From: Navraj
To: Neethu Syam
Cc: Anne Berry; Krista Grewal; Jay Lin
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)
Date: Thursday, April 25, 2024 9:01:30 AM
Attachments: image002.jpg
image004.jpg
image005.png
15514 - Shoring Drawings - Signed&Sealed - 2024-04-25.pdf

Hi Neethu,

As promised, please find attached the updated shoring plans from Geopacific which showcases all trees present on the site.

In addition, I am looping in Jay Lin from our team who will oversee communication while Krista is away on vacation. Krista will be periodically checking emails, but Jay will be the main point of contact for anything urgent and pressing in her absence.

We will forward over the draft Section 219 covenants once our lawyers have drawn them up so we can have the legal instruments all approved and wrapped up in due course.

If there is anything else you need from us at this time, please do not hesitate to reach out. In the interim, we look forward to receiving the interdepartmental comments deriving from the supplementary reports and gaining further insight on all other 4th reading requirements so we can push forth towards a council date.

Best,

Nav
Development Coordinator
Weststone Group
#315 – 13338 Central Ave
Surrey, BC V3T 0M3
E: nav@wsgroup.ca
P: 604-498-1958 x109

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Tuesday, April 2, 2024 11:39 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Navraj <nav@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

> **Caution:**This has been sent from outside of WestStone. Make sure you recognize the sender before opening attachments or clicking links.

Hi Krista,

Thanks for your email. I had a good long weekend. I hope you did too!

As previously mentioned, I will only be circulating the report package to the internal team upon receipt of the updated shoring information in the interest of staff having the complete information while conducting their review. The Shoring drawing is pivotal at this juncture as we will review this with the remaining documents and identify any potential impact the updated design, particularly the additional fourth level in the parkade will have on tree preservation.

Concerning lot consolidation, you will **first** need to demolish any existing buildings and/or structures on the properties before you can consolidate, to avoid the creation of any non-conformities. Additionally, since a portion of the properties will be provided as road dedication, the survey plan for lot consolidation will have to reflect the same, and the Application of Deposit Plan (ADP) will require the Approving Officer's signature. I recommend you consult your legal team on this. At this time, you may proceed to submit a Demo Permit Application. Please reach out to building@whiterockcity.ca for demo permit application submission requirements.

About the Section 219 covenants:

1. Housing agreement: I've followed up with our legal team on their comments on your version of the draft housing agreement and am waiting to hear back.
2. Tree Protection Covenant: I've attached a master template for a tree protection covenant for your reference. Please note that this template is quite high level and language around tree protection and replacement measures specific to your development will need to be incorporated. Please prepare the same and send it my way for our legal team's review.
3. Regarding the other agreements required to be registered on title, I don't have any templates to share at this time, so your legal team is welcome to draft them up for our review.

I'm unavailable for a chat today, but feel free to give me a call at 604-541-2159 anytime tomorrow between 3:00 – 4:30 PM if you'd like to this discuss further.

Thanks,

Neethu Syam (she/her)
Planning Division Lead

Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Tuesday, April 2, 2024 9:45 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Navraj <nav@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Hope you had a great long weekend!

Are you available for a quick chat? We have submitted all of the below (aside from the updated shoring) and I am hoping to start on the other 4th reading conditions including the S219's. I would like to get the drafts from your lawyers if they have any.

It has been quite some time since we got the 4th reading checklist and we were asked to hold off on working through them. I just want to ensure we are still on track to achieve 4th in a reasonable time frame.

I am free any time today for a quick 5 minute chat. My cell is 604-537-3491.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Krista Baronian
Sent: Wednesday, March 20, 2024 6:25 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Navraj <nav@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

There was a delay with our consultants. We are hoping to have the trees reflected on the shoring drawings shortly. Is there any way for us to receive any comments back on the other items (if there are any?)

Furthermore, I just wanted to check in to see if there was anything else required as part of the 4th reading conditions for consolidating the lots. All our tenants are now moved out of the homes and the houses have been boarded up and ready for demolition. Let me know if there are any additional forms I need to have filled out for this consolidation.

We are also close to the finish line to submit our first round servicing drawings with our civil consultant and Hiep Lo.

Finally, we have our lawyers on stand by to complete all legal forms with the City's lawyer (covenants and agreements) the moment we get the go-ahead.

Looking forward to getting this project close to final adoption as we work through the conditions.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Friday, February 16, 2024 11:41 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Navraj <nav@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Thanks for letting me know. I'll wait for the updated Excavation and Shoring drawings before I circulate the package to the team. This will help us provide you with a comprehensive response following our review.

Regards,

Neethu Syam (she/her)
Planning Division Lead
Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Wednesday, February 14, 2024 1:00 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Navraj <nav@wsgroup.ca>

Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Just to let you know, Parb is no longer at Weststone so I will be the main point of contact here on out. I have added Nav from our office who is our Development Coordinator to oversee any emails and requests.

I just re-uploaded the shoring drawings and the latest geo in the same Vidal drive - 4th Reading Submission & Requirements

It does look like they are missing the trees but I have asked Geo to include them. I will email you once received.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Wednesday, February 14, 2024 11:48 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

I'm preparing the materials to be circulated for review, and I noticed that the 'Excavation and Shoring Details" drawing set was not part of the submission package. Could you please confirm if this was included? As previously mentioned, this drawing(s) **must** identify all trees proposed for retention and replacement, their root details etc.

Thanks,

Neethu Syam (she/her)
Planning Division Lead
Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Neethu Syam
Sent: Thursday, January 4, 2024 10:17 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Sophia Bihari <sbihari@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Happy New Year! I am just back from vacation and am working through the emails in my inbox. I wanted to send you a quick note to confirm that I received your email dated 11th December 2023, and will review and circulate the documents for internal review. Should I have any follow-up questions, I'll be in touch.

If you have any questions in the meantime, please feel free to reach out.

Kind regards,

Neethu Syam (she/her)
Planning Division Lead
Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Thursday, January 4, 2024 10:09 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Sophia Bihari <sbihari@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi All,

Happy New Year!

Just wanted to check in on the below file as well for Vidal. Please let me know if you have any questions in regards to the updated supplemental reports.

Looking forward to receiving the 'green light' to proceed with 4th reading requirements once the internal review has completed.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Krista Baronian
Sent: Monday, December 11, 2023 10:11 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Sophia Bihari <sbihari@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

As discussed, please find attached all the updated reports that were required by the City prior to proceeding to our 4th reading conditions.

You can find them via the link below:

4th Reading Submission & Requirements

Please let me know if you have any questions and we look forward to receiving the 'go-ahead' to proceed with the remaining 4th reading requirements.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Thursday, October 5, 2023 1:13 PM
To: Krista Baronian <krista@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

A Code Compliance Memorandum which includes the detailed alternative solutions (as attached in your previous email) is an acceptable format at this stage. Please proceed to revise the memo to reflect the latest version of the proposal that received third reading in July 2023.

Regards,

Neethu Syam (she/her)
Planning Division Lead
Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Wednesday, October 4, 2023 12:36 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

We had a quick consultant link in and I just wanted to get clarification on what is required. On all of our projects and for the consultants, the full code compliance report is typically at the BP stage of submission. It is a hefty cost to complete and takes time hence why it is always contracted during the building permit phase.

During our current stage prior to final adoption, we typically submit a code compliance memorandum which describes the alternative solution approach in great detail. I have re-attached the 2023 memo above. If this will suffice for comments, I will just ensure that it is updated based on the latest architectural drawings and flip it back to you.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Krista Baronian
Sent: Wednesday, October 4, 2023 10:28 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Understandable. We will submit the updated report and await comments with the rest of the package.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Wednesday, October 4, 2023 8:14 AM
To: Krista Baronian <krista@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Thank you for your email. Unfortunately, as we are short-staffed, I cannot set up a meeting for this matter at this time. I recommend you prepare the code compliance report and alternate solutions based on the final version of the 6-storey proposal that received third reading and submit the same for our review. I may be able to arrange a meeting to go over our comments following our review of the report.

Regards,

Neethu Syam (she/her)
Planning Division Lead
Planning and Development Services, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Thursday, September 28, 2023 3:28 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Are you able to assist with the setting up a meeting with the building department to discuss the code report and the alternative solutions? Before we update the report again for a 4th time, the consultants think it would be beneficial to have an active discussion so we can understand what the building department will allow.

I wasn't sure if Trevor Welsch is still running that side of things. We can meet any time next week if it's possible to set up something up. On the call will be Weststone, Keystone Architecture and Jensen Hughes (code consultant.)

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Friday, September 15, 2023 11:59 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Thank you for your email and hope you had a good summer! I've now had the chance to discuss with management about your demolition waiver request. Additionally, there were some other priority items flagged by other department staff which need to be clarified at this time. I've detailed them below:

- As the demolition of all existing buildings & structures on the subject site is a condition of the third reading that was approved by Council, staff cannot support your request and therefore, **this condition cannot be waived**. If this is something that you still want to be considered, staff will need to take a separate report to Council saying this condition cannot be fulfilled. While staff recognizes your reasons for the waiver request, it is recommended that you comply with this requirement.

- As there were many changes made to the project, including the last-minute addition (fourth-storey parkade) at the Council meeting, we now require certain information from your end so we can begin our analysis and provide you with clear next steps on this version of the proposal (6 storeys, 139 unit, 4 level parkade, multi-unit residential development). The following are the new and/or updated documents required at this time:
    a. Updated Geotechnical Report
    b. Updated Arborist Report
    c. Drawings showing Excavation and shoring details. Please note these drawings **must** identify all trees proposed for retention and replacement, and their root details etc.

d. Erosion and Sediment Control Plan (to show how potential impacts to sensitive areas and nearby watercourses will be mitigated)
e. Updated Preliminary Code Compliance report and any alternative solutions

Please hold off on working on any of the conditions in the third reading letter at this time. Once staff have had a chance to view the above documents on receipt, I'll look to set up a meeting to communicate next steps.

Feel free to reach out if you have any questions.

Regards,

Neethu Syam (she/her)
Planner, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca
Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Monday, August 21, 2023 12:02 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Hope you had a great weekend.

I just wanted to follow up on the below. In addition, our lawyers have requested the contact details for the City's legal department. Typically with Section 219's – the City has a draft and our lawyers integrate the verbiage proposed. It would be good if our lawyer can talk to the City's legal team to get access to the templates.

Furthermore, we asked Hiep Lo at the Engineering department for comments and he sent back the old ones from 2020. Before I send this over to our civil engineer, are there going to be updated comments based on the latest drawings or are we to proceed with the previous comments?

Best,
Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Krista Baronian
Sent: Wednesday, August 9, 2023 9:35 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Thanks for the call just now. As discussed, we will have our lawyers draft the Section 219 registrable documents for the City to review.

In addition, we are formally putting in a request to have item # 5 (demolition permit conditions) waived as part of 4th and final adoption.

As you may know, we currently have tenants that reside in two of the properties and we are not wanting to evict them until we have received our full DP. Furthermore, we have found that once a property is completely vacant – vagrants tend to gravitate towards the properties and civilians use it as a dumping ground. This has already happened in the past with the empty homes, which we had to board up and block as Bylaw officers were constantly receiving complaints.

Our request would be to have the demolition permit issued at the same time as our BP to avoid the matters above and ensure we have received full approval of our new development.

Please let me know if we can make this work with the tree covenants and TMP plans that are required for submission. I am happy to have our current arborist submit requirements for tree protection for the future demolition if you need anything in writing to make this decision.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Tuesday, August 8, 2023 8:59 AM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Thanks for letting me know. I'll make myself available for our phone call at 9:00 AM tomorrow.

Regards,

Neethu Syam (she/her)
Planner, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca
Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Friday, August 4, 2023 5:11 PM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: Re: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal

Street (19-011)

Hi Neethu,

Wednesday at 9 am works for me!

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Friday, August 4, 2023 4:00:48 PM
To: Krista Baronian <krista@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista,

Let's setup a call for sometime next week. My earliest availability is Wednesday at 9:00 AM. If that time works for you, let me know and I can arrange to be available for our call at that time.

Thanks,

Neethu Syam (she/her)
Planner, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

From: Krista Baronian <krista@wsgroup.ca>
Sent: Friday, August 4, 2023 9:30 AM
To: Neethu Syam <NSyam@whiterockcity.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>; Parb Rehal <parb@wsgroup.ca>
Subject: RE: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Neethu,

Thanks for sending the requirements of final adoption over. Our team is eager to get started and get organized.

Are you able to hop on a quick call to discuss a few of the items noted as a requirement to 4th and final adoption? I am available any time today and can be reached at 604-537-3491.

Best,

Krista Baronian
Development Manager

WestStone Group

Office: 604.498.1958 ext 108
Fax: 604.498.1959

315 – 13338 Central Ave
Surrey BC V3T 0M3

From: Neethu Syam <NSyam@whiterockcity.ca>
Sent: Thursday, August 3, 2023 2:49 PM
To: Krista Baronian <krista@wsgroup.ca>; Parb Rehal <parb@wsgroup.ca>
Cc: Anne Berry <ABerry@whiterockcity.ca>
Subject: Next Steps: Post-third reading for 14937 Thrift Avenue and 1441,1443-45, 1465 Vidal Street (19-011)

Hi Krista and Parb,

On July 24th 2023, Council gave third bylaw reading for your application at 14937 Thrift Avenue and 1441, 1443-45, 1465 Vidal Street– congratulations!

Please find attached a comprehensive *third reading development conditions and additional requirements* letter summarizing the conditions that have to be completed before bringing the file back to Council for final adoption.

Additionally, please note that as the site falls within the Ravine and Significant Tree Environmental Development Permit Area, it is subject to a Minor Development Permit application as well. I have explained this in further detail within the attached letter and listed the requirements we need at this time.

Please let me know if you have further questions following the review of this letter.

Kind regards,

Neethu Syam (she/her)
Planner, City of White Rock
15322 Buena Vista Avenue, White Rock, BC V4B 1Y6
Tel: 604.541.2159 | www.whiterockcity.ca

Email signature logo

Documents > 02 Development > 00 Applications > 06a - 4th Reading Submissions & Requirements (Internal) > **06 - 4th Reading Sub**

Name	Modified	Modified By
Addressing Plan	April 3	Jay Lin
Arborist	October 18, 2023	Navraj
City Correspondence	December 11, 2023	Krista Baronian
Civil	March 25	Navraj
Code	October 18, 2023	Navraj
Construction Mgmt Plan	April 10	Jay Lin
Geotech	October 18, 2023	Navraj
Housing Agreement	March 13	Krista Baronian
Legal	April 25	Jay Lin

August 3rd , 2023

WS Vidal Properties Limited Partnership
315 – 13338 Central Ave
Surrey, BC V3T 0M3

SENT VIA EMAIL

Attention: Krista Baronian, Parb Rehal (*Agents*)

RE: Development Conditions and additional requirements – Zoning Bylaw Amendment for 14937 Thrift Avenue and 1441, 1443-45, 1465 Vidal Street (19-011)

The proposed Zoning Bylaw Amendment for the properties at 14937 Thrift Avenue and 1441, 1443-45, and 1465 Vidal Street received third reading at the Regular Council Meeting held on July 24th, 2023. The following conditions must be satisfied before Council can consider the adoption of the Bylaw Amendment:

1. UPDATED LANDSCAPE PLAN

Condition: Submit updated Landscape plans reflecting the parkade intake and exhaust shafts for the new P4 level located at the southwest corner and the northeast corner of the parkade.

Staff Contact: File Manager

2. HOUSING AGREEMENT

Condition: Enter into a housing agreement with the City that secures the secured market rental (125 units) and that 10% of the housing (14 units) provided will be affordable housing.

Staff Contact: File Manager

3. REGISTRABLE DOCUMENTS

Conditions:

i. Registration of a Section 219 Tree Protection Covenant - see *Section 6: Tree Protection and Management* below for more details.

ii. Registration of a Section 219 covenant to secure 25 off-street parking stalls to be fully equipped with Electric Vehicle Charging Stations / EV Supply Equipment.

iii. Registration of a Statutory Right-of-Way for the community urban park space at the intersection of Thrift Avenue and Vidal Street

Comments:

- Applicant's legal team to have the registrable documents drafted and upon completion send a draft to the relevant contact person(s) for review and approval.

- Once finalized, the applicant is to submit two (2) signed paper copies and one (1) electronic copy of this registerable document to the City for signatures.
- Following receipt of signed and executed copies from the City, submit the same to the Land Titles Office for registration on the land title.

Staff Contact: File Manager

4. WORKS AND SERVICES AGREEMENT:

Condition: Applicant to ensure that all engineering requirements (including road dedication etc.) and issues are addressed to the satisfaction of the Director of Engineering and Municipal Operations.

Comments:

- Please reach out to the assigned staff contact to get a sample W&SA for your review.
- The works and services agreement must be signed, and all fees and deposits must be paid before the application can advance to Council for final bylaw adoption.

Staff Contact: Hiep Lo HLo@whiterockcity.ca

Engineering Departments Website: https://www.whiterockcity.ca/187/Engineering

5. DEMOLITION PERMIT

Condition: Complete the demolition of the existing dwelling(s) to the satisfaction of the Director of Planning and Development Services.

Contact: Building Division - building@whiterockcity.ca

Building Division Website: https://www.whiterockcity.ca/170/Building

6. TREE PROTECTION & MANAGEMENT:

Conditions:

i. A tree protection covenant, if and as required, to be registered on title to ensure the recommendations of the final Arborist Report, approved by the Director of Planning and Development Services and, more specifically, the City's Arboricultural Technician, are implemented and maintained through future demolition and construction activities.

Staff Contact: File Manager

ii. You must confirm and ensure the recommendations of the final arborist report, approved by the Director of Planning and Development Services and, more specifically, the City's Arboricultural Technician, are implemented and maintained through future demolition and construction activities.

Staff Contact: Alanna Claffey aclaffey@whiterockcity.ca

Comments:

- Your project Architect and Engineer will need to approve and sign off that all prescriptions made by the project arborist are feasible.
- You will need to contact the Building clerk for Tree Management application forms and fees and submit the same arborist report approved by Planning before 2nd reading for the 6-storey proposal (2023). In addition, we will collect securities to protect and retain trees through future construction on-site (**Contact:** Building Division – building@whiterockcity.ca)

Tree Management Website: https://www.whiterockcity.ca/323/Tree-Management

7. CONSTRUCTION MANAGEMENT PLAN

Condition: Develop a Construction Management Plan for staff review and approval.

Staff Contact: File Manager

8. COMPREHENSIVE ADDRESSING PLAN

Condition: Develop a Comprehensive Addressing Plan for staff review and approval.

Staff Contact: Sophia Bihari sbihari@whiterockcity.ca

9. MAJOR DEVELOPMENT PERMIT

Condition: Prior to the final adoption of the Zoning Amendment, staff will bring forward the draft Major DP and report to Council for consideration. Approval of the DP will be in concurrence with the final adoption of the zoning bylaw.

Comment: Landscaping cost estimate to be provided to staff contact for calculation of securities.

Staff Contact: File Manager

10. ADDITIONAL REQUIREMENTS

a. MINOR DEVELOPMENT PERMIT

The subject properties also falls within the Environmental (Ravine Lands and Significant Trees) Development Permit Area (Section 23.4 in the Official Community Plan). While many requirements needed for this permit type have been captured as third reading conditions, the following are the additional conditions required for staff review at this time:

- An Erosion and Sediment Control Plan that shows how potential impacts to sensitive areas and nearby watercourses will be mitigated.
- A geotechnical assessment, prepared by a Registered Geotechnical Engineer, in accordance with the current edition of the Guidelines for Legislated Landslide Assessments for Proposed Residential Development in British Columbia. Registration of a restrictive covenant pursuant to Section 219 of the Land Title Act may be required.

- Application fee payment of **$1,622**. You can pay by cheque, in person or by mail. We also have an option for online payment, but there is an additional 2% credit card service fee. If paying by cheque, please make it out to the City of White Rock.
- Submission of the following forms:
  - Development Application Form
  - Form E – Minor DP (Environmental DPA)

Staff Contact: File Manager

b. COMMUNITY AMENITY CONTRIBUTION

In order to achieve the proposed additional density, the CACs amount of **$604,715.45** for the additional bonus density will need to be submitted in the form of payment-in-lieu prior to the final adoption of the Housing agreement bylaw and issuance of the Major Development Permit.

Staff Contact: File Manager

If you have any questions or concerns or would like to discuss this further, please contact Neethu Syam (File Manager) at 604-541-2159 or nsyam@whiterockcity.ca.

Regards,

Neethu Syam
Planner, Planning and Development Services

GEOPACIFIC
CONSULTANTS

P (604) 439 0922
geopacific.ca
1779 West 75th Avenue
Vancouver, B.C. V6P 6P2

WS Vidal Properties LP
315 – 13338 Central Avenue
Surrey, B.C.
V3T 0M3

January 10, 2024
File: 15514

Attention: Krista Baronian

Re: Geotechnical Investigation Report – Vidal St Project
1441-1465 Vidal Street and 14937 Thrift Avenue, White Rock, B.C.

1.0 INTRODUCTION

We understand that a residential development is proposed for the above referenced site. Based on the Architectural Drawings prepared by Keystone Architecture & Planning Ltd., dated July 4, 2023, the proposed development will consist of a 6 storey, wood framed, residential building with a rooftop amenity deck over up to 4 levels of below grade, reinforced concrete parking structure. The below grade portion of the development is to be constructed in close proximity to property lines. Foundation depths are expected to extend up to 14 m below grade at the northern extent.

This report provides the results of our field investigation and makes geotechnical recommendations for the design and construction of the proposed development. This report was prepared exclusively for WS Vidal Properties LP, for their use and for the use of others on their development team but remains the property of GeoPacific Consultants Ltd.

2.0 SITE DESCRIPTION

The proposed site consists of 4 adjoining residential lots located northwest of the intersection of Vidal Street and Thrift Avenue in White Rock, BC. The site is bounded by Vidal Street to the east, Thrift Avenue to the south and residential lots in all other directions.

Based on a surveyed topographical plan provided by Target Land Surveying issued on April 4, 2018, the site slopes from north to south with elevation differential of about 9 m.

The northern lot, 1465 Vidal Street, was cleared of all pre-existing improvements and is covered with trees and vegetation. The remaining lots are occupied with single family dwellings, paved/graveled driveways, grass, vegetation and fenced backyards. The location of the site relative to existing properties is shown on our Drawing No. 15514-01, following the text of this report.

3.0 FIELD INVESTIGATION

3.1 Site Investigation

GeoPacific initially investigated the site on October 25, 2017. Due to limited access to the majority of the lots, the initial investigation was carried out solely on 1465 Vidal Street. At that time, a total of 3 auger test holes (TH17-01 to TH17-03) were drilled to depths between 9.1 and 10.7 m below pre-existing grades and were supplemented with 1 Dynamic Cone Penetration Test (DCPT) sounding completed to approximately 1.5 m below pre-existing grade.

GeoPacific completed a supplementary investigation for the current development scope on October 26, 2023, to confirm soil conditions below the proposed foundation depths which are expected to extend up to 14 m below grade. At that time, 2 sonic test holes (TH23-01 and TH23-02), complete with one monitoring (standpipe piezometer, were conducted using a sonic drill rig supplied and operated by Blue Max Drilling Inc. of Surrey, BC. The test hole was terminated approximately 18.3 m below existing site grades. The monitoring well, installed at TH23-01, was screened between 15.3 and 18.3 m below existing site grades.

Prior to our investigations, a BC one call was placed, and the test hole locations were cleared of buried services. All test holes were backfilled and sealed in accordance with provincial abandonment requirements following classification, sampling, and logging of the soils in the field by our geotechnical staff. Our test hole logs are presented in Appendix A.

The approximate locations of the test holes are shown on our Drawing No. 15514-01.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Profile

According to the Geological Survey of Canada Surficial Geology Map 1484A the subject site is underlain by Capilano Sediments consisting of raised marine, deltaic, fluvial deposit, marine and glaciomarine stony and stoneless silts (till like) to clay loam with minor sand and silt. Glacial till typically underlies these deposits at depth. A general description of the soils encountered is provided below. For specific subsurface soil descriptions at the test hole locations refer to the test hole logs provided in Appendix A

Sand and Gravel (Fill)

Sand and gravel fill was identified in all our test holes. The sand and gravel contained trace to some silt and appears to be compact. The fill extends to depths of 0.3 m to 1.8 m below grade.

Silty Sand (Glacial Till)

The sand and gravel fill is underlain by very dense glacial till comprised of silty sand, some gravel. The moisture content ranges from 6.8% to 10.5%. The till extended beyond the maximum extent of our investigation, approximately 18.3 m below existing grade. Cobbles and boulders are also commonly encountered within the till like soils. The fines contents of the till encountered typically ranged from 26.8% to 32%, with a higher fines content noted approximately 10.9 m below existing grade within a silty layer at TH23-01.

4.2 Groundwater Conditions

The static groundwater table was not encountered during our investigation. No water was present in the monitoring well as of November 1st, 2023. Based on our site investigation, well logs and our experience within the surrounding area, we expect that the static groundwater depth is significantly below the proposed excavation grades.

Perched groundwater seepage from silty soils are expected to be light to moderate. Perched water may also be encountered in the surficial fills. We expect that the presence of perched ground water to vary seasonally with generally higher levels in the wetter months of the year.

5.0 DISCUSSION

5.1 General Comments

As noted in Section 1.0, we understand that a residential development is proposed for the above referenced site. Based on the Architectural Drawings prepared by Keystone Architecture & Planning Ltd., dated July 4, 2023, the proposed development will consist of a 6 storey, wood framed, residential building with a rooftop amenity deck over up to 4 levels of below grade, reinforced concrete parking structure. The below grade portion of the development is to be constructed in close proximity to property lines. Foundation depths are expected to extend up to 14 m below grade at the northern extent.

Based on the results of our geotechnical investigations and the anticipated foundation depths, we expect that the development will be founded on very dense glacial till. We expect that these soils will provide adequate support for conventional pad and strip footings.

Shoring will be required to facilitate excavation and support neighbouring properties, structures or utilities given that the proposed below grade structure is to be constructed in close proximity to the property lines. Our design recommendations for temporary excavations are provided in Section 6.7.

The subsurface soils are not considered prone to liquefaction or other forms of ground softening under the design earthquake defined under the 2018 British Columbia Building Code.

We envision that some perched groundwater will be encountered while excavating and will need to be controlled. A graded excavation with sumps at low points should be adequate to control seepage. Based on the site investigations completed it is not anticipated that the static groundwater tale will be encountered during excavation works.

We confirm, from a geotechnical point of view, that the proposed building development is feasible provided the recommendations outlined in Sections 6.0 are incorporated into the overall design.

6.0 RECOMMENDATIONS

6.1 Site Preparation

Prior to construction of foundations and floor slabs, all unsuitable materials including vegetation, topsoil, fill, organic material, debris, and loose or otherwise disturbed soils must be removed to expose a subgrade of dense to very dense silty sand. However, as the development is to be constructed with a below grade component, we expect that the excavation depth will be driven by the architectural design rather than the soils encountered. Suitable bearing soils are expected at the proposed foundation elevations. Crushed gravel or engineered fill can be placed beneath the slab-on-grade only.

"Engineered Fill" is generally defined as clean sand to sand and gravel containing silt less than 5% by weight, compacted in 300 mm loose lifts to a minimum of 95% of the ASTM D1557 (ModifiedProctor) maximum dry density at a moisture content that is within 2% of optimum for compaction.

It is very important that the stripped subgrade be protected by lean mix concrete to preserve its bearing qualities and that it remain dry and free of ponded water prior to pouring concrete for footings. Any softened, disturbed subgrade should be removed under the review of GeoPacific and replaced with lean mix (5.0 MPa) concrete beneath the foundations.

GeoPacific shall be contacted for the review of foundation grade reinstatement, and engineered fill placement and compaction.

6.2 Foundations

Footings which are founded on very dense glacial till, as described in Section 4.1, can be designed on the basis of a serviceability limit state (SLS) bearing pressure of 500 kPa for strip or pad footings.

Factored ultimate limit state (ULS) bearing pressures, for transient loads such as those induced by wind and earthquakes, may be taken as 1.5 x the SLS bearing pressures provided above.

We estimate for foundations designed as recommended, settlements will not exceed 25 mm total and 2 mm per metre differential.

Irrespective of the allowable bearing pressures given, pad footings should not be less than 600 mm by 600 mm and strip footings should not be less than 450 mm in width. Footings should also be buried a minimum of 450 mm below the surface for frost protection.

Adjacent footings should achieve a maximum elevation difference equal to half of their horizontal distance to avoid superimposing the upper foundation loading to the lower foundation.

Foundation subgrades of all buildings must be reviewed by GeoPacific prior to blinding and footing construction.

6.3 Seismic Design of Foundations

We did not encounter any soils considered to be prone to liquefaction or strain softening during cyclic loading caused by the design earthquake as defined in the 2018 British Columbia Building Code. The subgrade conditions underlying this site may be classified as Site Class C as defined in Table 4.1.8.4.A of the 2018 British Columbia Building Code.

6.4 Lateral Pressures on Foundation Walls

The earth pressures on the basement walls depends upon a number of factors including the backfill material, surcharge loads, backfill slope, drainage, rigidity of the basement wall and method of construction including sequence and degree of compaction. For a fully restrained basement wall designed for static pressures a pressure distribution of 8 H (kPa) triangular, where H is the height of the restrained soil in meters, should be employed. For an unrestrained basement wall a static pressure distribution of 5 H (kPa) triangular may be used.

Dynamic loading induced by the 2018 BCBC design earthquake should be added to the static loads and should be taken as 2.5 H (kPa) inverted triangular.

Restrained versus unrestrained conditions depend upon the degree of wall movement. A flexible, or unrestrained wall, is allowed to move 0.002H outwards at the top of the wall, where H is the height of the wall. A restrained or rigid wall is prevented from rotating out at the top of the wall either by intervening walls or floors which prevent deflection of the wall. Partial movements of the wall may result in pressures somewhat less than the restrained condition, but it is not possible to predict intermediate cases with any degree of certainty.

We have assumed that a free draining granular backfill will be used behind the basement walls and that a perimeter drainage system will also be employed to collect any water from behind the walls. Therefore, our wall loading scenarios presented above assume that no water pressure will be generated behind the walls.

All earth pressures are based upon no surcharges or slopes above the walls. All soil parameters and loads are assumed to be unfactored.

GeoPacific shall be contacted for the review of all backfill materials and procedures.

6.5 Slab-On-Grade Floors

In order to provide suitable support for slab-on-grade floors we recommend that any fill placed under the slab should be granular and essentially "clean" with not more than 5% passing the #200 sieve. In addition, this granular fill must be compacted to a minimum of 98% Standard Proctor (ASTM D698) maximum dry density with water content within 2% of optimum for compaction.

Floor slabs should be directly underlain by a minimum of 150 mm of a free draining granular material, such as 19 mm clear crushed rock. A moisture barrier should underlie the slab directly above the free draining granular material.

Compaction of the slab-on-grade fill must be reviewed by GeoPacific.

6.6 Foundation Drainage

A perimeter drainage system will be required for the below grade structure to prevent the development of water pressure on the foundation walls and the basement floor slabs. Groundwater flows are expected to be relatively light to moderate, likely in the range of 30 to 50 liters/minute for the entire excavation. These flow rates should be confirmed at the time of construction.

6.7 Excavation and Shoring

The proposed development is to include up to 4 levels of below grade construction. Shoring will be required to facilitate excavation and support neighbouring properties, structures or utilities given that the proposed below grade structure is to be constructed in close proximity to the property lines. Partial open cuts above the shoring wall may be feasible where the building is offset from the property lines.

Vertical cuts may be supported with the use of a shotcrete membrane tied back with post-tensioned soil anchors. In areas where sand layers within the till like soils are encountered, hollow core (IBO) anchors may be required where a drilled anchor hole will not remain open to allow the installation of a conventional anchor bar.

We expect that the perimeter excavation would be sloped where sufficient space is available as it is more economical to do so. We would expect that slopes cut of 3H:4V (3 Horizontal to 4 Vertical) can be constructed

in the dense to very dense silty sand and 1H:1V in the surficial fills. Above any shoring walls, 1H:1V slope cuts would be feasible.

Our experience in this area indicates that cobbles and boulders may be present within the till like soils. Cobbles and small boulders can typically be removed with conventional excavation equipment. However, large boulders may require splitting/blasting to facilitate their removal from the site.

Some seepage into excavations from surficial fills and the till like soils should be expected. We envisage that groundwater inflows can generally be controlled with conventional sumps and sump pumps. Some face-saving measures may be required where seepage occurs at the shoring face.

6.8 Utilities

Site utilities will be required beneath the grade supported slab. The design of these systems must consider the location and the depth of the foundations. The service trenches and excavations required for the installation of underground vaults and/or manholes should be outside of a 1H:1V slope measured downward and outward from the underside of foundations.

Backfilling of trenches and excavations should be done with 19 mm clear crush gravel following the required pipe bedding.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulation supplied by the Workers Compensation Board of British Columbia.

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

6.9 Onsite Pavement Structures

Following the recommended site preparations outlined in Section 6.1, the stripped road subgrade should be proof rolled to locate any loose or soft zones. Any areas which have become loosened and cannot be recompacted to a minimum of 95% Modified Proctor (ASTM D1557) maximum dry density must be excavated and replaced with engineered fill.

Provided that the subgrade consists of stiff to very stiff silt, or engineered fill, it is our opinion that our recommended pavement structure, given in Table 1 below, is sufficient to carry the anticipated vehicle loads in on-site parking areas and drive aisles.

Table 1: Recommended Minimum Pavement Structure for On Site Pavement

MATERIAL	THICKNESS (mm)
Asphaltic Concrete	85
19 mm minus crushed gravel base course	150
Clean Sand and Gravel subbase course	200

The thickness of asphalt may be decreased to 65 mm in parking areas to be occupied solely by automobiles and light trucks. All base and sub-base fills should conform to municipal standards and be compacted to a minimum

of 95% Modified Proctor Maximum Dry Density (ASTM D1557) with a moisture content within 2% of optimum for compaction.

Density testing should be conducted on these materials and the results forwarded to GeoPacific for review.

6.10 Re-Use of Native Soils

Excavated soils derived from the site are expected to be silt predominant. Therefore, they are not considered suitable for re-use as engineered fill.

7.0 DESIGN REVIEWS AND CONSTRUCTION INSPECTIONS

As required for Municipal "Letters of Assurance", GeoPacific Consultants Ltd. will carry out sufficient field reviews during construction to ensure that the geotechnical design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way effect the contractors' obligations to perform under the terms of his/her contract.

It is the contractors' responsibility to advise GeoPacific Consultants Ltd. (a minimum of 48 hours in advance) that a field review is required. Field reviews are normally required at the time of the following activities:

1.	Excavation	Review of temporary cut slopes.
2.	Shoring	Review of shotcrete shoring construction, anchor installation and testing, anchor de-tensioning and removal, and shotcrete removal.
3.	Foundation	Review of foundation subgrade.
4.	Slab-on-grade	Review of subgrade and under-slab fill materials and compaction.
5.	Backfill	Review of backfill materials and compaction against foundation walls.
6.	Engineered Fill	Review of fill materials and compaction.

It is critical that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also critical that contractors working on the site view this document in advance of any work being carried out so that they become familiar with the sensitive aspects of the works proposed. It is the responsibility of the developer to notify GeoPacific Consultants Ltd. when conditions or situations not outlined within this document are encountered.

8.0 CLOSURE

This report has been prepared exclusively for Weststone Group for the purpose of providing geotechnical recommendations for the design and construction of the proposed building, temporary excavations and related earthworks. The report remains the property of GeoPacific Consultants Ltd. and unauthorized use of, or duplication of, this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

For:
GeoPacific Consultants Ltd.

Reviewed By:

Permit to Practice:
EGBC
1000782

JAN 16 2024

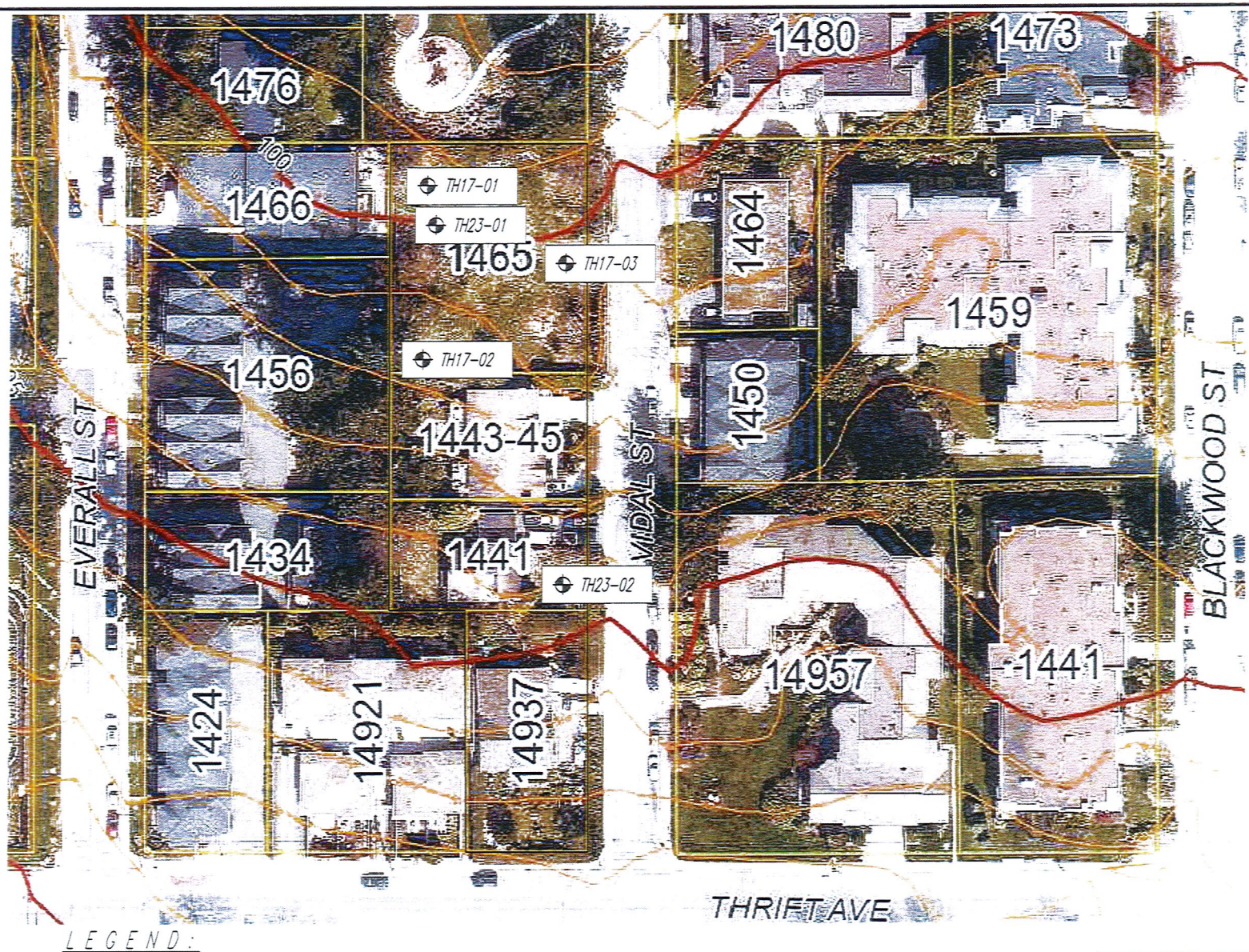
Helen McGhee, M.Eng., E.I.T.
Geotechnical E.I.T.

Kevin Bodnar, M.Eng., P.Eng.
Principal

Bobby Sandhu, B.Eng., E.I.T.
Geotechnical E.I.T.

Appendix A

Test Hole Logs



LEGEND:

- TH17-# – 2017 TEST HOLE (TH) LOCATIONS
- TH23-# – 2023 TEST HOLE (TH) LOCATIONS
- ▭ – APPROXIMATE SITE BOUNDARY

SITE PLAN
SCALE = NTS

WROMS – 2023-10-18

GEOPACIFIC
VANCOUVER KAMLOOPS CALGARY
1779 W. 75th Avenue
Vancouver, B.C. V6P 6P2
P 604.439.0922
F 604.439.9189

NOVEMBER 3, 2023

DRAWN BY	DESIGNED BY	REVIEWED BY
BSS	ZO	BSS

SCALE: SEE ABOVE

PROPOSED RESIDENTIAL DEVELOPMENT
14397 THRIFT AVE, 1441-1465 VIDAL ST, WHITE ROCK, BC
TEST HOLE LOCATIONS

15514

15514-01

Test Hole Log: TH23-01

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C.

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax:604-439-9189

INFERRED PROFILE

Depth (ft)	Depth (m)	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
0	0		Ground Surface				
1			***SAND AND GRAVEL (FILL)***	0.00			
2			SAND, SOME SILT and GRAVEL. Loose to compact, sand is fine grained, gravel is subangular, brown, wet.				
3	1						
4							
5							Root fragments throughout, drier with depth
6			***WEATHERED GLACIAL TILL***	1.83			
7	2		SAND and GRAVEL w/ COBBLES. Compact, sand is fine grained, gravel is subangular, grey brown, dry.				
8							
9							
10	3			3.05			
11			***GLACIAL TILL***				
12			SAND, SILTY and GRAVELLY w/ COBBLES.				
13	4						
14							
15			Compact to dense, gravel uniformly graded, grey, dry. (Profile inferred 10-12ft)	4.57			
16					9.9		Moisture content changes to moist
17	5						Cobble content increases with depth
18							
19			***GLACIAL TILL***				
20	6		SAND, SILTY w/ some GRAVEL. Compact to dense, sand is fine grained, gravel is subangular, grey brown, moist. (Profile inferred 15-16ft)				Increase in gravel content with depth
21							
22							
23	7						
24							
25							
26	8				7.1		
27							
28							
29							
30	9			9.14			
31							
32							
33	10				13.1		

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.4.

Test Hole Log: TH23-01

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C.

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

Depth	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
34						
35						MC changes to wet
36	11	***GLACIAL TILL*** SAND, SILTY w/ some GRAVEL and COBBLE. Loose to compact, sand is fine grained, gravel is subangular, grey brown, moist to wet.		9.4		Fines 40.4% Increase in gravels and cobbles
37						
38			11.58			
39	12	(Profile inferred 30-32ft)				Increase in fine sand content
40			12.19			
41		***GLACIAL TILL*** SILTY SAND w/ some GRAVEL and COBBLES. Compact, sand is fine grained, gravel is subangular, grey brown, moist.				
42						
43	13					
44						
45						Increase in moisture content
46	14	***GLACIAL TILL*** SAND and GRAVEL, some SILT w/ COBBLES. Loose to compact, sand is fine grained, gravel is subangular, grey, dry becoming wet. (profile inferred 40-43ft)				
47						Fines 27.4%
48				7.1		
49	15					Increase in sand fines with depth
50						
51						Decrease in cobble content
52	16					
53						
54						
55						
56	17					
57						
58				6.8		
59	18					
60						
61		End of Borehole	18.29			GW recorded November 1st 2023. No Groundwater recorded
62	19					
63						
64						
65						
66	20					

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.4.

Test Hole Log: TH23-02

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

Depth (ft)	Depth (m)	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
0	0		Ground Surface				
0	0		***FILL*** SILTY SAND. Loose, sand is fine to medium grained, Brown, dry	0.00			
3	1		***SANDY SILT*** SANDY SILT w/ GRAVEL and some cobbles. Loose to compact, sand is medium grained, gravel is subanglular, dark brown, dry.	0.91			Many Gravels>10mm
7	2		***WEATHERED GLACIAL TILL*** SAND and GRAVEL. Compact, sand is fine to medium grained, gravel is subangular, brown, moist.	1.52 2.13			
10	3		***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense, sand is fine to medium grained,brown,moist.	3.05	10.5		
13	4		***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense to very dense, sand is fine grained, light brown, moist.				
17	5						
20	6						
23	7						Becoming Moist with Depth
26	8		***SAND AND GRAVEL*** SAND AND GRAVEL. Compact, fine to medium grained sand, gravel is subangular, grey, dry to moist.	7.62			
30	9						Some Gravels<10mm
33	10						

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.5.

Test Hole Log: TH23-02

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax 604-439-9189

Depth	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
34						
35						
36	11	***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense to very dense, sand is fine grained, gravel is subangular, grey, moist.	10.67			
37						
38						
39	12			7.8		Fines 32.0%
40						
41						
42						Gravels increase with depth
43	13					
44						
45						
46	14	***SAND AND GRAVEL*** SAND AND GRAVEL, some SILT. Dense to very dense, sand is medium grained, grey, moist.	13.72			
47						
48						
49	15			6.4		
50						
51						
52	16					
53						
54						
55						
56	17	***SAND AND GRAVEL*** SAND AND GRAVEL. Dense to very dense, sand is medium grained, grey, moist.	16.76			Increase in Gravel content
57						
58				9.1		Fines 26.8%
59	18					
60						
61		End of Borehole	18.29			
62	19					
63						
64						
65						
66	20					

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.5.

EX. 200Ø U/I WAT

EX. 60 DP GAS

EX. 60 DP GAS

EX. 250Ø CONC STM

EX. 200Ø AC SAN

MH

VIDAL STREET

PROP. 300Ø PVC STM

VIDAL STREET

Sign

8.2m

5.5m

3.0m

el.99.35

el.97.29

el.96.33

el.94.98

el.93.97

el.93.03

179°35'55"

94.22m

el.100.68

2.7m

0.7m

2.380

1.9m

PARKING LEVEL P3

4.98%

4.98%

88.33m

86.81m

P1 MECH SHAFT

P2 MECH SHAFT

P3 MECH SHAFT

2.9m

2.9m

2.9m

2.9m

3.8m

el.100.28

el.100.51

85.28m

B2

B1

1.2m

2.6m

PARKING LEVEL P4

85.28m

88.33m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 3 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

86.81m

3.61%

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 2 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

4.6m

8.0m

D1

9.74%

93.54m

92.90m

93.54m

9.47%

D

el.95.03

16.0m

PARKING LEVEL P3

18.7m

11.4m

22.0m

el.98.64

4.5m

5.5m

1.5m

4.0m

el.98.12

el.97.46

el.96.87

2.9m

16.5m

el.96.01

1.0m

el.94.77

1.5m

7.3m

24.6m

el.101.06

el.99.42

1.1m

B

C

C1

C2

STRATA PLAN EPS1082

STRATA PLAN BCS760

STRATA PLAN BCS4120

STRATA PLAN EPS859

STRATA PLAN EPP39350

LOT 23 PLAN 27918

ARBORIST TO BE PRESENT ON-SITE DURING EXCAVATION WORKS TO TREE ROOT ZONES, AS PAR OF TREE MANAGEMENT PLAN.

