31	11.34	1.00	6.00	166
12.56	12.31	12.34	1.00	5.64	177
13.56	13.31	13.33	1.00	4.95	202
14.56	14.31	14.33	1.00	4.60	217
15.56	15.31	15.33	1.00	4.90	204
16.56	16.31	16.33	1.00	5.00	200
17.56	17.31	17.33	1.00	5.20	192
18.56	18.31	18.33			

APPENDIX A

GOLDER ASSOCIATES 2015 AUGER HOLE LOGS

HOPCOTT MEATS BUILDING ADDITION

18385 OLD DEWDNEY TRUNK ROAD, PITT MEADOWS, BC

CLIENT: Jent Construction
PROJECT: Hopcott Meats Building Addition
LOCATION: See Figure 2.

DRILLING DATE: February 19, 2015
DRILLING CONTRACTOR: Downrite Drilling Ltd.

DATUM: Local

N: -5454698 E: -520926
Note: Northing and Easting Coordinates have been determined by
GPS in the field and are approximate only.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

[illegible]

CONTINUED NEXT PAGE

SOIL CLASSIFICATION SYSTEM: GACS

DEPTH SCALE

LOGGED: CS

CHECKED: DEN

1 : 50

PROJECT No.: 1521923 / 1000

RECORD OF AUGERHOLE: AH/DCPT15-01

SHEET 2 OF 2

CLIENT: Jent Construction
 PROJECT: Hopcott Meats Building Addition
 LOCATION: See Figure 2.

DRILLING DATE: February 19, 2015
 DRILLING CONTRACTOR: Downrite Drilling Ltd.

DATUM: Local

N: ~5454698 E: ~520926

Note: Northing and Easting Coordinates have been determined by
 GPS in the field and are approximate only.

INCLINATION: -90°

PENETRATION TEST HAMMER, 63.5kg; DROP, 760mm

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES			DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT						
									Cu, kPa	nat V. + rem V. ⊗ Pocket Pen - ■	Q - ● U - ○		Wp	W			NP - Non-Plastic	WL	
									20	40	60	80		10 ⁻⁶	10 ⁻⁵	10 ⁻⁴	10 ⁻³		
10	Track Mounted Auger Drill Solid Auger	(MH) CLAYEY SILT, trace fine sand; grey; w>wp, soft to firm. (continued)																	
		(ML) sandy SILT; grey; wet, loose.		10.36	11	AS													
11		(MH) CLAYEY SILT, trace fine sand; grey; w>wp, soft.		10.67															
12					12	AS													
		End of Augerhole.		12.19															
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			

DEPTH SCALE

1 : 50



SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: CS

CHECKED: DEN

PROJECT No.: 1521923 / 1000

RECORD OF AUGERHOLE: AH15-02

SHEET 1 OF 1

CLIENT: Jent Construction
 PROJECT: Hopcott Meals Building Addition
 LOCATION: See Figure 2.

DRILLING DATE: February 19, 2015
 DRILLING CONTRACTOR: Downrite Drilling Ltd.

DATUM: Local

N: ~5454689 E: ~520927

Note: Northing and Easting Coordinates have been determined by
 GPS in the field and are approximate only.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	SHEAR STRENGTH				WATER CONTENT PERCENT					
									Cu, kPa	nat V. + ram V. @	U - Pocket Pen	Q - U - O - O -	Wp			W	NP - Non-Plastic	1 Wi
								20	40	60	80	20	40	60	80			
0	Track Mounted Auger Drill Solid Auger	Ground Surface		0.00	1	AS												
		FILL - (SP) gravelly SAND, trace silt; light brown; moist, compact.		0.30	2	AS												
1		(MH) CLAYEY SILT; mottled grey-brown; w>wp, stiff.		1.22														
		(MH) CLAYEY SILT; mottled grey-brown; w>wp, firm.		1.52	3	AS												
2		(ML) sandy SILT; mottled grey-brown; wet, loose.		2.13	4	AS												
		(MH) CLAYEY SILT, trace to some fine sand; grey; w>wp, soft to firm.		3.05														
3		(MH) CLAYEY SILT, trace to some fine sand; grey-brown; w>wp, soft to firm.		3.66	5	AS												
		(MH) CLAYEY SILT, trace to some fine sand; grey-brown; w>wp, soft to firm.		4.27														
4		(MH) sandy CLAYEY SILT; grey; w>wp, soft to firm.		4.57	6	AS												
5																		
6																		
		(ML) sandy SILT; grey; wet, loose.		6.40	7	AS												
7																		
8																		
		(MH) CLAYEY SILT, trace fine sand and organics (wood); grey; w>wp, firm.		8.08	9	AS												
9																		
		End of Augerhole.		9.14														
10																		

Water level
observed in
open hole
during drilling

DEPTH SCALE

1 : 50



SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: CS

CHECKED: DEN

PROJECT No.: 1521923 / 1000

RECORD OF AUGERHOLE: AH15-03

SHEET 1 OF 1

CLIENT: Jent Construction
 PROJECT: Hopcott Meats Building Addition
 LOCATION: See Figure 2.

DRILLING DATE: February 19, 2015
 DRILLING CONTRACTOR: Downrite Drilling Ltd.

