VILLAGE OF PEMBERTON
-REGULAR COUNCIL MEETING AGENDA-

Agenda for the **Regular Meeting** of Council of the Village of Pemberton to be held Tuesday, January 18, at 9:00am via electronic means by ZOOM webinar. This is Meeting No. 1553.

"*This meeting is being recorded as authorized by the Video Recording & Broadcasting of Open Meetings Policy*.

Please be advised that pursuant to section 10 (a) of the Village of Pemberton Council Procedure Bylaw No. 788, 2015 this meeting will be held electronically with no in-person attendance.

Instructions for public participation at the meeting remotely by ZOOM webinar can be found here. Link to the Zoom Webinar: https://us02web.zoom.us/j/82253169449

Item of Business	Page No.

1. CALL TO ORDER REGULAR MEETING (9:00AM)

In honour of the Lil'wat7ul, the Village of Pemberton acknowledges that we are meeting within the unceded territory of the Lil'wat Nation.

2. IN CAMERA (9AM)

THAT the meeting is closed to the public in accordance with the *Community Charter* Section 90 (1) (a) Personnel and (c) Employee Relations and related discussions that in the view of Council could reasonably expect to harm the interest of the municipality if they were held in public.

3. RECESS REGULAR MEETING

4. RECONVENE REGULAR MEETING at 5:30pm

In honour of the Lil'wat7ul, the Village of Pemberton acknowledges that we are meeting within the unceded territory of the Lil'wat Nation.

5. APPROVAL OF AGENDA 1

Recommendation: THAT the agenda be approved as presented.

6. RISE WITH REPORT FROM IN CAMERA

7. ADOPTION OF MINUTES

a) Regular Council Meeting No. 1551, Tuesday, December 7, 2021 5

Recommendation: THAT the minutes of Regular Council Meeting No. 1551, held Tuesday, December 7, 2021, be approved as circulated.

b) Special Council Meeting No. 1552, Friday, December 17, 2021 14

Recommendation: THAT the minutes of Special Council Meeting No. 1552, held Friday, December 17, 2021, be approved as circulated.

8. BUSINESS ARISING FROM THE PREVIOUS REGULAR COUNCIL MEETING

9. BUSINESS ARISING FROM THE COMMITTEE OF THE WHOLE

10. COMMITTEE MINUTES - FOR INFORMATION

11. DELEGATION

12. STAFF REPORTS

a) Office of the Chief Administrative Officer

i. Verbal Report

Recommendation: THAT the Chief Administrative Officer's verbal report be received

ii. UBCM Community Emergency Preparedness Fund Emergency Support Services Funding Stream

16

Recommendation: THAT Council support an application to UBCM's Community Emergency Preparedness Fund (CEPF) Emergency Support Services funding stream for funding, in an amount up to $25,000, to implement the Emergency Social Services (ESS) Modernization Project within the Village of Pemberton.

iii. UBCM Community Emergency Preparedness Fund Emergency Operations Centres & Training Funding Stream

19

Recommendation: THAT Council support an application to UBCM's Community Emergency Preparedness Fund (CEPF) Emergency Operations Centre & Training funding stream for funding, up to an amount of $25,000, to purchase additional emergency operations equipment.

b) Development Services

i. Development Permit No. 91 – Authorization for Issuance - Sunstone Phase 2B

21

Recommendation: THAT Council authorizes Development Permit No. 91, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $28,770 to secure landscaping;

AND THAT Development Permit No. 91 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

ii. Development Permit No. 92 – Authorization for Issuance - Sunstone Phase 2C

93

Recommendation: THAT Council authorizes Development Permit No. 92, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 1 and 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-612 and PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $44,544.00 to secure landscaping;

AND THAT Development Permit No. 92 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

13. BYLAWS

a) Bylaws for Adoption

i. Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw No. 815, 2017, Amendment (Housekeeping) Bylaw No. 919, 2021

172

Recommendation: THAT Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw No. 815, 2017, Amendment (Housekeeping) Bylaw No. 919, 2021, be adopted.

ii. Village of Pemberton Latecomers Interest Rate Bylaw No. 920, 2021

Recommendation: THAT Village of Pemberton Latecomers Interest Rate Bylaw No. 920, 2021, be adopted.

175

14. MAYOR'S Report

15. COUNCILLORS' Reports

16. CORRESPONDENCE

a) Correspondence for Action

i. Niki Vankerk, Village resident, dated January 12, 2022, requesting that Council defer any OCP amendments until the OCP review has been completed.

177

Recommendation: THAT Council provides direction.

ii. Richard Lunzey, Director, Heritage Branch, Ministry of Forests, Lands, Natural Resource Operations and Rural Development, dated, January 12, 2021, invitation to participate in the Engagement on updates to British Columbia Geographical Naming Principles, Policy and Procedures process.

178

Recommendation: THAT Council advise if they would like to attend and on which date.

iii. Lower Mainland Local Government Association 2022 Annual Conference and AGM, May 4 - 6, 2022, Whistler, BC -Westin Resort and Spa.

180

NOTE: *The LMLGA has also issued the annual call for member resolutions. This item will be put forward for discussion at the February 1st Committee of the Whole.*

Recommendation: THAT Council advise if they are interested in attending.

b) Correspondence for Information

i. Patrick Weiler, Member of Parliament, West Vancouver-Sunshine Coast-Sea to Sky Country, dated December 6, 2021, announcing a call for proposals for the new Enabling Accessibility Fund Small Projects Component on Early Learning and Child Care.

181

ii. **Husky Energy Customer Service, dated December 13, 2021, in response to correspondence regarding high fuel prices in Pemberton.** 183

iii. **Patrick Weiler, Member of Parliament, West Vancouver-Sunshine Coast-Sea to Sky Country, dated January 4, 2022, announcing that the expanded access to the Canada Worker Lockdown Benefit is now in effect and Canadians in designated regions affected by lockdown or qualifying capacity restrictions can apply for the benefit.** 184

iv. **Patrick Weiler, Member of Parliament, West Vancouver-Sunshine Coast-Sea to Sky Country, dated January 13, 2022, announcing that the repayment deadline for Canada Emergency Business Account loans to qualify for partial loan forgiveness is being extended from December 31, 2022, to December 31, 202, for all eligible borrowers in good standing.** 186

Recommendation: THAT the correspondence be received.

17. DECISION ON LATE BUSINESS

18. LATE BUSINESS

19. NOTICE OF MOTION

20. QUESTION PERIOD

21. IN CAMERA 187

THAT the meeting is closed to the public in accordance with the *Community Charter* Section 90 (1) (a) Personnel and (c) Employee Relations, related discussions that in the view of Council could reasonably expect to harm the interest of the municipality if they were held in public.

22. RISE WITH REPORT

23. ADJOURNMENT OF REGULAR COUNCIL MEETING

VILLAGE OF PEMBERTON
-REGULAR COUNCIL MEETING MINUTES-

Minutes of the Regular Meeting of Council of the Village of Pemberton held on Tuesday, December 7, 2021 at 3:00pm in Council Chambers at 7400 Prospect Street and via electronic means through a ZOOM Webinar. This is Meeting No. 1551.

IN ATTENDANCE:	Mayor Mike Richman Councillor Ted Craddock Councillor Leah Noble* Councillor Amica Antonelli* Councillor Ryan Zant
STAFF IN ATTENDANCE:	Nikki Gilmore, Chief Administrative Officer Sheena Fraser, Manager of Corporate & Legislative Services Thomas Sikora, Manager of Finance* Tom Csima, Manager of Operations and Projects* Scott McRae, Manager of Development Services* Lisa Pedrini, OCP Planner* Gwendolyn Kennedy, Legislative Assistant*
PUBLIC:	2
MEDIA:	1

**** ATTENDED ELECTRONICALLY***
A RECORDING OF THE MEETING WAS MADE AVAILABLE TO THE PUBLIC & MEDIA

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1. CALL TO ORDER (3PM)

At 2:59pm Mayor Richman called the meeting to order.

In honour of the Lil'wat7ul, the Village of Pemberton acknowledges that we are meeting within the unceded territory of the Lil'wat Nation.

2. IN CAMERA (3:00PM)

Moved/Seconded
THAT the meeting is closed to the public in accordance with the *Community Charter* Section 90 (1) (a) Personnel, (c) Employee Relations, (i) Legal and (k) Negotiations related discussions that in the view of Council could reasonably expect to harm the interest of the municipality if they were held in public.

CARRIED

3. RECESS REGULAR MEETING

4. RECONVENE REGULAR MEETING (5:30 PM)

At 5:32pm the Regular meeting was reconvened.

5. APPROVAL OF AGENDA

Moved/Seconded
THAT the Agenda be approved as circulated.
CARRIED

6. RISE WITH REPORT FROM IN CAMERA

At the In Camera Meeting held earlier today Council made the following appointments:

Advisory Land Use Commission

Kirsten McLeod is reappointed to the Advisory Land Use Commission for a two (2) year term to expire in December 2024.

Advisory Design Review Commission

Colin Vaness and Louis-Felix Renaud are appointed to the Advisory Design Review Commission for a two (2) year term to expire in December 2024.

Lisa Ames is reappointed to the Advisory Design Review Commission for a two (2) year term to expire in December 2024.

Letters of thanks will be sent to the outgoing members of the Advisory Land Use and Advisory Design Review Commissions. Council would like to thank Mark Barsevskis, Jason Mathies and Julie van Haeften for volunteering their time to participate and advise Council.

7. ADOPTION OF MINUTES

a) Regular Council Meeting No. 1550, Tuesday, November 16, 2021

Moved/Seconded
THAT the minutes of Regular Council Meeting No. 1550 held Tuesday, November 16, 2021, be adopted as circulated.
CARRIED

8. BUSINESS ARISING FROM THE PREVIOUS REGULAR COUNCIL MEETING

9. BUSINESS ARISING FROM THE COMMITTEE OF THE WHOLE MEETING

10. COMMITTEE MINUTES – FOR INFORMATION

There were no committee minutes to be received.

11. DELEGATIONS

There were no delegations to be received.

12. STAFF REPORTS

a) Office of the Chief Administrative Officer

i. Verbal Report

(a) Discussion – Price of Fuel in Pemberton

CAO Gilmore opened the floor to discussion of fuel prices in Pemberton. Councillors observed that fuel prices in Pemberton match those in Vancouver, despite being subject to much lower tax rates, and are higher than those in Prince George, where costs and taxes approximate those in Pemberton.

Moved/Seconded
THAT Staff be directed to send correspondence to local fuel providers, citing fuel prices in Vancouver and other parts of the province, and asking for consideration of lowering fuel prices to reflect fuel costs and taxes in the area.
CARRIED

ii. Latecomers Agreement

CAO Gilmore pointed out minor changes to the agreement, removing the names of the developers on page one (1) and page five (5) of the agreement and replacing the word “developer” with “signatory” on page five (5).

Moved/Seconded
THAT the Mayor and Chief Administrative Officer be authorized to execute the Latecomers Agreement for the Ridge Developments (580049 BC Ltd.) as amended by removal of the names of the developers on pages one (1) and five (5) of the agreement and replacement of the word “developer” with “signatory” on page five (5) and to include more specific interest rate informatic in section 4.
CARRIED

b) Corporate & Legislative Services

i. Video Recording and Broadcasting of Open Meetings - Policy Update

Moved/Seconded
THAT Council approves Video Recording and Broadcasting of Open Meetings Policy COU-011 as amended.
CARRIED

c) Finance

i. 2022 – 2026 Five Year Financial Plan Deliberation Schedule

Moved/Seconded
THAT Council approves the 2022 - 2026 five-year financial plan deliberation schedule as presented.
CARRIED

d) Operations

i. Infrastructure Planning Grant Program Funding Application - Water Conservation Plan

Moved/Seconded
THAT Council supports the application for the Infrastructure Planning Grant, in the amount of $15,000, to be used for the development of a Water Conservation Plan;

AND THAT the Village shall contribute $5,000 toward the $15,000 total cost of the project.
CARRIED

13. BYLAWS

a) Bylaws for First, Second, and Third Readings

i. Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw No. 815, 2017, Amendment (Housekeeping) Bylaw No. 919, 2021

Moved/Seconded
THAT Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw No. 815, 2017, Amendment (Housekeeping) Bylaw No. 919, 2021, receives First, Second, and Third Readings.
CARRIED

ii. Village of Pemberton Latecomers Interest Rate Bylaw No. 920, 2021

Moved/Seconded
THAT Village of Pemberton Latecomers Interest Rate Bylaw No. 920, 2021, receives First, Second, and Third Reading as amended to include more specific interest rate information in section 6.
CARRIED

b) Bylaws for Adoption

i. Village of Pemberton Bylaw Notice Enforcement Bylaw No. 874, 2020, Amendment (Bylaw Administrative Assistant) Bylaw No. 918, 2021

Moved/Seconded
THAT Village of Pemberton Bylaw Notice Enforcement Bylaw No. 874, 2020, Amendment (Bylaw Administrative Assistant) Bylaw No. 918, 2021 be adopted.
CARRIED

11. Mayor's Report

Mayor Richman attended the following meetings and events:

- Regular meetings with Vancouver Coastal Health, Sea to Sky Mayors, and Ministers.

- Pemberton Valley Emergency Management Committee meeting on November 22nd where the following topics were discussed:
    - New culverts on the Arn Canal are functioning well but creating issues downstream that will need to be managed.
    - Coordination of ditch and drainage work is needed as these smaller water sources are significant contributors to flooding.
    - The Pole Yard dyke held well during the recent high-water event.
    - Grandmother Slough is the area of highest concern due to beaver activity.
    - Possible sediment trap for Pemberton Creek.
    - Clearing of culverts by Ministry of Transportation and Infrastructure.
    - Disaster mitigation funding from the federal government.
    - Upcoming meeting to discuss improvement district status.

- A meeting with the group of locals working on proposals to present to CN for a bridge over the Lillooet River at the site of the train bridge.

- Squamish-Lillooet Regional District Board meetings on November 24th, where the following topics were considered:
    - Livestreaming of meetings.
    - Flood hazard mapping for the Upper Paradise Valley.

- Reducing human-wildlife conflict, led by a delegation from WildSafe BC.
- Allocation of COVID-19 Restart funds, with $75,000 being allocated to the food banks in Squamish, Whistler, and Pemberton.
- Annual election of the Chair and Vice Chair.

- a tour of the Whistler Medical Marijuana facility.

- Nuk̓w7ántwal̓ Intergovernmental Relations Committee, where discussion focussed on the gathering planned for March of 2022.

- Squamish-Lillooet Regional District Hiring Committee.

- Pemberton Valley Utilities and Services Committee meeting on November 18, where the transit study report was presented. The report will be discussed at the upcoming Transit Committee meeting where all partners will be present.

Mayor Richman will attend to following upcoming events:
- Pemberton Secondary School senior boys basketball tournament.
- Pemberton Food Hub

12. Councillors' Reports

Councillor Zant reported on the following:
- Attended the Pemberton District Library Board meeting:
  - Attendance is picking up, services have resumed, and seating has been increased.
- Attended the Pemberton Valley Utilities and Services Committee meeting on November 18th:
  - The Third Quarter Report from Recreation Services Manager Christine Burns was received
  - A motion to fund the Christmas Bazaar was approved.
  - Pemberton Television and Radio has been disbanded and there was discussion regarding disposal of the assets.
- Participated in a tour of the Whistler Medical Marijuana facility.

Councillor Craddock did not report.

Councillor Noble did not report.

Councillor Antonelli did not report.

13. CORRESPONDENCE

a) Correspondence for Action

i. Romy Grayson, Village resident, dated November 22, 2021, requesting the addition of a transit bus between Pemberton and Whistler scheduled to align with elementary and high school schedules.

Moved/Seconded
THAT the Chief Administrative Officer contact BC Transit to request a schedule review when appropriate;

AND THAT Staff be directed to respond to Ms. Grayson informing her that a schedule review will be requested and recommending that she contact the Whistler schools to request consideration of offering bussing to students residing in Pemberton.

CARRIED

ii. Andy Meeker, President, Tourism Pemberton, dated November 29, 2021, proposing consideration of upgrading the Pemberton Waterfall Trail as a tourist attraction.

Moved/Seconded
THAT Staff be directed to respond to Tourism Pemberton, advising that Council is willing to consider the proposal; requesting that Tourism Pemberton provide a review of costs and full development and management plans drafted in consultation with the Squamish-Lillooet Regional District, Pemberton Valley Trails Association, and Lil'wat Nation;

AND THAT Tourism Pemberton send similar correspondence to the Squamish-Lillooet Regional District, the Pemberton Valley Trails Association, and Lil'wat Nation.

CARRIED

iii. Erin Ryan, BC Society for the Prevention of Cruelty to Animals, dated December 2, 2021, advocating for initiatives to reduce the use of all rodenticides to protect wildlife, domestic pets, and sensitive habitats.

Moved/Seconded
THAT Staff be directed to draft a report for review at a future meeting, including:

- information regarding how other municipalities have addressed this issue,
- sample bylaws from other municipalities, and
- options for engaging the Squamish-Lillooet Regional District in the initiative.

CARRIED

b) Correspondence for Information

i. Mayor Bill Dingwall, City of Pitt Meadows, dated November 17, 2021, addressed to the Honourable Selena Robinson, Minister of Finance, expressing disappointment regarding the Province's decision not to explore reclassification of railway and industrial operations under the Assessment Act.

ii. Patrick Weiler, Member of Parliament, West Vancouver-Sunshine Coast-Sea to Sky Country, dated November 24, 2021, announcing the launch of the 2021-2022 Call for proposals for community-based projects through the New Horizons for Seniors Program.

Moved/Seconded
THAT the correspondence be received.
CARRIED

14. DECISION ON LATE BUSINESS

15. LATE BUSINESS

16. NOTICE OF MOTION

17. QUESTION PERIOD

18. IN CAMERA

Moved/Seconded
THAT the meeting is closed to the public in accordance with the *Community Charter* Section 90 (1) (a) Personnel, (c) Employee Relations, (i) Legal and (k) Negotiations related discussions that in the view of Council could reasonably expect to harm the interest of the municipality if they were held in public.
CARRIED

At 7:04pm the Regular meeting was recessed.

At 7:11pm Council reconvened the Regular Meeting and moved in camera.

19. RISE WITH REPORT

At 7:57pm Council rose without report.

20. ADJOURNMENT

Moved/Seconded
THAT the Regular meeting be adjourned.
CARRIED

At 7:57pm the Regular Council Meeting was adjourned.

_____	_____
Mike Richman	Sheena Fraser
Mayor	Corporate Officer

VILLAGE OF PEMBERTON
-SPECIAL COUNCIL MEETING MINUTES-

Minutes of the SPECIAL Meeting of Council of the Village of Pemberton held on Tuesday, December 17, 2021 at 9:00AM via electronic means through a ZOOM Webinar. This is Meeting No. 1552.

IN ATTENDANCE:	Mayor Mike Richman Councillor Ted Craddock* Councillor Leah Noble* Councillor Amica Antonelli* Councillor Ryan Zant
STAFF IN ATTENDANCE:	Sheena Fraser, Manager of Corporate & Legislative Services Emily White, HR Coordinator
PUBLIC:	0
MEDIA:	0

Attended electronically

1. CALL TO ORDER (9AM)

At 9:02am Mayor Richman called the Special meeting to order.

In honour of the Lil'wat7ul, the Village of Pemberton acknowledges that we are meeting within the unceded territory of the Lil'wat Nation.

2. APPROVAL OF AGENDA

Moved/Seconded
THAT the Agenda be approved as circulated.
CARRIED

3. IN CAMERA

Moved/Seconded
THAT the meeting is closed to the public in accordance with the *Community Charter* Section 90 (1) (c) employee relations or other employee relations.
CARRIED

4. RISE WITH REPORT FROM IN CAMERA

At 10:20am Council Rose with Report on the following:

Chief Administrative Recruitment:

Moved/Seconded
THAT Council rise with report on the direction to engage with Leaders International to undertake the recruitment of a new Chief Administrative Officer.
CARRIED

5. ADJOURNMENT

Moved/Seconded
THAT the Special meeting be adjourned.
CARRIED

At 10:20am the Special Council Meeting was adjourned.

_____	_____
Mike Richman	Sheena Fraser
Mayor	Corporate Officer

REPORT TO COUNCIL

Date: **January 18, 2022**

To: **Nikki Gilmore, Chief Administrative Officer**

From: **Sarah Toews, Emergency Program Coordinator**

Subject: **UBCM Community Emergency Preparedness Fund Emergency Support Services Funding Stream**

PURPOSE

The purpose of this report is to seek Council's support to apply to UBCM's Community Emergency Preparedness Fund Emergency Support Services funding stream to implement the Emergency Support Services Modernization Project.

BACKGROUND

Emergency Support Services (ESS) provides short-term basic support to people impacted by disasters. The program is financed by Emergency Management BC (EMBC) and administered by local governments.

EMBC launched the ESS modernization project in 2019 aimed at digitizing and modernizing ESS delivery including new branding, legislation, policies, processes, training and the new online Evacuee Registration and Assistance (ERA) tool. Currently, the Village's ESS program is delivered through in person registration and referrals using paper forms, making the process challenging especially as has been seen through the COVID-19 pandemic. This modernization project is intended to streamline processes so evacuated individuals can access services more easily and efficiently.

The intent of this funding stream is to support eligible applicants to build local capacity to provide emergency support services through training, volunteer recruitment and retention, and the purchase of ESS equipment. Starting in 2020, the focus of this funding stream is to support the modernization of local ESS programs to move toward electronic registration and reporting.

DISCUSSION & COMMENTS

As a result of the Village onboarding with the ESS Modernization project, ESS response capacity will be increased by giving volunteers more tools and resources to efficiently respond to emergencies. The option for in-person or virtual registration and referrals will allow volunteers and evacuees to safely navigate through the COVID-19 pandemic, in the event the community was evacuated to another jurisdiction, or if the Village became a host community for an evacuated community. The digital platform will also allow ESS accommodation and referral suppliers to receive reimbursement more efficiently.

Additionally, the modernization project will allow the Village's ESS program to become consistent with neighbouring jurisdictions and provide redundancies to current processes in place.

This funding stream will enable the Village to purchase the necessary technology including tablets, cell phones, charging stations and a Wi-Fi-smart hub. In addition, accessories that will support this acquisition of technology to ensure that it is mobile, accessible and protected against the elements in any environment.

Funding for this project is made available through UBCM's Community Emergency Preparedness Fund, under the Emergency Support Services funding stream. The fund can contribute a maximum of 100% of the cost of eligible activities to a maximum of $25,000.

Staff is confident that the Village's application will be successful, however, if it is denied, this project will be deferred with an aim to reapply in the future.

COMMUNICATIONS

The application for funding of this initiative does not require a communications component.

LEGAL CONSIDERATIONS

There are no legal, legislative or regulatory considerations at this time.

IMPACT ON BUDGET & STAFFING

There are no impacts to the budget or staff hours for considerations at this time.

INTERDEPARTMENTAL IMPACT & APPROVAL

There are no interdepartmental impacts at this time.

IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS

The Village provides ESS to neighbouring jurisdictions and to individuals displaced from across B.C. in some circumstances. Should the Village be successful in obtaining this funding, the process to provide ESS would be consistent with neighbouring jurisdictions that have already onboarded with the modernization project and allow for a more consistent and streamlined delivery of the overall ESS program.

ALTERNATIVE OPTIONS

There are no alternative options for consideration.

RECOMMENDATIONS

THAT Council support an application to UBCM's Community Emergency Preparedness Fund (CEPF) Emergency Support Services funding stream for funding, in an amount up to $25,000, to implement the Emergency Social Services (ESS) Modernization Project within the Village of Pemberton.

Prepared by:	Sarah Toews, Emergency Program Coordinator
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer

REPORT TO COUNCIL

Date: **January 18, 2022**

To: **Nikki Gilmore, Chief Administrative Officer**

From: **Sarah Toews, Emergency Program Coordinator**

Subject: **UBCM Community Emergency Preparedness Fund Emergency Operations Centre & Training Funding Stream**

PURPOSE

The purpose of this report is to seek Council's support to apply to UBCM's Community Emergency Preparedness Fund Emergency Operations Centre & Training funding stream for the purchase of additional Emergency Operations Centre equipment.

BACKGROUND

In 2020, the Village activated the Emergency Operations Centre (EOC) several times in response to multiple different emergencies events. Following each activation, a debrief was conducted to assess and refine processes to increase response capacity for future emergencies. A tabletop exercise was also completed in 2020 that allowed essential EOC Staff to participate in testing and validation of emergency plans and EOC operations.

The intent of this funding stream is to support eligible applicants to build local capacity through the purchase of equipment and supplies required to maintain or improve an EOC and to enhance EOC capacity through training and exercises.

DISCUSSION & COMMENTS

During both the actual emergency events and the tabletop exercise, the need for improved communications equipment was identified. Portable radios and iPads would be utilized to communicate with those at site-level and conduct on the ground monitoring and assessments, when needed. The need for additional backup power supplies within the EOC has also been identified.

The ongoing COVID-19 pandemic has also identified the need for specific IT equipment to support a virtual EOC when needed. In specific, a webcam and microphones to allow for in-person and virtual participation to facilitate a hybrid EOC. This will also be utilized when stakeholders are unable to attend to the physical EOC for reasons other than those related to the pandemic.

In addition, funds will be used to create additional redundancy for the EOC by having the ability to mobilize in alternate locations through the purchase of additional rollable and secure storage for the EOC equipment.

Funding for this project is made available through UBCM's Community Emergency Preparedness Fund, under the Emergency Operations Centre & Training funding stream. The fund can contribute a maximum of 100% of the cost of eligible activities to a maximum of $25,000.

COMMUNICATIONS

The application for funding of this initiative does not require a communications component.

LEGAL CONSIDERATIONS

There are no legal, legislative or regulatory considerations at this time.

IMPACT ON BUDGET & STAFFING

There are no impacts to the budget or staff hours for considerations at this time.

INTERDEPARTMENTAL IMPACT & APPROVAL

There are no interdepartmental impacts at this time.

IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS

Should the Village be successful in obtaining this funding, the Village will be able to support regional partners through EOC support and resources and offer a location with the appropriate equipment for regional training and exercise activities. The Village's EOC could also act as an EOC for one of our neighbouring communities, should theirs become inoperable during an event.

ALTERNATIVE OPTIONS

There are no alternative options for consideration.

RECOMMENDATIONS

THAT Council support an application to UBCM's Community Emergency Preparedness Fund (CEPF) Emergency Operations Centre & Training funding stream for funding, up to an amount of $25,000, to purchase additional emergency operations equipment.

Prepared by:	Sarah Toews, Emergency Program Coordinator
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer

REPORT TO COUNCIL

Date: **Tuesday, January 18, 2022**

To: **Nikki Gilmore, Chief Administrative Officer**

From: **Cameron Chalmers, RPP, MCIP, Consulting Planner**

Subject: **Development Permit No. 91 Authorization for Issuance - Sunstone Phase 2B**

PURPOSE

The purpose of this report is for Council to consider authorization of the issuance of Development Permit No. 91 (DP91) for comprehensive hillside grading which includes a proposed variance to the 1.2m maximum retaining wall height under the Village of Pemberton Zoning Bylaw No. 832, 2018 (Zoning Bylaw). If approved, DP91 would establish comprehensive lot grading and retaining structures to facilitate a 7-lot subdivision in Phase 2B of the Sunstone development. The proposed DP includes a variance to enable retaining walls up to 2.4 metres but the applicants have also prepared materials to compare that approach to 1.2 metre retaining walls.

BACKGROUND

The proposed DP91, and specifically the request to include a variance to the retaining wall standards, was presented to Committee of the Whole ("Committee") for direction on November 2, 2021. At that meeting, the Committee made the following recommendation to Council:

> ***THAT*** *Staff be directed to continue processing the application by CATA Project Management for Phase 2B, on behalf of Sunstone Ridge Developments Ltd, for Development Permit No. 91, which includes a proposed variance to the Village of Pemberton Zoning Bylaw maximum retaining wall height.*
>
> ***CARRIED*** ***OPPOSED:*** ***Councillor Zant***
> ***Councillor Craddock***

The Committee recommendation was received by Council on November 16, 2021; the Report to Councill is attached for information as **Appendix A**.

DESCRIPTION

In July 2021, Sunstone Ridge Developments Ltd. applied for a Major Development Permit, with variances, for the site grading of Phase 2B on lands legally described as Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621) and owned by Sunstone Ridge Developments Ltd. This phase consists of 7 standard residential lots highlighted in Figure 1, and as part of the subdivision approval, the Owners are obligated to obtain a DP to establish lot grades for future home construction per the Tentative Approval Letter (TAL) issued by the Approving Officer.

DP91 has been prepared in response to this requirement and establishes a comprehensive site grading and retention approach to manage the hillside development condition of the subject lands. If approved, the DP will set final grading points for each new lot, while permitting individual owners

a degree of flexibility about the siting and location of the home on the lot. This will ensure that the grading of the new development will be planned, deliberate, and carefully considered in the context of the natural topography of the site. The DP will also include comprehensive retaining structures to achieve the proposed site grading. Again, the purpose is to ensure that retention is addressed at the subdivision level and is comprehensively designed, as opposed to individual lot retention.

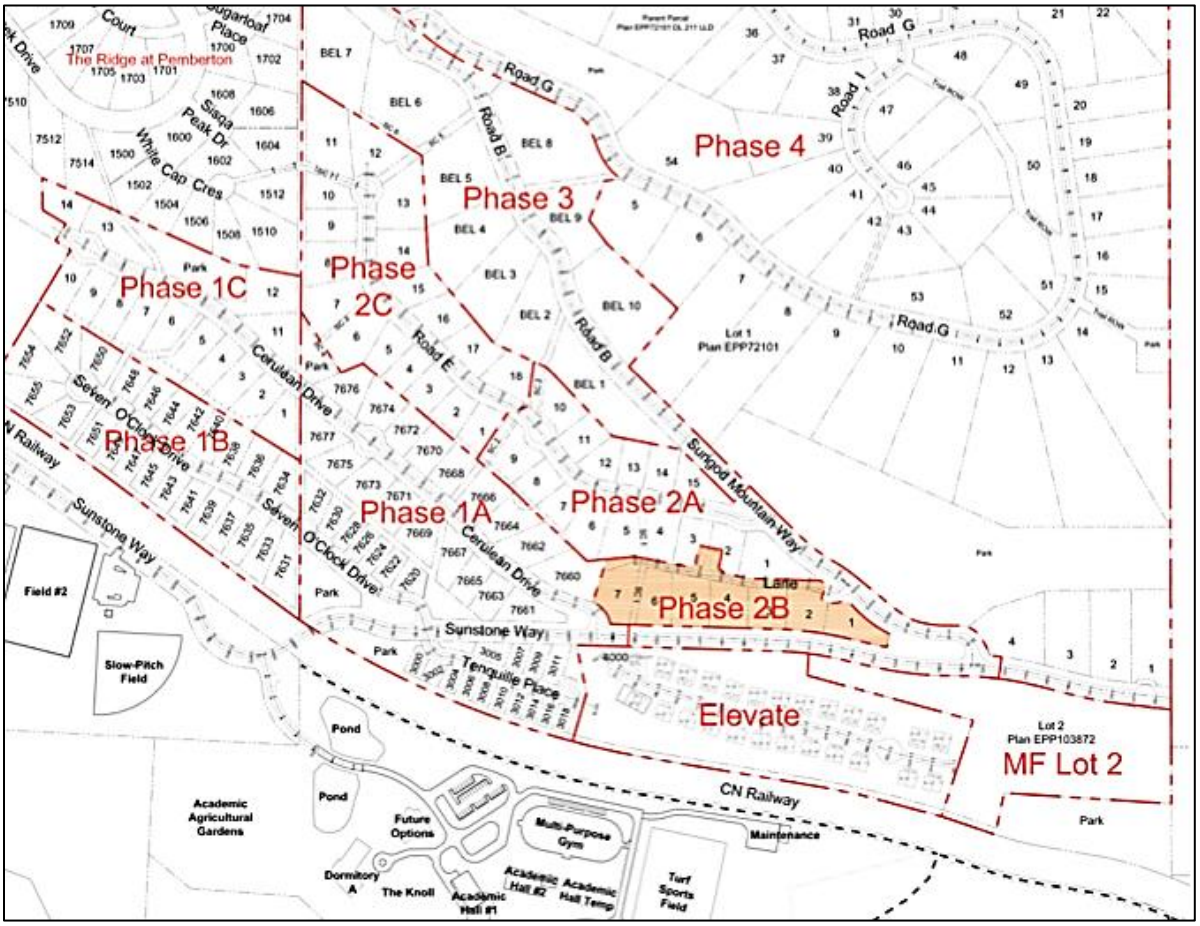


Figure 1: Sunstone Ridge Developments Ltd. - Phase 2B Subdivision Plan

If approved, the DP will oblige the developer and future landowners to establish and maintain the grading and retaining structures as established under the permit.

As discussed at the Committee of the Whole, held on November 2, 2021, DP91 includes a proposed variance to Section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 restriction on retaining wall heights. The Bylaw establishes a maximum retaining wall height of 1.2 metres with a secondary restriction that a retaining wall must be more than 0.6 metres from any other retaining wall. The proposal reviewed by the Committee included a variance to increase the permitted maximum height to 2.4 metres. The provisions of the DP would also increase the horizontal separation distance between retaining walls to 1.2 metres.

In preparing the site grading, and as outlined in detail at the November 2, 2021 Committee of the Whole meeting, the Owners prepared a detailed analysis of options to achieve necessary

grading of the subdivision lands. The first option is to comply to the Zoning Bylaw maximum height restriction. The second option is the proposed variance prepared by the Owner, which requests a variance of up to 2.4 metres. The retaining structures are identified on the following plan shown as green and brown in Figure 2. The height of the retaining structures is variable.

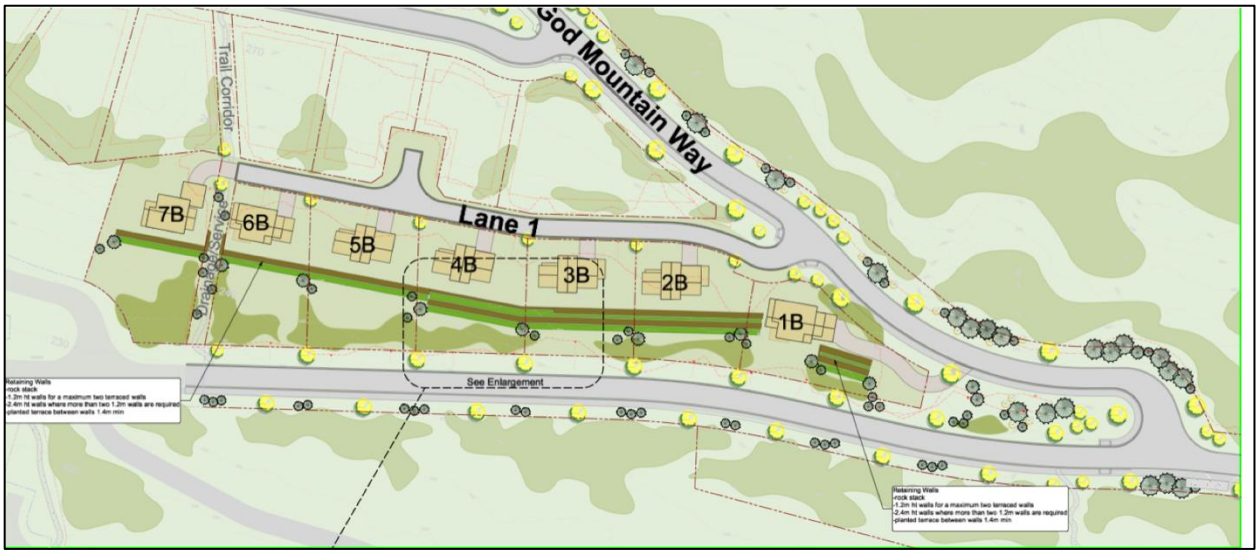


Figure 2: Phase 2B Plan for Retaining Structures

For the purpose of illustration, Figure 3 represents the retaining approach to Lot 4 should the application comply with the 1.2 metre Zoning Bylaw maximum. It would require five 1.2 metre retaining walls, separated by 0.6 metre between each vertical run of structure.

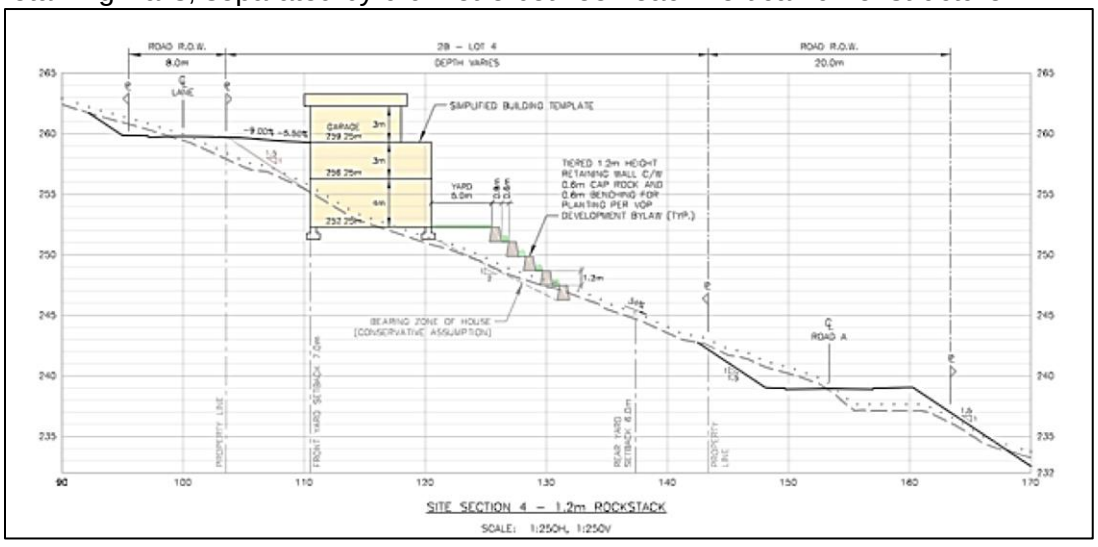


Figure 3: Rockstack Illustration (Lot 4) – 1.2m Retaining Structures

The alternative proposed in the application is to vary the Zoning Bylaw to permit retaining walls up to 2.4 metres in height, with a greater horizontal separation between walls of 1.4 metres. In the Lot 4 example, this would result in two retaining structures of 2.4 metres with a 1.4 metre planting strip between the structures as shown in Figure 4. This is the retaining approach included in proposed DP91.

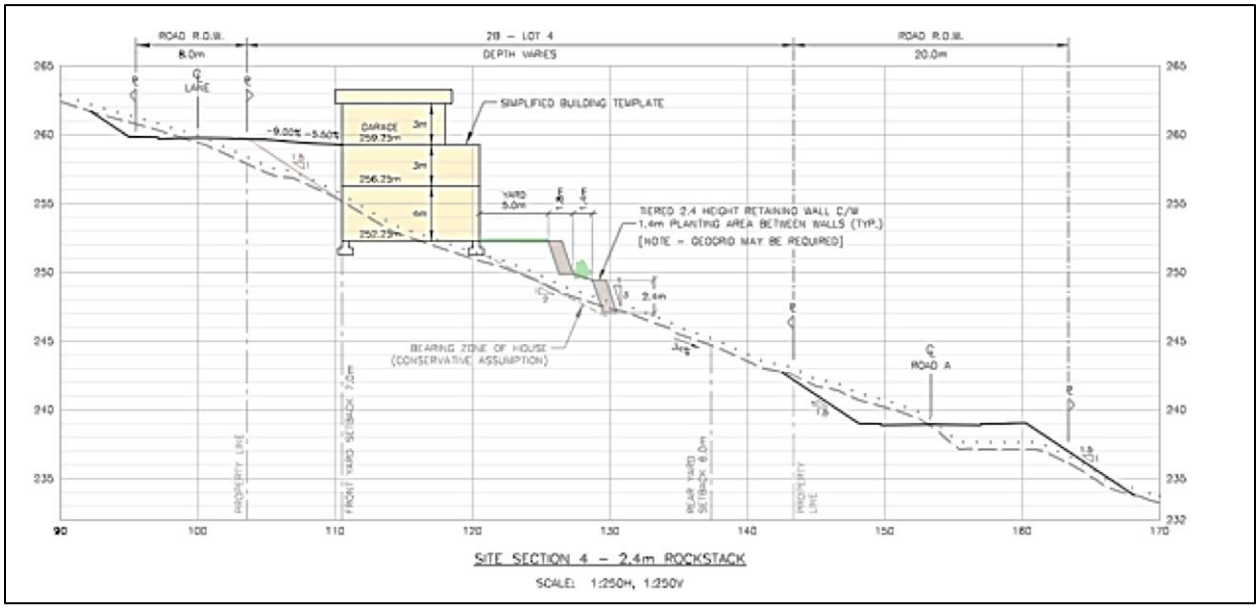


Figure 4: Rockstack Illustration (Lot 4) - 2.4m Retaining Structures

The Applicant has also prepared a Landscape plan to address comprehensive landscape plantings at the base of, and on each tier of the retaining wall structures. Figure 2 provides an indication of the landscape approach, and the landscape is further established in the DP. The Permit will also require the Applicant to submit a letter of credit or other reasonable consideration to secure the installation and initial year of maintenance of the landscaping.

DISCUSSION & COMMENTS

The DP has been submitted to satisfy Council's objective of minimizing the impacts of hillside development. The Village of Pemberton has issued several minor development permits to regulate the comprehensive grading and retention of hillside residential development at the subdivision stage. Those minor development permits have been achieved within the maximum retaining wall heights prescribed in the Zoning Bylaw. DP91 has been submitted as a major DP application because of the request to increase the maximum retaining wall height.

Staff have reviewed the detailed submission prepared by the Applicant and are satisfied the attached DP91 will result in suitably comprehensive and planned approach to hillside development. The DP also furthers and is consistent with the Development Permit Area Guidelines for DPA No.1 (Environmental Protection) and DPA No.2 (Land Constraints). Accordingly, Council is able to authorize issuance of the DP.

As Council is aware, retaining structures on hillside sites has been a significant challenge over the last several years. In January 2021, Council elected not to proceed with a proposed zoning amendment to modify the 1.2 metre maximum height for retaining structures, opting instead to deal with over height retaining structures on a case-by-case basis.

On November 2, 2021, the Committee provided direction to proceed with the proposed application including the proposed variance to retaining wall heights. Staff support the variance as presented

and included in DP91. It represents a comprehensively planned and designed approach to site retention. Staff concur the proposed increase in retaining wall height will improve the ability to landscape the retaining structures and the increase in the maximum height to 2.4 metres, resulting in fewer retaining walls, will minimize the visual impact of the retaining structures.

Though the Committee provided direction to include the proposed retaining wall height variances in proposed DP91, Staff have provided two approval options below. Option 1 would be to authorize DP91 as presented with the retaining wall variance to a maximum of 2.4 metres. Option 2 would amend proposed DP91 to eliminate the proposed variances and authorize issuance of the DP without variances to retaining wall height.

COMMUNICATIONS

There are no communications obligations or implications associated with this report.

LEGAL CONSIDERATIONS

There are no legal considerations associated with this report.

IMPACT ON BUDGET & STAFFING

There are no budget, policy or staffing considerations at this time as the costs are recoverable with the application fees provided.

INTERDEPARTMENTAL IMPACT & APPROVAL

There are no impacts on other departments that will not be addressed through the development process.

IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS

There are no impacts on neighbouring jurisdictions

ALTERNATIVE OPTIONS

Option One: **THAT** Council authorizes Development Permit No. 91, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $28,770 to secure landscaping;

AND THAT Development Permit No. 91 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

Option Two: **THAT** Council amend proposed Development Permit No. 91 to eliminate the proposed retaining wall height variance;

AND THAT Council authorizes Development Permit No. 91, as amended, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $28,770 to secure landscaping;

Option Three: THAT Council refer Development Permit No. 91 back to Staff to address the following matters before reconsideration by Council:

- {To be added by Council}
-

RECOMMENDATIONS

Staff recommend Option One:

THAT Council authorizes Development Permit No. 91, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $28,770 to secure landscaping;

AND THAT Development Permit No. 91 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

ATTACHMENTS:

Appendix A: Report to Committee of the Whole dated November 2, 2021
Appendix B: Development Permit No. 91

Prepared by:	Cameron Chalmers, RPP, MCIP – Consulting Planner
Manager Approval:	Scott McRae, Manager of Development Services
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer

Appendix A

REPORT TO COMMITTEE OF THE WHOLE

Date: November 2, 2021

To: Nikki Gilmore, Chief Administrative Officer

From: Cameron Chalmers, RPP, MCIP, Contract Planner

Subject: Development Permit No. 91 Retaining Wall Request for Direction

---

Development Permit No. 91:

Owner: Sunstone Ridge Developments Ltd.
Agent: Cam McIvor, CATA Management Ltd.
Subject Property: Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-621)

PURPOSE

The purpose of this report is to request direction from the Committee of the Whole with respect to an application for Development Permit (DP) for hillside grading which includes a proposed variance to the 1.2m maximum retaining wall height under the Village of Pemberton Zoning Bylaw No. 832, 2018 (Zoning Bylaw). Specifically, the Applicants have applied for a variance to enable two over height retaining walls but have also prepared materials to compare that approach to four (4) 1.2 metre retaining walls. Committee of the Whole direction on the retaining wall issue is requested early in the DP review.

BACKGROUND

In fulfillment of Council's objectives to minimize the impacts of hillside developments, the Village of Pemberton has issued several minor development permits to regulate the comprehensive grading and retention of hillside residential development at the subdivision stage. Those minor development permits have been achieved within the maximum retaining wall heights prescribed in the Zoning Bylaw.

As Council is aware, retaining structures on hillside sites has been a significant challenge over the last several years. In January 2021, Council elected not to proceed with a proposed zoning amendment to modify the 1.2 metre maximum height for retaining structures, opting instead to deal with over height retaining structures on a case-by-case basis.

In July 2021, Sunstone Ridge Developments Ltd. applied for Major Development Permit, with variances, for the site grading of Phase 2B. This phase consists of seven (7) standard residential lots highlighted in Figure 1, and as part of the subdivision approval, the Owners are obligated to obtain a DP to establish lot grades for future home construction.

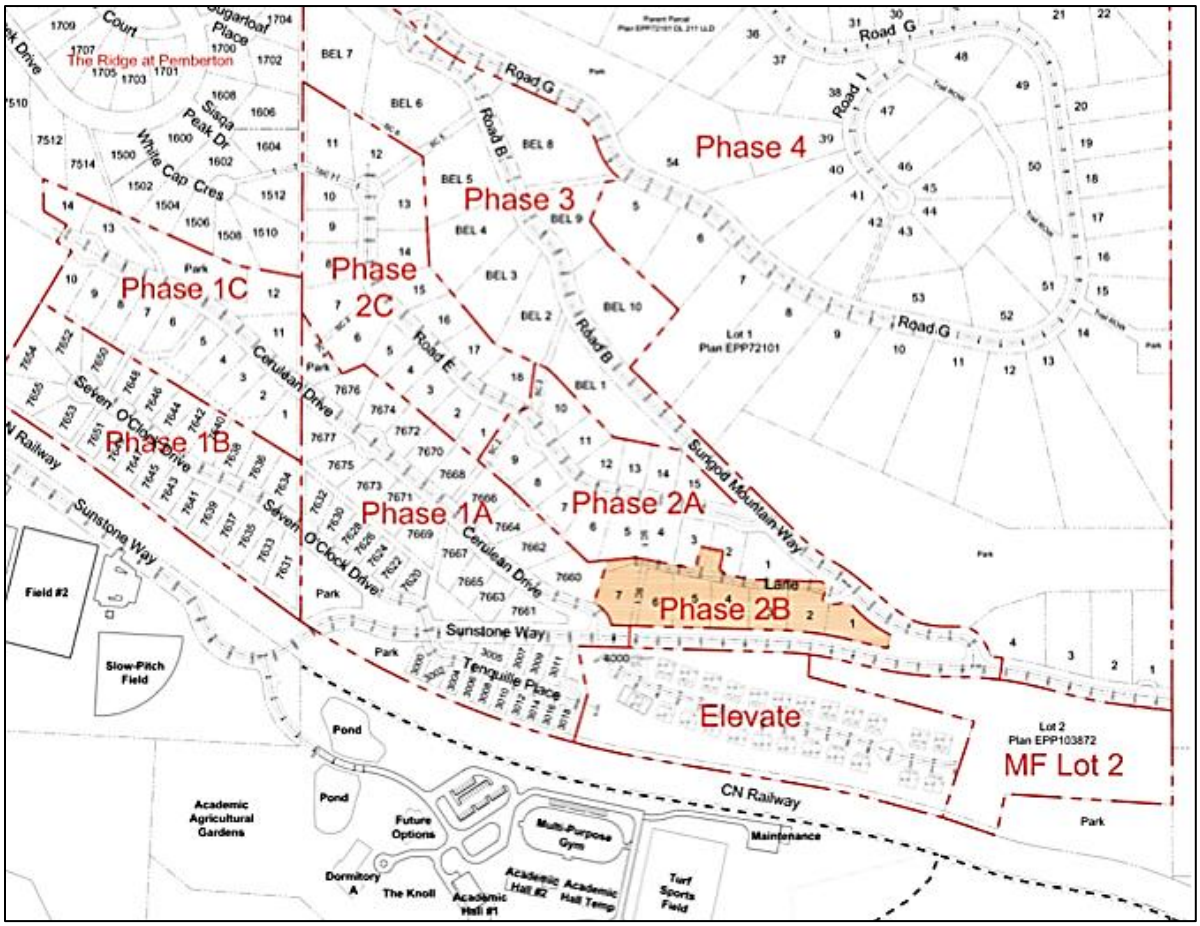


Figure 1: Sunstone Ridge Developments Ltd. - Phase 2B Subdivision Plan

DESCRIPTION

In preparing the site grading, the Owners prepared a detailed analysis of options to achieve necessary grading of the subdivision lands. The first option is to comply to the Zoning Bylaw maximum height restriction. The second option is the proposed variance prepared by the Owner, which requests a variance of up to 2.4 metres. The retaining structures are identified on the following plan shown as green and brown in Figure 2, on the next page. The height of the retaining structures is variable. The maximum height of the retaining wall is adjacent to Lot 4 and for the purpose of analysis and discussion, Lot 4 will be used to demonstrate the two different approaches to retention assessed by the Owners.

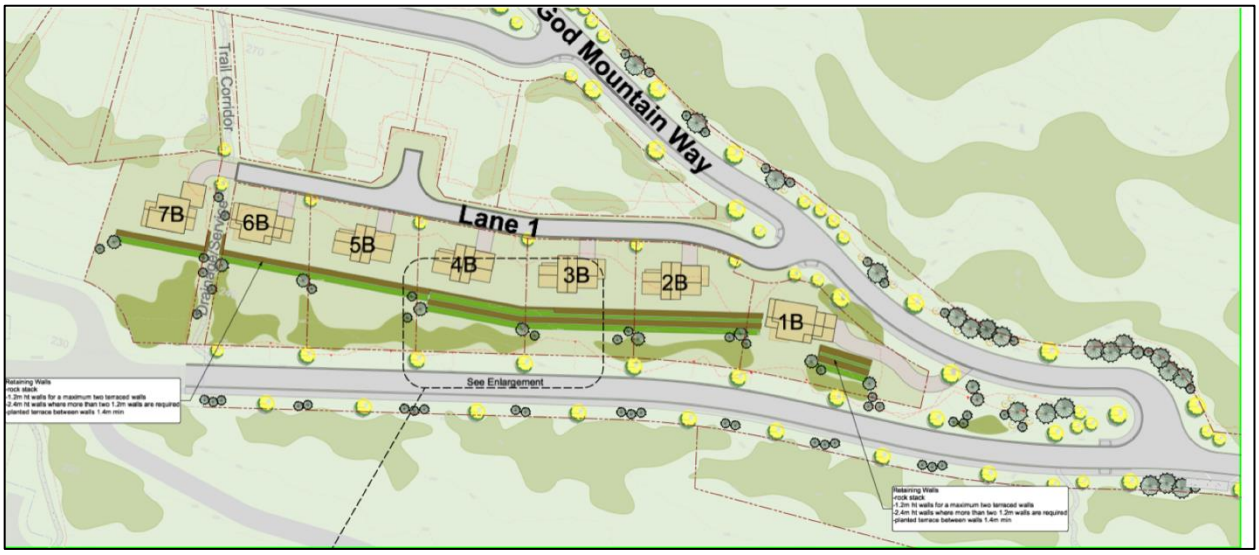


Figure 2: Phase 2B Plan for Retaining Structures

For the purpose of illustration, Figure 3 represents the retaining approach to Lot 4 should the application comply with the 1.2 metre Zoning Bylaw maximum. It would require five (5) 1.2 metre retaining walls, separated by 0.6 metre between each vertical run of structure.