LEGEND:

- GRADE ELEVATION

85.28m – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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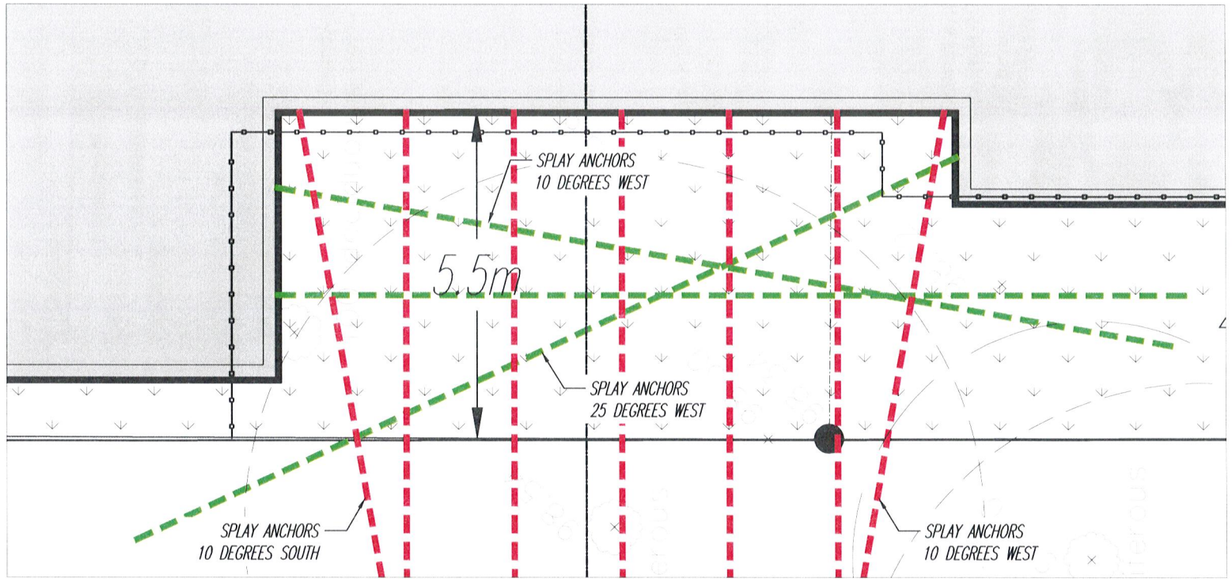
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN

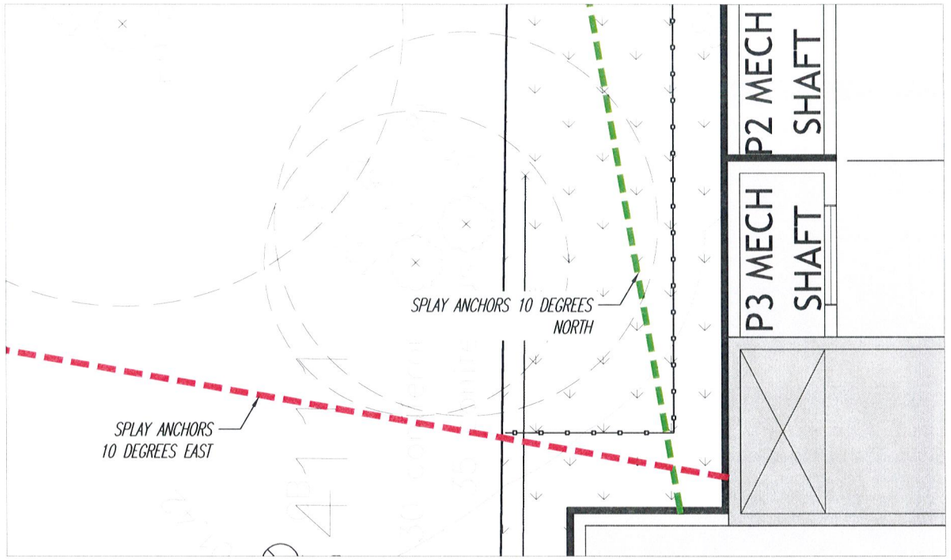
15514

G-S1

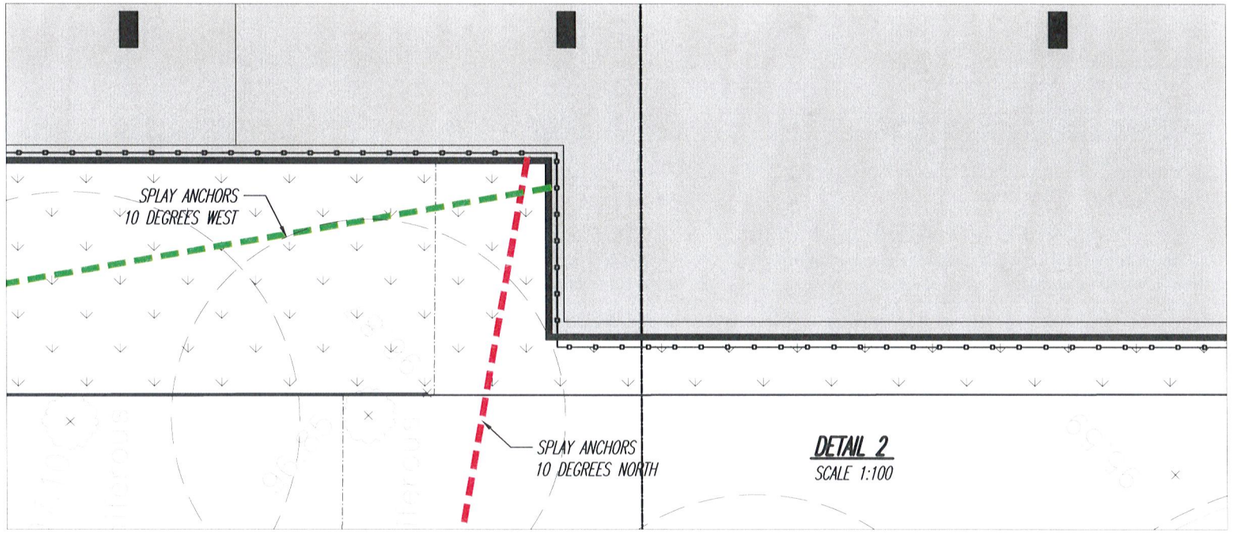
JUNE 25, 2024 – Tree protection fence



DETAIL 1
SCALE 1:100



DETAIL 3
SCALE 1:100



DETAIL 2
SCALE 1:100

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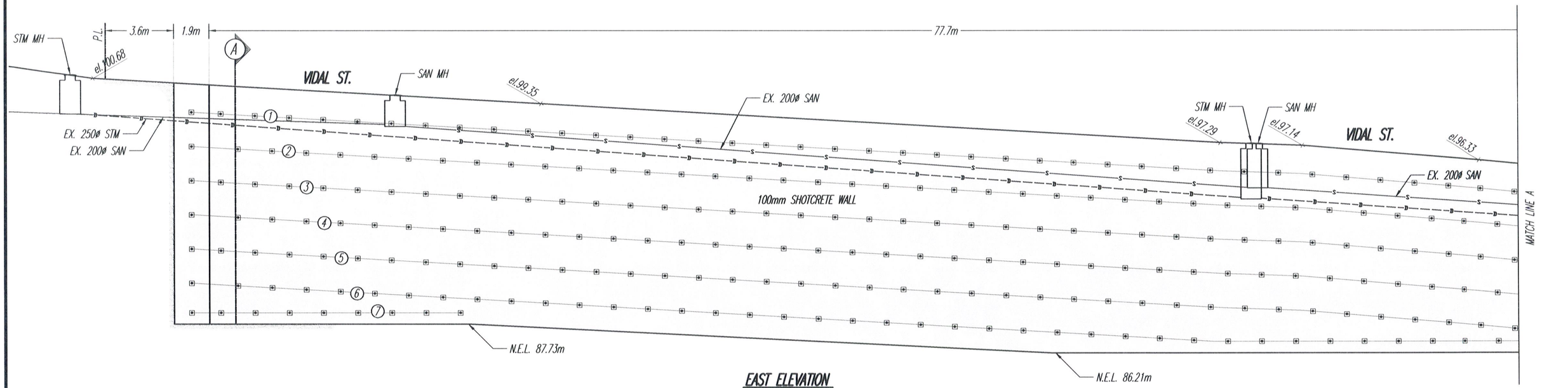
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN DETAILS

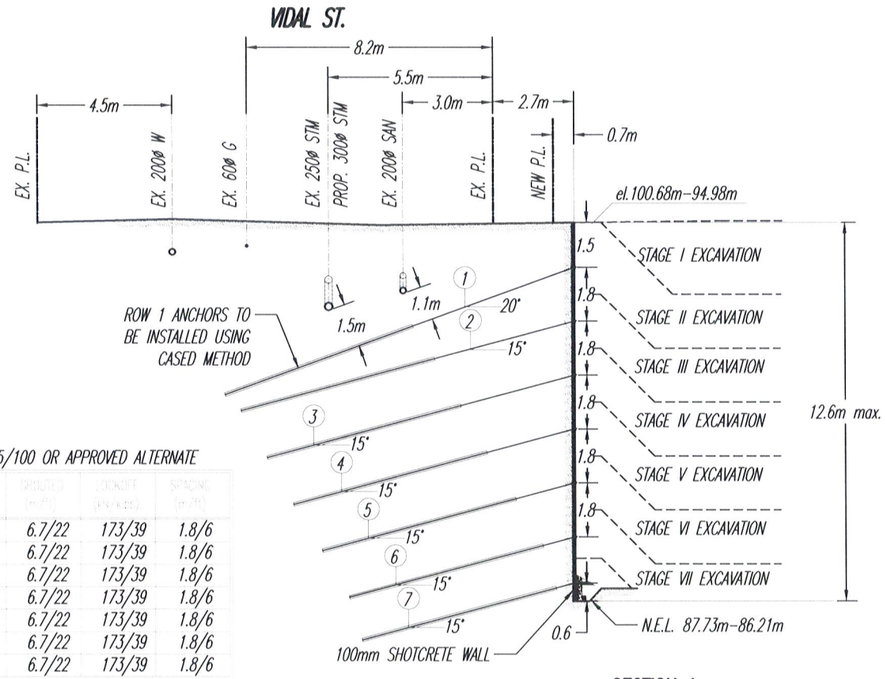
15514

G-S1A

JUNE 25, 2024 – Tree protection fence



EAST ELEVATION
SCALE 1:200

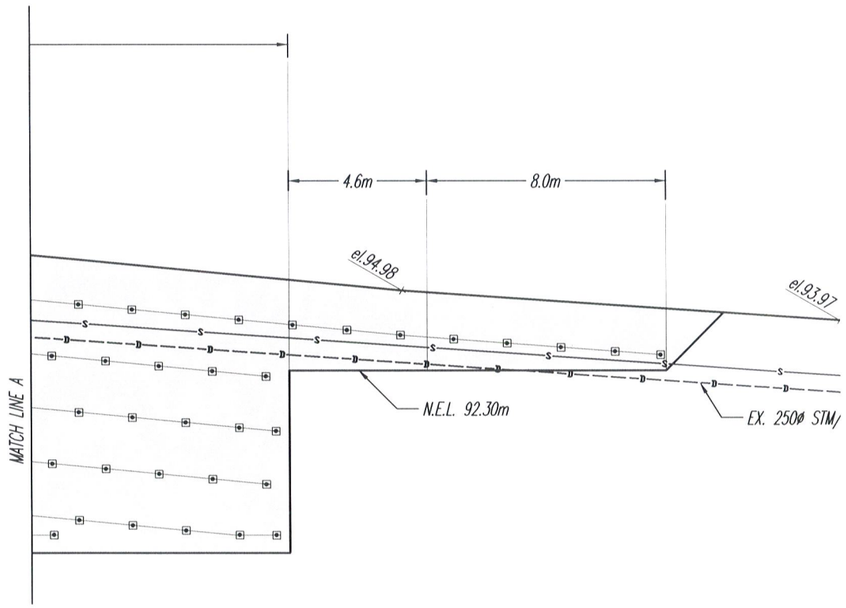


SECTION A
SCALE 1:200

SECTION A
DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	SPACING (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	12.5/41	6.7/22	173/39	1.8/6
2	11.6/38	6.7/22	173/39	1.8/6
3	10.7/35	6.7/22	173/39	1.8/6
4	9.8/32	6.7/22	173/39	1.8/6
5	8.8/29	6.7/22	173/39	1.8/6
6	7.9/26	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



LEGEND:

85.28m – GRADE ELEVATION

+ – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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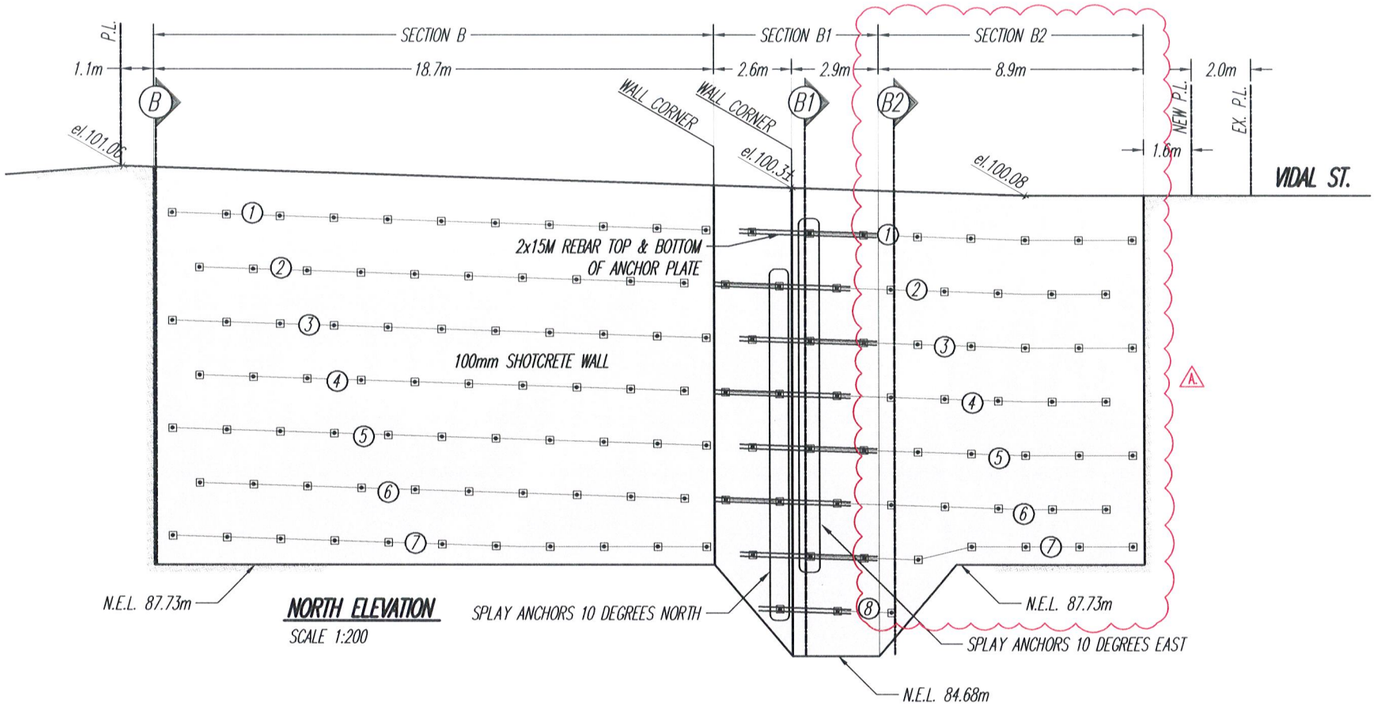
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – EAST ELEVATION, SECTION A

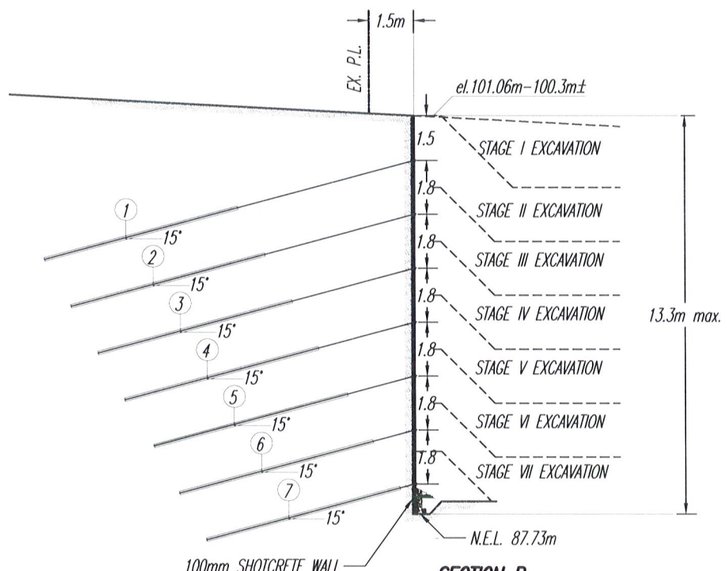
15514

G–S2

JUNE 25, 2024 – Tree protection fence



NORTH ELEVATION
SCALE 1:200



SECTION B
SCALE 1:200

SECTION B
DYWIDAG ⌀8 Gr 75/100 OR APPROVED ALTERNATE

ROW	UNBOND LENGTH (m/ft)	GROUTED LENGTH (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	12.9/42	6.7/22	173/39	1.8/6
2	11.9/39	6.7/22	173/39	1.8/6
3	11.0/36	6.7/22	173/39	1.8/6
4	10.1/33	6.7/22	173/39	1.8/6
5	9.1/30	6.7/22	173/39	1.8/6
6	8.2/27	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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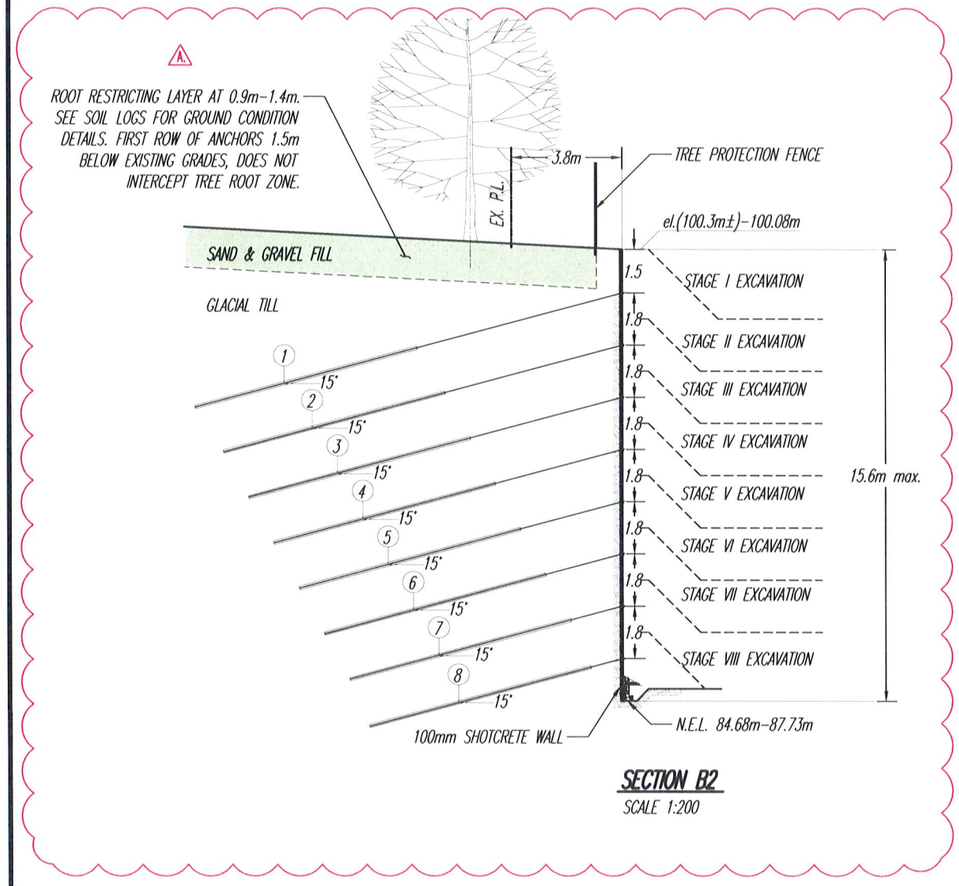
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – NORTH ELEVATION, SECTION B

15514

G-S3A

JUNE 25, 2024 – Tree protection fence

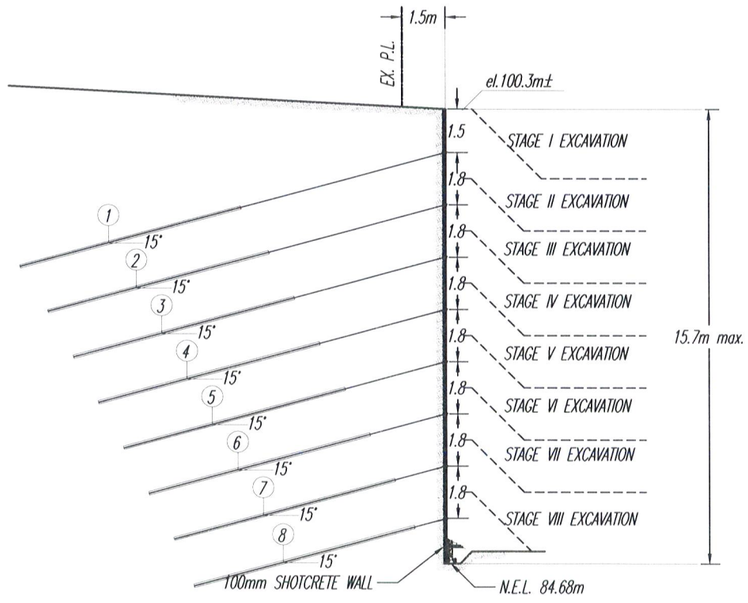


SECTION B2
SCALE 1:200

SECTION B2
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	DRILLED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.2/50	7.9/26	200/45	1.8/6
2	14.3/47	7.9/26	200/45	1.8/6
3	13.4/44	7.9/26	200/45	1.8/6
4	12.5/41	7.9/26	200/45	1.8/6
5	11.6/38	7.9/26	200/45	1.8/6
6	10.7/35	7.9/26	200/45	1.8/6
7	9.8/32	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



SECTION B1
SCALE 1:200

SECTION B1
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	DRILLED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.2/50	7.9/26	200/45	1.8/6
2	14.3/47	7.9/26	200/45	1.8/6
3	13.4/44	7.9/26	200/45	1.8/6
4	12.5/41	7.9/26	200/45	1.8/6
5	11.6/38	7.9/26	200/45	1.8/6
6	10.7/35	7.9/26	200/45	1.8/6
7	9.8/32	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

85.28m+ – GRADE ELEVATION
– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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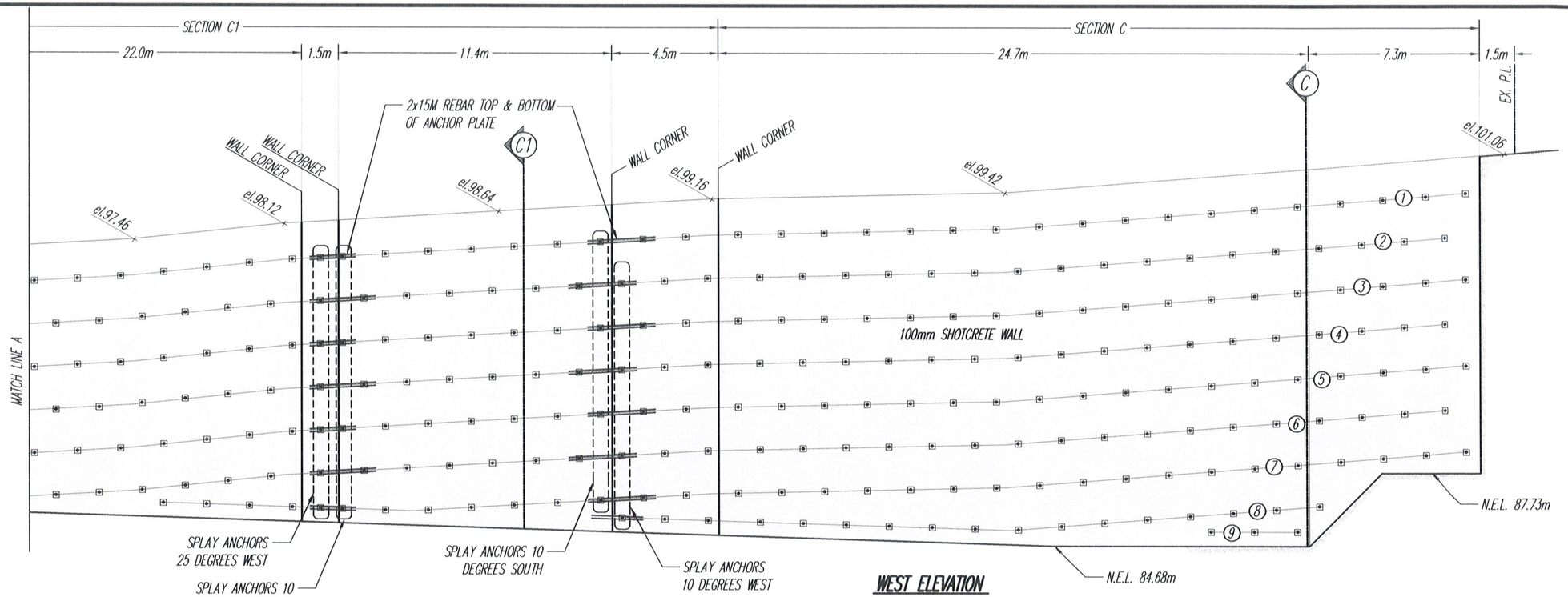
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SECTIONS B, B1

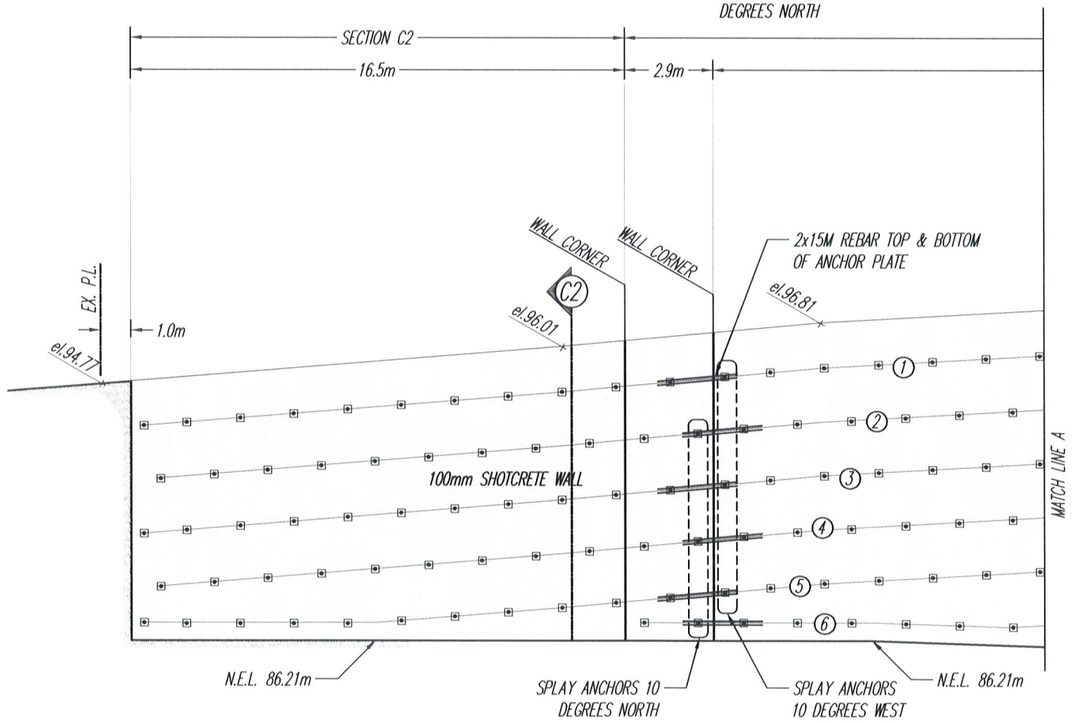
15514

G-S3B

JUNE 25, 2024 – Tree protection fence



WEST ELEVATION
SCALE 1:200



LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROPOSED RESIDENTIAL DEVELOPMENT

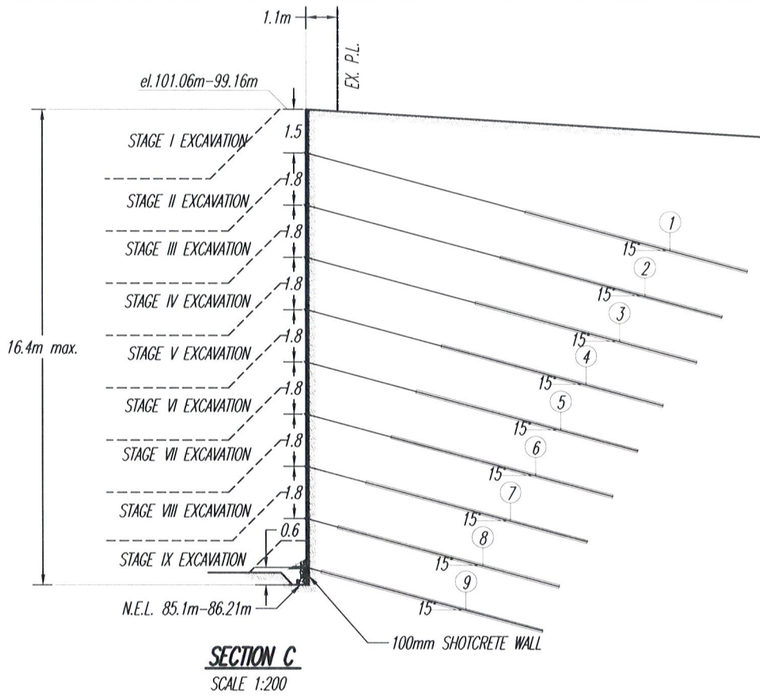
VIDAL STREET, WHITE ROCK, B.C.

SHORING – WEST ELEVATION

15514

G-S4A

JUNE 25, 2024 – Tree protection fence

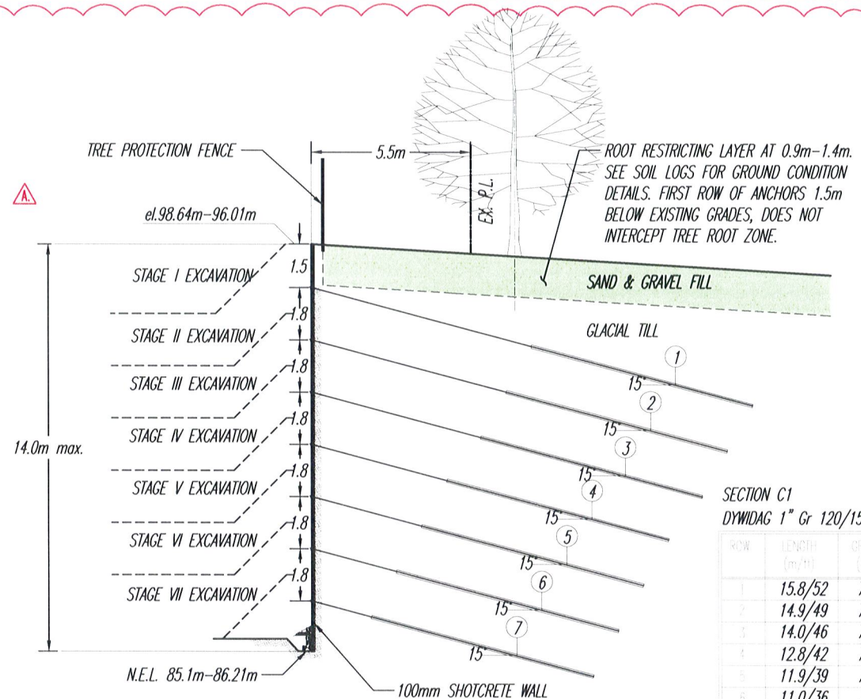


SECTION C
SCALE 1:200

SECTION C
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6
6	11.0/36	7.9/26	200/45	1.8/6
7	10.1/33	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6
9	8.5/28	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES

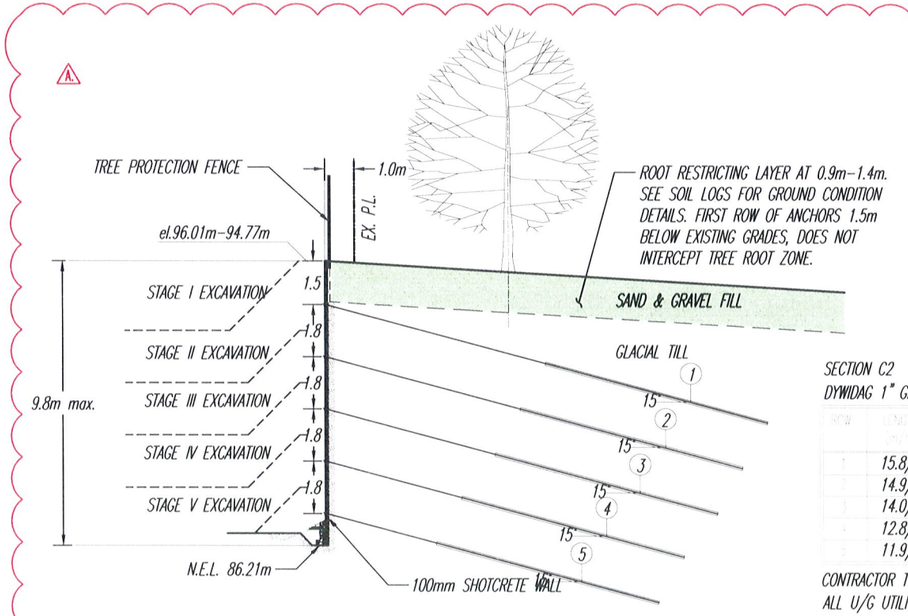


SECTION C1
SCALE 1:200

SECTION C1
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6
6	11.0/36	7.9/26	200/45	1.8/6
7	10.1/33	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES



SECTION C2
SCALE 1:200

SECTION C2
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES

LEGEND:

85.28m – GRADE ELEVATION
– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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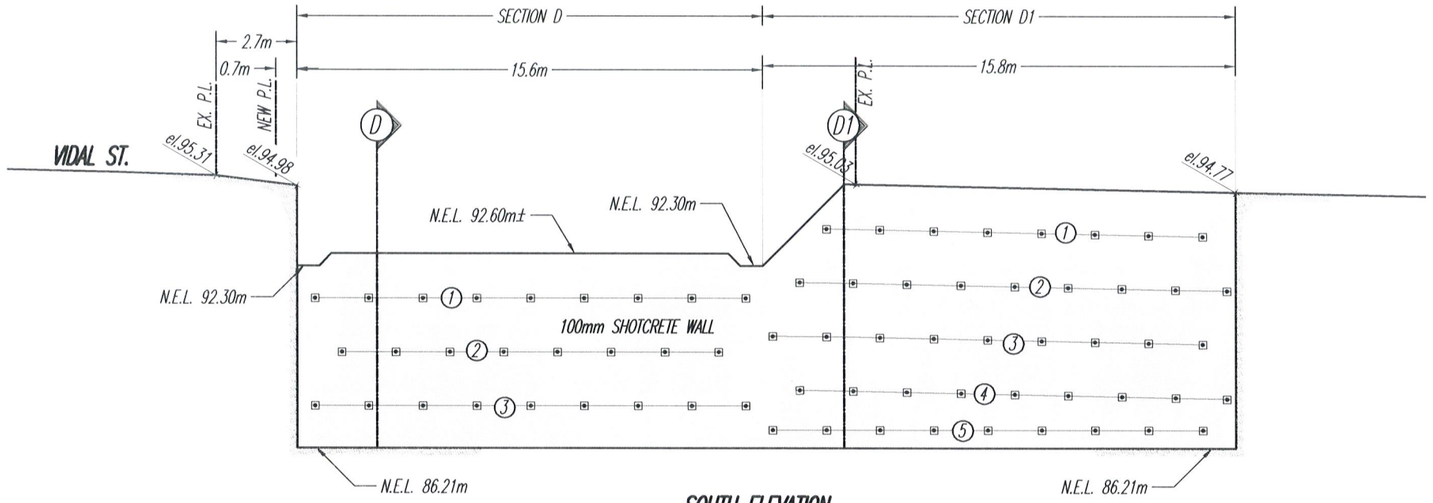
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SECTIONS C, C1, C2

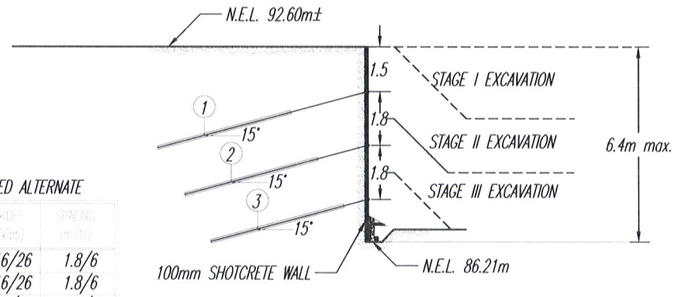
15514

G–S4B

JUNE 25, 2024 – Tree protection fence



SOUTH ELEVATION
SCALE 1:200

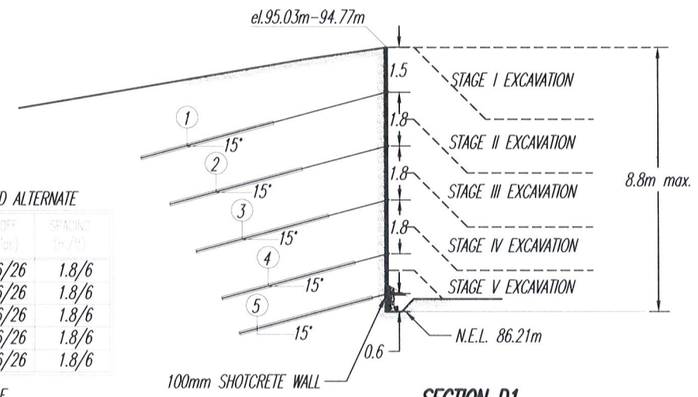


SECTION D
DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/#)	GROUTED (m/#)	LOCK-OFF (kN/#Str)	SPACING (m/#)
1	7.3/24	4.6/15	116/26	1.8/6
2	6.4/21	4.6/15	116/26	1.8/6
3	5.5/18	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D
SCALE 1:200



SECTION D1
DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/#)	GROUTED (m/#)	LOCK-OFF (kN/#Str)	SPACING (m/#)
1	8.6/28	4.6/15	116/26	1.8/6
2	7.6/25	4.6/15	116/26	1.8/6
3	6.7/22	4.6/15	116/26	1.8/6
4	5.8/19	4.6/15	116/26	1.8/6
5	5.2/17	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D1
SCALE 1:200

LEGEND:

85.28m+ – GRADE ELEVATION
– PROPOSED SLAB ELEVATION
N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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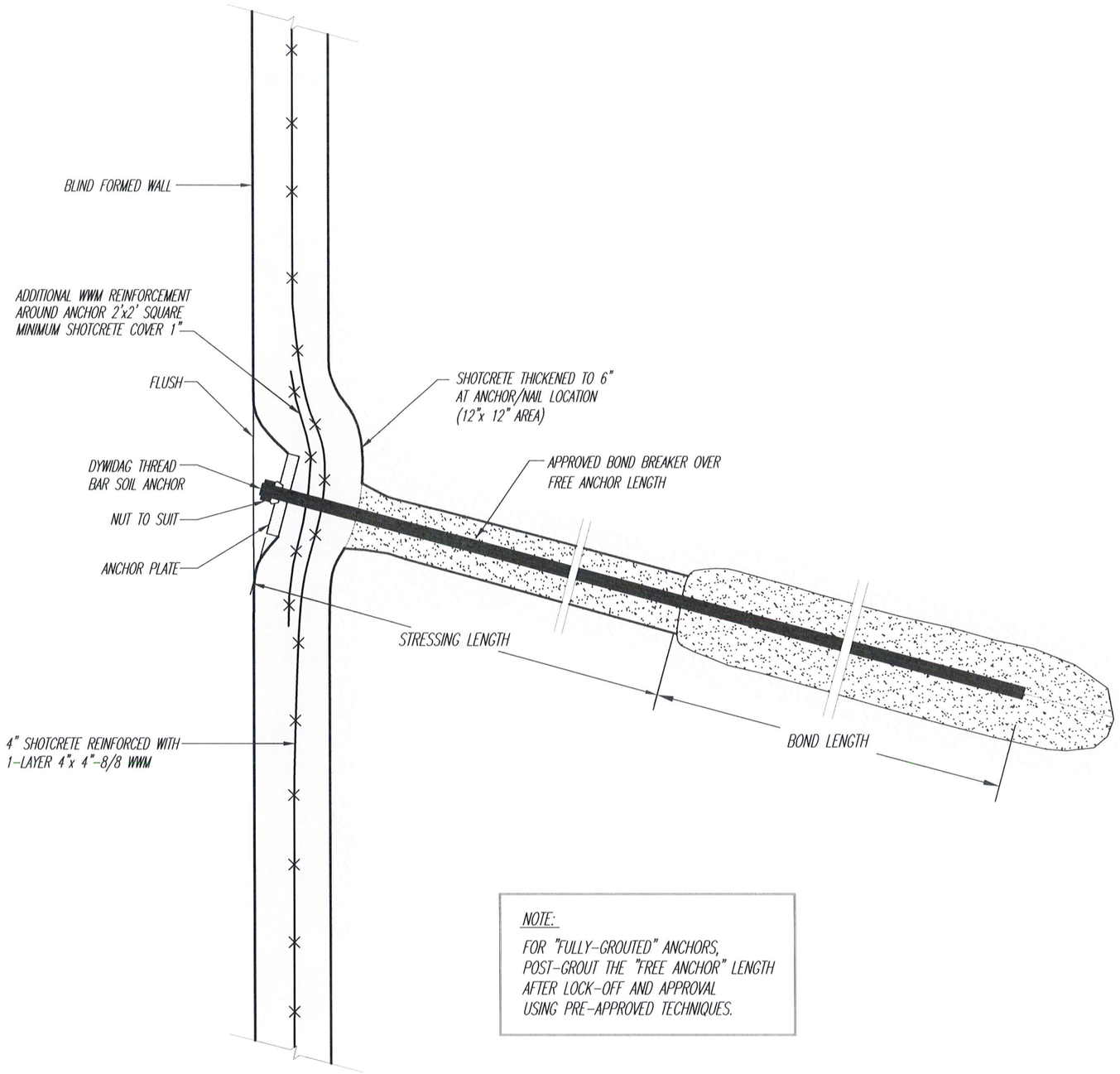
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SOUTH ELEVATION, SECTION D, D1

15514
G-S5

JUNE 25, 2024 – Tree protection fence



NOTE:

FOR "FULLY-GROUTED" ANCHORS, POST-GROUT THE "FREE ANCHOR" LENGTH AFTER LOCK-OFF AND APPROVAL USING PRE-APPROVED TECHNIQUES.

ANCHORED SHOTCRETE DETAIL

N.T.S.

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PROVINCE OF BRITISH COLUMBIA
M.J.L. BODNAR
37915

JUN 2 8 2024

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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING - ANCHORED SHOTCRETE WALL DETAIL

15514

G-1

JUNE 25, 2024 - Tree protection fence

1.0 GENERAL

1.1 In these Notes, the Engineer is GeoPacific Consultants Ltd.

1.2 These Notes must be read in conjunction with the design Drawings.

1.3 The work described and shown involves near vertical excavated slopes or structure using a combination of shotcrete and ground anchors. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.

1.4 The anchors will be installed in ground around the site and the actual soil and groundwater conditions must be assumed.

1.5 The grouted anchor lengths required to resist the design loads are based on the assumed conditions. The capacity of the anchors will be confirmed at the beginning of the contract and may be lengthened or shortened.

1.6 Some utilities, foundations and structures which may affect the installation procedures and techniques are noted on the Drawings.The Contractor shall confirm the locations and condition of ALL man-made elements which may be damaged because of the anchored shotcrete operations. It is the Contractor's responsibility to install the anchored shotcrete in the actual site conditions encountered.

Elements which may, in the opinion of the Contractor, be damaged by the anchored shotcrete operations must be reported to the Engineer well in advance of the work to take place.

1.7 These documents are based on architectural, structural and survey Drawings provided. It is the Contractor's responsibility to verify all dimensions and report discrepancies to the Engineer.

1.8 The Contractor shall schedule and co-ordinate the work to satisfy the reasonable requirements of adjacent Owners and Tenants who shall be given sufficient Notice before carrying out work which may affect their property.

1.9 The Contractor shall erect and maintain a secure closed hoarding around the site for the safety of all persons in the vicinity of the site.

1.10 The Contractor shall inspect the slopes and the support to the slopes and structures daily and shall immediately report any potentially damaging movement or deterioration to the Engineer by telephoning 604-439-0922.

2.0 MATERIALS

2.1 ANCHOR BAR:

The anchors shall be installed in minimum 75 mm (3 inch) diameter holes which shall be drilled, unless otherwise approved in advance by the Engineer. Anchor capacity is dependant upon installation techniques and the drilling equipment and methods shall be subject to the Engineer's approval.

Drilling techniques shall produce a hole which is free of debris and ensure continuous support of the hole and shall not erode or disturb soil around the hole.

2.2 Anchor tendons shall be Dywidag threadbar as specified in the drawings.

Anchorage equipment couplings and any necessary wedges washers and plates shall be in accordance with the tendon manufacturer's specifications and requirements.

Minimum anchorage length ("fixed" length) and stressing length ("free" length) are shown on the Drawings.

2.3 Grout in the anchorage shall be a prior-approved non-shrink cementitious material mixed with a minimum compressive strength of 5 MPa in 24 hours and 35 MPa in 28 days.

2.4 Shotcrete shall be reinforced with 102 x 102 MW13.3/13.3 (4"x4"-8/8) welded wire mesh as shown on the Drawings. Steel shall have a minimum yield strength of 450 MPa (65 ksi) and shall be in accordance with ASTM A497.

2.5 All shotcreting shall be carried out in accordance with ACI 506 : "Specifications for Materials Proportioning and Application of Shotcrete"

2.6 Shotcrete shall have a minimum compressive strength of 5 MPa in 24 hours and 30 MPa in 28 days. The Engineer may require test panels to be prepared by the Contractor so they can be cored by others to confirm the shotcrete strength. The Contractor shall co-operate with the independent testing laboratory appointed by the Owner for this purpose.

3.0 INSTALLATION

3.1 Hollow Core Bar Installation (if required)

Set the bar on an appropriate drill rig. Start pumping the grout to assure that grout will exit drill bit.

Proceed with rotary drilling and flushing approx. three feet per min (depending on ground condition). Rotation speed should be approx. 60 to 120 RPM. To achieve higher friction values, advance and retract the bars several times for each 3.0 m (10 feet) length of bar installed in the bond zone.

The grout should be applied CONTINUOUSLY during drilling. A grout pump with at least 60 l/min volume and minimum 2 MPa (300 psi) pressure capacity (preferably 10 MPa, 1500 psi) should be used.

Refer to the manufacture's specifications and recommendations for more detail.

3.2 Anchors and shotcrete shall be installed in sequence and stages to maintain stability of the excavation. Excavation of soil from the site shall also take place in stages. Stages shall not exceed 1.8 m (6 feet) vertical.

The Contractor may remove all soil within any mass excavation Stage before anchors in that Stage are installed but further excavation shall not take place until all anchored shotcrete in that Stage is installed and approved by the Engineer.

The mass excavation for any Stage does not include a perimeter berm with a minimum top width of one metre and a side slope of 1 horizontal to 1 vertical.

Ground conditions may locally require a wider berm, flatter slopes and/or other slope protection measures including covering or short-term temporary support.

The perimeter berms in any stage shall be excavated in staggered panels. THE MAXIMUM WIDTH OF A PANEL SHALL BE THE HORIZONTAL SPACING OF THE ANCHOR PLUS 0.6 M (2 FEET). This panel width may be INCREASED OR DECREASED by the Engineer's agreement, in writing, BEFORE increasing the panel width.

No adjacent panels shall be excavated concurrently and no more than 1/3 of the panels shall be excavated concurrently. In addition no panel shall be excavated into the berm until at least 24 hours after that panel anchor has been grouted.

Anchors and shotcrete may be installed concurrently in different panels. Anchors shall be installed at right angles to the property lines on plan and within 2.5 degrees of the declination shown on the Drawings except with the prior approval of the Engineer.

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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
GENERAL NOTES

15514

G-2 (sheet 1 of 2)

JUNE 25, 2024 – Tree protection fence

3.3 Immediately following excavation of the soil berm in a panel the excavated face shall be trimmed back to the required line and mesh reinforcement shall be fixed to the soil to ensure the minimum specified shotcrete cover. Shotcrete shall be applied without delay to thicknesses shown on the Drawings.

Shotcrete panels shall be kept moist to aid curing by spraying with water and covering with sacking or polyethylene sheeting.

Sufficient wire mesh reinforcement shall be installed to provide a full strength overlap with adjacent panels. This overlap shall not be less than 200 mm (8 inch).

The end surfaces of panels shall be thoroughly cleaned with compressed air to ensure a full strength bond when adjacent panels are shotcreted.

3.4 Drains to relieve groundwater pressure shall be installed through the shotcrete. Drains shall be a minimum of 50 mm (2 inches) diameter and at normal 3.0 m (10 feet) centres horizontally and 1.5 m (5 feet) centres vertically. The Contractor shall install filters in drains as fines are being removed with the water.

Additional special drains may be required where water seeps are noted. This special drains shall consist of minimum 50 mm (2 inches) diameter perforated ABS pipe installed within 75 mm (3 inches) diameters holes drilled 5 degrees UPWARDS from the 3 metres (10 feet) measured from the face of the shotcrete. These special drains may be required to be filtered with fine sand or gravel or filter fabrics.

3.5 Anchors shall be tensioned as soon as practicable but no sooner than 24 hours after the construction of the applicable shotcrete panel. Anchors shall be tensioned and tested as follows:

3.5.1 Apply a proof load of 1.33 times the lock-off load for two minutes. Monitor the load in the anchor. If the reduction in load is less than 2.5 percent of proof load reduce the load to lock-off load and lock the working load into the anchor.

3.5.2 If the anchor does not hold at least 133 percent of lock-off load for two minutes the Engineer must be informed. Further testing in the presence of the Engineer will required as follows:

Load the anchor in 22 kN (5 kip) increments to 130.5 percent of lock-off load. Hold each increment for 5 minutes except at maximum load when the load shall be maintained for 100 minutes. The increase in length of the anchor shall be measure at the start and end of each load increment except at maximum load when the extension shall be measured at 5 minutes intervals.

This information shall be utilized by the Engineer to deduce the utilized anchor length and to assess the creep characteristics.

Anchors which creep more than 2 mm (0.08 inch) per log cycle of time will not be accepted. The Contractor shall install replacement anchors at the Contractor's expense.

4.0 SHOTCRETE REMOVAL/ANCHOR DETENSIONING

4.1 All excavation and support works within the CITY OF WHITE ROCK shall be in strict accordance with the City's requirements.

4.2 Anchor rods within 1.5m of the surface or within 1.0m of any underground utility are to be removed. Anchors rods not removed to be detensioned or fully grouted when no longer required in the opinion of the Engineer.

4.3 Shotcrete placed on Municipal rights-of-way to be removed to depth of 1.5m below the surface or within 1.5m of any utility removed to 1.0m below the utility.

5.0 BACKFILLING ON AND ADJACENT TO CITY PROPERTY

5.1 Backfill material and placing within Municipal rights-of-way to meet City specifications.

6.0 REQUIRED INSPECTIONS

6.1 The following are the **MINIMUM** inspections which are required by the Geotechnical Engineer. The Contractor is responsible for informing the Geotechnical Engineer that the Work is ready for these inspections. The Contractor shall be liable for any loss caused by failure to inform the Geotechnical Engineer that the Work is ready for inspection.