DATUM: Local

N: ~5454714 E: ~520933
 Note: Northing and Easting Coordinates have been determined by
 GPS in the field and are approximate only.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION			
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	SHEAR STRENGTH nat V. + Q - ● rem V. @ U - ○ Pocket Pen - ■				WATER CONTENT PERCENT Wp — W — Wl NP - Non-Plastic					
									20	40	60	80	10 ⁻⁶			10 ⁻⁵	10 ⁻⁴	10 ⁻³
0		Ground Surface		0.00	1	AS												
		FILL - (SM) gravelly SILTY SAND; grey; moist, loose.																
		(ML) CLAYEY SILT, some fine sand; mottled grey-brown; w>wp, stiff.		0.61	2	AS							○					
1																		
		(ML) CLAYEY SILT, some fine sand; mottled grey-brown; w>wp, firm.		1.22	3	AS							○					
2					4	AS												
		(ML) sandy CLAYEY SILT; grey; w>wp, firm.		2.13	5	AS							○					
3		(MH) CLAYEY SILT, trace fine sand and organics (wood); grey; w>wp, firm.		2.74	6	AS												
					7	AS												
4		(MH) CLAYEY SILT, some fine sand; grey; w>wp, firm.		3.96	8	AS							○					
5		(MH) CLAYEY SILT, trace fine sand; grey-brown; w>wp, soft to firm.		4.57														
					9	AS								○				
6					10	AS												
		(MH) CLAYEY SILT, trace fine sand and organics (wood); grey-brown; w>wp, soft to firm.		6.10														
7		(MH) CLAYEY SILT, trace fine sand; grey-brown; w>wp, soft to firm.		6.71	11	AS							○					
		(ML) sandy SILT; grey; wet, loose.		7.62	12	AS							○					
8																		
		(MH) CLAYEY SILT, trace fine sand; grey; w>wp, soft to firm.		8.08														
9		-1 cm thick layer of ash encountered at about 8.5 m.			13	AS							○					
		End of Augerhole.		9.14														
10																		

Water level
observed in
open hole
during drilling

DEPTH SCALE

1 : 50



SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: CS

CHECKED: DEN

PROJECT No.: 1521923 / 1000

RECORD OF AUGERHOLE: AH15-04

SHEET 1 OF 1

CLIENT: Jent Construction
 PROJECT: Hopcott Meats Building Addition
 LOCATION: See Figure 2.

DRILLING DATE: February 19, 2015
 DRILLING CONTRACTOR: Downrite Drilling Ltd.

DATUM: Local

N: ~5454772 E: ~520974

Note: Northing and Easting Coordinates have been determined by
 GPS in the field and are approximate only.

INCLINATION: -90°

DEPTH SCALE METRES	DRILLING RIG DRILLING METHOD	SOIL PROFILE		SAMPLES		DYNAMIC PENETRATION RESISTANCE, BLOWS/0.3m				HYDRAULIC CONDUCTIVITY, k, cm/s				ADDITIONAL LAB. TESTING	PIEZOMETER, STANDPIPE OR THERMISTOR INSTALLATION	
		DESCRIPTION	STRATA PLOT	ELEV. DEPTH (m)	NUMBER	TYPE	RECOVERY %	BLOWS/0.3m	SHEAR STRENGTH Cu, kPa	not V. + Q - ● rem V. ⊕ U - ○ Pocket Pen - ■	10 ⁻⁸	10 ⁻⁵	10 ⁻⁴			10 ⁻³
0	Track Mounted Auger Drill Solid Auger	Ground Surface														
		TOPSOIL - (ML) sandy SILT, trace organics (roots); dark brown-black; moist, loose.		0.00	1	AS										
		(ML) CLAYEY SILT, trace fine sand; mottled grey-brown; w-wp, firm.		0.23												
1					2	AS										
		(ML) CLAYEY SILT, trace fine sand; mottled grey-brown; w-wp, firm.		1.22												
2					3	AS										
		(MH) CLAYEY SILT, trace to some fine sand, trace organics (wood); grey; w-wp, soft to firm.		2.13												
3					4	AS										
4					5	AS										
5					6	AS										
6					7	AS										
6.10		End of Augerhole.		6.10												
7																
8																
9																
10																

Water level
 observed in
 open hole
 during drilling

DEPTH SCALE

1 : 50



SOIL CLASSIFICATION SYSTEM: GACS

LOGGED: CS

CHECKED: DEN

CLIENT:

JENT CONSTRUCTION LTD.
20164 123A AVENUE
MAPLE RIDGE, BC V2X 6A7

PROJECT DESCRIPTION:

SITE PREPARATION BY PRELOAD METHOD FOR
PROPOSED ABATTOIR
18361 OLD DEWDNEY TRUNK ROAD
PITT MEADOWS, BC

CONSULTANT:

BRAUN GEOTECHNICAL LTD.
102 - 19049 95A AVENUE
SURREY, BC
V4N 4P3
Ph: 604-513-4190
Fax: 604-513-4195
email: info@braungeo.com

DRAWING LIST

G1	COVER SHEET
G2	PRELOAD FILL PLAN
G3	PRELOAD SECTION
G4	PRELOAD SPECIFICATIONS



Rev.	Description	Date	Client	Title				
REV 0	ISSUED FOR REVIEW	2020-10-09	Jent Construction Ltd.	COVER SHEET				
REV 1	REVISED EXISTING GROUND ELEVATION & DRIVEWAY AREA	2020-10-14	Project					
REV 2	REVISED PER COMMENT	2020-12-10	18361 Old Dewdney Trunk Road, Pitt Meadows, BC					
			Project no.	Drawn	Design	Checked	Date	Scale
			20-8704	DD	EV	JW	October 6, 2020	N/A
								Drawing no.
								20-8704-G1