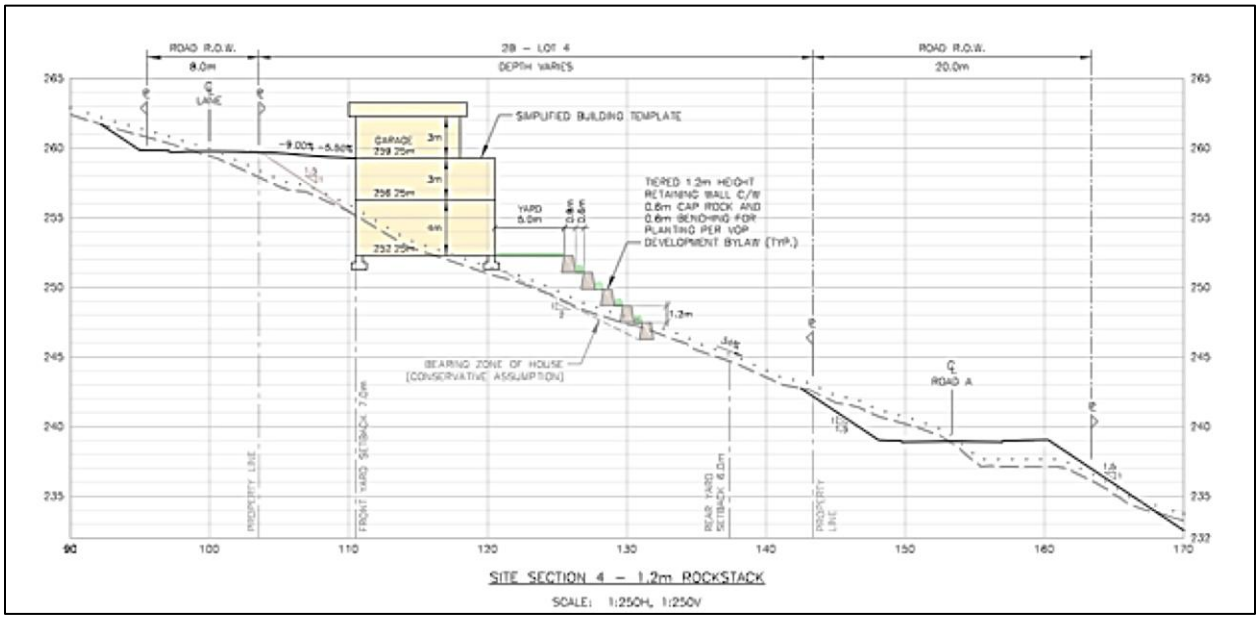


Figure 3: Rockstack Illustration (Lot 4) – 1.2m Retaining Structures

The alternative proposed in the application is to vary the Zoning Bylaw to permit retaining walls up to 2.4 metres in height, with a greater horizontal separation between walls of 1.4 metres. In the Lot 4 example, this would result in two retaining structures of 2.4 metres with a 1.4 metre planting strip between the structures as shown in Figure 4.

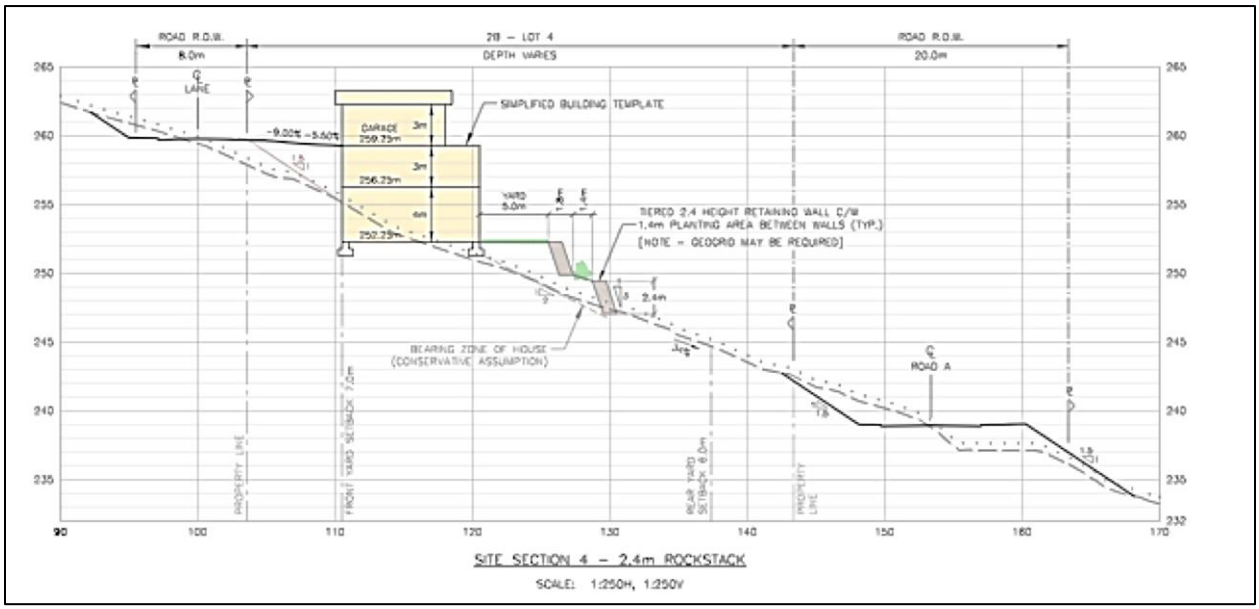


Figure 4: Rockstack Illustration (Lot 4) - 2.4m Retaining Structures

As Lot 4 represents the greatest amount of retention required, the variance portion of the application includes a general approach that would be to utilize 1.2 metre retaining walls wherever possible, up to a maximum of two. When more than two 1.2 metre walls would be required, the walls would be extended to 2.4 metres. Across the site, this approach would lead to a mix of 1.2 and 2.4 metre retaining walls across the site.

The Applicant's rationale and detailed drawings submitted in support of the application are included as Appendix A.

DISCUSSION & COMMENTS

The Applicant states that the proposed variance will result in an aesthetically pleasing solution and the broader separation between vertical runs will enable more robust planting.

Acknowledging Council's previous direction to direct conformity to the 1.2 metre Zoning Bylaw maximum height, Staff are compelled to bring the Applicant's request to the Committee of the Whole in advance of detailed processing of the application, requesting specific direction respecting the Committee's willingness to entertain the proposed variance.

Two options have been provided. The first is to direct Staff to continue processing the application as presented. Staff would undertake a thorough review of the application, and present the proposed Development Permit, with a variance to maximum retaining wall height to Council for consideration later. It is important to note that in providing this direction, Council would retain full discretion to decide on the Development Permit later. This decision would not prejudice or in any way fetter Council's ability to decide on the application based on its own merits in the future.

The second option is to direct Staff to ensure compliance with the 1.2 metre height restriction in the Zoning Bylaw. Should the Committee direct this option, Staff anticipate the Owners will amend the application to remove the proposed variance, limiting the retaining walls to a maximum of 1.2 metres. In the absence of a variance request, the Application would revert to a minor Development Permit application which would be reviewed at a Staff level.

COMMUNICATIONS

There are no communications obligations or implications associated with this report.

LEGAL CONSIDERATIONS

There are no legal considerations associated with this report.

IMPACT ON BUDGET & STAFFING

There are no budget or staffing considerations at this time as the costs are recoverable with the application fees provided.

INTERDEPARTMENTAL IMPACT & APPROVAL

There are no impacts on other departments resulting from this report.

IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS

There are no impacts on the region or neighbouring jurisdictions resulting from this report.

ALTERNATIVE OPTIONS

Option 1: **THAT** Committee of the Whole recommends to Council that Staff be directed to continue processing the application by CATA Project Management on behalf of Sunstone Ridge Developments Ltd for Development Permit No. 91, which includes a proposed variance to the Village of Pemberton Zoning Bylaw maximum retaining wall height.

Option 2: **THAT** Committee of the Whole recommends to Council that Staff be directed to ensure conformity with the Village of Pemberton Zoning Bylaw maximum retaining wall heights in consideration of Development Permit 91 submitted by CATA Project Management on behalf of Sunstone Ridge Developments Ltd.

RECOMMENDATIONS

THAT the Committee of the Whole provide direction.

ATTACHMENTS:

Appendix A: Description and Rationale Statement for Development Permit Application

Prepared by:	Cameron Chalmers, MCIP, RPP, Contract Planner
Manager Approval:	Scott McRae, Manager of Development Services
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer

Appendix B

Village of PEMBERTON

PO Box 100
7400 Prospect St.
Pemberton
British Columbia
CANADA
V0N2L0

P. 604.894.6135
F. 604.894.6136

www.pemberton.ca

VILLAGE OF PEMBERTON
Development Permit No.91

Issued to: **Sunstone Ridge Developments Ltd.**
File No: **2021-DP-091**

(Registered owner according to Land Title Office, hereinafter referred to as the "Permittee")

Address: **406-119 West Pender Street**
Vancouver, BC V6B 1S5

This Development Permit applies to and only to those lands within the Village of Pemberton, Province of British Columbia, legally described as:

Parcel Identifier:	030-329-621
Legal Description:	**Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381**
Civic Address:	Not yet assigned

as shown in the Subject Property Map attached as **Schedule A**.

This Development Permit No. 91 is issued pursuant to the authority of the Village of Pemberton *Official Community Plan Bylaw No. 654, 2011*, as amended and, except as varied in this permit, in conformity with all Village of Pemberton bylaws, as amended, and shall not be in any way varied except as so identified in this Permit.

The Permit relates to Development Permit Area No. 1 – Environmental Protection and Development Permit Area No. 2 – Land Constraints.

Whereas the applicant has made application to subdivide and develop 7 new residential lots as shown on Schedules A and B, the following terms and conditions of this Development Permit shall apply to said land:

1) Works and Construction Generally:

a) This Development Permit authorizes the clearing, stripping, and grading of proposed residential lots on Lot 2, DL 211, Lillooet District, Plan EPP72101, Except Plan EPP88381 identified on Schedule "A": Sunstone Phasing Concept.

b) All works constructed on the lands shall be in compliance with the recommendations following Schedules which are attached to and form part of this permit:

i) Schedule “A”: Sunstone Phasing Concept prepared by Gilbey Engineering Services, dated December 15, 2020.
ii) Schedule “B”: Phase 2 Illustrative Retaining Plan prepared by Crosland Doak Design, dated May 25, 2021.
iii) Schedule “C”: Landscape Retaining Sections and Images, prepared by Crosland Doak Design, dated May 25, 2021.
iv) Schedule “D”: Preliminary Lot Grading Overall Plan Option A prepared by Webster Engineering Ltd., dated May 6, 2021.
v) Schedule “E”: Preliminary Lot Grading Overall Plan Option B prepared by Webster Engineering Ltd., dated May 6, 2021.
vi) Schedule “F”: Preliminary Lot Grading Phase 2B – Lot 1, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
vii) Schedule “G”: Preliminary Lot Grading Phase 2B – Lot 2, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
viii) Schedule “H”: Preliminary Lot Grading Phase 2B – Lot 3, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
ix) Schedule “I”: Preliminary Lot Grading Phase 2B – Lot 4, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021
x) Schedule “J”: Preliminary Lot Grading Phase 2B – Lot 5, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
xi) Schedule “K”: Preliminary Lot Grading Phase 2B – Lot 6, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
xii) Schedule “L”: Preliminary Lot Grading Phase 2B – Lot 7, prepared by prepared by Webster Engineering Ltd., dated May 6, 2021.
xiii) Schedule “M”: Landscape Cost Estimate Area prepared by Crosland Doa Design, dated May 25, 2021
xiv) Schedule “N” Landscape Cost Estimate prepared by Crosland Doak Design, dated January 7, 2022.
xv) Schedule “O”: Preliminary Geotechnical Assessment prepared by exp Services Inc, dated May 14, 2012.

c) This Development Permit establishes comprehensive grading for the development of the subject lands, and the lands shall be graded in accordance with elevations established in Schedules “D”-“L”.
d) This permit does not regulate the location, siting, or character of single-detached dwelling structures, but all structures shall be constructed at the elevations and grading identified in Schedules “F”-“L”.

e) Alteration of the grading and retention structures authorized in this Development Permit is prohibited, including but not limited to additional building construction, landscaping, hot-tubs, swimming pools, or other works that affect the grading or elevations of the lots.

f) This Development Permit does not constitute a permit for blasting or use of explosive or incendiary devices in land clearing. A separate Blasting Permit will be required should blasting be required.

g) This Development Permit does not constitute a building permit for the construction of any structure including retaining walls. A separate building permit will be required in advance of any construction on the lands.

h) Retaining Wall Structures

i) This Development Permit authorizes the construction of comprehensive retaining wall structures generally as shown on Schedule "B".
ii) Retaining wall structures shall be subject to a separate Building Permit and shall be designed by an Engineer suitably qualified in the province of British Columbia.
iii) Retaining wall structures shall not be altered except in accordance with this permit.

i) Bylaw and Variances

i) All works and structures authorized under this permit shall be constructed in compliance with the Village of Pemberton Zoning Bylaw No. 832, 2018, and other applicable bylaws of the Village, unless expressly varied.
ii) This permit includes a variance to Section 7.21 of the Village of Pemberton Zoning Bylaw as follows to vary the maximum retaining wall height from 1.2 metres to 2.4 metres

j) Landscaping

i) The lands shall be landscaped in accordance with Schedules "B",
ii) The retaining wall structures shall be landscaped in accordance with the "Proposed Retaining + Planting" drawings identified in Schedule "C".
iii) The Owner shall provide a Letter of Credit, cash, or other acceptable security in the amount of $28,700 to secure the installation of soft-landscaping in accordance with Schedules "M" and "N".
iv) Following Village of Pemberton acceptance of the the initial landscape installation, the Village shall withhold 10% of the landscape security for a one-year maintenance period.

2) Geotechnical

i) All site clearing and associated works on the lands will be performed in accordance with the Geotechnical recommendations in Schedule "O" and/or the Geotechnical recommendations made in support of a future Building Permit application.
ii) All clearing and associated works on the lands will be inspected by a Qualified Geotechnical Engineer at intervals determined by the Qualified Engineer.
iii) The Qualified Geotechnical Engineer shall submit monitoring reports to the Village of Pemberton during site clearing and construction.
iv) Upon completion of the construction, the Qualified Geotechnical Engineer shall certify the works have been completed in accordance with the recommendations of the Geotechnical report and the requirements of this Development Permit.
v) The owner and the Geotechnical Engineer shall report any slope failures or Geotechnical hazards not identified in the Geotechnical Report in writing to the Village of Pemberton immediately.
vi) The Permittee shall be responsible for maintaining all works in a safe condition.

3) The Permittee shall complete all works to the satisfaction of the Village of Pemberton within one (1) year from the date that the Permit has been issued. Extensions to the one (1) year time limit may be applied for in writing thirty (30) days prior to the expiry date.

4) This Permit is not a Building Permit, Blasting Permit, Subdivision Approval or Servicing Agreement. While development on the lands described in this Permit is subject to the conditions and requirements set out in this Permit, this Permit does not authorize development or any construction beyond the clearing and grading of roadways and associated works.

5) The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit shall form a part hereof.

AUTHORIZING RESOLUTION FOR DP No. 092 PASSED BY COUNCIL the 18th day of January, 2022.

IN WITNESS THEREOF this Agreement has been executed under the seal of the Village of Pemberton, on the _____day of _____, 2022.

The Corporate Seal of the Village of Pemberton
was here unto affixed in the presence of:

)
)
)
)
)

_____

Mike Richman
Mayor

)
)
)
)
)

_____

Nikki Gilmore
Chief Administrative Officer

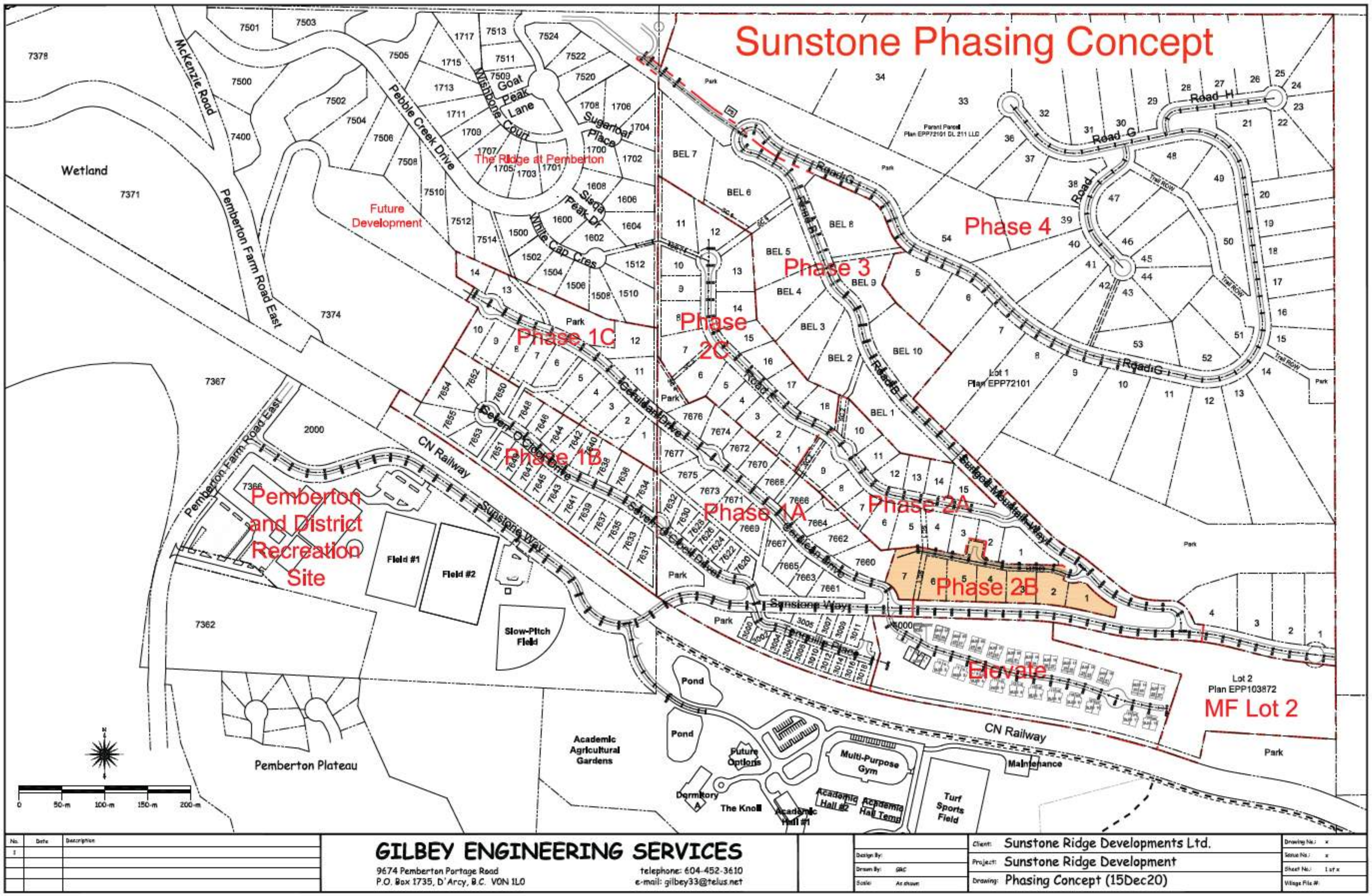
STATEMENT OF INTENT

I, Nyal Wilcox, authorized representative of Sunstone Ridge Developments Ltd., having read and understood the terms and conditions of this Development Permit, hereby agree to abide by such terms and conditions and to complete all of the works and services and all other requirements under this Development Permit and in accordance with the Village Bylaws.

_____ _____

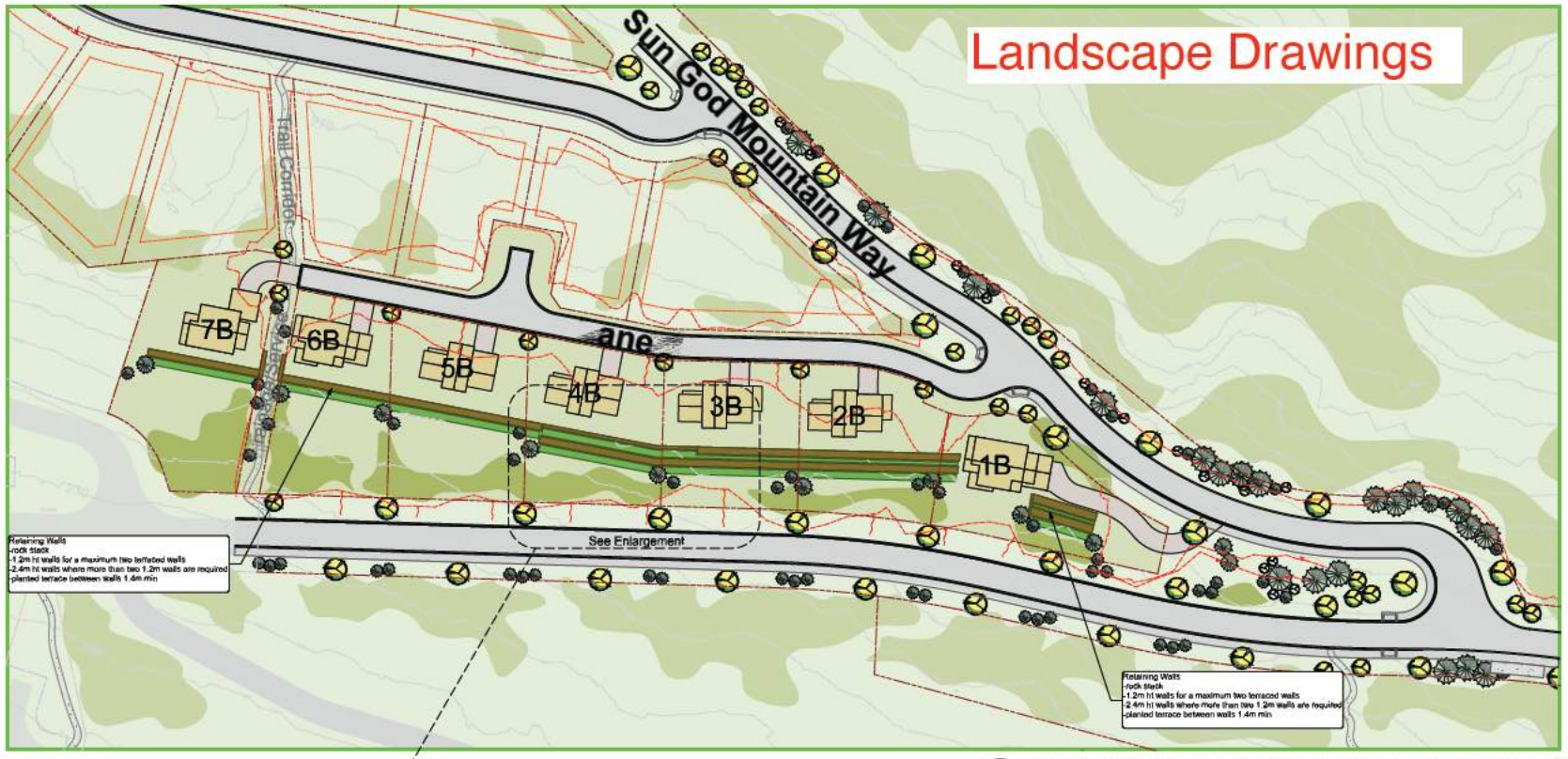
Sunstone Ridge Developments Ltd. Date
Nyal Wilcox

Attached: Schedules A, B, C, D, E, F, G, H, I, J, K, L, M, N, O

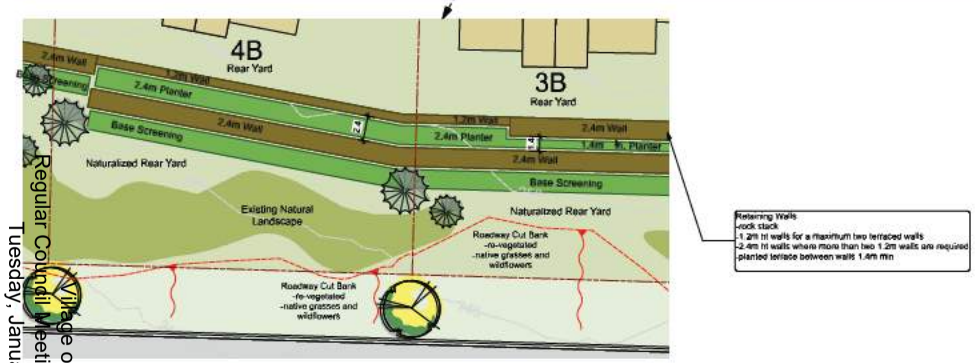

Sunstone Phasing Concept
Phase 4
Phase 3
Phase 2C
Phase 1C
Phase 1B
Phase 1A
Phase 2A
Phase 2B
Elevate
MF Lot 2
The Ridge at Pemberton
Future Development
Pemberton and District Recreation Site
Wetland
Pemberton Plateau
McKenzie Road
Pebble Creek Drive
Pemberton Farm Road East
CN Railway
Sunstone Way
Field #1
Field #2
Slow-Pitch Field
Pond
Academic Agricultural Gardens
Multi-Purpose Gym
Turf Sports Field
Maintenance
The Knoll
Park
Lot 2
Plan EPP103872
Lot 1
Plan EPP72101
GILBEY ENGINEERING SERVICES
9674 Pemberton Portage Road
P.O. Box 1735, D'Arcy, B.C. V0N 1L0
telephone: 604-452-3610
e-mail: gilbey33@telus.net
Client: Sunstone Ridge Developments Ltd.
Project: Sunstone Ridge Development
Drawing: Phasing Concept (15Dec20)

Schedule "A"

Landscape Drawings



1 Phase 2B Overall Plan
Scale: 1:500



Phase 2B Partial Enlarged Plan
Scale: 1:200

Schedule "B"

CROSLAND DOAK DESIGN
Landscape Architecture + Building Design
3121 Alta Vista Road
Whistler, BC V8E 0B8
604. 966-8028
info@CroslandDoakDesign.com
CroslandDoakDesign.com

Date	Issued For
2021-06-28	Client Review

client: Sunstone Ridge Developments Ltd

project title: Sunstone Pemberton, BC

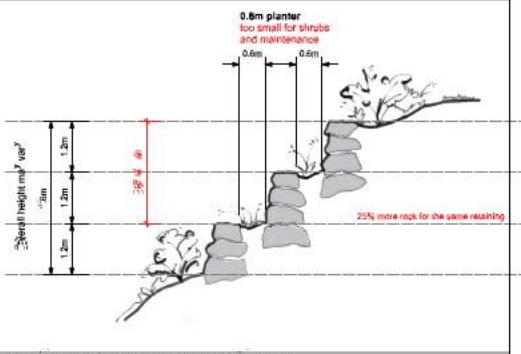
drawing title: Phase 2B Illustrative Retaining Plan

scale: as noted

project no. 1102

drawing no. L2B.3

PEMBERTON RETAINING BYLAW



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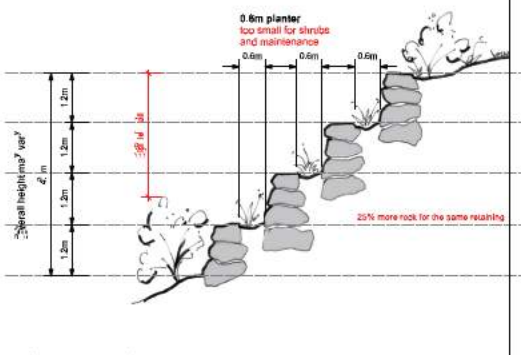

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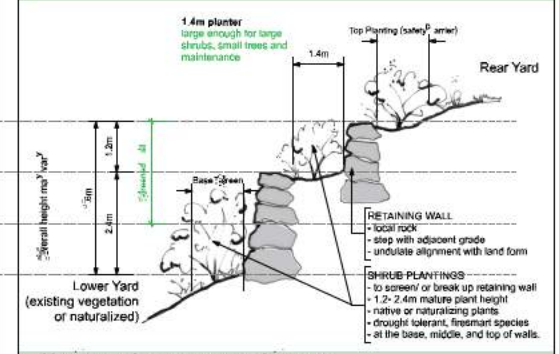
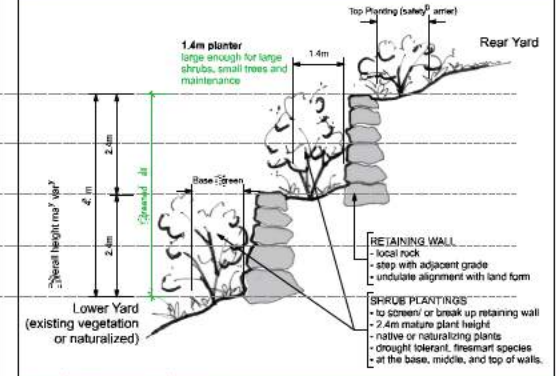
PROPOSED RETAINING & PLANTING



M ELLER O MEDIUM RE INING



L RGER RE INING

ILLSIDE DE ELOP ENT:

1. provides housing while preserving agricultural land (ER),
2. is not in the flood plain (F L),
3. often required retaining,

GOALS:

- Provide necessary and appropriate retaining to accommodate hillside development.
- reate attractive retaining solutions that incorporate adequate planting environments for screening.
- Encourage building and landscape solutions that 'fit' the hillside environment (no flat lot designs).

PROPOSED RETAINING WALL STRATEGY

p to 2.4m
1.2m walls to a maximum of 2 adjacent walls= 2.4m Total Height
with 1.2m wide intermediate planter
mature plant species height to be 1.2m
encourage walls to follow existing landforms (avoid long straight walls)

ver 2.4 m allow:
2.4m walls or a combination of wall heights (max 2.4m)
with 1.4m wide intermediate planters
and 1.4m base screening
mature plant species height to be 2.4m
encourage walls to follow existing landforms (avoid long straight walls)

- alls to be designed by an Professional Engineer,
- Landscape Planting to be designed by a landscape professional (BCSLA or eq)

Schedule "C"

m tepped all with mall (.m) Planting errace

2. m tepped all with Larger (1. m) Planting errace

CROSLAND DOAK DESIGN
Landscape Architecture + Building Design
5121 Alta Vista Road
Whistler, BC V0E 0B6
604.966.9309
info@crosslandloakdesign.com

Date	Issued For
2021-05-21	Client Review

Sunstone Ridge Developments Ltd
client

Sunstone
Pemberton, BC
project title

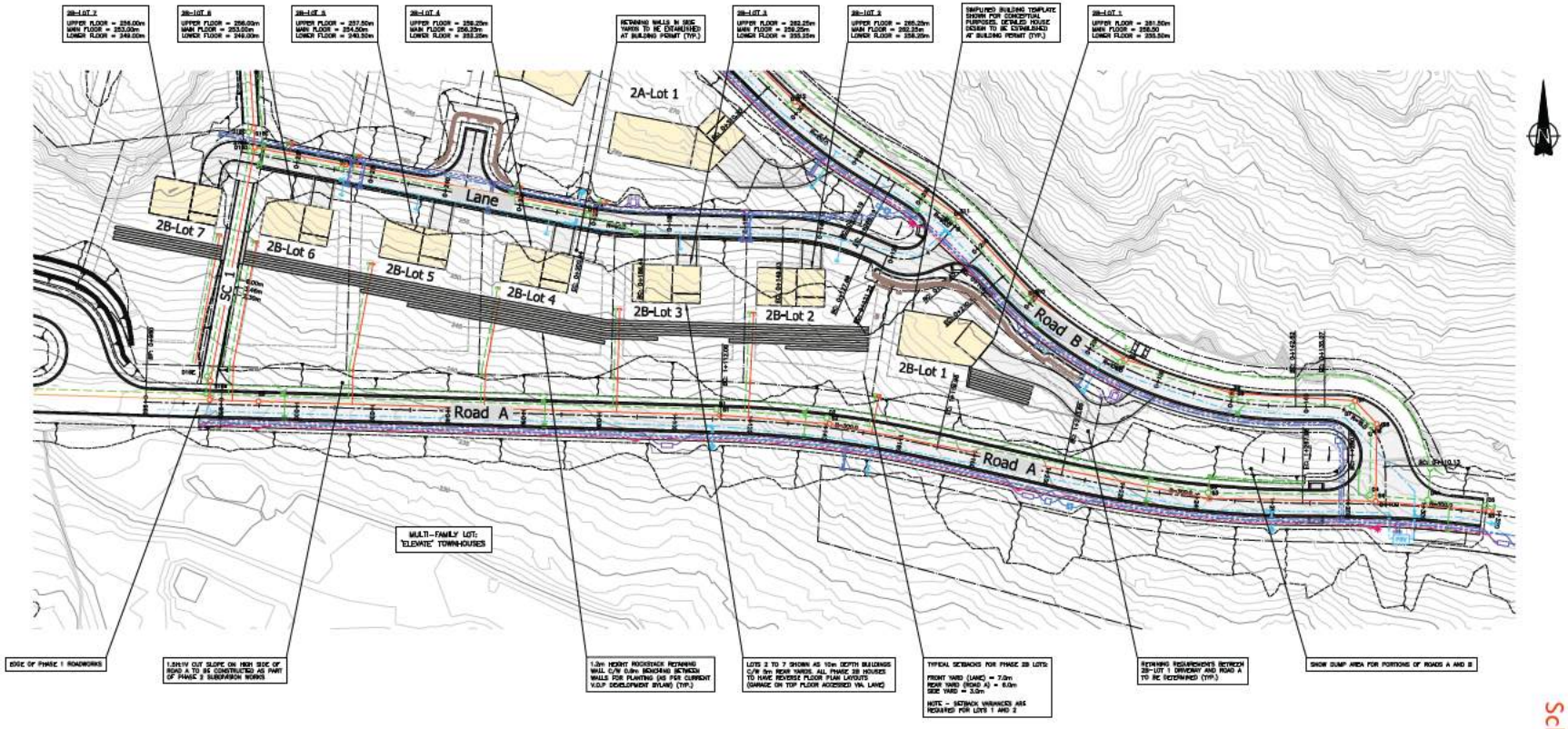
Landscape Retaining Sections & Images
drawing title

scale: as noted

project no. 1102

L2B.4
drawing no.

Site Grading Drawings



Schedule "D"

SUNSTONE RIDGE DEVELOPMENTS LTD.

SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

WEBSTER LTD
STEEP ROCKY TERRAIN SPECIALISTS
LAND DEVELOPMENT CONSULTANTS

PRELIMINARY LOT GRADING
OVERALL PLAN - OPTION A

scale: hrz. 1:800 vert. -
file no. 3964
drawing no. GRAD-2B-OA-A rev. 1

Schedule "E"

PRELIMINARY LOT GRADING
OVERALL PLAN - OPTION B

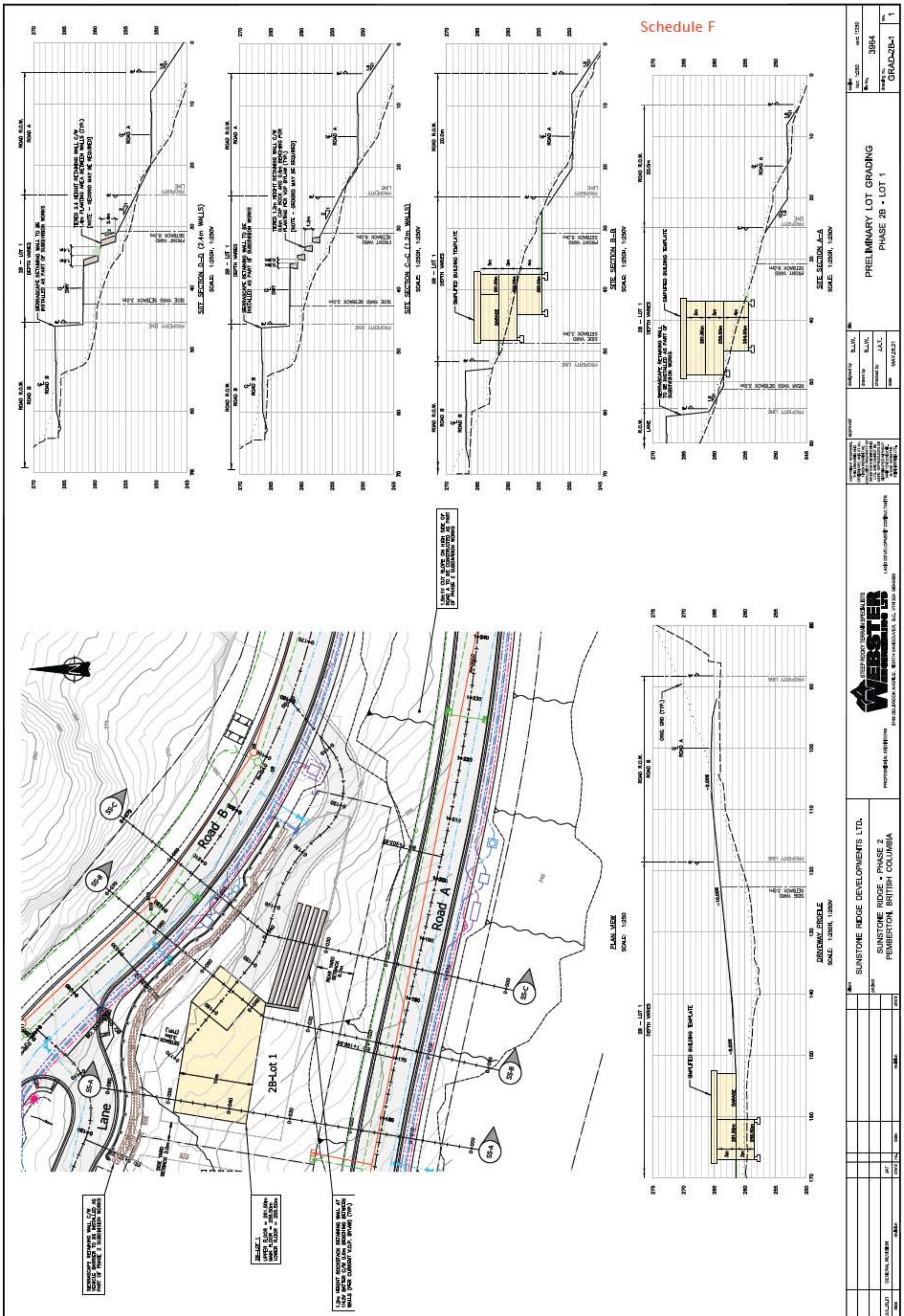
SUNSTONE RIDGE DEVELOPMENTS LTD.

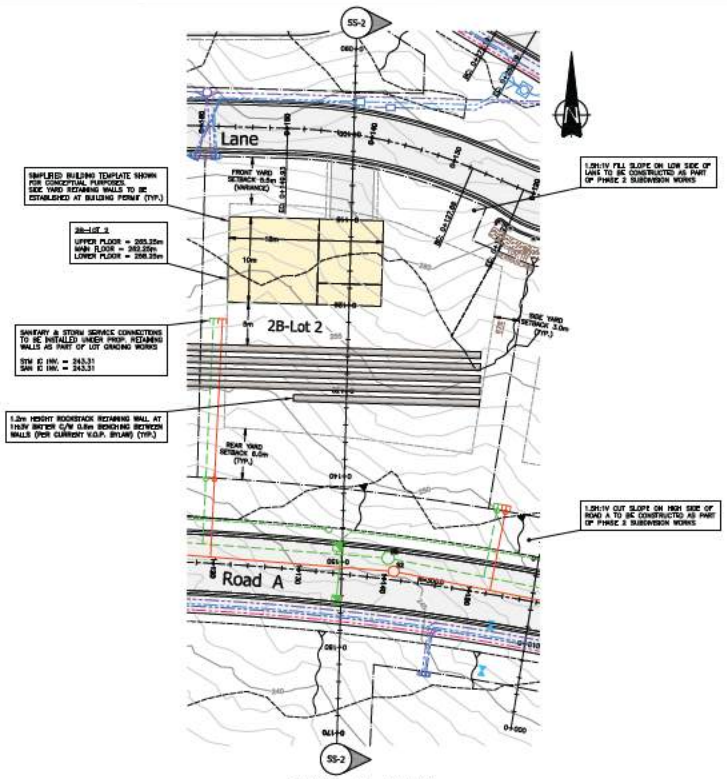
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

WEBSTER LTD

3964

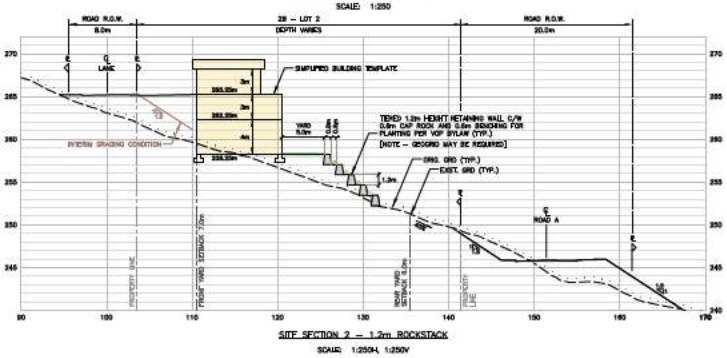
GRAD-2B-OVAB


Schedule F
PRELIMINARY LOT GRADING
PHASE 2B - LOT 1
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
WEBSTER
3964
GRAD-2B-1
Road A
Road B
Lane
2B-Lot 1
PLAN VIEW
SCALE: 1:250
DRIVEWAY PROFILE
SITE SECTION A-A
SITE SECTION B-B
SITE SECTION C-C (1.2m WALLS)
SITE SECTION D-D (2.4m WALLS)



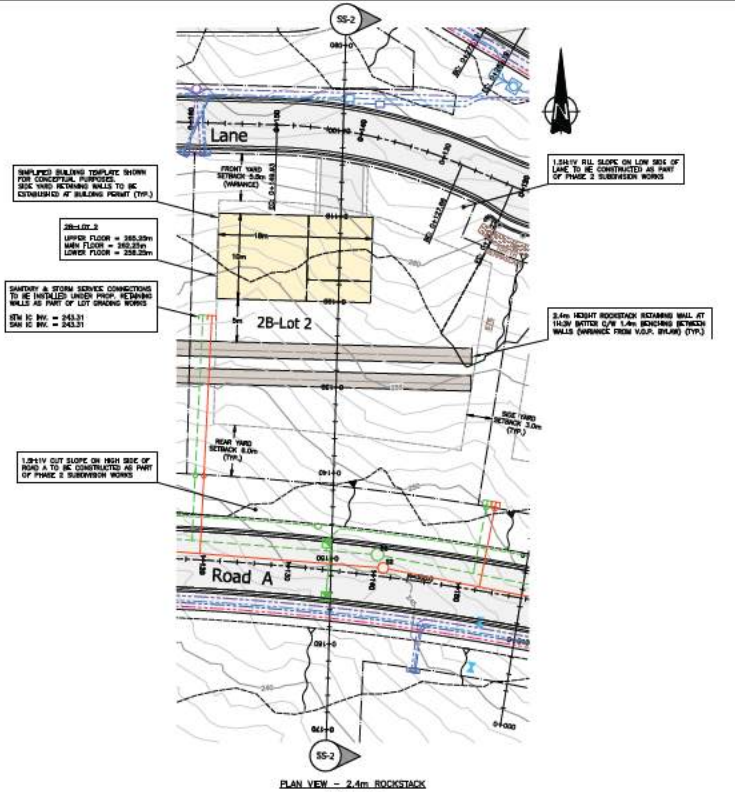
PLAN VIEW – 1.2m ROCKSTACK

SCALE: 1:250



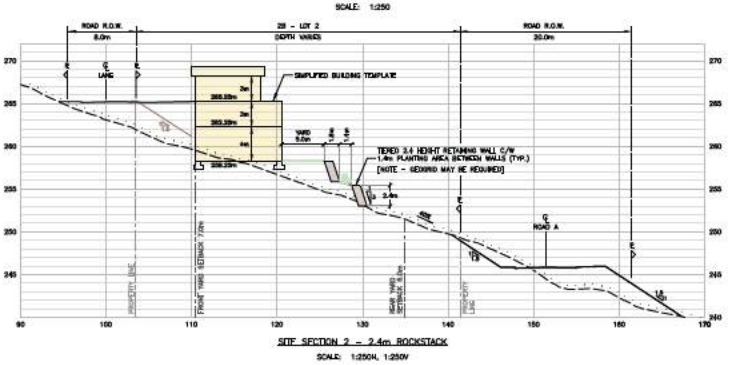
SITE SECTION 2 – 1.2m ROCKSTACK

SCALE: 1:250H, 1:250V



PLAN VIEW – 2.4m ROCKSTACK

SCALE: 1:250



SITE SECTION 2 – 2.4m ROCKSTACK

SCALE: 1:250H, 1:250V

Schedule G

no.	date	revision	dwn	chkd
1	JUL/ 4/21	GENERAL REVISION	JAT	

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

WEBSTER ENGINEERING LTD
STEEP ROCKY TERRAIN SPECIALISTS
PROFESSIONAL ENGINEERS
3749 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 980-0488
LAND DEVELOPMENT CONSULTANTS

approved

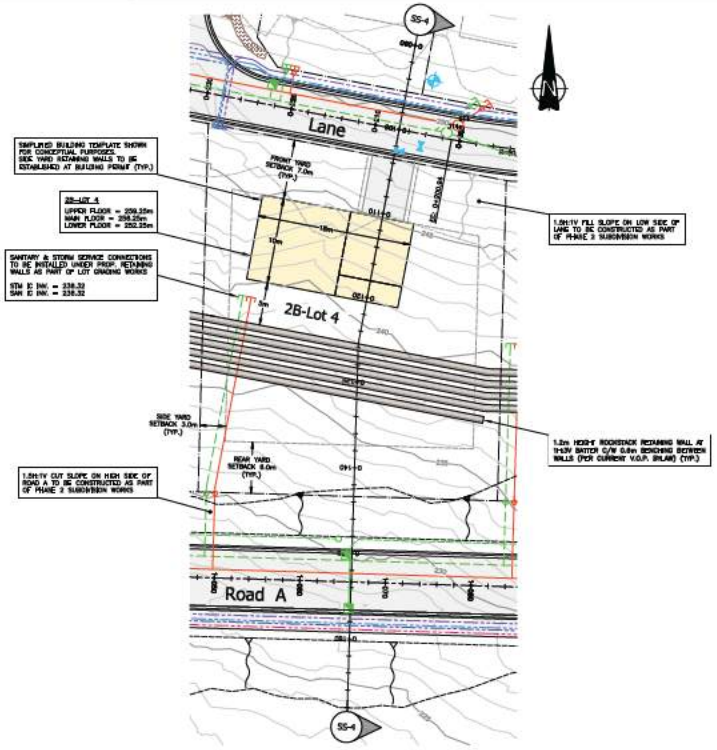
designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.26.21

title: PRELIMINARY LOT GRADING
PHASE 2B - LOT 2

scales: horz 1:250 vert 1:250
file no. 3964
drawing no. GRAD-2B-2
rev. 1

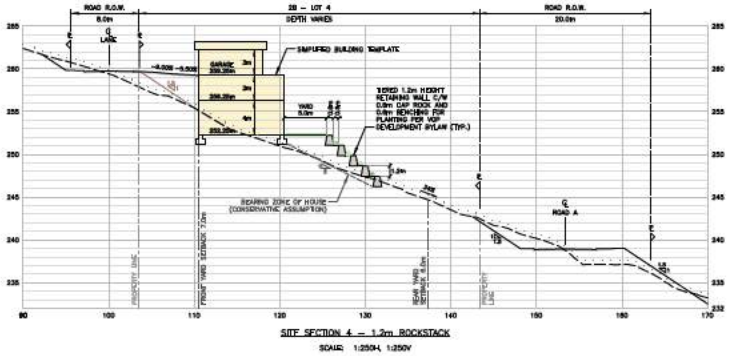
Schedule H

PRELIMINARY LOT GRADING
PHASE 2B - LOT 3
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
WEBSTER
Lane
Road A
2B-Lot 3
PLAN VIEW - 2.4m ROCKSTACK
SCALE: 1:250
PLAN VIEW - 1.2m ROCKSTACK
SCALE: 1:250
SITE SECTION 1 - 2.4m ROCKSTACK
SCALE: 1:250H, 1:250V
SITE SECTION 1 - 1.2m ROCKSTACK
SCALE: 1:250H, 1:250V
3964
GRAD-2B-3



PLAN VIEW – 1.2m ROCKSTACK

SCALE: 1:250

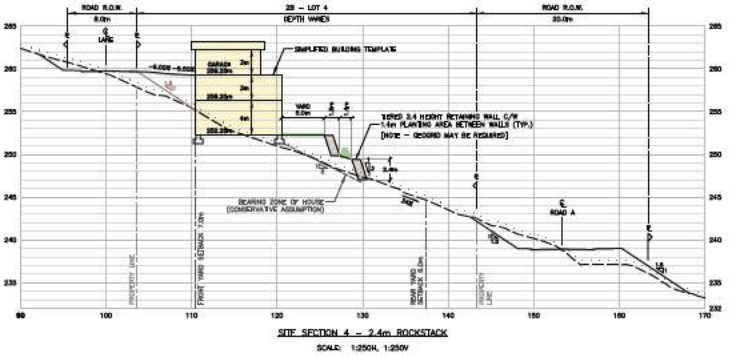


SITE SECTION 4 – 1.2m ROCKSTACK

SCALE: 1:250H, 1:250V

PLAN VIEW – 2.4m ROCKSTACK

SCALE: 1:250



SITE SECTION 4 – 2.4m ROCKSTACK

SCALE: 1:250H, 1:250V

Schedule I

no.	date	revision	dwn	chkd
1	JUL.14.21	GENERAL REVISION	JAT	

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

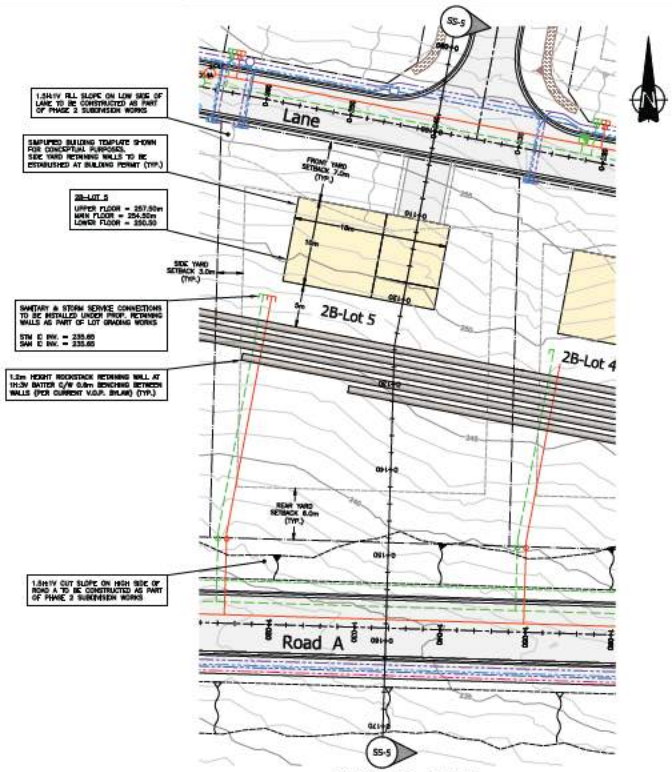
STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3749 DOLLARTON AVENUE, NORTH VANCOUVER, B.C. V7H 5J4 980-0488
LAND DEVELOPMENT CONSULTANTS

approved

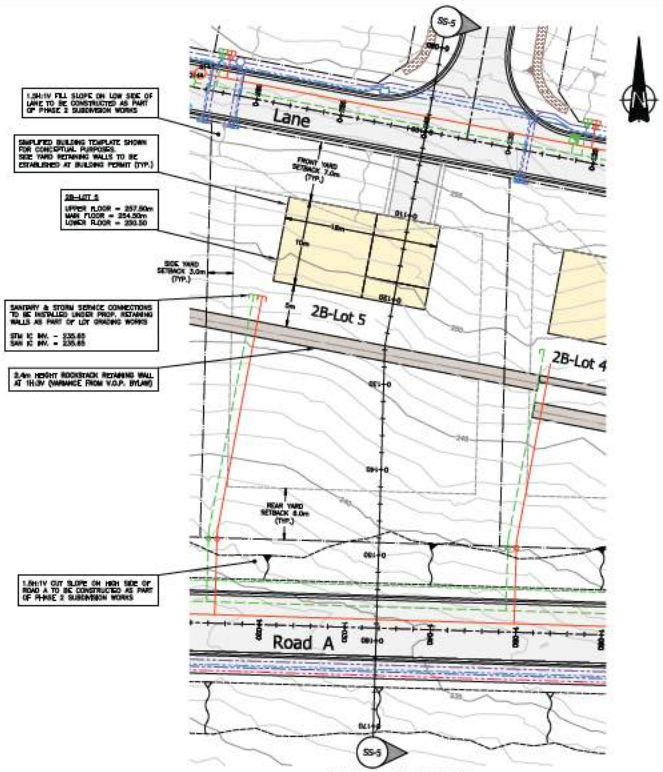
designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.26.21

title: PRELIMINARY LOT GRADING
PHASE 2B - LOT 4

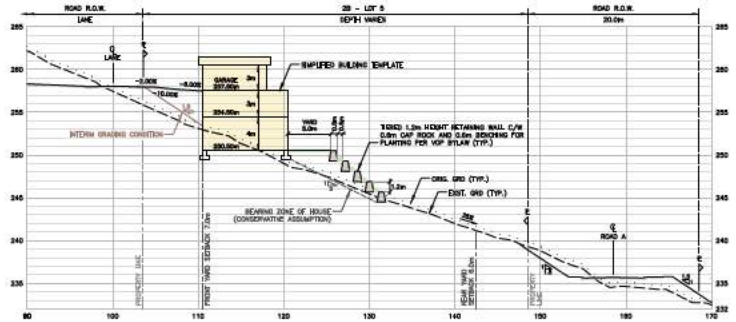
scale: horz 1:250 vert 1:250
file no.: 3964
drawing no.: GRAD-2B-4
rev.: 1