1. 2 days before work commences on site.
2. 1 day before the anchors are detensioned.
3. 2 days before backfilling commences.
4. 1 day before shotcrete removal.

6.2 Daily Inspection is required during installation of anchors, and full time inspection is required during anchor testing.

7.0 CONTRACTOR QUALIFICATION

7.1 Temporary works and shoring installation is highly sensitive to processes including sequence of installation, quality and quantity of materials used, monitoring of the works and other factors. Consequently a high degree of skill and professionalism is required for its successful implementation. As a result, all contractors considered for tender of the shoring work described in the Design Drawings must be approved by the Engineer in advance of tender. The work must be carried out only by a shoring contractor with experience and expertise in shoring construction. The contractors experience and expertise must be with projects of similar size and scope to that shown in the Design Drawings. The following shoring contractors are permitted to undertake the work:

- Matcon Canada
- Bel Pacific Excavation & Shoring
- Vancouver Shotcrete
- Power Shotcrete Shoring LTD.
- Mainland Excavation & Shoring ltd.
- Terra Contracting Ltd.
- Foundations West Construction ULC
- B&B Contracting Group

7.2 The preceding list does not express or imply any guarantee or warranty of the contractor's performance. It is the responsibility of the contractor to undertake the work shown on the Design Drawings.

7.3 Shoring contractors other than those listed above may be considered by the Engineer only with submission of references and qualifications for at least 10 projects of similar size and scope. GeoPacific reserves the right to accept or reject the qualifications of any shoring contractor.

NOTES:

1. The excavation support design is based on the locations of adjacent structures and utilities which have been supplied. The Contractor shall confirm the locations and elevations of all foundations and utilities which may be affected by the work and raport any discrepancies to GeoPacific Consultants Ltd. (Tel.: 439-0922)
2. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.
3. The extent of the excavation shall be based on the Architectural and Structural Drawings. The Contractor shall confirm the size of the excavation required by the basement and report any discrepancy with these Drawings to GeoPacific Consultants Ltd.
4. The Contractor must obtain prior permission in writing to carry out any work on adjacent private property.
5. The Contractor shall inform GeoPacific Consultants Ltd. of any surcharge loads which will be within half the height of the excavation from the top of the excavation so that the support system can be modified to support the additional loads. The Contractor shall also inform GeoPacific if and when any groundwater seepages occur which may require additional special drains as outlined in Note 3.4, Drawing G-2.
6. The ground conditions must be confirmed by GeoPacific Consultants Ltd. when the excavation is 4 feet deep. The Contractor is responsible for ensuring that GeoPacific personnel inspect the site.

DRAWING LIST:

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JUN 28 2024

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DECEMBER 12, 2023		
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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
GENERAL NOTES

15514

G-2 (sheet 2 of 2)

JUNE 25, 2024 - Tree protection fence

EX. 60 DP GAS

EX. 250Ø CONC STM

EX. 200Ø AC SAN

EX. 60 DP GAS

MH

VIDAL STREET

PROP. 300Ø PVC STM

el.100.68

el.99.35

el.97.29

el.96.33

el.94.98

el.93.97

el.93.03

179°35'55"

8.2m

5.5m

3.0m

2.7m

0.7m

2.380

1.9m

94.22m

PARKING LEVEL P3

4.98%

77.7m

4.98%

4.6m

8.0m

P1 MECH SHAFT

P2 MECH SHAFT

P3 MECH SHAFT

2.9m

2.9m

2.9m

el.100.98

el.100.34

88.33m

86.81m

D1

9.74%

93.54m

3.8m

85.28m

92.90m

93.54m

9.47%

B1

1.2m

2.6m

PARKING LEVEL P4

85.28m

88.33m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 3 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

86.81m

3.61%

D

el.95.03

16.0m

18.7m

PARKING LEVEL P3

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 2 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

11.4m

22.0m

el.96.64

4.5m

1.5m

2.9m

16.5m

1.5m

7.3m

24.6m

4.0m

el.96.81

el.95.72

el.95.46

el.96.01

el.94.77

B

el.101.06

el.99.42

1.1m

1.0m

C

STRATA PLAN EPS1082

STRATA PLAN BCS760

STRATA PLAN EPS859

STRATA PLAN BCS760

STRATA PLAN EPP39350

23 PLAN 27918

LEGEND:

- GRADE ELEVATION

85.28m – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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PROFESSIONAL ENGINEER
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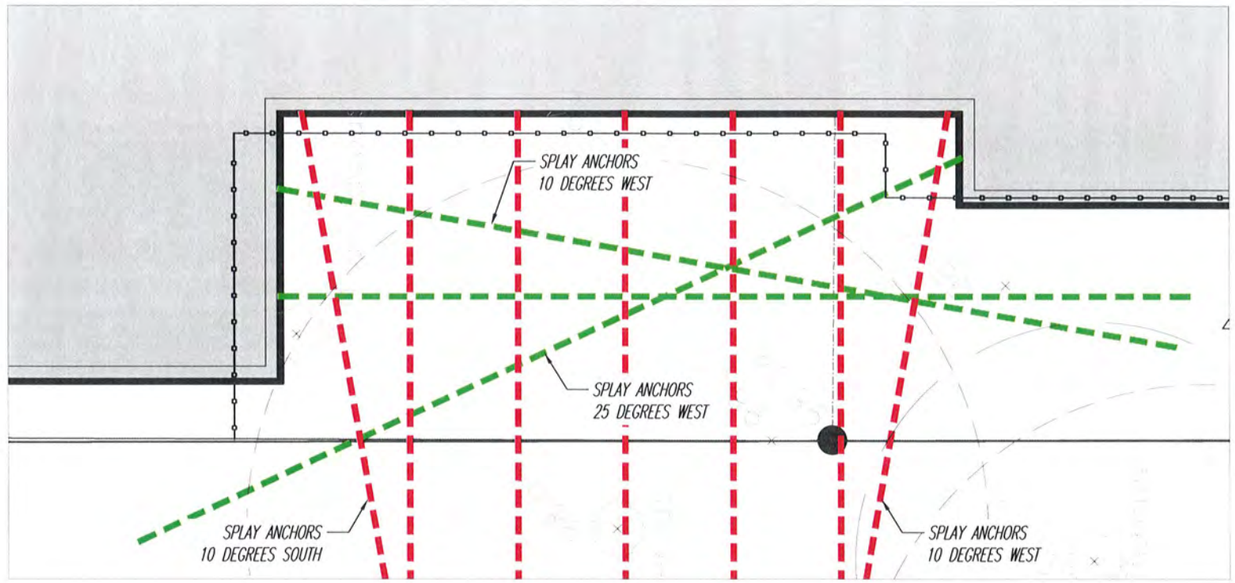
#37915

APR 24 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. SHORING – SITE PLAN	15514 G-S1	APRIL 19, 2024 – Tree protection fence
	M.S.	K.B.	Z.O.			
	AS SHOWN					



DETAIL 1
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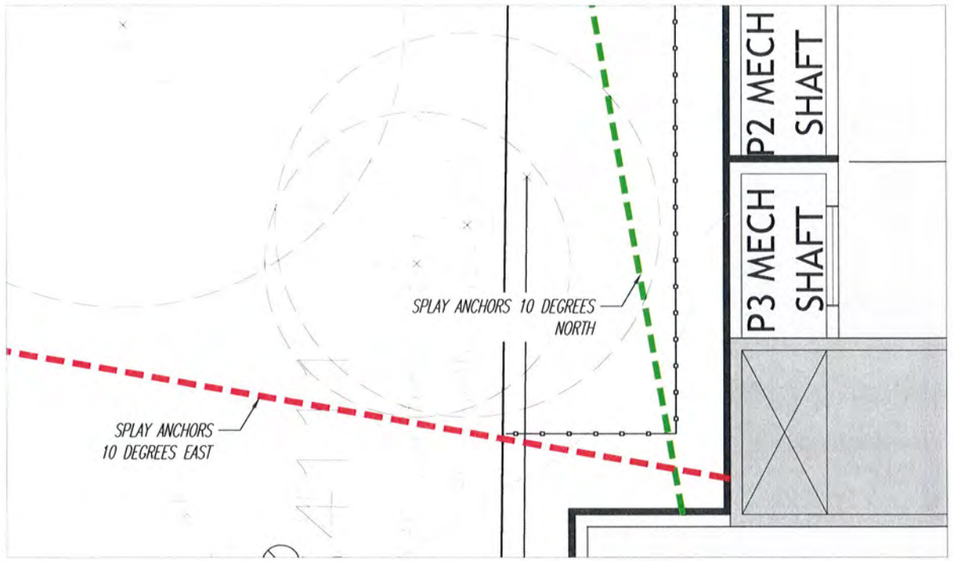

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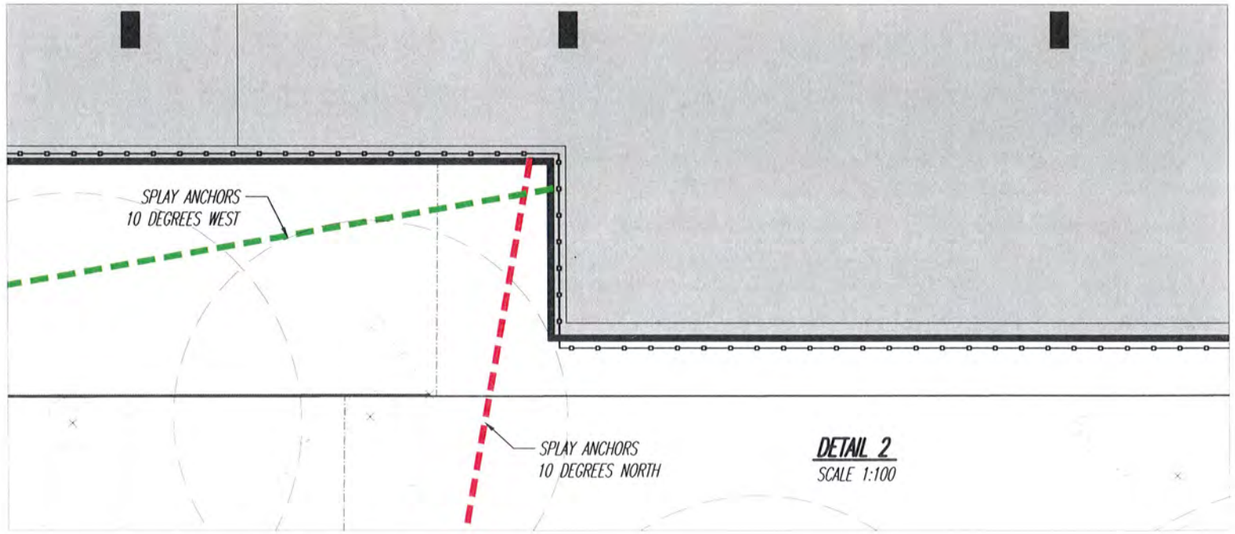

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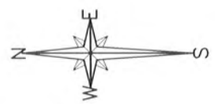

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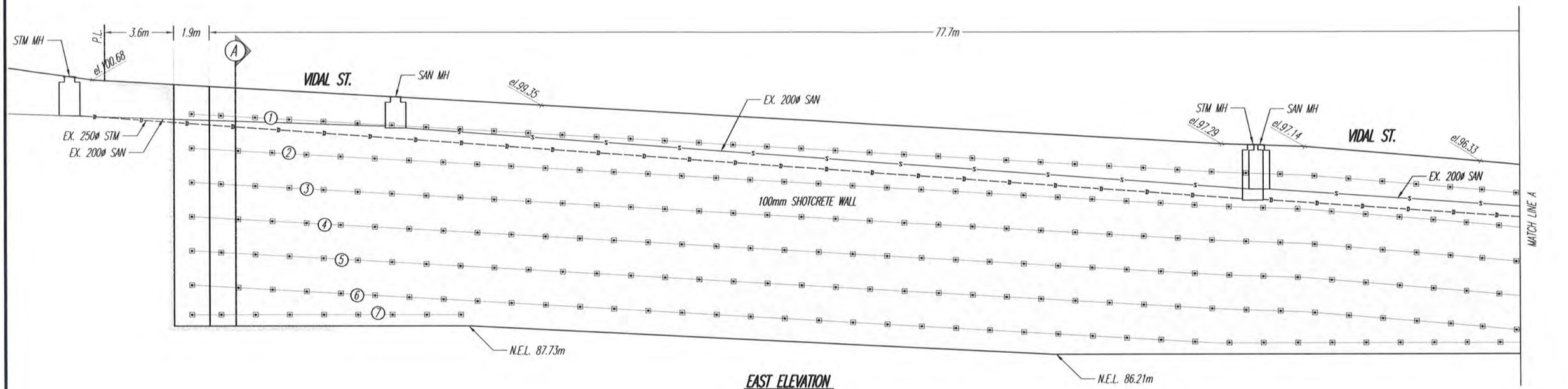
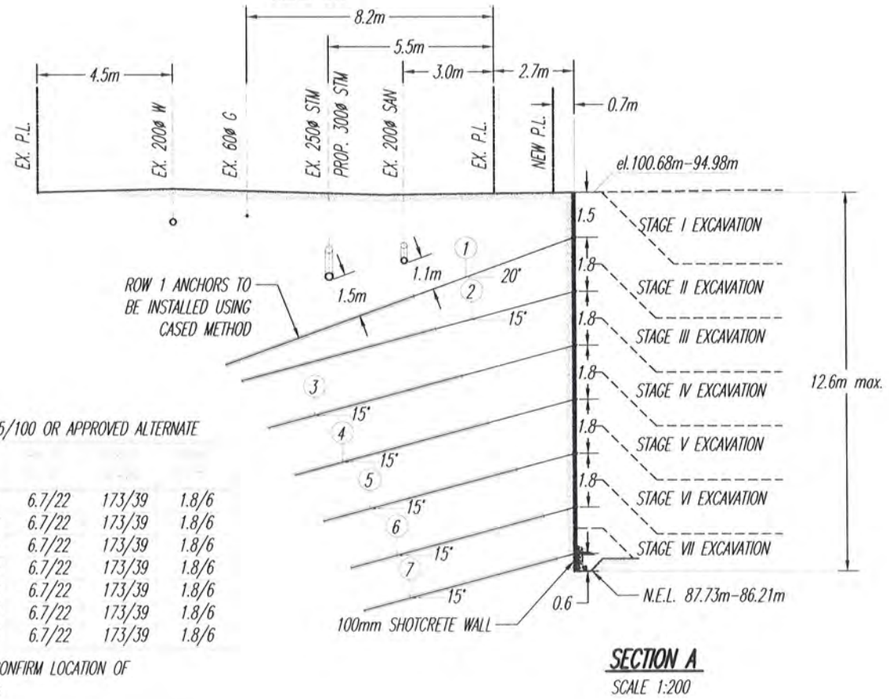
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN DETAILS

15514

G-S1A



EAST ELEVATION
SCALE 1:200



DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

12.5/41	6.7/22	173/39	1.8/6
11.6/38	6.7/22	173/39	1.8/6
10.7/35	6.7/22	173/39	1.8/6
9.8/32	6.7/22	173/39	1.8/6
8.8/29	6.7/22	173/39	1.8/6
7.9/26	6.7/22	173/39	1.8/6
7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION A
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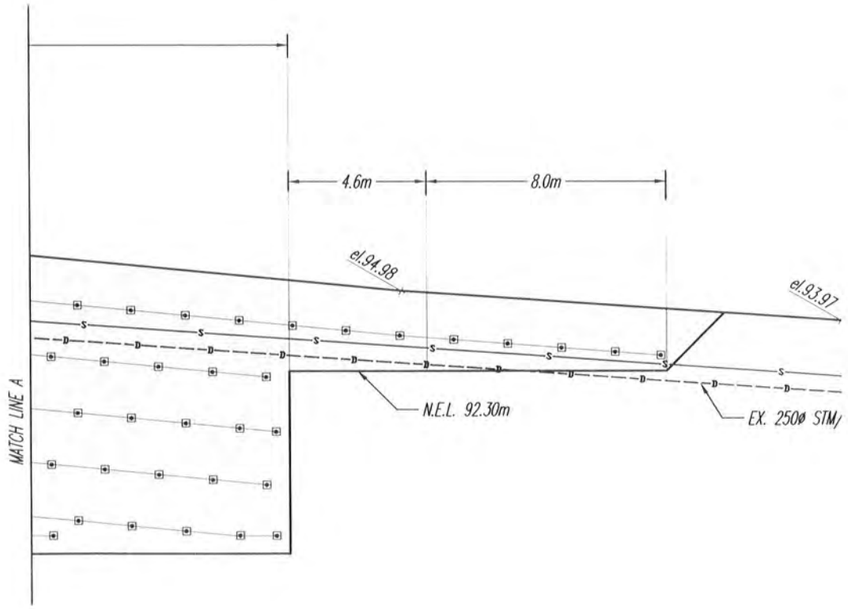

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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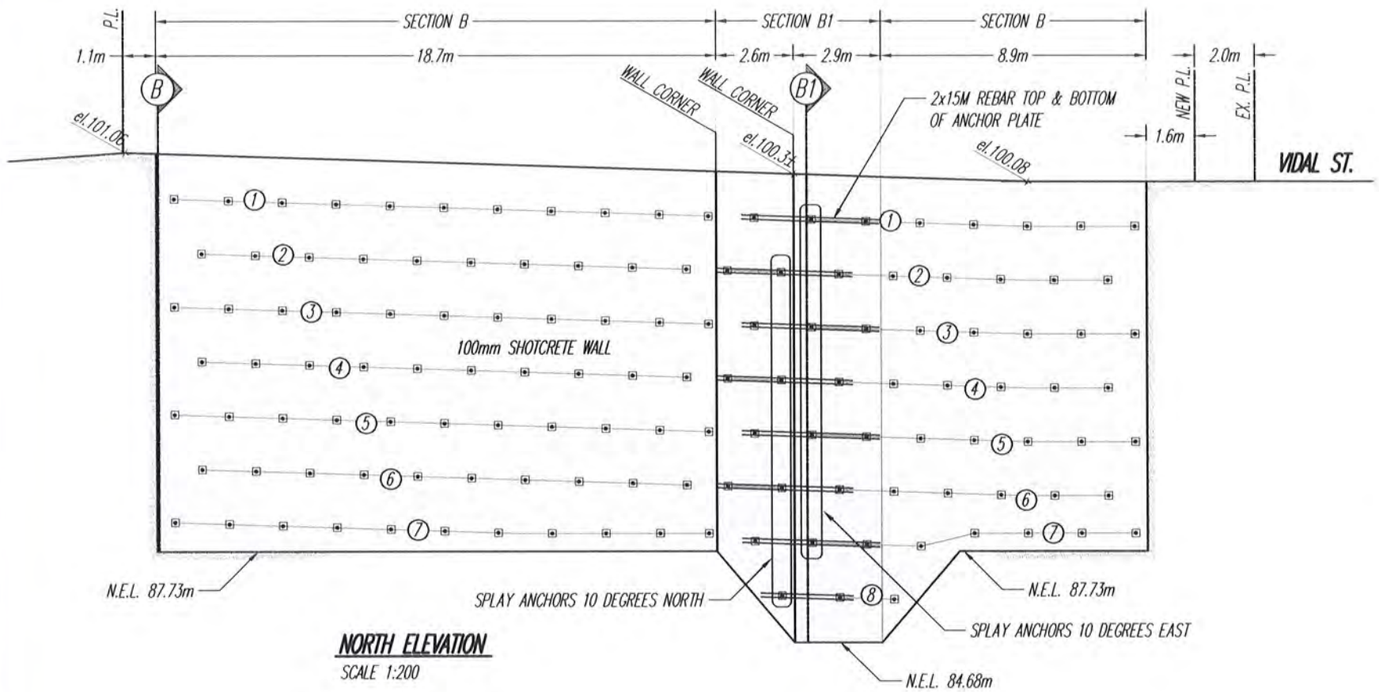
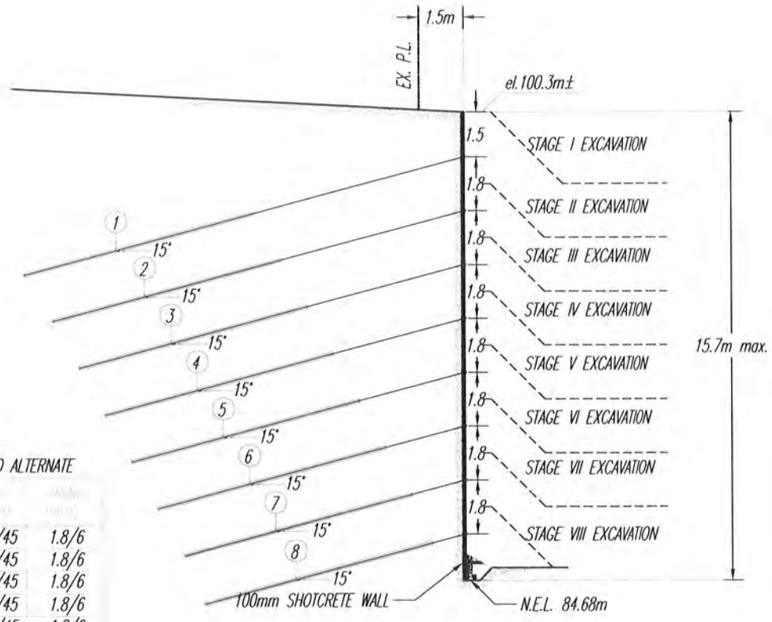
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – EAST ELEVATION, SECTION A

15514

G-S2



NORTH ELEVATION
SCALE 1:200

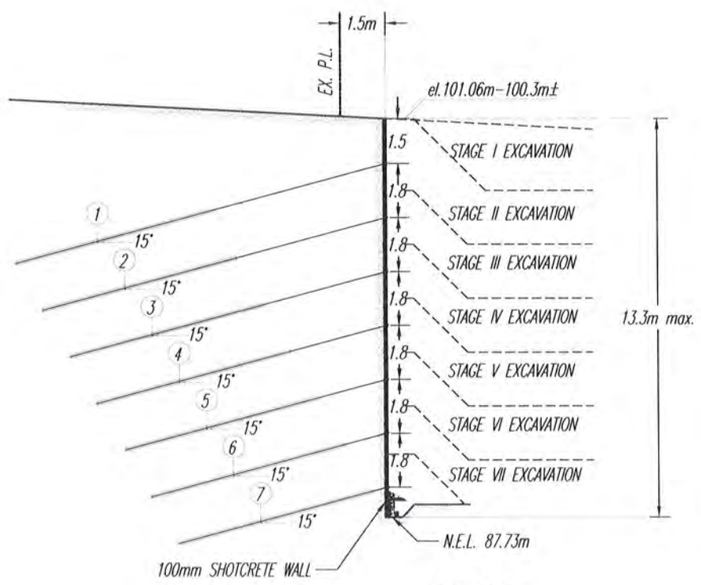


SECTION B1
SCALE 1:200

DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

15.2/50	7.9/26	200/45	1.8/6
14.3/47	7.9/26	200/45	1.8/6
13.4/44	7.9/26	200/45	1.8/6
12.5/41	7.9/26	200/45	1.8/6
11.6/38	7.9/26	200/45	1.8/6
10.7/35	7.9/26	200/45	1.8/6
9.8/32	7.9/26	200/45	1.8/6
9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



SECTION B
SCALE 1:200

DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

12.9/42	6.7/22	173/39	1.8/6
11.9/39	6.7/22	173/39	1.8/6
11.0/36	6.7/22	173/39	1.8/6
10.1/33	6.7/22	173/39	1.8/6
9.1/30	6.7/22	173/39	1.8/6
8.2/27	6.7/22	173/39	1.8/6
7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- 85.28m – GRADE ELEVATION
- + – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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APR 24 2024

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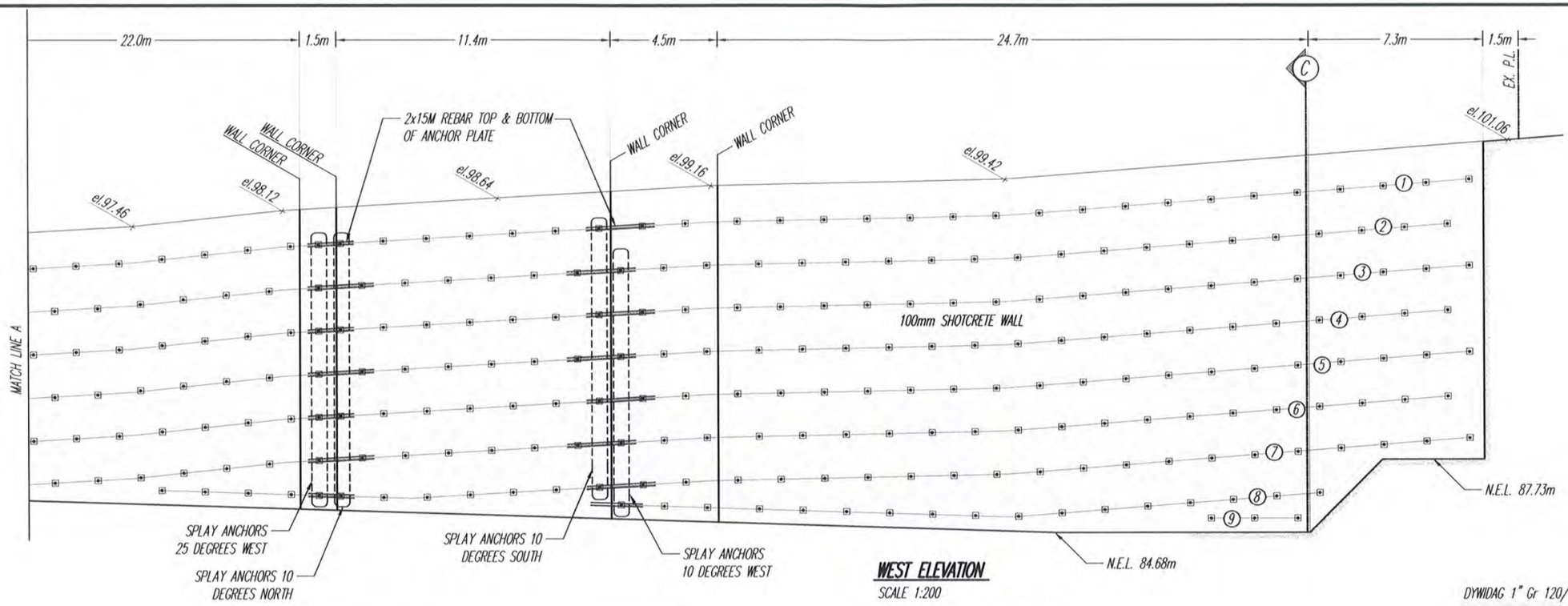
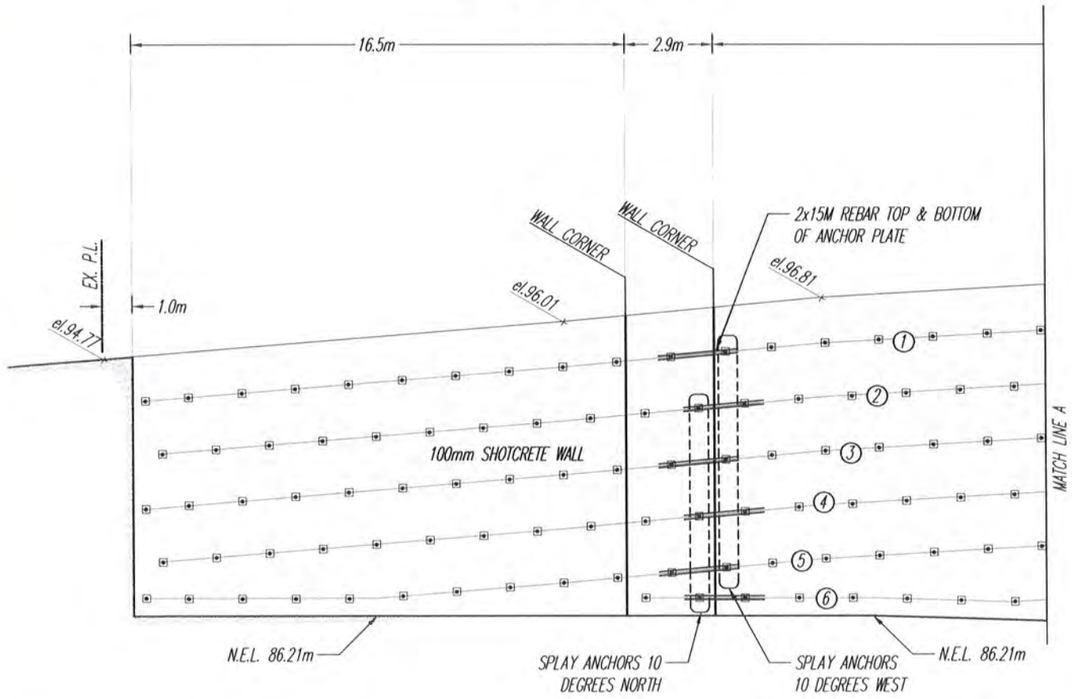
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – NORTH ELEVATION, SECTIONS B, B1

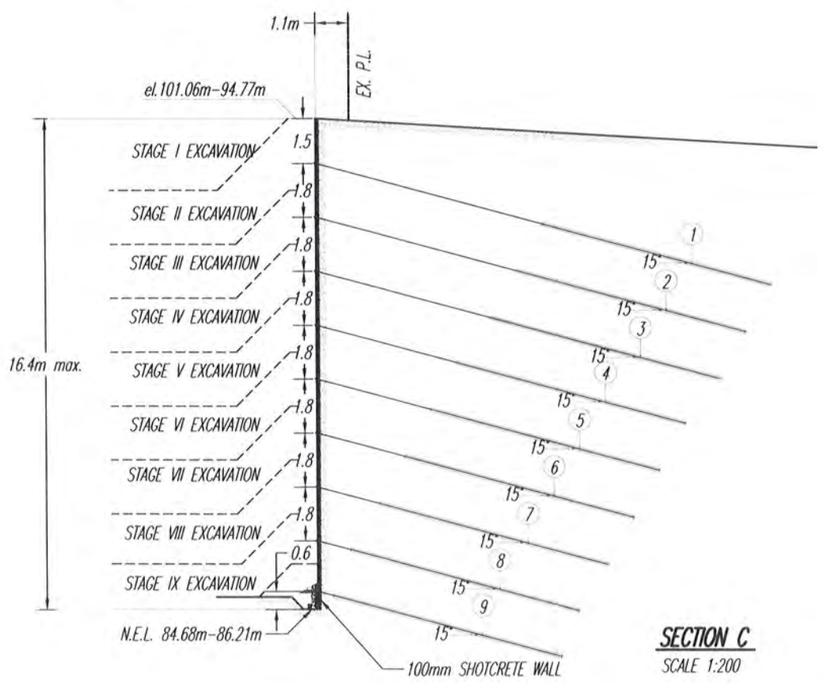
15514

G-S3



WEST ELEVATION
SCALE 1:200





SECTION C
SCALE 1:200

DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

15.8/52	7.9/26	200/45	1.8/6
14.9/49	7.9/26	200/45	1.8/6
14.0/46	7.9/26	200/45	1.8/6
12.8/42	7.9/26	200/45	1.8/6
11.9/39	7.9/26	200/45	1.8/6
11.0/36	7.9/26	200/45	1.8/6
10.1/33	7.9/26	200/45	1.8/6
9.1/30	7.9/26	200/45	1.8/6
8.5/28	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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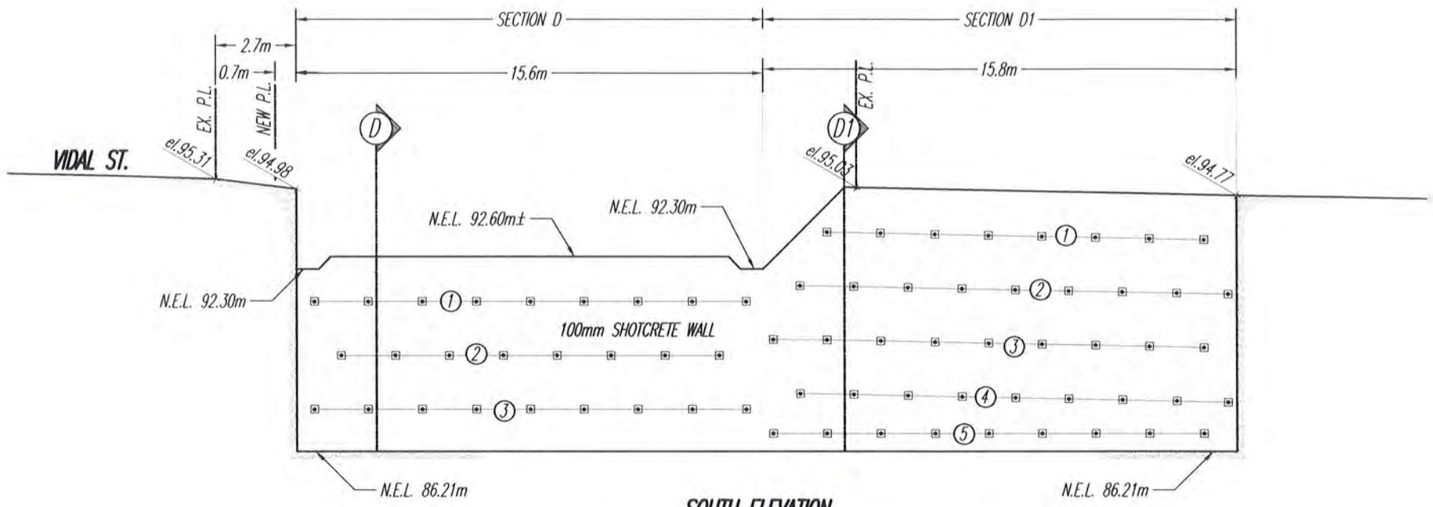
PROPOSED RESIDENTIAL DEVELOPMENT

VIDAL STREET, WHITE ROCK, B.C.

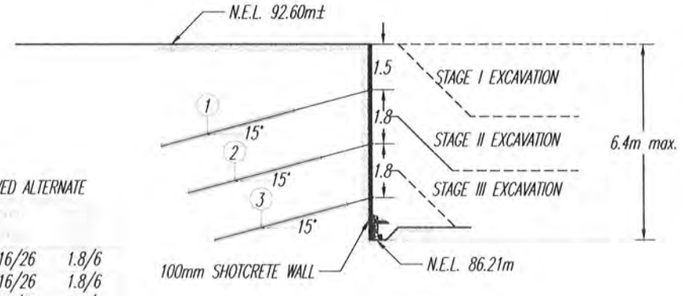
SHORING – WEST ELEVATION, SECTION C

15514

G-S4



SOUTH ELEVATION
SCALE 1:200

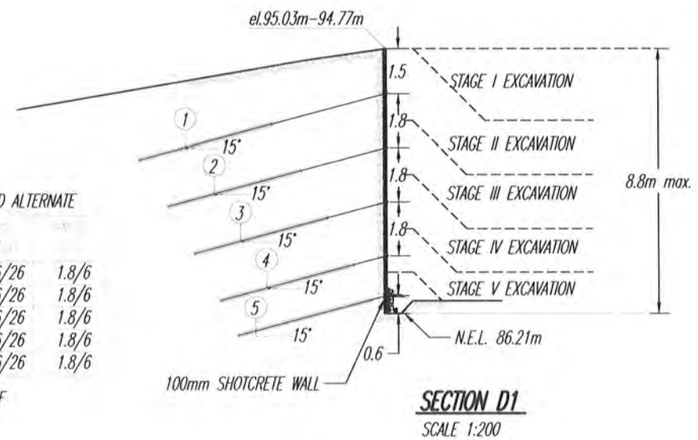


DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

7.3/24	4.6/15	116/26	1.8/6
6.4/21	4.6/15	116/26	1.8/6
5.5/18	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D
SCALE 1:200



DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

8.6/28	4.6/15	116/26	1.8/6
7.6/25	4.6/15	116/26	1.8/6
6.7/22	4.6/15	116/26	1.8/6
5.8/19	4.6/15	116/26	1.8/6
5.2/17	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D1
SCALE 1:200

LEGEND:

85.28m – GRADE ELEVATION
+ – PROPOSED SLAB ELEVATION
N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
#37915

APR 2 4 2024

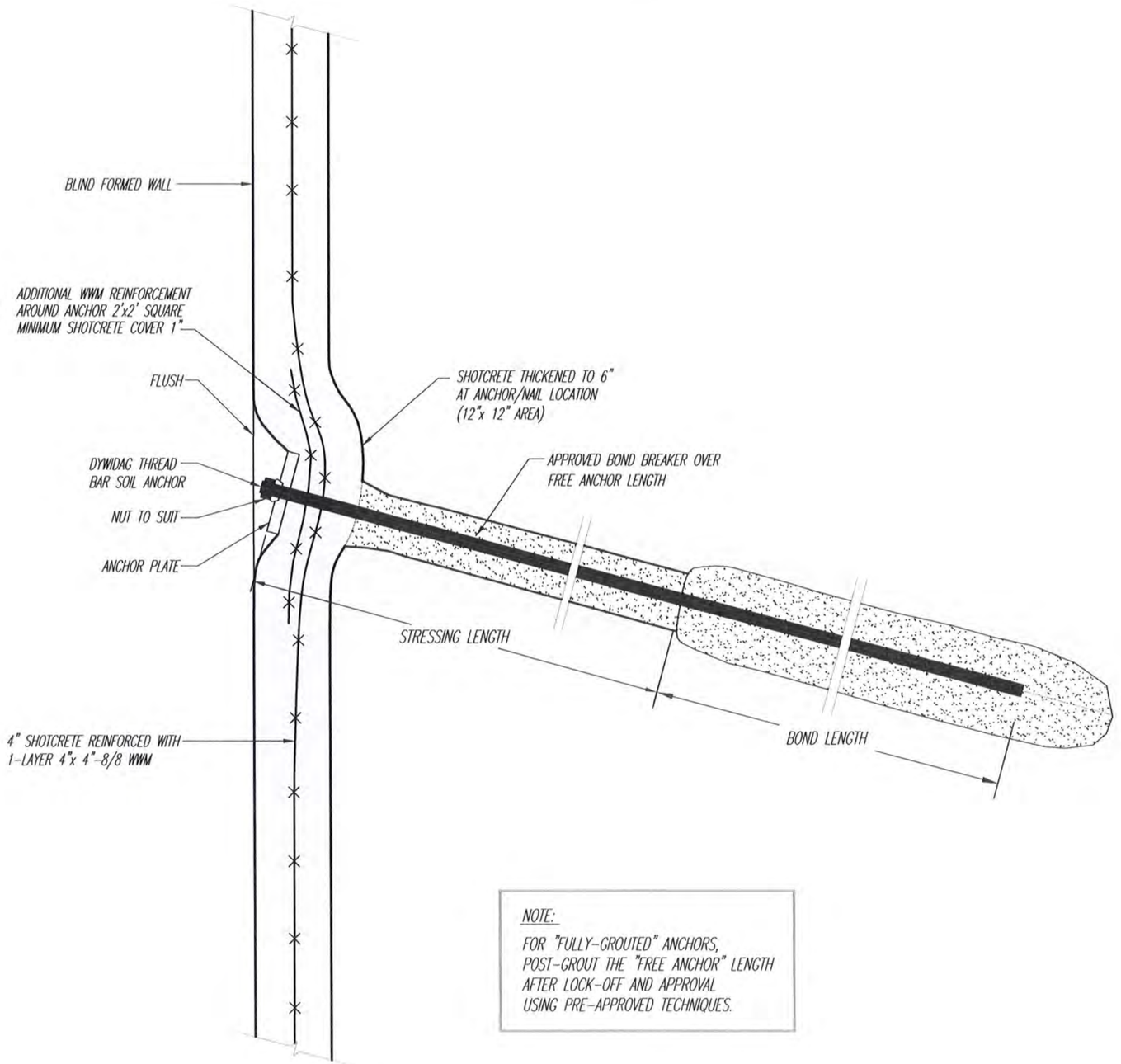
GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SOUTH ELEVATION, SECTION D, D1

15514

G-S5



NOTE:

FOR "FULLY-GROUTED" ANCHORS,
POST-GROUT THE "FREE ANCHOR" LENGTH
AFTER LOCK-OFF AND APPROVAL
USING PRE-APPROVED TECHNIQUES.

ANCHORED SHOTCRETE DETAIL

N.T.S.

Permit to Practice
EGBC
1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. SHORING – ANCHORED SHOTCRETE WALL DETAIL	15514 G-1
	M.S.	K.B.	Z.O.		
	AS SHOWN				

1.0 GENERAL

1.1 In these Notes, the Engineer is GeoPacific Consultants Ltd.

1.2 These Notes must be read in conjunction with the design Drawings.

1.3 The work described and shown involves near vertical excavated slopes or structure using a combination of shotcrete and ground anchors. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.

1.4 The anchors will be installed in ground around the site and the actual soil and groundwater conditions must be assumed.

1.5 The grouted anchor lengths required to resist the design loads are based on the assumed conditions. The capacity of the anchors will be confirmed at the beginning of the contract and may be lengthened or shortened.

1.6 Some utilities, foundations and structures which may affect the installation procedures and techniques are noted on the Drawings.The Contractor shall confirm the locations and condition of ALL man-made elements which may be damaged because of the anchored shotcrete operations. It is the Contractor's responsibility to install the anchored shotcrete in the actual site conditions encountered.

Elements which may, in the opinion of the Contractor, be damaged by the anchored shotcrete operations must be reported to the Engineer well in advance of the work to take place.

1.7 These documents are based on architectural, structural and survey Drawings provided. It is the Contractor's responsibility to verify all dimensions and report discrepancies to the Engineer.

1.8 The Contractor shall schedule and co-ordinate the work to satisfy the reasonable requirements of adjacent Owners and Tenants who shall be given sufficient Notice before carrying out work which may affect their property.

1.9 The Contractor shall erect and maintain a secure closed hoarding around the site for the safety of all persons in the vicinity of the site.

1.10 The Contractor shall inspect the slopes and the support to the slopes and structures daily and shall immediately report any potentially damaging movement or deterioration to the Engineer by telephoning 604-439-0922.

2.0 MATERIALS

2.1 ANCHOR BAR:

The anchors shall be installed in minimum 75 mm (3 inch) diameter holes which shall be drilled, unless otherwise approved in advance by the Engineer. Anchor capacity is dependant upon installation techniques and the drilling equipment and methods shall be subject to the Engineer's approval.

Drilling techniques shall produce a hole which is free of debris and ensure continuous support of the hole and shall not erode or disturb soil around the hole.

2.2 Anchor tendons shall be Dywidag threadbar as specified in the drawings.

Anchorage equipment couplings and any necessary wedges washers and plates shall be in accordance with the tendon manufacturer's specifications and requirements.

Minimum anchorage length ("fixed" length) and stressing length ("free" length) are shown on the Drawings.

2.3 Grout in the anchorage shall be a prior-approved non-shrink cementitious material mixed with a minimum compressive strength of 5 MPa in 24 hours and 35 MPa in 28 days.

2.4 Shotcrete shall be reinforced with 102 x 102 MW13.3/13.3 (4"x4"-8/8) welded wire mesh as shown on the Drawings. Steel shall have a minimum yield strength of 450 MPa (65 ksi) and shall be in accordance with ASTM A497.

2.5 All shotcreting shall be carried out in accordance with ACI 506 : "Specifications for Materials Proportioning and Application of Shotcrete"

2.6 Shotcrete shall have a minimum compressive strength of 5 MPa in 24 hours and 30 MPa in 28 days. The Engineer may require test panels to be prepared by the Contractor so they can be cored by others to confirm the shotcrete strength. The Contractor shall co-operate with the independent testing laboratory appointed by the Owner for this purpose.

3.0 INSTALLATION

3.1 Hollow Core Bar Installation (if required)

Set the bar on an appropriate drill rig. Start pumping the grout to assure that grout will exit drill bit.

Proceed with rotary drilling and flushing approx. three feet per min (depending on ground condition). Rotation speed should be approx. 60 to 120 RPM. To achieve higher friction values, advance and retract the bars several times for each 3.0 m (10 feet) length of bar installed in the bond zone.

The grout should be applied CONTINUOUSLY during drilling. A grout pump with at least 60 l/min volume and minimum 2 MPa (300 psi) pressure capacity (preferably 10 MPa, 1500 psi) should be used.

Refer to the manufacture's specifications and recommendations for more detail.

3.2 Anchors and shotcrete shall be installed in sequence and stages to maintain stability of the excavation. Excavation of soil from the site shall also take place in stages. Stages shall not exceed 1.8 m (6 feet) vertical.

The Contractor may remove all soil within any mass excavation Stage before anchors in that Stage are installed but further excavation shall not take place until all anchored shotcrete in that Stage is installed and approved by the Engineer.

The mass excavation for any Stage does not include a perimeter berm with a minimum top width of one metre and a side slope of 1 horizontal to 1 vertical.

Ground conditions may locally require a wider berm, flatter slopes and/or other slope protection measures including covering or short-term temporary support.

The perimeter berms in any stage shall be excavated in staggered panels. THE MAXIMUM WIDTH OF A PANEL SHALL BE THE HORIZONTAL SPACING OF THE ANCHOR PLUS 0.6 M (2 FEET). This panel width may be INCREASED OR DECREASED by the Engineer's agreement, in writing, BEFORE increasing the panel width.

No adjacent panels shall be excavated concurrently and no more than 1/3 of the panels shall be excavated concurrently. In addition no panel shall be excavated into the berm until at least 24 hours after that panel anchor has been grouted.

Anchors and shotcrete may be installed concurrently in different panels. Anchors shall be installed at right angles to the property lines on plan and within 2.5 degrees of the declination shown on the Drawings except with the prior approval of the Engineer.

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PROVINCE OF BRITISH COLUMBIA
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APR 24 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. GENERAL NOTES	15514
	M.S.	K.B.	Z.O.		G-2 (sheet 1 of 2)
	AS SHOWN				

3.3 Immediately following excavation of the soil berm in a panel the excavated face shall be trimmed back to the required line and mesh reinforcement shall be fixed to the soil to ensure the minimum specified shotcrete cover. Shotcrete shall be applied without delay to thicknesses shown on the Drawings.

Shotcrete panels shall be kept moist to aid curing by spraying with water and covering with sacking or polyethylene sheeting.

Sufficient wire mesh reinforcement shall be installed to provide a full strength overlap with adjacent panels. This overlap shall not be less than 200 mm (8 inch).

The end surfaces of panels shall be thoroughly cleaned with compressed air to ensure a full strength bond when adjacent panels are shotcreted.

3.4 Drains to relieve groundwater pressure shall be installed through the shotcrete. Drains shall be a minimum of 50 mm (2 inches) diameter and at normal 3.0 m (10 feet) centres horizontally and 1.5 m (5 feet) centres vertically. The Contractor shall install filters in drains as fines are being removed with the water.

Additional special drains may be required where water seeps are noted. This special drains shall consist of minimum 50 mm (2 inches) diameter perforated ABS pipe installed within 75 mm (3 inches) diameters holes drilled 5 degrees UPWARDS from the 3 metres (10 feet) measured from the face of the shotcrete. These special drains may be required to be filtered with fine sand or gravel or filter fabrics.

3.5 Anchors shall be tensioned as soon as practicable but no sooner than 24 hours after the construction of the applicable shotcrete panel. Anchors shall be tensioned and tested as follows:

3.5.1 Apply a proof load of 1.33 times the lock-off load for two minutes. Monitor the load in the anchor. If the reduction in load is less than 2.5 percent of proof load reduce the load to lock-off load and lock the working load into the anchor.

3.5.2 If the anchor does not hold at least 133 percent of lock-off load for two minutes the Engineer must be informed. Further testing in the presence of the Engineer will required as follows:

Load the anchor in 22 kN (5 kip) increments to 130.5 percent of lock-off load. Hold each increment for 5 minutes except at maximum load when the load shall be maintained for 100 minutes. The increase in length of the anchor shall be measure at the start and end of each load increment except at maximum load when the extension shall be measured at 5 minutes intervals.

This information shall be utilized by the Engineer to deduce the utilized anchor length and to assess the creep characteristics.

Anchors which creep more than 2 mm (0.08 inch) per log cycle of time will not be accepted. The Contractor shall install replacement anchors at the Contractor's expense.

4.0 SHOTCRETE REMOVAL/ANCHOR DETENSIONING

4.1 All excavation and support works within the CITY OF WHITE ROCK shall be in strict accordance with the City's requirements.

4.2 Anchor rods within 1.5m of the surface or within 1.0m of any underground utility are to be removed. Anchors rods not removed to be detensioned or fully grouted when no longer required in the opinion of the Engineer.

4.3 Shotcrete placed on Municipal rights-of-way to be removed to depth of 1.5m below the surface or within 1.5m of any utility removed to 1.0m below the utility.

5.0 BACKFILLING ON AND ADJACENT TO CITY PROPERTY

5.1 Backfill material and placing within Municipal rights-of-way to meet City specifications.

6.0 REQUIRED INSPECTIONS

6.1 The following are the MINIMUM inspections which are required by the Geotechnical Engineer. The Contractor is responsible for informing the Geotechnical Engineer that the Work is ready for these inspections. The Contractor shall be liable for any loss caused by failure to inform the Geotechnical Engineer that the Work is ready for inspection.

1. 2 days before work commences on site.
2. 1 day before the anchors are detensioned.
3. 2 days before backfilling commences.
4. 1 day before shotcrete removal.

6.2 Daily Inspection is required during installation of anchors, and full time inspection is required during anchor testing.