BUILDING:
FILL DEPOSIT:
AREA OF PRELOAD (TEMPORARY) FILL: ~ 1227 m²
AREA OF STRUCTURAL (PERMANENT) FILL: ~ 771 m²
VOLUME OF PRELOAD (TEMPORARY) FILL: ~ 2912 m³
VOLUME OF STRUCTURAL (PERMANENT) FILL: ~ 876 m³

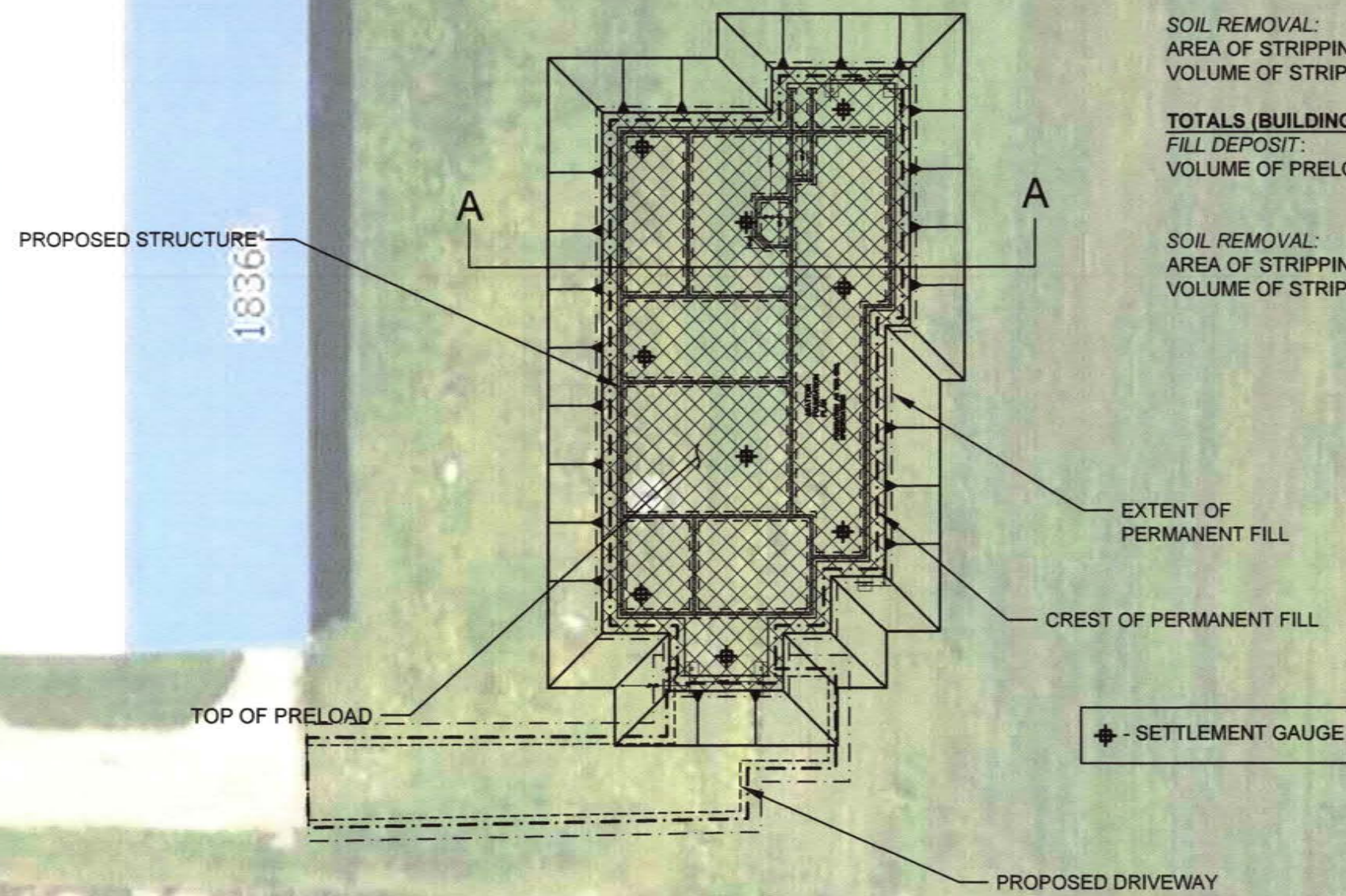
SOIL REMOVAL:
AREA OF STRIPPING: ~771 m²
VOLUME OF STRIPPING (AVE. DEPTH OF 0.3m): ~232 m³