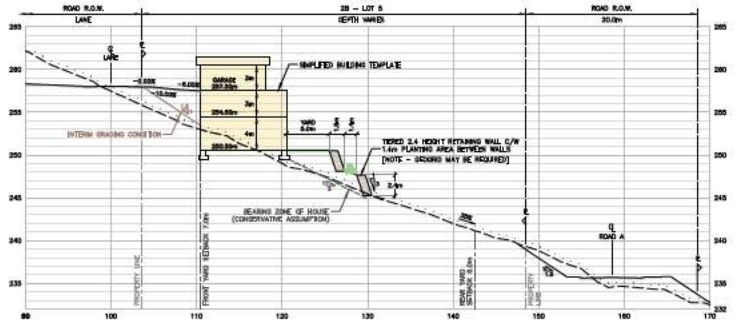
PLAN VIEW – 1.2m ROCKSTACK
SCALE: 1:250



PLAN VIEW – 2.4m ROCKSTACK
SCALE: 1:250



SITE SECTION 5 – 1.2m ROCKSTACK
SCALE: 1:250H, 1:250V



SITE SECTION 5 – 2.4m ROCKSTACK
SCALE: 1:250H, 1:250V

Schedule J

							client	SUNSTONE RIDGE DEVELOPMENTS LTD.	
							project	SUNSTONE RIDGE - PHASE 2 PEMBERTON, BRITISH COLUMBIA	
1	JUL./ 21	GENERAL REVISION	JAT				STEEP ROCKY TERRAIN SPECIALISTS WEBSTER ENGINEERING LTD LAND DEVELOPMENT CONSULTANTS 3749 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 980-0488		
no.	date	revision	chkd	no.	date	revision	chkd		

approved	
designed by	B.L.W.
drawn by	B.L.W.
checked by	J.A.T.
date	MAY.26.21

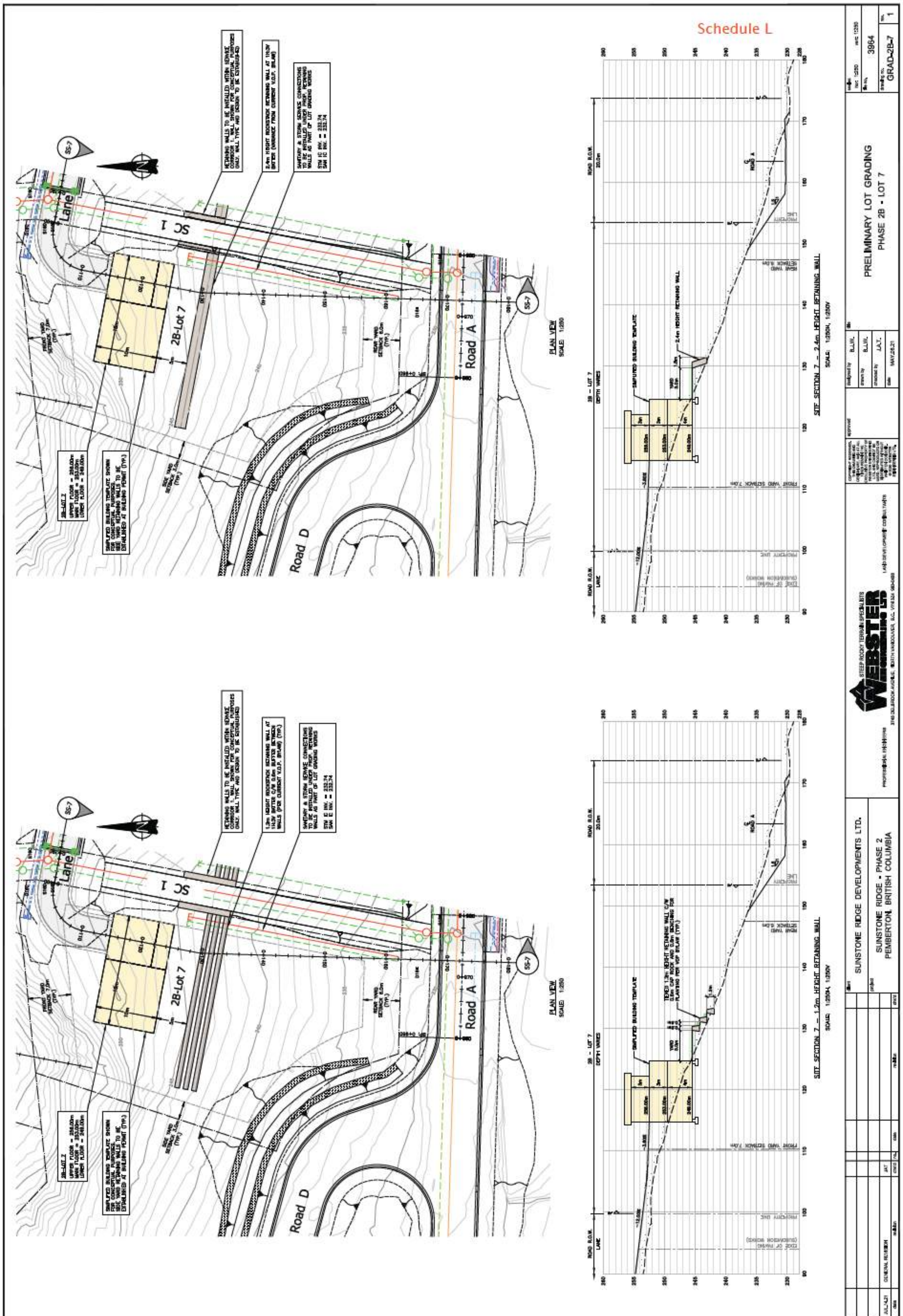
title: PRELIMINARY LOT GRADING
PHASE 2B - LOT 5

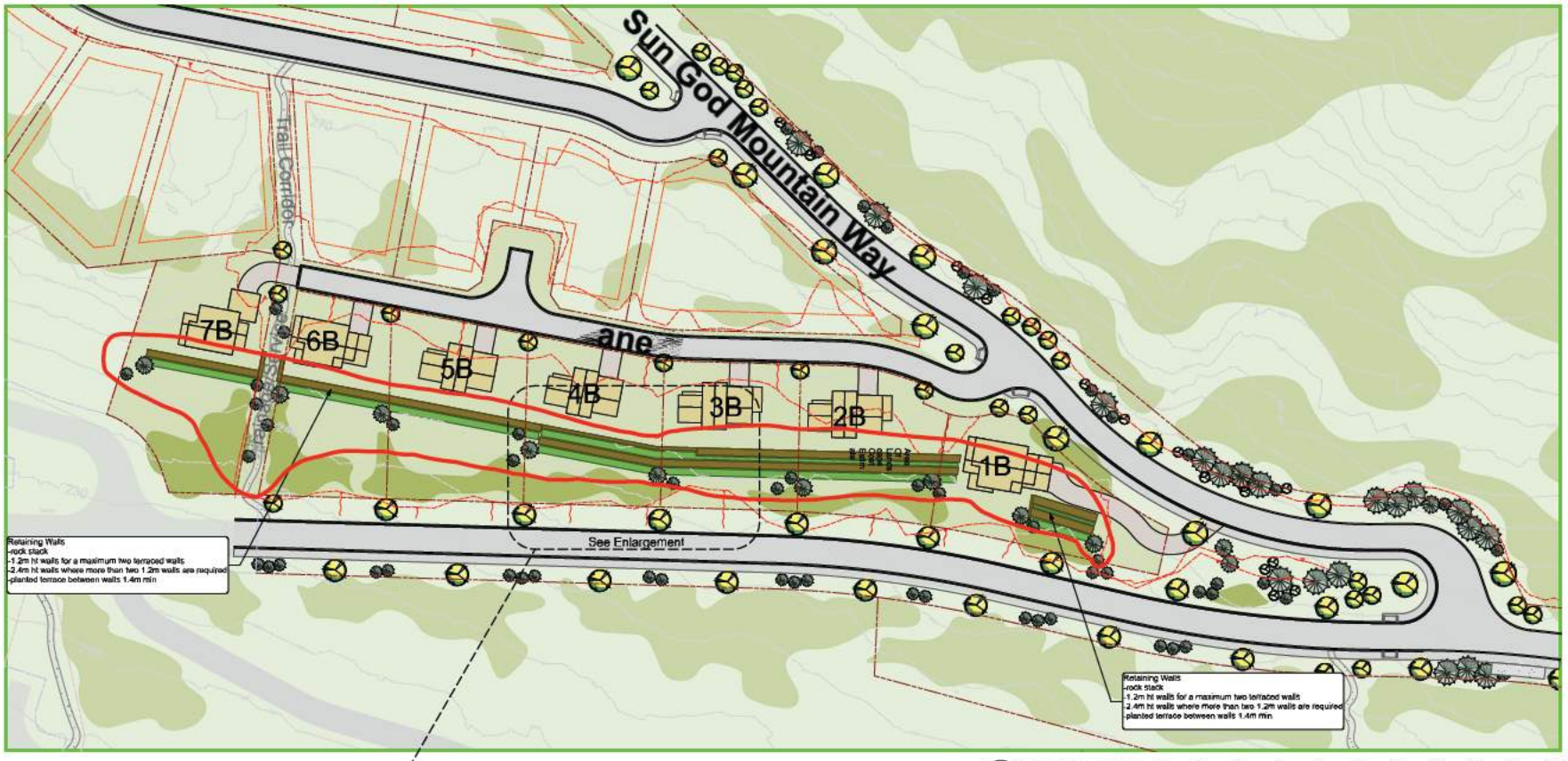
scale: horz. 1:250 vert. 1:250	
file no.	3964
drawing no.	GRAD-2B-5
rev.	1

Schedule K

PRELIMINARY LOT GRADING
PHASE 2B - LOT 6
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
WEBSTER ENGINEERING LTD.
3964
GRAD-2B-6
2B-Lot 6
Road A
Lane
SC 1
PLAN VIEW
1.2m HEIGHT RETAINING WALL
SCALE: 1:250
SITE SECTION 6 – 1.2m HEIGHT RETAINING WALL
SCALE: 1:50H, 1:25V
PLAN VIEW
2.4m HEIGHT RETAINING WALL
SCALE: 1:250
SITE SECTION 6 – 2.4m HEIGHT RETAINING WALL
SCALE: 1:50H, 1:25V

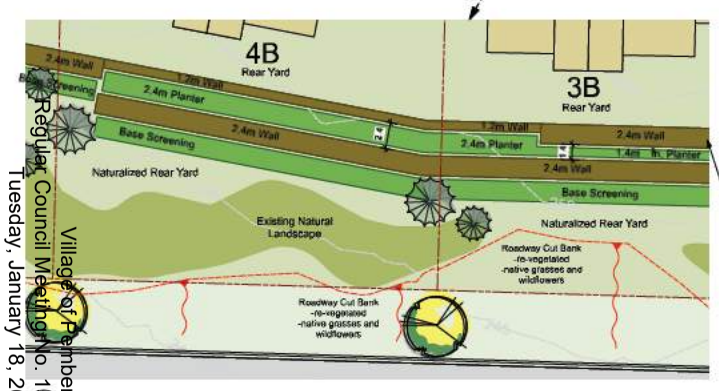
Schedule L


PRELIMINARY LOT GRADING
PHASE 2B - LOT 7
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
WEBSTER ENGINEERING LTD
GRAD-2B-7
3964
2B-Lot 7
Road A
Road D
SC 1
Lane
PLAN VIEW
SCALE: 1:250
SITE SECTION 7 - 2.4m HEIGHT RETAINING WALL
SITE SECTION 7 - 1.2m HEIGHT RETAINING WALL



1 Phase 2B Overall Plan
Scale: 1:500

0 10 20 30 40 50 60 70 80 90 100 m



Phase 2B Partial Enlarged Plan
Scale: 1:200

0 10 20 m

Schedule M

N

CROSLAND DOAK DESIGN
Landscape Architecture + Building Design
3121 Alta Vista Road
Whistler, BC V8E 0B8
604. 966-8309
info@CroslandDoakDesign.com
CroslandDoakDesign.com

Date	Issued For
2021-05-25	Client Review

client: Sunstone Ridge Developments Ltd

project title: Sunstone Pemberton, BC

drawing title: Phase 2B Illustrative Retaining Plan

scale: as noted

project no. 1102

drawing no. L2B.3

PROJECT:		SUNSTONE Phase 2B: Retaining Wall Conceptual Planting			Pemberton BC	2022.01.07
SOFT LANDSCAPING					Prepared by: Crosland Doak Design	
CONCEPTUAL PLANT LIST& COST ESTIMATE						
	QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	UNIT COST	COST
RETAINING AREA TREES (not including planters below)- (See L2B.3)						
ADJACENT TREES						
	9	Picea englemanii	Engleman Spruce	1.8 m ht.	$200.00	$1,800.00
	15	Tsuga heterophylla	Western Hemlock	1.2 m ht.	$125.00	$1,875.00
					Trees Subtotal	$3,675.00
	Per 20m of wall					
RETAINING WALL PLANTERS (See L2-3.1)						
	Per 20m of wall					
PLANTER TREES						
	2	Acer circinatum	Vine Maple	#3	$25.00	$50.00
	2	Acer glabrum	Douglas Maple	#3	$25.00	$50.00
	2	Amelanchier alnifolia	Service berry/ Saskatoon be	#3	$25.00	$50.00
PLANTER SHRUBS						
	3	Cornus stolonifera	Red Twig Dogwood	#2	$15.00	$45.00
	5	Mahonia aquifolium	Oregon Grape	#2	$12.00	$60.00
	3	Rosa nutkana	Nootka Rose	#2	$12.00	$36.00
	1	Parthenocissus quinque	Virginia Creeper	#1	$10.00	$10.00
	2	Salix purpurea 'nana'	Arctic Willow	#2	$15.00	$30.00
	1	Taxus brevifolia	Spreading Yew	#2	$15.00	$15.00
	4	Vacinium ovatum	Evergreen Huckleberry	#2	$12.00	$48.00
	25	Plants per 20m of wall/ planter			Plant Cost Per 20m	$394.00
					Cost per m	$19.70
PLANTER PLANTS	420m2	planter area @1.5m wid	280 m	lineal of planter	Planter Plants Subtotal	$8,274.00
SOIL, PREPARATION & GRADING						
ADJACENT TREES- SOIL						
	QUANTITY		Per Tree (m2)	Volume		
	9	Growing Medium	2 m2	16	$105.00	$1,701.00
	15	Growing Medium	1 m2	18	$105.00	$1,890.00
PLANTER- SOIL						
Volume	Area (1.5m planter)		Linear m of wall/ planter	Depth(m)		
126 m3	420 m2	Growing Medium-30cm	280 m	0.3	$105.00	$13,230.00
					Soil Subtotal	$16,821.00
IRRIGATION & MAINTENANCE						
	by property owners					
		SUBTOTAL- ALL PLANTS				$11,949.00
		SUBTOTAL- SOIL, PREP & GRADING				$16,821.00
						NIC
						$28,770.00

[redacted]

Schedule O

0857673 BC Ltd.
Proposed Sunstone Ridge Subdivision
Pemberton, BC

Preliminary Geotechnical Assessment

Prepared For:

[redacted]

Date Submitted

May 14, 2012

Table of Contents

Attachments

1. Introduction

As requested, **exp** services Inc. (**exp)** has completed a preliminary geotechnical assessment for the proposed Sunstone Ridge Subdivision to be located in Pemberton, BC. This report presents the findings of desk and field studies with respect to existing subsurface conditions, seismic considerations, potential rockfall from naturally occurring sources and stability analysis of existing slopes. Comments and recommendations regarding geotechnical aspects of general site preparations, building foundations for a proposed water reservoir and a water pump station, service installation, cuts in bedrock and soils, embankment fills, road structure and retaining walls for the proposed development are also addressed in this report. We understand that potential flooding within and adjacent to the proposed development site has been addressed by others. This report is specific to Phase I of the proposed development and does not address other phases which may be proposed as future development.

Exp scope of services which are addressed in this report included field work, reviews of published geologic information, in-progress road plans and lot layout provided by the Client (dated December 15, 2011) and LIDAR survey information for the subject site and surrounding areas.

No environmental analysis or assessment has been completed in association with this geotechnical study.

2. Site Description and Proposed Development

The proposed Sunstone Ridge subdivision is located within the village of Pemberton, BC, approximately 3.5 km east of the town centre. The site is accessed via a gravel road north of Highway 99 off the end of Old Farm Road. The proposed development is roughly triangular in shape with the southern boundary being about 800m long and the western boundary being about 600m long for a total area of about 24 Ha. The property is bounded by a railway to the south and undeveloped land on the other sides.

Topography within the site generally consisted of south facing, moderately inclined slopes. Localized areas of steeper inclinations were noted throughout the property, including near localized vertical bedrock bluffs. In general, elevations within the site range from about 210m to 300m geodetic. Gullies with a north-south orientation were noted within the property with the most significant one being located near the western boundary of the property. The gullies within the subject site were generally u-shaped and no flowing water was observed.

Outcropping bedrock was noted throughout the property with increasing occurrences coinciding with increasing elevation. Occasional large angular boulders, up to about 1.0m in diameter, were noted near the base of some of the steeper bedrock bluffs. The area above the development site consisted primarily of bedrock outcrops with some infilling of small gullies with soil.

It is understood that this phase of the proposed Sunstone Ridge subdivision consists of Parcel Lot 2 with 58 individual single family residential lots, Parcel Lot 3 with 7 single family residential lots, Parcel Lot 4 with 13 single family residential strata lots, Parcel Lot 5 with 54 townhouse residential units, Parcel Lot 6 with 58 townhouse residential units, Parcel Lot 7 with 30 townhouse residential units, a

water reservoir and a pump station. Approximately 1.6 km of roadway on site and an additional 500m of off-site roadway are proposed.

As it is typical for developments located on mountain slopes, site grading will involve cuts and fills and possibly retaining structures, in order to facilitate roadway alignments and lot development. It is understood that retaining structures are to generally consist of rock stack and Mechanically Stabilized Earth (MSE) walls.

3. Field Exploration

A field exploration program was completed as part of our assessment for the proposed subdivision. The exploration program consisted of a total of 13 test pits excavated to depths below surface ranging from about 1.2m to 4.6m. The test pit program was supervised by qualified **exp** personnel, who located the test pits, logged subsurface conditions encountered and gathered soil samples which were returned to our laboratory for moisture content determination, grain size analysis and further classification testing. In general the shallower test pits were terminated at bedrock, with the exception of TP 12-13 which was terminated due to collapsing sidewalls and inflow of water. Test pits were excavated with a large excavator provided by the client. Upon completion test pits were backfilled with the excavated material and compacted with bucket tamping.

Test pits were located with Global Positioning System (GPS) in the field and elevations determined by locating the test pit on the LIDAR survey plan.

Test pit logs are attached to this report with locations shown on the Site Plan – Test Pit Locations (Figure 2).

Site reconnaissance of the proposed development property included observing existing surficial conditions, cut slopes along an access road, photographing significant features and locating such features in the field by referencing known points. The locations of such features are approximate in nature and should be verified by survey.

4. Subsurface and Water Conditions

Visual observations of cut slopes along access roads combined with geologic mapping and the test pit program indicate that the site is largely bedrock controlled with soil deposits greater than 5m encountered in the test pits. Bedrock outcrops were noted in several locations within the property, particularly in the upslope areas.

4.1 Sub-Surface Soils

Sub-surface soils encountered in test pits generally consisted of the following stratigraphy:

- A thin layer of topsoil about 0.1m thick;
- A compact to dense sand and gravel layer with silt content ranging from trace to silty with thicknesses from about 0.3m to 4.0m;

- Dense to very dense silty sand and gravel (till-like), the total thickness of this layer was not defined as several test pits ended within this layer.

- Bedrock.

It should be noted that the above noted stratigraphy is a compilation of test pits and not all test pits encountered all of the layers identified above. Bedrock was only encountered in TP12-1, TP12-3, TP12-5, TP12-9 and TP12-1. Till-like soils were encountered in TP12-1 through TP12-, TP12-7, TP12-9 and TP12-11.

TP12-13, excavated in the vicinity of a proposed pump station, encountered a layer of soft/ loose wood debris and gravel and silt about 0.8m thick overlying loose sands and gravel. Due to collapse of the test pit and incoming seeping water, it was not possible to excavate further than about 1.2m below ground surface.

Bedrock outcrops were noted in the central portion of the property (in the area of Parcel Lot 2, Lot 30) and along the northern boundary of this phase of the proposed development (near the intersection of Road B and Road E, and within Parcel Lot 2, Lots 47 through 52).

Bedrock in the area appeared to generally consist of strong dioritic rock with few discontinuities. Due to the wide spacing of the discontinuities within the bedrock, resulting blocks both on the slope and surface near the toe of the bedrock bluffs were generally large with diameters in the range of 1m.

The test pit logs may be used as a guide for planning potential cut stratigraphy; however it should be noted that as soil deposition is variable, the subsurface conditions described in this text and on the attached test pit logs are specific to the corresponding test locations only and conditions may vary between test locations. Test pit logs are attached to this report.

4.2 Groundwater

Groundwater within the property was encountered in test pits TP12-2, TP12-4, TP12-6, TP12-7, TP12-8 and TP12-13 at depths ranging from about 1m to 2.5m below surface with the exception of TP12-13 where groundwater was noted to be near surface. Seepage was consistently noted within the sand and gravel layer or at the interface of the sand and gravel layer with the till-like layer.

Generally the groundwater appeared to be encountered in areas where bedrock was not encountered in test pits, with the exception of TP12-10 where neither bedrock or groundwater was encountered, indicating that groundwater is likely flowing along the bedrock surface and into the sand and gravel layer, frequently along the surface of the till-like layer.

Groundwater in the vicinity of the proposed pump station was encountered near surface (TP12-13) with significant volumes entering the test pit through the sidewalls of the pit.

Groundwater conditions described are specific to each test pit location within the depths explored during the time of the subsurface exploration. Groundwater conditions typically fluctuate with season, precipitation, land use factors and other factors.

5. Engineering Evaluation and Recommendations

5.1 Site Development

Phase I of the proposed Sunstone Ridge Development will consist of single family residential lots and multi-family residential lots, a water reservoir, roadways both on and off site, a pump station and services for the lots. Construction of this project will include preparation of subgrade, blasting or excavating of slopes, embankment construction and retaining wall construction.

Based on the findings of this study, it is our opinion that the site can geotechnically support the proposed development. The scope of site grading for Phase I of the proposed development appears to be comparable to with other developments in the Sea-to-Sky corridor. Site grading for this project should be completed using the general guidelines and practices described below.

Although the topography within the proposed development site is considered to be generally bedrock controlled, there is varying thicknesses of soil cover. With the variations in soil thickness, cuts required for roadway grading are likely to encounter conditions ranging from full depth rock to full depth soil.

A water reservoir and a pump station are to be included in Phase I of the development. It is our understanding the water reservoir is to be located up slope of the development and the pump station is to be located near the proposed rail crossing. The locations of these facilities had not been finalized at the time this report was prepared.

Storm water runoff will need to be diverted prior to trench excavation. Even with surface water diversion, some degree of trench dewatering may be required in areas where ground water is close to surface to facilitate pipe installation and backfill in dry conditions. Trench excavation in soils or within road fills should be cut no steeper than 1H:1V (horizontal:vertical) for temporary stability and safety purposes. Flatter slopes may be required where loose granular soils or water seepage is encountered. Bedrock sidewalls of blasted trench may be cut near vertical on a temporary basis; however, applicable Worksafe BC guidelines for worker safety must be followed.

Blasting of pipe trench should be completed such that the high point of bedrock along the trench bottom is at least 150 mm below the proposed bedding depth. Sharp bedrock pinnacles protruding above this elevation should be removed. A minimum 150mm pipe bedding material layer should be placed below and beside buried pipes for seating and cushioning purposes. A minimum 300 mm thick cover of bedding material should be placed above the pipes.

Excavated blast rock debris and overburden soils may be used as trench backfill up to surface in areas which are to remain unpaved and no structures are to be constructed. Where pavement, structures, hard landscaping or other settlement sensitive structural elements are possible, the backfill should be placed and compacted in accordance with Section 5.2 “Subgrade Preparation”. Municipal guidelines will control the character of allowable backfill in road right-of-ways.

5.2 Subgrade Preparation

Subgrade preparation for the proposed development for roadways, walkways, retaining structures, hard landscaped areas and structures should include the removal of all vegetation, forest litter, organic soils and soft or disturbed soils to expose bedrock, dense to very dense till–like soils or compact to dense granular soils. Any loose granular soil should be excavated and replaced with structural fill.

It is possible that the depth at which competent native subgrade is encountered is too great for typical excavation and replacement methods in the vicinity of the proposed pump station. In this case, a solid stem auger test hole in conjunction with Standard Penetration Tests (SPT) should be completed to determine the depth to competent native soils or bedrock. In this case geotechnical considerations related to liquefaction, settlement and allowable bearing pressures should also be reviewed.

Structural fill consisting of 75mm minus sand and gravel or 150mm shot rock should be placed in lifts with a maximum thickness of 300mm. Each lift should be compacted with several passes of a heavy ride-on type vibratory steel drum roller to achieve 95% Modified Proctor Dry Density with 75mm sand and gravel being density tested to confirm compaction has been achieved. Compaction of shot rock structural fill should be confirmed by the geotechnical engineer observing heavy equipment being driven on the subgrade.

Where the exposed subgrade surface is inclined at greater than 20% slope (5H: 1V) fill embankments should be keyed at the toe and the sloping subgrade should be benched with 1.5 metre wide horizontal benches to provide an adequate connection between subgrade and embankment fill and to avoid the development of a preferential slip plane. Seepage zones, where encountered should be controlled with a granular drainage blanket covered with an approved filter fabric with controlled outlet to prevent loss of soils and to provide improved drainage.

Areas where subgrade preparation in areas requires blasting to achieve grade, the bedrock should be blasted to create a minimum 500mm thick shatter zone below the underside of pavement structure for roadways. Over-blasting below structure footings should generally be reduced as practical; however, some overblast damage to the rock will likely occur. Rather than removing the overblast rock to expose intact bedrock, the overblast may be graded to design footing subgrade elevation and compacted with a minimum of 6 passes of a heavy ride-on type steel drum roller. The blasted surface should be free of pinnacles which extend above design subgrade elevation. The blasted surface may be irregular, but should be generally flat and level. Excavations into bedrock which create pools where groundwater could collect should be provided with drainage. Backfill in these areas should consist of free draining granular fill. Granular fill compacted to at least 95% Modified Proctor Dry Density (ASTM D 1557) or shot rock should be used to achieve grade under building pads and roadways where required.

5.3 Pavement Structure

The subgrade for pavements should be prepared as described in Section 5.2. The pavement structure should be constructed in accordance with applicable subdivision bylaws and design criteria set forth by the Village of Pemberton. The pavement structure will include Hot Mix Asphalt Pavement, Crushed Granular Base (CGB) Course and Crushed Granular Sub-base (CGSB) Course. We understand that base and sub-base gravel is to be produced on-site by quarrying and crushing

bedrock. Gradations for the CGB and CGSB are tabulated in Table A and Table B below (based on Master Municipal Construction Document 2000).

TABLE A

Crushed Granular Sub-Base

Sieve Designation	Percent Passing
80mm	-
5mm	100
38mm	60 – 100
25mm	-
19mm	35 – 80
12.5mm	-
9.5 mm	26 - 60
4.75mm	20 – 40
2.36mm	15 – 30
1.18mm	10 – 20
0.6 mm	5 – 15
0.3mm	3 – 10
0.18mm	-
0.15mm	-
0.075mm	0 - 5

TABLE B

Crushed Granular Base

Sieve Designation	Percent Passing
19mm	100
12.5mm	75 – 100
9.5mm	60 – 90
4.75mm	40 -70
2.36mm	27 – 55
1.18mm	16 – 42
0.6mm	8 – 30
0.3mm	5 – 20
0.075mm	2 – 8

5.4 Building Foundations

A general indication of footing subgrade is described in Section 3.1. Actual subgrade conditions are likely to vary and should be confirmed by a geotechnical engineer on a lot by lot basis. We understand that a water reservoir and a pump station is required for Phase I of the proposed development.

For planning purposes the following allowable pressures can be assumed:

TABLE C

BEARING PRESSURE

Foundation Material	Factored Ultimate Bearing Resistance	Allowable Bearing Pressure
Bedrock or compacted over-blast rock overlying bedrock	450 KPa (9000 psf)	300 KPa (6000 psf)
Dense to very dense till-like soil	300 KPa (6000 psf)	200 KPa (4000 psf)
Compact to dense native mineral soils or compacted structural fill placed thereon	185 KPa (3700 psf)	125 KPa (2500 psf)

The bearing capacities provided above are subject to the following conditions:

- Footings are setback a suitable distance from finished fill or cut slopes with locations approved by the Geotechnical Engineer;
- Strip and pad footings have minimum widths of 450mm and 600mm, respectively;
- Footings are founded a minimum of 600mm below adjacent finished grade for confinement and frost protection purposes;
- Site preparations have been completed as described in Section 5.2 and load bearing surfaces have been reviewed and approved by the Geotechnical Engineer.

Note that differential settlement may be expected where footings are supported on soils which vary beneath the structure (e.g., transitions from bedrock to soils or from native soils to embankment fills, etc.). Such situations should be reviewed by the Geotechnical Engineer with recommendations made to suit the situation. In cases where the footings cannot be constructed on a level bedrock platform or is close to a bedrock ledge, dowelling of the footings into the bedrock may be required to provide lateral stability. The need for subsurface drainage should be assessed on a site-specific basis by the geotechnical engineer based on conditions encountered during construction.

5.5 Slope Stability

Slope stability analysis was completed using the software SLOPEW by Geoslope International Ltd. The subsurface model for the software was based on our test pit program and visual reconnaissance of existing conditions within the proposed development site. Topography for the model section was developed from LIDAR information supplied by the client. The section was located in the vicinity where thicker soil cover and groundwater was encountered in test pits. Using the above stated criteria for locating the section, a section near TP12-2 was chosen, which resulted in the section being generally located within a gully (see Figure 2). The section surface is provide on Figure 3.

Analysis of slope stability within the proposed development site indicates that localized surficial soil failures (sloughing) are likely to take place during a design earthquake event (see Section 4.12) in the steeper portions of the property. However, the outcome of the analysis also indicates that reducing groundwater increases the stability of slopes against failure, even under the seismic condition. Factors of Safety for sloughing in the static condition increased from about 1.3 to 1.7 and from 0.8 to 1.1 for the seismic condition following reduction of groundwater levels. To prevent such failures we recommend intercept trenches be excavated in areas of susceptible steep natural slopes or cut slopes as identified by the geotechnical engineer during construction.

5.6 Bedrock Cuts

It appears based on observations of the stratigraphy encountered in the test pits that there will be several areas where road cuts will encounter bedrock or bedrock overlain with soils. Rock cut details are provided for preliminary planning purposes only and will be subject to modification to suit bedrock conditions encountered during construction and compatibility with future maintenance plans. Evaluation of the rock cuts is generally a field based process which needs to be completed when rock is exposed at the time of construction. The details presented in this report are intended as general guidelines based on previous work in similar terrain.

A summary of the rock cut guidelines to be followed for the project are outlined below.

- Rock cuts may be planned at an inclination of 1H:4V, though in areas of poor quality highly fractured/friable/sheared or weathered rock this inclination may require reduced inclinations of about 1H:2V to 1H:1V;
- Where the face of poor quality rock is protected from weather and raveling by means such as a rock stack facing, the cut may be steepened, depending on the rock quality and cut height;
- Where poor quality rock is underlain by competent rock, a composite slope is possible using the cut angles provided above;
- The use of retaining walls will be required where steeper than recommended inclinations must be achieved due to property boundaries or other constraints. This may be achieved by MSE walls with a composite rock cut above the wall, where the required top of cut line can be achieved.

Temporary cuts in poor quality rock should be planned no steeper than 1H:2V and good quality rock at 1H: 4V; however the cuts should be flattened and scaled as necessary to provide temporary stability and to create a safe working environment.

Suitable catchment ditches should be provided at the toe of unprotected rock cuts to mitigate adverse affects associated with rock dislodgements. A catchment width of 3m is recommended for rock cuts with less than 10m of height and 4m for slopes with a height between 10m and 14m. The catchment ditch should have a slope angle of 4H:1V extending from the break in slope at the road shoulder to the rock cut face.

Some on-going maintenance of slopes and ditches should be anticipated and will include clean up of materials loosened by erosion and freeze-thaw cycles. It should be noted that blasted areas may expose large rock wedges or blocks requiring anchoring or other mitigative measures during

construction. Blasted bedrock slopes should be scaled of loose material, left in a regular and safe condition and should be reviewed by the geotechnical engineer.

Note that the strength of the bedrock depends largely on the rock remaining intact. Hence, site preparation involving blasting should be carefully controlled such that over-blasting in the founding rock is minimized. Harder rock such as that generally noted on site, may respond well to pre-shearing to produce a stable rock face. Blasting should be carried out by a contractor with relevant experience in such excavation methodology.

Site specific recommendations regarding rock bolting, shoring, scaling, etc. should be provided at the time of construction by the geotechnical engineer, as required.

5.7 Soil Cuts

It is considered likely that at least a portion of required cut slopes will be in soil. Permanent cuts in soil should be planned no steeper than 2H:1V with the slopes being revegetated after completion of construction to protect against erosion from surface water. Steeper slopes of 1.5H:1V may be possible in the dense to very dense till-like soils; however, the feasibility of such steeper cuts should be evaluated at the time of construction. Rock stack walls or engineered Mechanically Stabilized Earth (MSE) walls may be required where site geometry does not allow for the recommended permanent slope inclinations.

We recommend that cut-off trenches be excavated above slopes cut into the compact granular soils to direct groundwater away from the slope. The cut off trench should be excavated to expose bedrock or dense to very dense till-like soils and be backfilled with clear shot rock or gravel. The trench should outlet in a suitable location.

In areas where soil overlies bedrock, a minimum 1 m wide horizontal bench should be provided at the interface.

Temporary soil cuts should be planned no steeper than 1H:1V.

5.8 Rockfall

An area was noted within the proposed development site where a near vertical natural rock bluff had several large boulders at the base. The approximate extent of the rock bluff and potential influence areas of the rockfall hazard is shown on Figure 3. As the identified rock fall hazard is located within and adjacent to the proposed residential lots, mitigative measures will be required to provide a safe environment for these lots. Mitigative measures may include but are not limited to setbacks with berms and on-slope stabilization (anchors, mesh, etc).

5.9 Embankment Fills

Rock fill embankments should be constructed on suitably prepared subgrade using blasted or excavated rock with a maximum fragment size less than 0.6m diameter. The rock should be placed in lifts less than 0.7m thick and be compacted by working the material into place using the tracks of heavy spreading equipment and/or a large ride-on type vibratory steel drum roller. The rock fill

embankments should be no steeper than 1.5H:1V. If larger rocks are available from site excavation, these rock fragments may be placed at the toe of the embankment fills to improve stability.

The rock fill should be placed such that the larger rocks are well distributed and the intervening voids are infilled with smaller sized particles such that the fill is internally stable and does not permit the piping of fines through voids. A transition zone should be provided between the top of rock fill and overlying earth fill, road sub-base or structural fill for buildings. The transition zone should be a minimum of 0.3 m thick and should consist of well-graded 0.15m minus shot rock to prevent the overlying material from penetrating in the voids within the rock fill.

Steeper rock fill embankments may be constructed using rock stack walls as described in Section 4.10 “Retaining Walls”.

Earth fill embankments should be no steeper that 2H:1V unless provided with suitable reinforcement and surface erosion control. The earth fill should consist of clean well-graded free draining granular material placed in lifts with a loose thickness less than 300mm and compacted a minimum of 95% Modified Proctor Dry Density to be confirmed by periodic density testing. Subgrade for earth embankment fills should be prepared as described in Section 5.2.

Earth embankments steeper than 2H:1V are possible using geogrid reinforcement (MSE). This method is further described in Section 4.10.

5.10 Retaining Walls

Retaining walls within the proposed development are expected to be either rock stack walls or MSE walls. Guidelines for rock stack wall construction are provided on Figures 5A through 5C attached and summarized below.

- Rock stack walls exceeding 4m in height should be constructed in a terraced configuration with the height of an upper tier being less that the height of the tier immediately below.
- A minimum of 1.5m wide landscape bench should be provided between the terraced rock stack tiers to serve as an aesthetic feature and catchment during a seismic event.
- Rock used for construction of the walls should have a minimum 1.0m dimension with the exception of the bottom row which should be a minimum of 1.2m.
- The rocks should be angular, sound and durable.
- Rock stack walls should be constructed no steeper than 1H:3V with rocks placed having their longest dimension perpendicular to the wall face.
- The bottom row of rocks should be keyed at least 0.5m below the finished ground at the toe and placed with a 4H:1V incline into the face of the wall.
- Where a sloping bedrock surface is present at the level of the rock stack base, an inclined key will need to be blasted into the bedrock in order to seat the bottom row of rocks.
- The base under the wall should be prepared as described in Section 5.2.

- Each rock in the rock stack should be supported by at least two underlying rocks to prevent the construction of "columns" within the wall.
- Rock stacks should be backfilled with shot rock.
- Rock stacks should be reviewed periodically during construction by the geotechnical engineer with respect to base preparation and general stacking procedures, with modifications to the wall undertaken as required.

Reinforced earth walls (MSE) wall are generally a proprietary packaged designed by the supplier/ manufacturer of the system. Such walls can be designed with a steep batter (up to 1H:12V) and to heights in excess of 6m. The geotechnical engineer would provide input on appropriate soil design parameters, concept review and global stability verification. **Exp** would be able to provide such services if required.

5.11 Permeability

Soils encountered with the proposed development site are described in Section 3.1. Based on gradation analysis of each soil type and observations of groundwater during the test pit program we are providing herein an estimated permeability. The table below provides estimated permeability descriptions and estimated permeabilities based on soil gradation test results, published titration and our engineering judgment and experience.

TABLE D

PERMEABILITY

Material	Permeability Description	Estimated Permeability
Sand and gravel with varying silt content	Moderately permeable	$1x10^{-6}$ to $1x10^{-7}$
Till-like soils	impermeable	$1x10^{-9}$ to $1x10^{-10}$
Bedrock	impermeable	-

It should be noted that no permeability testing was conducted due to time constraints and the above values are estimates only.

5.12 Excavation for Pump Station

We understand the pump station is to be located in the area of the proposed rail crossing. Test pit TP12-13 was intended to provide an assessment of soil types and groundwater in the vicinity of the proposed pump station. Due to a high flow of water entering the test pit both from surface and from sidewall seepage the test pit was unable to identify soil layers. In addition, the sidewalls of the test pit were sloughing into the open excavation indicating loose soils. Based on this information it is considered prudent to consider point well dewatering for the excavation for construction of the pump

station and temporary slopes inclined at 1.5H:1V. If space in not available for the recommended slope inclination, shoring may be required.

5.13 Seismic Considerations

The National Building Code of Canada (NBCC 2010) and the British Columbia Building Code (BCBC 2006) provides guidelines and parameters for seismic design. The design earthquake corresponds to a 2% probability of exceedance in 50 years which is equivalent to a 1:2475 year return period. The Natural Resources Canada website provides site specific interpolated NBCC 2010 seismic hazard values and indicates a peak horizontal firm ground acceleration of 0.280g corresponds to the 1 in 2475 year earthquake event for the proposed development site. The inferred earthquake magnitude for the design earthquake is 7.0.

The Site Classification for Seismic Site Response Table 4.1.8.4.A from the BCBC 2006 will vary across the site and should be assessed on a lot by lot basis. For preliminary planning purposes, Site Class C may be assumed for the majority of the site and Site Class B for areas of shallow bedrock (less than 2 m).

Due to potentially thick loose/ soft soils and the inability of the test pit to encounter firm/ dense soils in the lower elevation flat lying areas in the vicinity of the proposed pump station it was not possible to determine a Site Classification for this area. In order to determine the appropriate Site Classification a test hole consisting of a solid stem auger with Standard Penetration Tests (SPT) shall be required. Alternatively, a Site Class C could be assumed for use in preliminary design with the condition that soft/ loose soils would be excavated to expose bedrock or dense to very dense till-like soils with grade being restored with structural fill placed and compacted as described in Section 5.2.

Based on results of the geotechnical exploration which indicate compact sand and gravel overlying bedrock or dense to very dense till-like soils or bedrock, liquefaction of the subsurface soils during the design earthquake is not expected within the proposed development. An exception may be in the vicinity of the proposed pump station where insufficient information was available to determine the potential for liquefaction. Removal of soft/ loose soils and restoring grade with structural fill, as described above, would make liquefaction during a design earthquake unlikely.

6. Closure

It should be noted that this report was based on in-progress information provided by the client, a limited subsurface investigation and our understanding of the project as described in this report. Recommendations within this report should be reviewed and modified as deemed necessary as the design process advances.

This report was prepared for the exclusive use of our client 0857673 BC Ltd. and their designated consultants and agents and may not be used by other parties without the written consent of **exp**

Services Inc. The attached "Interpretation & Use of Study and Report" forms an integral part of this report and must be included with any copies of this report.

Yours truly,

exp Services Inc.

[redacted]

Evan Sykes, P.Eng.
Senior Geotechnical Engineer

[redacted]

Trevor Lumb,
Division Manager

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ATTACHMENTS

Interpretation & Use of Study and Report

Test Pit Logs
Test Pits TP 12-1 through TP12-13

Laboratory Analysis
Sieve Analysis Reports

Regional Location Plan
Figure 1

Site Plan – Test Pit Location Plan
Figure 2

Site Plans – Bedrock Outcrop and Rockfall Hazard Location
Figure 3

Section A-A'
Figure 4

Model for Slope Stability Analysis

Typical Section Rock Stack Wall
Figure 5A to 5C

Typical Rock Cut and Rock & Earth Embankment Details
Figure 6

INTERPRETATION & USE OF STUDY AND REPORT

1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices in this area. No other warranty, expressed or implied, is made. Engineering studies and reports do not include environmental consulting unless specifically stated in the engineering report.

2. COMPLETE REPORT

All documents, records, data and files, whe her electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to he instructions given to us by the Client, communica ions between us and the Client, and to any o her reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF THE REPORT

The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material altera ion to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of he Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS “APPROVED USERS”. The contents of the Report remain our copyright property and we au horise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by hose parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report, or any portion thereof, available to any party without our written permission. Any use which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5. INTERPRETATION OF THE REPORT

a. Nature and Exactness of Descriptions: Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented wi h he appropriate equipment by experienced personnel, may fail to locate some conditions. All inves igations, or building envelope descrip ions, utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. 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. Some conditions are subject to change over time and hose making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose hem so that addi ional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b. Reliance on Provided information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good fai h upon representa ions, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the report as a result of misstatements, omissions, misrepresentations or fraudulent acts of persons providing information.

c. To avoid misunderstandings, **exp** Services Inc. (**exp**) should be retained to work with the other design professionals to explain relevant engineering findings and to review their plans, drawings, and specifications relative to engineering issues pertaining to consulting services provided by **exp**. Further, **exp** should be retained to provide field reviews during the construction, consistent with building codes guidelines and generally accepted practices. Where applicable, he field services recommended for the project are the minimum necessary to ascertain that the Contractor’s work is being carried out in general conformity wi h **exp**’s recommendations. Any reduction from the level of services normally recommended will result in **exp** providing qualified opinions regarding adequacy of the work.

6.0 ALTERNATE REPORT FORMAT

When **exp** submits both electronic file and hard copies of reports, drawings and other documents and deliverables (**exp**’s instruments of professional service), he Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by **exp** shall be the original documents for record and working purposes, and, in he event of a dispute or discrepancy, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute hat the original hard copy signed version archived by **exp** shall be deemed to be the overall original for the Project.

The Client agrees hat both electronic file and hard copy versions of **exp**’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except **exp**. The Client warrants that **exp**’s instruments of professional service will be used only and exac ly as submitted by **exp**.

The Client recognizes and agrees that electronic files submitted by **exp** have been prepared and submitted using specific software and hardware systems. **Exp** makes no representation about he compatibility of these files with the Client’s current or future software and hardware systems.

Testhole No. : TP12-1

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517778E, 5574285N

Ground Surface Elevation : 279m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SAND and GRAVEL, some cobbles, trace silt and roots, brown, damp (compact-dense)	1	10	
	1						
5			○	SILTY SAND and GRAVEL, some cobbles, grey-brown, damp, Till-Like (very dense)	2	9	Roots to 4'6"
	2						
				BEDROCK @ 2.1m (7ft)			
10	3						
	4						
15							
	5						

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SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-1	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-2

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517873E, 5574197N

Ground Surface Elevation : 276m Geodetic

Ground Water Elevation : Free Water Observed @ 3' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL and COBBLES, trace roots, brown, moist-wet (compact)	3	12	
			○	-becomes wet (seepage), trace cobbles	4	20	
	1						
5							
	2		○		5	13	
				-less silt with depth			
10	3						
	4		○		6	10	
			○	SILTY GRAVELLY SAND, grey/brown, moist, Till-Like (very dense)	7	9	
15				End of Hole @ 4.6m (15ft)			
	5						

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SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-2	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-3

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517933E, 5574153N

Ground Surface Elevation : 272m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL, trace-some cobbles, trace roots and organics, brown, moist (compact)	8	14	
	1						
5				SILTY GRAVELLY SAND, occ. cobbles, grey/brown, moist, Till-Like (very dense)			
	2		○		9	12	
				BEDROCK @ 2.3m (7.5ft)			
10	3						
	4						
15							
	5						

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exp Services Inc.

SUNSTONE RIDGE
RAVENS CREST DEVELOPMENT
PEMBERTON, BC

Testhole No. TP12-3

Logged by: TSM

Date of Drilling: 2012-04-17

Sheet: 1 of 1

Project No. 0205789

Testhole No. : TP12-4

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518011E, 5574128N

Ground Surface Elevation : 271m Geodetic

Ground Water Elevation : Free Water Observed @ 5' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL, some cobbles, trace-some silt, trace roots and organics, brown, moist-wet (compact)			
	1		○		12	8	
			○	SAND, some gravel, trace silt, grey, wet	10	10	Seepage @ 5'
5				SAND and GRAVEL, some silt, occ. cobbles, brown/grey, wet (compact)			Roots to 5'6"
	2						
				SILTY SAND and GRAVEL, grey, moist (dense)			
10	3		○		11	8	
				SILTY SAND, some gravel, grey, moist, becoming Till-Like (dense)			
				End of Hole@ 3.5m (11.5ft)			
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-4	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-5

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518152E, 5574075N

Ground Surface Elevation : 280m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL and COBBLES, some silt, trace roots and organics, brown, damp (loose-compact)			
			○	SAND and GRAVEL, some silt, occ. cobbles, grey, moist (dense)	13	10	
	1						
				SILTY SAND and GRAVEL, trace cobbles, brown/grey, moist, Till-Like (very dense)			
5				BEDROCK @ 1.5m (5ft)			
	2						
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-5	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-6

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518141E, 5573992N

Ground Surface Elevation : 255m Geodetic

Ground Water Elevation : Free Water Observed @ 7' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL and COBBLES, trace roots and organics, brown, moist (loose-compact)			
	1			SAND and GRAVEL, some silt, occ. cobbles, grey, moist (compact)			
5							
	2			-water seeping at 7' -becomes dense			
10	3						
	4			-occ. pockets of SANDY SILT, some crushed cobbles (weathered Till)			
15				End of Hole @ 4.6m (15ft)			
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-6	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-7

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518047E, 5573972N

Ground Surface Elevation : 221m Geodetic

Ground Water Elevation : Free Water Observed @ 5' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, trace roots and organics, brown, moist (compact)			
				SILTY SAND and GRAVEL, occ. cobbles, trace roots, brown/grey, wet (compact-dense)			
	1		○		14	14	
5				GRAVELLY SILT and SAND, occ. crushed cobbles, grey, wet, Till-Like (very dense)			Roots to 5' Seepage @ 5'
	2		○		15	9	
				End of Hole @ 2.7m (9ft)			
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-7	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-8

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517973E, 5573935N

Ground Surface Elevation : 214m Geodetic

Ground Water Elevation : Free Water Observed @ 8' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, trace roots and organics, brown, moist (loose)			
				SILTY SAND and GRAVEL, some cobbles, trace roots, brown/grey, moist-wet (compact)			
	1						
5			○		16	11	
	2						Roots to 8'
				SAND and GRAVEL, some silt-silty, grey, wet (dense)			Seepage @ 8'
10	3		○		17	9	
				-Weathered Till			
				End of Hole @ 3.6m (12ft)			
15	4						
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-8	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-9

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517821E, 5574133N

Ground Surface Elevation : 247m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL, occ. cobbles, grey/brown, moist, trending to Till-Like (dense)	18	-	
				SILTY SAND and GRAVEL, grey, moist, Till-Like (very dense)			
	1		○		19	6	
5				BEDROCK @ 1.5m (5ft)			
	2						
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-9	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-10

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517846E, 5574067N

Ground Surface Elevation : 237m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, brown, moist (loose-compact)			
				SAND and GRAVEL, some cobbles, trace-some silt, brown, moist (compact-dense)			
5	1						
	2		○	-becomes very dense -trace silt -Weathered Till	20	9	
10	3			End of Hole @ 3.1m (10ft)			
15	4						
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-10	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-11

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517925E, 5574008N

Ground Surface Elevation : 230m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILT and SAND and GRAVEL, trace roots and organics, occ. cobbles, brown, moist (compact)	21	13	
				SILTY SAND and GRAVEL, occ. cobbles, grey, moist, Till-Like (dense)			
	1			-occ. organic lense (~3" diameter)			Roots to 4'
5							
	2			BEDROCK @ 1.8m (6ft)			
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-11	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-12

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517795E, 5574003N

Ground Surface Elevation : 215m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL and COBBLES, trace silt, brown, moist (compact-dense)			
	1		○		22	7	
5							
	2						Roots to 7'
				SILTY SAND and GRAVEL, occ. cobbles, grey/brown, moist-wet (dense-very dense)			
10	3		○		23	10	
				End of Hole @ 3.4m (11ft)			
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-12	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-13

Equipment : 892ELC JOHN DEERE BACKHOE

Location : SEE LOCATION PLAN

Ground Surface Elevation : 205m Geodetic

Ground Water Elevation : Free Water Observed @ Surface
(at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0		○	Mixed zones of WOOD DEBRIS AND GRAVEL AND SILT, some organics, black, wet (mixture of fill and native) (soft)	25	68	Difficult to delineate test pit layers due to water rushing into the hole, soil is at the edge of a nearby swamp. Back-hoe contractor notes area is extremely soft and mucky below the fill (his excavator got stuck in a previous year while building the road next to the test pit)
			○	SAND and GRAVEL, some silt, brown, wet (loose)	24	14	
5	1			End of Hole @ 1.2m (4ft)			
10	2						
15	3						
	4						
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-13	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

exp Services Inc.
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604-874-1245

Kamloops Branch
250-372-5321

CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

[redacted]

ATTN: EVAN SYKES

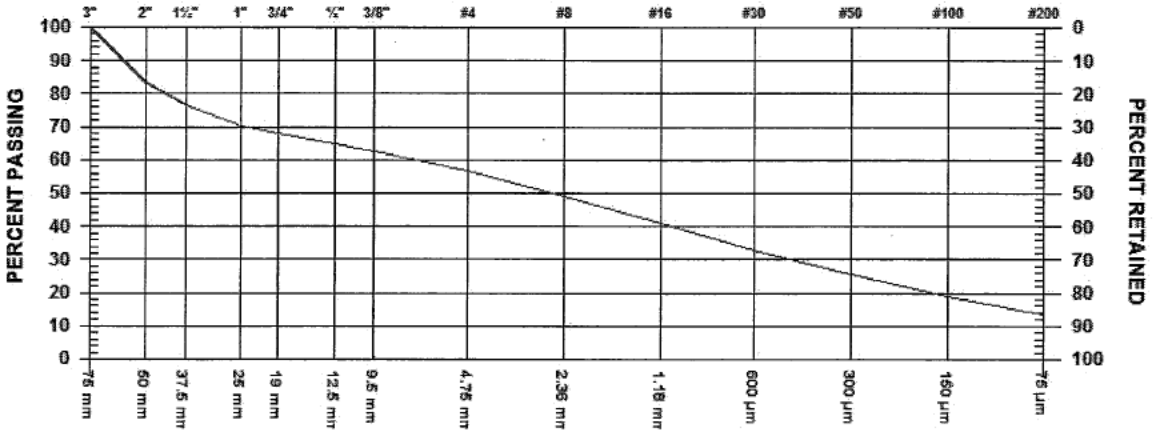
PROJECT SUNSTONE RIDGE
GEOTECHNICAL PEMBERTON

CONTRACTOR

SIEVE TEST NO. 1 DATE RECEIVED Apr 20,2012 DATE TESTED Apr 20,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE PIT RUN (BROWN SAND WITH GRAVEL)

SAMPLED BY TSM
TESTED BY E. RELSO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	83.4	
1 1/2"	37.5 mm	76.8	
1"	25 mm	70.2	
3/4"	19 mm	68.1	
1/2"	12.5 mm	64.8	
3/8"	9.5 mm	62.7	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	56.6	
No. 8	2.36 mm	49.0	
No. 16	1.18 mm	41.1	
No. 30	600 µm	33.1	
No. 50	300 µm	25.5	
No. 100	150 µm	18.8	
No. 200	75 µm	13.5	

COMMENTS
TEST METHOD: ASTM C136, C117. MC = 8.9%. COMBINED SAMPLES: TP12-1 SA1 @ 1.5'.
TP12-3 SA8 @ 2'. TP12-5 SA13 @ 2'. TP12-11 SA21 @ 1'

 Apr 27,2012 exp Services Inc. BRIAN GRAY, AScT

[redacted]

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CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

PROJECT NO [redacted]
CLIEN
C.C

TO [redacted]

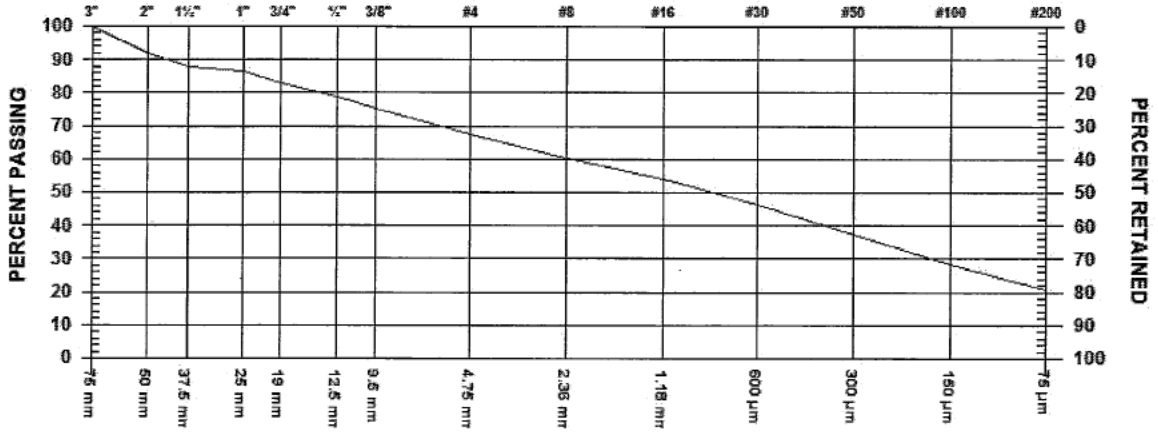
ATTN: EVAN SYKES

PROJECT SUNSTONE RIDGE GEOTECHNICAL PEMBERTON
CONTRACTOR

SIEVE TEST NO. 2 DATE RECEIVED Apr 25,2012 DATE TESTED Apr 25,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE SAND WITH GRAVEL (TILL)