7.0 CONTRACTOR QUALIFICATION

7.1 Temporary works and shoring installation is highly sensitive to processes including sequence of installation, quality and quantity of materials used, monitoring of the works and other factors. Consequently a high degree of skill and professionalism is required for its successful implementation. As a result, all contractors considered for tender of the shoring work described in the Design Drawings must be approved by the Engineer in advance of tender. The work must be carried out only by a shoring contractor with experience and expertise in shoring construction. The contractors experience and expertise must be with projects of similar size and scope to that shown in the Design Drawings. The following shoring contractors are permitted to undertake the work:

- Matcon Canada
- Bel Pacific Excavation & Shoring
- Vancouver Shotcrete
- Power Shotcrete Shoring LTD.
- Mainland Excavation & Shoring ltd.
- Terra Contracting Ltd.
- Foundations West Construction ULC
- B&B Contracting Group

7.2 The preceding list does not express or imply any guarantee or warranty of the contractor's performance. It is the responsibility of the contractor to undertake the work shown on the Design Drawings.

7.3 Shoring contractors other than those listed above may be considered by the Engineer only with submission of references and qualifications for at least 10 projects of similar size and scope. GeoPacific reserves the right to accept or reject the qualifications of any shoring contractor.

NOTES:

1. The excavation support design is based on the locations of adjacent structures and utilities which have been supplied. The Contractor shall confirm the locations and elevations of all foundations and utilities which may be affected by the work and raport any discrepancies to GeoPacific Consultants Ltd. (Tel.: 439-0922)
2. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.
3. The extent of the excavation shall be based on the Architectural and Structural Drawings. The Contractor shall confirm the size of the excavation required by the basement and report any discrepancy with these Drawings to GeoPacific Consultants Ltd.
4. The Contractor must obtain prior permission in writing to carry out any work on adjacent private property.
5. The Contractor shall inform GeoPacific Consultants Ltd. of any surcharge loads which will be within half the height of the excavation from the top of the excavation so that the support system can be modified to support the additional loads. The Contractor shall also inform GeoPacific if and when any groundwater seepages occur which may require additional special drains as outlined in Note 3.4, Drawing G-2.
6. The ground conditions must be confirmed by GeoPacific Consultants Ltd. when the excavation is 4 feet deep. The Contractor is responsible for ensuring that GeoPacific personnel inspect the site.

DRAWING LIST:

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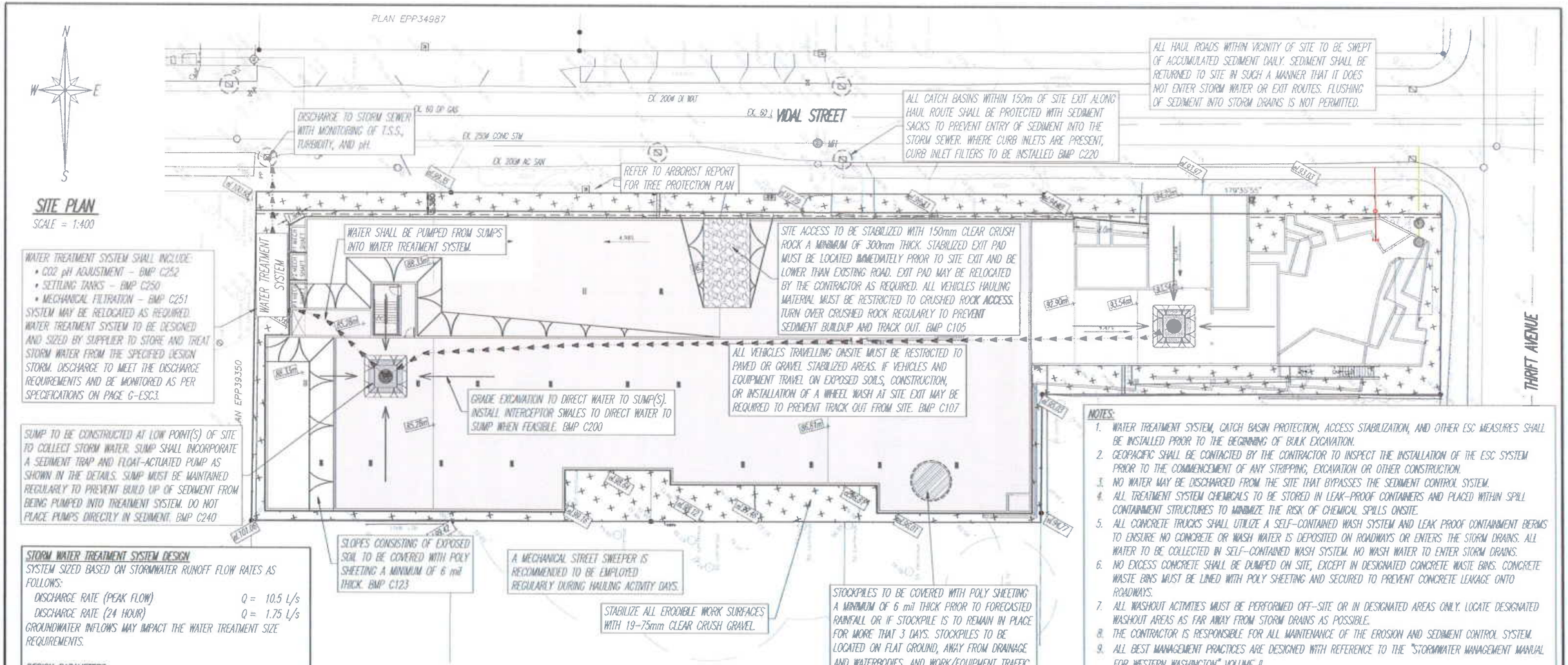
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT	15514	
M.S.	K.B.	Z.O.	VIDAL STREET, WHITE ROCK, B.C.	G-2 (sheet 2 of 2)	
AS SHOWN			GENERAL NOTES		



NO.	DATE	BY	REVISION

GEOPACIFIC CONSULTANTS

DESIGNED BY: K.D.S.
DRAWN BY: N.S.K.
APPROVED BY: A.Ge.
REVIEWED BY: A.Ge.
SCALE: AS SHOWN

RESIDENTIAL DEVELOPMENT

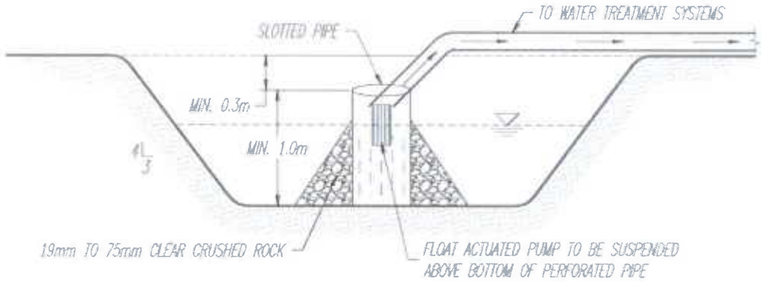
1441-1465 VIDAL STREET & 14937 THRIFT AVENUE, WHITE ROCK, B.C.

EROSION & SEDIMENT CONTROL PLAN

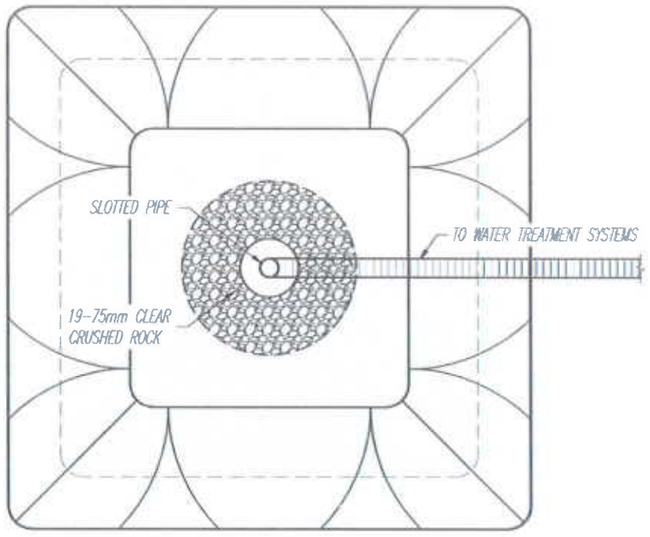
FILE NO: 15514
DRAWING NO: G-ESC1
DATE: DECEMBER 7, 2023

SEAL: Permit to Practice EGBC 1000722 PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A. B. GERKE # 38072

DEC 0 8 2023



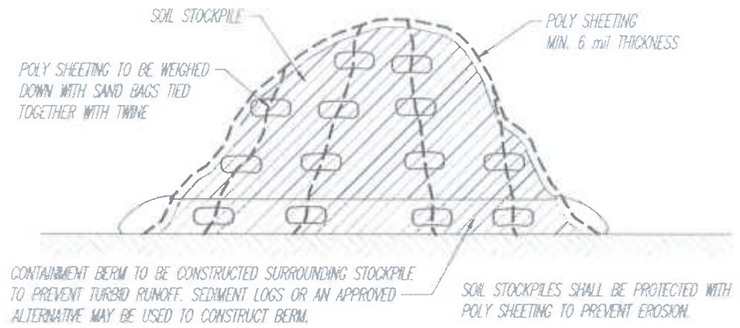
TYPICAL CROSS SECTION



TYPICAL PLAN VIEW

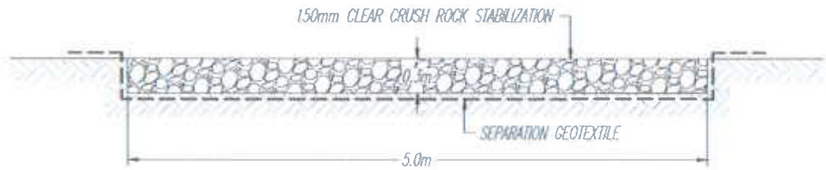
SUMP WITH SEDIMENT TRAP DETAIL - BMP C240

1:50



PLASTIC SHEETING - BMP C123

N.T.S.



GEOTEXTILE SEPARATION SPECS

GRAB TENSILE STRENGTH (ASTM D4751)	200psi MIN.
GRAB TENSILE ELONGATION (ASTM D4632)	30% MAX.
MULLEN BURST STRENGTH (ASTM D3786 - 80A)	400psi MIN.
AVERAGE OPENING SIZE (ASTM D4751)	20 - 45 (U.S. STANDARD SIZE)

STABILIZED CONSTRUCTION ACCESS DETAIL - BMP C105

1:50

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LEGEND:

NO.	DATE	BY	REVISION

GEOPACIFIC CONSULTANTS

DESIGNED BY: K.D.S.
DRAWN BY: N.S.K.
APPROVED BY: A.Ge.
REVIEWED BY: A.Ge.
SCALE: AS SHOWN

RESIDENTIAL DEVELOPMENT

1441-1465 VIDAL STREET & 14937 THRIFT AVENUE, WHITE ROCK, B.C.

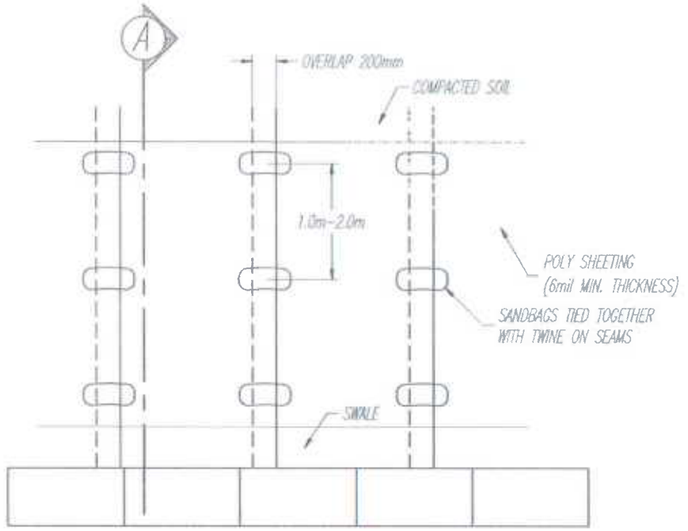
EROSION & SEDIMENT CONTROL DETAILS (1 OF 2)

FILE NO: 15514
DRAWING NO: G-ESC2A
DATE: DECEMBER 7, 2023

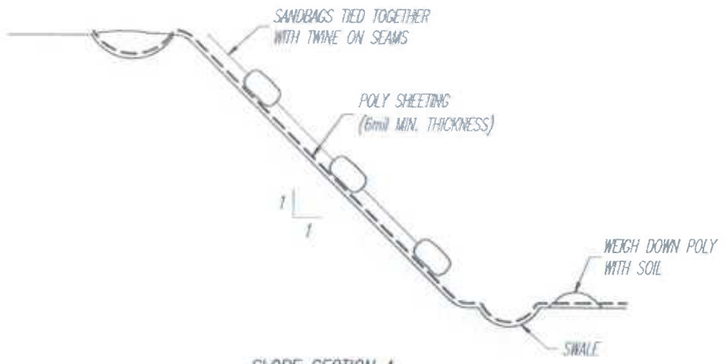
SEAL: PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A.G. GERKE 58073

DEC 08 2023

ORIGINAL PAPER SIZE 11"x17"



SLOPE PLAN VIEW

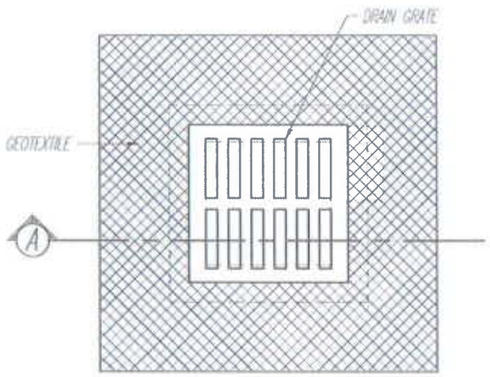


SLOPE SECTION A

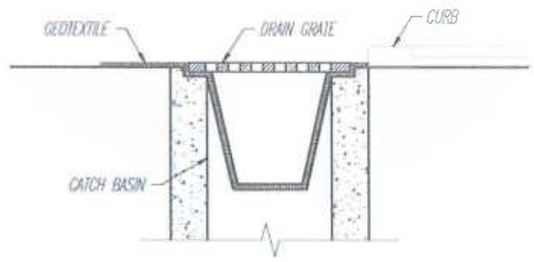
PLASTIC COVERING - BMP C123

N.T.S.

NOTE:
1. POLYETHYLENE SHEETING WITH A MINIMUM THICKNESS OF 6mil TO BE USED.
2. SHEETING TO BE PLACED PARALLEL TO THE SLOPE WITH A MINIMUM 200mm OVERLAP BETWEEN SHEETS.
3. TRENCH TO BE EXCAVATED AT THE HEAD OF THE SLOPE TO ALLOW SHEETING TO BE SECURED UNDER COMPACTED SOIL.
4. TRENCH TO BE EXCAVATED AT THE TOE OF THE SLOPE, TO A DEPTH OF 300mm, WHICH WILL ACT AS A SWALE.
5. BURLAP OR GEOTEXTILE BAGS FILLED WITH SAND TO BE PLACED AT 1.0m TO 2.0m INTERVALS ALONG SEAMS. BAGS TO BE TIED TOGETHER WITH TWINE TO HOLD IN PLACE.
6. REGULAR INSPECTION OF THE SHEETING IS REQUIRED. TORN SHEETS MUST BE REPLACED AND OPEN SEAMS MUST BE SEALED.



PLAN VIEW

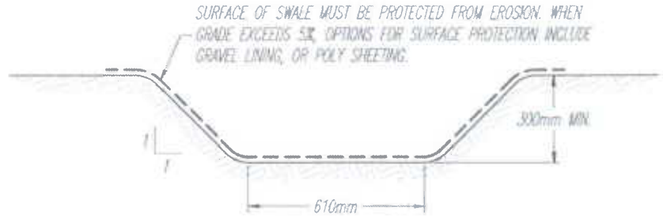


- STORE SPARE CATCH BASIN PROTECTION ONSITE AT ALL TIMES.
- INSPECT CATCH BASIN PROTECTION WEEKLY, AND DAILY DURING STORM EVENTS. CLEAN OR REPLACE WHEN 1/3 FULL, CLOGGED, OR SIGNS OF WEAR OCCUR.
- CATCH BASIN PROTECTION TO BE USED ON ALL CATCH BASINS WITHIN 150m OF SITE EXIT ALONG HAUL ROUTE.

SECTION A

CATCH BASIN SEDIMENT SACK DETAIL - BMP C220

N.T.S.



INTERCEPTOR SWALE DETAIL - BMP C200

1:20

SPACING OF CHECK DAMS BASED ON SLOPE OF SWALES	
SLOPE	SPACING OF CHECK DAMS
0.5%	EVERY 50m
1.0%	EVERY 35m
1.5%	EVERY 20m
2.0%	EVERY 15m
2.5%	EVERY 12m
3.0%	EVERY 10m

NOTES:
- DRAINAGE SWALE TO BE CONSTRUCTED WITH MIN. SLOPE TO FACILITATE FLOW.
- SWALE SWALES SHALL DIRECT WATER INTO DRAINAGE SWALE.

- DURING ARID PERIODS OR DURING TIMES OF HIGH TRAFFIC OVER EXPOSED SOILS USE NATURAL OR ARTIFICIAL WIND BREAKS OR SCREEN.
- SPRINKLE WATER ON SITE UNTIL SURFACE SOILS ARE WETTED.
- SPRAY EXPOSED SOIL WITH DUST PALLIATIVE FOLLOWING MANUFACTURER'S INSTRUCTION.

DUST CONTROL - BMP C140

Permit to Practice
EGBC
1000782

LEGEND:

NO.	DATE	BY	REVISION

GEOPACIFIC CONSULTANTS

DESIGNED BY: K.D.S.
DRAWN BY: N.S.K.
APPROVED BY: A.Ge.
REVIEWED BY: A.Ge.
SCALE: AS SHOWN

RESIDENTIAL DEVELOPMENT

1441-1465 VIDAL STREET & 14937 THRIFT AVENUE, WHITE ROCK, B.C.

EROSION & SEDIMENT CONTROL DETAILS (2 OF 2)

FILE NO: 15514
DRAWING NO: G-ESC2B
DATE: DECEMBER 7, 2023

SEAL: PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA A.B. GERKE 35807

DEC 08 2023

ORIGINAL PAPER SIZE 11"x17"

GENERAL NOTES

1. UNDER THIS PLAN, ALL PERSONS INCLUDING BUT NOT LIMITED TO THE DEVELOPER, OWNER OF THE LAND, THE ENGINEER OF RECORD, ESC MONITOR, CIVIL CONTRACTOR, CIVIL SUBCONTRACTOR, BUILDER AND BUILDING SUB-TRADES; ENGAGED ONSITE SHALL COMPLY WITH THE REQUIREMENTS OF ALL REGULATORY AUTHORITIES, FEDERAL, PROVINCIAL AND MUNICIPAL GOVERNMENT DEPARTMENTS PERTAINING TO ONSITE MANAGEMENT AND DISCHARGE ASSOCIATED WITH EROSION AND SEDIMENT CONTROL REGULATIONS.

2. THE DEVELOPER/PERSONS RESPONSIBLE SHALL ENSURE THAT CONSTRUCTION ACTIVITIES ARE UNDERTAKEN IN A MANNER THAT ENSURES BEST MANAGEMENT PRACTICES ARE IMPLEMENTED TO CONTAIN ONSITE, SILT LADEN RUNOFF THAT EXCEEDS FEDERAL, PROVINCIAL, AND MUNICIPAL REQUIREMENTS, AND PREVENT ITS ENTERING DOWNSTREAM DRAINAGE INFRASTRUCTURE AND AQUATIC SYSTEMS.

3. THE DEVELOPER/OWNER/PERSONS RESPONSIBLE MUST COMPLY WITH THE ESC PLAN WITHIN THE SPECIFIED TIMEFRAME, AND COMPLY WITH ALL INSTRUCTIONS ISSUED BY THE ESC MONITOR TO RECTIFY DEFICIENCIES THAT RESULT IN NON-COMPLIANCE.

4. NO PERSON SHALL OBSTRUCT OR IMPEDE THE FLOW OF THE DRAINAGE SYSTEM. NO PERSON SHALL STORE, TRANSPORT OR DISPOSE OF ANY WASTE OR DELETERIOUS SUBSTANCES IN SUCH A MANNER SO AS TO PERMIT THE LIKELY ESCAPE OF THE MATERIALS INTO THE DRAINAGE SYSTEM, OR RELEASE DIRECTLY OR INDIRECTLY DELETERIOUS SUBSTANCES INTO THE DRAINAGE SYSTEM.

5. NO PERSON SHALL CAUSE OR PERMIT TO BE RELEASED INTO THE DRAINAGE SYSTEM, DIRECTLY OR INDIRECTLY, ANY SEDIMENT, EARTH, CONSTRUCTION OR EXCAVATION WASTES, CEMENT, CONCRETE OR OTHER SUBSTANCES WHICH WHEN MIXED WITH WATER WILL RESULT IN A PH AND/OR TURBIDITY VALUE OUTSIDE OF FEDERAL, PROVINCIAL, AND MUNICIPAL DISCHARGE REQUIREMENTS.

6. THE EROSION AND SEDIMENT CONTROL WORKS SHALL REMAIN IN PLACE AND SHALL BE MAINTAINED UNTIL THE SITE NO LONGER POSES A THREAT TO THE DRAINAGE SYSTEM AND APPROVAL TO REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL FACILITIES HAS BEEN OBTAINED FROM THE ESC MONITOR.

MAINTENANCE

1. UPON INSTRUCTION/NOTIFICATION BY ENGINEER OF RECORD OR ESC MONITOR, PERSONS RESPONSIBLE ARE REQUIRED TO UNDERTAKE MAINTENANCE ACTIVITIES TO MODIFY OR MAINTAIN ESC FACILITIES.

2. SHOULD ANY PART OF THE SEDIMENT CONTROL FACILITIES BECOME DAMAGED, BLOCKED OR IN ANY WAY NOT FUNCTION PROPERLY, THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO REPAIR AND/OR REMOVE SUCH DAMAGE, BLOCKAGE OR CAUSE OF MALFUNCTION.

3. ACCUMULATED SEDIMENT REMOVED DURING MAINTENANCE OF THE SEDIMENT CONTROL FACILITIES SHALL BE DISPOSED OF IN SUCH A MANNER AS TO PREVENT ITS ENTRY INTO THE SITE DRAINAGE SYSTEM, AND/OR INTO ANY STORM SEWER OR WATERCOURSE.

4. STREETS ARE TO BE INSPECTED DAILY AT MINIMUM AND SWEPT TO ENSURE THAT NO SEDIMENT OR DEBRIS ENTERS THE STORM SYSTEM. FLUSHING IS NOT PERMITTED.

5. PAVED ROAD SURFACES ARE TO BE CLEANED OF ANY ACCUMULATED SEDIMENT AT THE END OF EACH DAY AS REQUIRED. NO MATERIAL WITH HIGH SEDIMENT CONTENT IS TO BE DEPOSITED OR PILED NEAR CATCH BASINS, LAWN BASINS OR OUTSIDE OF PROPERTY BOUNDARIES.

6. CATCH BASINS ARE TO BE INSPECTED DAILY AND FOLLOWING STORM EVENTS. SEDIMENT SACKS ARE TO BE REMOVED AND CLEANED WHEN THEY REACH APPROXIMATELY ONE THIRD CAPACITY.

7. SOIL DISTURBING CONSTRUCTION TO BE AVOIDED DURING PERIODS OF HEAVY OR PERSISTENT RAINFALL WHERE POSSIBLE.

8. STOCKPILED MATERIAL AND ALL EXPOSED SLOPES TO BE COVERED WITH 6 MIL THICK POLYETHYLENE SHEETING ANCHORED WITH WEIGHTS.

9. SILT FENCES AND BARRIERS ARE TO BE INSPECTED AND REPAIRED PRIOR TO FORECASTED RAIN EVENTS, AND FOLLOWING SIGNIFICANT RAINFALL EVENTS OR PERIODS OF EXTENDED RAIN. SEDIMENT TO BE REMOVED WHEN IT HAS REACHED APPROXIMATELY ONE THIRD THE HEIGHT OF THE FENCE.

10. SITE ACCESS PADS TO BE INSPECTED DAILY TO ENSURE FUNCTIONALITY AND ADDITIONAL ROCK IS TO BE ADDED AS REQUIRED.

11. NO CONCRETE WASH WATER IS TO BE DIRECTED INTO THE SEDIMENT CONTROL SYSTEM OR THE STORM SEWERS. ALL CONCRETE TRUCKS ARE TO BE EQUIPPED WITH A RECIRCULATORY WASH SYSTEM. NO DISCHARGE FROM CONCRETE TRUCKS IS PERMITTED ON THE STREET OR TO ENTER THE ONSITE DRAINAGE SYSTEM.

12. AN ADDITIONAL SUPPLY OF MATERIALS SHALL BE STORED ONSITE TO ENABLE A SUITABLE RESPONSE TO ANY MAINTENANCE ACTIONS REQUIRED.

13. WET WEATHER SHUT DOWN PROCEDURES TO INCLUDE SUSPENDING ANY HAULING OR MAJOR EARTHWORK ACTIVITIES USING UNPAVED ROAD SURFACES PRIOR TO FORECASTED RAIN EVENTS EXCEEDING 25mm IN 24 HOURS. ALL ERODIBLE SURFACES MUST BE STABILIZED, OR COVERED WITH POLY SHEETING, PRIOR TO SIGNIFICANT RAINFALL EVENT. ANY WATER POOLING ONSITE MUST BE DIRECTED TO SUMP AND TREATED BY WATER TREATMENT SYSTEM PRIOR TO DISCHARGE. NO UNTREATED WATER IS TO ENTER THE STORM SYSTEM.

14. IF DISCHARGE EXCEEDING THE MUNICIPAL REQUIREMENTS IS OBSERVED, THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO CEASE DISCHARGE AND CORRECT THE WATER QUALITY.

MONITORING, SAMPLING AND TESTING PROGRAM

1. ALL DISCHARGE TO MUST MEET THE PH RANGE REQUIREMENT OF 6.0-9.0.

2. THE TOTAL SUSPENDED SOLIDS OF ALL DISCHARGE MUST NOT EXCEED 75 mg/L.

3. WHERE ANY WASTE, DELETERIOUS SUBSTANCE, OR WATER RELEASED DIRECTLY OR INDIRECTLY INTO THE DRAINAGE SYSTEM EXCEEDS THE ALLOWABLE PH, TURBIDITY AND/OR TOTAL SUSPENDED SOLIDS LEVELS, ALL DISCHARGE IS TO BE CEASED AND CORRECTIVE MEASURES ARE TO BE IMPLEMENTED IMMEDIATELY.

4. A LOGBOOK OF ALL INSPECTIONS SHALL BE MAINTAINED ONSITE AND BE MADE AVAILABLE TO THE CITY UPON REQUEST.

5. WATER QUALITY MONITORING AND ESC FACILITIES INSPECTIONS BY THE ESC MONITOR SHOULD BE CONDUCTED AT THE MIN. FREQUENCY NOTED BELOW.

	MIN. MONITORING FREQUENCY	MIN. REPORTING FREQUENCY
YEAR ROUND	MONTHLY	WITHIN 7 DAYS OF INSPECTION

6. INSPECTION REPORTS SHALL BE SUBMITTED TO THE DEVELOPER AND CONTRACTORS AND THE CITY OF WHITE ROCK AT operations@whiterockcity.ca.

DECOMMISSIONING

1. BUILDING CONSTRUCTION MUST BE AT STREET LEVEL OR HIGHER WITH ALL EXPOSED SURFACES STABILIZED PRIOR TO BEGINNING THE PROCESS OF DECOMMISSIONING ANY ESC FACILITIES.

2. APPROVAL TO ALTER AND/OR REMOVE ANY COMPONENT OF THE WATER TREATMENT SYSTEM MUST BE OBTAINED FROM THE ESC MONITOR.

3. PRIOR TO RECIEVING FOR APPROVAL TO REMOVE COMPONENTS OF THE WATER TREATMENT SYSTEM, WATER QUALITY TESTING OF THE UNTREATED WATER IN THE BUILDING SUMP WILL BE CONDUCTED TO ENSURE ALLOWABLE TURBIDITY AND/OR PH LEVELS CAN BE MAINTAINED WITHOUT ADDITIONAL TREATMENT. THE PH TREATMENT COMPONENT OF THE SYSTEM MUST REMAIN ONSITE UNTIL ALL MAJOR CONCRETE POURS HAVE BEEN COMPLETED AT MINIMUM.

4. THE DECOMMISSIONING OF ANY ESC FACILITIES WITHOUT PRIOR APPROVAL MAY RESULT IN FINES AND/OR A STOP WORK ORDER.

ENFORCEMENT

1. FAILURE TO IMPLEMENT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR TO COMPLY WITH MUNICIPAL REGULATIONS MAY RESULT IN FINES AND/OR A STOP WORK ORDER.

2. FEDERAL ENVIRONMENTAL OFFENCES ARE STRICT LIABILITY OFFENCES AND CAN RESULT IN FINES AND/OR INCARCERATION.

Permit to Practice
EGBC
1000782

LEGEND:

NO.	DATE	BY	REVISION

GEOPACIFIC CONSULTANTS

DESIGNED BY: K.D.S.
DRAWN BY: N.S.K.
APPROVED BY: A.Ge.
REVIEWED BY: A.Ge.
SCALE: AS SHOWN

RESIDENTIAL DEVELOPMENT

1441-1465 VIDAL STREET & 14937 THRIFT AVENUE, WHITE ROCK, B.C.

EROSION & SEDIMENT CONTROL SPECIFICATIONS

FILE NO: 15514
DRAWING NO: G-ESC3
DATE: DECEMBER 7, 2023

SEAL: PROFESSIONAL ENGINEER, PROVINCE OF BRITISH COLUMBIA, A. B. GERKE # 58072

DEC 08 2023

ORIGINAL PAPER SIZE 11"x17"

GEOPACIFIC
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1779 West 75th Avenue
Vancouver, B.C. V6P 6P2

WS Vidal Properties LP
315 – 13338 Central Avenue
Surrey, B.C.
V3T 0M3

January 10, 2024
File: 15514

Attention: Krista Baronian

Re: Geotechnical Investigation Report – Vidal St Project
1441-1465 Vidal Street and 14937 Thrift Avenue, White Rock, B.C.

1.0 INTRODUCTION

We understand that a residential development is proposed for the above referenced site. Based on the Architectural Drawings prepared by Keystone Architecture & Planning Ltd., dated July 4, 2023, the proposed development will consist of a 6 storey, wood framed, residential building with a rooftop amenity deck over up to 4 levels of below grade, reinforced concrete parking structure. The below grade portion of the development is to be constructed in close proximity to property lines. Foundation depths are expected to extend up to 14 m below grade at the northern extent.

This report provides the results of our field investigation and makes geotechnical recommendations for the design and construction of the proposed development. This report was prepared exclusively for WS Vidal Properties LP, for their use and for the use of others on their development team but remains the property of GeoPacific Consultants Ltd.

2.0 SITE DESCRIPTION

The proposed site consists of 4 adjoining residential lots located northwest of the intersection of Vidal Street and Thrift Avenue in White Rock, BC. The site is bounded by Vidal Street to the east, Thrift Avenue to the south and residential lots in all other directions.

Based on a surveyed topographical plan provided by Target Land Surveying issued on April 4, 2018, the site slopes from north to south with elevation differential of about 9 m.

The northern lot, 1465 Vidal Street, was cleared of all pre-existing improvements and is covered with trees and vegetation. The remaining lots are occupied with single family dwellings, paved/graveled driveways, grass, vegetation and fenced backyards. The location of the site relative to existing properties is shown on our Drawing No. 15514-01, following the text of this report.

3.0 FIELD INVESTIGATION

3.1 Site Investigation

GeoPacific initially investigated the site on October 25, 2017. Due to limited access to the majority of the lots, the initial investigation was carried out solely on 1465 Vidal Street. At that time, a total of 3 auger test holes (TH17-01 to TH17-03) were drilled to depths between 9.1 and 10.7 m below pre-existing grades and were supplemented with 1 Dynamic Cone Penetration Test (DCPT) sounding completed to approximately 1.5 m below pre-existing grade.

GeoPacific completed a supplementary investigation for the current development scope on October 26, 2023, to confirm soil conditions below the proposed foundation depths which are expected to extend up to 14 m below grade. At that time, 2 sonic test holes (TH23-01 and TH23-02), complete with one monitoring (standpipe piezometer, were conducted using a sonic drill rig supplied and operated by Blue Max Drilling Inc. of Surrey, BC. The test hole was terminated approximately 18.3 m below existing site grades. The monitoring well, installed at TH23-01, was screened between 15.3 and 18.3 m below existing site grades.

Prior to our investigations, a BC one call was placed, and the test hole locations were cleared of buried services. All test holes were backfilled and sealed in accordance with provincial abandonment requirements following classification, sampling, and logging of the soils in the field by our geotechnical staff. Our test hole logs are presented in Appendix A.

The approximate locations of the test holes are shown on our Drawing No. 15514-01.

4.0 SUBSURFACE CONDITIONS

4.1 Soil Profile

According to the Geological Survey of Canada Surficial Geology Map 1484A the subject site is underlain by Capilano Sediments consisting of raised marine, deltaic, fluvial deposit, marine and glaciomarine stony and stoneless silts (till like) to clay loam with minor sand and silt. Glacial till typically underlies these deposits at depth. A general description of the soils encountered is provided below. For specific subsurface soil descriptions at the test hole locations refer to the test hole logs provided in Appendix A

Sand and Gravel (Fill)

Sand and gravel fill was identified in all our test holes. The sand and gravel contained trace to some silt and appears to be compact. The fill extends to depths of 0.3 m to 1.8 m below grade.

Silty Sand (Glacial Till)

The sand and gravel fill is underlain by very dense glacial till comprised of silty sand, some gravel. The moisture content ranges from 6.8% to 10.5%. The till extended beyond the maximum extent of our investigation, approximately 18.3 m below existing grade. Cobbles and boulders are also commonly encountered within the till like soils. The fines contents of the till encountered typically ranged from 26.8% to 32%, with a higher fines content noted approximately 10.9 m below existing grade within a silty layer at TH23-01.

4.2 Groundwater Conditions

The static groundwater table was not encountered during our investigation. No water was present in the monitoring well as of November 1st, 2023. Based on our site investigation, well logs and our experience within the surrounding area, we expect that the static groundwater depth is significantly below the proposed excavation grades.

Perched groundwater seepage from silty soils are expected to be light to moderate. Perched water may also be encountered in the surficial fills. We expect that the presence of perched ground water to vary seasonally with generally higher levels in the wetter months of the year.

5.0 DISCUSSION

5.1 General Comments

As noted in Section 1.0, we understand that a residential development is proposed for the above referenced site. Based on the Architectural Drawings prepared by Keystone Architecture & Planning Ltd., dated July 4, 2023, the proposed development will consist of a 6 storey, wood framed, residential building with a rooftop amenity deck over up to 4 levels of below grade, reinforced concrete parking structure. The below grade portion of the development is to be constructed in close proximity to property lines. Foundation depths are expected to extend up to 14 m below grade at the northern extent.

Based on the results of our geotechnical investigations and the anticipated foundation depths, we expect that the development will be founded on very dense glacial till. We expect that these soils will provide adequate support for conventional pad and strip footings.

Shoring will be required to facilitate excavation and support neighbouring properties, structures or utilities given that the proposed below grade structure is to be constructed in close proximity to the property lines. Our design recommendations for temporary excavations are provided in Section 6.7.

The subsurface soils are not considered prone to liquefaction or other forms of ground softening under the design earthquake defined under the 2018 British Columbia Building Code.

We envision that some perched groundwater will be encountered while excavating and will need to be controlled. A graded excavation with sumps at low points should be adequate to control seepage. Based on the site investigations completed it is not anticipated that the static groundwater tale will be encountered during excavation works.

We confirm, from a geotechnical point of view, that the proposed building development is feasible provided the recommendations outlined in Sections 6.0 are incorporated into the overall design.

6.0 RECOMMENDATIONS

6.1 Site Preparation

Prior to construction of foundations and floor slabs, all unsuitable materials including vegetation, topsoil, fill, organic material, debris, and loose or otherwise disturbed soils must be removed to expose a subgrade of dense to very dense silty sand. However, as the development is to be constructed with a below grade component, we expect that the excavation depth will be driven by the architectural design rather than the soils encountered. Suitable bearing soils are expected at the proposed foundation elevations. Crushed gravel or engineered fill can be placed beneath the slab-on-grade only.

"Engineered Fill" is generally defined as clean sand to sand and gravel containing silt less than 5% by weight, compacted in 300 mm loose lifts to a minimum of 95% of the ASTM D1557 (ModifiedProctor) maximum dry density at a moisture content that is within 2% of optimum for compaction.

It is very important that the stripped subgrade be protected by lean mix concrete to preserve its bearing qualities and that it remain dry and free of ponded water prior to pouring concrete for footings. Any softened, disturbed subgrade should be removed under the review of GeoPacific and replaced with lean mix (5.0 MPa) concrete beneath the foundations.

GeoPacific shall be contacted for the review of foundation grade reinstatement, and engineered fill placement and compaction.

6.2 Foundations

Footings which are founded on very dense glacial till, as described in Section 4.1, can be designed on the basis of a serviceability limit state (SLS) bearing pressure of 500 kPa for strip or pad footings.

Factored ultimate limit state (ULS) bearing pressures, for transient loads such as those induced by wind and earthquakes, may be taken as 1.5 x the SLS bearing pressures provided above.

We estimate for foundations designed as recommended, settlements will not exceed 25 mm total and 2 mm per metre differential.

Irrespective of the allowable bearing pressures given, pad footings should not be less than 600 mm by 600 mm and strip footings should not be less than 450 mm in width. Footings should also be buried a minimum of 450 mm below the surface for frost protection.

Adjacent footings should achieve a maximum elevation difference equal to half of their horizontal distance to avoid superimposing the upper foundation loading to the lower foundation.

Foundation subgrades of all buildings must be reviewed by GeoPacific prior to blinding and footing construction.

6.3 Seismic Design of Foundations

We did not encounter any soils considered to be prone to liquefaction or strain softening during cyclic loading caused by the design earthquake as defined in the 2018 British Columbia Building Code. The subgrade conditions underlying this site may be classified as Site Class C as defined in Table 4.1.8.4.A of the 2018 British Columbia Building Code.

6.4 Lateral Pressures on Foundation Walls

The earth pressures on the basement walls depends upon a number of factors including the backfill material, surcharge loads, backfill slope, drainage, rigidity of the basement wall and method of construction including sequence and degree of compaction. For a fully restrained basement wall designed for static pressures a pressure distribution of 8 H (kPa) triangular, where H is the height of the restrained soil in meters, should be employed. For an unrestrained basement wall a static pressure distribution of 5 H (kPa) triangular may be used.

Dynamic loading induced by the 2018 BCBC design earthquake should be added to the static loads and should be taken as 2.5 H (kPa) inverted triangular.

Restrained versus unrestrained conditions depend upon the degree of wall movement. A flexible, or unrestrained wall, is allowed to move 0.002H outwards at the top of the wall, where H is the height of the wall. A restrained or rigid wall is prevented from rotating out at the top of the wall either by intervening walls or floors which prevent deflection of the wall. Partial movements of the wall may result in pressures somewhat less than the restrained condition, but it is not possible to predict intermediate cases with any degree of certainty.

We have assumed that a free draining granular backfill will be used behind the basement walls and that a perimeter drainage system will also be employed to collect any water from behind the walls. Therefore, our wall loading scenarios presented above assume that no water pressure will be generated behind the walls.

All earth pressures are based upon no surcharges or slopes above the walls. All soil parameters and loads are assumed to be unfactored.

GeoPacific shall be contacted for the review of all backfill materials and procedures.

6.5 Slab-On-Grade Floors

In order to provide suitable support for slab-on-grade floors we recommend that any fill placed under the slab should be granular and essentially "clean" with not more than 5% passing the #200 sieve. In addition, this granular fill must be compacted to a minimum of 98% Standard Proctor (ASTM D698) maximum dry density with water content within 2% of optimum for compaction.

Floor slabs should be directly underlain by a minimum of 150 mm of a free draining granular material, such as 19 mm clear crushed rock. A moisture barrier should underlie the slab directly above the free draining granular material.

Compaction of the slab-on-grade fill must be reviewed by GeoPacific.

6.6 Foundation Drainage

A perimeter drainage system will be required for the below grade structure to prevent the development of water pressure on the foundation walls and the basement floor slabs. Groundwater flows are expected to be relatively light to moderate, likely in the range of 30 to 50 liters/minute for the entire excavation. These flow rates should be confirmed at the time of construction.

6.7 Excavation and Shoring

The proposed development is to include up to 4 levels of below grade construction. Shoring will be required to facilitate excavation and support neighbouring properties, structures or utilities given that the proposed below grade structure is to be constructed in close proximity to the property lines. Partial open cuts above the shoring wall may be feasible where the building is offset from the property lines.

Vertical cuts may be supported with the use of a shotcrete membrane tied back with post-tensioned soil anchors. In areas where sand layers within the till like soils are encountered, hollow core (IBO) anchors may be required where a drilled anchor hole will not remain open to allow the installation of a conventional anchor bar.

We expect that the perimeter excavation would be sloped where sufficient space is available as it is more economical to do so. We would expect that slopes cut of 3H:4V (3 Horizontal to 4 Vertical) can be constructed

in the dense to very dense silty sand and 1H:1V in the surficial fills. Above any shoring walls, 1H:1V slope cuts would be feasible.

Our experience in this area indicates that cobbles and boulders may be present within the till like soils. Cobbles and small boulders can typically be removed with conventional excavation equipment. However, large boulders may require splitting/blasting to facilitate their removal from the site.

Some seepage into excavations from surficial fills and the till like soils should be expected. We envisage that groundwater inflows can generally be controlled with conventional sumps and sump pumps. Some face-saving measures may be required where seepage occurs at the shoring face.

6.8 Utilities

Site utilities will be required beneath the grade supported slab. The design of these systems must consider the location and the depth of the foundations. The service trenches and excavations required for the installation of underground vaults and/or manholes should be outside of a 1H:1V slope measured downward and outward from the underside of foundations.

Backfilling of trenches and excavations should be done with 19 mm clear crush gravel following the required pipe bedding.

All excavations and trenches must conform to the latest Occupational Health and Safety Regulation supplied by the Workers Compensation Board of British Columbia.

Temporary cut slopes in excess of 1.2 m in height must be covered in polyethylene sheeting and require review by a professional engineer in accordance with WorkSafe BC guidelines, prior to worker entry.

6.9 Onsite Pavement Structures

Following the recommended site preparations outlined in Section 6.1, the stripped road subgrade should be proof rolled to locate any loose or soft zones. Any areas which have become loosened and cannot be recompacted to a minimum of 95% Modified Proctor (ASTM D1557) maximum dry density must be excavated and replaced with engineered fill.

Provided that the subgrade consists of stiff to very stiff silt, or engineered fill, it is our opinion that our recommended pavement structure, given in Table 1 below, is sufficient to carry the anticipated vehicle loads in on-site parking areas and drive aisles.

Table 1: Recommended Minimum Pavement Structure for On Site Pavement

MATERIAL	THICKNESS (mm)
Asphaltic Concrete	85
19 mm minus crushed gravel base course	150
Clean Sand and Gravel subbase course	200

The thickness of asphalt may be decreased to 65 mm in parking areas to be occupied solely by automobiles and light trucks. All base and sub-base fills should conform to municipal standards and be compacted to a minimum

of 95% Modified Proctor Maximum Dry Density (ASTM D1557) with a moisture content within 2% of optimum for compaction.

Density testing should be conducted on these materials and the results forwarded to GeoPacific for review.

6.10 Re-Use of Native Soils

Excavated soils derived from the site are expected to be silt predominant. Therefore, they are not considered suitable for re-use as engineered fill.

7.0 DESIGN REVIEWS AND CONSTRUCTION INSPECTIONS

As required for Municipal "Letters of Assurance", GeoPacific Consultants Ltd. will carry out sufficient field reviews during construction to ensure that the geotechnical design recommendations contained within this report have been adequately communicated to the design team and to the contractors implementing the design. These field reviews are not carried out for the benefit of the contractors and therefore do not in any way effect the contractors' obligations to perform under the terms of his/her contract.

It is the contractors' responsibility to advise GeoPacific Consultants Ltd. (a minimum of 48 hours in advance) that a field review is required. Field reviews are normally required at the time of the following activities:

1.	Excavation	Review of temporary cut slopes.
2.	Shoring	Review of shotcrete shoring construction, anchor installation and testing, anchor de-tensioning and removal, and shotcrete removal.
3.	Foundation	Review of foundation subgrade.
4.	Slab-on-grade	Review of subgrade and under-slab fill materials and compaction.
5.	Backfill	Review of backfill materials and compaction against foundation walls.
6.	Engineered Fill	Review of fill materials and compaction.

It is critical that these reviews are carried out to ensure that our intentions have been adequately communicated. It is also critical that contractors working on the site view this document in advance of any work being carried out so that they become familiar with the sensitive aspects of the works proposed. It is the responsibility of the developer to notify GeoPacific Consultants Ltd. when conditions or situations not outlined within this document are encountered.

8.0 CLOSURE

This report has been prepared exclusively for Weststone Group for the purpose of providing geotechnical recommendations for the design and construction of the proposed building, temporary excavations and related earthworks. The report remains the property of GeoPacific Consultants Ltd. and unauthorized use of, or duplication of, this report is prohibited.

We are pleased to be of assistance to you on this project and we trust that our comments and recommendations are both helpful and sufficient for your current purposes. If you would like further details or would like clarification of any of the above, please do not hesitate to call.

For:
GeoPacific Consultants Ltd.

Reviewed By:

Permit to Practice:
EGBC
1000782

JAN 16 2024

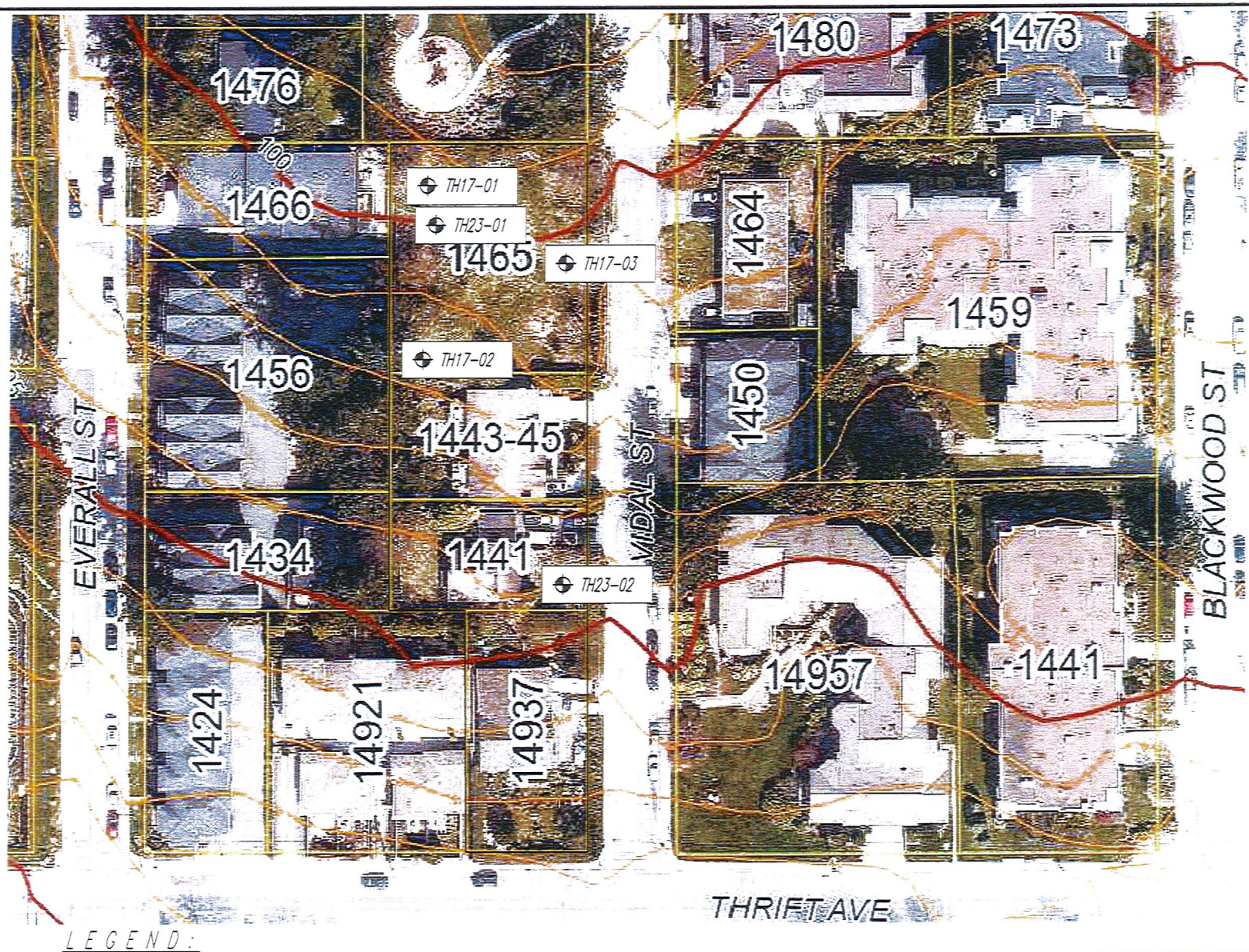
Helen McGhee, M.Eng., E.I.T.
Geotechnical E.I.T.