DRIVEWAY:
FILL DEPOSIT:
AREA OF STRUCTURAL (PERMANENT) FILL: ~ 288 m²
VOLUME OF STRUCTURAL (PERMANENT) FILL: ~ 319m³

SOIL REMOVAL:
AREA OF STRIPPING: ~288 m²
VOLUME OF STRIPPING (AVE. DEPTH OF 0.3m): ~86 m³

TOTALS (BUILDING & ROADWAY):
FILL DEPOSIT:
VOLUME OF PRELOAD FILL: ~ 2912 m³

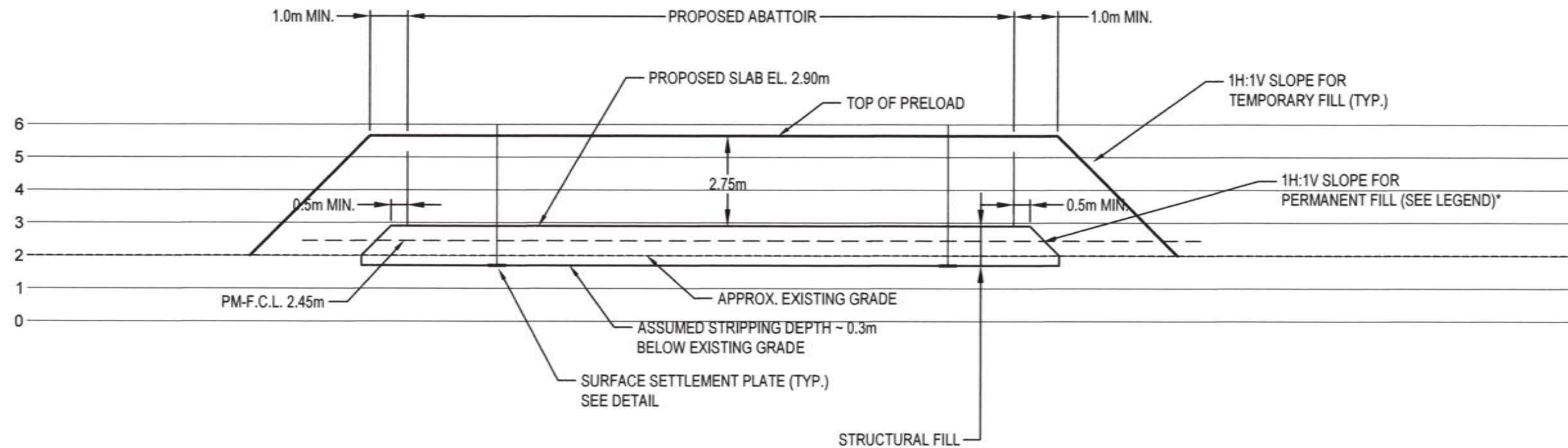
SOIL REMOVAL:
AREA OF STRIPPING: ~1059m²
VOLUME OF STRIPPING (AVE. DEPTH OF 0.3m): ~318 m³



Rev.	Description	Date	Client
REV 0	ISSUED FOR REVIEW	2020-10-09	Jent Construction Ltd.
REV 1	REVISED EXISTING GROUND ELEVATION & DRIVEWAY AREA	2020-10-14	Project
REV 2	REVISED PER COMMENT	2020-12-10	Proposed Abattoir
			18361 Old Dewdney Trunk Road, Pitt Meadows, BC
			Project no. 20-8704
			Drawn DD
			Design EV
			Checked JW

Title	Date	Scale	Drawing no.
PRELOAD PLAN	October 6, 2020	1:400	20-8704-G2





SECTION A-A

LEGEND

PM-F.C.L. - FLOOD CONSTRUCTION LEVEL
(PITT MEADOWS RURAL FLOODPLAIN BY-LAW 2384)

* ASSUMES 2.5H:1V PERMANENT SLOPES (OR FLATTER)
FOLLOWING REMOVAL OF TEMPORARY FILL

Building Preload and Monitoring Specifications:

1.0 Work Included

The contractor shall provide all necessary labour, materials and equipment to carry out the work, including the following:

- a. Construction of site fills and preloads completed as shown on the drawings and as specified including all related works.
See Architectural Drawings for layout coordinates of the building.
- b. Necessary temporary erosion control measures including silt fencing and temporary drainage swales as required.
- c. Necessary steps required to protect instrumentation and appurtenances from damage and disturbance due to any causes including on-site operations, vandalism and weather.
- d. Repair or replace any instruments that are damaged or disturbed as a result of the contractor's operations or failure to provide adequate protection.
- e. Co-operate fully with the Geotechnical Engineer and provide all reasonable assistance as necessary for instrument readings and measurements.
- f. Provide "As-Built" site plan surveyed by a registered BC Land Surveyor (BCLS) at completion of preload fill placement.
- g. Obtain settlement gauge readings and measurements of fill thickness and levels at intervals specified below.

2.0 Execution

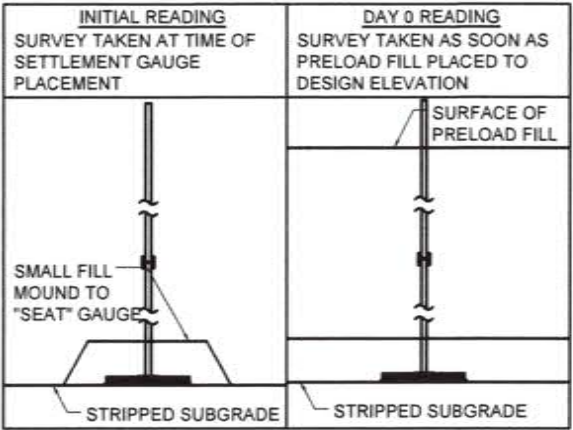
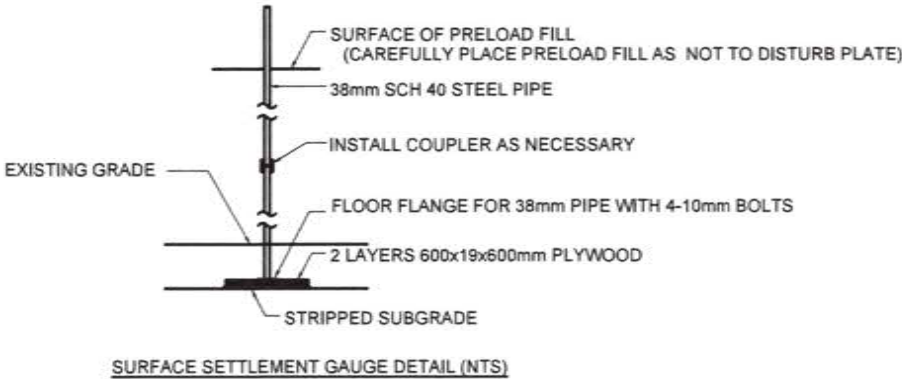
- a. The work shall be carried out in accordance with applicable bylaws and regulations
- b. The contractor shall submit details of his proposed construction schedule, construction methods and equipment to the Geotechnical Engineer prior to construction.
- c. Establish survey benchmark outside the influence of the subject preload or any other preloads in the area.
- d. Strip subgrades and obtain field review by the Geotechnical Engineer.
- e. Place Settlement gauges at the locations shown on the attached plan. Measure gauge pipe lengths, base and top elevations at time of installation.
- f. Construct site preload fills to finished lines and levels shown on the drawings in a single stage. Consideration should be given to placement of permanent fills to at least 300mm above proposed slab on grade level to account for anticipated settlements. Additional permanent fill may be required following preload removal based on actual settlements.
- g. Settlement gauge readings should be obtained initially at the time the gauges are installed and at day 0, 3, 7, and 14 following installation of site fills to the specified level. Settlement gauges are typically surveyed once every two weeks after the initial monitoring period. Survey for gauge monitoring should be carried out using a closed loop level rod survey to an accuracy of ± 2 mm. BCLS preferred but not essential for gauge monitoring.
- h. Rainwater run-off shall be controlled at all times by sloping site grades as necessary to avoid ponding and erosion.
- i. Temporary drainage measures are to be implemented such that surface run off does not discharge onto adjacent properties.
- j. Immediately after placement of fill is complete a survey of the preload fill area should be carried out by a registered BC Land Surveyor (BCLS). The location of the fill placed with respect to the property lines as well as the location of instrumentation should be plotted by the BCLS and forwarded to Braun Geotechnical for review.