SAMPLED BY TSM
TESTED BY E. RELAO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	91.7	
1 1/2"	37.5 mm	87.8	
1"	25 mm	86.4	
3/4"	19 mm	83.1	
1/2"	12.5 mm	78.7	
3/8"	9.5 mm	75.3	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	67.4	
No. 8	2.36 mm	60.5	
No. 16	1.18 mm	54.2	
No. 30	600 µm	46.4	
No. 50	300 µm	37.4	
No. 100	150 µm	28.5	
No. 200	75 µm	20.9	

COMMENTS
TEST METHOD: ASTM C136, C117. MC = 7.8%. COMBINED SAMPLES: TP12-1 SA2 @ 5'. TP12-3 SA9 @ 7'. TP12-2 SA7 @ 14.5'. TP12-9 SA19 @ 4'

Apr 27,2012 exp Services Inc. BRIAN GRAY, AScT [redacted]

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CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

TO [redacted]

ATTN: EVAN SYKES

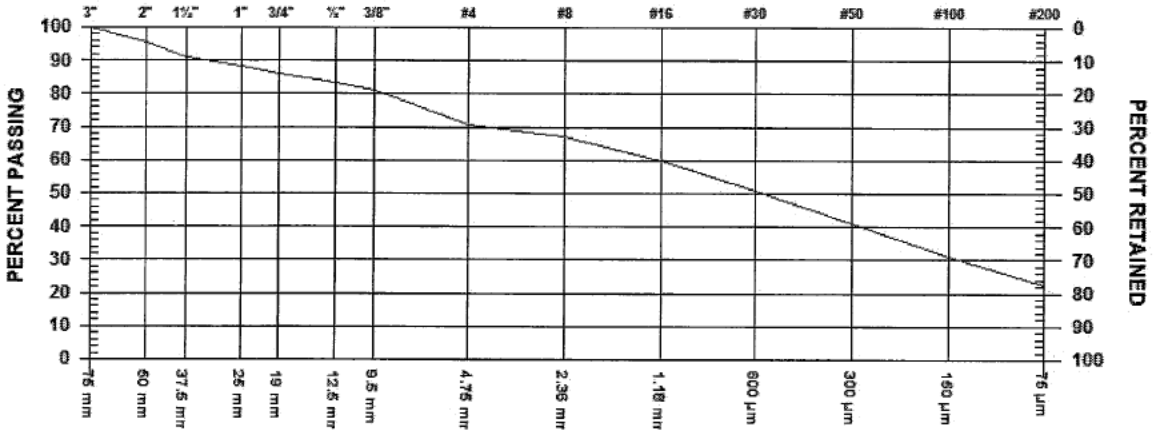
PROJECT SUNSTONE RIDGE GEOTECHNICAL PEMBERTON

CONTRACTOR

SIEVE TEST NO. 3 DATE RECEIVED Apr 25,2012 DATE TESTED Apr 25,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE SAND WITH GRAVEL

SAMPLED BY TSM
TESTED BY E. RELAO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	95.7	
1 1/2"	37.5 mm	90.8	
1"	25 mm	88.4	
3/4"	19 mm	85.9	
1/2"	12.5 mm	83.4	
3/8"	9.5 mm	81.3	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	70.8	
No. 8	2.36 mm	67.0	
No. 16	1.18 mm	59.8	
No. 30	600 µm	50.9	
No. 50	300 µm	40.8	
No. 100	150 µm	30.9	
No. 200	75 µm	22.4	

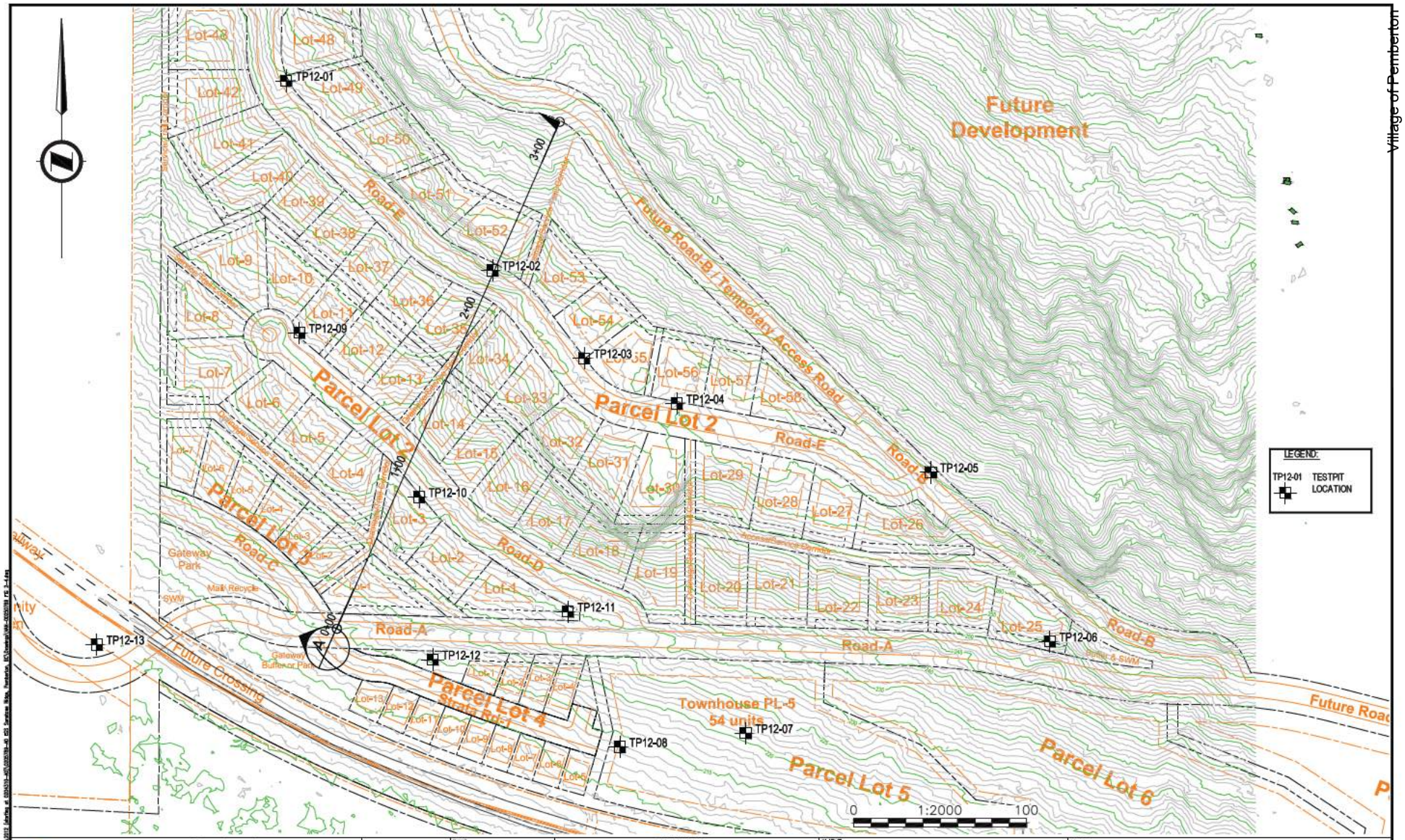
COMMENTS
TEST METHOD: ASTM C136, C117. MC = 8.2%

TP12-9 SA18 @ 1'

 Apr 27,2012 exp Services Inc. BRIAN GRAY, AScT [redacted]

exp.	CLIENT: 0857673 BL Ltd.				TITLE: LOCATION PLAN N.T.S. MAP 92/J7		
	PROJECT: SUNSTONE RIDGE SUBDIVISION PEMBERTON						
	PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN.	CHK. EGS	DATE MAY, 2012	SCALE: N.T.S.	DWG NO. FIG. 1

Friday, May 11, 2012 12:13:54 PM
L:\2012 Letterling at 0204316-A0\00205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 1.dwg



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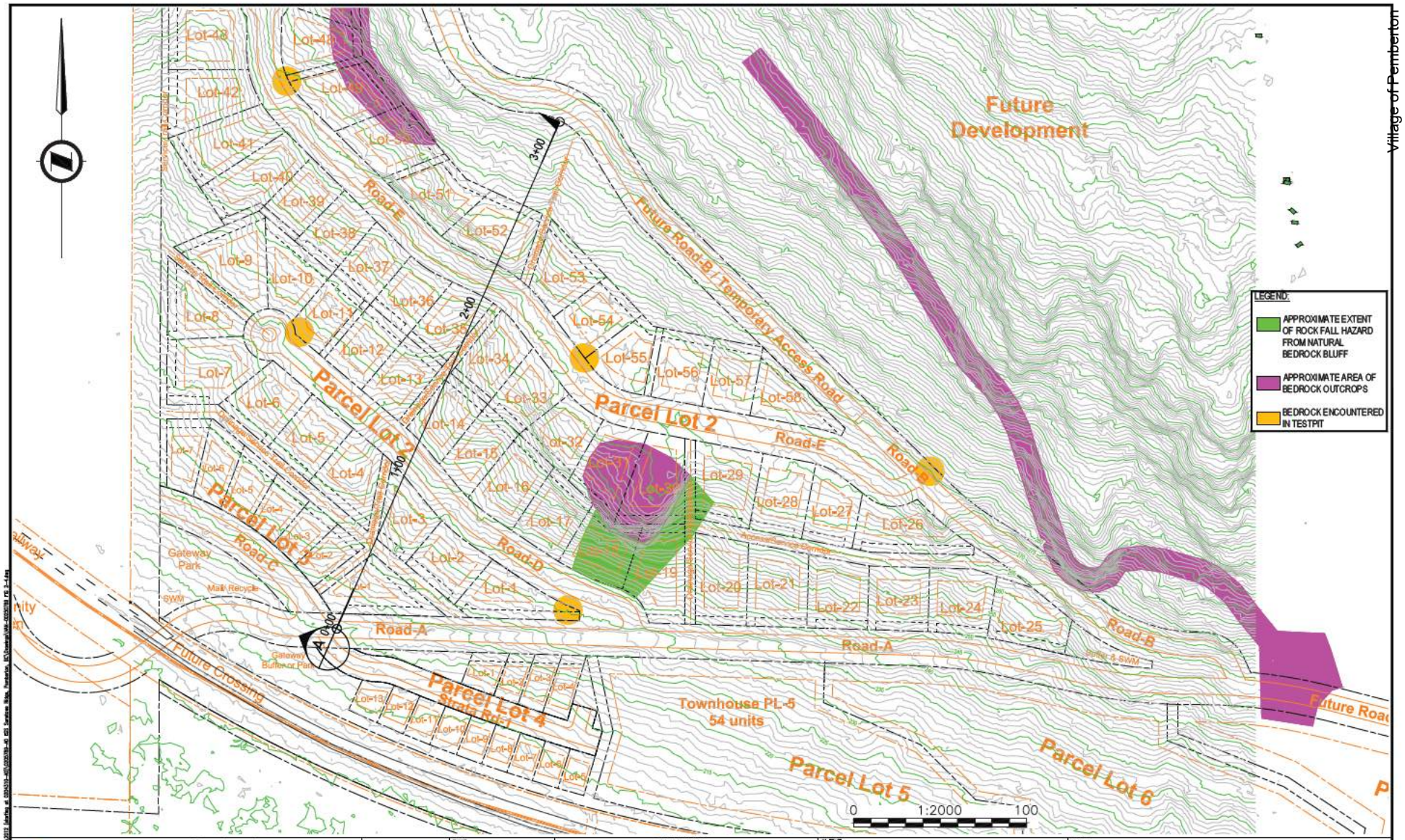
DFTR.	PDL
DSGN.	TSM
CHK.	EGS

REVISIONS

No.	DESCRIPTION	DATE

CLIENT	0857673 BC LTD.
PROJECT	SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.
PROJECT NO.	VAN-00205789-A0
TITLE:	SITE PLAN TESTPIT LOCATION PLAN
DATE	MAY, 2012
SCALE:	1:2000
DWG NO.	FIGURE 2



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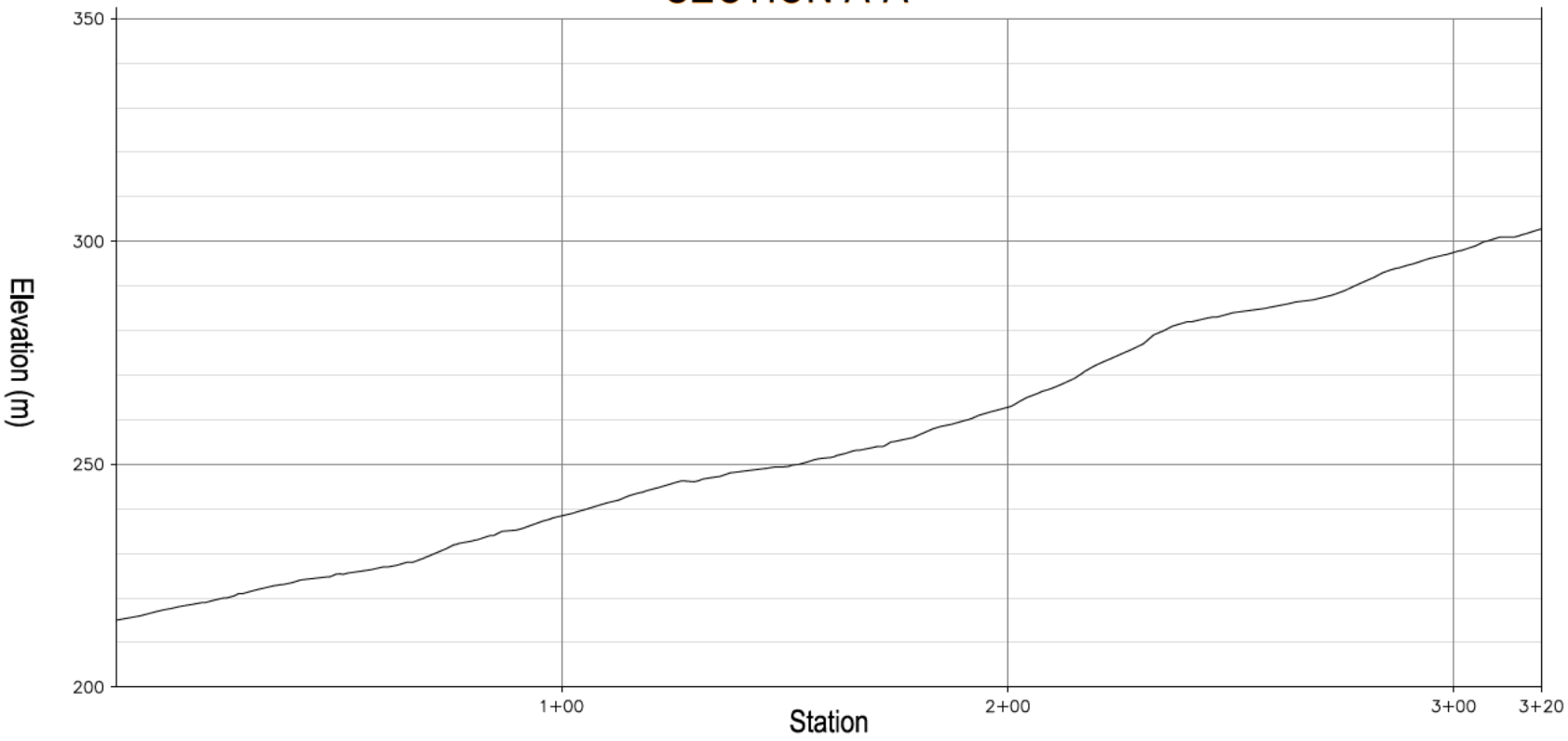
DSGN.	TSM
CHK.	EGS

REVISIONS

No.	DESCRIPTION	DATE

CLIENT	0857673 BC LTD.
PROJECT	SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.
PROJECT NO.	VAN-00205789-A0
TITLE:	SITE PLAN BEDROCK OUTCROP / ROCKFALL HAZARD LOCATION
DATE	MAY, 2012
SCALE:	1:2000
DWG NO.	FIGURE 3

SECTION A-A



0 1:1000 50

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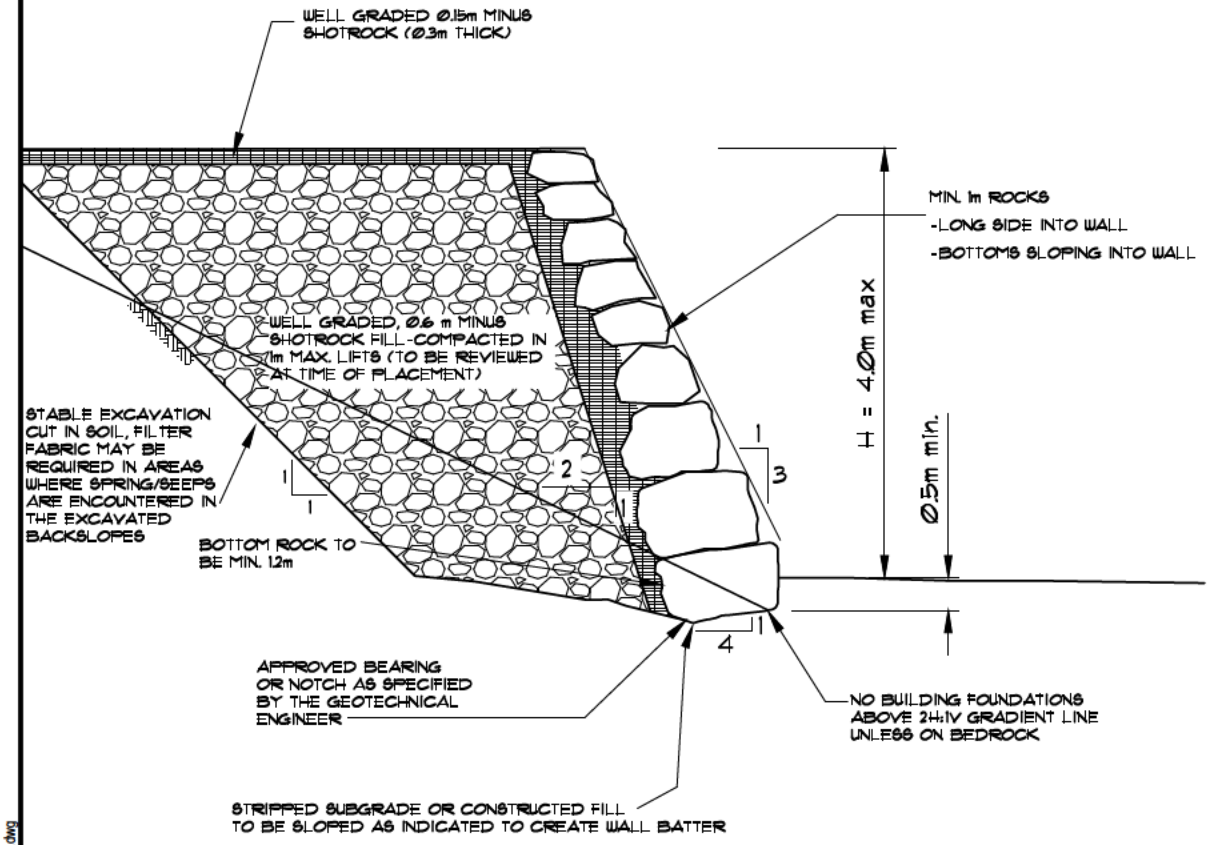
DFTR.	REVISIONS			CLIENT	TITLE:
PDL	No.	DESCRIPTION	DATE	0857673 BC LTD.	SECTION A-A
DSGN. TSM				PROJECT SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.	
CHK. EGS				PROJECT NO. VAN-00205789-A0	DATE MAY, 2012 / SCALE: H&V 1:1000 / DWG NO. FIGURE 4

NOTES:

1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.

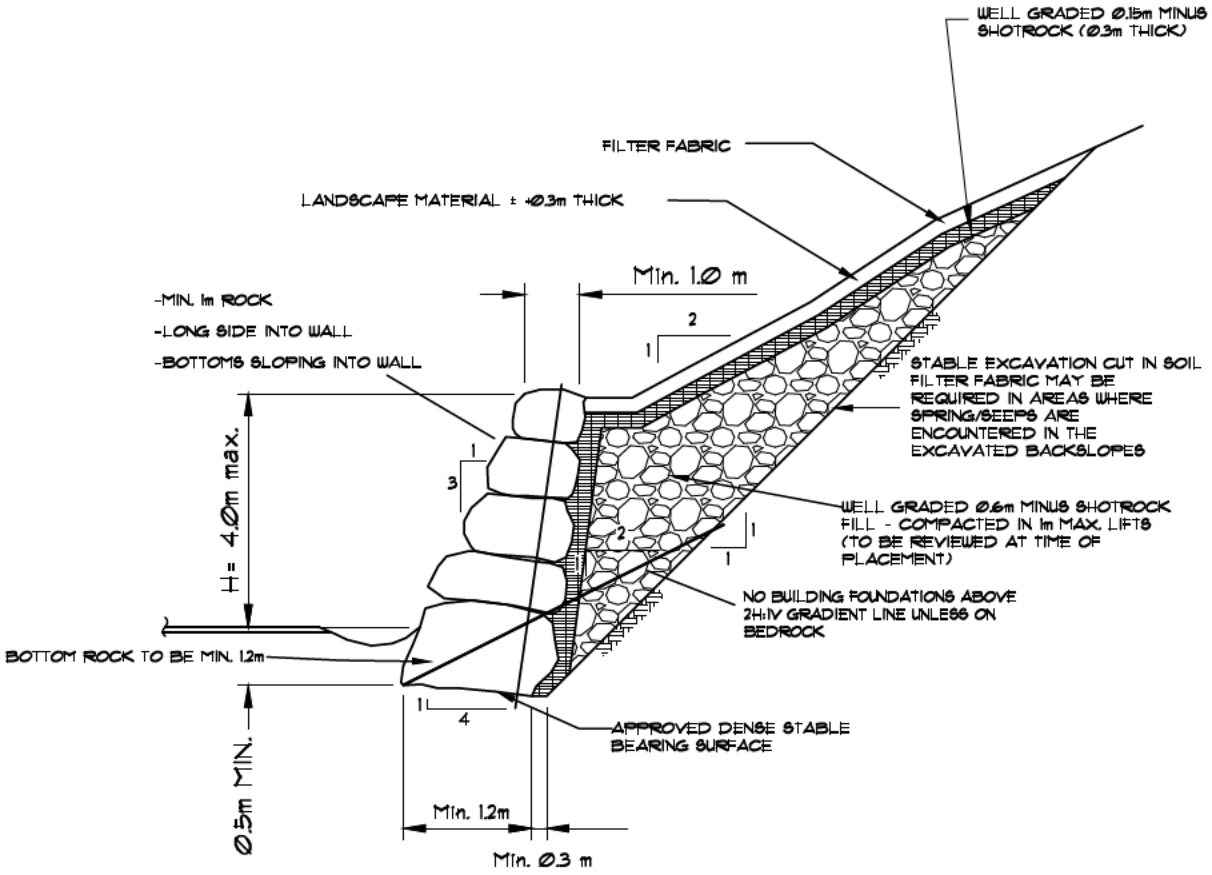


exp.	CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - SINGLE TIER		
	PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
	PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5A

L:\2012 (starting at 0204310-A0)\0205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-6.dwg

NOTES:

1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.

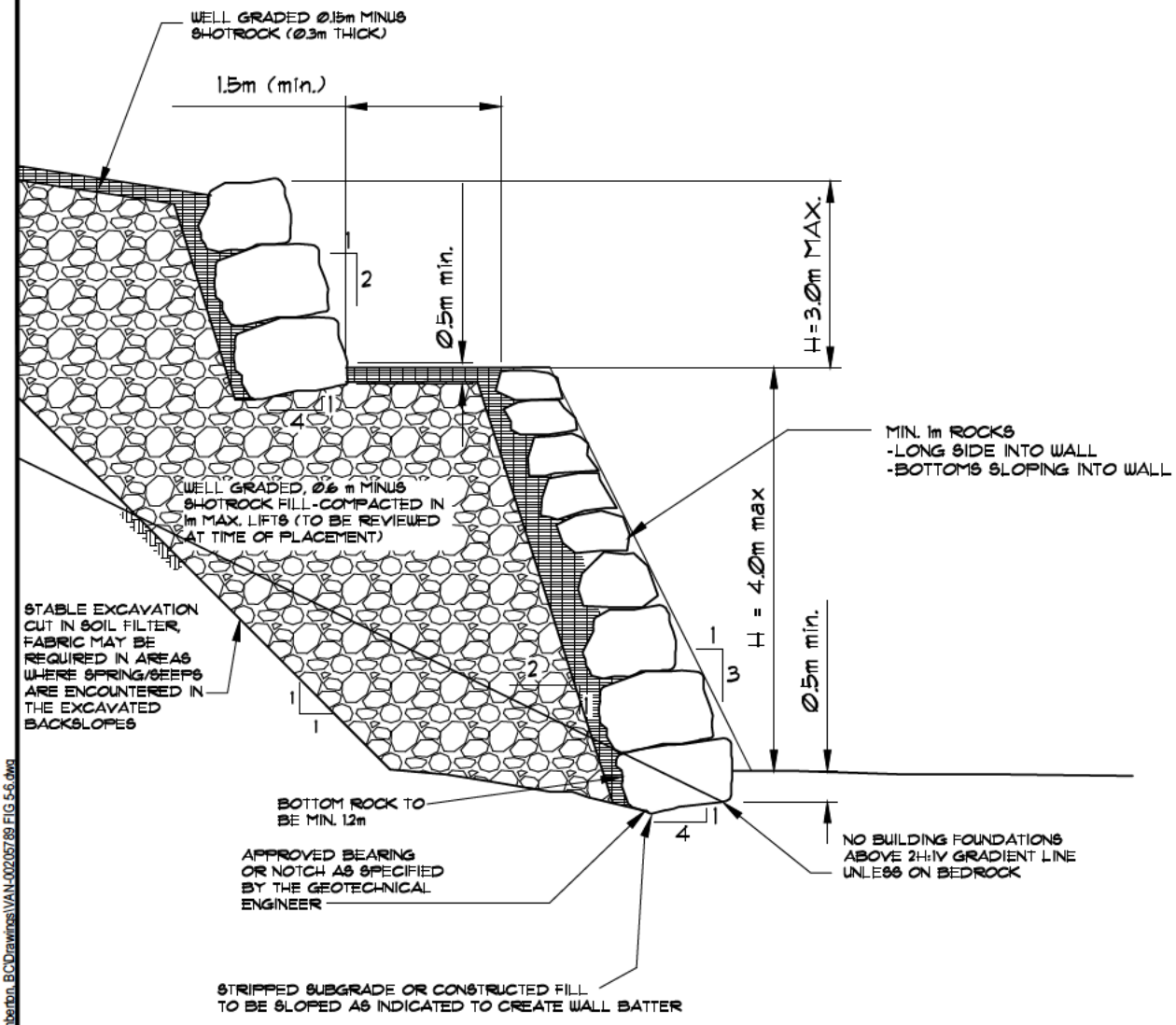


CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - SINGLE TIER WITH SLOPE		
PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5B

L:\2012 (starting at 0204310-A0)\00205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-6.dwg

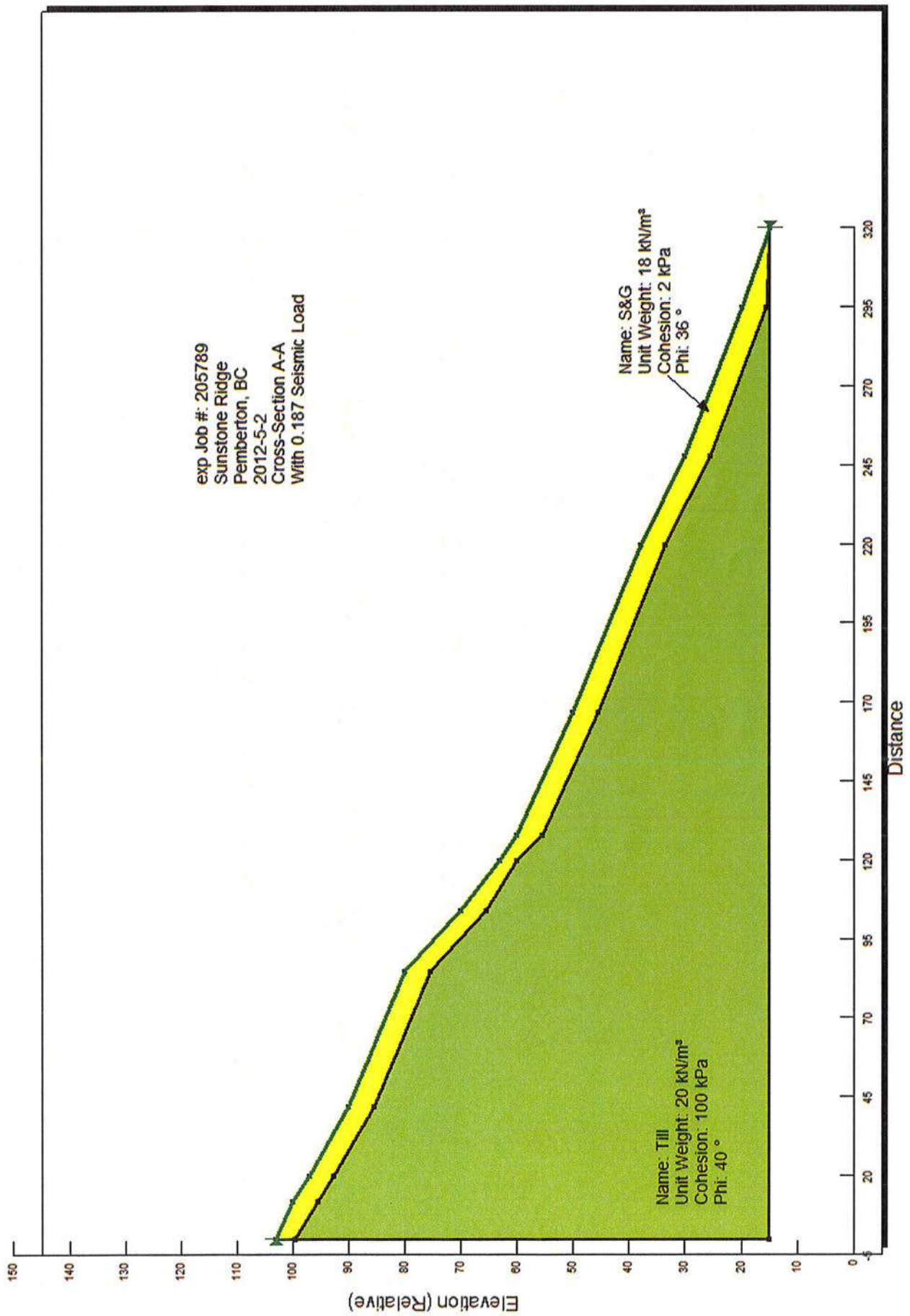
NOTES:

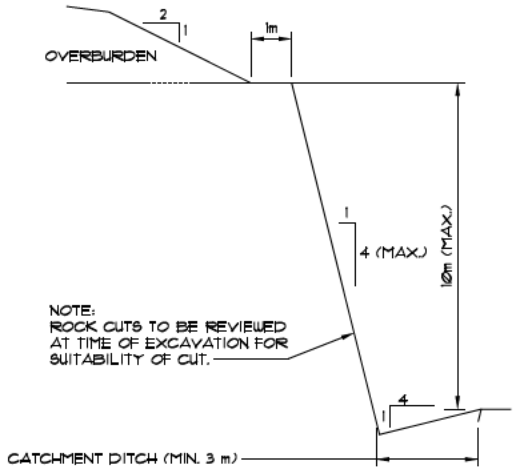
1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.
4) UPPER TIER TO BE 1m LOWER THAN THE TIER BELOW



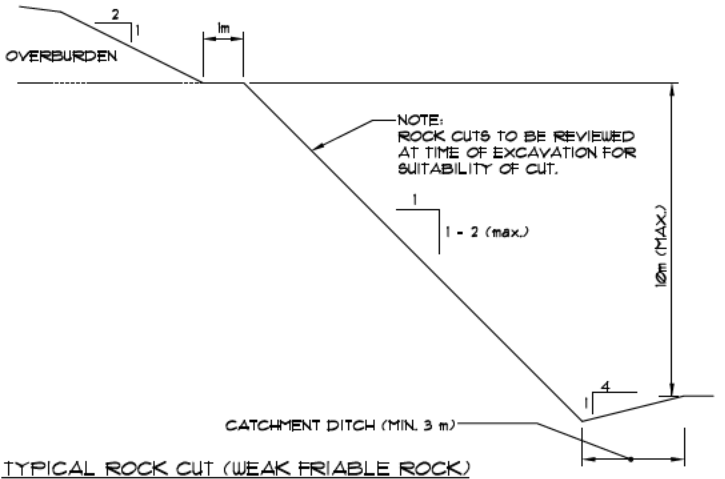
L:\2012 (starting at 0204310-A0\V0205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-8.dwg

CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - TERRACED		
PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5C

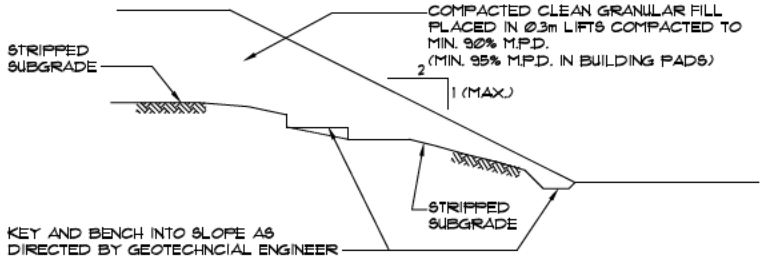

exp Job #: 205789
Sunstone Ridge
Pemberton, BC
2012-5-2
Cross-Section A-A
With 0.187 Seismic Load
Name: S&G
Unit Weight: 18 kN/m³
Cohesion: 2 kPa
Phi: 36 °
Name: Till
Unit Weight: 20 kN/m³
Cohesion: 100 kPa
Phi: 40 °
Elevation (Relative)
Distance
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
-5
20
45
70
95
120
145
170
195
220
245
270
295
320



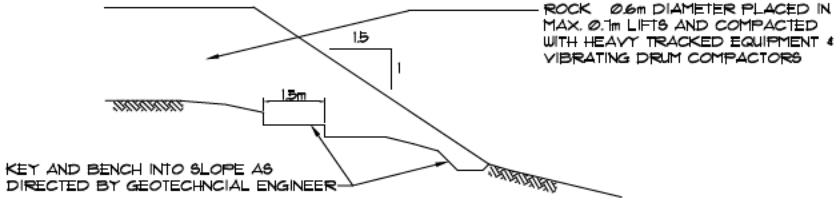
TYPICAL ROCK CUT (COMPETENT ROCK)
-SUBJECT TO INSPECTION AT TIME OF EXCAVATION



TYPICAL ROCK CUT (WEAK FRIABLE ROCK)
(SUBJECT TO INSPECTION AT TIME OF EXCAVATION)



TYPICAL EARTH EMBANKMENT



TYPICAL SHOTROCK FILL EMBANKMENTS

exp Services Inc.
275–3001 Wayburne Drive
Burnaby, British Columbia V5G 4W3
Telephone: 604–874–1245
Fax: 604–874–2358
exp.com

DFTR.	REVISIONS			CLIENT	TITLE:		
PDL	No.	DESCRIPTION	DATE	0857673 BC LTD.	TYPICAL ROCK CUT AND ROCK & EMBANKMENT DETAILS		
DSGN. EGS				PROJECT SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.			
CHK. BA				PROJECT NO. VAN-00205789-A0	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 6

REPORT TO COUNCIL

Date: **Tuesday, January 18, 2022**

To: **Nikki Gilmore, Chief Administrative Officer**

From: **Cameron Chalmers, RPP, MCIP, Consulting Planner**

Subject: **Development Permit No. 92 Authorization for Issuance Sunstone Phase 2C**

PURPOSE

The purpose of this report is for Council to consider authorizing the issuance of Development Permit No. 92 (DP92) for comprehensive hillside grading which includes a proposed variance to the 1.2m maximum retaining wall height under the Village of Pemberton Zoning Bylaw No. 832, 2018 (Zoning Bylaw). If approved, DP92 would establish comprehensive lot grading and retaining structures to facilitate an 18-lot subdivision in Phase 2C of the Sunstone development. The proposed DP includes a variance to enable retaining walls in excess of the maximum permissible height in the Zoning Bylaw from 1.2 metres to 2.4 metres.

BACKGROUND

CATA Project Management Ltd. has made application on behalf of Sunstone Ridge Developments Ltd. for a Development Permit to facilitate comprehensive site grading and retention on Sunstone Phase 2C. This application is similar in intent and purpose to an application for DP91 for Phase 2B which was considered at the November 2, 2021 Committee of the Whole (Committee) meeting. At that time, the application for Phase 2C had just been submitted. Though Staff sought to include Phase 2C in the discussion and ultimate recommendation, the Committee elected not to include phase 2C in the formal recommendation.

However, as the application for DP92 for Phase 2C is substantially the same as that for DP91 for phase 2B, the application has been brought directly to Council for consideration as consideration by the Committee is not typical for a DP application or a prerequisite to Council consideration of the DP application.

DESCRIPTION

In October 2021, Sunstone Ridge Developments Ltd. applied for a Major Development Permit, with variances, for the site grading of Phase 2C on lands legally described as Lot 1 and Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-612 and PID 030-329-621) and owned by Sunstone Ridge Developments Ltd (Owners). This phase consists of 18 standard residential lots highlighted in Figure 1. As part of the subdivision approval, the Owners are obligated to obtain a DP to establish lot grades for future home construction per the Tentative Approval Letter (TAL) letter issued by the Approving Officer.

DP92 has been prepared in response to this requirement and establishes a comprehensive site grading and retention approach to manage the hillside development condition of the subject lands. If approved, the DP will set final grading points for each new lot, while permitting individual owners a degree of flexibility about the siting and location of the home on the lot. This will ensure that

the grading of the new development will be planned, deliberate, and carefully considered in the context of the natural topography of the site. The DP will also include comprehensive retaining structures to achieve the proposed site grading. Again, the purpose is to ensure that retention is addressed at the subdivision level and is comprehensively designed, as opposed individual lot retention.

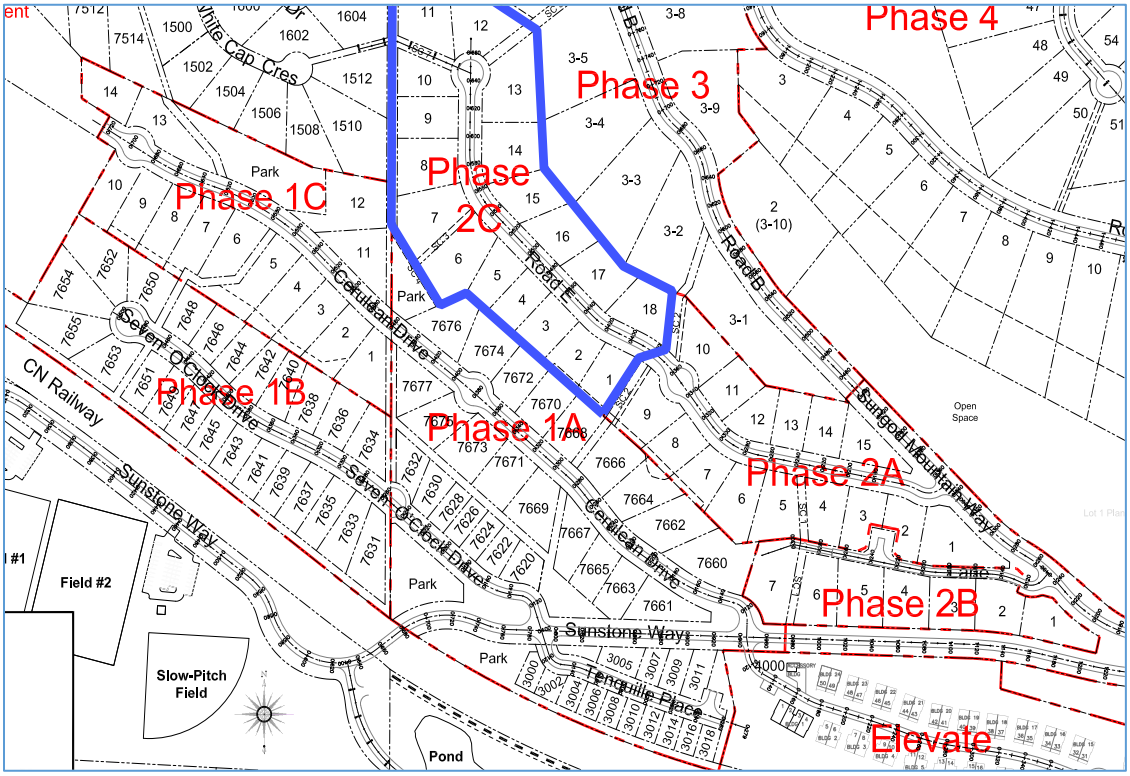


Figure 1: Sunstone Ridge Developments Ltd. - Phase 2C Subdivision Plan

If approved, the DP will oblige the developer and future landowners to establish and maintain the grading and retaining structures as established under the permit.

DP92 includes a proposed variance to Section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 restriction on retaining wall heights. The Bylaw establishes a maximum retaining wall height of 1.2 metres with a secondary restriction that a retaining wall must be more than 0.6 metres from any other retaining wall. The proposal includes a variance to increase the permitted maximum height to 2.4 metres. The provisions of the DP would also increase the horizontal separation distance between retaining walls.

In preparing the site grading, the Owners prepared a detailed analysis of options to achieve necessary grading of the subdivision lands. Figure 2 below illustrates some of the analysis. The first option is to comply to the Zoning Bylaw maximum height restriction. The second option is the proposed variance prepared by the Owner, which requests a variance of up to 2.4 metres, with a greater horizontal separation between walls of 1.4 metres. This is the retaining approach included in proposed DP92 as presented in **Appendix A**.

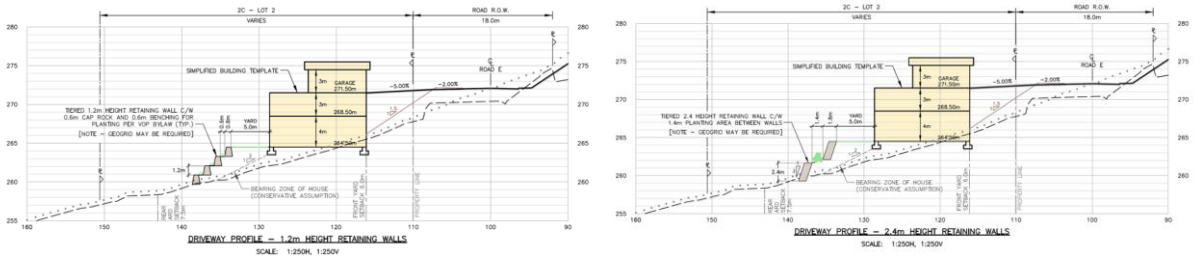


Figure 2 Comprehensive lot grading design options

The retaining structures are identified on the following plan as long brown rectangles in Figure 3. The plan shows a series of retaining walls as parallel rectangles. The height of the retaining structures is variable.

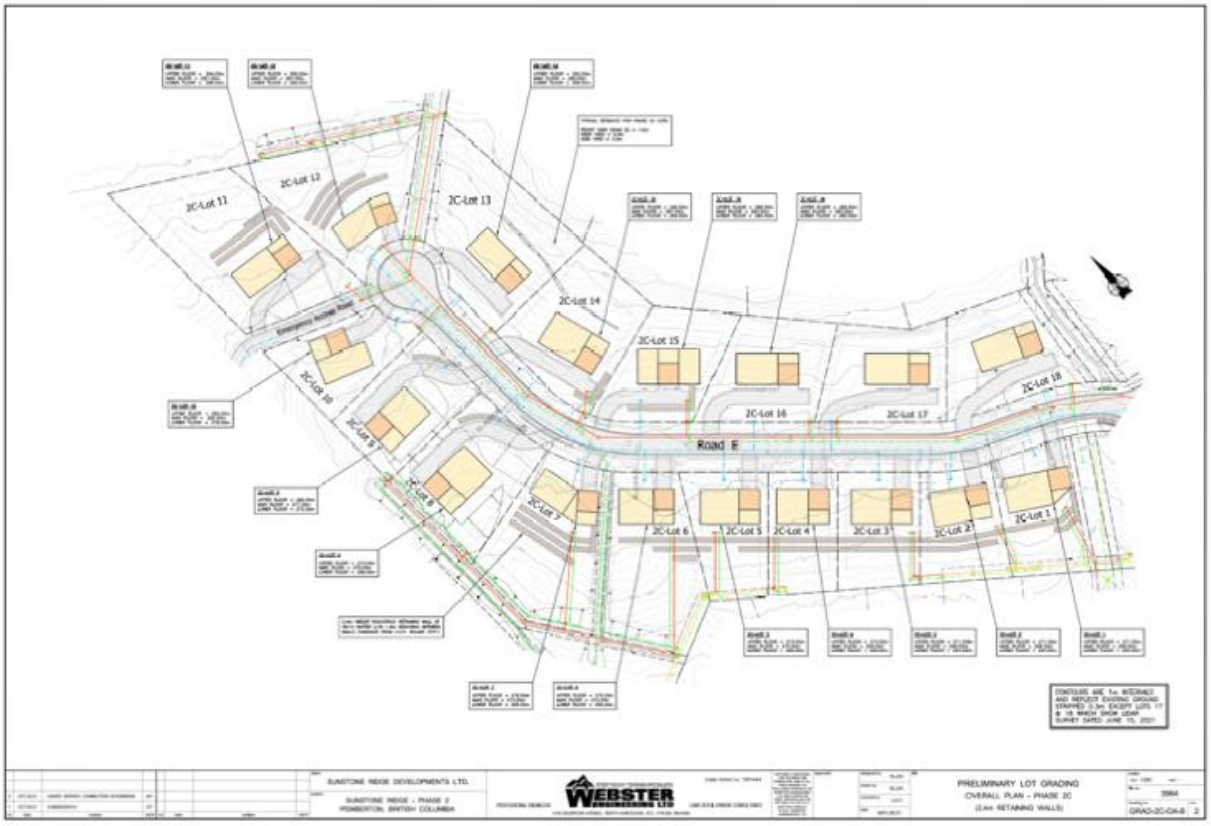


Figure 3: Phase 2C Plan for Retaining Structures

The Applicant has also prepared a Landscape Plan to address comprehensive landscape plantings at the base and on each tier of the retaining wall structures which is included as a requirement in the DP. The Permit will also require the Applicant to submit a letter of credit or other reasonable consideration to secure the installation and initial year of maintenance of the landscaping.

DISCUSSION & COMMENTS

The DP has been submitted to satisfy Council's objective of minimizing the impacts of hillside development. The Village of Pemberton has issued several minor development permits to regulate the comprehensive grading and retention of hillside residential development at the subdivision stage. Those minor development permits have been achieved within the maximum retaining wall heights prescribed in the Zoning Bylaw. DP 92 has been submitted as a major DP application because of the request to increase the maximum retaining wall height.

Staff have reviewed the detailed submission prepared by the Applicant and are satisfied the attached DP92 will result in a suitably comprehensive and planned approach to hillside development. The DP is consistent with the Development Permit Area Guidelines for DPA No.1 (Environmental Protection) and DPA No.2 (Land Constraints). Accordingly, Council is able to authorize issuance of the DP.

As Council is aware, retaining structures on hillside sites has been a significant challenge over the last several years. In January 2021, Council elected not to proceed with a proposed zoning amendment to modify the 1.2 metre maximum height for retaining structures, opting instead to deal with over height retaining structures on a case-by-case basis.

On November 2, 2021, the Committee of the Whole provided direction to proceed on a similar application, DP91, for comprehensive hillside grading. DP91 included the proposed variance to retaining wall heights in a development with similar site conditions to DP92 which is the subject of this report. Staff support the variance as presented and included in DP92. It represents a comprehensively planned and designed approach to site retention. Staff concur the proposed increase in retaining wall separation will improve the ability to landscape the retaining structures and increasing the maximum height to 2.4 metres, which will result in fewer retaining walls, and will minimize the visual impact of the retaining structures.

Staff have provided two approval options below. Option 1 would be to authorize DP92 as presented with the retaining wall variance to a maximum of 2.4 metres. Option 2 would amend proposed DP No. 92 to eliminate the proposed variances and authorize issuance of the DP without variances to retaining wall height.

COMMUNICATIONS

There are no communications obligations or implications associated with this report.

LEGAL CONSIDERATIONS

There are no legal considerations associated with this report.

IMPACT ON BUDGET & STAFFING

There are no budget, policy or staffing considerations at this time as the costs are recoverable with the application fees provided.

INTERDEPARTMENTAL IMPACT & APPROVAL

There are no impacts on other departments that won't be addressed through the development process.

IMPACT ON THE REGION OR NEIGHBOURING JURISDICTIONS

There are no impacts on neighbouring jurisdictions

ALTERNATIVE OPTIONS

Option One: **THAT** Council authorizes Development Permit No. 92, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 1 and Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-612 and PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $44,544.00 to secure landscaping;

AND THAT Development Permit No. 92 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

Option Two: **THAT** Council amend proposed Development Permit No. 92 to eliminate the proposed retaining wall height variance;

AND THAT Council authorizes Development Permit No. 92, as amended, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 1 and Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-612 and PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $44,544.00 to secure landscaping;

Option Three: THAT Council refer Development Permit No. 92 back to Staff to address the following matters before reconsideration by Council:

- {To be added by Council}

RECOMMENDATIONS

Staff recommend Option One:

THAT Council authorizes Development Permit No. 92, with variances, for issuance to Sunstone Ridge Developments Ltd. on a portion of Lot 1 and 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (PID 030-329-612 and PID 030-329-621) subject to:

1. Provision of cash, irrevocable letter of credit or other acceptable security in the amount of $44,544.00 to secure landscaping;

AND THAT Development Permit No. 92 include a variance to section 7.21 of the Village of Pemberton Zoning Bylaw No. 832, 2018 to increase the maximum retaining wall height from 1.2 metres to 2.4 metres.

ATTACHMENTS:

Appendix A: Development Permit No. 92

Prepared by:	Cameron Chalmers, RPP, MCIP, Consulting Planner
Manager Approval:	Scott McRae, Manager of Development Services
CAO Approval by:	Nikki Gilmore, Chief Administrative Officer

Appendix A

Village of PEMBERTON

PO Box 100
7400 Prospect St.
Pemberton
British Columbia
CANADA
V0N2L0

P. 604.894.6135
F. 604.894.6136

www.pemberton. ca

VILLAGE OF PEMBERTON
Development Permit No.92

Issued to: **Sunstone Ridge Developments Ltd.**
File No: **2021-DP-092**

(Registered owner according to Land Title Office, hereinafter referred to as the "Permittee")

Address: **406-119 West Pender Street**
Vancouver, BC V6B 1S5

This Development Permit applies to and only to those lands within the Village of Pemberton, Province of British Columbia, legally described as:

Parcel Identifier:	**030-329-612** **and** **030-329-621**
Legal Description:	**Lot 1, DL 211, Plan EPP72101 (030-329-612)** **and** **Lot 2, DL 211 LLD, Plan EPP72101, Except Plan EPP88381 (030-329-621)**
Civic Address:	Not yet assigned

as shown in the Subject Property Map attached as **Schedule A**.

This Development Permit No. 92 is issued pursuant to the authority of the Village of Pemberton *Official Community Plan Bylaw No. 654, 2011*, as amended and, except as varied in this permit, in conformity with all Village of Pemberton bylaws, as amended, and shall not be in any way varied except as so identified in this Permit.

The Permit relates to Development Permit Area No. 1 – Environmental Protection and Development Permit Area No. 2 – Land Constraints.