Kevin Bodnar, M.Eng., P.Eng.
Principal

Bobby Sandhu, B.Eng., E.I.T.
Geotechnical E.I.T.

Appendix A

Test Hole Logs



LEGEND:

- TH17-# – 2017 TEST HOLE (TH) LOCATIONS
- TH23-# – 2023 TEST HOLE (TH) LOCATIONS
- ▭ – APPROXIMATE SITE BOUNDARY

SITE PLAN
SCALE = NTS

WROMS – 2023-10-18

GEOPACIFIC
VANCOUVER KAMLOOPS CALGARY
1779 W. 75th Avenue
Vancouver, B.C. V6P 6P2
P 604.439.0922
F 604.439.9189

NOVEMBER 3, 2023

DRAWN BY	DESIGNED BY	REVIEWED BY
BSS	ZO	BSS

SCALE: SEE ABOVE

PROPOSED RESIDENTIAL DEVELOPMENT
14397 THRIFT AVE, 1441-1465 VIDAL ST, WHITE ROCK, BC
TEST HOLE LOCATIONS

15514

15514-01

Test Hole Log: TH23-01

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C.

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax:604-439-9189

INFERRED PROFILE

Depth (ft)	Depth (m)	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
0	0		Ground Surface				
1			***SAND AND GRAVEL (FILL)***	0.00			
2			SAND, SOME SILT and GRAVEL. Loose to compact, sand is fine grained, gravel is subangular, brown, wet.				
3	1						
4							
5							Root fragments throughout, drier with depth
6			***WEATHERED GLACIAL TILL***	1.83			
7	2		SAND and GRAVEL w/ COBBLES. Compact, sand is fine grained, gravel is subangular, grey brown, dry.				
8							
9							
10	3			3.05			
11			***GLACIAL TILL***				
12			SAND, SILTY and GRAVELLY w/ COBBLES.				
13	4						
14							
15			Compact to dense, gravel uniformly graded, grey, dry. (Profile inferred 10-12ft)	4.57			
16					9.9		Moisture content changes to moist
17	5						Cobble content increases with depth
18							
19			***GLACIAL TILL***				
20	6		SAND, SILTY w/ some GRAVEL. Compact to dense, sand is fine grained, gravel is subangular, grey brown, moist. (Profile inferred 15-16ft)				Increase in gravel content with depth
21							
22							
23	7						
24							
25							
26	8				7.1		
27							
28							
29							
30	9			9.14			
31							
32							
33	10				13.1		

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.4.

Test Hole Log: TH23-01

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C.

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

Depth	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
34						
35						MC changes to wet
36	11	***GLACIAL TILL*** SAND, SILTY w/ some GRAVEL and COBBLE. Loose to compact, sand is fine grained, gravel is subangular, grey brown, moist to wet.		9.4		Fines 40.4% Increase in gravels and cobbles
37						
38			11.58			
39	12	(Profile inferred 30-32ft)				Increase in fine sand content
40			12.19			
41		***GLACIAL TILL*** SILTY SAND w/ some GRAVEL and COBBLES. Compact, sand is fine grained, gravel is subangular, grey brown, moist.				
42						
43	13					
44						
45						Increase in moisture content
46	14	***GLACIAL TILL*** SAND and GRAVEL, some SILT w/ COBBLES. Loose to compact, sand is fine grained, gravel is subangular, grey, dry becoming wet. (profile inferred 40-43ft)				
47						Fines 27.4%
48				7.1		
49	15					Increase in sand fines with depth
50						
51						Decrease in cobble content
52	16					
53						
54						
55						
56	17					
57						
58				6.8		
59	18					
60						
61		End of Borehole	18.29			GW recorded November 1st 2023. No Groundwater recorded
62	19					
63						
64						
65						
66	20					

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.4.

Test Hole Log: TH23-02

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC V6P 6P2
Tel: 604-439-0922 Fax: 604-439-9189

Depth (ft)	Depth (m)	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
0	0		Ground Surface				
0	0		***FILL*** SILTY SAND. Loose, sand is fine to medium grained, Brown, dry	0.00			
3	1		***SANDY SILT*** SANDY SILT w/ GRAVEL and some cobbles. Loose to compact, sand is medium grained, gravel is subanglular, dark brown, dry.	0.91			Many Gravels>10mm
7	2		***WEATHERED GLACIAL TILL*** SAND and GRAVEL. Compact, sand is fine to medium grained, gravel is subangular, brown, moist.	1.52 2.13			
10	3		***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense, sand is fine to medium grained,brown,moist.	3.05	10.5		
13	4		***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense to very dense, sand is fine grained, light brown, moist.				
17	5						
20	6						
23	7						Becoming Moist with Depth
26	8		***SAND AND GRAVEL*** SAND AND GRAVEL. Compact, fine to medium grained sand, gravel is subangular, grey, dry to moist.	7.62			
30	9						Some Gravels<10mm
33	10						

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.5.

Test Hole Log: TH23-02

File: 15514
Project: Vidal St Project
Client: WS Vidal Properties LP
Site Location: 1441-1465 Vidal St and 14937 Thrift Ave, White Rock, B.C

GEOPACIFIC CONSULTANTS
1779 West 75th Avenue, Vancouver, BC, V6P 6P2
Tel: 604-439-0922 Fax 604-439-9189

Depth	Symbol	SOIL DESCRIPTION	Depth/Elev (m)	Moisture Content (%)	Groundwater / Well	Remarks
34						
35						
36	11	***GLACIAL TILL*** SILTY SAND and GRAVEL. Dense to very dense, sand is fine grained, gravel is subangular, grey, moist.	10.67			
37						
38						
39	12			7.8		Fines 32.0%
40						
41						
42						Gravels increase with depth
43	13					
44						
45						
46	14	***SAND AND GRAVEL*** SAND AND GRAVEL, some SILT. Dense to very dense, sand is medium grained, grey, moist.	13.72			
47						
48						
49	15			6.4		
50						
51						
52	16					
53						
54						
55						
56	17	***SAND AND GRAVEL*** SAND AND GRAVEL. Dense to very dense, sand is medium grained, grey, moist.	16.76			Increase in Gravel content
57						
58				9.1		Fines 26.8%
59	18					
60						
61		End of Borehole	18.29			
62	19					
63						
64						
65						
66	20					

Logged: HMG
Method: Sonic
Date: 27-10-2023

Datum: Ground Surface
Figure Number: A.5.

EX. 200Ø DI WAT

EX. 60 DP GAS

EX. 250Ø CONC STM

EX. 200Ø AC SAN

EX. 60 DP GAS

MH

VIDAL STREET

PROP. 300Ø PVC STM

Sign

PP

8.2m

5.5m

3.0m

el.99.35

el.97.29

el.96.33

el.94.98

el.93.97

el.93.03

179°35'55"

el.100.68

2.7m

0.7m

2.380

1.9m

PARKING LEVEL P3

4.98%

77.7m

4.98%

4.6m

8.0m

94.22m

P1 MECH SHAFT

P2 MECH SHAFT

P3 MECH SHAFT

2.9m

2.9m

2.9m

el.100.98

el.100.31

88.33m

86.81m

D1

9.74%

93.54m

3.8m

85.28m

92.90m

93.54m

9.47%

B1

1.2m

2.6m

PARKING LEVEL P4

85.28m

88.33m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 3 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

86.81m

D

el.95.03

3.61%

PARKING LEVEL P3

18.7m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 2 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

16.0m

11.4m

22.0m

el.98.64

4.5m

1.5m

2.9m

16.5m

1.5m

7.3m

24.6m

el.98.12

4.0m

el.97.46

el.96.87

el.96.01

el.94.77

B

el.101.06

el.99.42

1.1m

1.0m

C

STRATA PLAN BCS760

STRATA PLAN EPS1082

STRATA PLAN BCS2210

STRATA PLAN EPS859

LOT A, PLAN EPP39350

LOT 23 PLAN 27918

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

Permit to Practice
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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. L. BODNAR
37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS

DATE	DESIGNED BY	DRAWN BY	CHECKED BY
DECEMBER 12, 2023	M.S.	K.B.	Z.O.
SCALE: AS SHOWN			

PROPOSED RESIDENTIAL DEVELOPMENT

VIDAL STREET, WHITE ROCK, B.C.

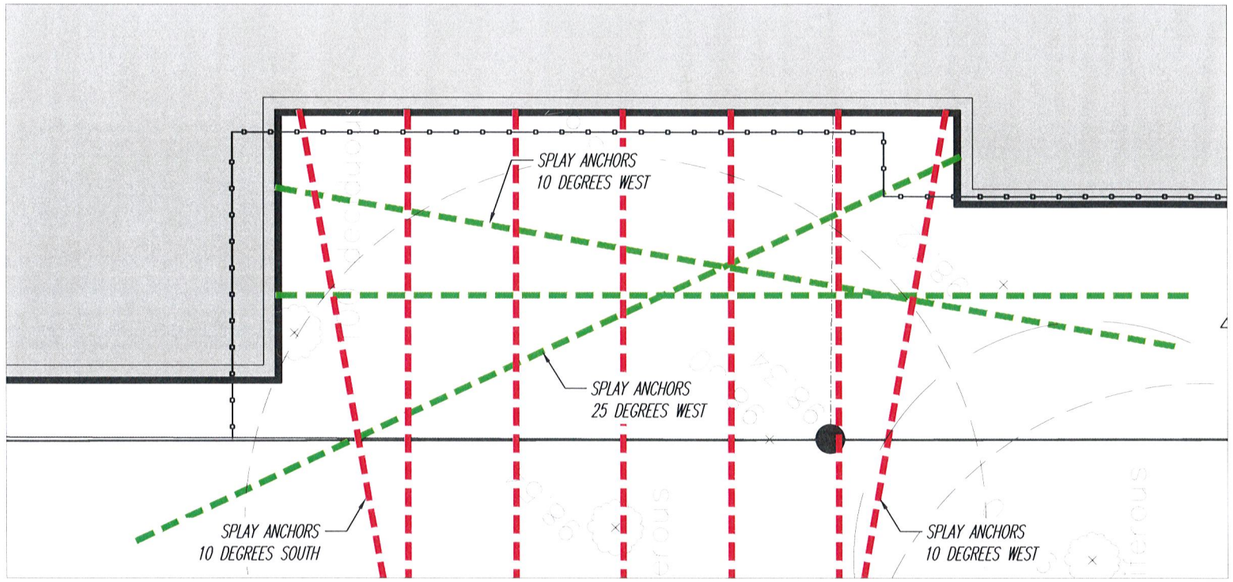
SHORING – SITE PLAN

PROJ. NO. 15514

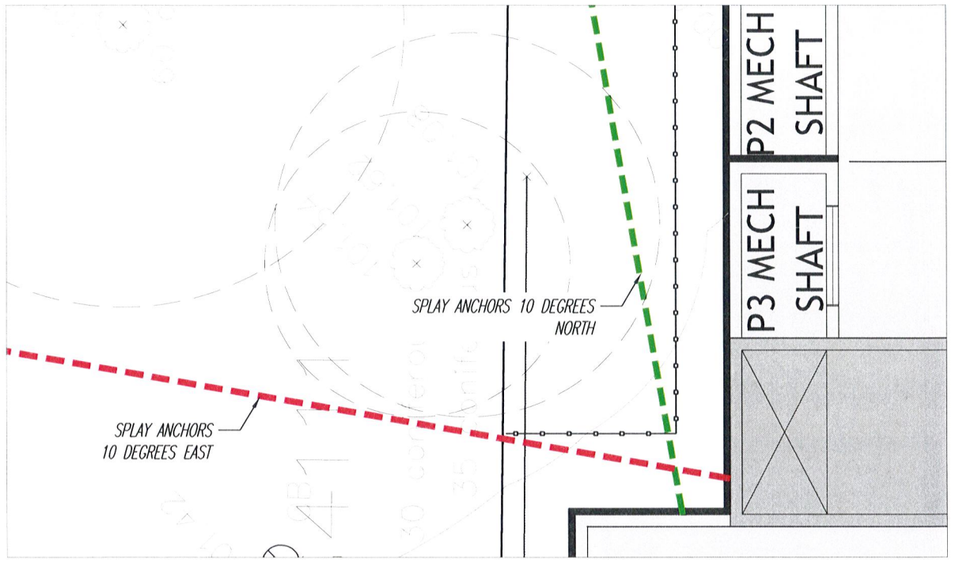
DWG. NO. G-S1

REVISIONS

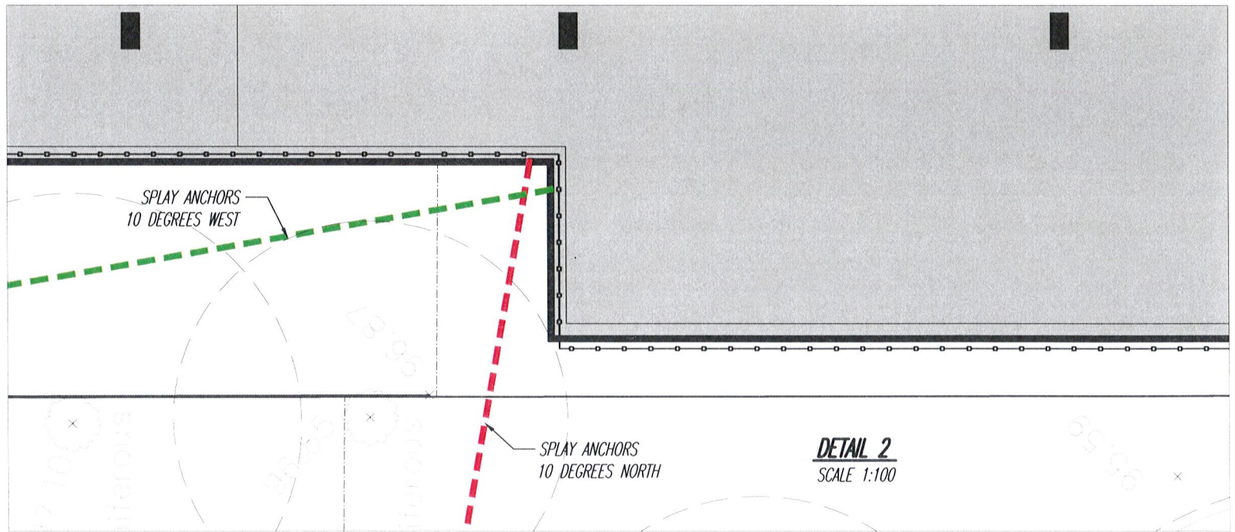
APRIL 19, 2024 – Tree protection fence



DETAIL 1
SCALE 1:100



DETAIL 3
SCALE 1:100



DETAIL 2
SCALE 1:100

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DATE	DECEMBER 12, 2023		
DESIGN BY	M.S.	DRAWN BY K.B.	CHECKED BY Z.O.
SCALE	AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN DETAILS

PROJECT NO.	15514
DRAWING NO.	G-S1A
REVISIONS	
1	
2	
3	
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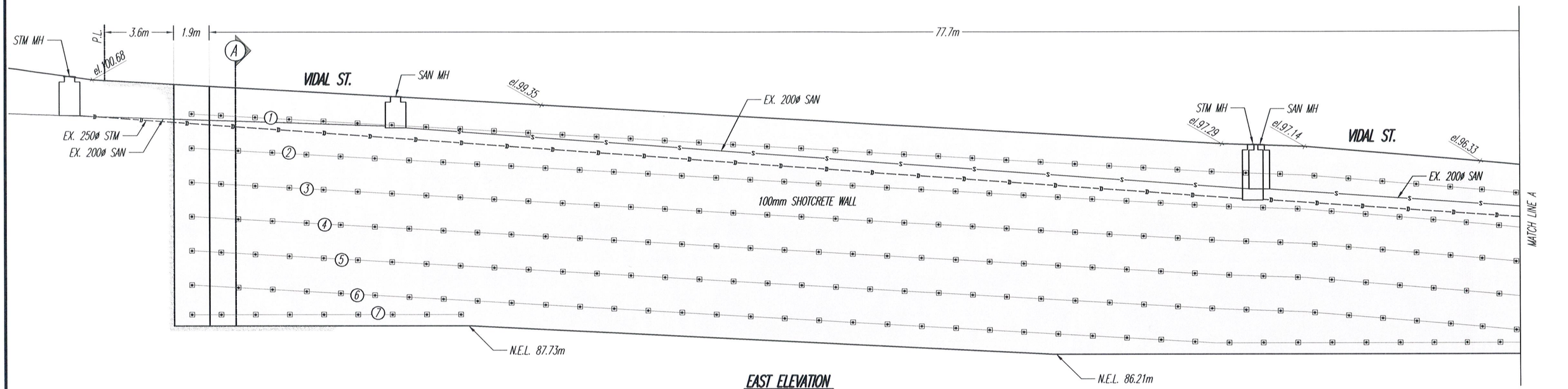
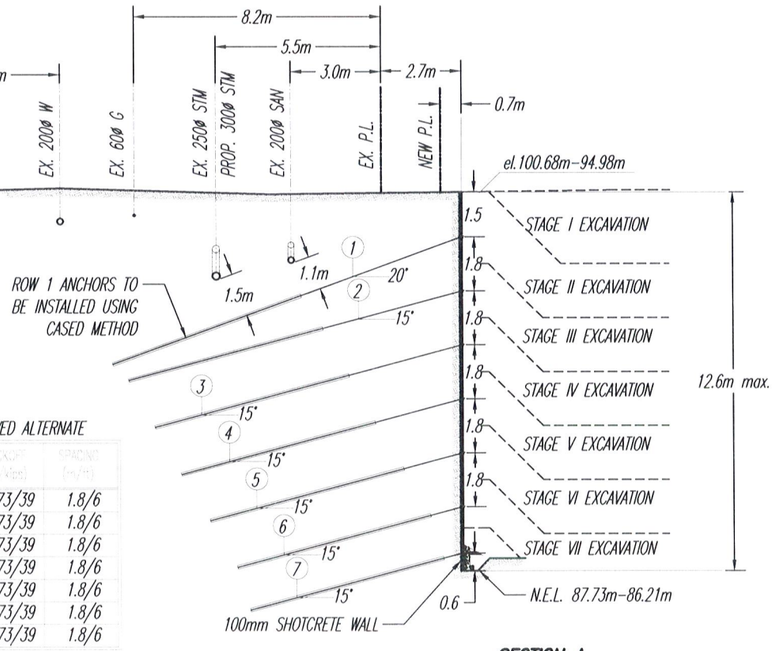


EAST ELEVATION
SCALE 1:200

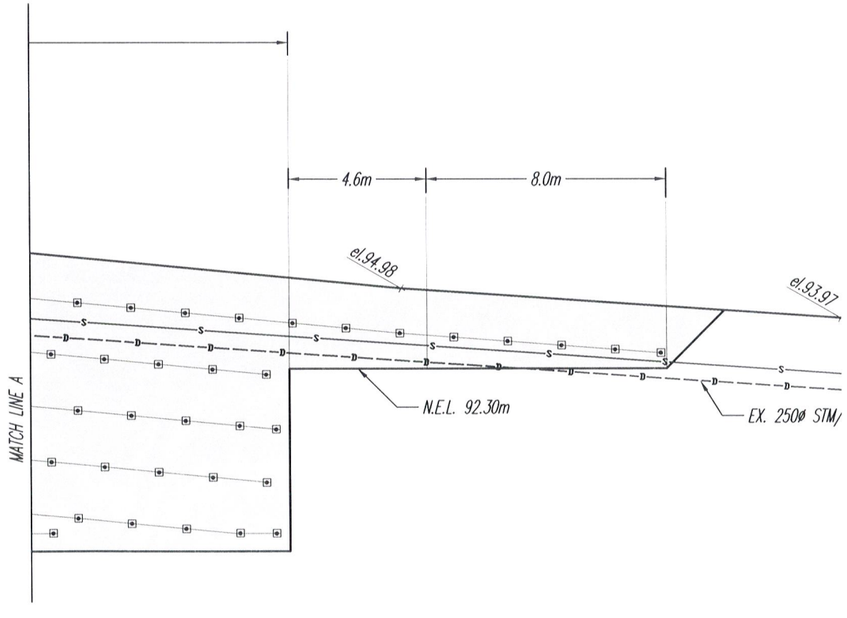


DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	SPACING (m/ft)	LOCK-OFF (kN/kips)	SPACING (m/ft)
1	12.5/41	6.7/22	173/39	1.8/6
2	11.6/38	6.7/22	173/39	1.8/6
3	10.7/35	6.7/22	173/39	1.8/6
4	9.8/32	6.7/22	173/39	1.8/6
5	8.8/29	6.7/22	173/39	1.8/6
6	7.9/26	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION A
SCALE 1:200



LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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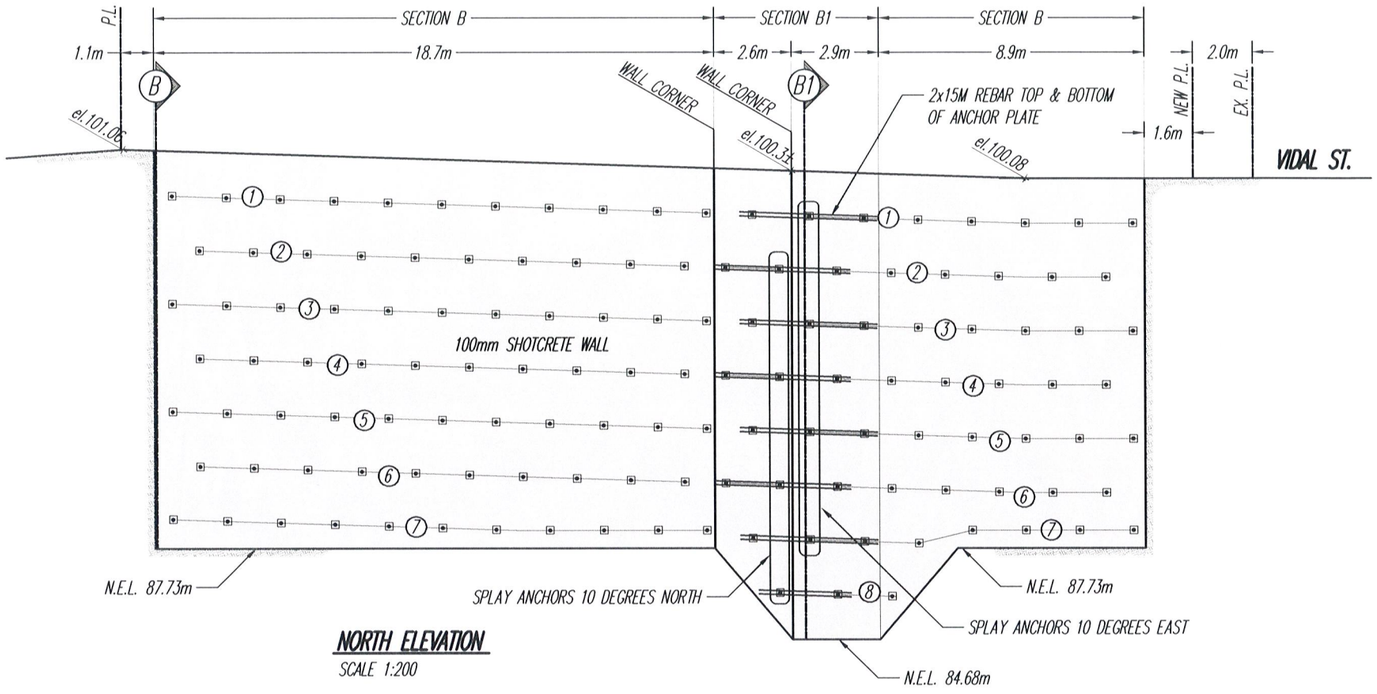
DATE	DRAWN BY	APPROVED BY	REVISIONS
DECEMBER 12, 2023	M.S.	K.B.	Z.O.	
SCALE	AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – EAST ELEVATION, SECTION A

JOB NO.	REVISIONS
15514	
DWG. NO.	
G-S2	

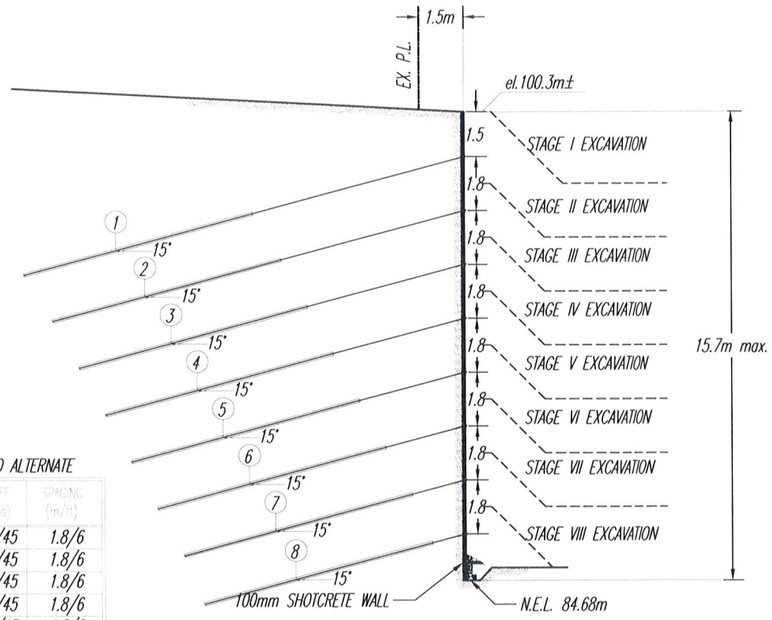


NORTH ELEVATION
SCALE 1:200

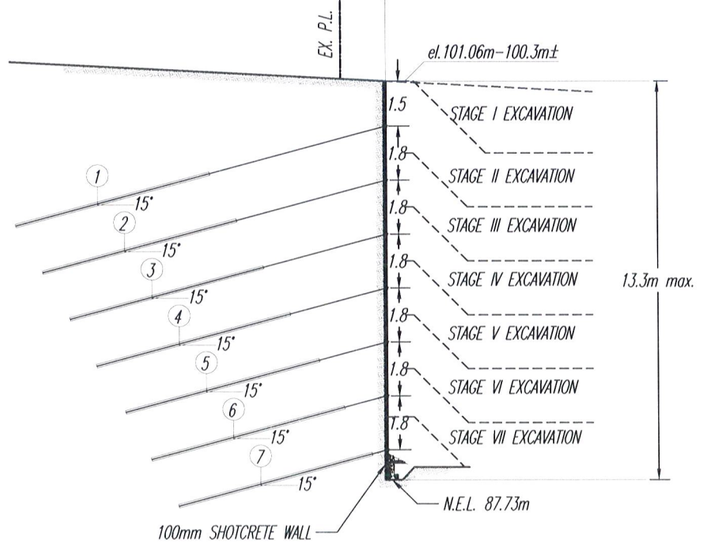
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	GROUTED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.2/50	7.9/26	200/45	1.8/6
2	14.3/47	7.9/26	200/45	1.8/6
3	13.4/44	7.9/26	200/45	1.8/6
4	12.5/41	7.9/26	200/45	1.8/6
5	11.6/38	7.9/26	200/45	1.8/6
6	10.7/35	7.9/26	200/45	1.8/6
7	9.8/32	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



SECTION B1
SCALE 1:200



SECTION B
SCALE 1:200

DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	GROUTED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	12.9/42	6.7/22	173/39	1.8/6
2	11.9/39	6.7/22	173/39	1.8/6
3	11.0/36	6.7/22	173/39	1.8/6
4	10.1/33	6.7/22	173/39	1.8/6
5	9.1/30	6.7/22	173/39	1.8/6
6	8.2/27	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

85.28m – GRADE ELEVATION

– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROVINCE OF BRITISH COLUMBIA
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37915
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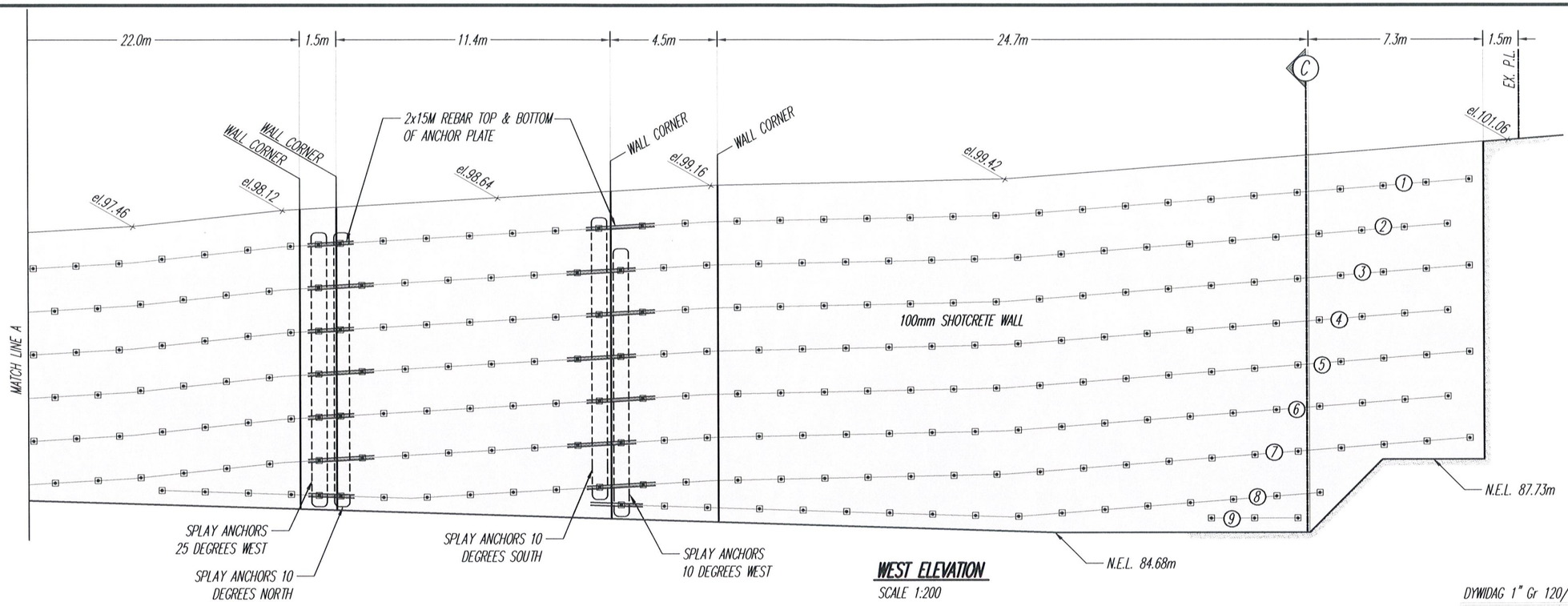
GEOPACIFIC CONSULTANTS

DATE	DESIGNED BY	DRAWN BY	CHECKED BY
DECEMBER 12, 2023	M.S.	K.B.	Z.O.
SCALE	AS SHOWN		

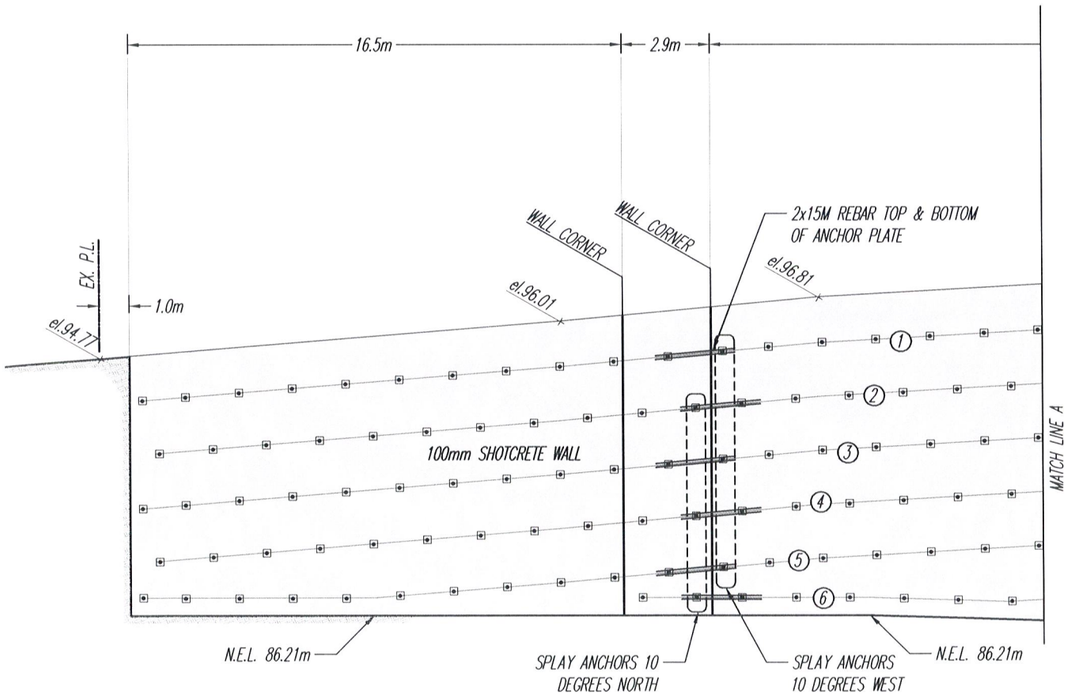
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – NORTH ELEVATION, SECTIONS B, B1

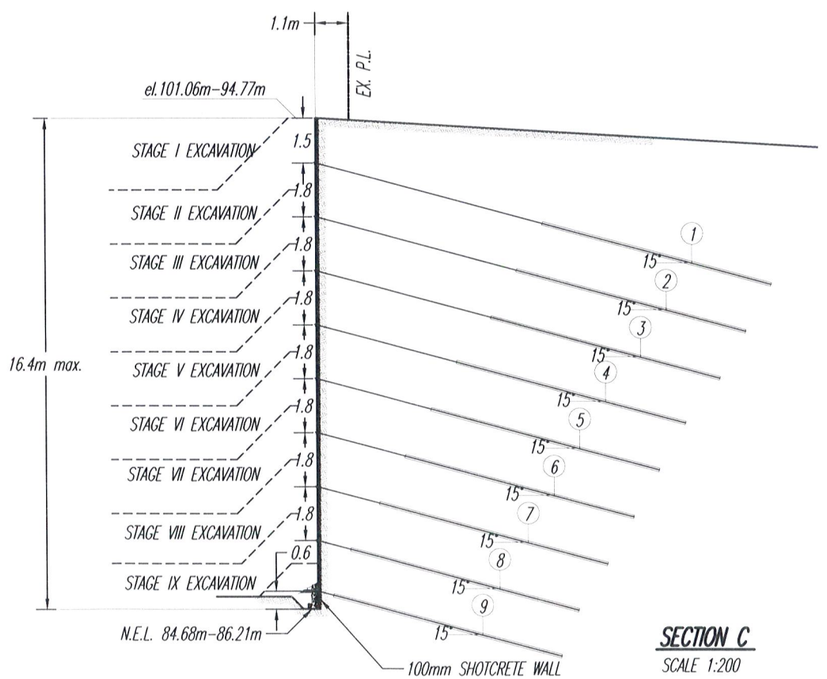
PROJECT NO.	15514
DWG. NO.	G-S3

REVISIONS



WEST ELEVATION
SCALE 1:200





SECTION C
SCALE 1:200

DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	GROUTED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6
6	11.0/36	7.9/26	200/45	1.8/6
7	10.1/33	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6
9	8.5/28	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROVINCE OF BRITISH COLUMBIA
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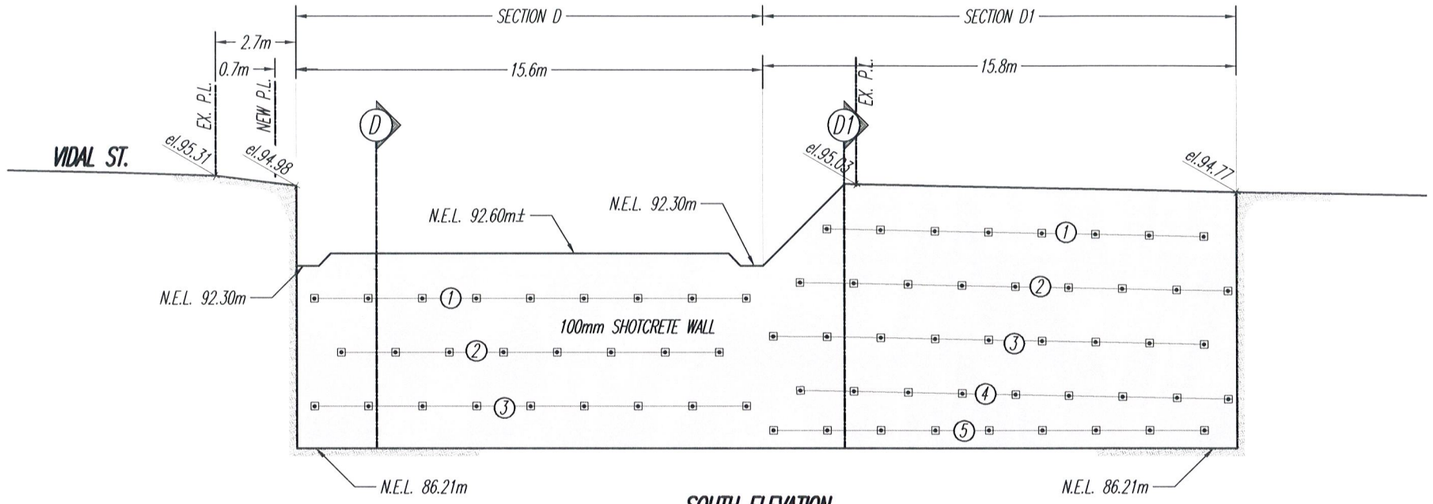
DATE	DESIGNED BY	DRAWN BY	REVIEWED BY
DECEMBER 12, 2023	M.S.	K.B.	Z.O.
SCALE: AS SHOWN			

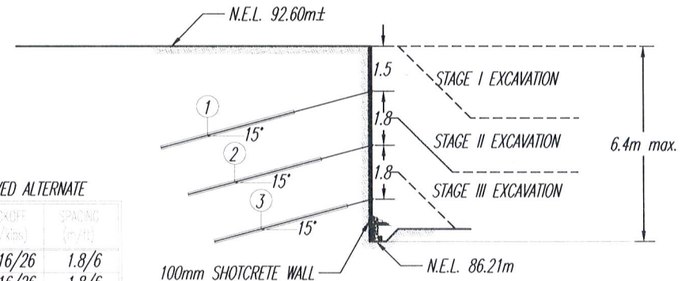
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – WEST ELEVATION, SECTION C

PROJECT NO. 15514
DRAWING NO. G-S4

REVISIONS
1
2
3
4



SOUTH ELEVATION
SCALE 1:200

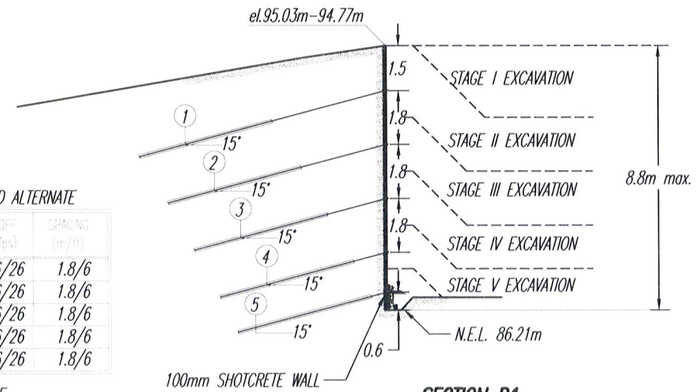


DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	GROUTED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	7.3/24	4.6/15	116/26	1.8/6
2	6.4/21	4.6/15	116/26	1.8/6
3	5.5/18	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D
SCALE 1:200



DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	GROUTED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	8.6/28	4.6/15	116/26	1.8/6
2	7.6/25	4.6/15	116/26	1.8/6
3	6.7/22	4.6/15	116/26	1.8/6
4	5.8/19	4.6/15	116/26	1.8/6
5	5.2/17	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D1
SCALE 1:200

LEGEND:

85.28m+ – GRADE ELEVATION

– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
#37915

APR 24 2024

GEOPACIFIC CONSULTANTS

DATE	DECEMBER 12, 2023		
DRAWN BY	APPROVED BY	DESIGNED BY	
M.S.	K.B.	Z.O.	
SCALE	AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SOUTH ELEVATION, SECTION D, D1

PROJECT NO.	15514
DRAWING NO.	G-S5

REVISIONS	
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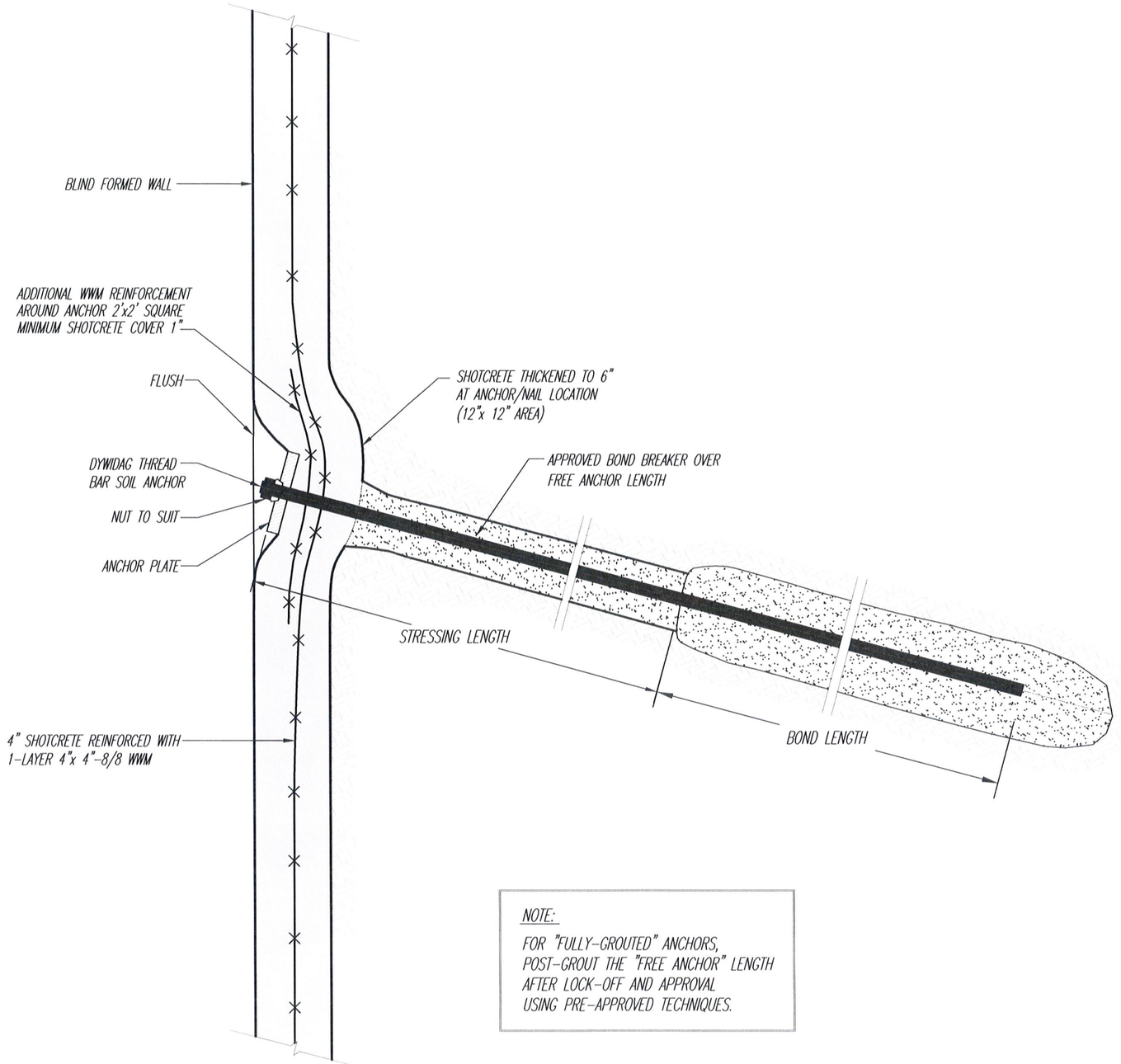

NOTE:

FOR "FULLY-GROUTED" ANCHORS, POST-GROUT THE "FREE ANCHOR" LENGTH AFTER LOCK-OFF AND APPROVAL USING PRE-APPROVED TECHNIQUES.

ANCHORED SHOTCRETE DETAIL

N.T.S.

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PROVINCE OF BRITISH COLUMBIA
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37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS

DATE: DECEMBER 12, 2023		
DRAWN: M.S.	APPROVED: K.B.	REVIEWED: Z.O.
SCALE: AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING - ANCHORED SHOTCRETE WALL DETAIL

PROJECT NO.: 15514
DRAWING NO.: G-1

REVISIONS

1.0 GENERAL

1.1 In these Notes, the Engineer is GeoPacific Consultants Ltd.

1.2 These Notes must be read in conjunction with the design Drawings.

1.3 The work described and shown involves near vertical excavated slopes or structure using a combination of shotcrete and ground anchors. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.

1.4 The anchors will be installed in ground around the site and the actual soil and groundwater conditions must be assumed.

1.5 The grouted anchor lengths required to resist the design loads are based on the assumed conditions. The capacity of the anchors will be confirmed at the beginning of the contract and may be lengthened or shortened.

1.6 Some utilities, foundations and structures which may affect the installation procedures and techniques are noted on the Drawings.The Contractor shall confirm the locations and condition of ALL man-made elements which may be damaged because of the anchored shotcrete operations. It is the Contractor's responsibility to install the anchored shotcrete in the actual site conditions encountered.

Elements which may, in the opinion of the Contractor, be damaged by the anchored shotcrete operations must be reported to the Engineer well in advance of the work to take place.

1.7 These documents are based on architectural, structural and survey Drawings provided. It is the Contractor's responsibility to verify all dimensions and report discrepancies to the Engineer.

1.8 The Contractor shall schedule and co-ordinate the work to satisfy the reasonable requirements of adjacent Owners and Tenants who shall be given sufficient Notice before carrying out work which may affect their property.

1.9 The Contractor shall erect and maintain a secure closed hoarding around the site for the safety of all persons in the vicinity of the site.

1.10 The Contractor shall inspect the slopes and the support to the slopes and structures daily and shall immediately report any potentially damaging movement or deterioration to the Engineer by telephoning 604-439-0922.

2.0 MATERIALS

2.1 ANCHOR BAR:

The anchors shall be installed in minimum 75 mm (3 inch) diameter holes which shall be drilled, unless otherwise approved in advance by the Engineer. Anchor capacity is dependant upon installation techniques and the drilling equipment and methods shall be subject to the Engineer's approval.

Drilling techniques shall produce a hole which is free of debris and ensure continuous support of the hole and shall not erode or disturb soil around the hole.

2.2 Anchor tendons shall be Dywidag threadbar as specified in the drawings.

Anchorage equipment couplings and any necessary wedges washers and plates shall be in accordance with the tendon manufacturer's specifications and requirements.

Minimum anchorage length ("fixed" length) and stressing length ("free" length) are shown on the Drawings.

2.3 Grout in the anchorage shall be a prior-approved non-shrink cementitious material mixed with a minimum compressive strength of 5 MPa in 24 hours and 35 MPa in 28 days.

2.4 Shotcrete shall be reinforced with 102 x 102 MW13.3/13.3 (4"x4"-8/8) welded wire mesh as shown on the Drawings. Steel shall have a minimum yield strength of 450 MPa (65 ksi) and shall be in accordance with ASTM A497.

2.5 All shotcreting shall be carried out in accordance with ACI 506 : "Specifications for Materials Proportioning and Application of Shotcrete"

2.6 Shotcrete shall have a minimum compressive strength of 5 MPa in 24 hours and 30 MPa in 28 days. The Engineer may require test panels to be prepared by the Contractor so they can be cored by others to confirm the shotcrete strength. The Contractor shall co-operate with the independent testing laboratory appointed by the Owner for this purpose.

3.0 INSTALLATION

3.1 Hollow Core Bar Installation (if required)

Set the bar on an appropriate drill rig. Start pumping the grout to assure that grout will exit drill bit.

Proceed with rotary drilling and flushing approx. three feet per min (depending on ground condition). Rotation speed should be approx. 60 to 120 RPM. To achieve higher friction values, advance and retract the bars several times for each 3.0 m (10 feet) length of bar installed in the bond zone.

The grout should be applied CONTINUOUSLY during drilling. A grout pump with at least 60 l/min volume and minimum 2 MPa (300 psi) pressure capacity (preferably 10 MPa, 1500 psi) should be used.

Refer to the manufacture's specifications and recommendations for more detail.

3.2 Anchors and shotcrete shall be installed in sequence and stages to maintain stability of the excavation. Excavation of soil from the site shall also take place in stages. Stages shall not exceed 1.8 m (6 feet) vertical.

The Contractor may remove all soil within any mass excavation Stage before anchors in that Stage are installed but further excavation shall not take place until all anchored shotcrete in that Stage is installed and approved by the Engineer.

The mass excavation for any Stage does not include a perimeter berm with a minimum top width of one metre and a side slope of 1 horizontal to 1 vertical.

Ground conditions may locally require a wider berm, flatter slopes and/or other slope protection measures including covering or short-term temporary support.