3.0 Materials

- a. Permanent site fills below grade supported areas should typically consist of clean, free draining, well-graded sand and gravel with less than 5% fines (percent passing No. 200 sieve). Silty fill may also be used as permanent fill, subject to review and acceptance of the material and site conditions by Braun Geotechnical. Permanent site fills should be compacted in maximum 300 mm thick lifts to at least 95% Modified Proctor Maximum Dry Density (MPD). Compaction of the initial and second lifts should be carried out using placement equipment to avoid potential for subgrade disturbance.
- b. Preload fill materials including consideration for use of excavated silty soils as preload material would be subject to review and acceptance of the material and site conditions by Braun Geotechnical.

4.0 Post - Building Preload

- a. On successful completion of the preload, the material should be moved to ancillary structure areas on prepared structural fill platform and spread out a minimum 0.6m thickness. Monitoring of this surcharge fill is not required.
- b. Stockpiling of preload fills on the structural fill platform is not recommended.





Agricultural Land Commission
201 – 4940 Canada Way
Burnaby, British Columbia V5G 4K6
Tel: 604 660-7000
Fax: 604 660-7033
www.alc.gov.bc.ca

November 27, 2020

ALC File: 61638

SENT BY E-MAIL: jent1@shaw.ca

Nick Faber
20164 123A Ave
Maple Ridge, BC V2X 6A7

Attention: Nick Faber, Agent

Dear Mr. Faber,

**Approval Subject to Limits and Conditions Under Section 20.3(2)(b)(ii) of the
Agricultural Land Commission Act**

Re: Notice of Intent to place fill on Land in the Agricultural Land Reserve
PID: 013-182-757
Legal Description: That Portion Section 15 Block 6 North Range 1 East Lying South and East of the Dyke Ditch Shown on Reference Plan 439 Except:
Firstly: Part Shown on Plan with Fee Deposited 20141E
Secondly: Parcel "B" (Reference Plan 6134)
Thirdly: Parcel "C" (Reference Plan 6134), New Westminster District
Civic Address: 13385 Reichenbach Rd, Pitt Meadows, BC
(the "Property")

On October 30, 2020 the Chief Executive Officer (CEO) of the Agricultural Land Commission received a Notice of Intent (NOI) pursuant to section 20.3(1)(c) of the *Agricultural Land Commission Act* (ALCA) for the proposed placement of fill on the Property (the Proposed Fill Placement Activities). The CEO also received a fee of \$150 with respect to the NOI pursuant to subsection 20.3(1)(c)(ii).

As delegate CEO pursuant to subsection 20.3(6) of the ALCA, I understand the following about the Proposed Fill Placement Activities from the NOI and accompanying documents:

- The landowner of the Property is Frederick Robert Hopcott
- The total area of the Proposed Fill Placement Activities is 0.12 ha (1,227 m²)
- The agricultural capability of the property is 4W (6:2DW~4:3WD);
- The purpose of the Proposed Fill Placement Activities is to provide permanent imported structural fill for the construction of an abattoir;
- 100% of the cattle going to the abattoir will be coming from the farm operation;
- The proposed volume of materials to be placed on the Property is 2912.1 m³;
- The proposed maximum depth of material to be placed on the Property is 3.1 m;

- The type of material proposed to be placed on the Property is 25mm minus, High Fines Surfacing Aggregate (BC MoTI HFSA) and 75mm minus Select/Crushed Granular Subbase (MMCD SGSB/CGSB) for the purpose of pre-load and structural fill associated with the abattoir and access driveway to the abattoir; and
- The proposed duration of the Proposed Fill Placement is 11 months.

Upon review of the Notice of Intent and accompanying documents, I hereby approve the Proposed Fill Placement Activities subject to the attached Schedule A: Limits and Conditions under section 20.3(2)(b)(ii) of the Act.