Whereas the applicant has made application to subdivide and develop 18 new residential lots as shown on Schedules A and B, the following terms and conditions of this Development Permit shall apply to said land:

1) Works and Construction Generally:

a) This Development Permit authorizes the clearing, stripping, and grading of proposed residential lots on Lots 1 and 2, DL 211, Lillooet District, Plan EPP72101, Except Plan EPP88381 identified on Schedules "A" and "B".

b) All works constructed on the lands shall be in compliance with the recommendations following Schedules which are attached to and form part of this permit:

i) Schedule "A": Location Plan
ii) Schedule "B": Preliminary Lot Grading Overall Plan Phase 2C (1.2m Retaining Walls prepared by Webster Engineering Ltd., dated May 6, 2021.
iii) Schedule "C": Preliminary Lot Grading Overall Plan Phase 2C (2.4 m Retaining Walls) prepared by Webster Engineering Ltd., dated May 6, 2021.
iv) Schedule "D": Preliminary Lot Grading Phase 2C – Lot 1, prepared by Webster Engineering Ltd., dated May 6, 2021.
v) Schedule "E": Preliminary Lot Grading Phase 2C – Lot 2, prepared by Webster Engineering Ltd., dated May 6, 2021.
vi) Schedule "F": Preliminary Lot Grading Phase 2C – Lot 3, prepared by Webster Engineering Ltd., dated May 6, 2021.
vii) Schedule "G": Preliminary Lot Grading Phase 2C – Lot 4, prepared by Webster Engineering Ltd., dated May 6, 2021
viii) Schedule "H": Preliminary Lot Grading Phase 2C – Lot 5, prepared by Webster Engineering Ltd., dated May 6, 2021.
ix) Schedule "I": Preliminary Lot Grading Phase 2C – Lot 6, prepared by Webster Engineering Ltd., dated May 6, 2021.
x) Schedule "J": Preliminary Lot Grading Phase 2C – Lot 7, prepared by Webster Engineering Ltd., dated May 6, 2021.
xi) Schedule "K": Preliminary Lot Grading Phase 2C – Lot 8, prepared by Webster Engineering Ltd., dated May 6, 2021.
xii) Schedule "L": Preliminary Lot Grading Phase 2C – Lot 9, prepared by Webster Engineering Ltd., dated May 6, 2021.
xiii) Schedule "M": Preliminary Lot Grading Phase 2C – Lot 8-9 Site Section
xiv) Schedule "N": Preliminary Lot Grading Phase 2C – Lot 10, prepared by Webster Engineering Ltd., dated May 6, 2021.
xv) Schedule "O": Preliminary Lot Grading Phase 2C – Lot 11, prepared by Webster Engineering Ltd., dated May 6, 2021.
xvi) Schedule "P": Preliminary Lot Grading Phase 2C – Lot 12, prepared by Webster Engineering Ltd., dated May 6, 2021.
xvii) Schedule "Q": Preliminary Lot Grading Phase 2C – Lot 13, prepared by Webster Engineering Ltd., dated May 6, 2021.
xviii) Schedule "R": Preliminary Lot Grading Phase 2C – Lot 14, prepared by Webster Engineering Ltd., dated May 6, 2021.
xix) Schedule "S": Preliminary Lot Grading Phase 2C – Lot 15, prepared by Webster Engineering Ltd., dated May 6, 2021.

xx) Schedule "T": Preliminary Lot Grading Phase 2C – Lot 16, prepared by Webster Engineering Ltd., dated May 6, 2021.
xxi) Schedule "U": Preliminary Lot Grading Phase 2C – Lot 17, prepared by Webster Engineering Ltd., dated May 6, 2021.
xxii) Schedule "V": Preliminary Lot Grading Phase 2C – Lot 18, prepared by Webster Engineering Ltd., dated May 6, 2021.
xxiii) Schedule "W": Landscape Retaining Sections and Images, prepared by Crosland Doak Design, dated May 21, 2021
xxiv) Schedule "X: Phase 2B&C Retaining Wall Planting Concept, prepared by Crosland Doak Design, dated December 14, 2021.
xxv) Schedule "Y": Landscape Cost Estimate, prepared by Crosland Doak Design, dated January 7, 2022.
xxvi) Schedule "Z": Preliminary Geotechnical Assessment prepared by exp Services Inc, dated May 14, 2012.

c) This Development Permit establishes comprehensive grading for the development of the subject lands, and the lands shall be graded in accordance with elevations established in Schedules "B"-"Z".

d) This permit does not regulate the location, siting, or character of single-detached dwelling structures, but all structures shall be constructed at the elevations and grading identified in Schedules "D"-"V".

e) Alteration of the grading and retention structures authorized in this Development Permit is prohibited, including but not limited to additional building construction, landscaping, hot-tubs, swimming pools, or other works that affect the grading or elevations of the lots.

f) This Development Permit does not constitute a permit for blasting or use of explosive or incendiary devices in land clearing. A separate Blasting Permit will be required should blasting be required.

g) This Development Permit does not constitute a building permit for the construction of any structure including retaining walls. A separate building permit will be required in advance of any construction on the lands.

h) <u>Retaining Wall Structures</u>

i) This Development Permit authorizes the construction of comprehensive retaining wall structures generally as shown on Schedule "B" or "C".

ii) Retaining Structure shall be subject to a separate Building Permit and shall be designed by an Engineer suitably qualified in the province of British Columbia.

iii) Retaining wall structures shall not be altered except in accordance with this permit.

i) Bylaw and Variances

i) All works and structures authorized under this permit shall be constructed in compliance with the Village of Pemberton Zoning Bylaw No. 832, 2018, and other applicable bylaws of the Village, unless expressly varied.

ii) This permit includes a variance to Section 7.21 of the Village of Pemberton Zoning Bylaw as follows to vary the maximum retaining wall height from 1.2 metres to 2.4 metres

j) Landscaping

i) The lands shall be landscaped in accordance with Schedule "B"
ii) The retaining wall structures shall be landscaped in accordance with the "Proposed Retaining + Planting" drawings identified in Schedule "W" and Schedule "X".
iii) The Owner shall provide a Letter of Credit, cash, or other acceptable security in the amount of $44,544.00 to secure the installation of soft-landscaping.
iv) Following Village of Pemberton acceptance of the the initial landscape installation, the Village shall withhold 10% of the landscape security for a one-year maintenance period.

2) Geotechnical

i) All site clearing and associated works on the lands will be performed in accordance with the Geotechnical recommendations in Schedule "Z" and/or the Geotechnical recommendations made in support of a future Building Permit application.
ii) All clearing and associated works on the lands will be inspected by a Qualified Geotechnical Engineer at intervals determined by the Qualified Engineer.
iii) The Qualified Geotechnical Engineer shall submit monitoring reports to the Village of Pemberton during site clearing and construction.
iv) Upon completion of the construction, the Qualified Geotechnical Engineer shall certify the works have been completed in accordance with the recommendations of the Geotechnical report and the requirements of this Development Permit.
v) The owner and the Geotechnical Engineer shall report any slope failures or Geotechnical hazards not identified in the Geotechnical Report in writing to the Village of Pemberton immediately.
vi) The Permittee shall be responsible for maintaining all works in a safe condition.

3) The Permittee shall complete all works to the satisfaction of the Village of Pemberton within one (1) year from the date that the Permit has been issued. Extensions to the one (1) year time limit may be applied for in writing thirty (30) days prior to the expiry date.

4) This Permit is not a Building Permit, Blasting Permit, Subdivision Approval or Servicing Agreement. While development on the lands described in this Permit is subject to the conditions and requirements set out in this Permit, this Permit does not authorize development or any construction beyond the clearing and grading of roadways and associated works.

5) The land described herein shall be developed strictly in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit shall form a part hereof.

AUTHORIZING RESOLUTION FOR DP No. 092 PASSED BY COUNCIL the 18th day of January, 2022.

IN WITNESS THEREOF this Agreement has been executed under the seal of the Village of Pemberton, on the _____day of _____, 2022.

The Corporate Seal of the Village of Pemberton
was here unto affixed in the presence of:

)
)
)
)
_____)
Mike Richman
Mayor

)
)
)
)
_____)
Nikki Gilmore
Chief Administrative Officer

STATEMENT OF INTENT

I, Nyal Wilcox, authorized representative of Sunstone Ridge Developments Ltd., having read and understood the terms and conditions of this Development Permit, hereby agree to abide by such terms and conditions and to complete all of the works and services and all other requirements under this Development Permit and in accordance with the Village Bylaws.

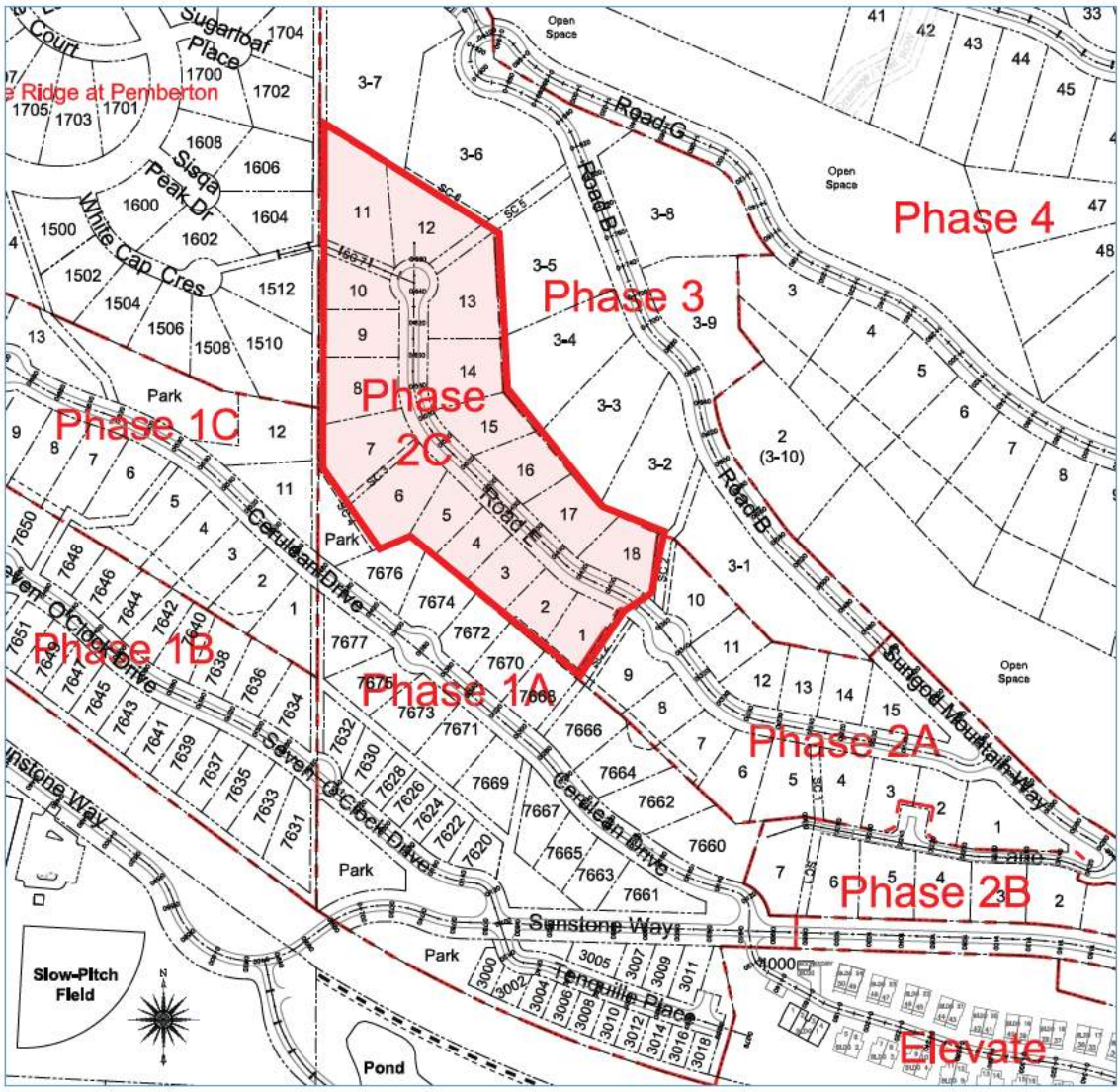
_____ _____

Sunstone Ridge Developments Ltd. Date
Nyal Wilcox

Attached: Schedules A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z.

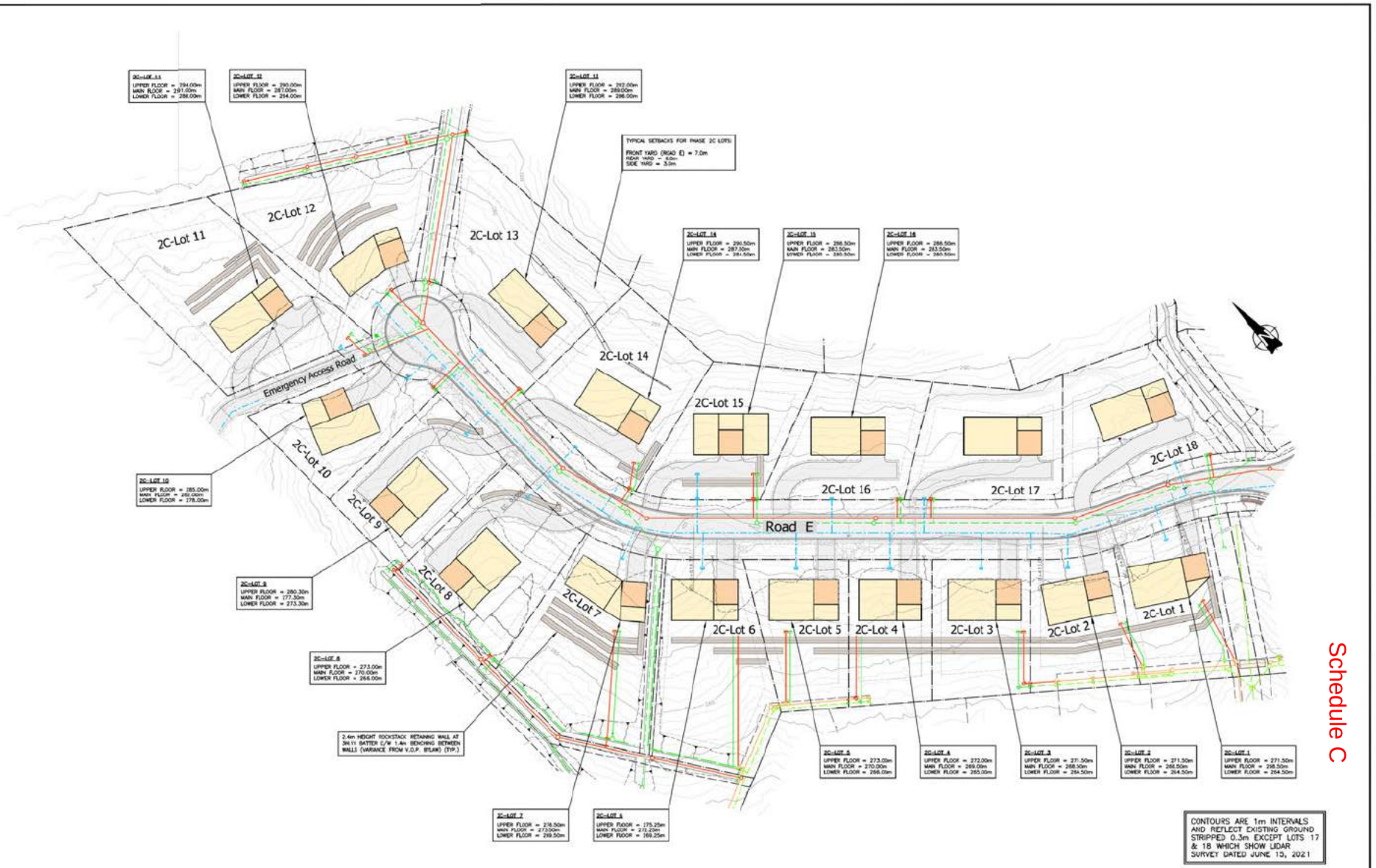
Schedule A

Location Plan

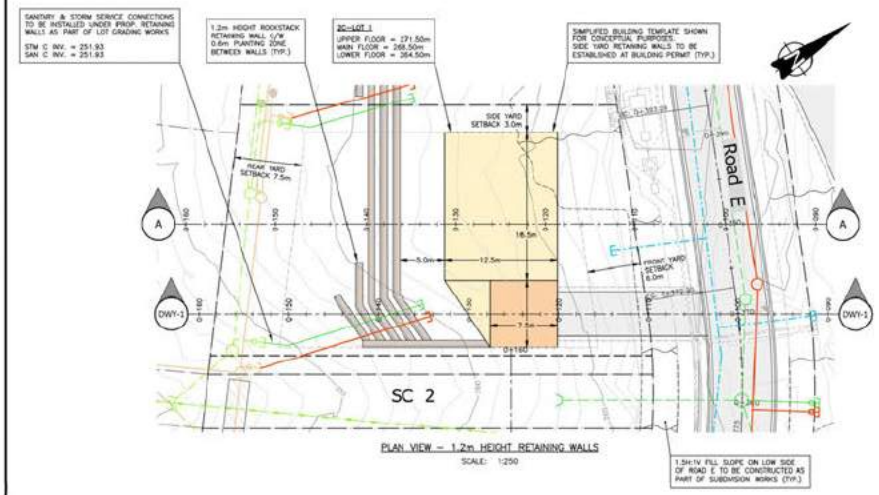



2C-LOT 11
UPPER FLOOR = 294.00m
MAIN FLOOR = 291.00m
LOWER FLOOR = 288.00m
2C-LOT 12
UPPER FLOOR = 290.00m
MAIN FLOOR = 287.00m
LOWER FLOOR = 284.00m
2C-LOT 13
UPPER FLOOR = 292.00m
MAIN FLOOR = 289.00m
LOWER FLOOR = 286.00m
TYPICAL SETBACKS FOR PHASE 2C LOTS:
FRONT YARD (ROAD E) = 7.0m
REAR YARD = 6.0m
SIDE YARD = 3.0m
2C-LOT 14
UPPER FLOOR = 290.50m
MAIN FLOOR = 287.50m
LOWER FLOOR = 284.50m
2C-LOT 15
UPPER FLOOR = 286.50m
MAIN FLOOR = 283.50m
LOWER FLOOR = 280.50m
2C-LOT 16
UPPER FLOOR = 286.50m
MAIN FLOOR = 283.50m
LOWER FLOOR = 280.50m
2C-LOT 17
UPPER FLOOR = 281.75m
MAIN FLOOR = 278.75m
LOWER FLOOR = 275.75m
2C-LOT 18
UPPER FLOOR = 281.25m
MAIN FLOOR = 278.25m
LOWER FLOOR = 275.25m
2C-LOT 10
UPPER FLOOR = 285.00m
MAIN FLOOR = 282.00m
LOWER FLOOR = 278.00m
2C-LOT 9
UPPER FLOOR = 280.30m
MAIN FLOOR = 277.30m
LOWER FLOOR = 273.30m
2C-LOT 8
UPPER FLOOR = 273.00m
MAIN FLOOR = 270.00m
LOWER FLOOR = 264.00m
1.2m HEIGHT ROCKSTACK RETAINING WALL AT 3H:1V BATTER C/W 0.6m BENCHING BETWEEN WALLS (PER V.D.P. 81LAK) (TYP.)
2C-LOT 7
UPPER FLOOR = 276.50m
MAIN FLOOR = 273.00m
LOWER FLOOR = 269.50m
2C-LOT 6
UPPER FLOOR = 275.25m
MAIN FLOOR = 272.25m
LOWER FLOOR = 269.25m
2C-LOT 5
UPPER FLOOR = 273.00m
MAIN FLOOR = 270.00m
LOWER FLOOR = 266.00m
2C-LOT 4
UPPER FLOOR = 272.00m
MAIN FLOOR = 269.00m
LOWER FLOOR = 265.00m
2C-LOT 3
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-LOT 2
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-LOT 1
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-Lot 11
2C-Lot 12
2C-Lot 13
2C-Lot 14
2C-Lot 15
2C-Lot 16
2C-Lot 17
2C-Lot 18
2C-Lot 10
2C-Lot 9
2C-Lot 8
2C-Lot 7
2C-Lot 6
2C-Lot 5
2C-Lot 4
2C-Lot 3
2C-Lot 2
2C-Lot 1
Emergency Access Road
Road E
CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021
OCT.26.21 ADDED SERVICE CONNECTION EXTENSIONS JAY
OCT.06.21 SUBMISSION #1 JAY
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0468
B.J.W.
B.J.W.
J.A.T.
MAY.06.21
PRELIMINARY LOT GRADING
OVERALL PLAN - PHASE 2C
(1.2m RETAINING WALLS)
3964
GRAD-2C-OA-A
2

Schedule B


2C-LOT 11
UPPER FLOOR = 294.00m
MAIN FLOOR = 291.00m
LOWER FLOOR = 288.00m
2C-LOT 12
UPPER FLOOR = 290.00m
MAIN FLOOR = 287.00m
LOWER FLOOR = 284.00m
2C-LOT 13
UPPER FLOOR = 292.00m
MAIN FLOOR = 289.00m
LOWER FLOOR = 286.00m
TYPICAL SETBACKS FOR PHASE 2C LOTS:
FRONT YARD (ROAD E) = 7.0m
REAR YARD = 6.0m
SIDE YARD = 3.0m
2C-LOT 14
UPPER FLOOR = 290.50m
MAIN FLOOR = 287.50m
LOWER FLOOR = 284.50m
2C-LOT 15
UPPER FLOOR = 286.50m
MAIN FLOOR = 283.50m
LOWER FLOOR = 280.50m
2C-LOT 16
UPPER FLOOR = 286.50m
MAIN FLOOR = 283.50m
LOWER FLOOR = 280.50m
2C-LOT 10
UPPER FLOOR = 285.00m
MAIN FLOOR = 282.00m
LOWER FLOOR = 279.00m
2C-LOT 9
UPPER FLOOR = 280.30m
MAIN FLOOR = 277.30m
LOWER FLOOR = 273.30m
2C-LOT 8
UPPER FLOOR = 273.00m
MAIN FLOOR = 270.00m
LOWER FLOOR = 264.00m
2.4m HEIGHT ROCKSTACK RETAINING WALL AT 3H:1V BATTER C/W 1.4m BENCHING BETWEEN WALLS (VARIANCE FROM V.O.P. BYLAW) (TYP.)
2C-LOT 7
UPPER FLOOR = 276.50m
MAIN FLOOR = 273.00m
LOWER FLOOR = 269.50m
2C-LOT 6
UPPER FLOOR = 275.25m
MAIN FLOOR = 272.25m
LOWER FLOOR = 269.25m
2C-LOT 5
UPPER FLOOR = 273.00m
MAIN FLOOR = 270.00m
LOWER FLOOR = 266.00m
2C-LOT 4
UPPER FLOOR = 272.00m
MAIN FLOOR = 269.00m
LOWER FLOOR = 265.00m
2C-LOT 3
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-LOT 2
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-LOT 1
UPPER FLOOR = 271.50m
MAIN FLOOR = 268.50m
LOWER FLOOR = 264.50m
2C-Lot 11
2C-Lot 12
2C-Lot 13
2C-Lot 14
2C-Lot 15
2C-Lot 16
2C-Lot 17
2C-Lot 18
2C-Lot 10
2C-Lot 9
2C-Lot 8
2C-Lot 7
2C-Lot 6
2C-Lot 5
2C-Lot 4
2C-Lot 3
2C-Lot 2
2C-Lot 1
Emergency Access Road
Road E
CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021
SUNSTONE RIDGE DEVELOPMENTS LTD.
SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA
STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0468
PERMIT No. 1001444
OCT.26.21 ADDED SERVICE CONNECTION EXTENSIONS JAY
OCT.06.21 SUBMISSION #1 JAY
designed by B.J.W.
drawn by B.J.W.
checked by J.A.T.
date MAY.06.21
PRELIMINARY LOT GRADING
OVERALL PLAN - PHASE 2C
(2.4m RETAINING WALLS)
scales hor. 1:500 vert. -
file no. 3964
drawing no. GRAD-2C-OA-8
rev. 2

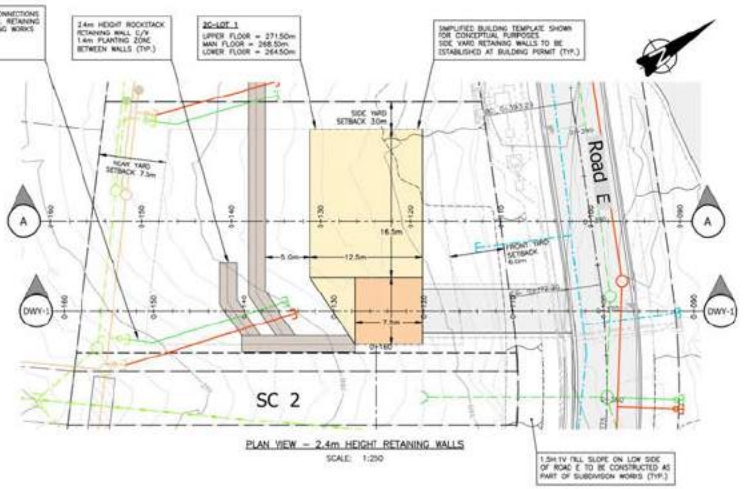
Schedule C



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

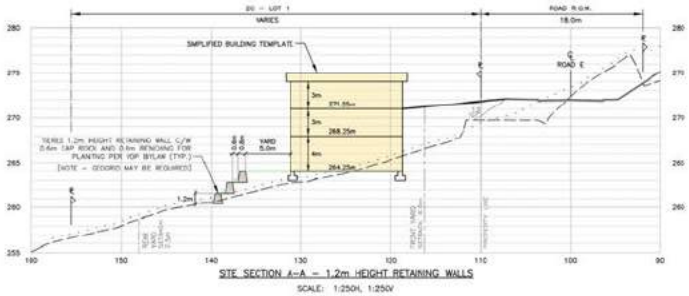
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



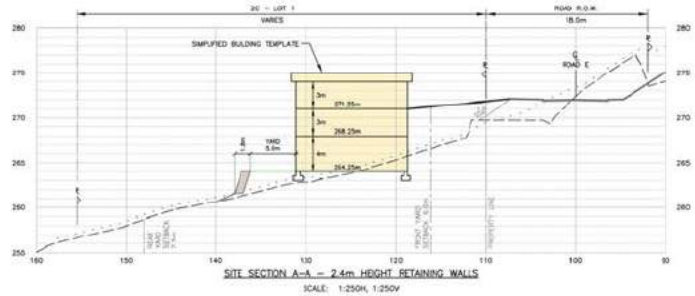
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250



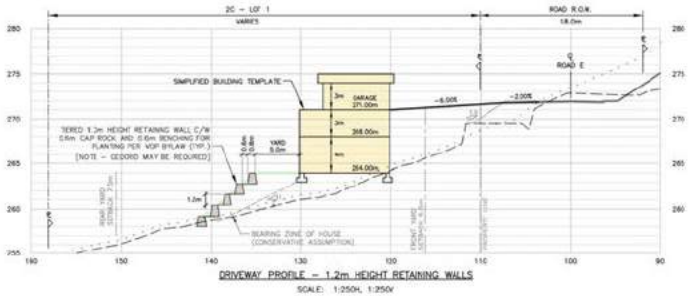
SITE SECTION A–A – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



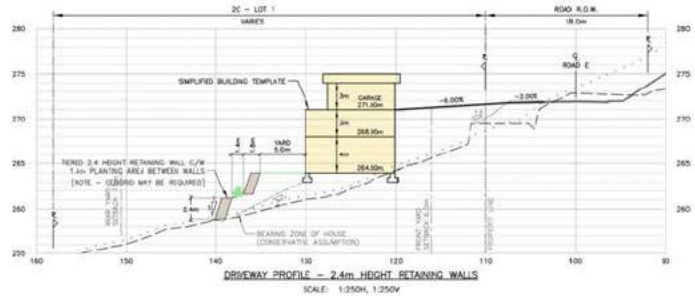
SITE SECTION A–A – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	dr'd	no.	date	revision	dr'd
	OCT.21.21	ADDED SERVICE CONNECTION EXTENSIONS	JAT				
	OCT.05.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
2745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3G4 983-9458
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

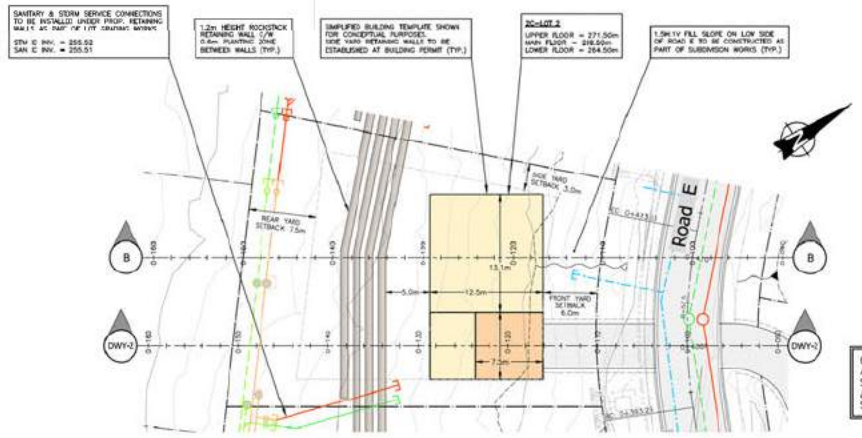
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.06.21

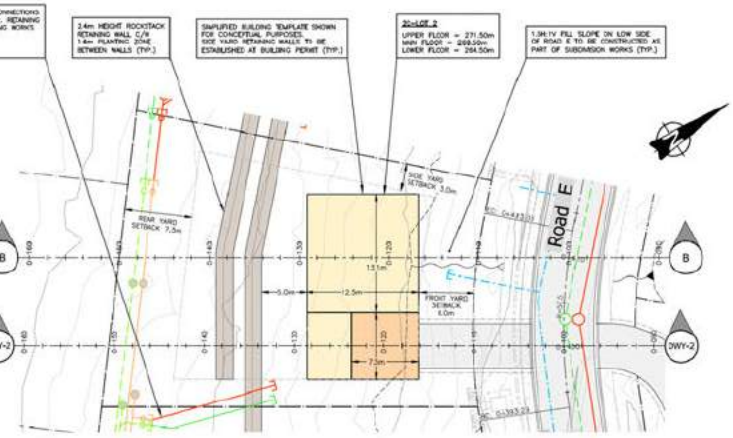
title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 1

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-1
rev. 2

Schedule D

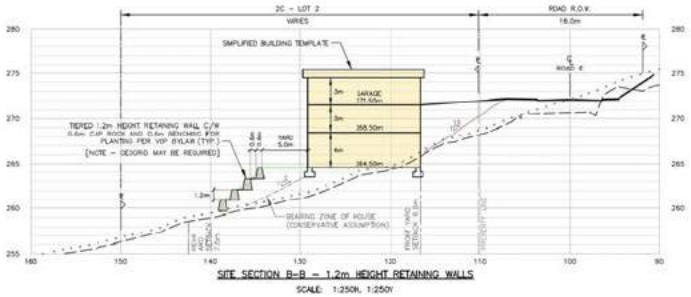


PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250

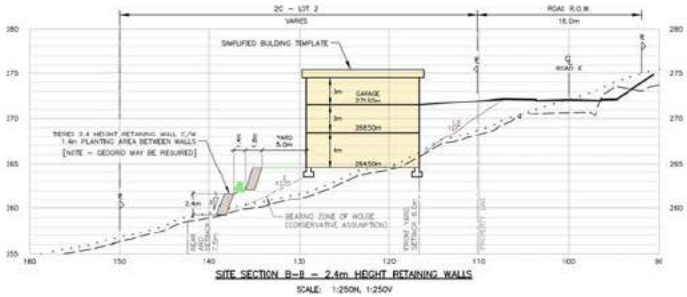


PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250

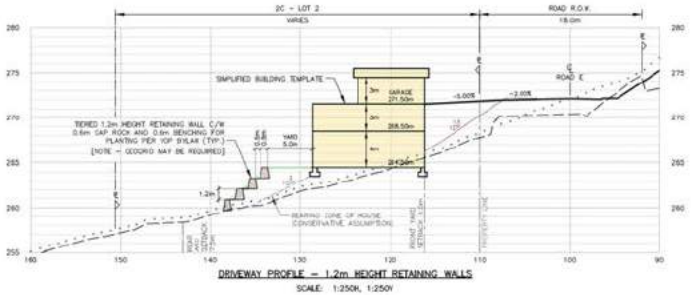
CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



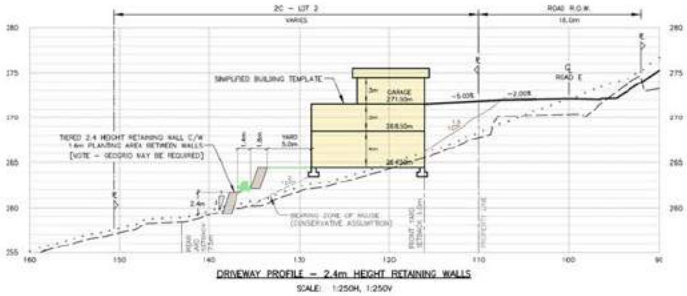
SITE SECTION B–B – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



SITE SECTION B–B – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

no.	date	revision	chkd	no.	date	revision	chkd
	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAY				
	OCT.06.21	SUBMISSION #1	JAY				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

EGBC PERMIT No. 1001434

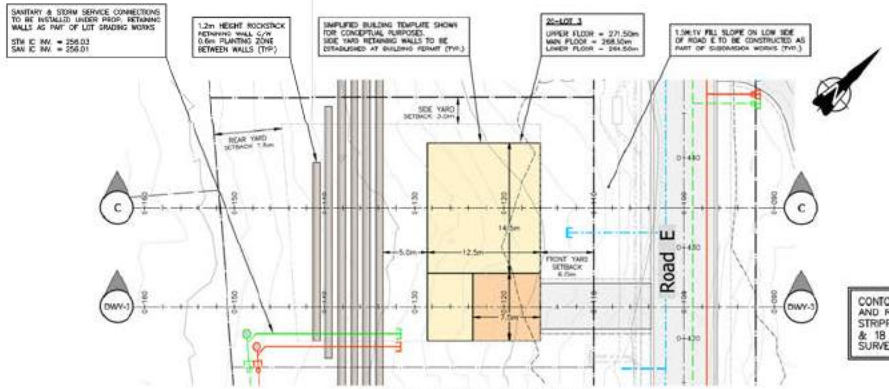
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 2

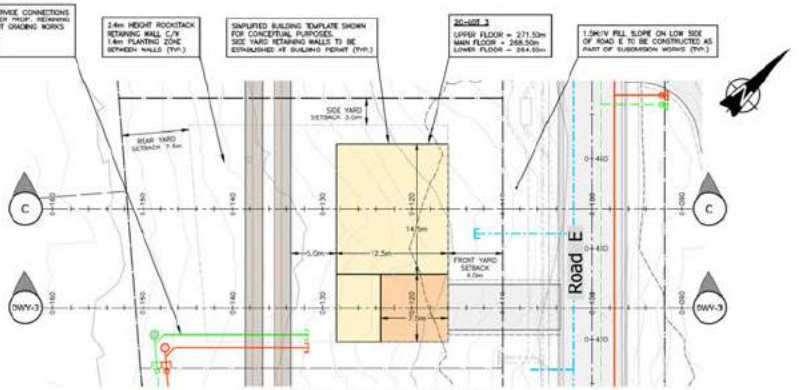
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-2
rev.	2

Schedule E

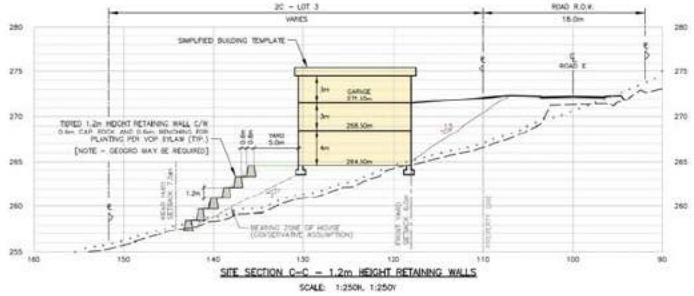


PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250

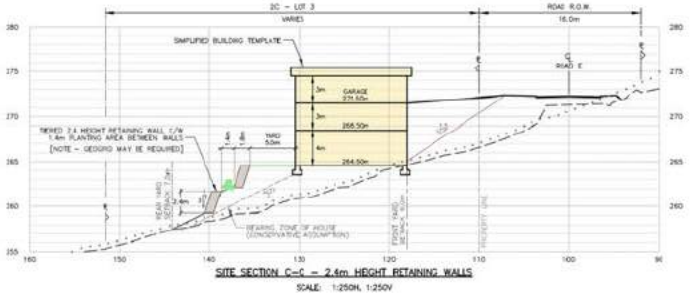
CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



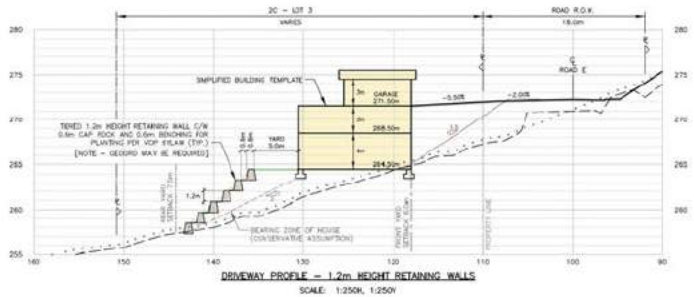
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250



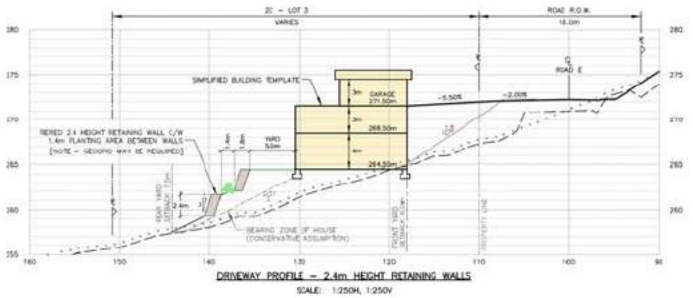
SITE SECTION C–C – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



SITE SECTION C–C – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

no.	date	revision	chkd	no.	date	revision	chkd
	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

EGBC PERMIT No. 1001444

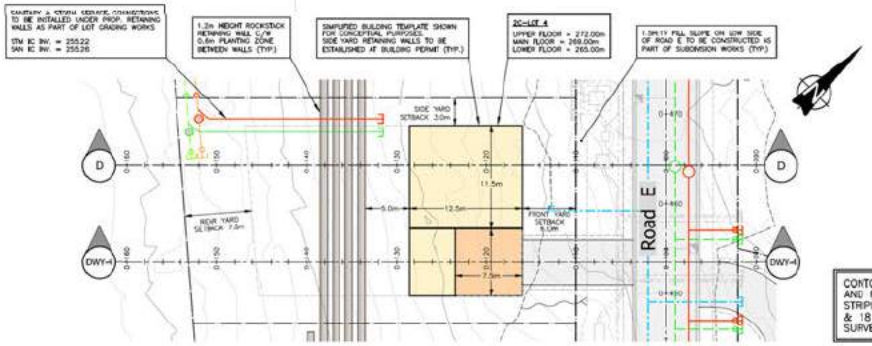
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 3

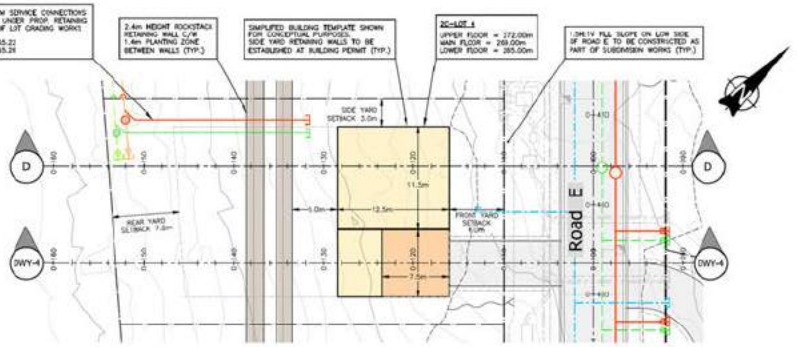
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-3
rev.	2

Schedule F

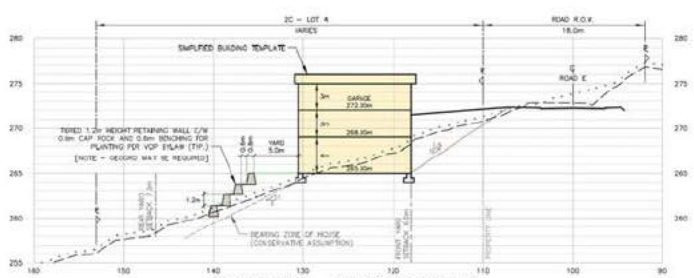


PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

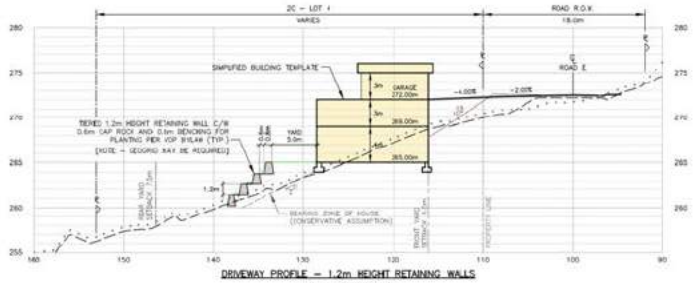


PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250

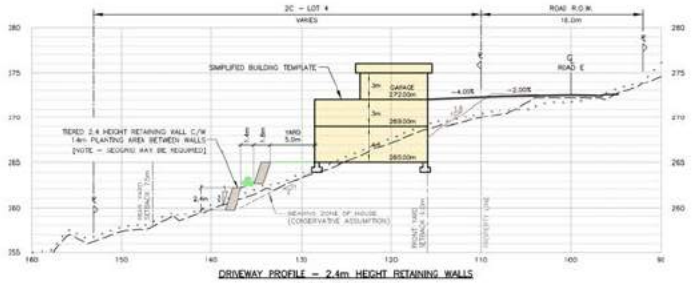


SITE SECTION D–D – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

SITE SECTION D–D – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

no.	date	revision	chkd	no.	date	revision	chkd
	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAY				
	OCT.06.21	SUBMISSION #1	JAY				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

ESEC PERMIT No. 1001444

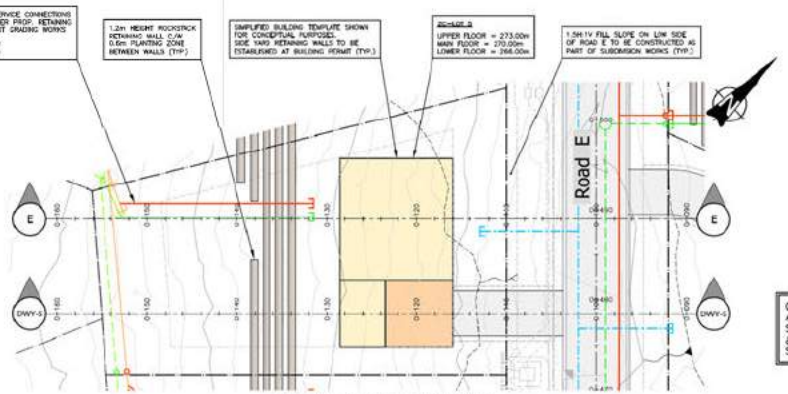
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 4

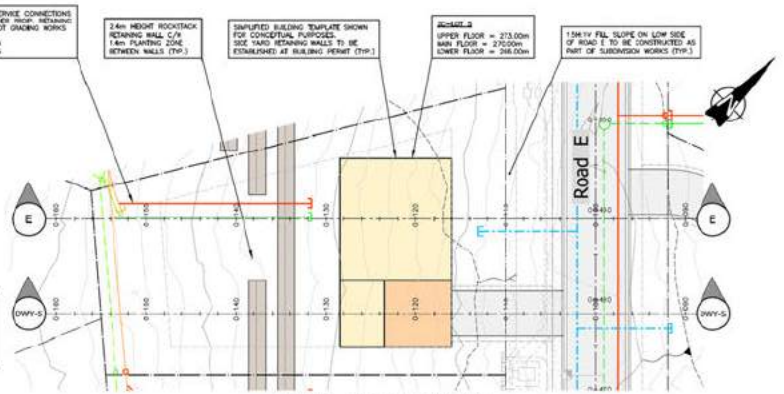
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-4
rev.	2

Schedule G



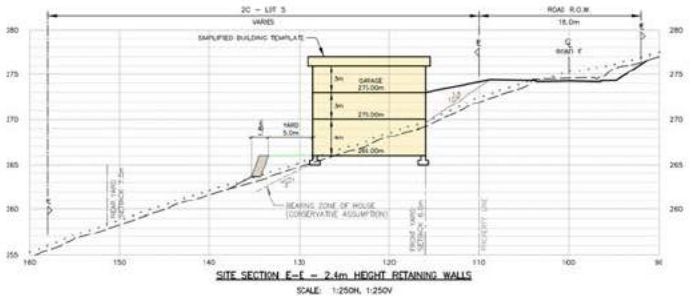
PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

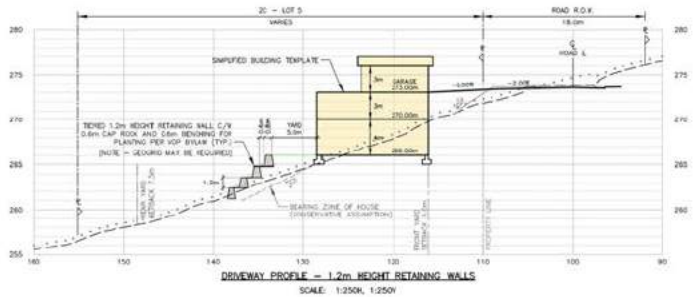


PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250

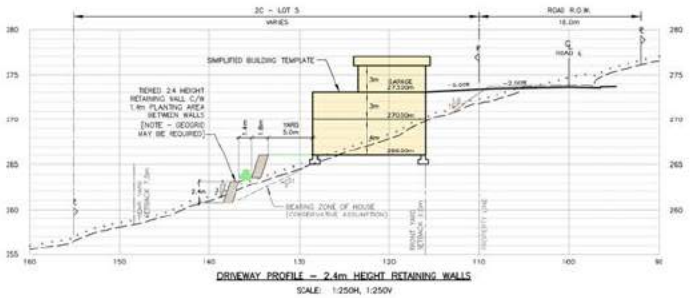
SITE SECTION E–E – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



SITE SECTION E–E – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

Schedule H

no.	date	revision	chkd	no.	date	revision	chkd
	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.
project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

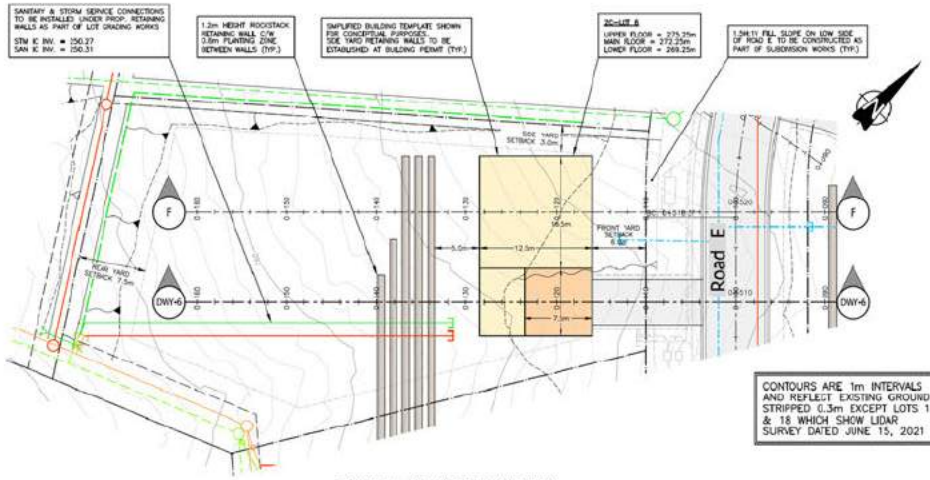
EGBC PERMIT No. 1001444

approved

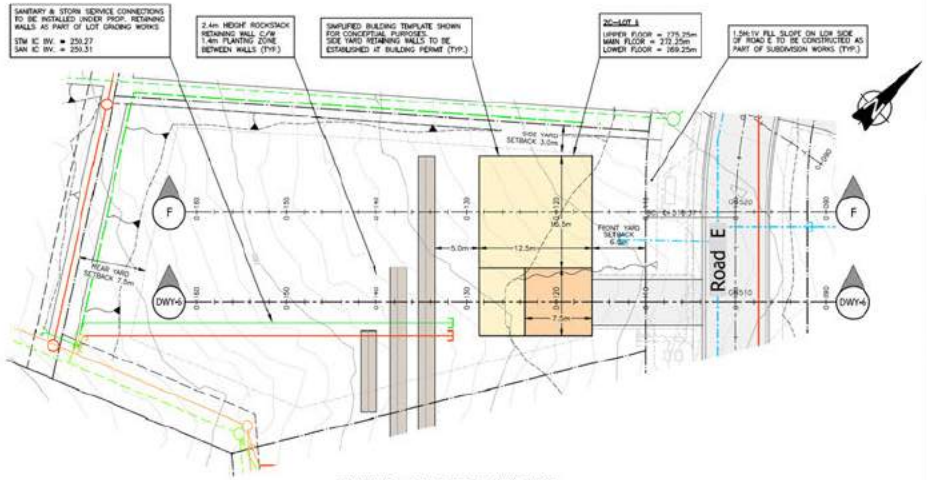
designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 5

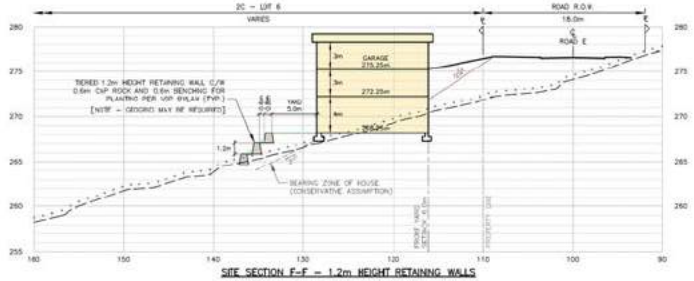
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-5
rev.	2



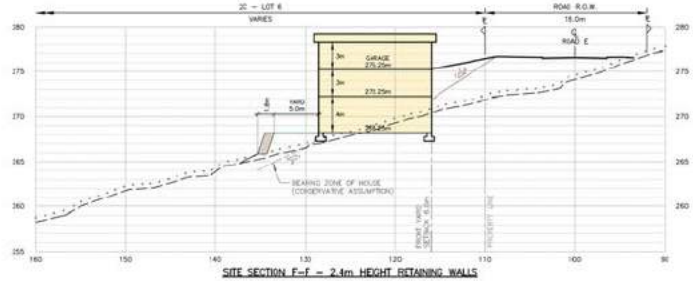
PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250



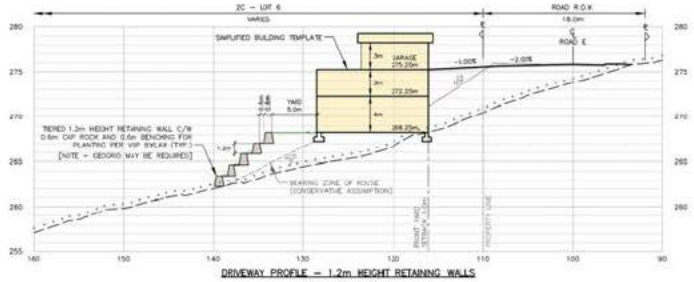
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250



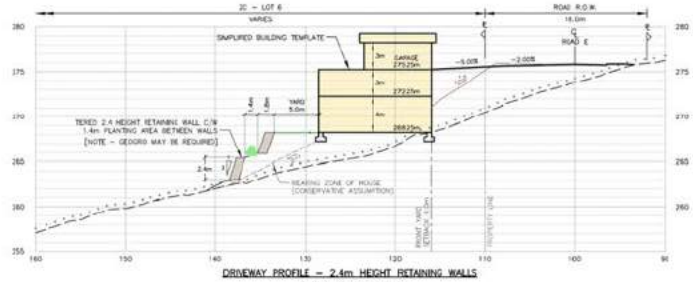
SITE SECTION F–f – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



SITE SECTION F–f – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

no.	date	revision	chkd	no.	date	revision	chkd
2	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAT				
1	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0455

EGBC PERMIT No. 1001444

approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

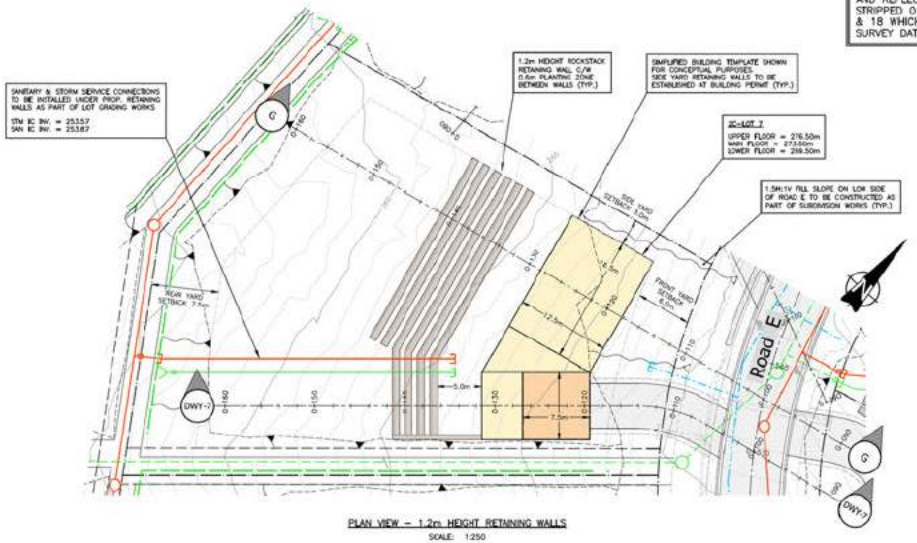
title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 6

scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-6
rev.	2

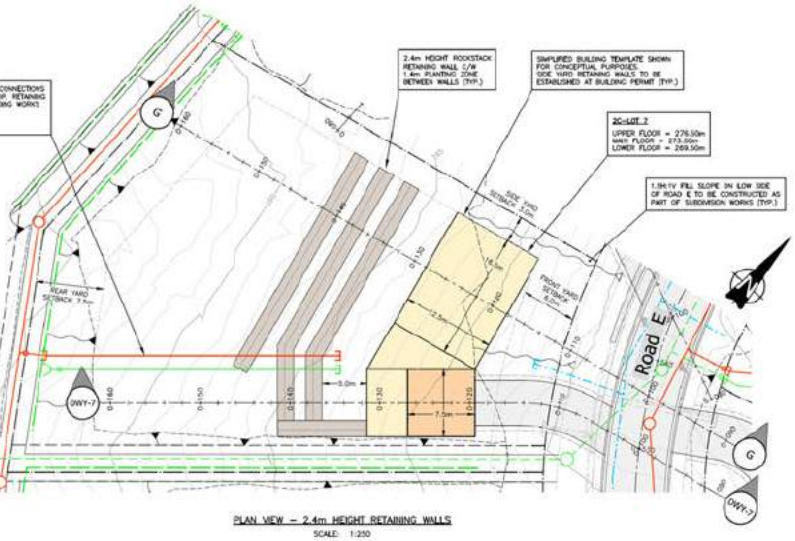
Schedule I

Schedule J

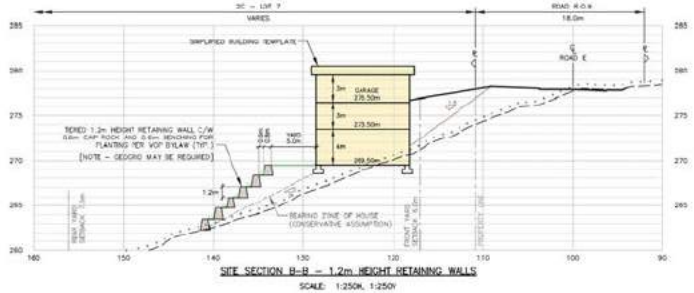
CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250