The perimeter berms in any stage shall be excavated in staggered panels. THE MAXIMUM WIDTH OF A PANEL SHALL BE THE HORIZONTAL SPACING OF THE ANCHOR PLUS 0.6 M (2 FEET). This panel width may be INCREASED OR DECREASED by the Engineer's agreement, in writing, BEFORE increasing the panel width.

No adjacent panels shall be excavated concurrently and no more than 1/3 of the panels shall be excavated concurrently. In addition no panel shall be excavated into the berm until at least 24 hours after that panel anchor has been grouted.

Anchors and shotcrete may be installed concurrently in different panels. Anchors shall be installed at right angles to the property lines on plan and within 2.5 degrees of the declination shown on the Drawings except with the prior approval of the Engineer.

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PROVINCE OF BRITISH COLUMBIA
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APR 24 2024

REVIEWED	GEOPACIFIC CONSULTANTS	DATE: DECEMBER 12, 2023	PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. GENERAL NOTES	JOB NO. 15514	REVISIONS
		DRAWN BY: M.S. / APPROVED BY: K.B. / PROJ. MGR: Z.O.		DWG NO. G-2 (sheet 1 of 2)	
		SCALE: AS SHOWN			

3.3 Immediately following excavation of the soil berm in a panel the excavated face shall be trimmed back to the required line and mesh reinforcement shall be fixed to the soil to ensure the minimum specified shotcrete cover. Shotcrete shall be applied without delay to thicknesses shown on the Drawings.

Shotcrete panels shall be kept moist to aid curing by spraying with water and covering with sacking or polyethylene sheeting.

Sufficient wire mesh reinforcement shall be installed to provide a full strength overlap with adjacent panels. This overlap shall not be less than 200 mm (8 inch).

The end surfaces of panels shall be thoroughly cleaned with compressed air to ensure a full strength bond when adjacent panels are shotcreted.

3.4 Drains to relieve groundwater pressure shall be installed through the shotcrete. Drains shall be a minimum of 50 mm (2 inches) diameter and at normal 3.0 m (10 feet) centres horizontally and 1.5 m (5 feet) centres vertically. The Contractor shall install filters in drains as fines are being removed with the water.

Additional special drains may be required where water seeps are noted. This special drains shall consist of minimum 50 mm (2 inches) diameter perforated ABS pipe installed within 75 mm (3 inches) diameters holes drilled 5 degrees UPWARDS from the 3 metres (10 feet) measured from the face of the shotcrete. These special drains may be required to be filtered with fine sand or gravel or filter fabrics.

3.5 Anchors shall be tensioned as soon as practicable but no sooner than 24 hours after the construction of the applicable shotcrete panel. Anchors shall be tensioned and tested as follows:

3.5.1 Apply a proof load of 1.33 times the lock-off load for two minutes. Monitor the load in the anchor. If the reduction in load is less than 2.5 percent of proof load reduce the load to lock-off load and lock the working load into the anchor.

3.5.2 If the anchor does not hold at least 133 percent of lock-off load for two minutes the Engineer must be informed. Further testing in the presence of the Engineer will required as follows:

Load the anchor in 22 kN (5 kip) increments to 130.5 percent of lock-off load. Hold each increment for 5 minutes except at maximum load when the load shall be maintained for 100 minutes. The increase in length of the anchor shall be measure at the start and end of each load increment except at maximum load when the extension shall be measured at 5 minutes intervals.

This information shall be utilized by the Engineer to deduce the utilized anchor length and to assess the creep characteristics.

Anchors which creep more than 2 mm (0.08 inch) per log cycle of time will not be accepted. The Contractor shall install replacement anchors at the Contractor's expense.

4.0 SHOTCRETE REMOVAL/ANCHOR DETENSIONING

4.1 All excavation and support works within the CITY OF WHITE ROCK shall be in strict accordance with the City's requirements.

4.2 Anchor rods within 1.5m of the surface or within 1.0m of any underground utility are to be removed. Anchors rods not removed to be detensioned or fully grouted when no longer required in the opinion of the Engineer.

4.3 Shotcrete placed on Municipal rights-of-way to be removed to depth of 1.5m below the surface or within 1.5m of any utility removed to 1.0m below the utility.

5.0 BACKFILLING ON AND ADJACENT TO CITY PROPERTY

5.1 Backfill material and placing within Municipal rights-of-way to meet City specifications.

6.0 REQUIRED INSPECTIONS

6.1 The following are the MINIMUM inspections which are required by the Geotechnical Engineer. The Contractor is responsible for informing the Geotechnical Engineer that the Work is ready for these inspections. The Contractor shall be liable for any loss caused by failure to inform the Geotechnical Engineer that the Work is ready for inspection.

1. 2 days before work commences on site.
2. 1 day before the anchors are detensioned.
3. 2 days before backfilling commences.
4. 1 day before shotcrete removal.

6.2 Daily Inspection is required during installation of anchors, and full time inspection is required during anchor testing.

7.0 CONTRACTOR QUALIFICATION

7.1 Temporary works and shoring installation is highly sensitive to processes including sequence of installation, quality and quantity of materials used, monitoring of the works and other factors. Consequently a high degree of skill and professionalism is required for its successful implementation. As a result, all contractors considered for tender of the shoring work described in the Design Drawings must be approved by the Engineer in advance of tender. The work must be carried out only by a shoring contractor with experience and expertise in shoring construction. The contractors experience and expertise must be with projects of similar size and scope to that shown in the Design Drawings. The following shoring contractors are permitted to undertake the work:

- Matcon Canada
- Bel Pacific Excavation & Shoring
- Vancouver Shotcrete
- Power Shotcrete Shoring LTD.
- Mainland Excavation & Shoring ltd.
- Terra Contracting Ltd.
- Foundations West Construction ULC
- B&B Contracting Group

7.2 The preceding list does not express or imply any guarantee or warranty of the contractor's performance. It is the responsibility of the contractor to undertake the work shown on the Design Drawings.

7.3 Shoring contractors other than those listed above may be considered by the Engineer only with submission of references and qualifications for at least 10 projects of similar size and scope. GeoPacific reserves the right to accept or reject the qualifications of any shoring contractor.

NOTES:

1. The excavation support design is based on the locations of adjacent structures and utilities which have been supplied. The Contractor shall confirm the locations and elevations of all foundations and utilities which may be affected by the work and raport any discrepancies to GeoPacific Consultants Ltd. (Tel.: 439-0922)
2. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.
3. The extent of the excavation shall be based on the Architectural and Structural Drawings. The Contractor shall confirm the size of the excavation required by the basement and report any discrepancy with these Drawings to GeoPacific Consultants Ltd.
4. The Contractor must obtain prior permission in writing to carry out any work on adjacent private property.
5. The Contractor shall inform GeoPacific Consultants Ltd. of any surcharge loads which will be within half the height of the excavation from the top of the excavation so that the support system can be modified to support the additional loads. The Contractor shall also inform GeoPacific if and when any groundwater seepages occur which may require additional special drains as outlined in Note 3.4, Drawing G-2.
6. The ground conditions must be confirmed by GeoPacific Consultants Ltd. when the excavation is 4 feet deep. The Contractor is responsible for ensuring that GeoPacific personnel inspect the site.

DRAWING LIST:

Permit to Practice
EGBC
1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 24 2024

GEOPACIFIC CONSULTANTS

DATE: DECEMBER 12, 2023			
DESIGNED: M.S.	DRAWN: K.B.	REVIEWED: Z.O.	
SCALE: AS SHOWN			

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
GENERAL NOTES

PROJECT: 15514
DRAWING: G-2 (sheet 2 of 2)

EX. 200Ø U/I WAT

EX. 60 DP GAS

EX. 60 DP GAS

EX. 250Ø CONC STM

EX. 200Ø AC SAN

MH

VIDAL STREET

PROP. 300Ø PVC STM

VIDAL STREET

Sign

8.2m

5.5m

3.0m

el.99.35

el.97.29

el.96.33

el.94.98

el.93.97

el.93.03

179°35'55"

94.22m

el.100.68

2.7m

0.7m

2.380

1.9m

PARKING LEVEL P3

4.98%

4.98%

88.33m

86.81m

P1 MECH SHAFT

P2 MECH SHAFT

P3 MECH SHAFT

2.9m

2.9m

2.9m

2.9m

3.8m

el.100.28

el.100.51

85.28m

B2

B1

1.2m

2.6m

PARKING LEVEL P4

85.28m

88.33m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 3 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

86.81m

3.61%

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 2 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

4.6m

8.0m

D1

9.74%

93.54m

92.90m

93.54m

9.47%

D

el.95.03

16.0m

PARKING LEVEL P3

18.7m

11.4m

22.0m

el.98.64

4.5m

5.5m

1.5m

4.0m

el.98.12

el.97.46

el.96.87

2.9m

16.5m

el.96.01

1.0m

el.94.77

1.5m

7.3m

24.6m

el.101.06

el.99.42

1.1m

B

C

C1

C2

STRATA PLAN EPS1082

STRATA PLAN BCS760

STRATA PLAN BCS4120

STRATA PLAN EPS859

STRATA PLAN EPP39350

LOT 23 PLAN 27918

ARBORIST TO BE PRESENT ON-SITE DURING EXCAVATION WORKS TO TREE ROOT ZONES, AS PAR OF TREE MANAGEMENT PLAN.

LEGEND:

- GRADE ELEVATION

85.28m – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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PROFESSIONAL ENGINEER
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JUN 2 8 2024

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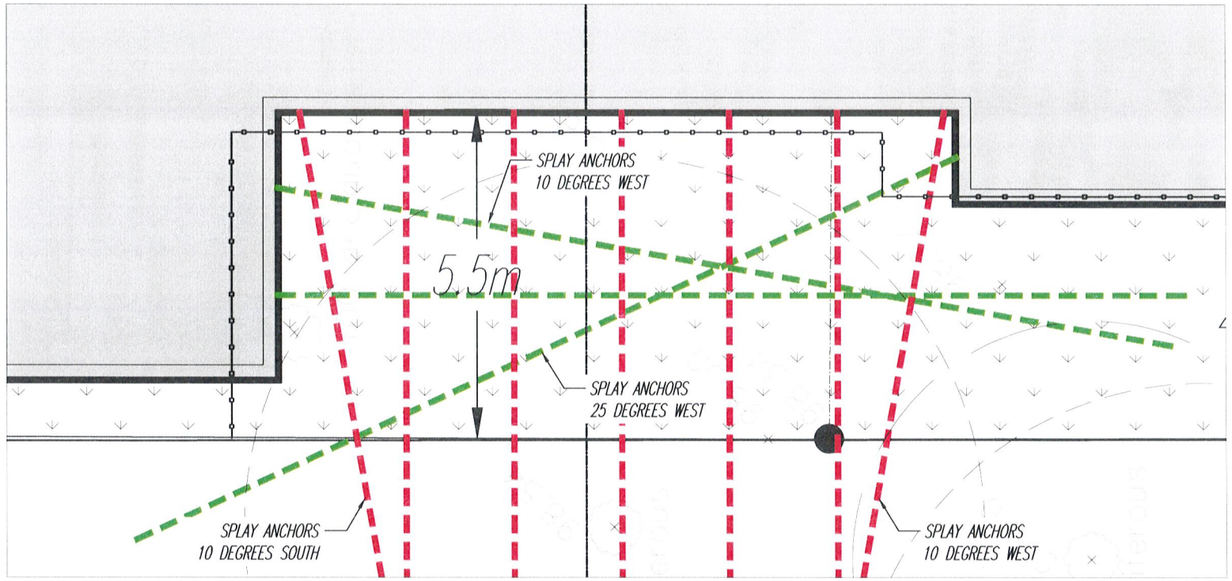
DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN

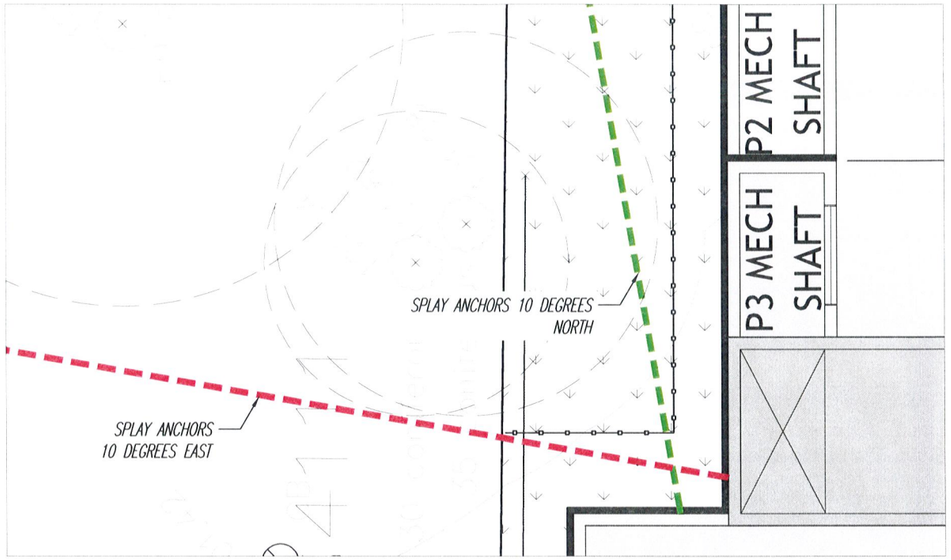
15514

G-S1

JUNE 25, 2024 – Tree protection fence



DETAIL 1
SCALE 1:100



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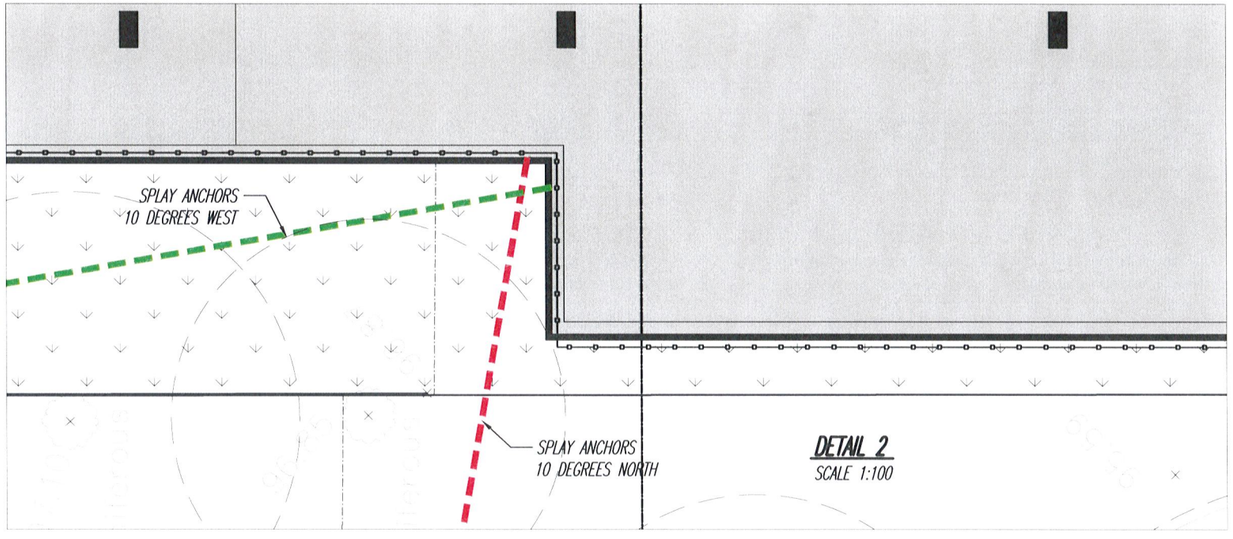

DETAIL 2
SCALE 1:100

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M.S.	K.B.	Z.O.
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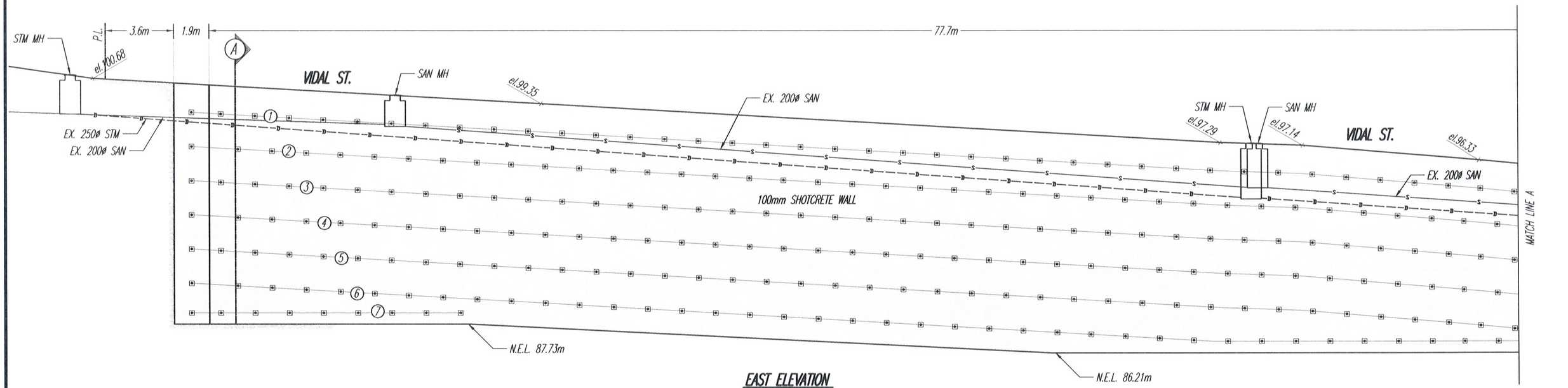
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN DETAILS

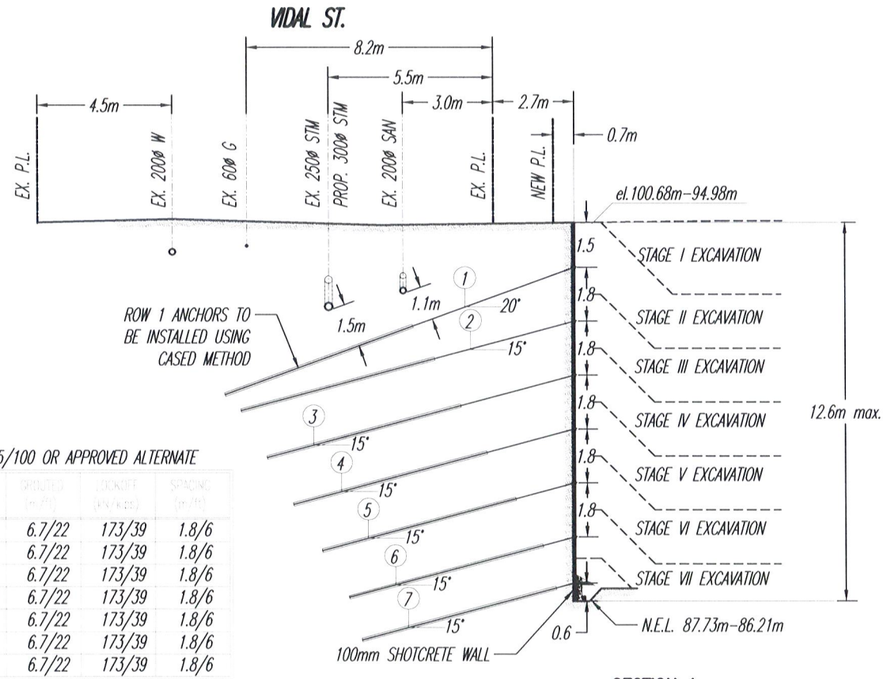
15514

G-S1A

JUNE 25, 2024 – Tree protection fence



EAST ELEVATION
SCALE 1:200

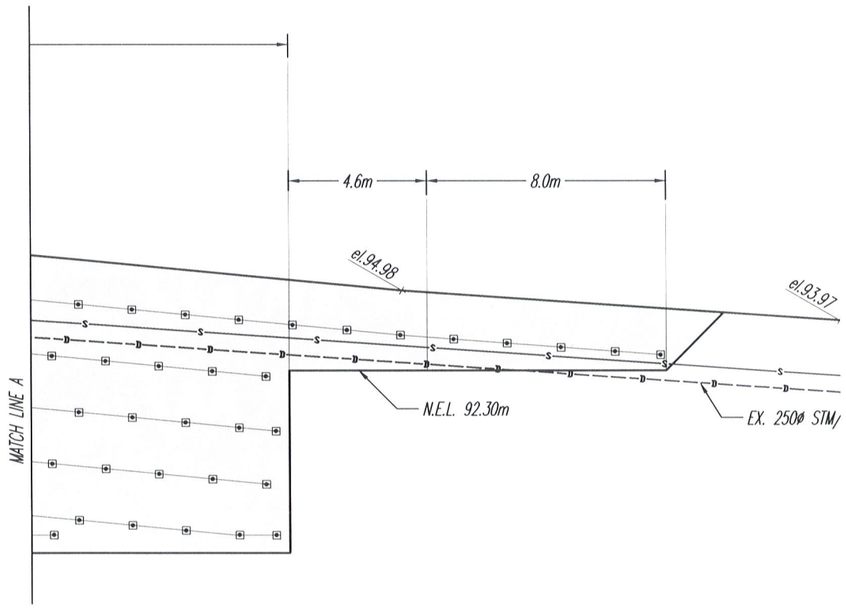


SECTION A
SCALE 1:200

SECTION A
DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	SPACING (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	12.5/41	6.7/22	173/39	1.8/6
2	11.6/38	6.7/22	173/39	1.8/6
3	10.7/35	6.7/22	173/39	1.8/6
4	9.8/32	6.7/22	173/39	1.8/6
5	8.8/29	6.7/22	173/39	1.8/6
6	7.9/26	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



LEGEND:

85.28m – GRADE ELEVATION

+ – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. BODNAR
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JUN 2 8 2024

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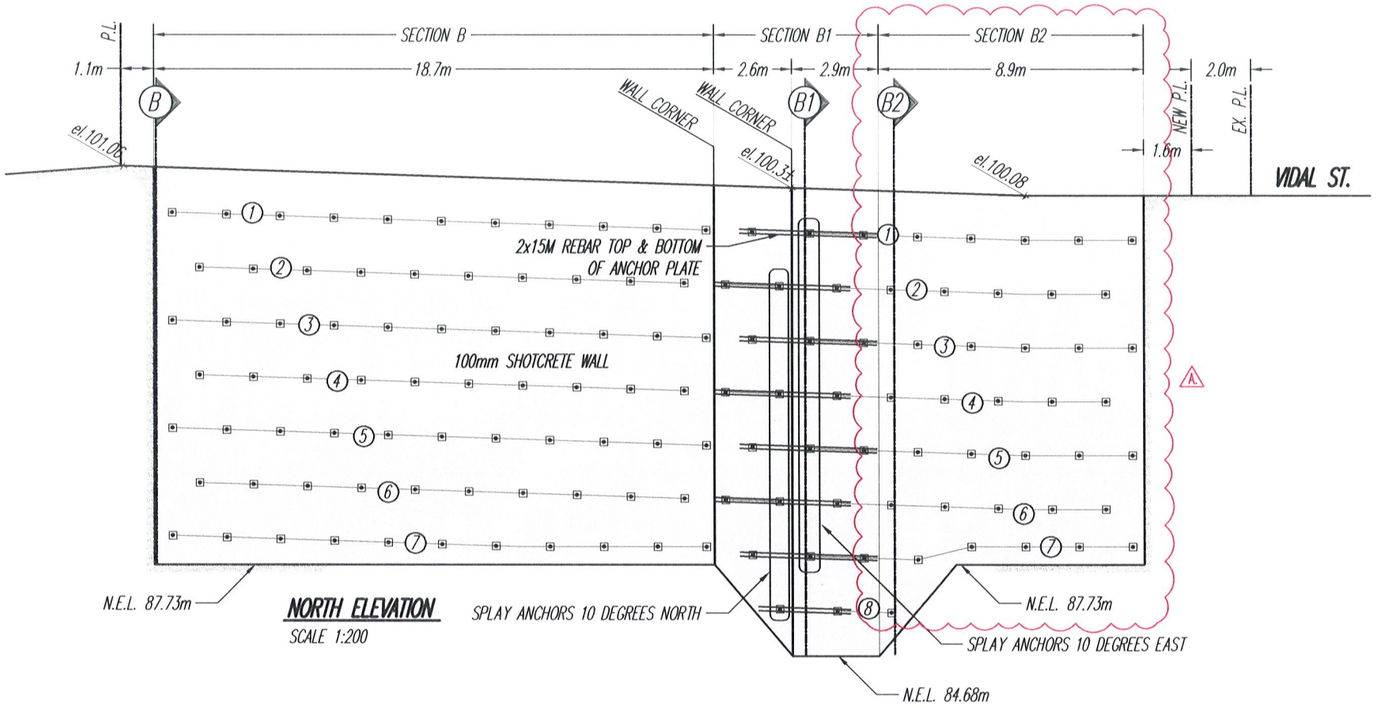
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – EAST ELEVATION, SECTION A

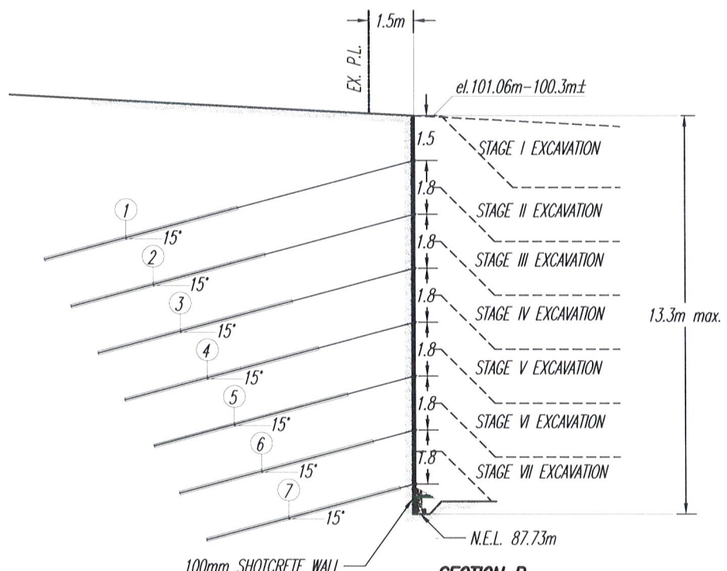
15514

G–S2

JUNE 25, 2024 – Tree protection fence



NORTH ELEVATION
SCALE 1:200



SECTION B
SCALE 1:200

SECTION B
DYWIDAG ⌀8 Gr 75/100 OR APPROVED ALTERNATE

ROW	UNBOND LENGTH (m/ft)	GROUTED LENGTH (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	12.9/42	6.7/22	173/39	1.8/6
2	11.9/39	6.7/22	173/39	1.8/6
3	11.0/36	6.7/22	173/39	1.8/6
4	10.1/33	6.7/22	173/39	1.8/6
5	9.1/30	6.7/22	173/39	1.8/6
6	8.2/27	6.7/22	173/39	1.8/6
7	7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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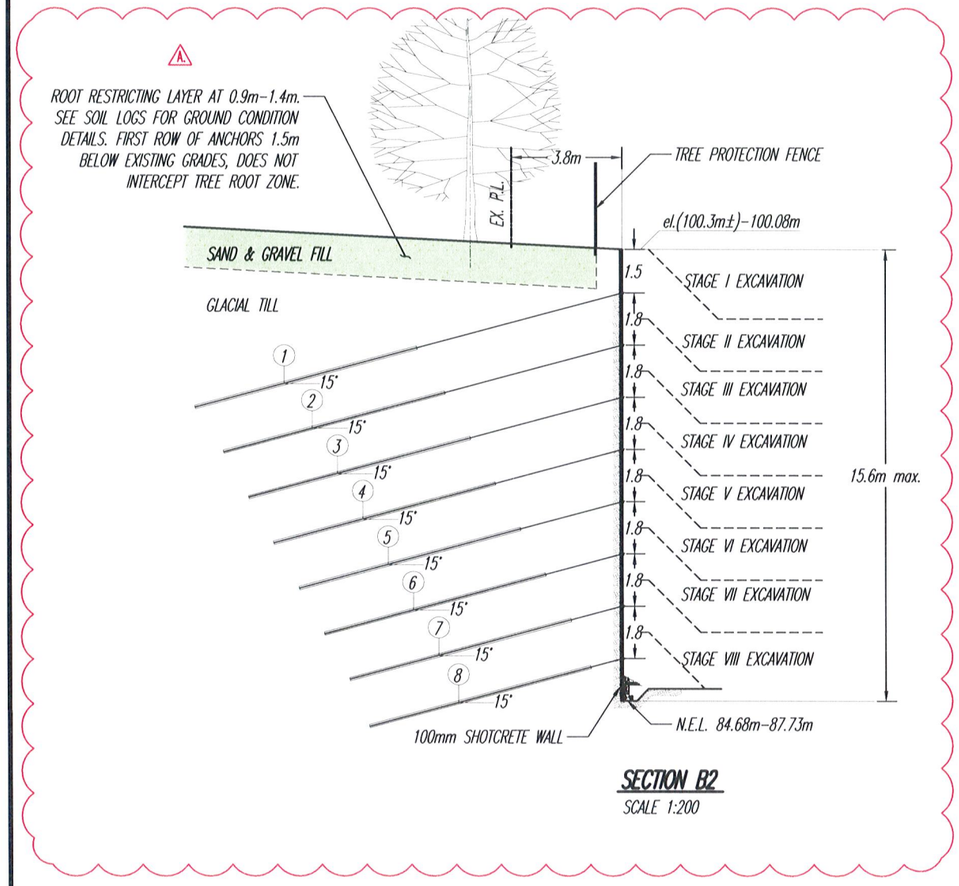
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – NORTH ELEVATION, SECTION B

15514

G-S3A

JUNE 25, 2024 – Tree protection fence

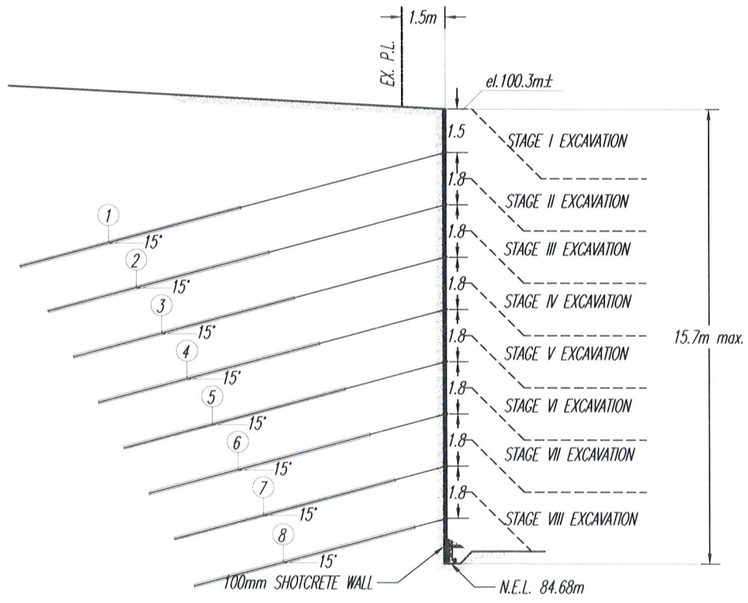


SECTION B2
SCALE 1:200

SECTION B2
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	DRILLED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.2/50	7.9/26	200/45	1.8/6
2	14.3/47	7.9/26	200/45	1.8/6
3	13.4/44	7.9/26	200/45	1.8/6
4	12.5/41	7.9/26	200/45	1.8/6
5	11.6/38	7.9/26	200/45	1.8/6
6	10.7/35	7.9/26	200/45	1.8/6
7	9.8/32	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



SECTION B1
SCALE 1:200

SECTION B1
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/ft)	DRILLED (m/ft)	LOCKOFF (kN/kips)	SPACING (m/ft)
1	15.2/50	7.9/26	200/45	1.8/6
2	14.3/47	7.9/26	200/45	1.8/6
3	13.4/44	7.9/26	200/45	1.8/6
4	12.5/41	7.9/26	200/45	1.8/6
5	11.6/38	7.9/26	200/45	1.8/6
6	10.7/35	7.9/26	200/45	1.8/6
7	9.8/32	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

85.28m+ – GRADE ELEVATION
– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

Permit to Practice
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1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

JUN 2 8 2024

GEOPACIFIC CONSULTANTS

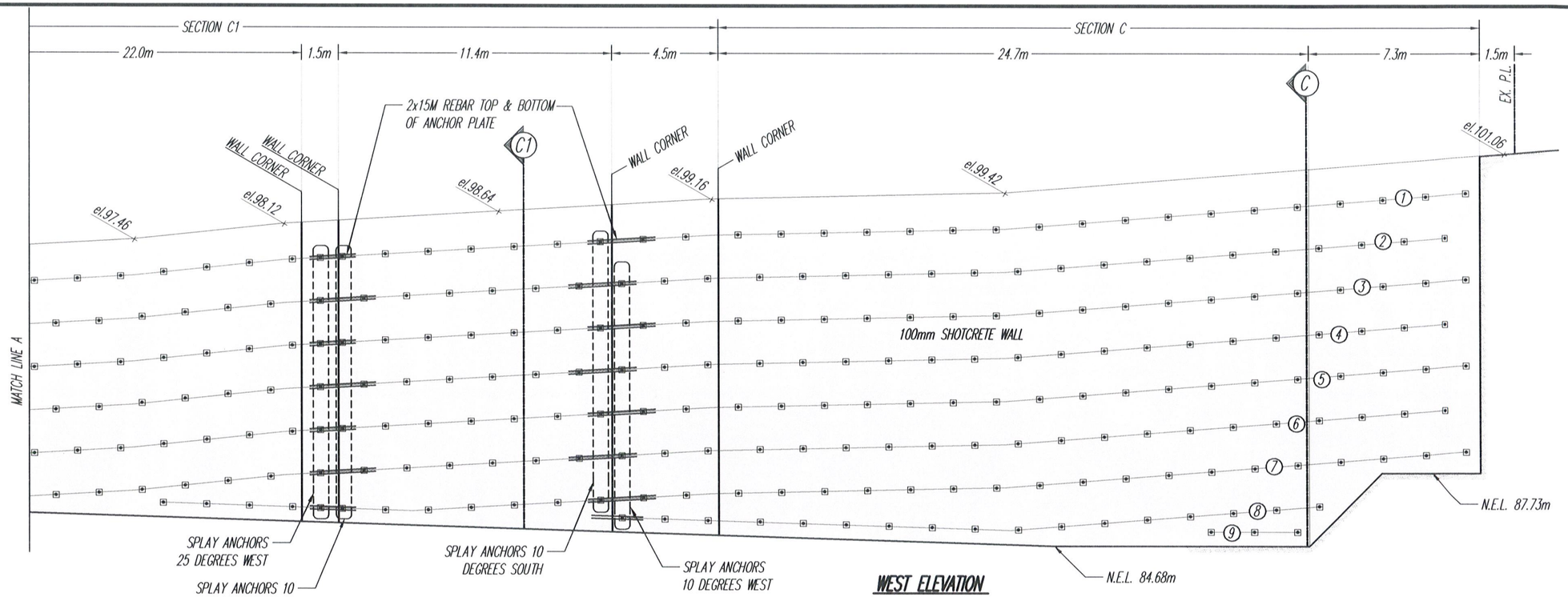
DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SECTIONS B, B1

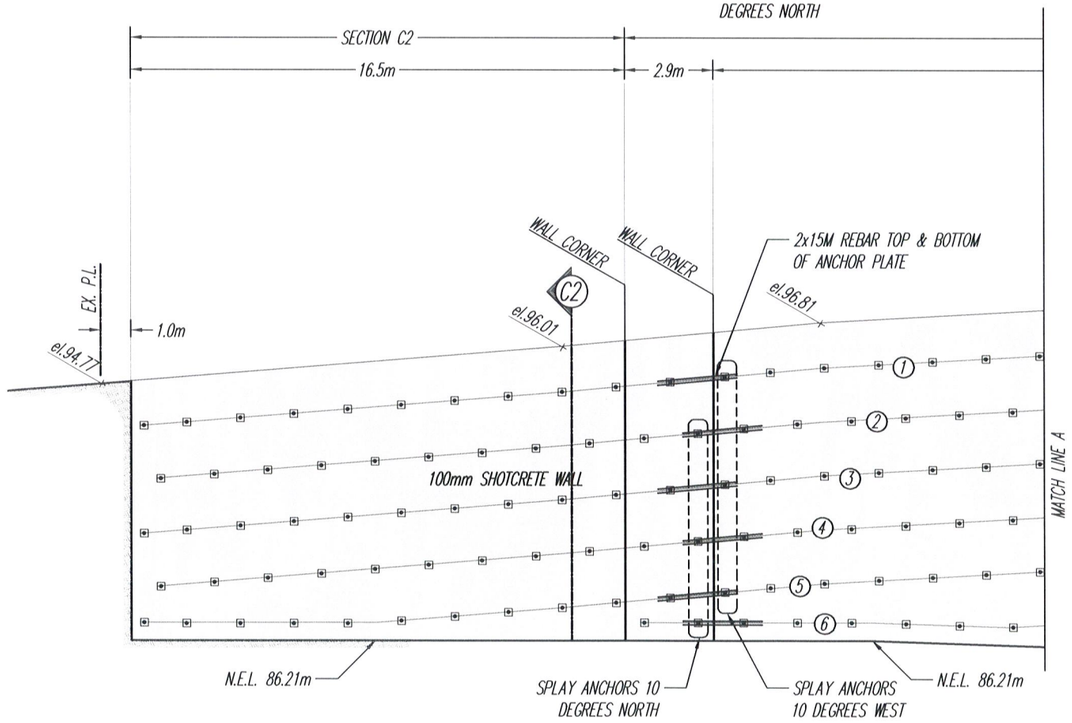
15514

G-S3B

JUNE 25, 2024 – Tree protection fence



WEST ELEVATION
SCALE 1:200



LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

Permit to Practice
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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K.L. BODNAR
37915

JUN 2 8 2024

GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT

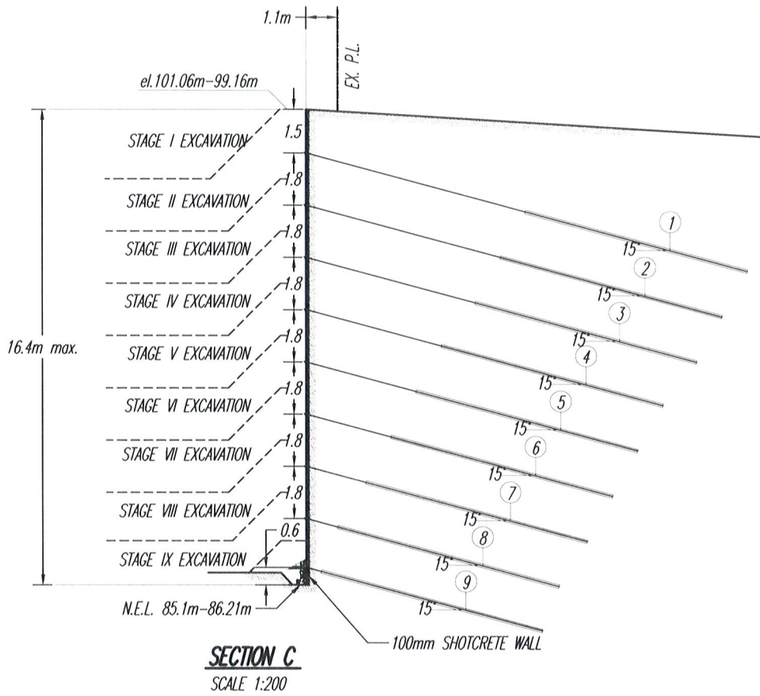
VIDAL STREET, WHITE ROCK, B.C.

SHORING – WEST ELEVATION

15514

G-S4A

JUNE 25, 2024 – Tree protection fence

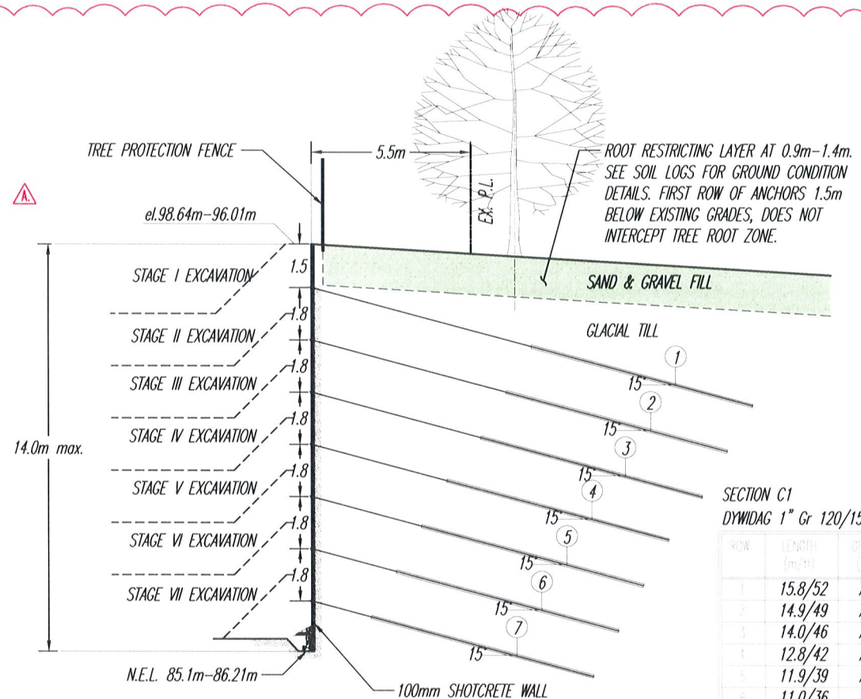


SECTION C
SCALE 1:200

SECTION C
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6
6	11.0/36	7.9/26	200/45	1.8/6
7	10.1/33	7.9/26	200/45	1.8/6
8	9.1/30	7.9/26	200/45	1.8/6
9	8.5/28	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES

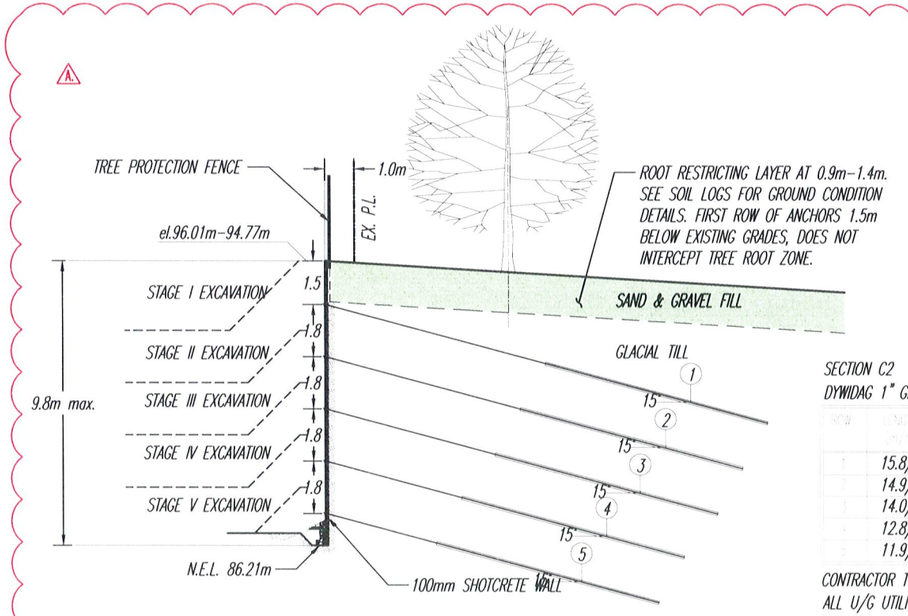


SECTION C1
SCALE 1:200

SECTION C1
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6
6	11.0/36	7.9/26	200/45	1.8/6
7	10.1/33	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES



SECTION C2
SCALE 1:200

SECTION C2
DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

ROW	LENGTH (m/m)	GROUTED (m/m)	FORCE (kN/rod)	SPACING (m/m)
1	15.8/52	7.9/26	200/45	1.8/6
2	14.9/49	7.9/26	200/45	1.8/6
3	14.0/46	7.9/26	200/45	1.8/6
4	12.8/42	7.9/26	200/45	1.8/6
5	11.9/39	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF
ALL U/G UTILITIES

LEGEND:

85.28m – GRADE ELEVATION
– PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

Permit to Practice
EGBC
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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K.J.L. BODNAR
37915

JUN 2 8 2024

GEOPACIFIC CONSULTANTS

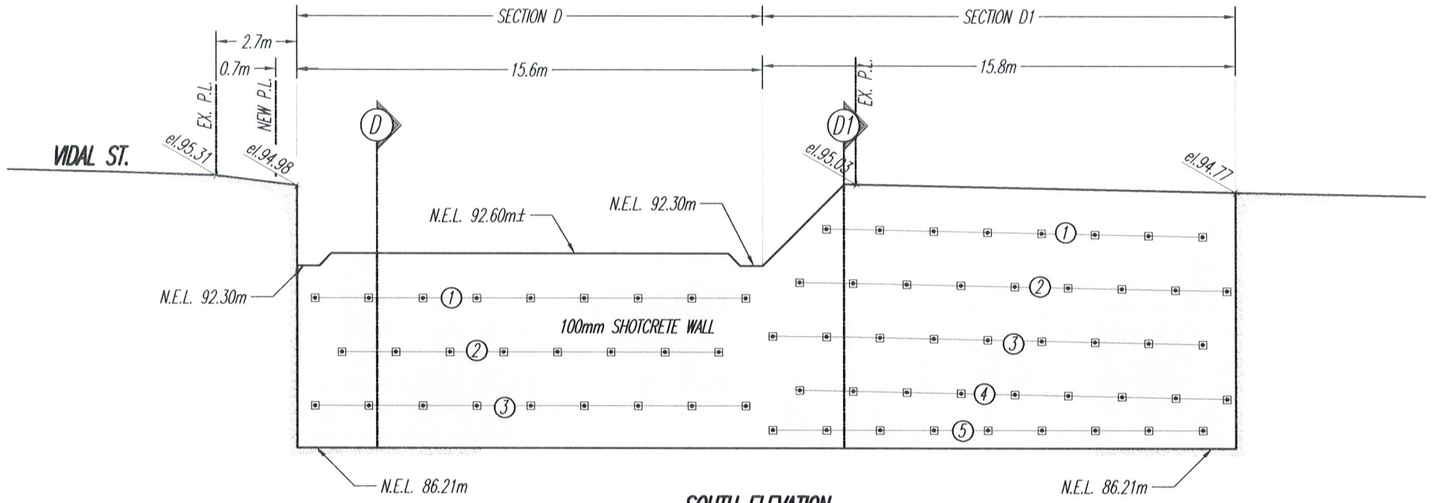
DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SECTIONS C, C1, C2

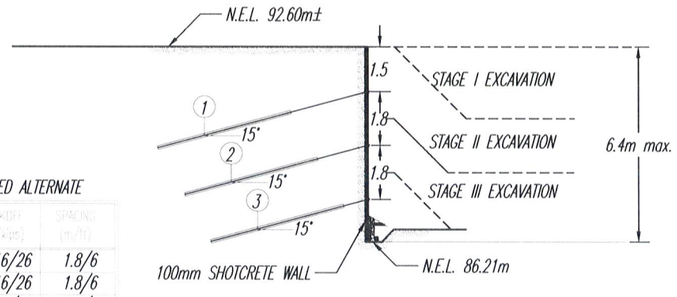
15514

G–S4B

JUNE 25, 2024 – Tree protection fence



SOUTH ELEVATION
SCALE 1:200

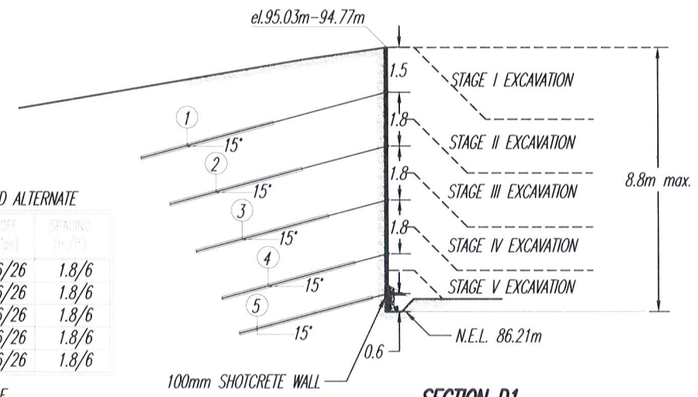


SECTION D
DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/#)	GROUTED (m/#)	LOCK-OFF (kN/#Str)	SPACING (m/#)
1	7.3/24	4.6/15	116/26	1.8/6
2	6.4/21	4.6/15	116/26	1.8/6
3	5.5/18	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D
SCALE 1:200



SECTION D1
DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

ROW	LENGTH (m/#)	GROUTED (m/#)	LOCK-OFF (kN/#Str)	SPACING (m/#)
1	8.6/28	4.6/15	116/26	1.8/6
2	7.6/25	4.6/15	116/26	1.8/6
3	6.7/22	4.6/15	116/26	1.8/6
4	5.8/19	4.6/15	116/26	1.8/6
5	5.2/17	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D1
SCALE 1:200

LEGEND:

85.28m+ – GRADE ELEVATION
– PROPOSED SLAB ELEVATION
N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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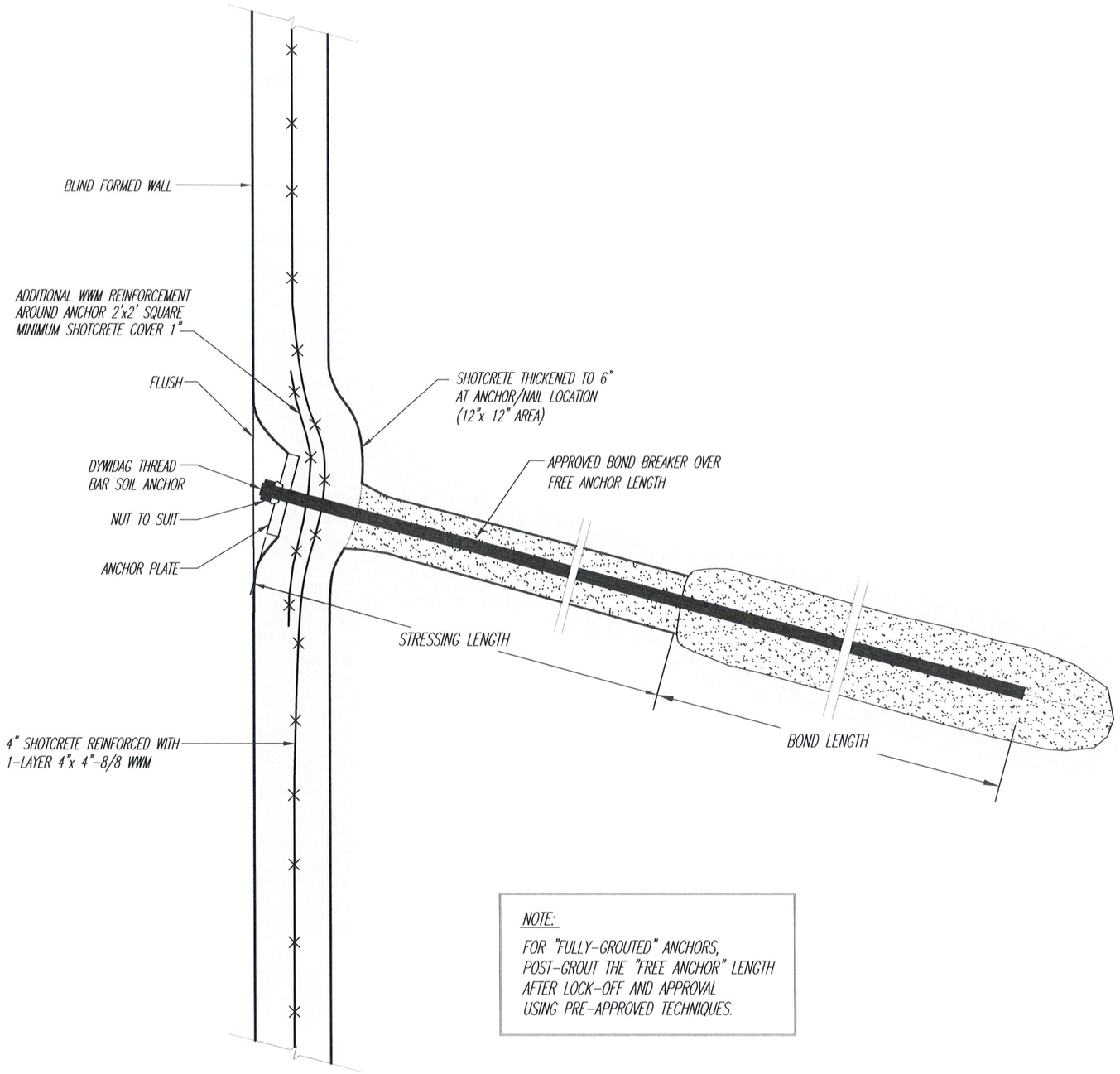
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SOUTH ELEVATION, SECTION D, D1

15514
G-S5

JUNE 25, 2024 – Tree protection fence



NOTE:

FOR "FULLY-GROUTED" ANCHORS, POST-GROUT THE "FREE ANCHOR" LENGTH AFTER LOCK-OFF AND APPROVAL USING PRE-APPROVED TECHNIQUES.