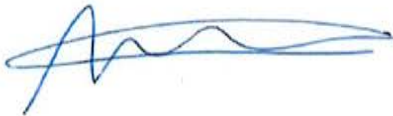
This approval is only for the Proposed Fill Placement Activities. This approval does not constitute approval for any other activity on the Property for which CEO or Commission approval would otherwise be required. This approval does not relieve you of your obligation to comply with all applicable Acts, regulations, bylaws of local government, and decisions and orders of any person or body having jurisdiction over the land under an enactment.

If at any point the abattoir is likely to source more than 50% of the animals that it processes from offsite, then an application to the ALC will be required.

Should you not agree to restrictions on the intended specified use, as set out in the above 'terms and conditions', the option of submitting a formal application to the Commission is available. Should an application be made, please be advised that in its resolution the Commission has the authority to grant an approval, with or without conditions, or deny the proposal. Information on application process can be found on the ALC website under [Applications and Decisions](#).

As agent, it is your responsibility to advise your client of this, and any future, correspondence. Further correspondence with respect to this letter should be directed to Allison Westin at ALC.soil@gov.bc.ca.

Sincerely,



Avtar S. Sundher
Delegate of the Chief Executive Officer

Enclosure: Schedule A: Limits and Conditions
 Schedule B: Decision Map
 Schedule C: Policy L-24 – Development of Farm Structures for Farm-Related
 Commercial and Farm-related Industrial Uses in the ALR

cc: City of Pitt Meadows (info@pittmeadows.bc.ca)
61638d1

Schedule A:**Limits and Conditions on the Proposed Fill Placement Activities****GENERAL**

1. The Proposed Fill Placement Activities must be conducted in compliance with the limits and conditions set out in this NOI decision;
2. The Proposed Fill Placement Activities are restricted to the 0.12 ha area shown in the Schedule B: Decision Map attached to this NOI decision;
3. The total allowed volume of material to be placed is limited to 2312.1 m³;
4. The total fill placement must be limited to 3.1 m in depth;
5. Approval for placement of fill on the Property is granted for the sole benefit of the Applicant and is non-transferable without the written approval of the ALC;

CONDUCTING PROPOSED FILL PLACEMENT ACTIVITIES**Topsoil Salvage**

6. All existing topsoil must be salvaged for use on the property. If soils are to be temporarily stockpiled:
 - i. Stockpiled soils should be windrowed and located in an area where they will not be disturbed and will not impede site drainage.
 - ii. Stockpiles should not exceed 3 m in height and slopes should be no steeper than 3:1.
 - iii. Stockpiles should be seeded and established with an appropriate plant cover, or other suitable soil erosion control measure must be applied to protect the stockpiles from wind, runoff and other removal process;
 - iv. Stockpiled soil must not be removed from the Property without written permission from the ALC;

Vehicular Traffic

7. Access and egress of all vehicle traffic associated with the Proposed Fill Placement Activities and other related activities, must be restricted to a single access road onto the Property;
8. Dust suppression practices and/or restrictions on Proposed Fill Placement Activities related vehicle traffic must be applied when necessary to minimize air-borne dust from traffic on the access road;

Fill Material

9. As per Section 36 of the *Agricultural Land Reserve Use Regulation*, prohibited fill must not be placed on the Property. Prohibited fill includes:
- (a) construction or demolition waste, including masonry rubble, concrete, cement, rebar, drywall and wood waste;
 - (b) asphalt;
 - (c) glass;
 - (d) synthetic polymers;
 - (e) treated wood;
 - (f) unchipped lumber;

Weed Control

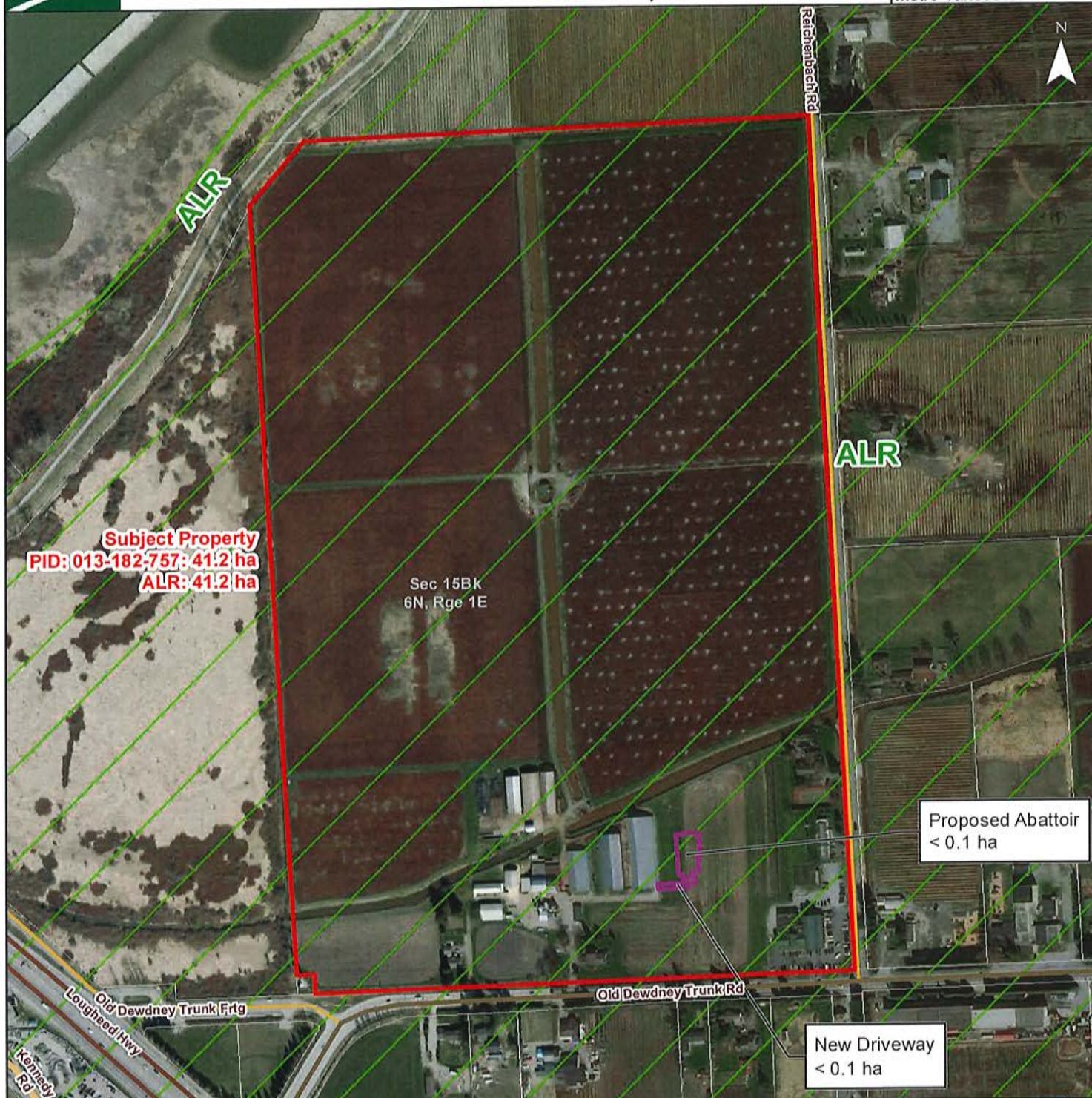
10. Appropriate weed control must be practiced on all disturbed areas;