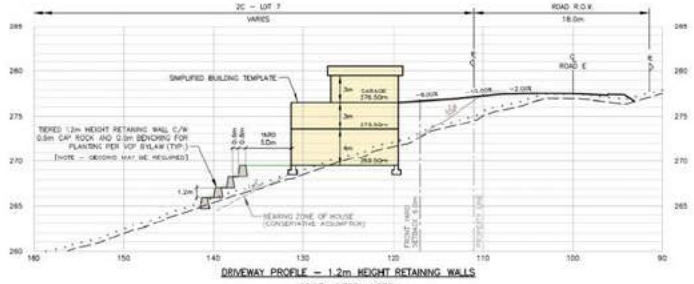


PLAN VIEW – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250

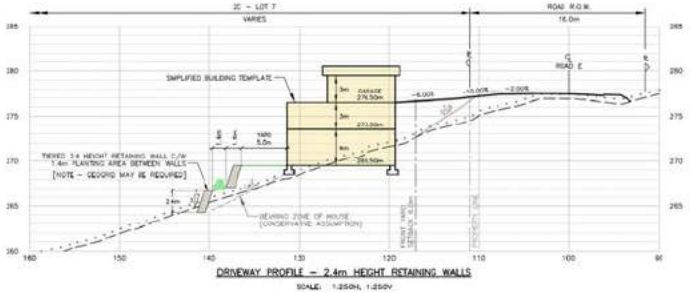


SITE SECTION B–B – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

SITE SECTION B–B – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS
SCALE: 1:250H, 1:250V

no.	date	revision	chkd	no.	date	revision	chkd
	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAY				
	OCT.06.21	SUBMISSION #1	JAY				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.
project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

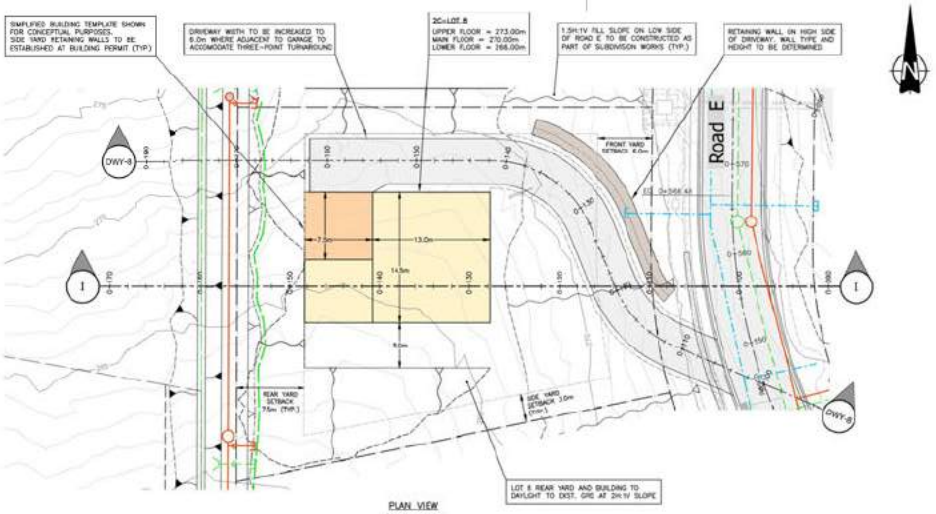
EDGE FORMAT No. 1001444

approved

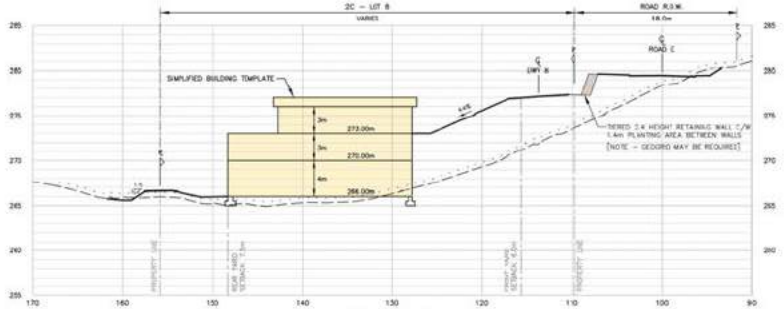
designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 7

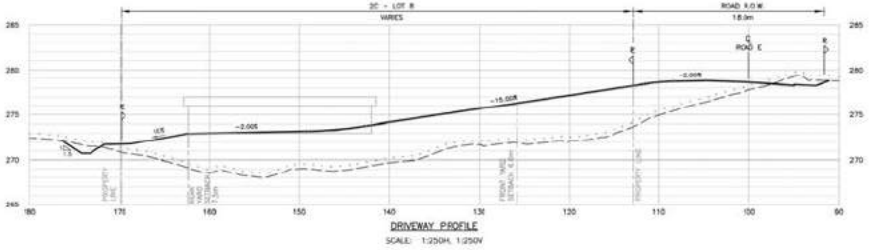
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-7
rev.	2



PLAN VIEW
SCALE: 1:250



SITE SECTION I–I
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE
SCALE: 1:250H, 1:250V

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

no.	date	revision	dr'd	no.	date	revision	dr'd
	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 983-0458
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

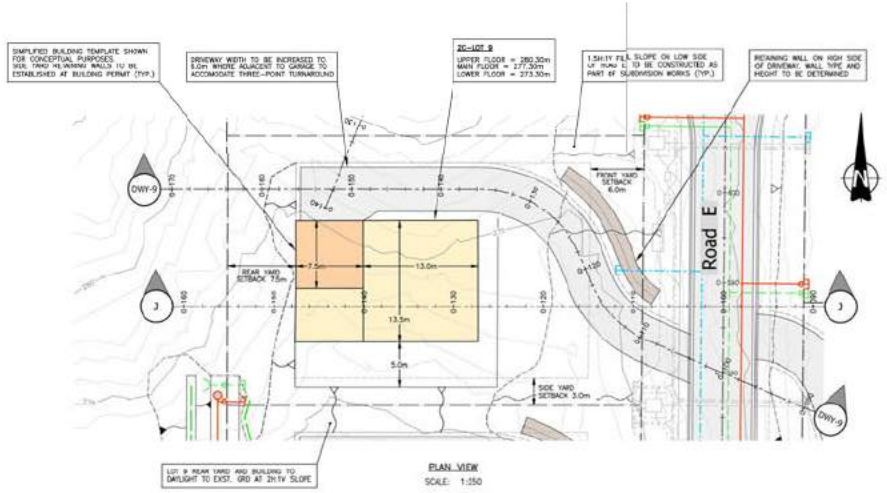
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.06.21

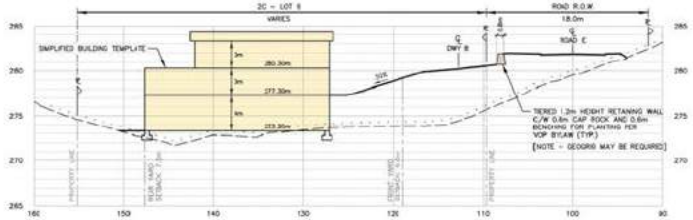
title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 8

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-8
rev. 2

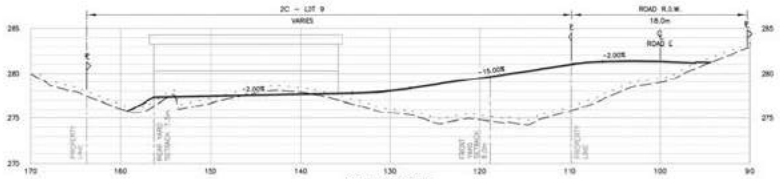
Schedule K



PLAN VIEW
SCALE: 1:250



SITE SECTION J–J
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE
SCALE: 1:250H, 1:250V

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

Schedule L

no.	date	revision	ckd	no.	date	revision	ckd
	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.
project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

WEBSTER ENGINEERING LTD
STEEP ROCKY TERRAIN SPECIALISTS
PROFESSIONAL ENGINEERS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 983-0458
LAND DEVELOPMENT CONSULTANTS

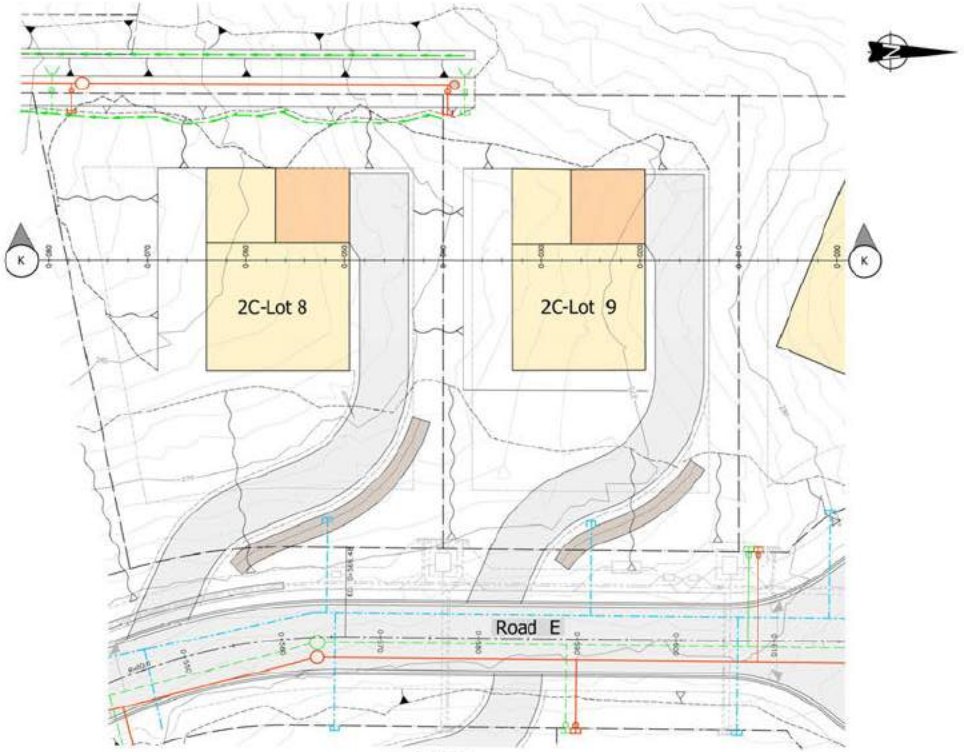
EGBC PERMIT No. 1001444

approved

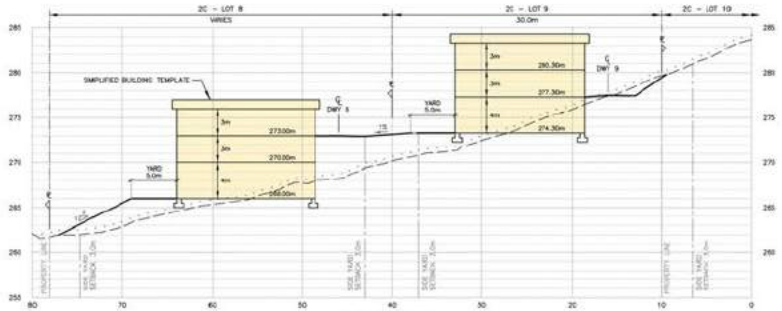
designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 9

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-9
rev. 2



PLAN VIEW
SCALE: 1:250



SITE SECTION K–K
SCALE: 1:250H, 1:250V

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

no.	date	revision	ckd'd
2	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT
1	OCT.06.21	SUBMISSION #1	JAT

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DEUBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 983-0458
LAND DEVELOPMENT CONSULTANTS

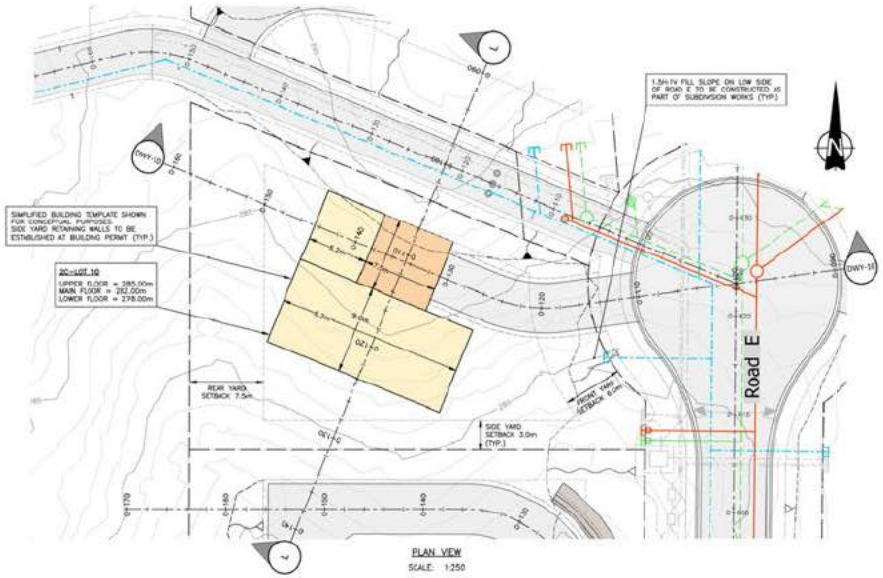
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY 06.21

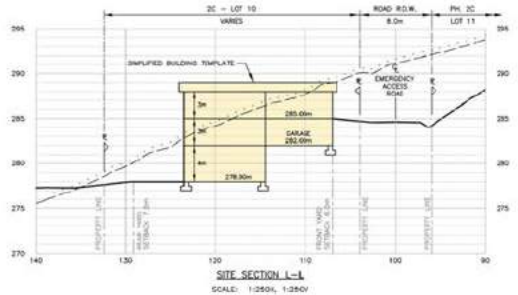
title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 8-9 SITE SECTION

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-8-9
rev. 2

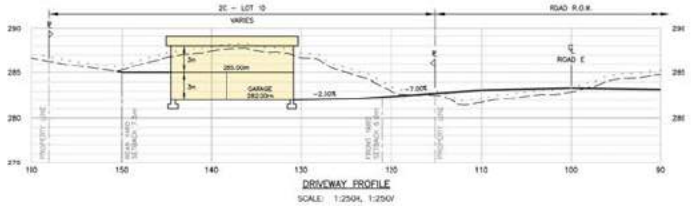
Schedule M



PLAN VIEW
SCALE: 1:250



SITE SECTION L–L
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE
SCALE: 1:250H, 1:250V

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021

no.	date	revision	ckd'd
2	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT
1	OCT.06.21	SUBMISSION #1	JAT

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 903-0458

EGBC PERMIT No. 1001444

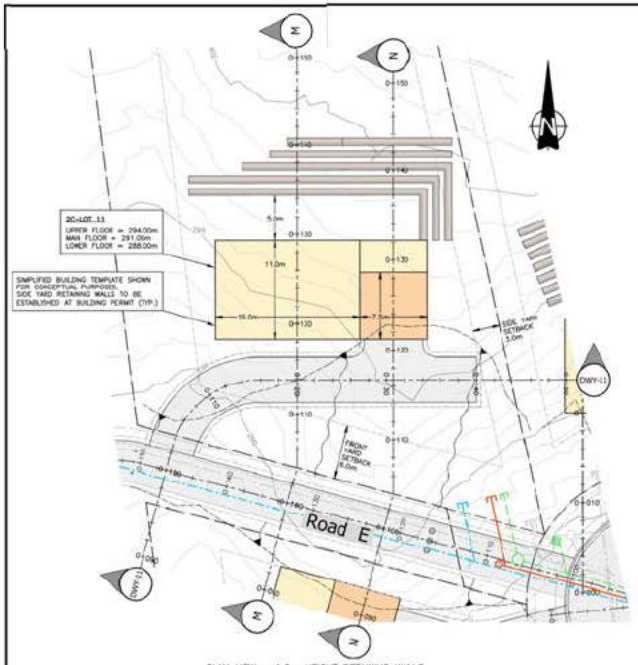
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 10

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-10
rev. 2

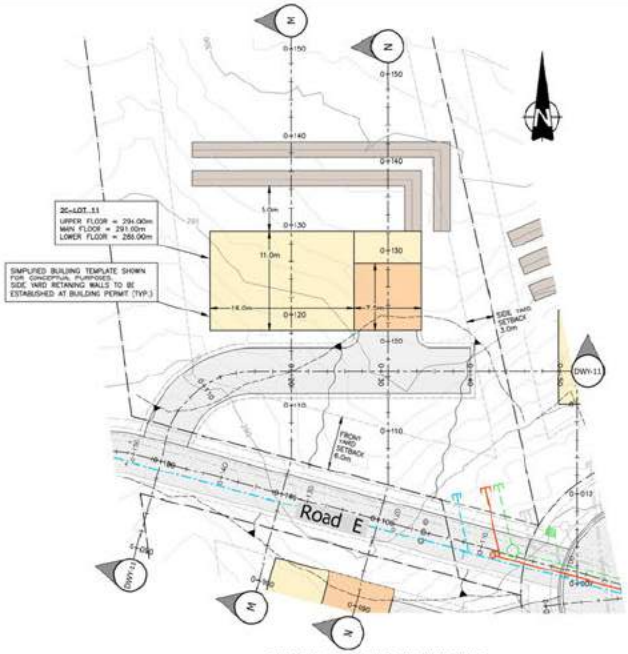
Schedule N



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

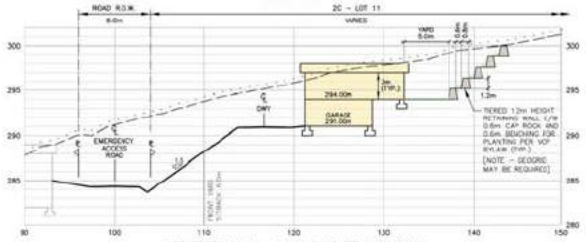
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW UDAR SURVEY DATED JUNE 15, 2021



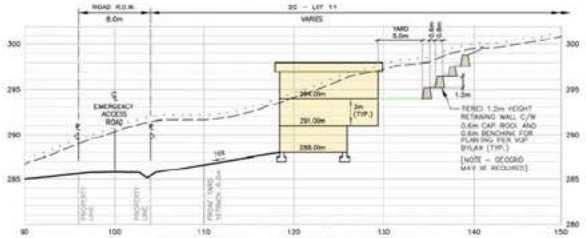
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250



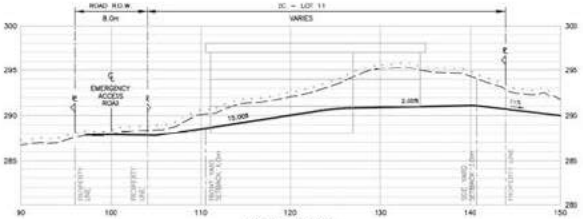
SITE SECTION N–N – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



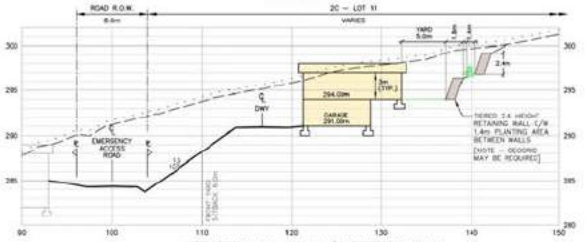
SITE SECTION M–M – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



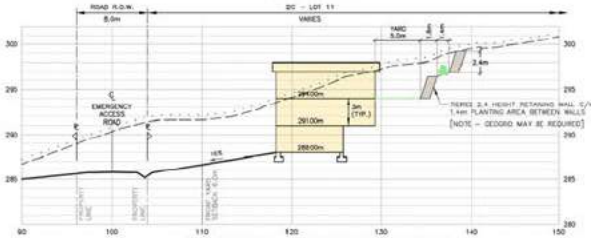
DRIVEWAY PROFILE

SCALE: 1:250H, 1:250V



SITE SECTION N–N – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



SITE SECTION M–M – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	dd'd	no.	date	revision	dd'd
	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DEUBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 983-0456
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

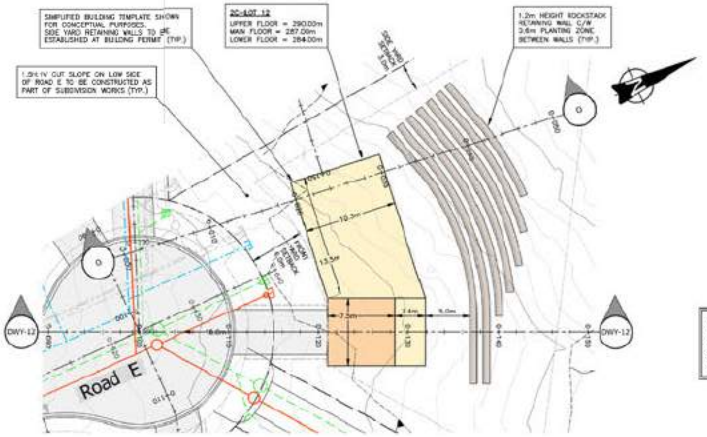
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 11

scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-11
rev.	2

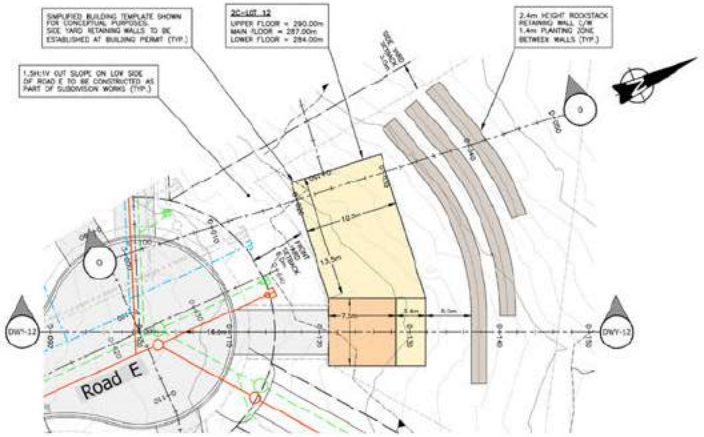
Schedule O



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

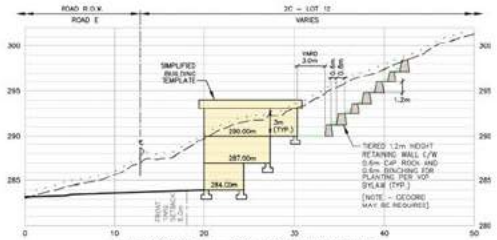
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250

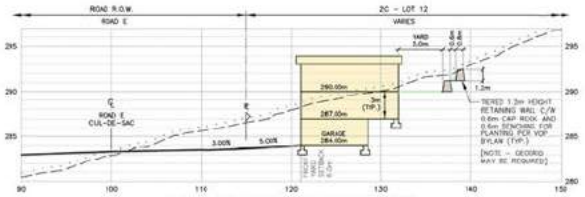


SITE SECTION C–D – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

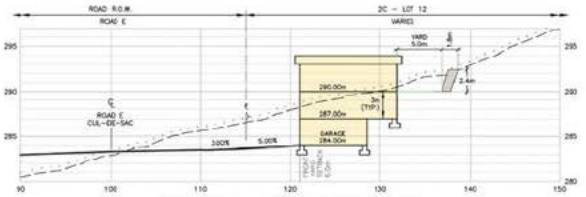
SITE SECTION D–D – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	drwn	no.	date	revision	drwn
	OCT.20.21	REVISED WITH CIVIL SERVICING	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 903-0456
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

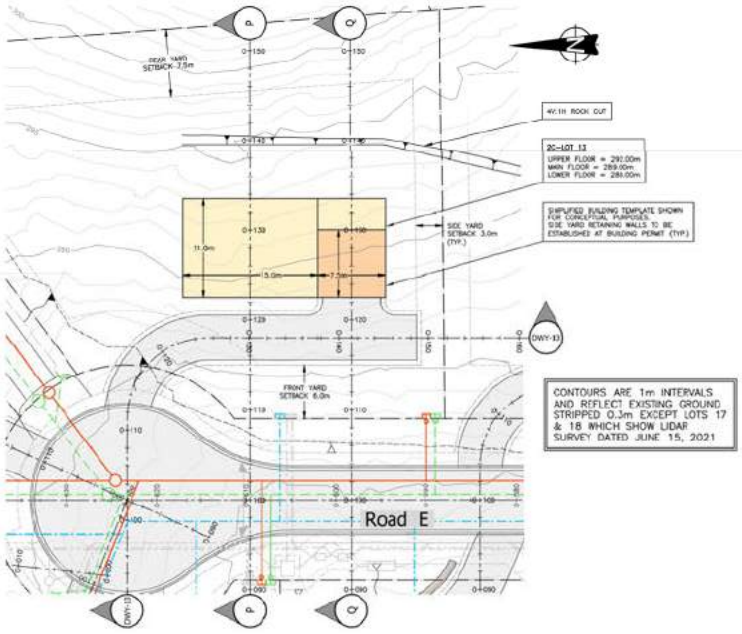
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 12

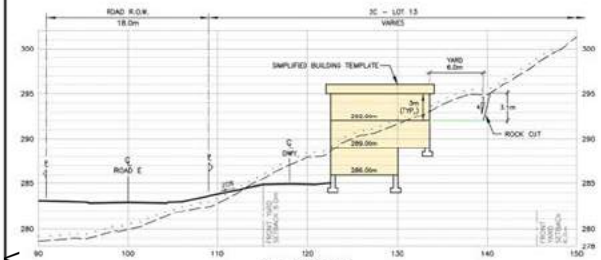
scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-12
rev. 2

Schedule P



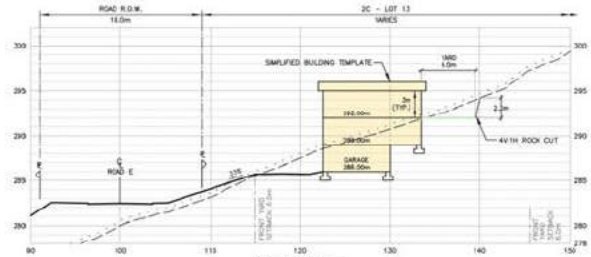
PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250



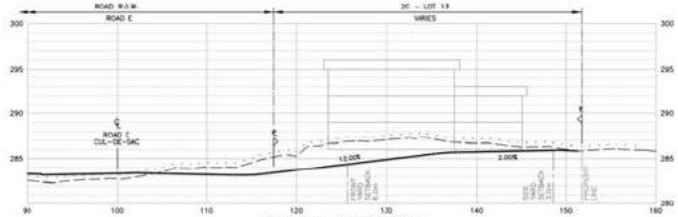
SITE SECTION P–P

SCALE: 1:250H, 1:250V



SITE SECTION Q–Q

SCALE: 1:250H, 1:250V



2C–LOT 13 – DRIVEWAY PROFILE

SCALE: 1:250H, 1:250V

no.	date	revision	UDG	no.	date	revision	chk'd
	OCT.21.21	REVISED WITH CIVIL SERVICING	JAT				
	OCT.06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 983-0458
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

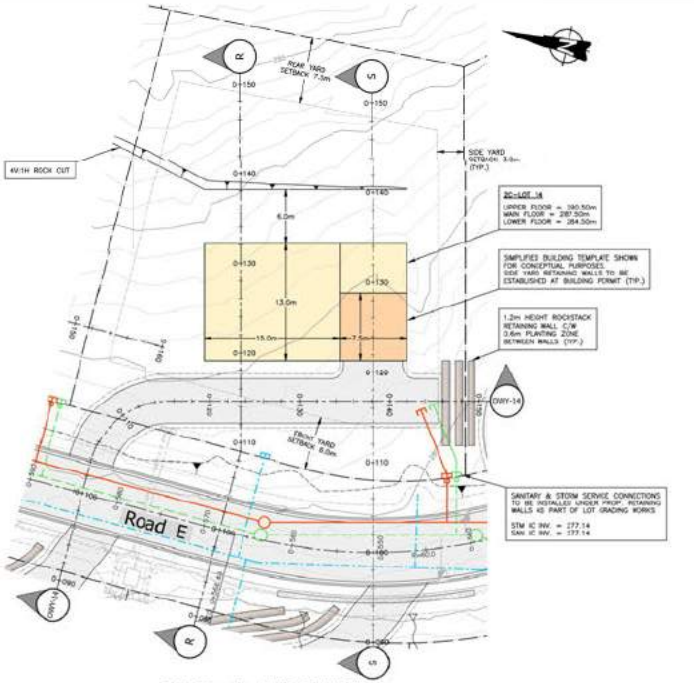
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 13

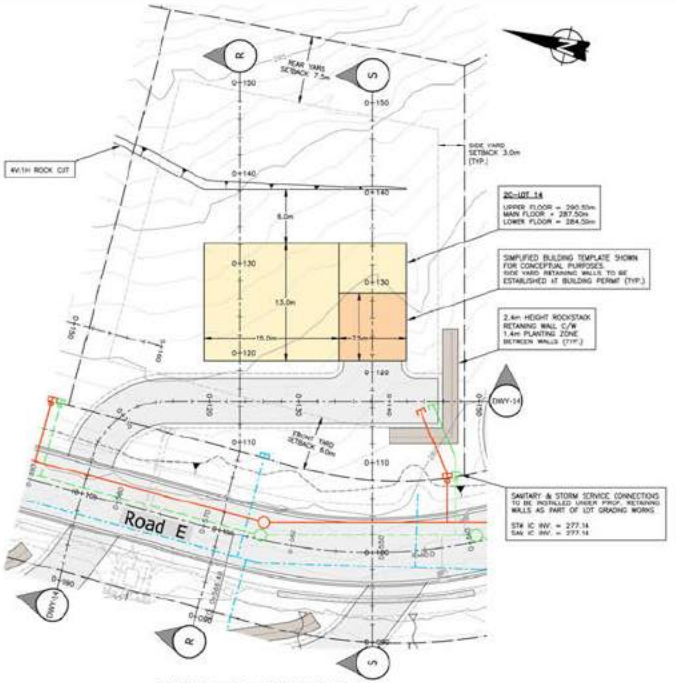
scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-13
rev.	2

Schedule Q



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

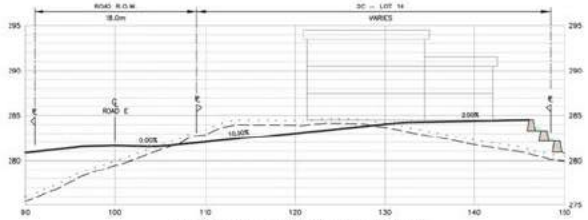
SCALE: 1:250



PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

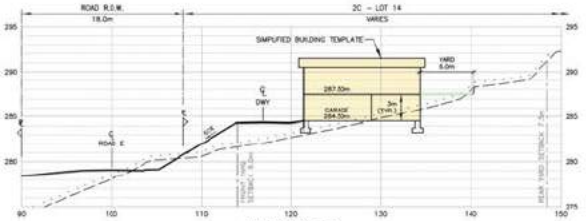
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



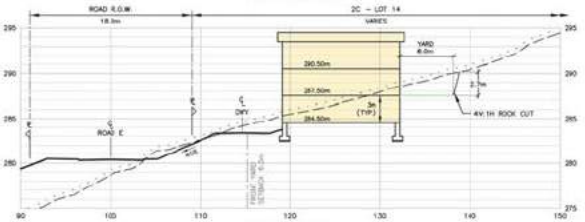
DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:25V



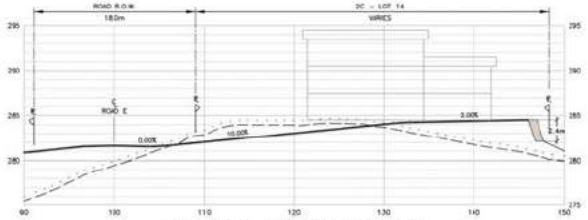
SITE SECTION S–S

SCALE: 1:250H, 1:250V



SITE SECTION R–R

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	ckd	no.	date	revision	ckd
	OCT. 21.21	ADDED SERVICE CONNECTION EXTENSIONS	JAT				
	OCT. 06.21	SUBMISSION #1	JAT				

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 903-0458
LAND DEVELOPMENT CONSULTANTS

EGBC PERMIT No. 1001444

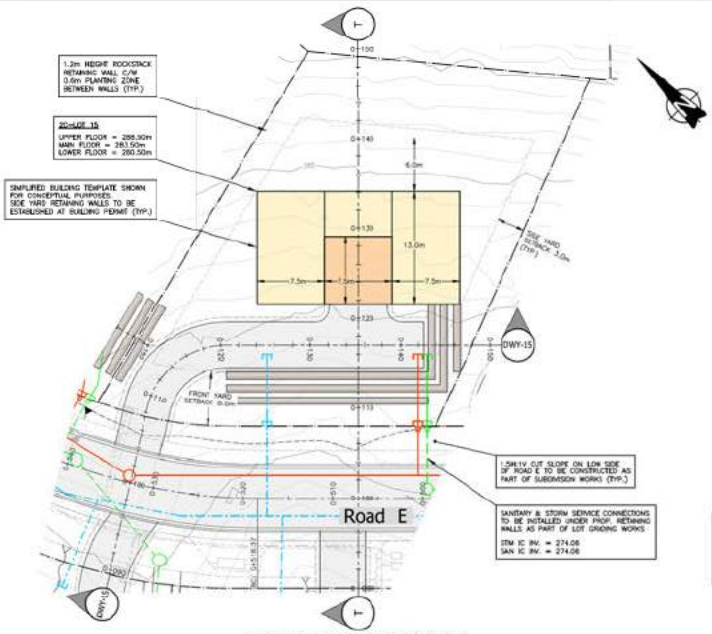
approved

designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY 06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 14

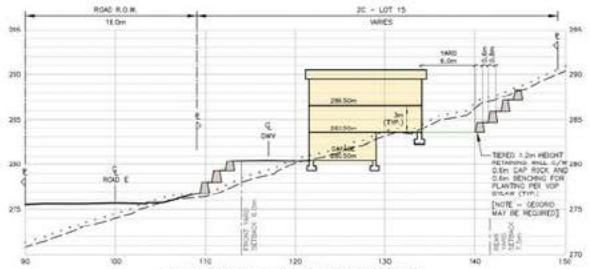
scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-14
rev. 2

Schedule R



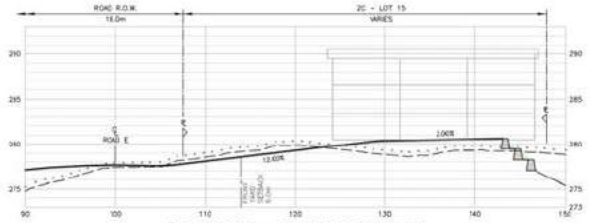
PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250



SITE SECTION T–T – 1.2m HEIGHT RETAINING WALLS

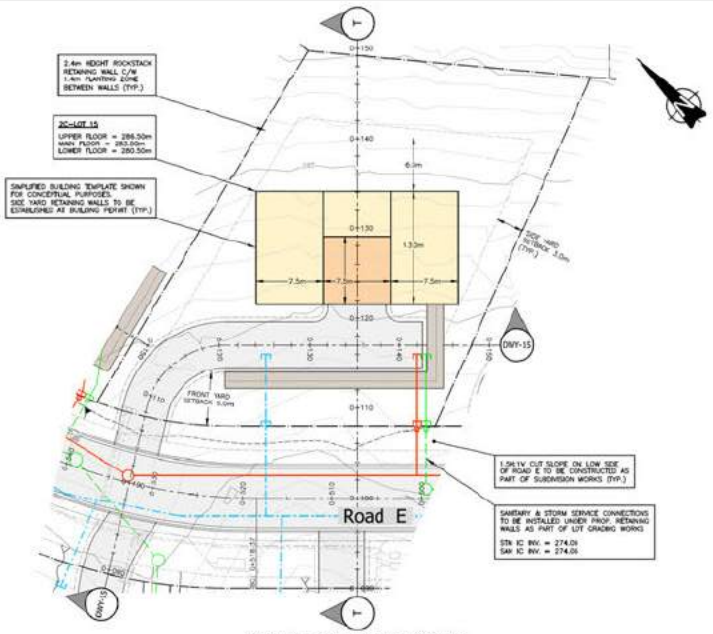
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS

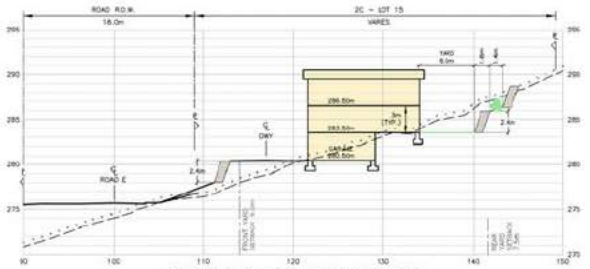
SCALE: 1:250H, 1:250V

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



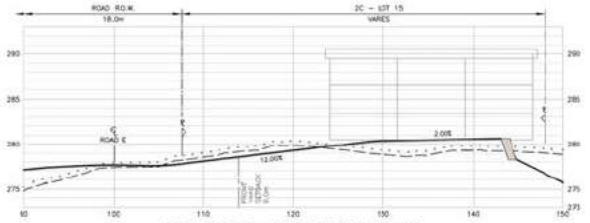
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250



SITE SECTION T–T – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	chkd
2	OCT.26.21	ADDED SERVICE CONNECTION EXTENSIONS	JAY
1	OCT.06.21	SUBMISSION #1	JAY

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS
LAND DEVELOPMENT CONSULTANTS
3145 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0455

EGBC PERMIT No. 1001448

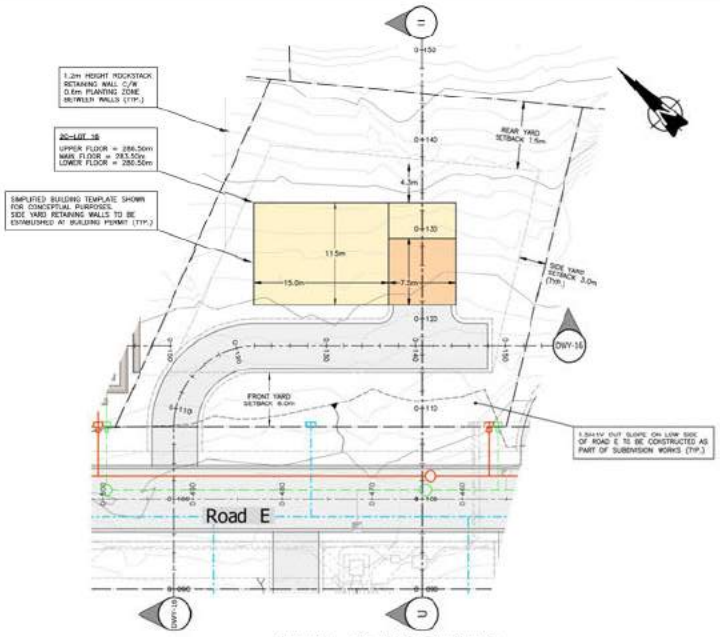
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 15

scales: hor. 1:250	vert. 1:250
file no.	3964
drawing no.	GRAD-2C-15
rev.	2

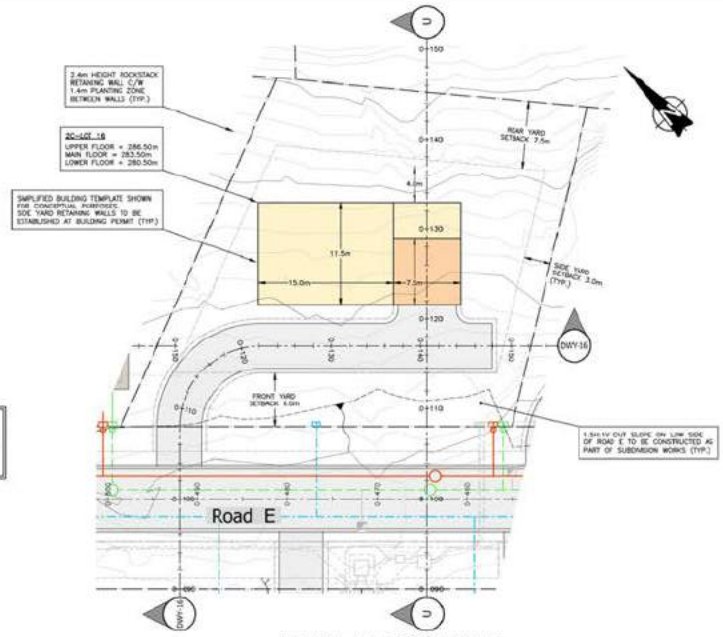
Schedule S



PLAN VIEW – 1.2m HEIGHT RETAINING WALLS

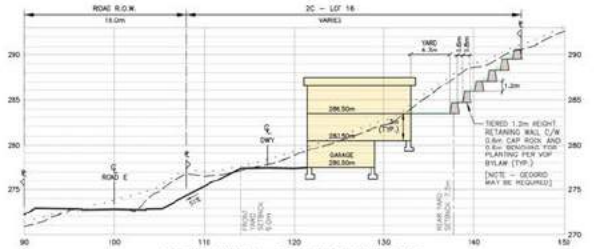
SCALE: 1:250

CONTOURS ARE 1m INTERVALS AND REFLECT EXISTING GROUND STRIPPED 0.3m EXCEPT LOTS 17 & 18 WHICH SHOW LIDAR SURVEY DATED JUNE 15, 2021



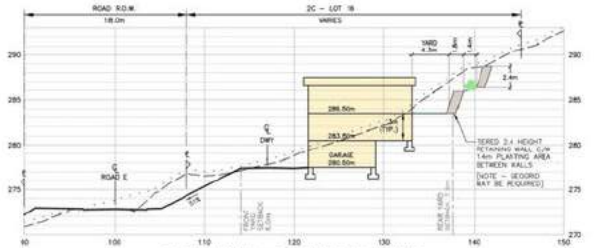
PLAN VIEW – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250



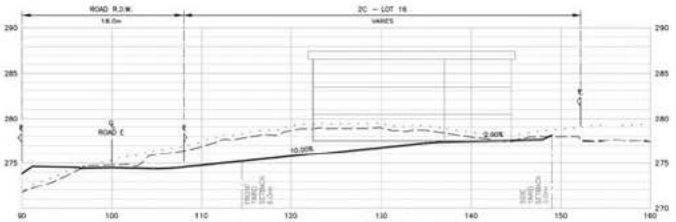
SITE SECTION U–U – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



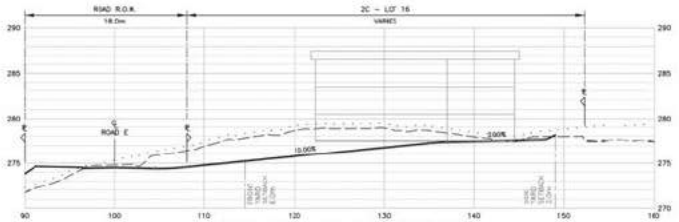
SITE SECTION U–U – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 1.2m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE – 2.4m HEIGHT RETAINING WALLS

SCALE: 1:250H, 1:250V

no.	date	revision	init.
	OCT 21.21	REVISED WITH CIVIL SERVICING	JAT
	OCT 06.21	SUBMISSION #1	JAT

client: SUNSTONE RIDGE DEVELOPMENTS LTD.

project: SUNSTONE RIDGE - PHASE 2
PEMBERTON, BRITISH COLUMBIA

PROFESSIONAL ENGINEERS

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
LAND DEVELOPMENT CONSULTANTS
3745 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 903-0456

EGBC PERMIT No. 1001444

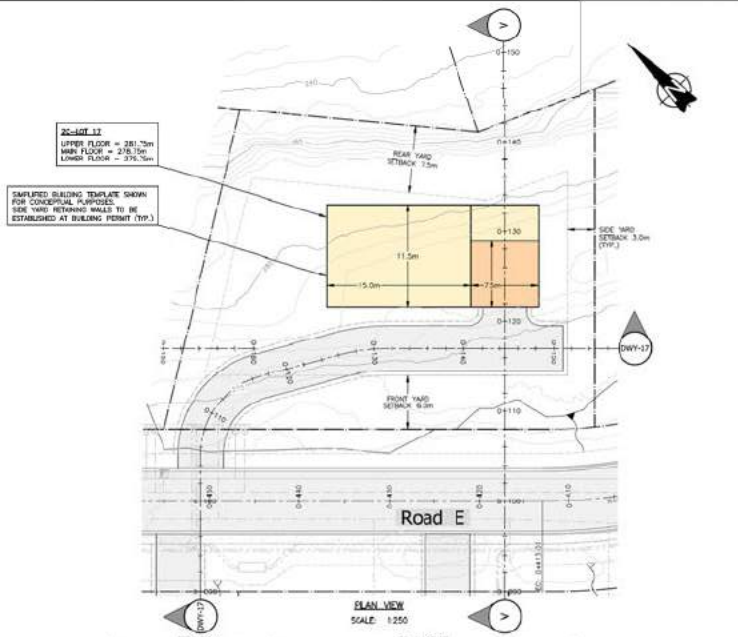
approved

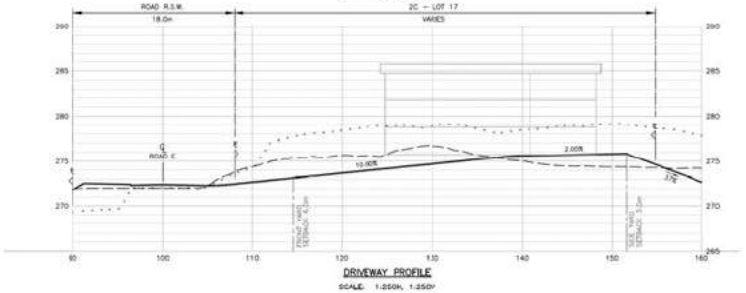
designed by: B.J.W.
drawn by: B.J.W.
checked by: J.A.T.
date: MAY 06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 16

scales: hor. 1:250 vert. 1:250
file no. 3964
drawing no. GRAD-2C-16
rev. 2

Schedule T





						client	SUNSTONE RIDGE DEVELOPMENTS LTD.
						project	SUNSTONE RIDGE - PHASE 2 PEMBERTON, BRITISH COLUMBIA
no.	date	revision	chk'd	no.	date	revision	chk'd
1	21.03.31	REVISED WITH CIVIL SERVICING	JAT				
2	21.05.21	GENERAL REVISION	JAT				

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS — LAND DEVELOPMENT CONSULTANTS
3765 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0455

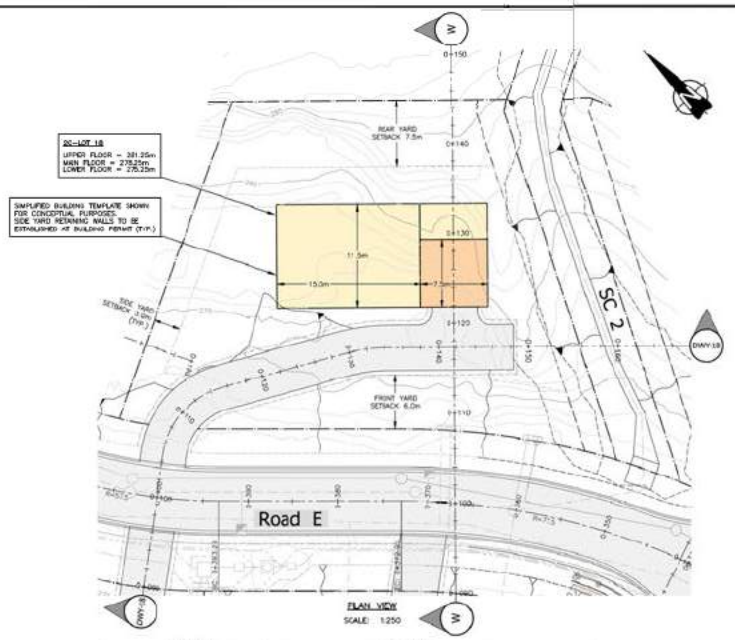
EGBC PERMIT No. 1001444

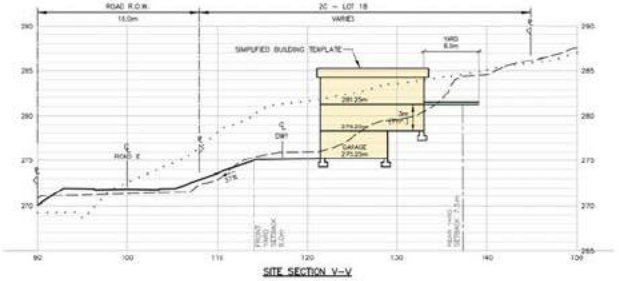
approved

designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

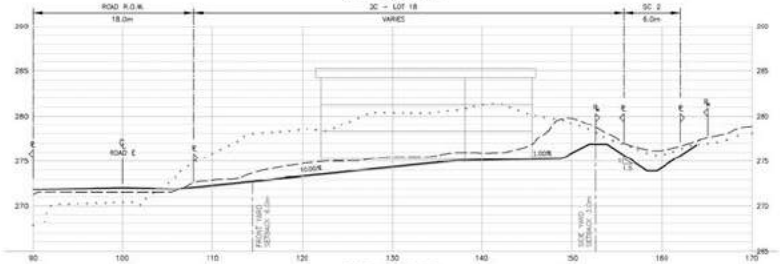
PRELIMINARY LOT GRADING
PHASE 2C - LOT 17

scales	hor. 1:250 ver. 1:250
file no.	3964
drawing no.	GRAD-2C-17
rev.	2





SITE SECTION V–V
SCALE: 1:250H, 1:250V



DRIVEWAY PROFILE
SCALE: 1:250H, 1:250V

								client	SUNSTONE RIDGE DEVELOPMENTS LTD.
2021	REVISED WITH CIVIL SERVICING	JAT						project	SUNSTONE RIDGE - PHASE 2 PEMBERTON, SRITISH COLUMBIA
2021	GENERAL REVISION	JAT							
no.	date	revision	chk'd	no.	date	revision	chk'd		

STEEP ROCKY TERRAIN SPECIALISTS
WEBSTER ENGINEERING LTD
PROFESSIONAL ENGINEERS — LAND DEVELOPMENT CONSULTANTS
374 DELBROOK AVENUE, NORTH VANCOUVER, B.C. V7N 3Z4 985-0456

EGBC PERMIT No. 1001144

approved

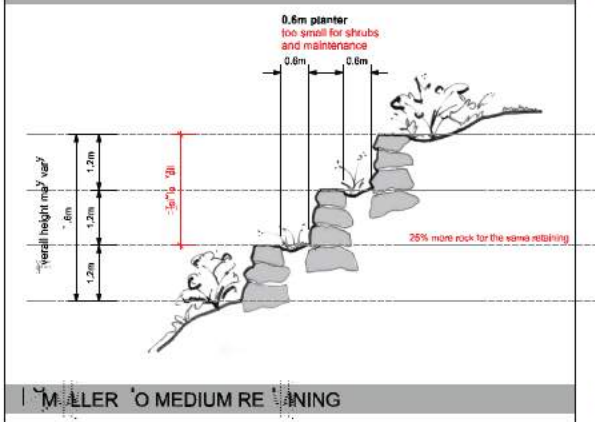
designed by	B.J.W.
drawn by	B.J.W.
checked by	J.A.T.
date	MAY.06.21

title: PRELIMINARY LOT GRADING
PHASE 2C - LOT 18

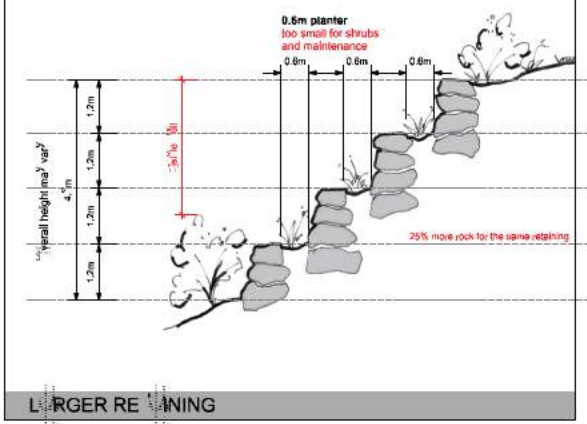
scales hor.	1:250 ver. 1:250
file no.	3964
drawing no.	GRAD-2C-18
rev.	2

Schedule V

PEMBERTON RETAINING BYLAW

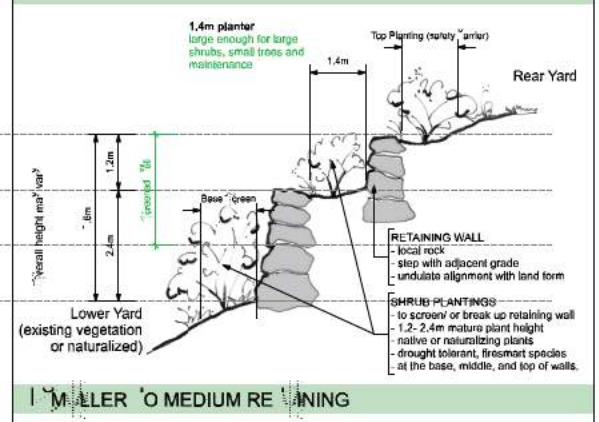


SMALLER TO MEDIUM RETAINING

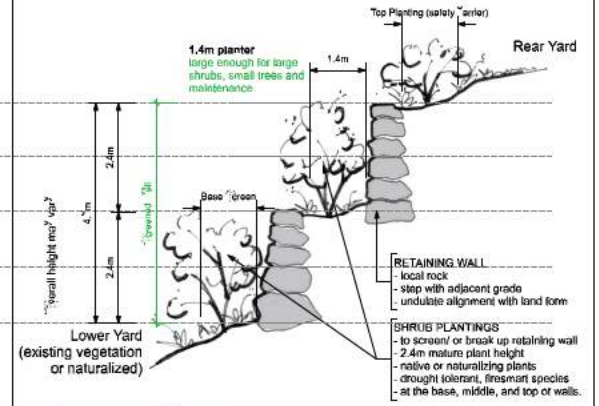


LARGER RETAINING

PROPOSED RETAINING & PLANTING



SMALLER TO MEDIUM RETAINING



LARGER RETAINING

HILLSIDE DEVELOPMENT:
1. provides housing while preserving agricultural land (ALR),
2. is not in the flood plain (FCL),
often required retaining,

GOALS:
Provide necessary and appropriate retaining to accommodate hillside development.
Create attractive retaining solutions that incorporate adequate planting environments for screening.
Encourage building and landscape solutions that 'fit' the hillside environment (no flat lot designs).