ANCHORED SHOTCRETE DETAIL

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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING - ANCHORED SHOTCRETE WALL DETAIL

15514

G-1

JUNE 25, 2024 - Tree protection fence

1.0 GENERAL

1.1 In these Notes, the Engineer is GeoPacific Consultants Ltd.

1.2 These Notes must be read in conjunction with the design Drawings.

1.3 The work described and shown involves near vertical excavated slopes or structure using a combination of shotcrete and ground anchors. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.

1.4 The anchors will be installed in ground around the site and the actual soil and groundwater conditions must be assumed.

1.5 The grouted anchor lengths required to resist the design loads are based on the assumed conditions. The capacity of the anchors will be confirmed at the beginning of the contract and may be lengthened or shortened.

1.6 Some utilities, foundations and structures which may affect the installation procedures and techniques are noted on the Drawings.The Contractor shall confirm the locations and condition of ALL man-made elements which may be damaged because of the anchored shotcrete operations. It is the Contractor's responsibility to install the anchored shotcrete in the actual site conditions encountered.

Elements which may, in the opinion of the Contractor, be damaged by the anchored shotcrete operations must be reported to the Engineer well in advance of the work to take place.

1.7 These documents are based on architectural, structural and survey Drawings provided. It is the Contractor's responsibility to verify all dimensions and report discrepancies to the Engineer.

1.8 The Contractor shall schedule and co-ordinate the work to satisfy the reasonable requirements of adjacent Owners and Tenants who shall be given sufficient Notice before carrying out work which may affect their property.

1.9 The Contractor shall erect and maintain a secure closed hoarding around the site for the safety of all persons in the vicinity of the site.

1.10 The Contractor shall inspect the slopes and the support to the slopes and structures daily and shall immediately report any potentially damaging movement or deterioration to the Engineer by telephoning 604-439-0922.

2.0 MATERIALS

2.1 ANCHOR BAR:

The anchors shall be installed in minimum 75 mm (3 inch) diameter holes which shall be drilled, unless otherwise approved in advance by the Engineer. Anchor capacity is dependant upon installation techniques and the drilling equipment and methods shall be subject to the Engineer's approval.

Drilling techniques shall produce a hole which is free of debris and ensure continuous support of the hole and shall not erode or disturb soil around the hole.

2.2 Anchor tendons shall be Dywidag threadbar as specified in the drawings.

Anchorage equipment couplings and any necessary wedges washers and plates shall be in accordance with the tendon manufacturer's specifications and requirements.

Minimum anchorage length ("fixed" length) and stressing length ("free" length) are shown on the Drawings.

2.3 Grout in the anchorage shall be a prior-approved non-shrink cementitious material mixed with a minimum compressive strength of 5 MPa in 24 hours and 35 MPa in 28 days.

2.4 Shotcrete shall be reinforced with 102 x 102 MW13.3/13.3 (4"x4"-8/8) welded wire mesh as shown on the Drawings. Steel shall have a minimum yield strength of 450 MPa (65 ksi) and shall be in accordance with ASTM A497.

2.5 All shotcreting shall be carried out in accordance with ACI 506 : "Specifications for Materials Proportioning and Application of Shotcrete"

2.6 Shotcrete shall have a minimum compressive strength of 5 MPa in 24 hours and 30 MPa in 28 days. The Engineer may require test panels to be prepared by the Contractor so they can be cored by others to confirm the shotcrete strength. The Contractor shall co-operate with the independent testing laboratory appointed by the Owner for this purpose.

3.0 INSTALLATION

3.1 Hollow Core Bar Installation (if required)

Set the bar on an appropriate drill rig. Start pumping the grout to assure that grout will exit drill bit.

Proceed with rotary drilling and flushing approx. three feet per min (depending on ground condition). Rotation speed should be approx. 60 to 120 RPM. To achieve higher friction values, advance and retract the bars several times for each 3.0 m (10 feet) length of bar installed in the bond zone.

The grout should be applied CONTINUOUSLY during drilling. A grout pump with at least 60 l/min volume and minimum 2 MPa (300 psi) pressure capacity (preferably 10 MPa, 1500 psi) should be used.

Refer to the manufacture's specifications and recommendations for more detail.

3.2 Anchors and shotcrete shall be installed in sequence and stages to maintain stability of the excavation. Excavation of soil from the site shall also take place in stages. Stages shall not exceed 1.8 m (6 feet) vertical.

The Contractor may remove all soil within any mass excavation Stage before anchors in that Stage are installed but further excavation shall not take place until all anchored shotcrete in that Stage is installed and approved by the Engineer.

The mass excavation for any Stage does not include a perimeter berm with a minimum top width of one metre and a side slope of 1 horizontal to 1 vertical.

Ground conditions may locally require a wider berm, flatter slopes and/or other slope protection measures including covering or short-term temporary support.

The perimeter berms in any stage shall be excavated in staggered panels. THE MAXIMUM WIDTH OF A PANEL SHALL BE THE HORIZONTAL SPACING OF THE ANCHOR PLUS 0.6 M (2 FEET). This panel width may be INCREASED OR DECREASED by the Engineer's agreement, in writing, BEFORE increasing the panel width.

No adjacent panels shall be excavated concurrently and no more than 1/3 of the panels shall be excavated concurrently. In addition no panel shall be excavated into the berm until at least 24 hours after that panel anchor has been grouted.

Anchors and shotcrete may be installed concurrently in different panels. Anchors shall be installed at right angles to the property lines on plan and within 2.5 degrees of the declination shown on the Drawings except with the prior approval of the Engineer.

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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
GENERAL NOTES

15514

G-2 (sheet 1 of 2)

JUNE 25, 2024 – Tree protection fence

3.3 Immediately following excavation of the soil berm in a panel the excavated face shall be trimmed back to the required line and mesh reinforcement shall be fixed to the soil to ensure the minimum specified shotcrete cover. Shotcrete shall be applied without delay to thicknesses shown on the Drawings.

Shotcrete panels shall be kept moist to aid curing by spraying with water and covering with sacking or polyethylene sheeting.

Sufficient wire mesh reinforcement shall be installed to provide a full strength overlap with adjacent panels. This overlap shall not be less than 200 mm (8 inch).

The end surfaces of panels shall be thoroughly cleaned with compressed air to ensure a full strength bond when adjacent panels are shotcreted.

3.4 Drains to relieve groundwater pressure shall be installed through the shotcrete. Drains shall be a minimum of 50 mm (2 inches) diameter and at normal 3.0 m (10 feet) centres horizontally and 1.5 m (5 feet) centres vertically. The Contractor shall install filters in drains as fines are being removed with the water.

Additional special drains may be required where water seeps are noted. This special drains shall consist of minimum 50 mm (2 inches) diameter perforated ABS pipe installed within 75 mm (3 inches) diameters holes drilled 5 degrees UPWARDS from the 3 metres (10 feet) measured from the face of the shotcrete. These special drains may be required to be filtered with fine sand or gravel or filter fabrics.

3.5 Anchors shall be tensioned as soon as practicable but no sooner than 24 hours after the construction of the applicable shotcrete panel. Anchors shall be tensioned and tested as follows:

3.5.1 Apply a proof load of 1.33 times the lock-off load for two minutes. Monitor the load in the anchor. If the reduction in load is less than 2.5 percent of proof load reduce the load to lock-off load and lock the working load into the anchor.

3.5.2 If the anchor does not hold at least 133 percent of lock-off load for two minutes the Engineer must be informed. Further testing in the presence of the Engineer will required as follows:

Load the anchor in 22 kN (5 kip) increments to 130.5 percent of lock-off load. Hold each increment for 5 minutes except at maximum load when the load shall be maintained for 100 minutes. The increase in length of the anchor shall be measure at the start and end of each load increment except at maximum load when the extension shall be measured at 5 minutes intervals.

This information shall be utilized by the Engineer to deduce the utilized anchor length and to assess the creep characteristics.

Anchors which creep more than 2 mm (0.08 inch) per log cycle of time will not be accepted. The Contractor shall install replacement anchors at the Contractor's expense.

4.0 SHOTCRETE REMOVAL/ANCHOR DETENSIONING

4.1 All excavation and support works within the CITY OF WHITE ROCK shall be in strict accordance with the City's requirements.

4.2 Anchor rods within 1.5m of the surface or within 1.0m of any underground utility are to be removed. Anchors rods not removed to be detensioned or fully grouted when no longer required in the opinion of the Engineer.

4.3 Shotcrete placed on Municipal rights-of-way to be removed to depth of 1.5m below the surface or within 1.5m of any utility removed to 1.0m below the utility.

5.0 BACKFILLING ON AND ADJACENT TO CITY PROPERTY

5.1 Backfill material and placing within Municipal rights-of-way to meet City specifications.

6.0 REQUIRED INSPECTIONS

6.1 The following are the **MINIMUM** inspections which are required by the Geotechnical Engineer. The Contractor is responsible for informing the Geotechnical Engineer that the Work is ready for these inspections. The Contractor shall be liable for any loss caused by failure to inform the Geotechnical Engineer that the Work is ready for inspection.

1. 2 days before work commences on site.
2. 1 day before the anchors are detensioned.
3. 2 days before backfilling commences.
4. 1 day before shotcrete removal.

6.2 Daily Inspection is required during installation of anchors, and full time inspection is required during anchor testing.

7.0 CONTRACTOR QUALIFICATION

7.1 Temporary works and shoring installation is highly sensitive to processes including sequence of installation, quality and quantity of materials used, monitoring of the works and other factors. Consequently a high degree of skill and professionalism is required for its successful implementation. As a result, all contractors considered for tender of the shoring work described in the Design Drawings must be approved by the Engineer in advance of tender. The work must be carried out only by a shoring contractor with experience and expertise in shoring construction. The contractors experience and expertise must be with projects of similar size and scope to that shown in the Design Drawings. The following shoring contractors are permitted to undertake the work:

- Matcon Canada
- Bel Pacific Excavation & Shoring
- Vancouver Shotcrete
- Power Shotcrete Shoring LTD.
- Mainland Excavation & Shoring ltd.
- Terra Contracting Ltd.
- Foundations West Construction ULC
- B&B Contracting Group

7.2 The preceding list does not express or imply any guarantee or warranty of the contractor's performance. It is the responsibility of the contractor to undertake the work shown on the Design Drawings.

7.3 Shoring contractors other than those listed above may be considered by the Engineer only with submission of references and qualifications for at least 10 projects of similar size and scope. GeoPacific reserves the right to accept or reject the qualifications of any shoring contractor.

NOTES:

1. The excavation support design is based on the locations of adjacent structures and utilities which have been supplied. The Contractor shall confirm the locations and elevations of all foundations and utilities which may be affected by the work and raport any discrepancies to GeoPacific Consultants Ltd. (Tel.: 439-0922)
2. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.
3. The extent of the excavation shall be based on the Architectural and Structural Drawings. The Contractor shall confirm the size of the excavation required by the basement and report any discrepancy with these Drawings to GeoPacific Consultants Ltd.
4. The Contractor must obtain prior permission in writing to carry out any work on adjacent private property.
5. The Contractor shall inform GeoPacific Consultants Ltd. of any surcharge loads which will be within half the height of the excavation from the top of the excavation so that the support system can be modified to support the additional loads. The Contractor shall also inform GeoPacific if and when any groundwater seepages occur which may require additional special drains as outlined in Note 3.4, Drawing G-2.
6. The ground conditions must be confirmed by GeoPacific Consultants Ltd. when the excavation is 4 feet deep. The Contractor is responsible for ensuring that GeoPacific personnel inspect the site.

DRAWING LIST:

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JUN 28 2024

GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023		
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PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
GENERAL NOTES

15514

G-2 (sheet 2 of 2)

JUNE 25, 2024 - Tree protection fence

EX. 60 DP GAS

EX. 250Ø CONC STM

EX. 200Ø AC SAN

EX. 60 DP GAS

MH

VIDAL STREET

PROP. 300Ø PVC STM

el.100.68

el.99.35

el.97.29

el.96.33

el.94.98

el.93.97

el.93.03

179°35'55"

8.2m

5.5m

3.0m

2.7m

0.7m

2.380

1.9m

94.22m

PARKING LEVEL P3

4.98%

77.7m

4.98%

4.6m

8.0m

P1 MECH SHAFT

P2 MECH SHAFT

P3 MECH SHAFT

2.9m

2.9m

2.9m

el.100.98

el.100.34

88.33m

86.81m

D1

9.74%

93.54m

3.8m

85.28m

92.90m

93.54m

9.47%

B1

1.2m

2.6m

PARKING LEVEL P4

85.28m

88.33m

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 3 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

86.81m

3.61%

D

el.95.03

16.0m

18.7m

PARKING LEVEL P3

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 1 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

ANCHORS AT CORNER LOCATION TO BE SPLAYED (SEE DETAIL 2 DWG. G-S1A, ELEVATION VIEW DWG. G-S4)

11.4m

22.0m

el.96.64

4.5m

1.5m

2.9m

16.5m

1.5m

7.3m

24.6m

4.0m

el.96.81

el.95.72

el.95.46

el.96.01

el.94.77

B

el.101.06

el.99.42

1.1m

1.0m

C

STRATA PLAN EPS1082

STRATA PLAN BCS760

STRATA PLAN EPS859

STRATA PLAN BCS760

STRATA PLAN EPP39350

23 PLAN 27918

LEGEND:

- GRADE ELEVATION

85.28m – PROPOSED SLAB ELEVATION

N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.-0.6m OR AS SHOWN

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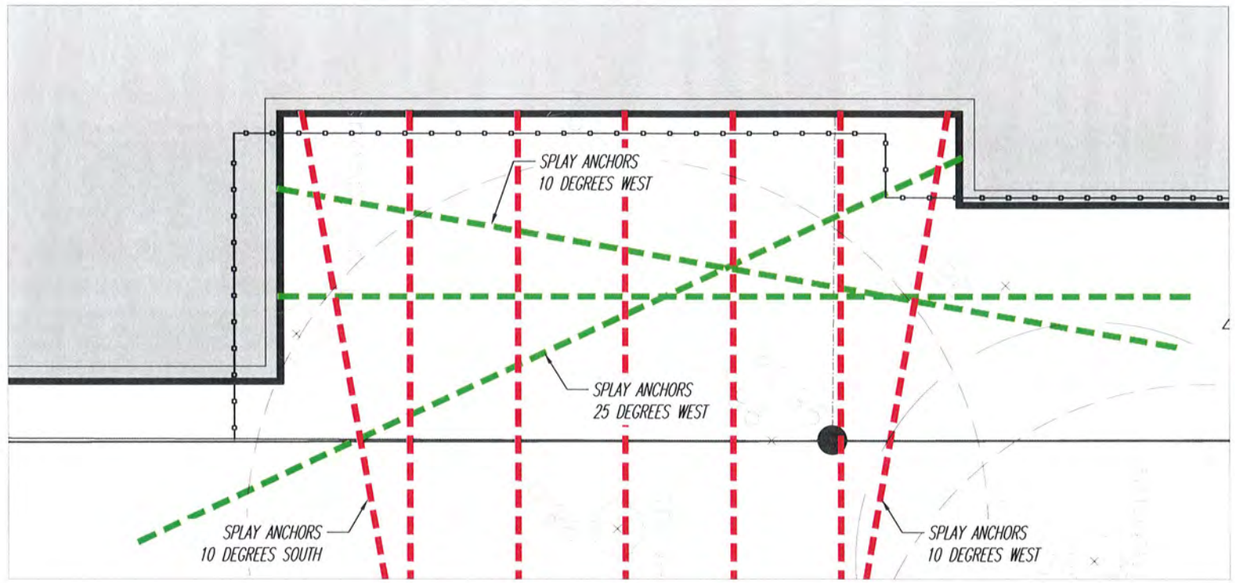
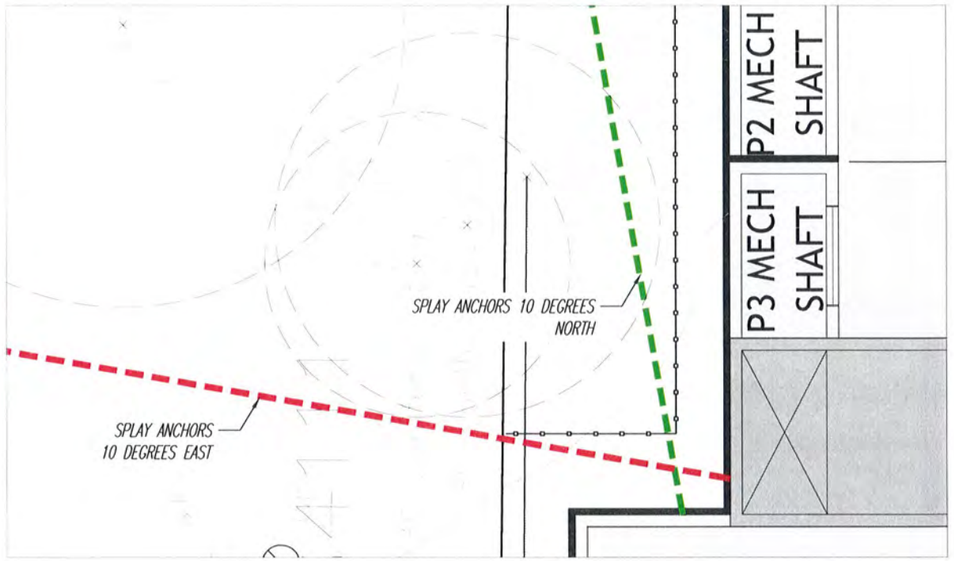
#37915

APR 24 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. SHORING – SITE PLAN	15514 G-S1	APRIL 19, 2024 – Tree protection fence
	M.S.	K.B.	Z.O.			
	AS SHOWN					



DETAIL 1
SCALE 1:100



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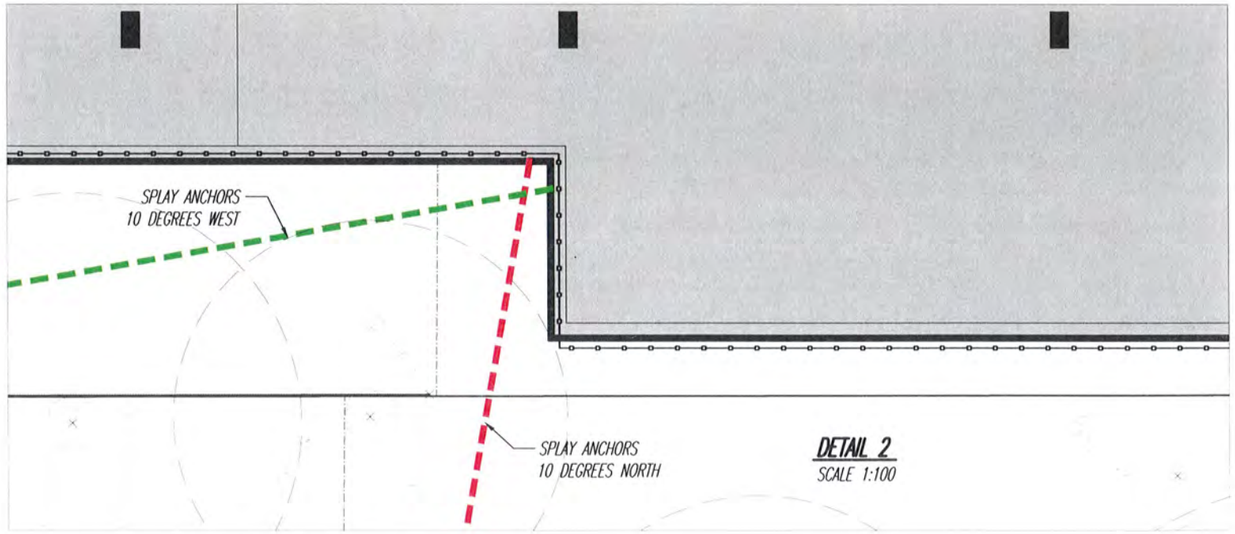

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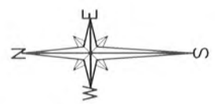

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APR 2 4 2024

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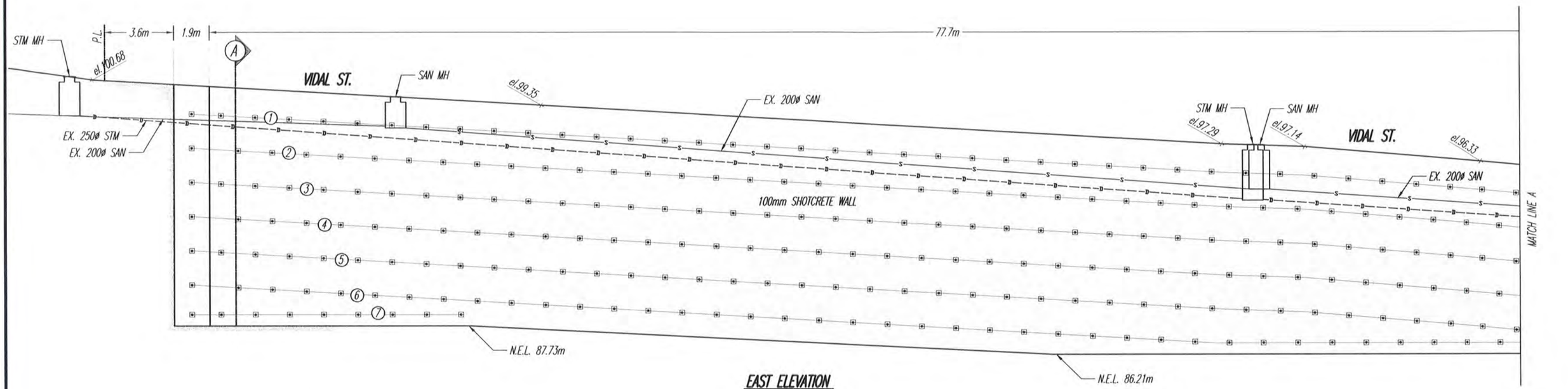
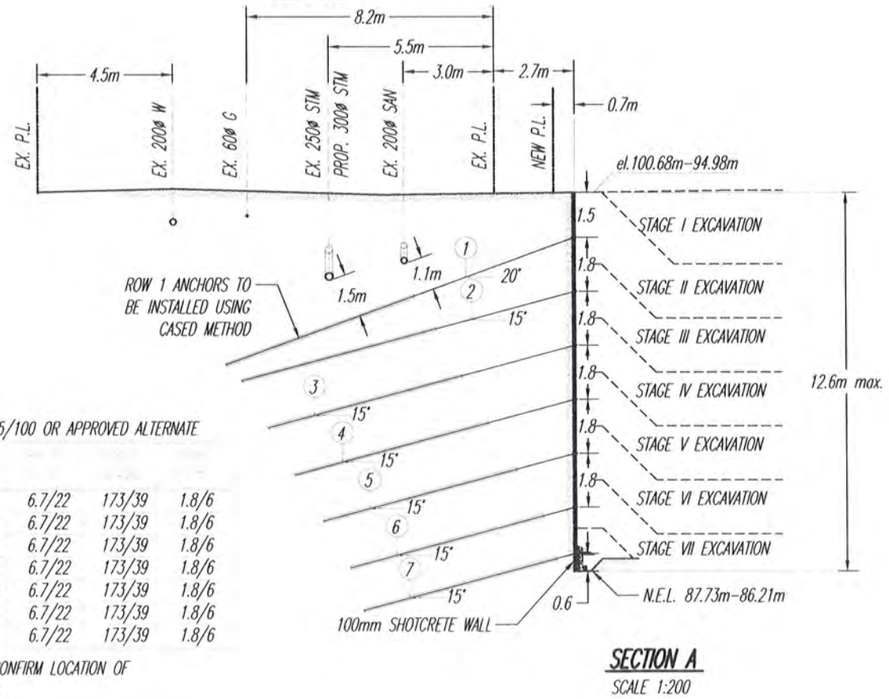
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SITE PLAN DETAILS

15514

G-S1A



EAST ELEVATION
SCALE 1:200

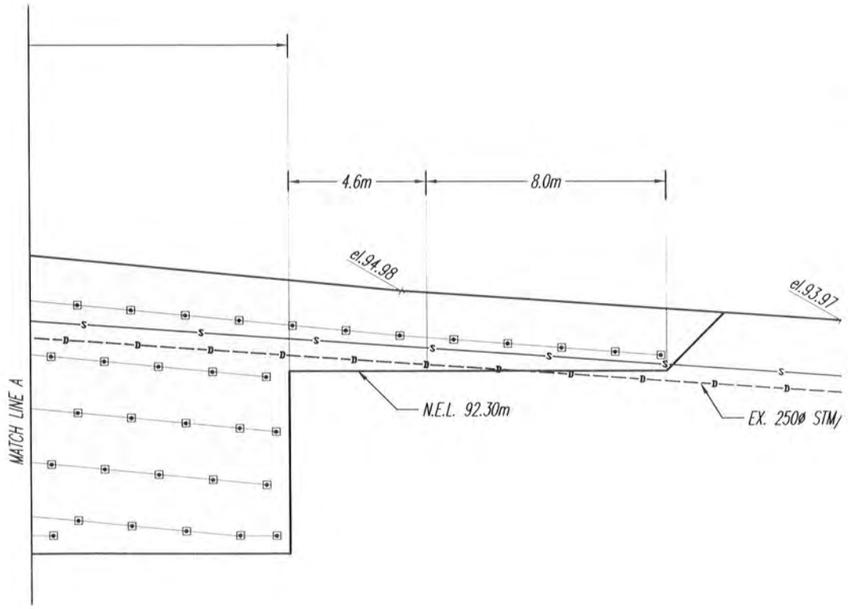


DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

12.5/41	6.7/22	173/39	1.8/6
11.6/38	6.7/22	173/39	1.8/6
10.7/35	6.7/22	173/39	1.8/6
9.8/32	6.7/22	173/39	1.8/6
8.8/29	6.7/22	173/39	1.8/6
7.9/26	6.7/22	173/39	1.8/6
7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION A
SCALE 1:200



LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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APR 24 2024

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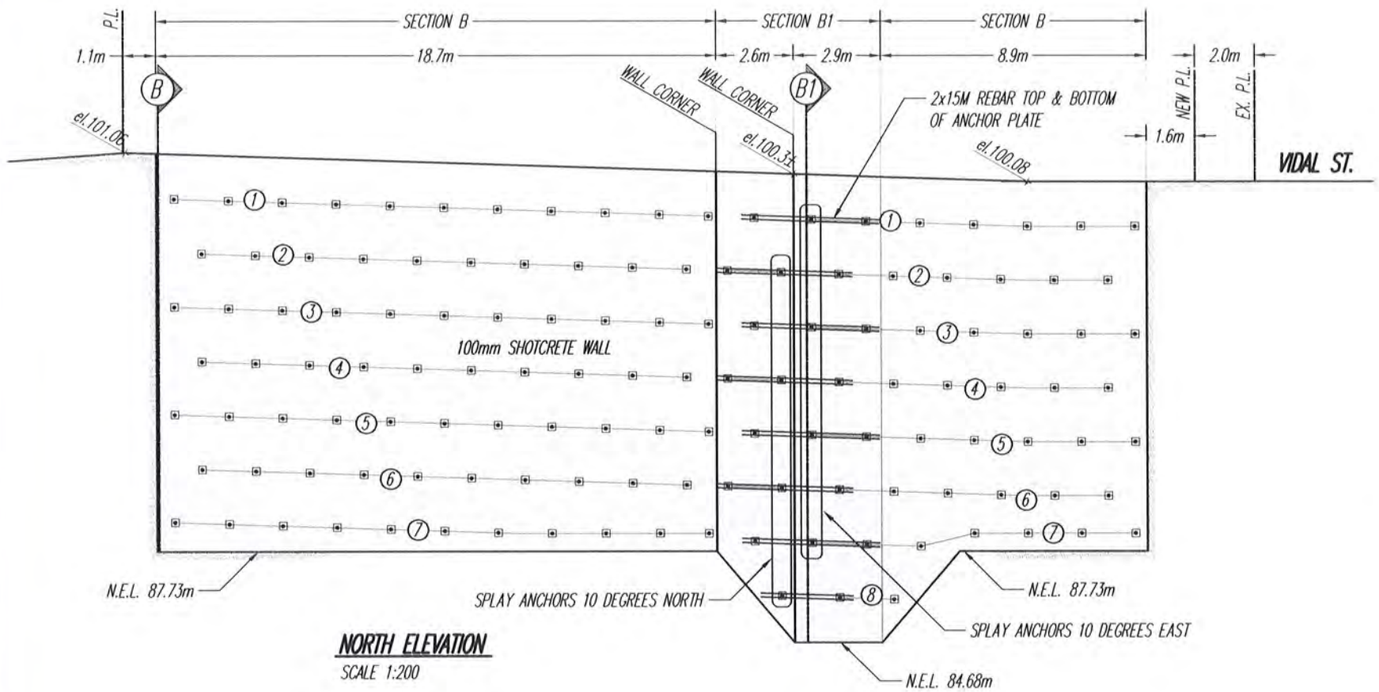
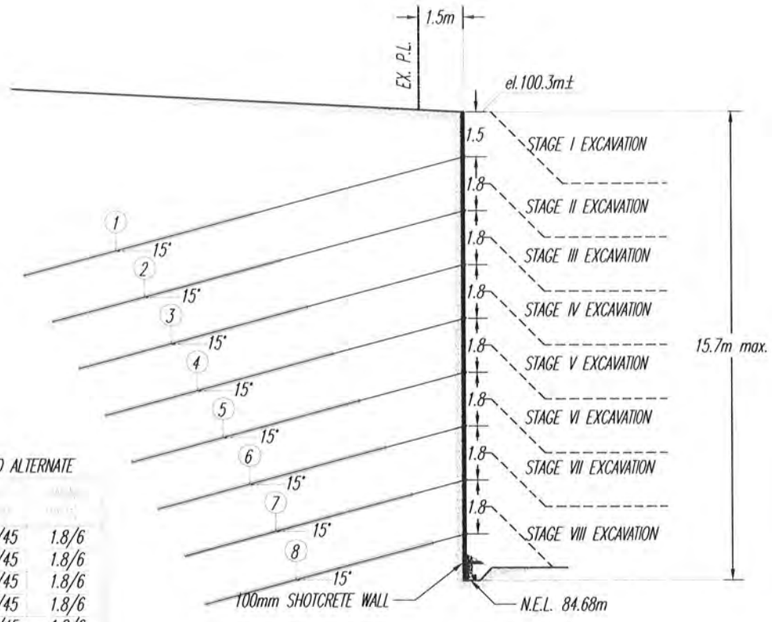
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – EAST ELEVATION, SECTION A

15514

G-S2



NORTH ELEVATION
SCALE 1:200

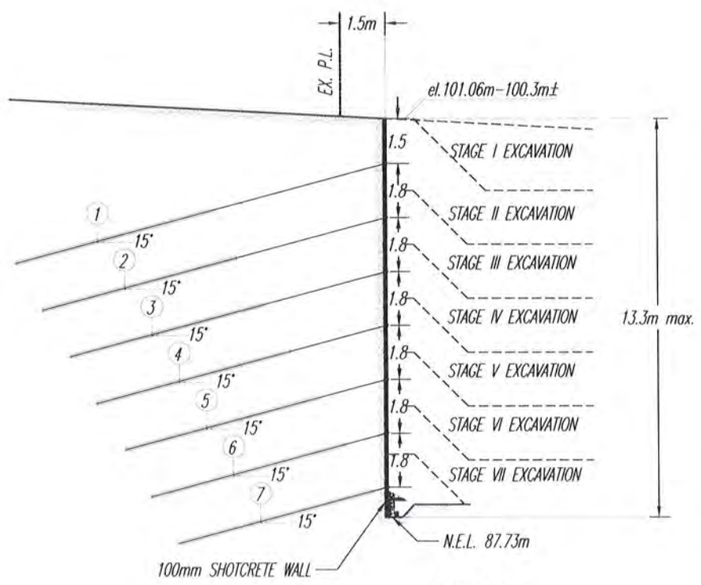


SECTION B1
SCALE 1:200

DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

15.2/50	7.9/26	200/45	1.8/6
14.3/47	7.9/26	200/45	1.8/6
13.4/44	7.9/26	200/45	1.8/6
12.5/41	7.9/26	200/45	1.8/6
11.6/38	7.9/26	200/45	1.8/6
10.7/35	7.9/26	200/45	1.8/6
9.8/32	7.9/26	200/45	1.8/6
9.1/30	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES



SECTION B
SCALE 1:200

DYWIDAG #8 Gr 75/100 OR APPROVED ALTERNATE

12.9/42	6.7/22	173/39	1.8/6
11.9/39	6.7/22	173/39	1.8/6
11.0/36	6.7/22	173/39	1.8/6
10.1/33	6.7/22	173/39	1.8/6
9.1/30	6.7/22	173/39	1.8/6
8.2/27	6.7/22	173/39	1.8/6
7.3/24	6.7/22	173/39	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- 85.28m – GRADE ELEVATION
- + – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

Permit to Practice
EGBC
1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. L. BODNAR
37915
APR 24 2024

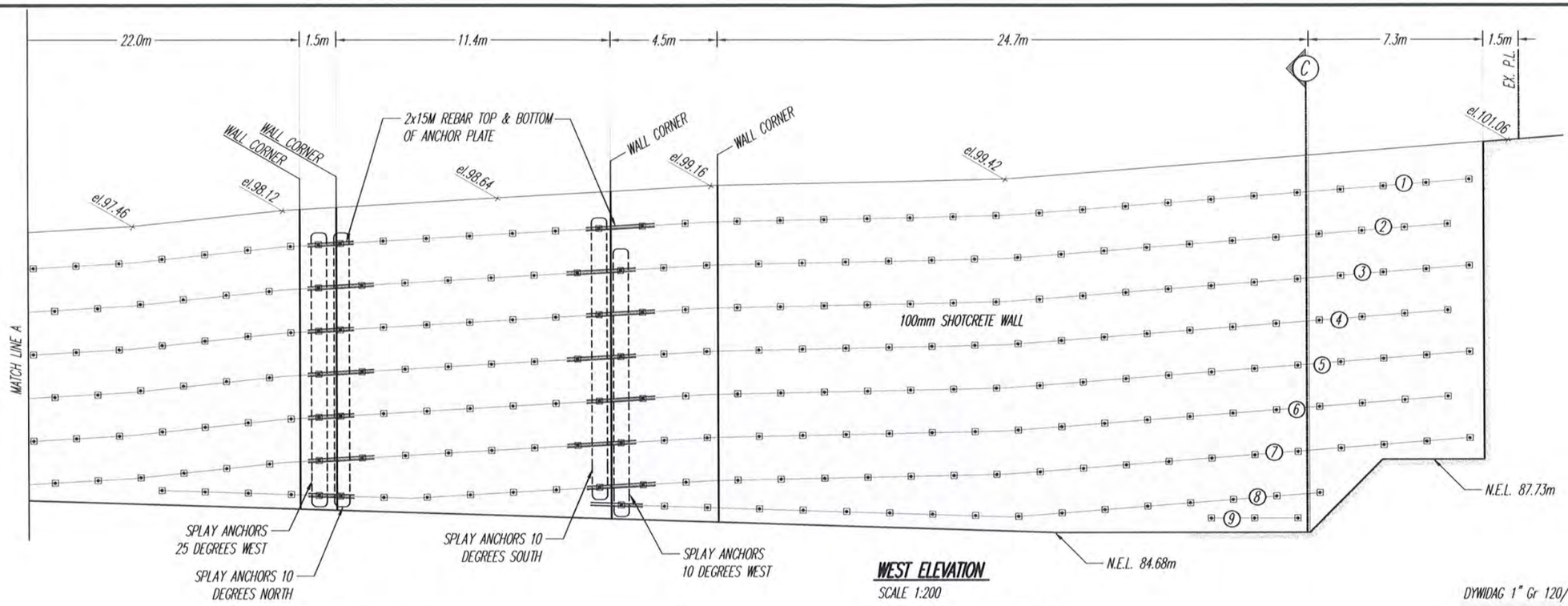
GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023			
M.S.	K.B.	Z.O.	
AS SHOWN			

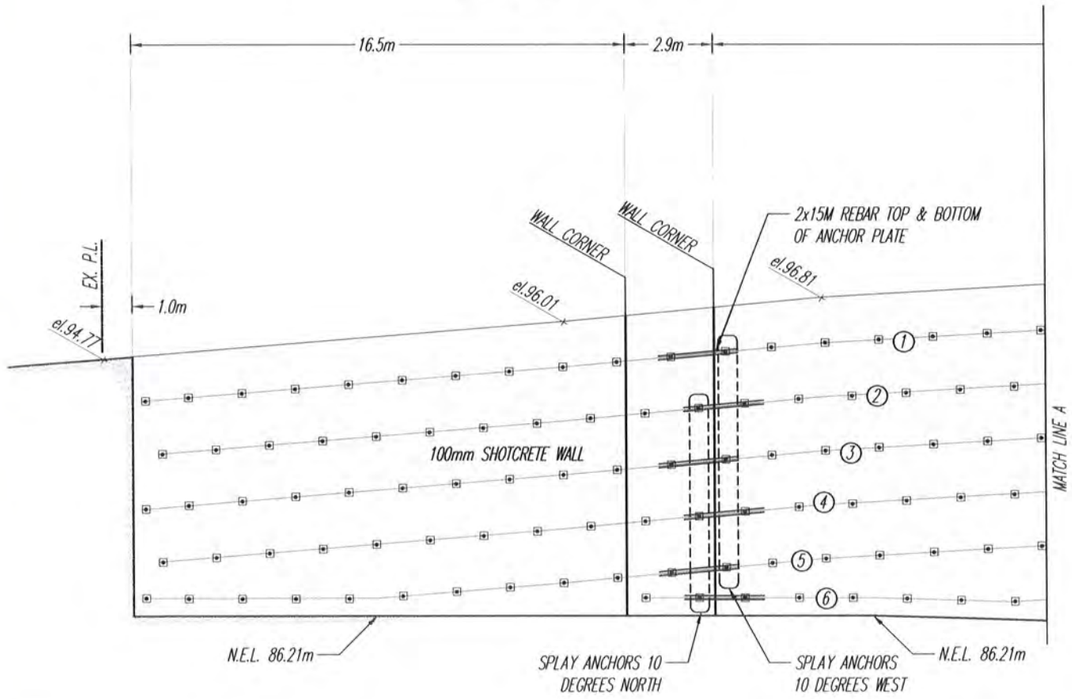
PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – NORTH ELEVATION, SECTIONS B, B1

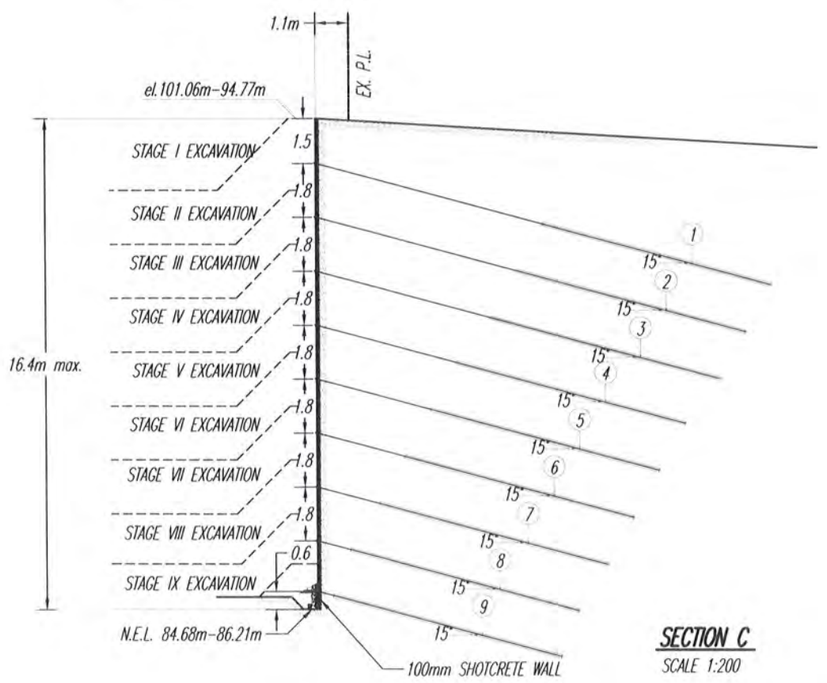
15514

G-S3



WEST ELEVATION
SCALE 1:200





SECTION C
SCALE 1:200

DYWIDAG 1" Gr 120/150 OR APPROVED ALTERNATE

15.8/52	7.9/26	200/45	1.8/6
14.9/49	7.9/26	200/45	1.8/6
14.0/46	7.9/26	200/45	1.8/6
12.8/42	7.9/26	200/45	1.8/6
11.9/39	7.9/26	200/45	1.8/6
11.0/36	7.9/26	200/45	1.8/6
10.1/33	7.9/26	200/45	1.8/6
9.1/30	7.9/26	200/45	1.8/6
8.5/28	7.9/26	200/45	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

LEGEND:

- GRADE ELEVATION
- 85.28m – PROPOSED SLAB ELEVATION
- N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. BODNAR
37915

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DECEMBER 12, 2023		
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AS SHOWN		

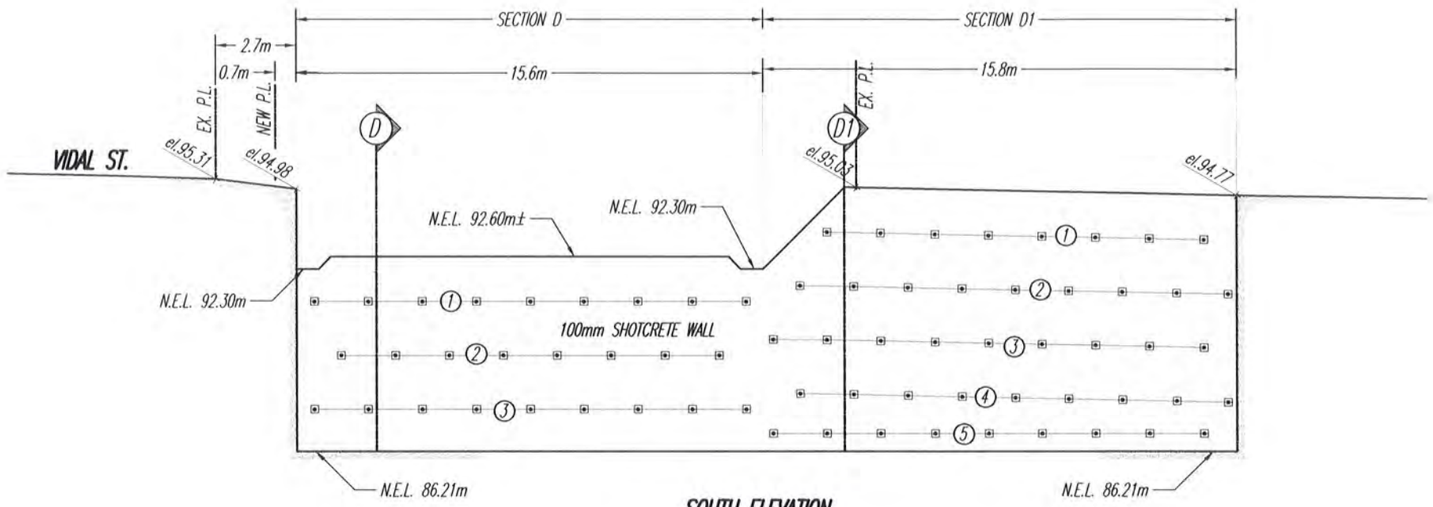
PROPOSED RESIDENTIAL DEVELOPMENT

VIDAL STREET, WHITE ROCK, B.C.