DECISION TERM

The Proposed Fill Placement Activities must be completed within one (1) year from the release of this NOI decision (November 27, 2021).

NOTE: Unless the ALC first approves an NOI made under section 20.3(5) of the *Agricultural Land Commission Act* (ALCA) as described in the cover letter, proceeding with the Proposed Fill Placement Activities other than in accordance with the above limits and conditions contravenes the ALCA and is subject to compliance and enforcement measures under sections 49-54 of the ALCA.

This approval does not relieve you of your obligation to comply with all applicable Acts, regulations, bylaws of local government, and decisions and orders of any person or body having jurisdiction over the land under an enactment.



ALC FILE NO:
61638

MAP PRODUCED:
November 26, 2020

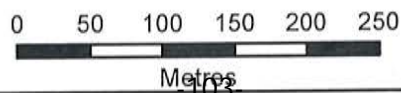
MAP SCALE:
1:5,000


MAP BY:
BM

DATA SOURCES & NOTES:
ALC, BCGW and ESRI / Maxar.
Contains information licensed under
Open Government License - British
Columbia.

Map for reference only. Accuracy not
guaranteed.

- Subject Property (18211 Old Dewdney Trunk Rd, Pitt Meadows, BC)
- Approved Fill Placement Area
- Agricultural Land Reserve
- PMBC Parcel Cadastre



 <p>Agricultural Land Commission</p>	<p>DEVELOPMENT OF FARM STRUCTURES FOR FARM-RELATED COMMERCIAL AND FARM- RELATED INDUSTRIAL USES IN THE ALR</p>	<p>POLICY L-24</p> <p>October 2019</p>
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This policy provides general guidelines for Commission decision-making when considering the placement of fill, removal of soil, and applications for non-farm use pertaining to the development of farm structures for *farm-related commercial and farm-related industrial uses*, as applicable.

These guidelines aim to ensure that:

- agriculture remains the principal use of land in the ALR;
- land taken out of agricultural production to accommodate farm-related commercial and farm-related industrial uses, if any, is minimized;
- regard is given to the long-term cumulative impact of structures on the ALR;
- proposed farm-related commercial and farm-related industrial uses are of a size and scale appropriate for the size of the farm operation; and,
- servicing requirements (e.g. water and wastewater, road access, parking, fire services, etc.) are appropriate and fit with the agricultural context.

GENERAL GUIDELINES:

Infrastructure

Farm-related commercial and farm-related industrial uses should be appropriate for the available rural services and not require the level of road access, water and wastewater servicing, utilities, fire protection, and other public services typically found in urban areas.

High water use/effluent generating operations should be, whenever possible, located in urban areas where municipal services are available.

Farm-related commercial and farm-related industrial uses should be consistent with the Ministry of Agriculture's Guide for Bylaw Development in Farming Area's (the Minister's Bylaw Standard):

- Parking and loading areas should be permeable in nature, whenever possible, to reduce impervious cover and minimize the impacts of stormwater discharge on surrounding agricultural land; and,
- Stormwater and agricultural liquid waste management plans should be required where the total impervious area of buildings and structures exceeds 3,700 m² (approximately 40,000 ft²).

Recommended limits for *farm-related commercial and farm-related industrial uses*

The amount of land taken out of agricultural production for *farm-related commercial and farm-related industrial uses*, if any, should be minimized to ensure balance between farmland protection and the economic opportunities provided for farmers in the ALR Use Regulation.

The key concept in this regard is total lot coverage (referred to as the **lot coverage limit**) described below.

Lot coverage limit is the ratio of the total area occupied by the *farm-related commercial and farm-related industrial uses* on a lot (parcel) divided by the size of the lot (parcel), expressed as a percentage.