PROPOSED RETAINING WALL STRATEGY

up to 2.4m
1.2m walls to a maximum of 2 adjacent walls= 2.4m Total Height
with 1.2m wide intermediate planter
mature plant species height to be 1.2m
encourage walls to follow existing landforms (avoid long straight walls)

over 2.4 m allow:
2.4m walls or a combination of wall heights (max 2.4m)
with 1.4m wide intermediate planters
and 1.4m base screening
mature plant species height to be 2.4m
encourage walls to follow existing landforms (avoid long straight walls)

Walls to be designed by an Professional Engineer,
Landscape Planting to be designed by a landscape professional (BCSLA or eq)

Schedule W


After Construction

1.2m Stepped Wall with Small (1.2m) Planting Terrace


During Construction


After Construction


After Construction

2.4m Stepped Wall with Larger (1.8m) Planting Terrace

CROSLAND DOAK DESIGN
Landscape Architecture + Building Design
3121 Alta Vista Road
Whistler, BC V8E 0B8
604 9064008
info@CroslandDoakDesign.com
CroslandDoakDesign.com

Date	Issued For
2021-05-21	Client Review

Sunstone Ridge Developments Ltd
client

Sunstone
Pemberton, BC
project title

Landscape Retaining Sections & Images
drawing title

scale: as noted

project no. 1102

L2B.4
drawing no.

Schedule X

CROSLAND OAK DESIGN
Landscape Architecture + Building Design
Sunstone Ridge Developments Ltd
client
Sunstone
Pemberton, BC
project title
Phase 2 B&C
Retaining Wall
Planting Concept
drawing title
scale: 1:1000
project no. 1102
L2-3.1
drawing no.
NOTE:
See Conceptual Plant List and Cost Estimate on separate sheet.
Retaining Wall Planting (typ)
-1.5m wide planter
-planting to occur at the bottom of all walls
-planting to occur at all interstitial planters
-top of wall planting by property owner
Sun God Mountain Way
Road E
Sunstone Way
Future Road
Cerulean Drive
Seven O'Clock Drive
Phase 1A
Park
Trail Corridor
Drainage Service
PHASE 2A
PHASE 2B
PHASE 2C

PROJECT:		SUNSTONE Phase 2C: Retaining Wall Conceptual Planting			Pemberton BC	2021-12-14
SOFT LANDSCAPING					Prepared by: Crosland Doak Design	
CONCEPTUAL PLANT LIST						
	OCCURRENCE	BOTANICAL NAME	COMMON NAME	SIZE		NOTES
	Per 20m of wall					
TREES						
	2	Acer circinatum	Vine Maple	#3	$25.00	$50.00
	2	Acer glabrum	Douglas Maple	#3	$25.00	$50.00
	2	Amelanchier alnifolia	Service berry/ Saskat	#3	$25.00	$50.00
SHRUBS						
	3	Cornus stolonifera	Red Twig Dogwood	#2	$15.00	$45.00
	5	Mahonia aquilfolium	Oregon Grape	#2	$12.00	$60.00
	3	Rosa nutkana	Nootka Rose	#2	$12.00	$36.00
	1	Parthenocissus quinq	Virginia Creeper	#1	$10.00	$10.00
	2	Salix purpurea 'nana'	Arctic Willow	#2	$15.00	$30.00
	1	Taxus brevifolia	Spreading Yew	#2	$15.00	$15.00
	4	Vacinium ovatum	Evergreen Huckleber	#2	$12.00	$48.00
	25	Plants per 20m of wall/ planter			Plant Cost Per 20m	$394.00
					Cost per m	$19.70
ALL PLANTS	870m2	planter area @1.5m v	580 m	lineal of planter	Plants Subtotal	$17,139.00
SOIL, PREPARATION & GRADING						
Volume	Area (1.5m planter)		Linear m of wall/ pla	Depth/ Volume		
261 m3	870 m2	Amended Growing M	580 m	0	$105	$27,405.00
IRRIGATION & MAINTENANCE						
	by property owners					
		SUBTOTAL- PLANTS				$17,139.00
		SUBTOTAL- SOIL, PREP & GRADING				$27,405.00
		SUBTOTAL- IRRIGATION & MAINTENANCE				
		TOTAL SOFT LANDSCAPING				$44,544.00

BRITISH COLUMBIA SOCIE
REGISTERED MEMBER
CROSLAND DO
206
LANDSCAPE ARCHIT

[redacted]

Schedule Z

0857673 BC Ltd.
Proposed Sunstone Ridge Subdivision
Pemberton, BC

Preliminary Geotechnical Assessment

Prepared For:

[redacted]

File Number:
VAN-00205789-A0

Prepared By:
exp Services Inc.
275 – 3001 Wayburne Drive
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Date Submitted

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1. Introduction

As requested, **exp** services Inc. (**exp)** has completed a preliminary geotechnical assessment for the proposed Sunstone Ridge Subdivision to be located in Pemberton, BC. This report presents the findings of desk and field studies with respect to existing subsurface conditions, seismic considerations, potential rockfall from naturally occurring sources and stability analysis of existing slopes. Comments and recommendations regarding geotechnical aspects of general site preparations, building foundations for a proposed water reservoir and a water pump station, service installation, cuts in bedrock and soils, embankment fills, road structure and retaining walls for the proposed development are also addressed in this report. We understand that potential flooding within and adjacent to the proposed development site has been addressed by others. This report is specific to Phase I of the proposed development and does not address other phases which may be proposed as future development.

Exp scope of services which are addressed in this report included field work, reviews of published geologic information, in-progress road plans and lot layout provided by the Client (dated December 15, 2011) and LIDAR survey information for the subject site and surrounding areas.

No environmental analysis or assessment has been completed in association with this geotechnical study.

2. Site Description and Proposed Development

The proposed Sunstone Ridge subdivision is located within the village of Pemberton, BC, approximately 3.5 km east of the town centre. The site is accessed via a gravel road north of Highway 99 off the end of Old Farm Road. The proposed development is roughly triangular in shape with the southern boundary being about 800m long and the western boundary being about 600m long for a total area of about 24 Ha. The property is bounded by a railway to the south and undeveloped land on the other sides.

Topography within the site generally consisted of south facing, moderately inclined slopes. Localized areas of steeper inclinations were noted throughout the property, including near localized vertical bedrock bluffs. In general, elevations within the site range from about 210m to 300m geodetic. Gullies with a north-south orientation were noted within the property with the most significant one being located near the western boundary of the property. The gullies within the subject site were generally u-shaped and no flowing water was observed.

Outcropping bedrock was noted throughout the property with increasing occurrences coinciding with increasing elevation. Occasional large angular boulders, up to about 1.0m in diameter, were noted near the base of some of the steeper bedrock bluffs. The area above the development site consisted primarily of bedrock outcrops with some infilling of small gullies with soil.

It is understood that this phase of the proposed Sunstone Ridge subdivision consists of Parcel Lot 2 with 58 individual single family residential lots, Parcel Lot 3 with 7 single family residential lots, Parcel Lot 4 with 13 single family residential strata lots, Parcel Lot 5 with 54 townhouse residential units, Parcel Lot 6 with 58 townhouse residential units, Parcel Lot 7 with 30 townhouse residential units, a

water reservoir and a pump station. Approximately 1.6 km of roadway on site and an additional 500m of off-site roadway are proposed.

As it is typical for developments located on mountain slopes, site grading will involve cuts and fills and possibly retaining structures, in order to facilitate roadway alignments and lot development. It is understood that retaining structures are to generally consist of rock stack and Mechanically Stabilized Earth (MSE) walls.

3. Field Exploration

A field exploration program was completed as part of our assessment for the proposed subdivision. The exploration program consisted of a total of 13 test pits excavated to depths below surface ranging from about 1.2m to 4.6m. The test pit program was supervised by qualified **exp** personnel, who located the test pits, logged subsurface conditions encountered and gathered soil samples which were returned to our laboratory for moisture content determination, grain size analysis and further classification testing. In general the shallower test pits were terminated at bedrock, with the exception of TP 12-13 which was terminated due to collapsing sidewalls and inflow of water. Test pits were excavated with a large excavator provided by the client. Upon completion test pits were backfilled with the excavated material and compacted with bucket tamping.

Test pits were located with Global Positioning System (GPS) in the field and elevations determined by locating the test pit on the LIDAR survey plan.

Test pit logs are attached to this report with locations shown on the Site Plan – Test Pit Locations (Figure 2).

Site reconnaissance of the proposed development property included observing existing surficial conditions, cut slopes along an access road, photographing significant features and locating such features in the field by referencing known points. The locations of such features are approximate in nature and should be verified by survey.

4. Subsurface and Water Conditions

Visual observations of cut slopes along access roads combined with geologic mapping and the test pit program indicate that the site is largely bedrock controlled with soil deposits greater than 5m encountered in the test pits. Bedrock outcrops were noted in several locations within the property, particularly in the upslope areas.

4.1 Sub-Surface Soils

Sub-surface soils encountered in test pits generally consisted of the following stratigraphy:

- A thin layer of topsoil about 0.1m thick;
- A compact to dense sand and gravel layer with silt content ranging from trace to silty with thicknesses from about 0.3m to 4.0m;

- Dense to very dense silty sand and gravel (till-like), the total thickness of this layer was not defined as several test pits ended within this layer.

- Bedrock.

It should be noted that the above noted stratigraphy is a compilation of test pits and not all test pits encountered all of the layers identified above. Bedrock was only encountered in TP12-1, TP12-3, TP12-5, TP12-9 and TP12-1. Till-like soils were encountered in TP12-1 through TP12-, TP12-7, TP12-9 and TP12-11.

TP12-13, excavated in the vicinity of a proposed pump station, encountered a layer of soft/ loose wood debris and gravel and silt about 0.8m thick overlying loose sands and gravel. Due to collapse of the test pit and incoming seeping water, it was not possible to excavate further than about 1.2m below ground surface.

Bedrock outcrops were noted in the central portion of the property (in the area of Parcel Lot 2, Lot 30) and along the northern boundary of this phase of the proposed development (near the intersection of Road B and Road E, and within Parcel Lot 2, Lots 47 through 52).

Bedrock in the area appeared to generally consist of strong dioritic rock with few discontinuities. Due to the wide spacing of the discontinuities within the bedrock, resulting blocks both on the slope and surface near the toe of the bedrock bluffs were generally large with diameters in the range of 1m.

The test pit logs may be used as a guide for planning potential cut stratigraphy; however it should be noted that as soil deposition is variable, the subsurface conditions described in this text and on the attached test pit logs are specific to the corresponding test locations only and conditions may vary between test locations. Test pit logs are attached to this report.

4.2 Groundwater

Groundwater within the property was encountered in test pits TP12-2, TP12-4, TP12-6, TP12-7, TP12-8 and TP12-13 at depths ranging from about 1m to 2.5m below surface with the exception of TP12-13 where groundwater was noted to be near surface. Seepage was consistently noted within the sand and gravel layer or at the interface of the sand and gravel layer with the till-like layer.

Generally the groundwater appeared to be encountered in areas where bedrock was not encountered in test pits, with the exception of TP12-10 where neither bedrock or groundwater was encountered, indicating that groundwater is likely flowing along the bedrock surface and into the sand and gravel layer, frequently along the surface of the till-like layer.

Groundwater in the vicinity of the proposed pump station was encountered near surface (TP12-13) with significant volumes entering the test pit through the sidewalls of the pit.

Groundwater conditions described are specific to each test pit location within the depths explored during the time of the subsurface exploration. Groundwater conditions typically fluctuate with season, precipitation, land use factors and other factors.

5. Engineering Evaluation and Recommendations

5.1 Site Development

Phase I of the proposed Sunstone Ridge Development will consist of single family residential lots and multi-family residential lots, a water reservoir, roadways both on and off site, a pump station and services for the lots. Construction of this project will include preparation of subgrade, blasting or excavating of slopes, embankment construction and retaining wall construction.

Based on the findings of this study, it is our opinion that the site can geotechnically support the proposed development. The scope of site grading for Phase I of the proposed development appears to be comparable to with other developments in the Sea-to-Sky corridor. Site grading for this project should be completed using the general guidelines and practices described below.

Although the topography within the proposed development site is considered to be generally bedrock controlled, there is varying thicknesses of soil cover. With the variations in soil thickness, cuts required for roadway grading are likely to encounter conditions ranging from full depth rock to full depth soil.

A water reservoir and a pump station are to be included in Phase I of the development. It is our understanding the water reservoir is to be located up slope of the development and the pump station is to be located near the proposed rail crossing. The locations of these facilities had not been finalized at the time this report was prepared.

Storm water runoff will need to be diverted prior to trench excavation. Even with surface water diversion, some degree of trench dewatering may be required in areas where ground water is close to surface to facilitate pipe installation and backfill in dry conditions. Trench excavation in soils or within road fills should be cut no steeper than 1H:1V (horizontal:vertical) for temporary stability and safety purposes. Flatter slopes may be required where loose granular soils or water seepage is encountered. Bedrock sidewalls of blasted trench may be cut near vertical on a temporary basis; however, applicable Worksafe BC guidelines for worker safety must be followed.

Blasting of pipe trench should be completed such that the high point of bedrock along the trench bottom is at least 150 mm below the proposed bedding depth. Sharp bedrock pinnacles protruding above this elevation should be removed. A minimum 150mm pipe bedding material layer should be placed below and beside buried pipes for seating and cushioning purposes. A minimum 300 mm thick cover of bedding material should be placed above the pipes.

Excavated blast rock debris and overburden soils may be used as trench backfill up to surface in areas which are to remain unpaved and no structures are to be constructed. Where pavement, structures, hard landscaping or other settlement sensitive structural elements are possible, the backfill should be placed and compacted in accordance with Section 5.2 “Subgrade Preparation”. Municipal guidelines will control the character of allowable backfill in road right-of-ways.

5.2 Subgrade Preparation

Subgrade preparation for the proposed development for roadways, walkways, retaining structures, hard landscaped areas and structures should include the removal of all vegetation, forest litter, organic soils and soft or disturbed soils to expose bedrock, dense to very dense till–like soils or compact to dense granular soils. Any loose granular soil should be excavated and replaced with structural fill.

It is possible that the depth at which competent native subgrade is encountered is too great for typical excavation and replacement methods in the vicinity of the proposed pump station. In this case, a solid stem auger test hole in conjunction with Standard Penetration Tests (SPT) should be completed to determine the depth to competent native soils or bedrock. In this case geotechnical considerations related to liquefaction, settlement and allowable bearing pressures should also be reviewed.

Structural fill consisting of 75mm minus sand and gravel or 150mm shot rock should be placed in lifts with a maximum thickness of 300mm. Each lift should be compacted with several passes of a heavy ride-on type vibratory steel drum roller to achieve 95% Modified Proctor Dry Density with 75mm sand and gravel being density tested to confirm compaction has been achieved. Compaction of shot rock structural fill should be confirmed by the geotechnical engineer observing heavy equipment being driven on the subgrade.

Where the exposed subgrade surface is inclined at greater than 20% slope (5H: 1V) fill embankments should be keyed at the toe and the sloping subgrade should be benched with 1.5 metre wide horizontal benches to provide an adequate connection between subgrade and embankment fill and to avoid the development of a preferential slip plane. Seepage zones, where encountered should be controlled with a granular drainage blanket covered with an approved filter fabric with controlled outlet to prevent loss of soils and to provide improved drainage.

Areas where subgrade preparation in areas requires blasting to achieve grade, the bedrock should be blasted to create a minimum 500mm thick shatter zone below the underside of pavement structure for roadways. Over-blasting below structure footings should generally be reduced as practical; however, some overblast damage to the rock will likely occur. Rather than removing the overblast rock to expose intact bedrock, the overblast may be graded to design footing subgrade elevation and compacted with a minimum of 6 passes of a heavy ride-on type steel drum roller. The blasted surface should be free of pinnacles which extend above design subgrade elevation. The blasted surface may be irregular, but should be generally flat and level. Excavations into bedrock which create pools where groundwater could collect should be provided with drainage. Backfill in these areas should consist of free draining granular fill. Granular fill compacted to at least 95% Modified Proctor Dry Density (ASTM D 1557) or shot rock should be used to achieve grade under building pads and roadways where required.

5.3 Pavement Structure

The subgrade for pavements should be prepared as described in Section 5.2. The pavement structure should be constructed in accordance with applicable subdivision bylaws and design criteria set forth by the Village of Pemberton. The pavement structure will include Hot Mix Asphalt Pavement, Crushed Granular Base (CGB) Course and Crushed Granular Sub-base (CGSB) Course. We understand that base and sub-base gravel is to be produced on-site by quarrying and crushing

bedrock. Gradations for the CGB and CGSB are tabulated in Table A and Table B below (based on Master Municipal Construction Document 2000).

TABLE A

Crushed Granular Sub-Base

Sieve Designation	Percent Passing
80mm	-
5mm	100
38mm	60 – 100
25mm	-
19mm	35 – 80
12.5mm	-
9.5 mm	26 - 60
4.75mm	20 – 40
2.36mm	15 – 30
1.18mm	10 – 20
0.6 mm	5 – 15
0.3mm	3 – 10
0.18mm	-
0.15mm	-
0.075mm	0 - 5

TABLE B

Crushed Granular Base

Sieve Designation	Percent Passing
19mm	100
12.5mm	75 – 100
9.5mm	60 – 90
4.75mm	40 -70
2.36mm	27 – 55
1.18mm	16 – 42
0.6mm	8 – 30
0.3mm	5 – 20
0.075mm	2 – 8

5.4 Building Foundations

A general indication of footing subgrade is described in Section 3.1. Actual subgrade conditions are likely to vary and should be confirmed by a geotechnical engineer on a lot by lot basis. We understand that a water reservoir and a pump station is required for Phase I of the proposed development.

For planning purposes the following allowable pressures can be assumed:

TABLE C

BEARING PRESSURE

Foundation Material	Factored Ultimate Bearing Resistance	Allowable Bearing Pressure
Bedrock or compacted over-blast rock overlying bedrock	450 KPa (9000 psf)	300 KPa (6000 psf)
Dense to very dense till-like soil	300 KPa (6000 psf)	200 KPa (4000 psf)
Compact to dense native mineral soils or compacted structural fill placed thereon	185 KPa (3700 psf)	125 KPa (2500 psf)

The bearing capacities provided above are subject to the following conditions:

- Footings are setback a suitable distance from finished fill or cut slopes with locations approved by the Geotechnical Engineer;
- Strip and pad footings have minimum widths of 450mm and 600mm, respectively;
- Footings are founded a minimum of 600mm below adjacent finished grade for confinement and frost protection purposes;
- Site preparations have been completed as described in Section 5.2 and load bearing surfaces have been reviewed and approved by the Geotechnical Engineer.

Note that differential settlement may be expected where footings are supported on soils which vary beneath the structure (e.g., transitions from bedrock to soils or from native soils to embankment fills, etc.). Such situations should be reviewed by the Geotechnical Engineer with recommendations made to suit the situation. In cases where the footings cannot be constructed on a level bedrock platform or is close to a bedrock ledge, dowelling of the footings into the bedrock may be required to provide lateral stability. The need for subsurface drainage should be assessed on a site-specific basis by the geotechnical engineer based on conditions encountered during construction.

5.5 Slope Stability

Slope stability analysis was completed using the software SLOPEW by Geoslope International Ltd. The subsurface model for the software was based on our test pit program and visual reconnaissance of existing conditions within the proposed development site. Topography for the model section was developed from LIDAR information supplied by the client. The section was located in the vicinity where thicker soil cover and groundwater was encountered in test pits. Using the above stated criteria for locating the section, a section near TP12-2 was chosen, which resulted in the section being generally located within a gully (see Figure 2). The section surface is provide on Figure 3.

Analysis of slope stability within the proposed development site indicates that localized surficial soil failures (sloughing) are likely to take place during a design earthquake event (see Section 4.12) in the steeper portions of the property. However, the outcome of the analysis also indicates that reducing groundwater increases the stability of slopes against failure, even under the seismic condition. Factors of Safety for sloughing in the static condition increased from about 1.3 to 1.7 and from 0.8 to 1.1 for the seismic condition following reduction of groundwater levels. To prevent such failures we recommend intercept trenches be excavated in areas of susceptible steep natural slopes or cut slopes as identified by the geotechnical engineer during construction.

5.6 Bedrock Cuts

It appears based on observations of the stratigraphy encountered in the test pits that there will be several areas where road cuts will encounter bedrock or bedrock overlain with soils. Rock cut details are provided for preliminary planning purposes only and will be subject to modification to suit bedrock conditions encountered during construction and compatibility with future maintenance plans. Evaluation of the rock cuts is generally a field based process which needs to be completed when rock is exposed at the time of construction. The details presented in this report are intended as general guidelines based on previous work in similar terrain.

A summary of the rock cut guidelines to be followed for the project are outlined below.

- Rock cuts may be planned at an inclination of 1H:4V, though in areas of poor quality highly fractured/friable/sheared or weathered rock this inclination may require reduced inclinations of about 1H:2V to 1H:1V;
- Where the face of poor quality rock is protected from weather and raveling by means such as a rock stack facing, the cut may be steepened, depending on the rock quality and cut height;
- Where poor quality rock is underlain by competent rock, a composite slope is possible using the cut angles provided above;
- The use of retaining walls will be required where steeper than recommended inclinations must be achieved due to property boundaries or other constraints. This may be achieved by MSE walls with a composite rock cut above the wall, where the required top of cut line can be achieved.

Temporary cuts in poor quality rock should be planned no steeper than 1H:2V and good quality rock at 1H: 4V; however the cuts should be flattened and scaled as necessary to provide temporary stability and to create a safe working environment.

Suitable catchment ditches should be provided at the toe of unprotected rock cuts to mitigate adverse affects associated with rock dislodgements. A catchment width of 3m is recommended for rock cuts with less than 10m of height and 4m for slopes with a height between 10m and 14m. The catchment ditch should have a slope angle of 4H:1V extending from the break in slope at the road shoulder to the rock cut face.

Some on-going maintenance of slopes and ditches should be anticipated and will include clean up of materials loosened by erosion and freeze-thaw cycles. It should be noted that blasted areas may expose large rock wedges or blocks requiring anchoring or other mitigative measures during

construction. Blasted bedrock slopes should be scaled of loose material, left in a regular and safe condition and should be reviewed by the geotechnical engineer.

Note that the strength of the bedrock depends largely on the rock remaining intact. Hence, site preparation involving blasting should be carefully controlled such that over-blasting in the founding rock is minimized. Harder rock such as that generally noted on site, may respond well to pre-shearing to produce a stable rock face. Blasting should be carried out by a contractor with relevant experience in such excavation methodology.

Site specific recommendations regarding rock bolting, shoring, scaling, etc. should be provided at the time of construction by the geotechnical engineer, as required.

5.7 Soil Cuts

It is considered likely that at least a portion of required cut slopes will be in soil. Permanent cuts in soil should be planned no steeper than 2H:1V with the slopes being revegetated after completion of construction to protect against erosion from surface water. Steeper slopes of 1.5H:1V may be possible in the dense to very dense till-like soils; however, the feasibility of such steeper cuts should be evaluated at the time of construction. Rock stack walls or engineered Mechanically Stabilized Earth (MSE) walls may be required where site geometry does not allow for the recommended permanent slope inclinations.

We recommend that cut-off trenches be excavated above slopes cut into the compact granular soils to direct groundwater away from the slope. The cut off trench should be excavated to expose bedrock or dense to very dense till-like soils and be backfilled with clear shot rock or gravel. The trench should outlet in a suitable location.

In areas where soil overlies bedrock, a minimum 1 m wide horizontal bench should be provided at the interface.

Temporary soil cuts should be planned no steeper than 1H:1V.

5.8 Rockfall

An area was noted within the proposed development site where a near vertical natural rock bluff had several large boulders at the base. The approximate extent of the rock bluff and potential influence areas of the rockfall hazard is shown on Figure 3. As the identified rock fall hazard is located within and adjacent to the proposed residential lots, mitigative measures will be required to provide a safe environment for these lots. Mitigative measures may include but are not limited to setbacks with berms and on-slope stabilization (anchors, mesh, etc).

5.9 Embankment Fills

Rock fill embankments should be constructed on suitably prepared subgrade using blasted or excavated rock with a maximum fragment size less than 0.6m diameter. The rock should be placed in lifts less than 0.7m thick and be compacted by working the material into place using the tracks of heavy spreading equipment and/or a large ride-on type vibratory steel drum roller. The rock fill

embankments should be no steeper than 1.5H:1V. If larger rocks are available from site excavation, these rock fragments may be placed at the toe of the embankment fills to improve stability.

The rock fill should be placed such that the larger rocks are well distributed and the intervening voids are infilled with smaller sized particles such that the fill is internally stable and does not permit the piping of fines through voids. A transition zone should be provided between the top of rock fill and overlying earth fill, road sub-base or structural fill for buildings. The transition zone should be a minimum of 0.3 m thick and should consist of well-graded 0.15m minus shot rock to prevent the overlying material from penetrating in the voids within the rock fill.

Steeper rock fill embankments may be constructed using rock stack walls as described in Section 4.10 “Retaining Walls”.

Earth fill embankments should be no steeper that 2H:1V unless provided with suitable reinforcement and surface erosion control. The earth fill should consist of clean well-graded free draining granular material placed in lifts with a loose thickness less than 300mm and compacted a minimum of 95% Modified Proctor Dry Density to be confirmed by periodic density testing. Subgrade for earth embankment fills should be prepared as described in Section 5.2.

Earth embankments steeper than 2H:1V are possible using geogrid reinforcement (MSE). This method is further described in Section 4.10.

5.10 Retaining Walls

Retaining walls within the proposed development are expected to be either rock stack walls or MSE walls. Guidelines for rock stack wall construction are provided on Figures 5A through 5C attached and summarized below.

- Rock stack walls exceeding 4m in height should be constructed in a terraced configuration with the height of an upper tier being less that the height of the tier immediately below.
- A minimum of 1.5m wide landscape bench should be provided between the terraced rock stack tiers to serve as an aesthetic feature and catchment during a seismic event.
- Rock used for construction of the walls should have a minimum 1.0m dimension with the exception of the bottom row which should be a minimum of 1.2m.
- The rocks should be angular, sound and durable.
- Rock stack walls should be constructed no steeper than 1H:3V with rocks placed having their longest dimension perpendicular to the wall face.
- The bottom row of rocks should be keyed at least 0.5m below the finished ground at the toe and placed with a 4H:1V incline into the face of the wall.
- Where a sloping bedrock surface is present at the level of the rock stack base, an inclined key will need to be blasted into the bedrock in order to seat the bottom row of rocks.
- The base under the wall should be prepared as described in Section 5.2.

- Each rock in the rock stack should be supported by at least two underlying rocks to prevent the construction of "columns" within the wall.
- Rock stacks should be backfilled with shot rock.
- Rock stacks should be reviewed periodically during construction by the geotechnical engineer with respect to base preparation and general stacking procedures, with modifications to the wall undertaken as required.

Reinforced earth walls (MSE) wall are generally a proprietary packaged designed by the supplier/ manufacturer of the system. Such walls can be designed with a steep batter (up to 1H:12V) and to heights in excess of 6m. The geotechnical engineer would provide input on appropriate soil design parameters, concept review and global stability verification. **Exp** would be able to provide such services if required.

5.11 Permeability

Soils encountered with the proposed development site are described in Section 3.1. Based on gradation analysis of each soil type and observations of groundwater during the test pit program we are providing herein an estimated permeability. The table below provides estimated permeability descriptions and estimated permeabilities based on soil gradation test results, published titration and our engineering judgment and experience.

TABLE D

PERMEABILITY

Material	Permeability Description	Estimated Permeability
Sand and gravel with varying silt content	Moderately permeable	$1x10^{-6}$ to $1x10^{-7}$
Till-like soils	impermeable	$1x10^{-9}$ to $1x10^{-10}$
Bedrock	impermeable	-

It should be noted that no permeability testing was conducted due to time constraints and the above values are estimates only.

5.12 Excavation for Pump Station

We understand the pump station is to be located in the area of the proposed rail crossing. Test pit TP12-13 was intended to provide an assessment of soil types and groundwater in the vicinity of the proposed pump station. Due to a high flow of water entering the test pit both from surface and from sidewall seepage the test pit was unable to identify soil layers. In addition, the sidewalls of the test pit were sloughing into the open excavation indicating loose soils. Based on this information it is considered prudent to consider point well dewatering for the excavation for construction of the pump

station and temporary slopes inclined at 1.5H:1V. If space in not available for the recommended slope inclination, shoring may be required.

5.13 Seismic Considerations

The National Building Code of Canada (NBCC 2010) and the British Columbia Building Code (BCBC 2006) provides guidelines and parameters for seismic design. The design earthquake corresponds to a 2% probability of exceedance in 50 years which is equivalent to a 1:2475 year return period. The Natural Resources Canada website provides site specific interpolated NBCC 2010 seismic hazard values and indicates a peak horizontal firm ground acceleration of 0.280g corresponds to the 1 in 2475 year earthquake event for the proposed development site. The inferred earthquake magnitude for the design earthquake is 7.0.

The Site Classification for Seismic Site Response Table 4.1.8.4.A from the BCBC 2006 will vary across the site and should be assessed on a lot by lot basis. For preliminary planning purposes, Site Class C may be assumed for the majority of the site and Site Class B for areas of shallow bedrock (less than 2 m).

Due to potentially thick loose/ soft soils and the inability of the test pit to encounter firm/ dense soils in the lower elevation flat lying areas in the vicinity of the proposed pump station it was not possible to determine a Site Classification for this area. In order to determine the appropriate Site Classification a test hole consisting of a solid stem auger with Standard Penetration Tests (SPT) shall be required. Alternatively, a Site Class C could be assumed for use in preliminary design with the condition that soft/ loose soils would be excavated to expose bedrock or dense to very dense till-like soils with grade being restored with structural fill placed and compacted as described in Section 5.2.

Based on results of the geotechnical exploration which indicate compact sand and gravel overlying bedrock or dense to very dense till-like soils or bedrock, liquefaction of the subsurface soils during the design earthquake is not expected within the proposed development. An exception may be in the vicinity of the proposed pump station where insufficient information was available to determine the potential for liquefaction. Removal of soft/ loose soils and restoring grade with structural fill, as described above, would make liquefaction during a design earthquake unlikely.

6. Closure

It should be noted that this report was based on in-progress information provided by the client, a limited subsurface investigation and our understanding of the project as described in this report. Recommendations within this report should be reviewed and modified as deemed necessary as the design process advances.

This report was prepared for the exclusive use of our client 0857673 BC Ltd. and their designated consultants and agents and may not be used by other parties without the written consent of **exp**

Services Inc. The attached "Interpretation & Use of Study and Report" forms an integral part of this report and must be included with any copies of this report.

Yours truly,

exp Services Inc.

[redacted]

Evan Sykes, P.Eng.
Senior Geotechnical Engineer

[redacted]

Trevor Lumb,
Division Manager

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ATTACHMENTS

Interpretation & Use of Study and Report

Test Pit Logs
Test Pits TP 12-1 through TP12-13

Laboratory Analysis
Sieve Analysis Reports

Regional Location Plan
Figure 1

Site Plan – Test Pit Location Plan
Figure 2

Site Plans – Bedrock Outcrop and Rockfall Hazard Location
Figure 3

Section A-A'
Figure 4

Model for Slope Stability Analysis

Typical Section Rock Stack Wall
Figure 5A to 5C

Typical Rock Cut and Rock & Earth Embankment Details
Figure 6

INTERPRETATION & USE OF STUDY AND REPORT

1. STANDARD OF CARE

This study and Report have been prepared in accordance with generally accepted engineering consulting practices in this area. No other warranty, expressed or implied, is made. Engineering studies and reports do not include environmental consulting unless specifically stated in the engineering report.

2. COMPLETE REPORT

All documents, records, data and files, whe her electronic or otherwise, generated as part of this assignment are a part of the Report which is of a summary nature and is not intended to stand alone without reference to he instructions given to us by the Client, communica ions between us and the Client, and to any o her reports, writings, proposals or documents prepared by us for the Client relative to the specific site described herein, all of which constitute the Report.

IN ORDER TO PROPERLY UNDERSTAND THE SUGGESTIONS, RECOMMENDATIONS AND OPINIONS EXPRESSED HEREIN, REFERENCE MUST BE MADE TO THE WHOLE OF THE REPORT. WE CANNOT BE RESPONSIBLE FOR USE BY ANY PARTY OF PORTIONS OF THE REPORT WITHOUT REFERENCE TO THE WHOLE REPORT.

3. BASIS OF THE REPORT

The Report has been prepared for the specific site, development, building, design or building assessment objectives and purpose that were described to us by the Client. The applicability and reliability of any of the findings, recommendations, suggestions, or opinions expressed in the document are only valid to the extent that there has been no material altera ion to or variation from any of the said descriptions provided to us unless we are specifically requested by the Client to review and revise the Report in light of such alteration or variation.

4. USE OF THE REPORT

The information and opinions expressed in the Report, or any document forming the Report, are for the sole benefit of he Client. NO OTHER PARTY MAY USE OR RELY UPON THE REPORT OR ANY PORTION THEREOF WITHOUT OUR WRITTEN CONSENT. WE WILL CONSENT TO ANY REASONABLE REQUEST BY THE CLIENT TO APPROVE THE USE OF THIS REPORT BY OTHER PARTIES AS “APPROVED USERS”. The contents of the Report remain our copyright property and we au horise only the Client and Approved Users to make copies of the Report only in such quantities as are reasonably necessary for the use of the Report by hose parties. The Client and Approved Users may not give, lend, sell or otherwise make the Report, or any portion thereof, available to any party without our written permission. Any use which a third party makes of the Report, or any portion of the Report, are the sole responsibility of such third parties. We accept no responsibility for damages suffered by any third party resulting from unauthorised use of the Report.

5. INTERPRETATION OF THE REPORT

a. Nature and Exactness of Descriptions: Classification and identification of soils, rocks, geological units, contaminant materials, building envelopment assessments, and engineering estimates have been based on investigations performed in accordance with the standards set out in Paragraph 1. Classification and identification of these factors are judgmental in nature and even comprehensive sampling and testing programs, implemented wi h he appropriate equipment by experienced personnel, may fail to locate some conditions. All inves igations, or building envelope descrip ions, utilizing the standards of Paragraph 1 will involve an inherent risk that some conditions will not be detected and all documents or records summarising such investigations will be based on assumptions of what exists between the actual points sampled. 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. Some conditions are subject to change over time and hose making use of the Report should be aware of this possibility and understand that the Report only presents the conditions at the sampled points at the time of sampling. Where special concerns exist, or the Client has special considerations or requirements, the Client should disclose hem so that addi ional or special investigations may be undertaken which would not otherwise be within the scope of investigations made for the purposes of the Report.

b. Reliance on Provided information: The evaluation and conclusions contained in the Report have been prepared on the basis of conditions in evidence at the time of site inspections and on the basis of information provided to us. We have relied in good fai h upon representa ions, information and instructions provided by the Client and others concerning the site. Accordingly, we cannot accept responsibility for any deficiency, misstatement or inaccuracy contained in the report as a result of misstatements, omissions, misrepresentations or fraudulent acts of persons providing information.

c. To avoid misunderstandings, **exp** Services Inc. (**exp**) should be retained to work with the other design professionals to explain relevant engineering findings and to review their plans, drawings, and specifications relative to engineering issues pertaining to consulting services provided by **exp**. Further, **exp** should be retained to provide field reviews during the construction, consistent with building codes guidelines and generally accepted practices. Where applicable, he field services recommended for the project are the minimum necessary to ascertain that the Contractor’s work is being carried out in general conformity wi h **exp**’s recommendations. Any reduction from the level of services normally recommended will result in **exp** providing qualified opinions regarding adequacy of the work.

6.0 ALTERNATE REPORT FORMAT

When **exp** submits both electronic file and hard copies of reports, drawings and other documents and deliverables (**exp**’s instruments of professional service), he Client agrees that only the signed and sealed hard copy versions shall be considered final and legally binding. The hard copy versions submitted by **exp** shall be the original documents for record and working purposes, and, in he event of a dispute or discrepancy, the hard copy versions shall govern over the electronic versions. Furthermore, the Client agrees and waives all future right of dispute hat the original hard copy signed version archived by **exp** shall be deemed to be the overall original for the Project.

The Client agrees hat both electronic file and hard copy versions of **exp**’s instruments of professional service shall not, under any circumstances, no matter who owns or uses them, be altered by any party except **exp**. The Client warrants that **exp**’s instruments of professional service will be used only and exac ly as submitted by **exp**.

The Client recognizes and agrees that electronic files submitted by **exp** have been prepared and submitted using specific software and hardware systems. **Exp** makes no representation about he compatibility of these files with the Client’s current or future software and hardware systems.

Testhole No. : TP12-1

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517778E, 5574285N

Ground Surface Elevation : 279m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SAND and GRAVEL, some cobbles, trace silt and roots, brown, damp (compact-dense)	1	10	
	1						
5			○	SILTY SAND and GRAVEL, some cobbles, grey-brown, damp, Till-Like (very dense)	2	9	Roots to 4'6"
	2						
				BEDROCK @ 2.1m (7ft)			
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-1	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-2

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517873E, 5574197N

Ground Surface Elevation : 276m Geodetic

Ground Water Elevation : Free Water Observed @ 3' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL and COBBLES, trace roots, brown, moist-wet (compact)	3	12	
			○	-becomes wet (seepage), trace cobbles	4	20	
	1						
5							
	2		○		5	13	
				-less silt with depth			
10	3						
	4		○		6	10	
			○	SILTY GRAVELLY SAND, grey/brown, moist, Till-Like (very dense)	7	9	
15				End of Hole @ 4.6m (15ft)			
	5						

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SUNSTONE RIDGE
RAVENS CREST DEVELOPMENT
PEMBERTON, BC

Testhole No. TP12-2

Logged by: TSM

Sheet: 1 of 1

Date of Drilling: 2012-04-17

Project No. 0205789

Testhole No. : TP12-3

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517933E, 5574153N

Ground Surface Elevation : 272m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL, trace-some cobbles, trace roots and organics, brown, moist (compact)	8	14	
	1						
5				SILTY GRAVELLY SAND, occ. cobbles, grey/brown, moist, Till-Like (very dense)			
	2		○		9	12	
				BEDROCK @ 2.3m (7.5ft)			
10	3						
	4						
15							
	5						

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SUNSTONE RIDGE
RAVENS CREST DEVELOPMENT
PEMBERTON, BC

Testhole No. TP12-3

Logged by: TSM

Sheet: 1 of 1

Date of Drilling: 2012-04-17

Project No. 0205789

Testhole No. : TP12-4

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518011E, 5574128N

Ground Surface Elevation : 271m Geodetic

Ground Water Elevation : Free Water Observed @ 5' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL, some cobbles, trace-some silt, trace roots and organics, brown, moist-wet (compact)			
	1		○		12	8	
			○	SAND, some gravel, trace silt, grey, wet	10	10	Seepage @ 5'
5				SAND and GRAVEL, some silt, occ. cobbles, brown/grey, wet (compact)			Roots to 5'6"
	2						
				SILTY SAND and GRAVEL, grey, moist (dense)			
10	3		○		11	8	
				SILTY SAND, some gravel, grey, moist, becoming Till-Like (dense)			
				End of Hole@ 3.5m (11.5ft)			
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-4	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-5

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518152E, 5574075N

Ground Surface Elevation : 280m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL and COBBLES, some silt, trace roots and organics, brown, damp (loose-compact)			
			○	SAND and GRAVEL, some silt, occ. cobbles, grey, moist (dense)	13	10	
	1						
				SILTY SAND and GRAVEL, trace cobbles, brown/grey, moist, Till-Like (very dense)			
5				BEDROCK @ 1.5m (5ft)			
	2						
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-5	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-6

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518141E, 5573992N

Ground Surface Elevation : 255m Geodetic

Ground Water Elevation : Free Water Observed @ 7' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL and COBBLES, trace roots and organics, brown, moist (loose-compact)			
	1			SAND and GRAVEL, some silt, occ. cobbles, grey, moist (compact)			
5							
	2			-water seeping at 7' -becomes dense			
10	3						
	4			-occ. pockets of SANDY SILT, some crushed cobbles (weathered Till)			
15				End of Hole @ 4.6m (15ft)			
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-6	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-7

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10518047E, 5573972N

Ground Surface Elevation : 221m Geodetic

Ground Water Elevation : Free Water Observed @ 5' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, trace roots and organics, brown, moist (compact)			
	1		○	SILTY SAND and GRAVEL, occ. cobbles, trace roots, brown/grey, wet (compact-dense)	14	14	
5							Roots to 5'
	2			GRAVELLY SILT and SAND, occ. crushed cobbles, grey, wet, Till-Like (very dense)			Seepage @ 5'
			○		15	9	
				End of Hole @ 2.7m (9ft)			
10	3						
	4						
15							
	5						

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SUNSTONE RIDGE
RAVENS CREST DEVELOPMENT
PEMBERTON, BC

Testhole No. TP12-7

Logged by: TSM

Date of Drilling: 2012-04-17

Sheet: 1 of 1

Project No. 0205789

Testhole No. : TP12-8

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517973E, 5573935N

Ground Surface Elevation : 214m Geodetic

Ground Water Elevation : Free Water Observed @ 8' (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, trace roots and organics, brown, moist (loose)			
				SILTY SAND and GRAVEL, some cobbles, trace roots, brown/grey, moist-wet (compact)			
	1						
5			○		16	11	
	2						Roots to 8'
				SAND and GRAVEL, some silt-silty, grey, wet (dense)			Seepage @ 8'
10	3		○		17	9	
				-Weathered Till			
				End of Hole @ 3.6m (12ft)			
	4						
15							
	5						

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SUNSTONE RIDGE
RAVENS CREST DEVELOPMENT
PEMBERTON, BC

Testhole No. TP12-8

Logged by: TSM

Date of Drilling: 2012-04-17

Sheet: 1 of 1

Project No. 0205789

Testhole No. : TP12-9

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517821E, 5574133N

Ground Surface Elevation : 247m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILTY SAND and GRAVEL, occ. cobbles, grey/brown, moist, trending to Till-Like (dense)	18	-	
				SILTY SAND and GRAVEL, grey, moist, Till-Like (very dense)			
	1		○		19	6	
5				BEDROCK @ 1.5m (5ft)			
	2						
10	3						
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-9	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-10

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517846E, 5574067N

Ground Surface Elevation : 237m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SILTY SAND and GRAVEL, some cobbles, brown, moist (loose-compact)			
				SAND and GRAVEL, some cobbles, trace-some silt, brown, moist (compact-dense)			
5	1						
	2		○	-becomes very dense -trace silt -Weathered Till	20	9	
10	3			End of Hole @ 3.1m (10ft)			
15	4						
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-10	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-11

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517925E, 5574008N

Ground Surface Elevation : 230m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
			○	SILT and SAND and GRAVEL, trace roots and organics, occ. cobbles, brown, moist (compact)	21	13	
				SILTY SAND and GRAVEL, occ. cobbles, grey, moist, Till-Like (dense) -occ. organic lense (~3" diameter)			Roots to 4'
5	1						
	2			BEDROCK @ 1.8m (6ft)			
10	3						
	4						
15	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-11	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-12

Equipment : 892ELC JOHN DEERE BACKHOE

Location : 10517795E, 5574003N

Ground Surface Elevation : 215m Geodetic

Ground Water Elevation : No Free Water Observed (at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0			SILT and SAND and ROOTS, some organics and gravel, black, moist (soft/loose) TOPSOIL			
				SAND and GRAVEL and COBBLES, trace silt, brown, moist (compact-dense)			
	1		○		22	7	
5							
	2						Roots to 7'
				SILTY SAND and GRAVEL, occ. cobbles, grey/brown, moist-wet (dense-very dense)			
10	3		○		23	10	
				End of Hole @ 3.4m (11ft)			
	4						
15							
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-12	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

Testhole No. : TP12-13

Equipment : 892ELC JOHN DEERE BACKHOE

Location : SEE LOCATION PLAN

Ground Surface Elevation : 205m Geodetic

Ground Water Elevation : Free Water Observed @ Surface
(at time of investigation)

Method of Sampling: ○ GRAB SAMPLE

Depth (ft)	Depth (m)	SPT	symbol	Description	sample no.	moisture content %	Remarks
0	0		○	Mixed zones of WOOD DEBRIS AND GRAVEL AND SILT, some organics, black, wet (mixture of fill and native) (soft)	25	68	Difficult to delineate test pit layers due to water rushing into the hole, soil is at the edge of a nearby swamp. Back-hoe contractor notes area is extremely soft and mucky below the fill (his excavator got stuck in a previous year while building the road next to the test pit)
			○	SAND and GRAVEL, some silt, brown, wet (loose)	24	14	
5	1			End of Hole @ 1.2m (4ft)			
10	2						
15	3						
	4						
	5						

0857673 BC Ltd.	**exp** Services Inc.		
SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, BC	Testhole No. TP12-13	Logged by: TSM Sheet: 1 of 1	Date of Drilling: 2012-04-17 Project No. 0205789

exp Services Inc.
275-3001 Wayburne Drive
Burnaby, BC V5G 4W3
604-874-1245

Kamloops Branch
250-372-5321

CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

PROJECT NO. 002-05789
CLIENT [redacted]
C.C.

TO [redacted]

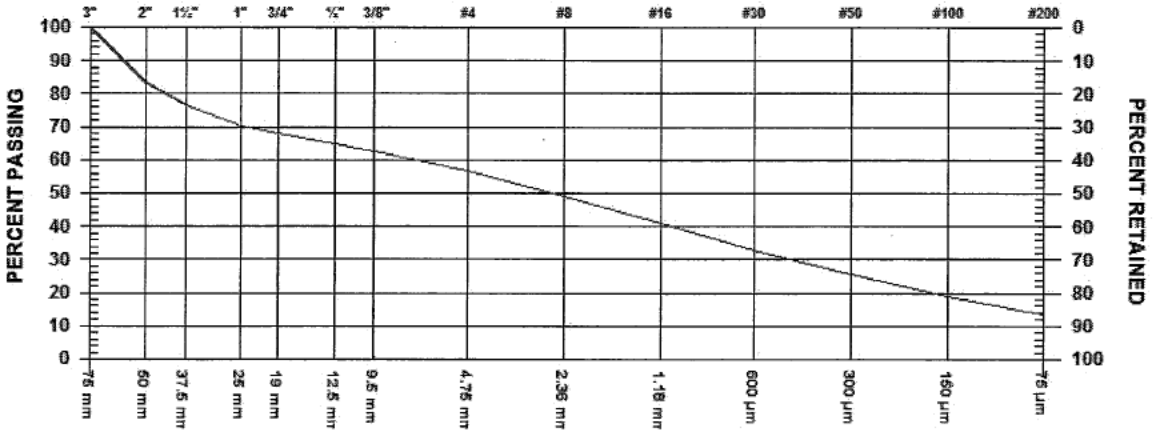
ATTN: EVAN SYKES

PROJECT SUNSTONE RIDGE GEOTECHNICAL PEMBERTON
CONTRACTOR

SIEVE TEST NO. 1 DATE RECEIVED Apr 20,2012 DATE TESTED Apr 20,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE PIT RUN (BROWN SAND WITH GRAVEL)

SAMPLED BY TSM
TESTED BY E. RELSO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	83.4	
1 1/2"	37.5 mm	76.8	
1"	25 mm	70.2	
3/4"	19 mm	68.1	
1/2"	12.5 mm	64.8	
3/8"	9.5 mm	62.7	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	56.6	
No. 8	2.36 mm	49.0	
No. 16	1.18 mm	41.1	
No. 30	600 µm	33.1	
No. 50	300 µm	25.5	
No. 100	150 µm	18.8	
No. 200	75 µm	13.5	

COMMENTS
TEST METHOD: ASTM C136, C117. MC = 8.9%. COMBINED SAMPLES: TP12-1 SA1 @ 1.5'.
TP12-3 SA8 @ 2'. TP12-5 SA13 @ 2'. TP12-11 SA21 @ 1'

 Apr 27,2012 exp Services Inc. BRIAN GRAY, AScT

exp Services Inc.
275-3001 Wayburne Drive
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Kamloops Branch
250-372-5321

CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

PROJECT NO. 002-05789
CLIENT [redacted]
C.C.

TO [redacted]

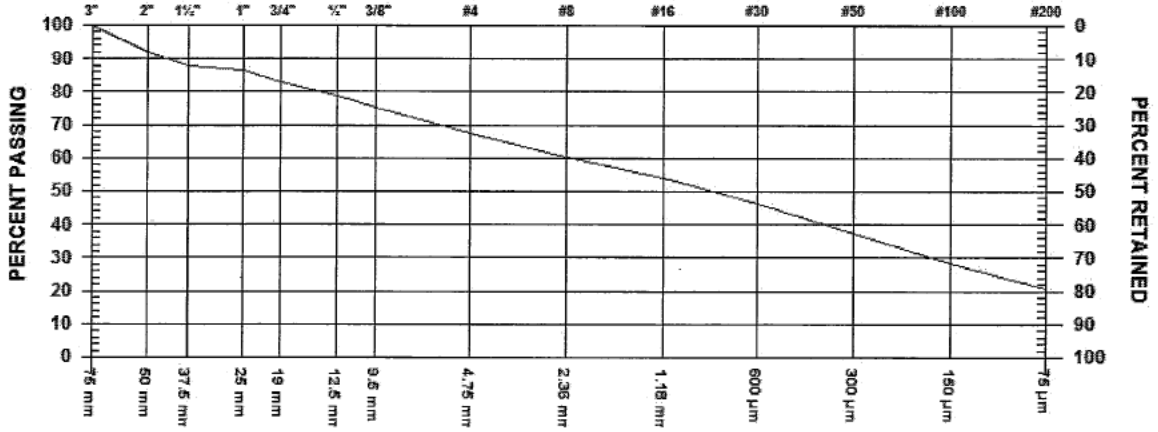
ATTN: EVAN SYKES

PROJECT SUNSTONE RIDGE GEOTECHNICAL
CONTRACTOR PEMBERTON

SIEVE TEST NO. 2 DATE RECEIVED Apr 25,2012 DATE TESTED Apr 25,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE SAND WITH GRAVEL (TILL)

SAMPLED BY TSM
TESTED BY E. RELAO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	91.7	
1 1/2"	37.5 mm	87.8	
1"	25 mm	86.4	
3/4"	19 mm	83.1	
1/2"	12.5 mm	78.7	
3/8"	9.5 mm	75.3	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	67.4	
No. 8	2.36 mm	60.5	
No. 16	1.18 mm	54.2	
No. 30	600 µm	46.4	
No. 50	300 µm	37.4	
No. 100	150 µm	28.5	
No. 200	75 µm	20.9	

COMMENTS
TEST METHOD: ASTM C136, C117. MC = 7.8%. COMBINED SAMPLES: TP12-1 SA2 @ 5'. TP12-3 SA9 @ 7'. TP12-2 SA7 @ 14.5'. TP12-9 SA19 @ 4'

exp Services Inc.
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CERTIFIED TESTING LABORATORY

SIEVE ANALYSIS REPORT
8 16 30 50 SERIES

PROJECT NO. 002-05789
CLIENT [redacted]
C.C.

TO [redacted]

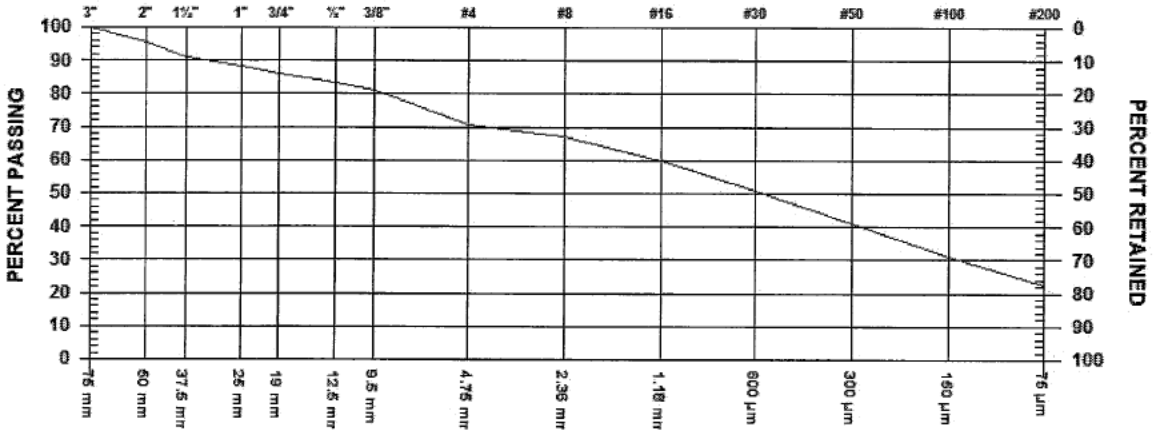
ATTN: EVAN SYKES

PROJECT SUNSTONE RIDGE GEOTECHNICAL
CONTRACTOR PEMBERTON

SIEVE TEST NO. 3 DATE RECEIVED Apr 25,2012 DATE TESTED Apr 25,2012 DATE SAMPLED Apr 17,2012

SUPPLIER
SOURCE
SPECIFICATION
MATERIAL TYPE SAND WITH GRAVEL

SAMPLED BY TSM
TESTED BY E. RELAO
TEST METHOD WASHED



GRAVEL SIZES		PERCENT PASSING	GRADATION LIMITS
3"	75 mm	100.0	
2"	50 mm	95.7	
1 1/2"	37.5 mm	90.8	
1"	25 mm	88.4	
3/4"	19 mm	85.9	
1/2"	12.5 mm	83.4	
3/8"	9.5 mm	81.3	

SAND SIZES AND FINES		PERCENT PASSING	GRADATION LIMITS
No. 4	4.75 mm	70.8	
No. 8	2.36 mm	67.0	
No. 16	1.18 mm	59.8	
No. 30	600 µm	50.9	
No. 50	300 µm	40.8	
No. 100	150 µm	30.9	
No. 200	75 µm	22.4	

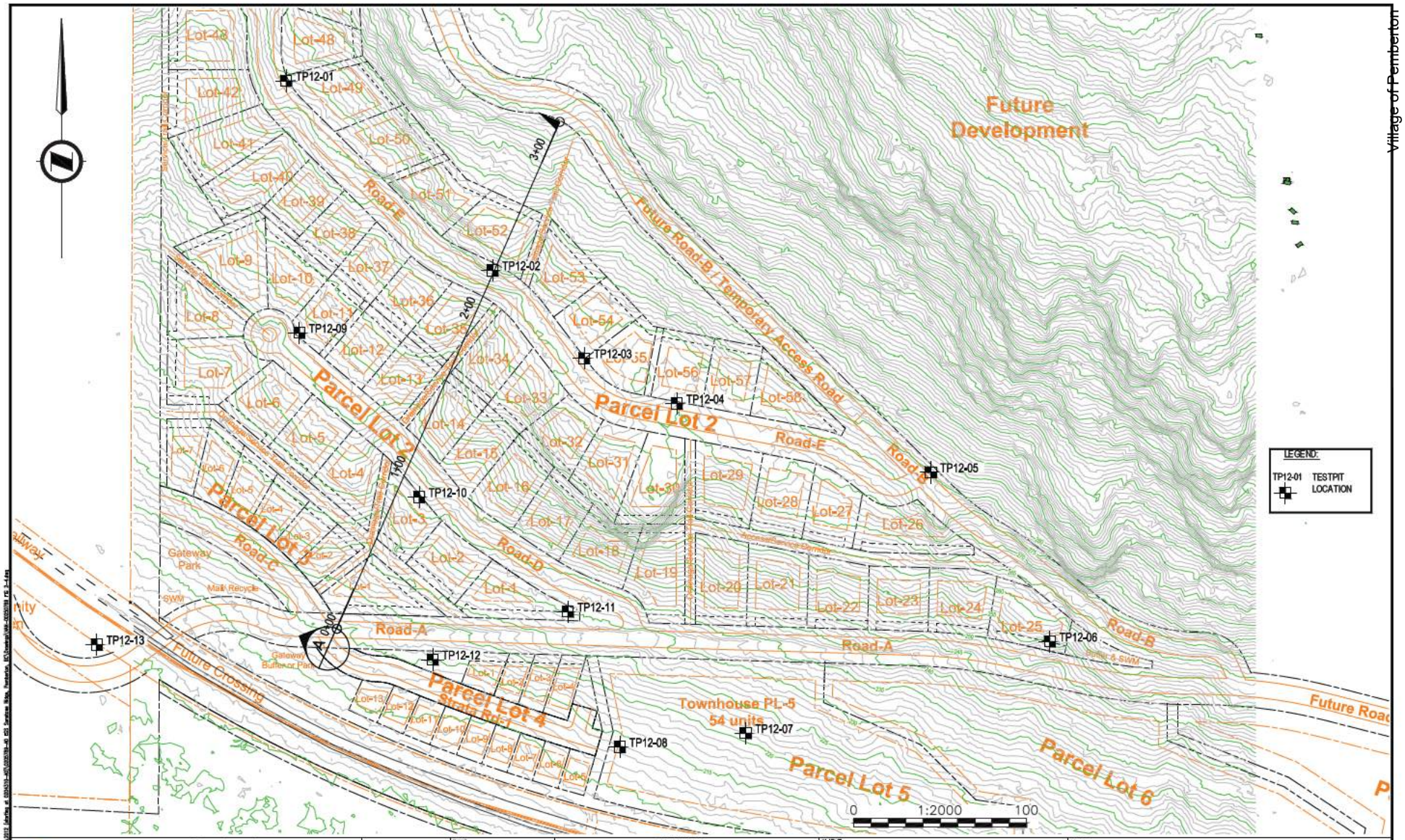
COMMENTS
TEST METHOD: ASTM C136, C117. MC = 8.2%

TP12-9 SA18 @ 1'

 Apr 27,2012 exp Services Inc. BRIAN GRAY, AScT [redacted]

exp.	CLIENT: 0857673 BL Ltd.				TITLE: LOCATION PLAN N.T.S. MAP 92/J7		
	PROJECT: SUNSTONE RIDGE SUBDIVISION PEMBERTON						
	PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN.	CHK. EGS	DATE MAY, 2012	SCALE: N.T.S.	DWG NO. FIG. 1

Friday, May 11, 2012 12:13:54 PM
L:\2012 Lettering at 0204316-A0\00205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 1.dwg



exp Services Inc.
275–3001 Wayburne Drive
Burnaby, British Columbia V5G 4W3
Telephone: 604–874–1245
Fax: 604–874–2358
exp.com

DFTR.	PDL
DSGN.	TSM
CHK.	EGS

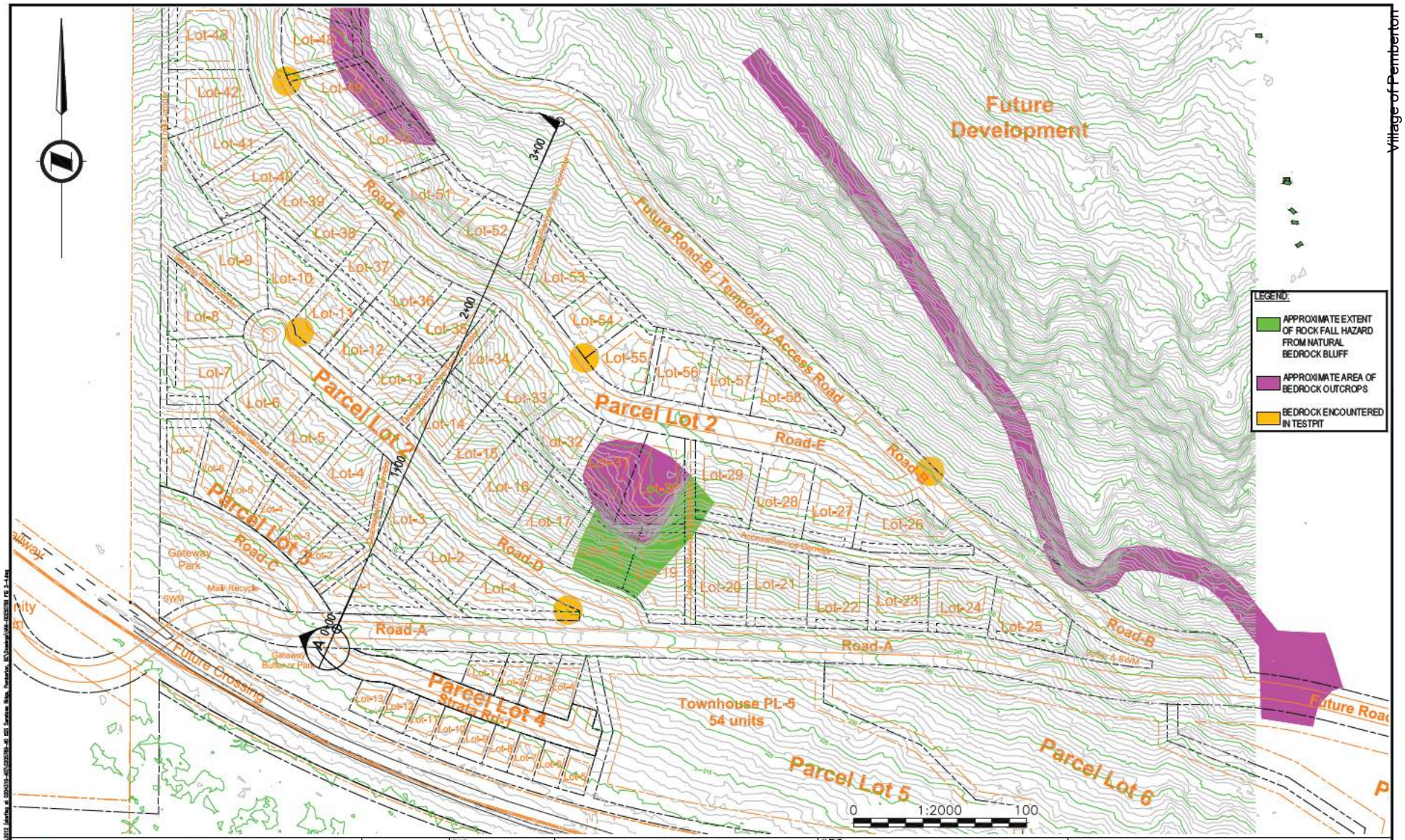
REVISIONS

No.	DESCRIPTION	DATE

CLIENT: 0857673 BC LTD.
PROJECT: SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.
PROJECT NO.: VAN-00205789-A0

TITLE: SITE PLAN
TESTPIT LOCATION PLAN

DATE: MAY, 2012
SCALE: 1:2000
DWG NO.: FIGURE 2



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exp.com

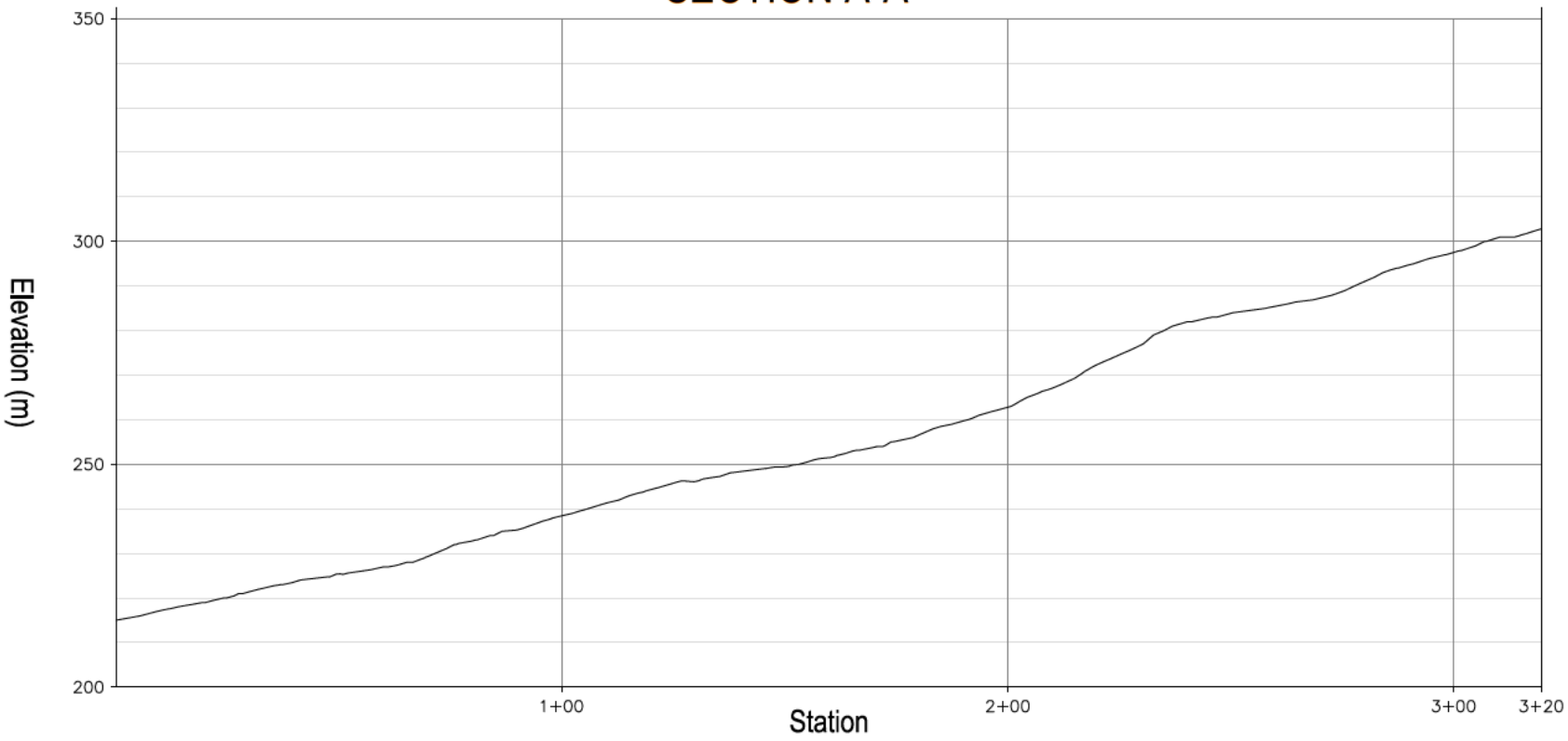
DFTR.	PDL
DSGN.	TSM
CHK.	EGS

REVISIONS

No.	DESCRIPTION	DATE

CLIENT	0857673 BC LTD.
PROJECT	SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.
PROJECT NO.	VAN-00205789-A0
TITLE:	SITE PLAN BEDROCK OUTCROP / ROCKFALL HAZARD LOCATION
DATE	MAY, 2012
SCALE:	1:2000
DWG NO.	FIGURE 3

SECTION A-A



0 1:1000 50

exp Services Inc.
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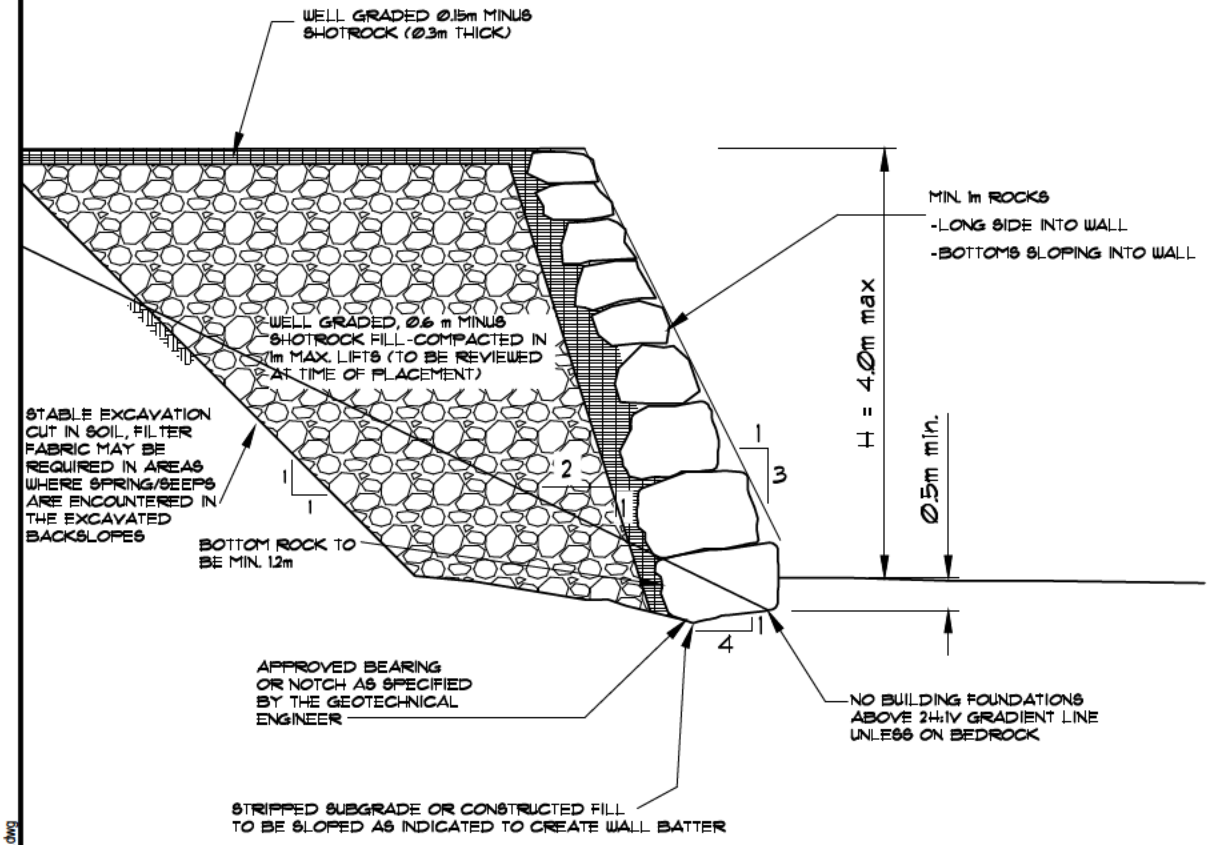
Burnaby, British Columbia V5G 4W3
Telephone: 604–874–1245
Fax: 604–874–2358
exp.com

DFTR.	REVISIONS			CLIENT	TITLE:
PDL	No.	DESCRIPTION	DATE	0857673 BC LTD.	SECTION A-A
DSGN. TSM				PROJECT SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.	
CHK. EGS				PROJECT NO. VAN-00205789-A0	DATE MAY, 2012 / SCALE: H&V 1:1000 / DWG NO. FIGURE 4

NOTES:

1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.

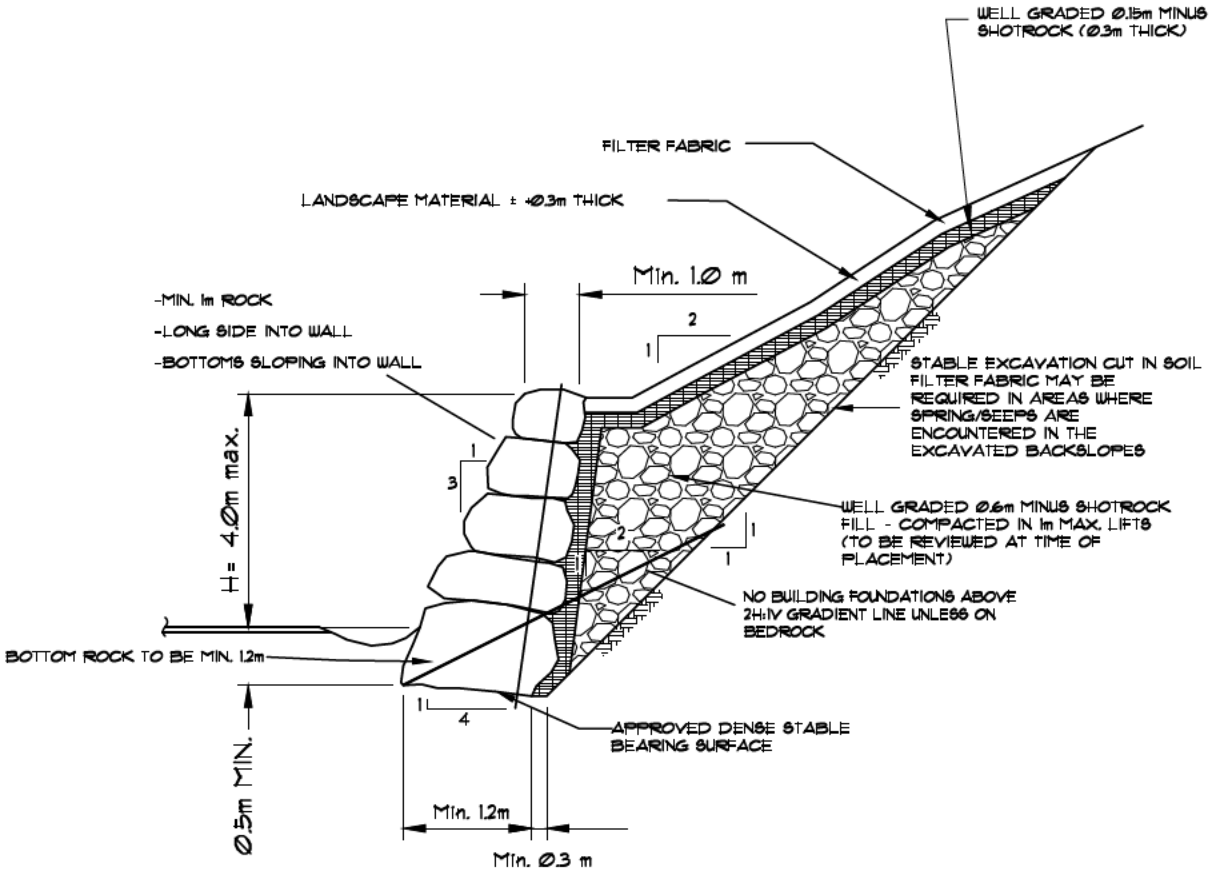


exp.	CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - SINGLE TIER		
	PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
	PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5A

L:\2012 (starting at 0204310-A0)\0205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-6.dwg

NOTES:

1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.

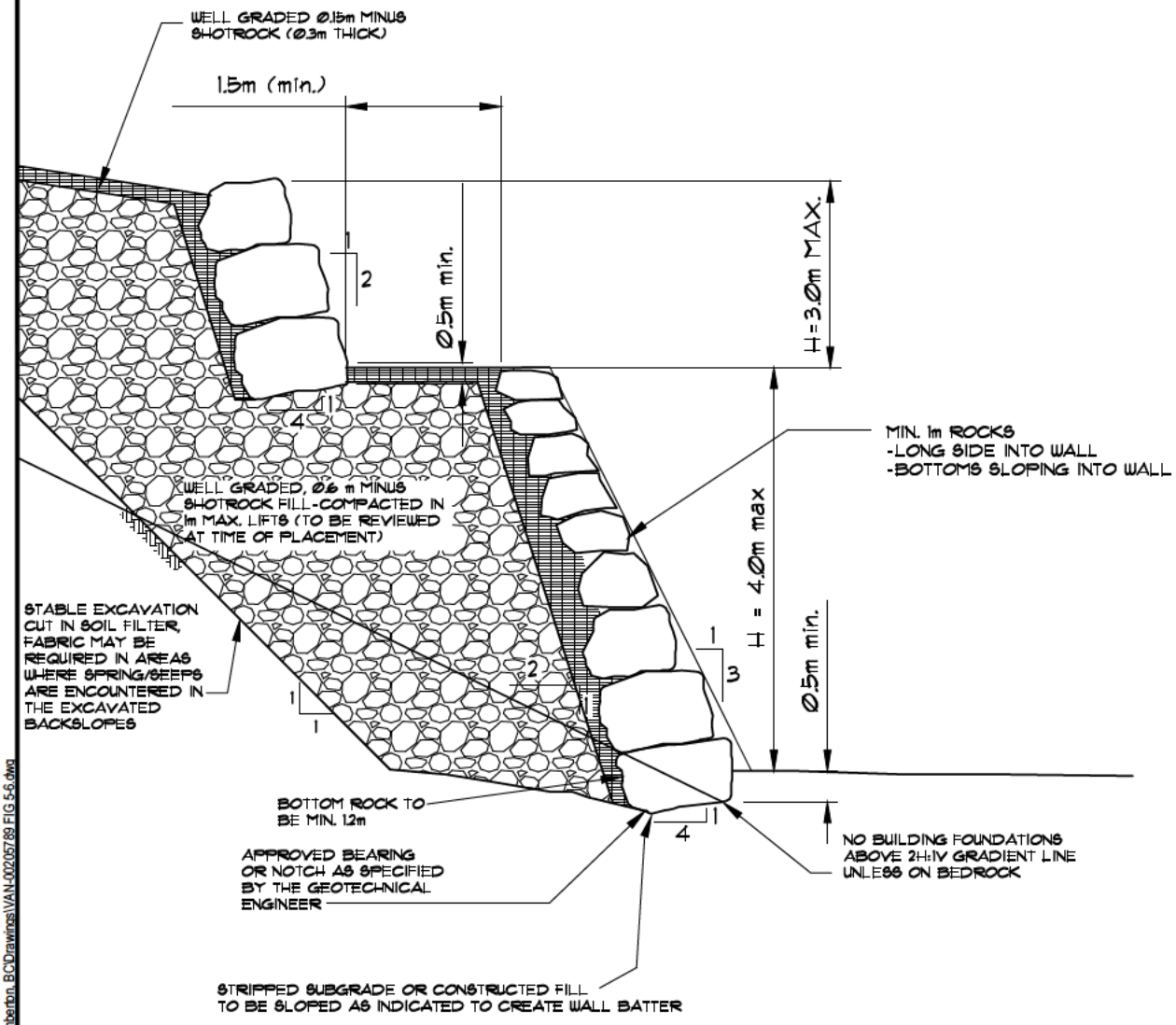


L:\2012 (starting at 0204310-A0)\0205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-6.dwg

CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - SINGLE TIER WITH SLOPE		
PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5B

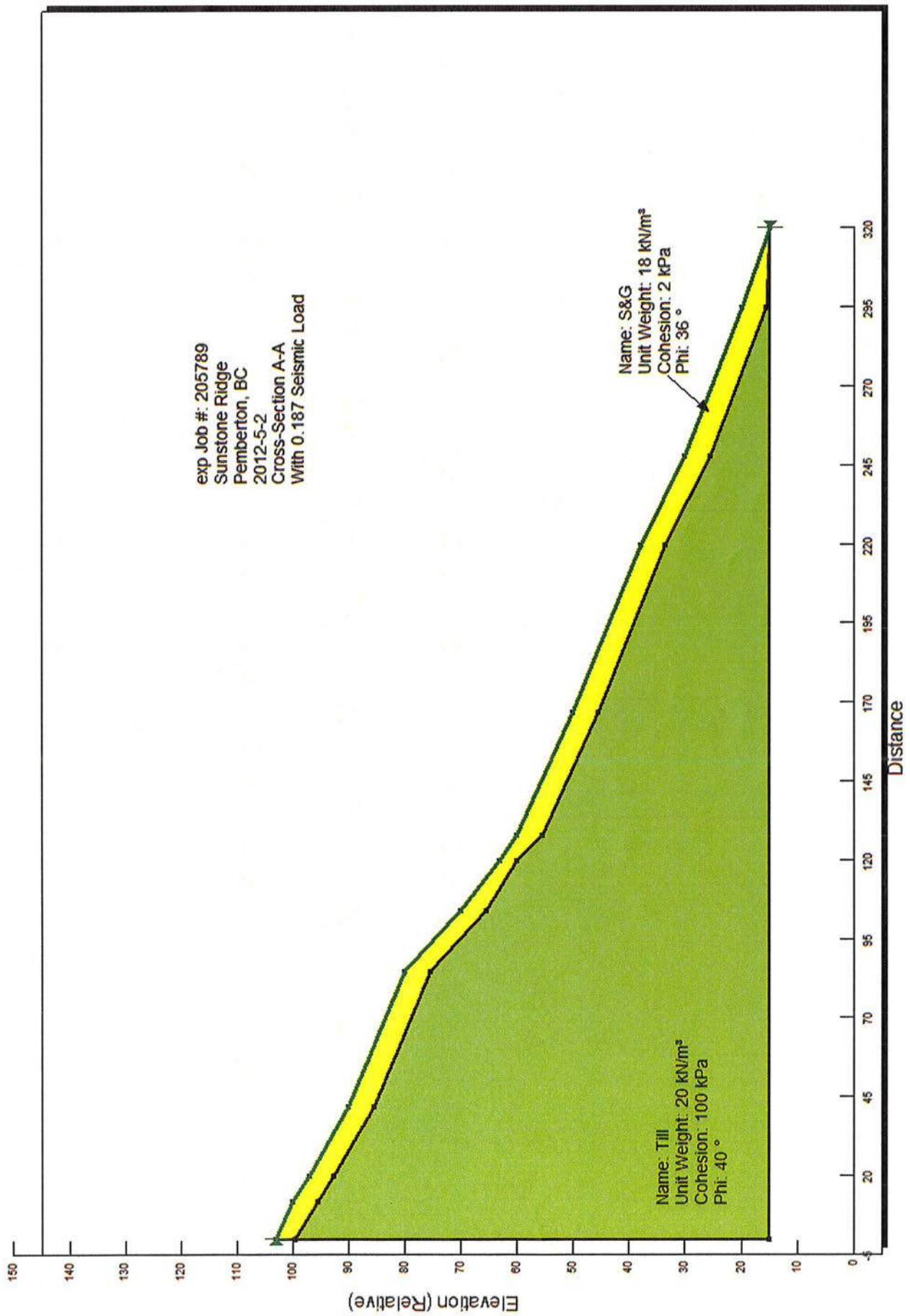
NOTES:

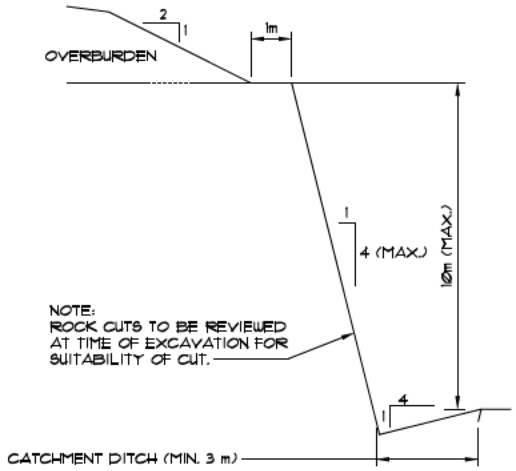
1) ROCK STACK TO BE CONSTRUCTED OF ANGULAR SOUND AND DURABLE ROCK.
2) EACH ROCK TO BEAR ON TWO ROCKS IN THE UNDERLYING LIFT.
3) EXP IS TO BE CALLED TO REVIEW BASE PREPARATION AND GENERAL STACKING AND BACKFILL PROCEDURES.
4) UPPER TIER TO BE 1m LOWER THAN THE TIER BELOW



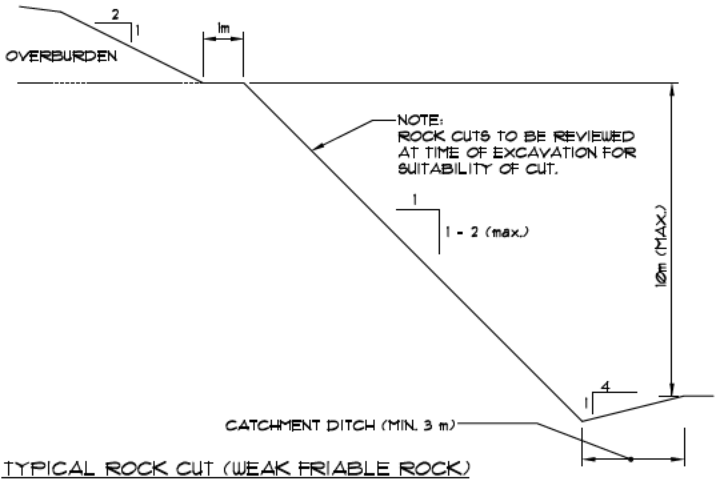
L:\2012 (starting at 0204310-A0\V0205789-A0 EGS Sunstone Ridge, Pemberton, BC\Drawings\VAN-00205789 FIG 5-8.dwg

CLIENT: 0857673 BL Ltd.				TITLE: TYPICAL ROCK STACK WALL DETAIL - TERRACED		
PROJECT: PROPOSED SUNSTONE RIDGE SUBDIVISION PEMBERTON, B.C.						
PROJECT NO. VAN-00205789-A0	DFTR. PDL	DSGN. EGS	CHK. BA	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 5C

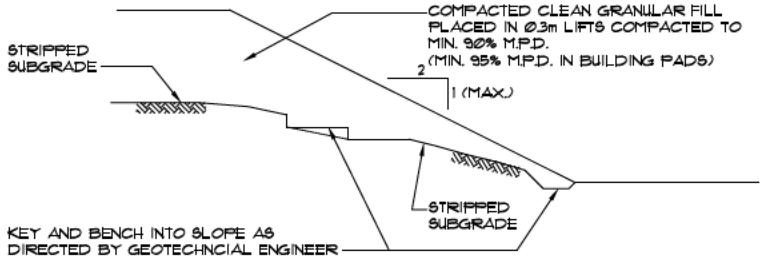

exp Job #: 205789
Sunstone Ridge
Pemberton, BC
2012-5-2
Cross-Section A-A
With 0.187 Seismic Load
Name: S&G
Unit Weight: 18 kN/m³
Cohesion: 2 kPa
Phi: 36 °
Name: Till
Unit Weight: 20 kN/m³
Cohesion: 100 kPa
Phi: 40 °
Elevation (Relative)
Distance



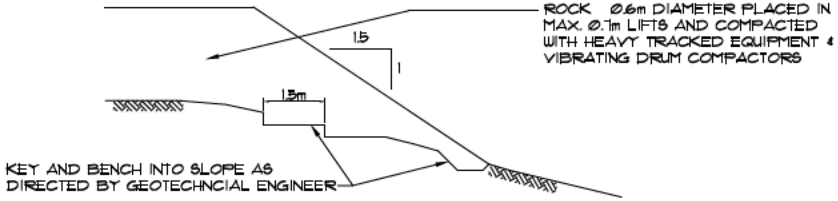
TYPICAL ROCK CUT (COMPETENT ROCK)
-SUBJECT TO INSPECTION AT TIME OF EXCAVATION



TYPICAL ROCK CUT (WEAK FRIABLE ROCK)
(SUBJECT TO INSPECTION AT TIME OF EXCAVATION)



TYPICAL EARTH EMBANKMENT



TYPICAL SHOTROCK FILL EMBANKMENTS

exp Services Inc.
275–3001 Wayburne Drive
Burnaby, British Columbia V5G 4W3
Telephone: 604–874–1245
Fax: 604–874–2358
exp.com

DFTR.	REVISIONS			CLIENT	TITLE:		
PDL	No.	DESCRIPTION	DATE	0857673 BC LTD.	TYPICAL ROCK CUT AND ROCK & EMBANKMENT DETAILS		
DSGN. EGS				PROJECT SUNSTONE RIDGE RAVENS CREST DEVELOPMENT PEMBERTON, B.C.			
CHK. BA				PROJECT NO. VAN-00205789-A0	DATE MAY, 2012	SCALE: NTS	DWG NO. FIGURE 6

VILLAGE OF PEMBERTON
BYLAW No. 919, 2021

A bylaw to amend Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw No. 815, 2017

The Council of the Village of Pemberton, in open meeting assembled, **ENACTS AS FOLLOWS**:

CITATION

1. This bylaw may be cited for all purposes as the "Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw 815, 2017, Amendment (Housekeeping) Bylaw No. 919, 2021".

APPLICATION

2. Village of Pemberton Agricultural Enhancement Advisory Commission Bylaw 815, 2017, is amended as follows:

(a) By striking out section 3. 1.;

(b) by striking out in section 4 a);

(c) by striking out section 4 f);

(d) by striking out section 5 a) and inserting in its place the following:

a) The Commission shall be composed of seven (7) voting members.

(e) By striking out section 5 b) and inserting in its place the following:

b) The members of the Commission shall have expertise in farming or agricultural production in Pemberton and shall preferably be:

i. Members of the farming, ranching, or other agricultural production of distribution community,

ii. Persons with knowledge in land and soil management, community, or environmental planning, or

iii. Persons with an interest in agricultural sustainability and resource management.

(f) By striking out section 5 c) and inserting in its place the following:

c) Two thirds of the individuals appointed as members to the Commission shall be qualified as follows:

i. resident of the Village of Pemberton; or

ii. property owner of ALR land in the Village of Pemberton.

(n) in section 5 d), by inserting the word “planning” after the work “advisory” and striking out the second instance of the word “commissions” and inserting in its place the word “committees”;

(o) by striking out section 6. a);

(p) in section 6 d) v., by inserting the word “transportation” after the word “servicing”;

(q) by striking out section 7. a);

(r) by striking out section 12 and inserting in its place the following:

Voting

12(1) A Commission member present at a meeting is entitled to vote and has one vote.

12(2) A recommendation of the Commission shall be adopted by a majority affirmative vote of the members present at the meeting.

(s) By inserting a new section 13.1 as follows:

Electronic Meetings

13.1(1) A meeting of the Commission may be conducted by means of electronic or other communication facilities, if:

(a) the Chair, or in the absence of the Chair, the Acting Chair, determines it is advisable; or

(b) the electronic meeting format is necessitated by a health, safety, or environmental emergency or urgent Village of Pemberton business that prevents all members from attending in person.

13.1(2) Advance notice of a meeting to be conducted pursuant to section 13.1 (1) will be provided advising that the meeting will be conducted by means of electronic or other communications facilities, as follows:

(a) the agenda cover sheet will include that the meeting is being held electronically; and

(b) details will be included on the agenda cover sheet and on the Village of Pemberton website with instructions for participation.; and

(u) by inserting a new section 13.2 as follows:

Electronic Participation at Meetings

13.2(1) A member of the Commission who is unable to attend a meeting in person may participate in the meeting by means of electronic or other communications facilities.

13.2(2) A member of the Commission who is participating in a meeting under this section is deemed to be present at the meeting.

READ A FIRST TIME this 7th day of December 2021.

READ A SECOND TIME this 7th day of December 2021.

READ A THIRD TIME this 7th day of December 2021.

ADOPTED this 18th day of January 2022.

_____
Mike Richman
Mayor

_____
Sheena Fraser
Corporate Officer

THE VILLAGE OF PEMBERTON

BYLAW No. 920, 2021

A bylaw to establish the interest rate on latecomer payments for excess or extended services.

WHEREAS The Village of Pemberton requires the collection of Latecomers Payments on benefiting properties which enter into a Latecomers agreement with the Village of Pemberton.

WHEREAS *Local Governments Act* Section 508(4) requires the annual rate of interest on Latecomers Payments to be set by bylaw;

NOW THEREFORE, the Council of the Village of Pemberton, in open meeting assembled, enacts as follows:

PART 1: CITATION

1 This Bylaw may be cited for all purposes as "Village of Pemberton Latecomer Interest Rate Bylaw No. 920, 2021".

PART 2: DEFINITIONS

2 In this Bylaw,

(a) *Benefiting Property* means those lands that may connect to, use, or benefit from excess or extended services constructed by the Front-end Developer as determined by the Municipality.

(b) *Date of Substantial Completion* means that date established as being the date on which the excess or extended service is approved and available for connection to and use thereof.

(c) *Excess or Extended Services* means a portion of road, water, sewer and/or stormwater infrastructure that will serve the land other than the land being subdivided or developed.

(d) *Front-end Developer* means that person with whom the Municipality has entered into a latecomer agreement in return for that person providing, at this their own cost, excess or extended services in connection with their own development.

(e) *Latecomer Charge* means the percentage of the cost of the *Excess or Extended Services* to be collected from each benefiting property plus interest charged annually.

(f) *Person* in the definition of *Front-end Developer* means an individual, partnership, society, company or corporation, political body, or any other body or agency with is a party to a latecomer agreement with the Municipality.

3 In this Bylaw, a reference to an Act refers to a statute of British Columbia and a reference to any statute, regulation or other enactment refers to that enactment as amended or replaced from time to time.

4 The Municipality may, by resolution, enter into a latecomer agreement with a *Front-end Developer* to provide excess or extended services.

5 Latecomer charges shall be collected for a period of fifteen years from the *Date of Substantial Completion* of the *Excess or Extended Services* which has been established as December 7, 2017.

6 All charges made pursuant to the *Excess or Extended Services* and latecomer payment provisions of the *Local Government Act* will have added to them the rate of interest of commercial prime rate of interest plus two percent (2%) calculated annually, which shall be included in a charge payable under a Latecomer agreement for any owner of a *Benefitting Property* connecting to or using the *Excess or Extended Services*.

7 Latecomer payments including accrued interest shall be paid to the *Front-end Developer* within 30 days upon receipt of payment from the latecomer. Interest shall be compounded annually on the anniversary *Date of Substantial Completion*.

8 Latecomer charges are payable only to the *Front-end Developer* named in the Latecomer Agreement and only at their last known address as filed at the Municipal Offices.

READ A FIRST TIME this 7th day of December 2021.

READ A SECOND TIME this 7th day of December 2021.

READ A THIRD TIME this 7th day of December 2021.

ADOPTED this 18th day of January 2022

_____ _____

Mike Richman
Mayor

Sheena Fraser
Corporate Officer

From: Niki Vankerk <[redacted]>
Sent: January 12, 2022 6:00 PM
To: Mike Richman <mrichman@pemberton.ca>; Amica Antonelli <AAntonelli@pemberton.ca>; Ted Craddock <TCraddock@pemberton.ca>; Leah Noble <LNoble@pemberton.ca>; Ryan Zant <RZant@pemberton.ca>; VoP Admin <admin@pemberton.ca>
Cc: Lisa Pedrini <lpedrini@pemberton.ca>
Subject: Letter to Mayor and Council re: OCP Review

To Mayor and Council,

I see that the village has scheduled a comprehensive community review of the OCP for this year, over 10 years since our last full review. And, in particular, the Benchlands Neighbourhood Concept Plan was discussed back in 2007.

As we all know the community has changed radically over that time with many people leaving and new people moving here. This is a great opportunity to re-establish/define our wishes for how Pemberton should grow and evolve.

I look forward to the council putting any OCP amendments on hold until the OCP review is complete so that you have the most current information on the community's views. This is even more important when looking at amendments that are for major developments that have potential broad reaching impacts for the entire community.

I believe to make any OCP amendments before completing this review would be premature, possibly starting down a path that will be difficult to pull back from if the updated OCP does not support it.

Niki Vankerk
[redacted] Pemberton BC [redacted]
[redacted]

January 12, 2022

Re: Engagement on updates to British Columbia's Geographical Naming Principles, Policy and Procedures

VIA EMAIL

To whom it may concern,

Geographical place names are essential for communication and navigation, but also influence how we view, understand and remember places and their stories. Embracing our diversity through place names gives all British Columbians an opportunity to develop a deeper understanding of the history and significance of the land and its features.

The Government of British Columbia has committed to reconciliation with Indigenous Peoples in BC and to the adoption and implementation of the United Nations *Declaration on the Rights of Indigenous Peoples* (UNDRIP) through the *Declaration Act* (2019). In support of these commitments, the BC Geographical Names Office, part of the Heritage Branch of the Ministry of Forest, Lands, Natural Resource Operations and Rural Development, wishes to engage with you and your community on proposed updates to British Columbia's Geographical Naming Principles, Policy and Procedures, which outline how decisions about geographical place names are made. The last major revision to the policy took place in the 1990s.

The proposed changes include:

1. Establish guiding principles for decisions and procedures for geographical naming in BC.
2. Acknowledge the importance of documenting and restoring Indigenous place names as an act of reconciliation.
3. Outline procedures for recording information in the BC Geographical Names Information System (the database that contains authoritative information on place names), including unofficial place names.
4. Provide for the recognition of multiple official place names for a geographical feature in different languages.
5. Reconsider the practice of commemorative place naming, where geographical features are named after individual persons to honour or memorialize them.
6. Allow the BCGNO to initiate the rescinding of a place name that is derogatory or discriminatory.
7. General update to modernize policy and address gaps.

We would like to engage with you to understand how changes to British Columbia's Geographical Naming Principles, Policy and Procedures might affect or support your community's interests and values. To this end, we have contracted Corfield & Associates to

Ministry of Forests, Lands, Natural Resource Operations and Rural Development
Heritage Branch
Mailing Address:
PO Box 9818 STN PROV GOVT
Victoria, BC V8W 9W3
Tel: 250 356-1432
Website: www.gov.bc.ca/for

assist with the facilitation and engagement of Indigenous and municipal governments and key stakeholders.

Heritage Branch and Corfield and Associates have identified the following dates for virtual engagement sessions with municipal government representatives:

Tuesday, February 1 – Local Governments - 9:30 AM – 12:00 PM PT

Wednesday, February 2 – Local Governments - 1:00 PM – 3:30 PM PT

Tuesday, February 8 – Local Governments - 1:00 PM – 3:30 PM PT

Wednesday, February 9 – Local Governments - 9:30 AM – 12:00 PM PT

To facilitate your participation, we ask that you register in advance for one of the virtual engagement sessions by emailing corfieldandassociates@gmail.com. Once your participation is confirmed, you will receive an invitation to the virtual session. You will also be sent a discussion guide and draft policy to review, which will provide additional information and details about the proposed changes.

If you are unable to participate in one of the virtual engagement sessions, Corfield and Associates have prepared an online survey to receive your input. Please email corfieldandassociates@gmail.com to receive a link to access the online survey.

We thank you in advance for your input.

Sincerely,

[redacted]

Richard Linzey
Director

LOWER MAINLAND
LOCAL GOVERNMENT ASSOCIATION

CALL FOR MEMBER RESOLUTIONS

Please distribute to Mayor and Council.

The Lower Mainland LGA Conference & AGM will take place from May 4-6th in Whistler, BC at the Westin Resort & Spa.

Registration and room block will open in February.

All resolutions must be received by the Lower Mainland LGA by Friday, March 4, 2022.

HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Patrick Weiler
Member of Parliament
West Vancouver-Sunshine Coast-Sea to Sky Country

December 6, 2021

Dear Friends & Neighbours,

Parents and guardians of children with disabilities have always faced unique challenges in finding quality, affordable and inclusive child care options that meet the specific needs of their children, a reality that has been intensified by the COVID-19 pandemic. That is why the Government of Canada is determined to build an early learning and child care system that is inclusive from the start, giving all children an equal chance to succeed.

Last week, the Minister of Employment, Workforce Development and Disability Inclusion, Carla Qualtrough, **announced a call for proposals for the new Enabling Accessibility Fund (EAF) Small Projects Component on Early Learning and Child Care (ELCC).**

Up to $25 million over two years will be allocated through this call for proposals to projects that will help to improve the accessibility and safety of regulated and/or licensed early learning and child care centres across the country. This funding could benefit approximately 350 child care centres, and support accessible infrastructure improvements such as ramps, doors, washrooms, elevators, lifts, and play structures. Accessible information and communication technology projects are also eligible for funding support. Online information sessions will be offered to support organizations through the application process.

For more information, please visit this webpage.
The application deadline is January 28, 2022, 2:00pm PST.

The Government of Canada is committed to creating a Canada-wide early learning and child care system that is inclusive and accessible - a system that provides families across the country with access to high quality, affordable and inclusive early learning and child care centres that are adapted to their needs. This initiative aligns with the objectives of the Government's Disability Inclusion Action Plan (DIAP), specifically the creation of disability inclusive spaces. It will also help support an inclusive recovery by removing barriers to participation for parents and guardians of children with disabilities in the labour market, driving strong and inclusive economic growth as Canada recovers from the pandemic.

As part of ongoing work on the DIAP, Minister Qualtrough also announced that Independent Living Canada, in partnership with Muscular Dystrophy Canada, were selected as recipients of $650,000 under

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6367 Bruce Street
West Vancouver
British Columbia V7W 2G5
Tel.: 604-913-2660 | Fax.: 604-913-2664

Ottawa
Suite 282, Confederation Building
229 Wellington Street, Ottawa
Ontario K1A 0A6
Tel.: 613-947-4617 | Fax.: 613-947-4620

the Social Development Partnerships Program – Disability component, to further consult on the development of the DIAP over the next 16 months. The two organizations will work with disability stakeholders across the country to solicit community perspectives and insights into the design and implementation of key initiatives under the DIAP. This engagement will feature perspectives on underrepresented and harder-to-reach populations including: Black and other racialized persons with disabilities and persons with disabilities who identify as LGBTQ2+.

Finally, Minister Qualtrough also took the opportunity to highlight that the Government of Canada has received a 2022 Zero Project award for its ground-breaking *Accessible Canada Act* (ACA). The Minister acknowledged the great honour of receiving this award on behalf of the Government. The award recognizes the innovative accessibility practices and policies embodied in the ACA. The Zero Project supports the implementation of the United Nations Convention on the Rights of Persons with Disabilities around the world.

If you have any questions about the program, please do not hesitate to reach out to our office. We are happy to support your application in any way that we can.

Sincerely,

[redacted]

Patrick Weiler, MP
West Vancouver-Sunshine Coast-Sea to Sky Country

From: Customerservice <Customerservice@huskyenergy.com>
Sent: Monday, December 13, 2021 8:07 AM
To: Gwendolyn Kennedy <gkennedy@pemberton.ca>
Subject: RE: Correspondence from Mayor and Council - Fuel Prices in Pemberton, BC

Good morning Gwendolyn,

There are several factors that go into the pricing of fuel and why it may differ from one place to another. Some of the reasons why the price may differ region to region are:

- Taxes on gasoline vary from province to province, and occasionally from city to city
- Transportation costs vary
- The volume of gasoline sold at gas stations effects pricing
- The local market dynamics

SOURCE: canadianfuels.ca, Canadian Fuels Association

We encourage you to visit the CFA website for more information.

Kind Regards,
Husky Customer Service
1-800-661-3835
customerservice@huskyenergy.com

HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Patrick Weiler
Member of Parliament
West Vancouver-Sunshine Coast-Sea to Sky Country

January 4, 2022

Dear Friends & Neighbours,

The Government of Canada is committed to supporting Canadian workers, businesses and service providers through the COVID-19 pandemic.

On December 22, 2021, the Government of Canada announced that it would be expanding eligibility for the Canada Worker Lockdown Benefit (CWLB) to better support Canadian workers. This week, we are pleased to announce that the expanded access to CWLB is now in effect and Canadians in designated regions affected by lockdowns or qualifying capacity restrictions can apply for the benefit.

Currently, British Columbia, Alberta, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Newfoundland and Labrador and Nunavut are included in the list of designated lockdown regions. This list will be updated as provincial or territorial governments introduce changes to public health restrictions.

The expanded Canada Worker Lockdown Benefit includes workers in regions where provincial or territorial governments have introduced or acknowledged capacity restrictions of 50% or more. This benefit will provide $300 a week in income support to eligible workers who are directly affected by a COVID-19-related public health lockdown, and who have lost 50% or more of their income as a result. **Affected Canadian workers in newly designated lockdown regions can apply for the benefit today. Payments will be retroactive to December 19, 2021.** To be eligible for the CWLB, you must meet the eligibility criteria which includes, but is not limited to:

- You earned at least $5,000 in 2020, 2021, or in the 12 months leading up to the day you apply for the benefit;
- You filed a 2020 tax return;
- A region where you work or provide a service is designated as a COVID-19 lockdown region during the application period;
- A designated COVID-19 lockdown in your region resulted in one of the following during the application period:
    - you lost your job and are unemployed
    - you are self-employed but unable to continue your work
    - you are employed or self-employed but had a reduction of at least 50% in your average weekly income as compared to the previous year.

These updated regulations will apply from December 19, 2021, to February 12, 2022.

6367 Bruce Street
West Vancouver
British Columbia V7W 2G5
Tel.: 604-913-2660 | Fax.: 604-913-2664

Suite 282, Confederation Building
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Individuals who tried to apply for the CWLB prior to noon of December 30th in regions not yet designated as eligible by the Canada Revenue Agency (CRA) have been asked to call the CRA at 1-800-959-8281 to speak to an agent to finalize their application.

The CRA's top priority is to continue to ensure that access to COVID-19 benefits are simple and clear, and that benefit payments get into the hands of those who need it, as quickly as possible. The CRA will also continue to monitor for fraud and suspicious activity and implement necessary controls to protect the integrity of the programs and help ensure that only eligible Canadians are receiving benefit payments.

If you have any questions about the Canada Worker Lockdown Benefit, please do not hesitate to reach out to our office.

Sincerely,

[redacted]

Patrick Weiler, MP
West Vancouver-Sunshine Coast-Sea to Sky Country

HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

Patrick Weiler
Member of Parliament
West Vancouver-Sunshine Coast-Sea to Sky Country

January 13, 2022

Dear Friends & Neighbours,

The Canada Emergency Business Account (CEBA) program has provided interest-free, partially forgivable loans to nearly 900,000 small businesses and not-for-profit organizations to help them navigate the pandemic and remain resilient. However, the Omicron variant has delayed the recovery for businesses in many parts of the country.

This week, the Honourable Chrystia Freeland, Deputy Prime Minister and Minister of Finance, and the Honourable Mary Ng, Minister of International Trade, Export Promotion, Small Business and Economic Development, **announced that the repayment deadline for CEBA loans to qualify for partial loan forgiveness is being extended from December 31, 2022, to December 31, 2023**, for all eligible borrowers in good standing.

This extension will support short-term economic recovery and offer greater repayment flexibility to small businesses and not-for-profit organizations, many of which are facing continued challenges due to the pandemic. Repayment on or before the new deadline of December 31, 2023, will result in loan forgiveness of up to a third of the value of the loans (meaning up to $20,000).

Outstanding loans would subsequently convert to two-year term loans with interest of 5 per cent per annum commencing on January 1, 2024, with the loans fully due by December 31, 2025.

The government is also **announcing that the repayment deadline to qualify for partial forgiveness for CEBA-equivalent lending through the Regional Relief and Recovery Fund is extended to December 31, 2023.**

If you have any questions about this announcement, please do not hesitate to reach out to our office.

Sincerely,

[redacted]

Patrick Weiler, MP
West Vancouver-Sunshine Coast-Sea to Sky Country

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OPEN QUESTION PERIOD POLICY

THAT the following guidelines for the Open Question Period held at the conclusion of the Regular Council Meetings:

1) The Open Question Period will commence after the adjournment of the Regular Council Meeting;

2) A maximum of 15 minutes for the questions from the Press and Public will be permitted, subject to curtailment at the discretion of the Chair if other business necessitates;

3) Only questions directly related to business discussed during the Council Meeting are allowed;

4) Questions may be asked of any Council Member;

5) Questions must be truly questions and not statements of opinions or policy by the questioner;

6) Not more than two (2) separate subjects per questioner will be allowed;

7) Questions from each member of the attending Press will be allowed preference prior to proceeding to the public;

8) The Chair will recognize the questioner and will direct questions to the Councillor whom he/she feels is best able to reply;

9) More than one Councillor may reply if he/she feels there is something to contribute.

Approved by Council at Meeting No. 920
Held November 2, 1999

Amended by Council at Meeting No. 1405
Held September 15, 2015