The calculation of lot coverage should account for all aspects related to the *farm-related commercial and farm-related industrial uses*, including buildings, outdoor storage, landscaped areas, parking and loading areas, and new access roads. The lot coverage limit should be calculated based on the size of the individual lot (parcel) of land where the *farm-related commercial and farm-related industrial uses* are located, not the total area of a farm operation which may include several lots (parcels) – see *Exception Notes* below.

The recommended lot coverage limit is:

For parcels greater than 4 hectares (10 acres):

- Lot coverage limit is 5% of the lot (parcel)

For parcels 4 hectares (10 acres) or less:

- Lot coverage limit is 0.2 hectares (0.5 acres)

Recognizing the restriction a continually decreasing lot coverage limit could have on lots (parcels) less than 4 hectares, it is recommended that the lot coverage limit for lots less than 4 hectares remain equal to the lot coverage limit recommended for a 4 hectare lot (parcel) calculated at 0.2 hectares (0.5 acres).

If more than one *farm-related commercial and farm-related industrial use* is proposed for a farm, they should be consolidated on a single lot (parcel) and the combined area of all farm-related commercial and farm-related industrial uses should be clustered in a contiguous area within the recommended lot coverage limit.

Exception Notes:

- (1) *The Commission may consider increasing the lot coverage limit on a single parcel where the farm operation is made up of several lots (parcels) that are actively being farmed as a single operation provided there are restrictions placed on the development of similar uses on the remaining parcels making up the farm operation.*
- (2) *The lot coverage limits above should not be applied to residential uses or farm buildings used for the growing and raising of plants, truffles, mushrooms, or animals.*

DEFINITIONS:

Agriculture means the growing and raising of plants, truffles, mushrooms, or animals, including aquaculture.

Farm-related commercial and farm related industrial uses means:

- Farm product processing facilities under section 11(2) of the ALR Use Regulation;
- Farm product retail sales buildings under section 11(3) of the ALR Use Regulation;
- Alcohol production facilities and their ancillary uses under section 13 of the ALR Use Regulation;
- Pet breeding and boarding facilities under section 23 of the ALR Use Regulation;
- Class A compost facilities under section 27(2) of the ALR Use Regulation;
- Permanent infrastructure to support agri-tourism activities if approved through application by the Commission under section 25 of the ALC Act; and,
- Permanent infrastructure to support gathering for events if approved through application by the Commission under section 25 of the ALC Act.

LOT COVERAGE LIMIT CALCULATION EXAMPLES:

Parcel Area	5% Lot Coverage Limit		
40 ha (~100 acres)	2 ha	(~5.0 acres)	(~20,000 square metres)
20 ha (~50 acres)	1 ha	(~2.5 acres)	(~10,000 square metres)
10 ha (~25 acres)	0.5 ha	(~1.25 acres)	(~5,000 square metres)
8 ha (~17 acres)	0.4 ha	(~1.0 acres)	(~4,000 square metres)
4 ha (~10 acres)	0.2 ha	(~0.5 acres)	(~2,000 square metres)
2 ha (~5 acres)	0.2 ha	(~0.5 acres)	(~2,000 square metres)
0.8 ha (~2 acres)	0.2 ha	(~0.5 acres)	(~2,000 square metres)
0.4 ha (~1 acre)	0.2 ha	(~0.5 acres)	(~2,000 square metres)



Agricultural Land Commission
201 – 4940 Canada Way
Burnaby, British Columbia V5G 4K6
Tel: 604 660-7000
Fax: 604 660-7033
www.alc.gov.bc.ca

December 8, 2020

ALC File: 61638

SENT BY E-MAIL: jent1@shaw.ca

Nick Faber
20164 123A Ave
Maple Ridge, BC V2X 6A7

Attention: Nick Faber, Agent

Dear Mr. Faber,

**Amendment to Approval Subject to Limits and Conditions Under Section 20.3(2)(b)(ii) of
the *Agricultural Land Commission Act***

Re: Notice of Intent to place fill on Land in the Agricultural Land Reserve

PID: 013-182-757

Legal Description: That Portion Section 15 Block 6 North Range 1 East Lying South and East of the Dyke Ditch Shown on Reference Plan 439 Except:

Firstly: Part Shown on Plan with Fee Deposited 20141E

Secondly: Parcel "B" (Reference Plan 6134)

Thirdly: Parcel "C" (Reference Plan 6134), New Westminster District

Civic Address: 13385 Reichenbach Rd, Pitt Meadows, BC

(the "Property")

This letter serves as an amendment to the November 27, 2020 Notice of Intent Conditional Approval Letter for the proposed placement of fill on the Property (the Proposed Fill Placement Activities). The issued approval letter contained a typo for the volume of material being approved.

As delegate CEO pursuant to subsection 20.3(6) of the ALCA, I hereby amend the following paragraph of the Schedule A: Limits and Conditions attached to the November 27, 2020 Notice of Intent Conditional Approval Letter:

From:

3. The total allowed volume of material to be placed is limited to 2312.1 m³;

To:

3. The total allowed volume of material to be placed is limited to 2912.1 m³;



All other terms and conditions of the November 27, 2020 Notice of Intent Conditional Approval Letter remain unchanged. If you have any questions, please contact Allison Westin at Allison.westin@gov.bc.ca.

Sincerely,

A handwritten signature in blue ink that reads 'Allison Westin' in a cursive script.

Allison Westin
Delegate of the Chief Executive Officer

Enclosure: November 27, 2020 Notice of Intent Conditional Approval Letter

cc: City of Pitt Meadows (info@pittmeadows.bc.ca)
61638m1