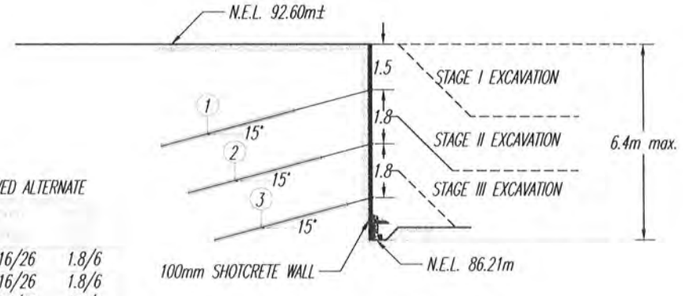
SHORING – WEST ELEVATION, SECTION C

15514

G-S4



SOUTH ELEVATION
SCALE 1:200

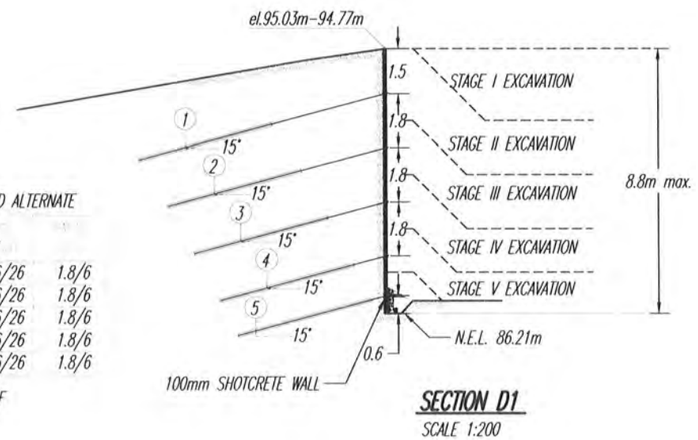


DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

7.3/24	4.6/15	116/26	1.8/6
6.4/21	4.6/15	116/26	1.8/6
5.5/18	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D
SCALE 1:200



DYWIDAG #7 Gr 75/100 OR APPROVED ALTERNATE

8.6/28	4.6/15	116/26	1.8/6
7.6/25	4.6/15	116/26	1.8/6
6.7/22	4.6/15	116/26	1.8/6
5.8/19	4.6/15	116/26	1.8/6
5.2/17	4.6/15	116/26	1.8/6

CONTRACTOR TO CONFIRM LOCATION OF ALL U/G UTILITIES

SECTION D1
SCALE 1:200

LEGEND:

85.28m – GRADE ELEVATION
+ – PROPOSED SLAB ELEVATION
N.E.L. – NOMINAL EXCAVATION LEVEL AT PERIMETER = SLAB EL.–0.6m OR AS SHOWN

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
#37915

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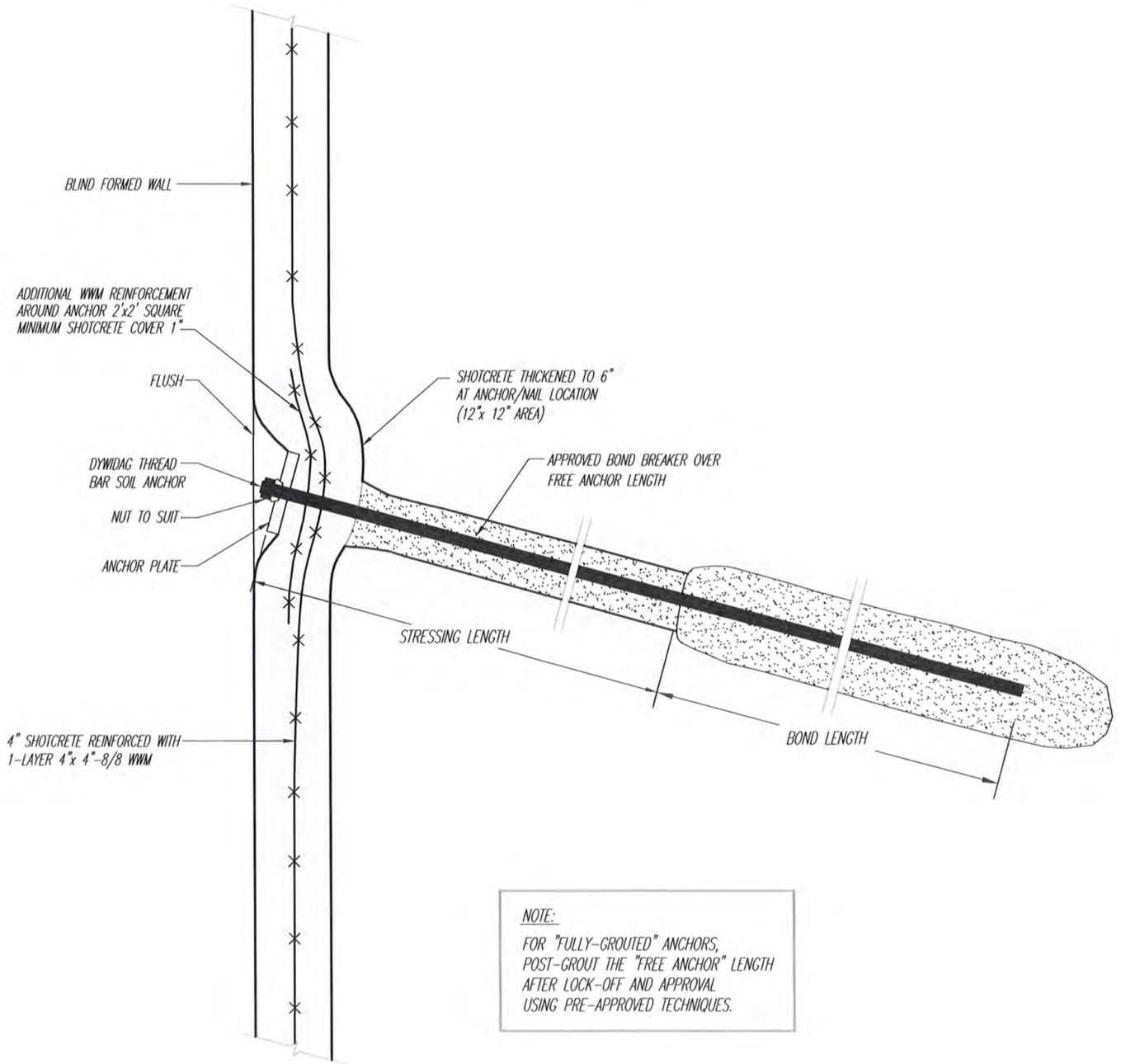
GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023		
M.S.	K.B.	Z.O.
AS SHOWN		

PROPOSED RESIDENTIAL DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.
SHORING – SOUTH ELEVATION, SECTION D, D1

15514

G-S5



NOTE:

FOR "FULLY-GROUTED" ANCHORS,
POST-GROUT THE "FREE ANCHOR" LENGTH
AFTER LOCK-OFF AND APPROVAL
USING PRE-APPROVED TECHNIQUES.

ANCHORED SHOTCRETE DETAIL

N.T.S.

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. SHORING – ANCHORED SHOTCRETE WALL DETAIL	15514 G-1
	M.S.	K.B.	Z.O.		
	AS SHOWN				

1.0 GENERAL

1.1 In these Notes, the Engineer is GeoPacific Consultants Ltd.

1.2 These Notes must be read in conjunction with the design Drawings.

1.3 The work described and shown involves near vertical excavated slopes or structure using a combination of shotcrete and ground anchors. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.

1.4 The anchors will be installed in ground around the site and the actual soil and groundwater conditions must be assumed.

1.5 The grouted anchor lengths required to resist the design loads are based on the assumed conditions. The capacity of the anchors will be confirmed at the beginning of the contract and may be lengthened or shortened.

1.6 Some utilities, foundations and structures which may affect the installation procedures and techniques are noted on the Drawings.The Contractor shall confirm the locations and condition of ALL man-made elements which may be damaged because of the anchored shotcrete operations. It is the Contractor's responsibility to install the anchored shotcrete in the actual site conditions encountered.

Elements which may, in the opinion of the Contractor, be damaged by the anchored shotcrete operations must be reported to the Engineer well in advance of the work to take place.

1.7 These documents are based on architectural, structural and survey Drawings provided. It is the Contractor's responsibility to verify all dimensions and report discrepancies to the Engineer.

1.8 The Contractor shall schedule and co-ordinate the work to satisfy the reasonable requirements of adjacent Owners and Tenants who shall be given sufficient Notice before carrying out work which may affect their property.

1.9 The Contractor shall erect and maintain a secure closed hoarding around the site for the safety of all persons in the vicinity of the site.

1.10 The Contractor shall inspect the slopes and the support to the slopes and structures daily and shall immediately report any potentially damaging movement or deterioration to the Engineer by telephoning 604-439-0922.

2.0 MATERIALS

2.1 ANCHOR BAR:

The anchors shall be installed in minimum 75 mm (3 inch) diameter holes which shall be drilled, unless otherwise approved in advance by the Engineer. Anchor capacity is dependant upon installation techniques and the drilling equipment and methods shall be subject to the Engineer's approval.

Drilling techniques shall produce a hole which is free of debris and ensure continuous support of the hole and shall not erode or disturb soil around the hole.

2.2 Anchor tendons shall be Dywidag threadbar as specified in the drawings.

Anchorage equipment couplings and any necessary wedges washers and plates shall be in accordance with the tendon manufacturer's specifications and requirements.

Minimum anchorage length ("fixed" length) and stressing length ("free" length) are shown on the Drawings.

2.3 Grout in the anchorage shall be a prior-approved non-shrink cementitious material mixed with a minimum compressive strength of 5 MPa in 24 hours and 35 MPa in 28 days.

2.4 Shotcrete shall be reinforced with 102 x 102 MW13.3/13.3 (4"x4"-8/8) welded wire mesh as shown on the Drawings. Steel shall have a minimum yield strength of 450 MPa (65 ksi) and shall be in accordance with ASTM A497.

2.5 All shotcreting shall be carried out in accordance with ACI 506 : "Specifications for Materials Proportioning and Application of Shotcrete"

2.6 Shotcrete shall have a minimum compressive strength of 5 MPa in 24 hours and 30 MPa in 28 days. The Engineer may require test panels to be prepared by the Contractor so they can be cored by others to confirm the shotcrete strength. The Contractor shall co-operate with the independent testing laboratory appointed by the Owner for this purpose.

3.0 INSTALLATION

3.1 Hollow Core Bar Installation (if required)

Set the bar on an appropriate drill rig. Start pumping the grout to assure that grout will exit drill bit.

Proceed with rotary drilling and flushing approx. three feet per min (depending on ground condition). Rotation speed should be approx. 60 to 120 RPM. To achieve higher friction values, advance and retract the bars several times for each 3.0 m (10 feet) length of bar installed in the bond zone.

The grout should be applied CONTINUOUSLY during drilling. A grout pump with at least 60 l/min volume and minimum 2 MPa (300 psi) pressure capacity (preferably 10 MPa, 1500 psi) should be used.

Refer to the manufacture's specifications and recommendations for more detail.

3.2 Anchors and shotcrete shall be installed in sequence and stages to maintain stability of the excavation. Excavation of soil from the site shall also take place in stages. Stages shall not exceed 1.8 m (6 feet) vertical.

The Contractor may remove all soil within any mass excavation Stage before anchors in that Stage are installed but further excavation shall not take place until all anchored shotcrete in that Stage is installed and approved by the Engineer.

The mass excavation for any Stage does not include a perimeter berm with a minimum top width of one metre and a side slope of 1 horizontal to 1 vertical.

Ground conditions may locally require a wider berm, flatter slopes and/or other slope protection measures including covering or short-term temporary support.

The perimeter berms in any stage shall be excavated in staggered panels. THE MAXIMUM WIDTH OF A PANEL SHALL BE THE HORIZONTAL SPACING OF THE ANCHOR PLUS 0.6 M (2 FEET). This panel width may be INCREASED OR DECREASED by the Engineer's agreement, in writing, BEFORE increasing the panel width.

No adjacent panels shall be excavated concurrently and no more than 1/3 of the panels shall be excavated concurrently. In addition no panel shall be excavated into the berm until at least 24 hours after that panel anchor has been grouted.

Anchors and shotcrete may be installed concurrently in different panels. Anchors shall be installed at right angles to the property lines on plan and within 2.5 degrees of the declination shown on the Drawings except with the prior approval of the Engineer.

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 24 2024

GEOPACIFIC CONSULTANTS	DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT VIDAL STREET, WHITE ROCK, B.C. GENERAL NOTES	15514
	M.S.	K.B.	Z.O.		G-2 (sheet 1 of 2)
	AS SHOWN				

3.3 Immediately following excavation of the soil berm in a panel the excavated face shall be trimmed back to the required line and mesh reinforcement shall be fixed to the soil to ensure the minimum specified shotcrete cover. Shotcrete shall be applied without delay to thicknesses shown on the Drawings.

Shotcrete panels shall be kept moist to aid curing by spraying with water and covering with sacking or polyethylene sheeting.

Sufficient wire mesh reinforcement shall be installed to provide a full strength overlap with adjacent panels. This overlap shall not be less than 200 mm (8 inch).

The end surfaces of panels shall be thoroughly cleaned with compressed air to ensure a full strength bond when adjacent panels are shotcreted.

3.4 Drains to relieve groundwater pressure shall be installed through the shotcrete. Drains shall be a minimum of 50 mm (2 inches) diameter and at normal 3.0 m (10 feet) centres horizontally and 1.5 m (5 feet) centres vertically. The Contractor shall install filters in drains as fines are being removed with the water.

Additional special drains may be required where water seeps are noted. This special drains shall consist of minimum 50 mm (2 inches) diameter perforated ABS pipe installed within 75 mm (3 inches) diameters holes drilled 5 degrees UPWARDS from the 3 metres (10 feet) measured from the face of the shotcrete. These special drains may be required to be filtered with fine sand or gravel or filter fabrics.

3.5 Anchors shall be tensioned as soon as practicable but no sooner than 24 hours after the construction of the applicable shotcrete panel. Anchors shall be tensioned and tested as follows:

3.5.1 Apply a proof load of 1.33 times the lock-off load for two minutes. Monitor the load in the anchor. If the reduction in load is less than 2.5 percent of proof load reduce the load to lock-off load and lock the working load into the anchor.

3.5.2 If the anchor does not hold at least 133 percent of lock-off load for two minutes the Engineer must be informed. Further testing in the presence of the Engineer will required as follows:

Load the anchor in 22 kN (5 kip) increments to 130.5 percent of lock-off load. Hold each increment for 5 minutes except at maximum load when the load shall be maintained for 100 minutes. The increase in length of the anchor shall be measure at the start and end of each load increment except at maximum load when the extension shall be measured at 5 minutes intervals.

This information shall be utilized by the Engineer to deduce the utilized anchor length and to assess the creep characteristics.

Anchors which creep more than 2 mm (0.08 inch) per log cycle of time will not be accepted. The Contractor shall install replacement anchors at the Contractor's expense.

4.0 SHOTCRETE REMOVAL/ANCHOR DETENSIONING

4.1 All excavation and support works within the CITY OF WHITE ROCK shall be in strict accordance with the City's requirements.

4.2 Anchor rods within 1.5m of the surface or within 1.0m of any underground utility are to be removed. Anchors rods not removed to be detensioned or fully grouted when no longer required in the opinion of the Engineer.

4.3 Shotcrete placed on Municipal rights-of-way to be removed to depth of 1.5m below the surface or within 1.5m of any utility removed to 1.0m below the utility.

5.0 BACKFILLING ON AND ADJACENT TO CITY PROPERTY

5.1 Backfill material and placing within Municipal rights-of-way to meet City specifications.

6.0 REQUIRED INSPECTIONS

6.1 The following are the MINIMUM inspections which are required by the Geotechnical Engineer. The Contractor is responsible for informing the Geotechnical Engineer that the Work is ready for these inspections. The Contractor shall be liable for any loss caused by failure to inform the Geotechnical Engineer that the Work is ready for inspection.

1. 2 days before work commences on site.
2. 1 day before the anchors are detensioned.
3. 2 days before backfilling commences.
4. 1 day before shotcrete removal.

6.2 Daily Inspection is required during installation of anchors, and full time inspection is required during anchor testing.

7.0 CONTRACTOR QUALIFICATION

7.1 Temporary works and shoring installation is highly sensitive to processes including sequence of installation, quality and quantity of materials used, monitoring of the works and other factors. Consequently a high degree of skill and professionalism is required for its successful implementation. As a result, all contractors considered for tender of the shoring work described in the Design Drawings must be approved by the Engineer in advance of tender. The work must be carried out only by a shoring contractor with experience and expertise in shoring construction. The contractors experience and expertise must be with projects of similar size and scope to that shown in the Design Drawings. The following shoring contractors are permitted to undertake the work:

- Matcon Canada
- Bel Pacific Excavation & Shoring
- Vancouver Shotcrete
- Power Shotcrete Shoring LTD.
- Mainland Excavation & Shoring ltd.
- Terra Contracting Ltd.
- Foundations West Construction ULC
- B&B Contracting Group

7.2 The preceding list does not express or imply any guarantee or warranty of the contractor's performance. It is the responsibility of the contractor to undertake the work shown on the Design Drawings.

7.3 Shoring contractors other than those listed above may be considered by the Engineer only with submission of references and qualifications for at least 10 projects of similar size and scope. GeoPacific reserves the right to accept or reject the qualifications of any shoring contractor.

NOTES:

1. The excavation support design is based on the locations of adjacent structures and utilities which have been supplied. The Contractor shall confirm the locations and elevations of all foundations and utilities which may be affected by the work and raport any discrepancies to GeoPacific Consultants Ltd. (Tel.: 439-0922)
2. All slopes shall be covered with secured polyethylene sheeting to prevent erosion.
3. The extent of the excavation shall be based on the Architectural and Structural Drawings. The Contractor shall confirm the size of the excavation required by the basement and report any discrepancy with these Drawings to GeoPacific Consultants Ltd.
4. The Contractor must obtain prior permission in writing to carry out any work on adjacent private property.
5. The Contractor shall inform GeoPacific Consultants Ltd. of any surcharge loads which will be within half the height of the excavation from the top of the excavation so that the support system can be modified to support the additional loads. The Contractor shall also inform GeoPacific if and when any groundwater seepages occur which may require additional special drains as outlined in Note 3.4, Drawing G-2.
6. The ground conditions must be confirmed by GeoPacific Consultants Ltd. when the excavation is 4 feet deep. The Contractor is responsible for ensuring that GeoPacific personnel inspect the site.

DRAWING LIST:

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EGBC
1000782

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
K. J. L. BODNAR
37915

APR 2 4 2024

GEOPACIFIC CONSULTANTS

DECEMBER 12, 2023			PROPOSED RESIDENTIAL DEVELOPMENT	15514	
M.S.	K.B.	Z.O.	VIDAL STREET, WHITE ROCK, B.C.	G-2 (sheet 2 of 2)	
AS SHOWN			GENERAL NOTES		

GEOPACIFIC
CONSULTANTS

P (604) 439 0922
geopacific.ca
1779 West 75th Avenue
Vancouver, B.C. V6P 6P2

TRANSMITTAL

MAILING ADDRESS: WS Vidal Properties LP 315-13338 Central Avenue Surrey, B.C. V3R 0M3	**FROM:** Helen McGhee **SIGNING ENGINEER:** Kevin Bodnar
ATTENTION: Krista Baronian	**DATE:** 2024-06-26
EMAIL TO: krista@wsgroup.ca jay@wsgroup.ca **CC:** nav@wsgroup.ca EOR: bodnar@geopacific.ca helen.mcghee@geopacific.ca	**REFERENCE/FILE:** 15514

Please find the enclosed items. If you have any questions or require additional information, do not hesitate to contact us. Thank you.

DRAWINGS	# OF COPIES	COMMENTS
	-	
LETTERS/REPORTS	**# OF COPIES**	**COMMENTS**
Shoring Drawings	PDF only	Hard Copies available upon request
SCHEDULES	**# OF COPIES**	**COMMENTS**
	-	
OTHER	**# OF COPIES**	**COMMENTS**
	-	

VAN DER ZALM + ASSOCIATES

Memo

Date:	June 28, 2024
VDZ Project File No.:	DP 2018-59
Project Name:	Vidal Street Development
Site Address:	14937 Thrift Ave & 1441/1443-45/1465 Vidal
Consulting Arborist:	D. Glyn Romaine - VDZ + A Consulting Inc.
Attention:	Stephen Heller VDZ + Associates Krista Baronian WestStone Group Jay Lin WestStone Group City Staff City of White Rock
	4
Subject:	**Arborist Report Concerns received via email from Neethu Syam – May 31, 2024**

This memo provides a response to the following comments from the City of White Rock:

I. **On-Site Trees**

1. An updated Arborist report that reflects the impact of shoring on privately owned neighbouring trees - Arborist report prepared by Van der Zalm + Associates (dated Revision 4, Sept 26, 2023) is missing comments regarding the impact of underpinning will have on the trees.
2. In the Arborist report, it states tree OS4 will have 24% of CRZ impacted, OS5 will have 27% of CRZ impacted, OS7 will have 6% of CRZ impacted and OS8 will have 25% of CRZ impacted. However, on the *tree protection and removal plan* drawings, it appears that all critical root zones are shown within the Tree Protection Barriers and that they are not to be disturbed. Please clarify if the percentage of impact (noted above) is to the root system within the crown radius/dripline **OR** if the impact is to the root system within the CRZ.
3. Please clarify the legend on the Tree Protection and Removal Plan drawings as there appears to be some confusion in how the same is used in the drawing. In particular, the CRZ and CR legend items.
4. Will there be work within the Tree Protection Barriers – please clarify.
5. Update the shoring drawings to show where and how the underpinning will impact the trees.

VDZ+A Project Arborist Response:

1. The Project Arborist has reviewed the shoring drawings and geotechnical report prepared by GeoPacific Consultants. The geotechnical report indicates a dense to very dense till layer beginning at depths of between 0.9 to 1.4 m. This layer is

likely to act as a root restricting layer and roots critical to tree health and stability are not expected to be present at these depths. Shoring anchors will be installed starting at 1.5 m depth and will have negligible impact on the offsite retained trees.
The project arborist must be present for any work activity within 1.5 m of the Tree Protection Zone and will be present during excavation to mitigate any impacts to retained trees. The report dated June 27, 2024 as been updated to include comments on this.

2. These calculations and statement were pulled from the BC Plant Health Care root radar results, and are based on a previous site plan where the parkade outline was significantly closer to the property line. These notes have been adjusted to only include relevant findings of the radar scan. Critical root zones will remain intake, with potentially minor disturbance (<0-3%) of OS4 and OS8.
3. The CRZ and CR legend is aligned. However, a larger icon has been included for additional clarity.
4. There will be no work within the Tree Protection Barriers. If any disturbance activities are within 1.5 m of the TPZ, then Arborist presence is required for monitoring.
5. The Project Arborist has worked with geotechnical consultant to revise their shoring drawings. Please refer to the updated shoring drawings.

If you have any further questions or concerns regarding this report, please contact VDZ+A Consulting Inc. at 604-882-0024.

Sincerely,

D. Glyn Romaine TFT
ISA Certified Arborist PN-7929A
ISA Tree Risk Assessment Qualification

We understand that the city prefers that tradespeople avoid using local street parking. To reduce inconvenience to neighbors, we will direct tradespeople to park a few blocks away from the site in various directions. We will also be providing parking passes obtained from centennial arena for the use of larger sized trades for parking. Once the underground parking garage is completed, tradespeople will be permitted to park on site in the new facility.

PEDESTRIAN WALKWAY

TEMP. TREE PROTECION

HOARDING AND COVER FOR PEDESTRAN PROTECTION AND SUPPORT FOR THE TRAILERS ABOVE. WITH SIGNIA SIGNAGE ON THE COVER

PEDESTRIAN WALKWAY

VIDAL STREET

FIRE TRUCK ACCESS ROUTE. MUST BE DESIGNED TO SUPPORT A MINIMUM WEIGHT OF 36,287 KG (80,000 LBS)

SITE TRAILER 3

SITE TRAILER 2

SITE TRAILER 1

GATE 2

GATE 1

NEW PROPOSED FIRE HYDRANT

MAIN ENTRANCE STAIR

RAMP BIKE ACCESS

T.O 11.16m (36'7")

FIRST AID OFFICE

SEACAN

ESC

TEMP. WATER

POWER

CRANE/ CRANE REACH

NEW PROPERTY LINE

SETBACK LINE

PROVIDED SETBACK

PROTECTION ZONE

TREE PROTECTION ZONE

PARKADE RAMP DN

LOADING ZONE 3.66 m X 10.06 m (12'-0" X 32'-10")

PMT

PARK AREA 830 sf

LAYDOWN AND DELIVERIES

MAIN ENTRANCE 1ST FLOOR

6 STOREY BUILDING

BUILDING AREA = 16,516 SF

PARKADE EXHAUST SHAFTS, C/W STEEL SECURITY GRATE

P/L (126.9 m) 0° 00' 00"

P/L (33.2 m) 89° 11' 42"

P/L (84.4 m) 0° 03' 54"

P/L (42.6 m) 0° 06' 01"

P1 LEVEL EXIT

P/L (13.7 m) 89° 24' 48"

P/L (19.3 m) 89° 20' 57"

FACING PARK AND ADJACENT APARTMENT BUILDING

THRIFT AVENUE

FACING TOWNHOUSES ON THIS SIDE OF THE BUILDING

5.71 m	69.17 m	7.06 m	19.43 m		
18'-8 3/4"	226'-11 3/8"	23'-2"	63'-9"		
101.37 m					
332'-7"					
P1	2	5	P6	7	

1.49 m	31.95 m	33.48 m	11.48 m	6.03 m	
4'-10 5/8"	104'-10"	109'-10"	37'-8"	19'-9 1/2"	

keystonearch.ca

VIDAL STREET DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.

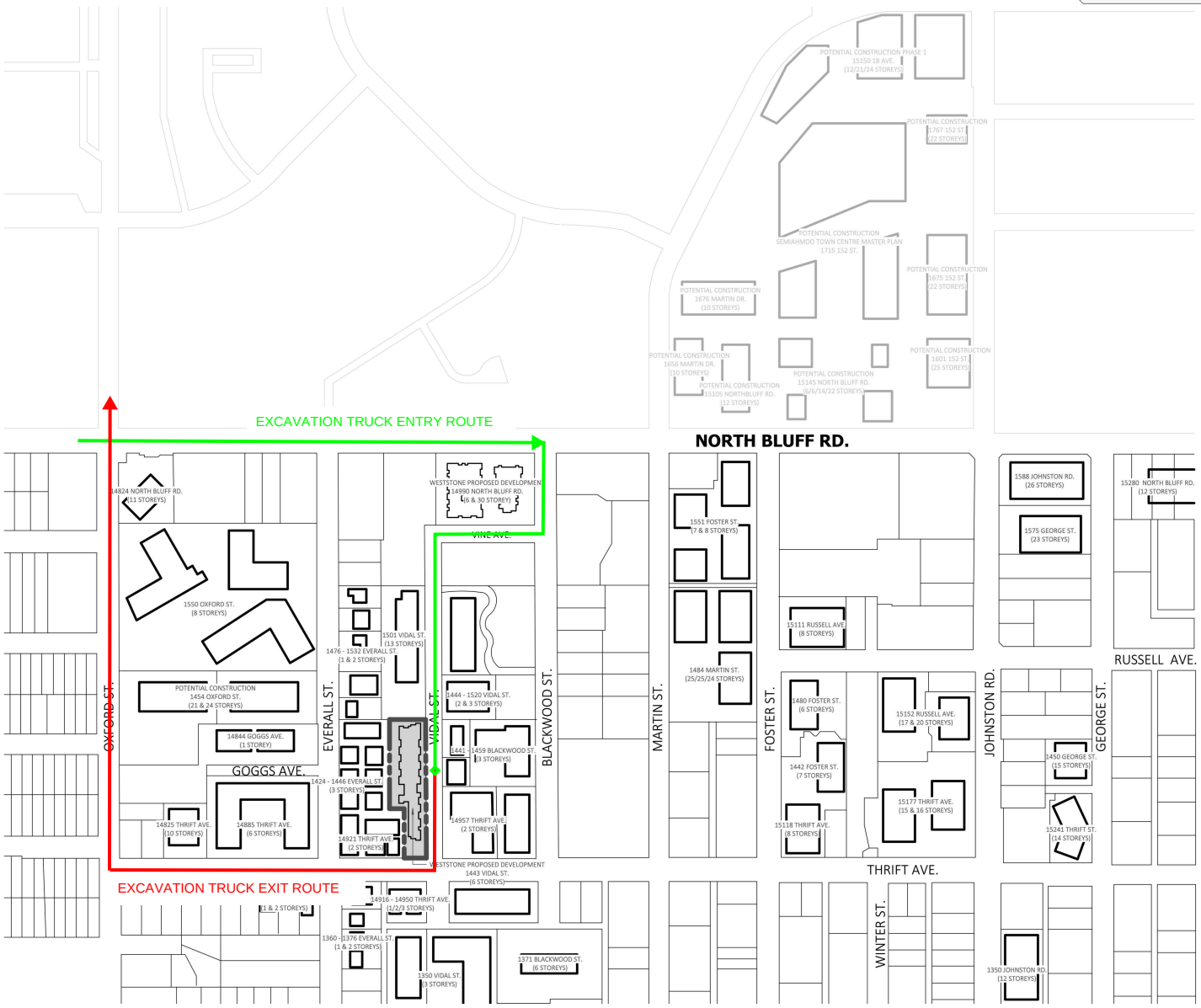
SITE PLAN
SCALE: 1/16" = 1'-0"

RE-ISSUED FOR DEVELOPMENT PERMIT
23-03-08 REVISION #:
PROJECT NUMBER: 17-170

2023.03.08

WESTSTONE GROUP

SD1.20



SEMIAHMOO TOWN CENTRE MASTER PLAN (POTENTIAL CONSTRUCTION IN SURREY)

1454 OXFORD ST. (POTENTIAL CONSTRUCTION)

1484 MARTIN ST. (CONTINUING CONSTRUCTION)

1588 JOHNSTON ST. (CONTINUING CONSTRUCTION)

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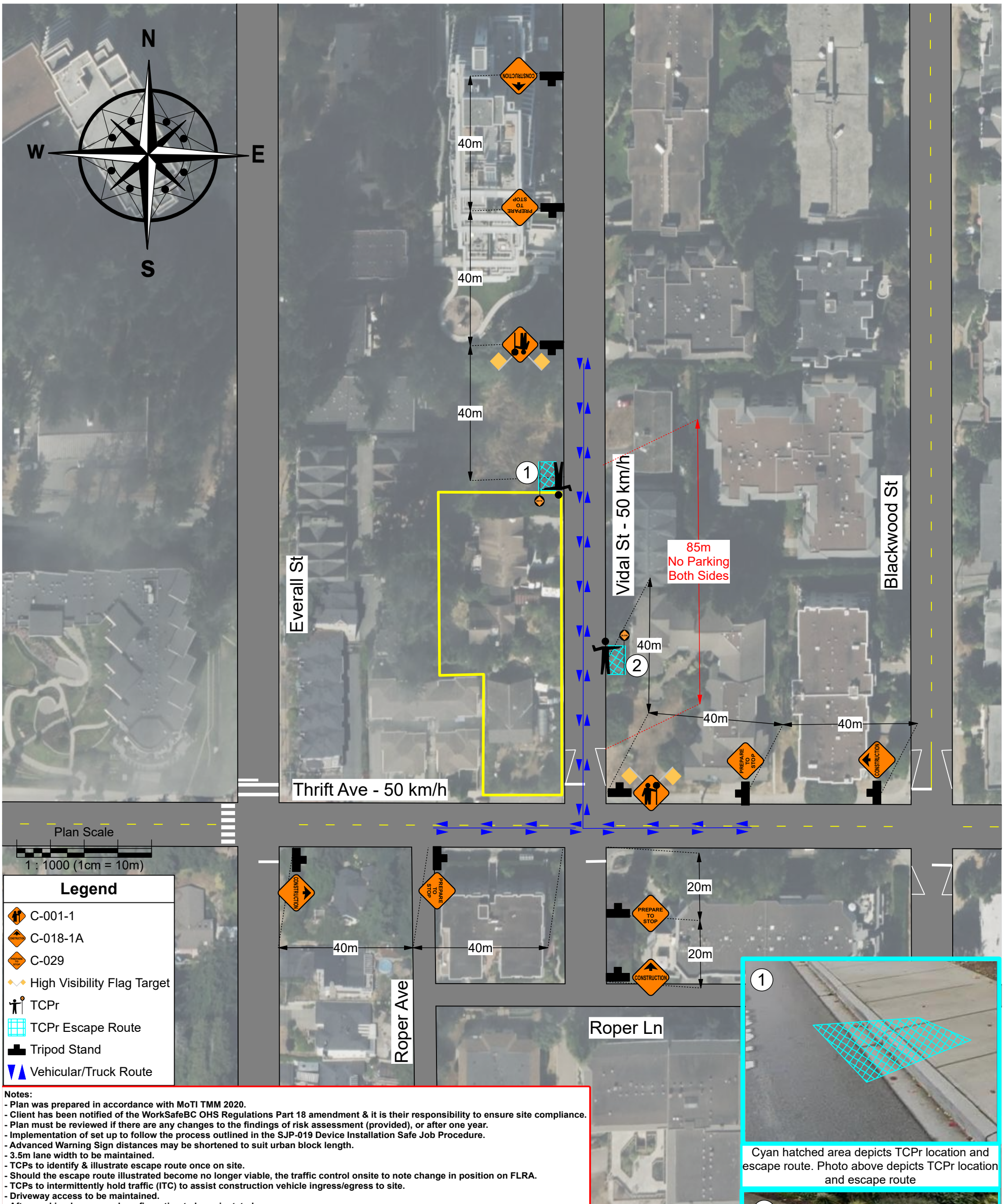
VIDAL STREET DEVELOPMENT
VIDAL STREET, WHITE ROCK, B.C.

NEIGHBOURHOOD PLAN
SCALE: N.T.S.

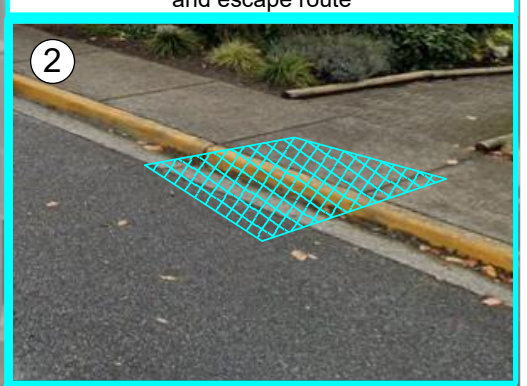
RE-ISSUED FOR DEVELOPMENT PERMIT
23-03-08 REVISION #:
PROJECT NUMBER: 17-170

WESTSTONE GROUP

SD0.03



Cyan hatched area depicts TCPr location and escape route. Photo above depicts TCPr location and escape route



Cyan hatched area depicts TCPr location and escape route. Photo above depicts TCPr location and escape route

Notes:
- **Plan was prepared in accordance with MoTI TMM 2020.**
- **Client has been notified of the WorkSafeBC OHS Regulations Part 18 amendment & it is their responsibility to ensure site compliance.**
- **Plan must be reviewed if there are any changes to the findings of risk assessment (provided), or after one year.**
- **Implementation of set up to follow the process outlined in the SJP-019 Device Installation Safe Job Procedure.**
- **Advanced Warning Sign distances may be shortened to suit urban block length.**
- **3.5m lane width to be maintained.**
- **TCPs to identify & illustrate escape route once on site.**
- **Should the escape route illustrated become no longer viable, the traffic control onsite to note change in position on FLRA.**
- **TCPs to intermittently hold traffic (ITC) to assist construction vehicle ingress/egress to site.**
- **Driveway access to be maintained.**
- **After working hours, road configuration to be re-instated.**

UNIVERSAL
TMP DEPARTMENT

Date: April 25, 2024 **Author:** Marley Futerko 604-444-3732 Ext. 337 SN#4504 **Project:** AT-04
The Universal Group: 9770 199A St Langley, BC V1M 2X7 **Office:** 604-444-3799 **Fig:** ITC
Dwg: 001

Comments:

Signia Construction
Jason Corbett 604.396.5802

City of White Rock
Job location: 14937 Thrift Ave & Vidal St
Closure description: Intermittent Traffic Control (ITC)
Job description: Truck Ingress/Egress
Tentative date and hours: TBD
Traffic Plan based on a 50 km/h speed zone
Traffic specifications based on the Traffic Management Manual for Work on Roadways 2020

MEMORANDUM

JENSEN HUGHES

Project	Vidal St. Development, White Rock BC		
Subject	Approach to Code Compliance	From	Bruce Campbell
File #	4V2003700	Direct	604-260-6800
Date	June 26, 2024	E-mail	bruce.campbell@jensenhughes.com

To	CC	Company	Attention	Via
☒	☐	Keystone Architecture	Lukas Wykpis	Email
☒	☐	Weststone Group	Jay Lin	Email
☐	☐			
☐	☐			
☐	☐			

Introduction

The project involves construction of a new 139-unit market residential building in White Rock BC. The complex consists of two wood-framed buildings separated by a firewall, overtop of a tiered parkade below grade.

Building Information & Construction Requirements

North Building

Building Height:	6 Storeys
Building Area:	Approx. 900 m^2
Major Occupancy:	Group C
Construction Type:	Combustible

O: +1 604-732-3751

Jensen Hughes Consulting Canada Ltd.
1195 West Broadway | Suite 228
Vancouver, BC V6H 3X5 CANADA

jensenhughes.com

South Building

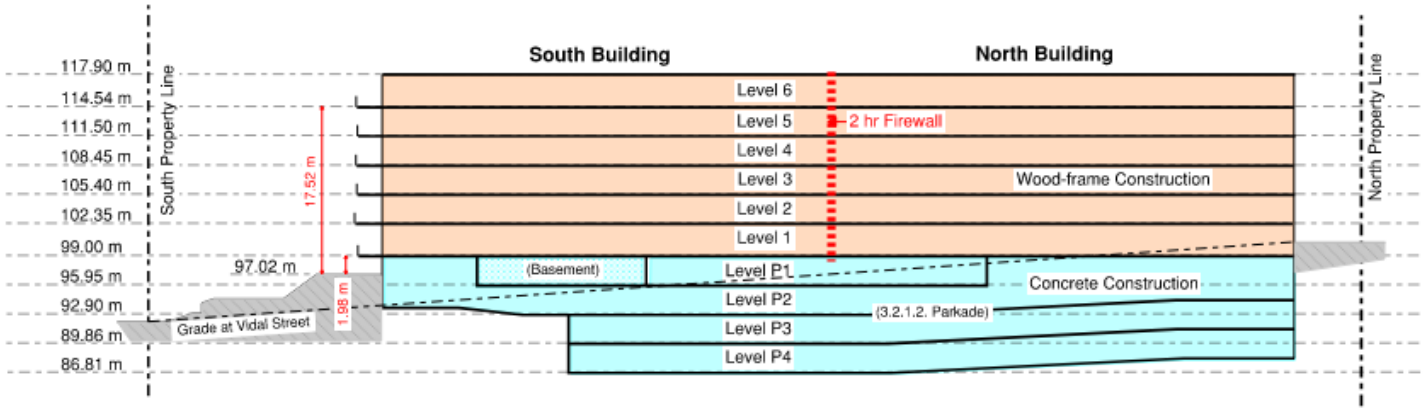
Building Height:	6 Storeys
Building Area:	Approx. 600 m^2
Major Occupancy:	Group C
Construction Type:	Combustible

Building Height

The building site is slopes down approximately 7 m from north to south. At the north end, the Level 1 floor is slightly below grade. At the south end, a level landscape area extends out 7 m from the building face then slopes down to a small park/playground area at Thrift Avenue. The landscape area is built up above the natural grade line to diminish the visual impact of the south building face. The NBCC User's Guide provides guidance on the evaluation of grade and finished ground levels around buildings and required a reasonably level area to allow for the use of ladders and the deployment of fire fighters. The landscape area at the south end of the building provides sufficient area to allow for firefighting operations and is considered to meet the intent of the Code requirements for determination of average grade.

Grade, for purposes of calculating building height, is taken at the south face of the building. Localized depressions for vehicle access to the parkade, the loading bay and the pedestrian walk on the west side of the building are excluded from the calculation. The calculated average grade is 97.02 m which is the finished level of the landscape area.

The Level 1 floor elevation is 99.00 m, which is 1.98 m above *grade*. In conformance with the Code definitions for *grade* and *first storey*, Level 1 is the *first storey* of the building and the building is classified as being 6 storeys in height.



east perspective elevation

Construction Requirements

The residential buildings are regulated by 2024 BCBC Article 3.2.2.51. Group C, up to 6 Storeys, Sprinklered.

- The buildings are permitted to be of combustible construction
- Floor assemblies will be constructed as fire separations providing at least a 1 hour fire rating.
- The height from the floor of the first storey to the floor of 6th floor is not more than 18 m.
- The height from the floor of the first storey to the highest point of the roof is not more than 25 m.

Parkade as a Separate Building

Parking Levels P1 through P4 are constructed in conformance with BCBC Article 3.2.1.2. Storage Garage as a Separate Building. The parking levels are of concrete construction providing at least a 2 hour fire rating. Service penetrations through the concrete floor slab immediately above the parking levels will be protected by 2 hour FT rated firestop systems.

In the South Building, the P1 floor level south of the firewall contains residents' amenity space. This area is classified as a basement of the South Building and is separated from the parking levels in conformance with Article 3.2.1.2. BCAB Decision #1747 reviewed this arrangement and deemed it to be code compliant.

Firewall Construction

The residential buildings are subdivided by a 2 hour firewall. The firewall extends continuously from the top of the 3.2.1.2. parking garage slab up through all storeys to form a minimum 150 mm parapet above the roof. The firewall will be of masonry or concrete construction providing at least a 2 hour fire rating. Service penetrations through the firewall will be protected by 2 hour FT rated firestop systems.

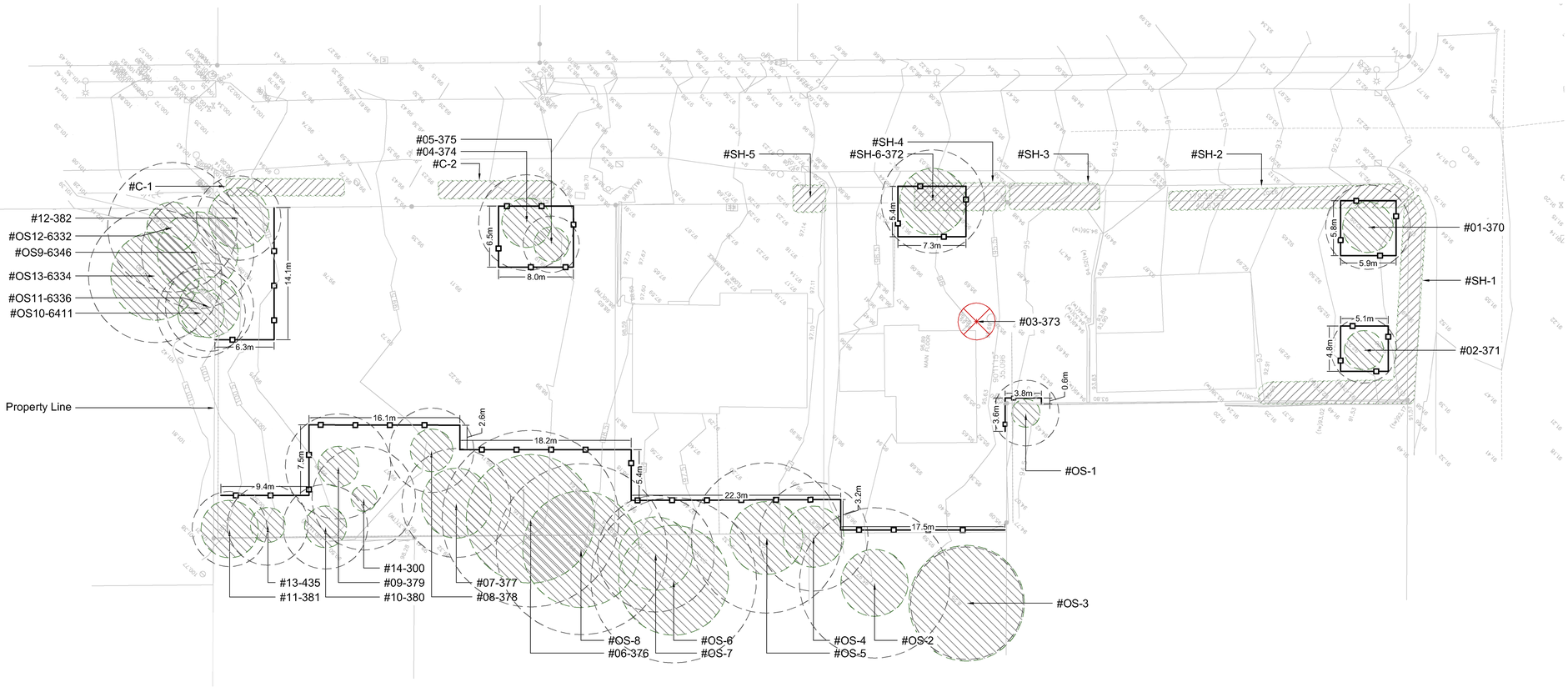
High Building Requirements

The Level 6 floor level is 17.52 m above *grade*, and BCBC Section 3.6. High Buildings does not apply to this project.

Fire Department Access

Ther main lobby entrance facing Vidal Street is the primary fire department response point. Vidal Street provides vehicle access to within 15 m of the main entrance. A new fire hydrant is proposed on Vidal Street, just south of the main entrance.

The main lobby entrance is located in the South Building. An additional entrance directly into the North Building is provided at Exit Stair #2. Access to all floor levels is provided by internal stairs accessible from each building entrance.



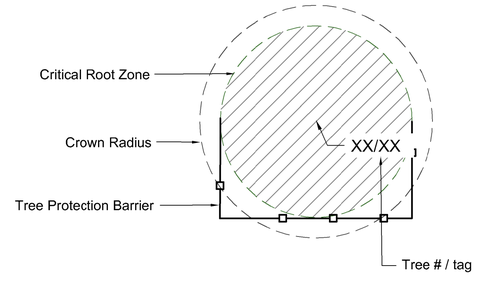
1 TREE PROTECTION AND REMOVAL PLAN

Scale 1:250

LEGEND

Tag # / CRZ CR		
Existing Tree to be Retained CRZ: Critical Root Zone CR: Crown Radius	Existing Tree to be Removed	Tree Protection Fencing

Tree Tag Legend
XX - Tag number
C-XX - Municiple tree
OS-XX - Off-site tree
SH-XX - Straddling tree. Written permission required from owner to remove trees.



Consolidated Version - White Rock Tree Management Bylaw, 2008, No. 1831
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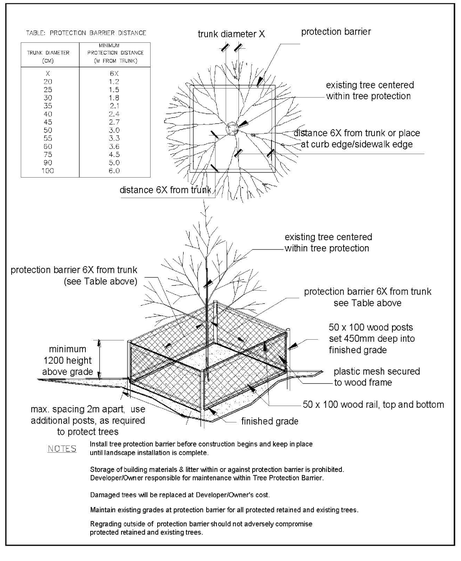
SCHEDULE "A"

Specifications for Tree Protection Barriers

TABLE: PROTECTION BARRIER DISTANCE

TRUNK DIAMETER (DX)	MINIMUM PROTECTION DISTANCE (X FROM TRUNK)
X	6X
20	1.2
25	1.5
30	1.8
35	2.1
40	2.4
45	2.7
50	3.0
55	3.3
60	3.6
75	4.5
90	5.0
100	6.0



NOTES

Install tree protection barrier before construction begins and keep in place until landscape installation is complete.

Storage of building materials & litter within or against protection barrier is prohibited. Developer/Owner responsible for maintenance within Tree Protection Barrier.

Damaged trees will be replaced at Developer/Owner's cost.

Maintain existing grades at protection barrier for all protected retained and existing trees.

Regrading outside of protection barrier should not adversely compromise protected retained and existing trees.

2 TREE PROTECTION FENCE

Scale NTS

Note:

1. Contact Arborist (Glyn Romaine, 604 841 9977, glyn@vdz.ca) for inspection 72 hrs prior to any grading or excavation within the tree protection zone. (typ) If during excavation it is found that it cannot be completed without severing roots that are critical to the trees health or stability it may be necessary to remove additional trees.
2. Read this plan together with the arborist report prepared by VDZ+A.
3. An additional 1m setback is shown for all hand-plotted trees to be retained
4. If Stump Grinding is to occur in close proximity to trees which are to be retained then it is requested stumps to be removed under Arborist supervision.
5. It is the responsibility of the client or his/her representative to contact the project arborist for the purpose of:
   - 5.1. *Locating TPZ Fencing
   - 5.2. *Locating Work Zone and Machine access corridors where required
   - 5.3. *Reviewing the Report with the project foreman or site supervisor.

VDZ+A
LANDSCAPE ARCHITECTURE | CIVIL ENGINEERING | URBAN FORESTRY

FORT LANGLEY STUDIO | **MOUNT PLEASANT STUDIO**
102-9181 Church St | 102-355 Kingsway
Fort Langley, BC | Vancouver, BC
V1M 2R8 | V5T 3J7
www.vdz.ca 604-882-0024

No.	By:	Description	Date
14	SS	Re-Issued for DP	July 13, 2023
13	SS	Issued for DP	March 08, 2023
12	SH	Issued for Planning Review	May 31, 2022
11	SH	Issued for DP	Oct 18, 2021
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2	SH	Issued for DP	May 24, 2019
1	JW	Issued for DP Review	Nov 16, 2018

REVISIONS TABLE FOR DRAWINGS

No.	By:	Description	Date
9	AL	Demolition Plan	Jun. 27, 2024
8	AL	Plan Revision	Jun. 6, 2024
7	AL	Plan Revision	Sept. 26, 2023
6	GR	Arborist Report Update	Sept. 26, 2023
5	SH	Arborist Response	Sept. 26, 2022
4	KM	Arborist Report Revision	Sept. 23, 2020
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REVISIONS TABLE FOR SHEET

Project:

Vidal Street Development

Location:

Vidal Street & Thrift Ave,
White Rock, BC

Drawn: DV	Stamp:
Checked: SH	
Approved: GR	Original Sheet Size: 24"x36"
Scale: 1:250	CONTRACTOR SHALL CHECK ALL DIMENSIONS ON THE WORK AND REPORT ANY DISCREPANCY TO THE CONSULTANT BEFORE PROCEEDING. ALL DRAWINGS AND SPECIFICATIONS ARE THE EXCLUSIVE PROPERTY OF THE OWNER AND MUST BE RETURNED AT THE COMPLETION OF THE WORK. ALL REZONING/DP/PPA/THA/BP DRAWINGS MUST NOT BE PRICED FOR CONSTRUCTION UNLESS LABELED ISSUED FOR TENDER/CONSTRUCTION.

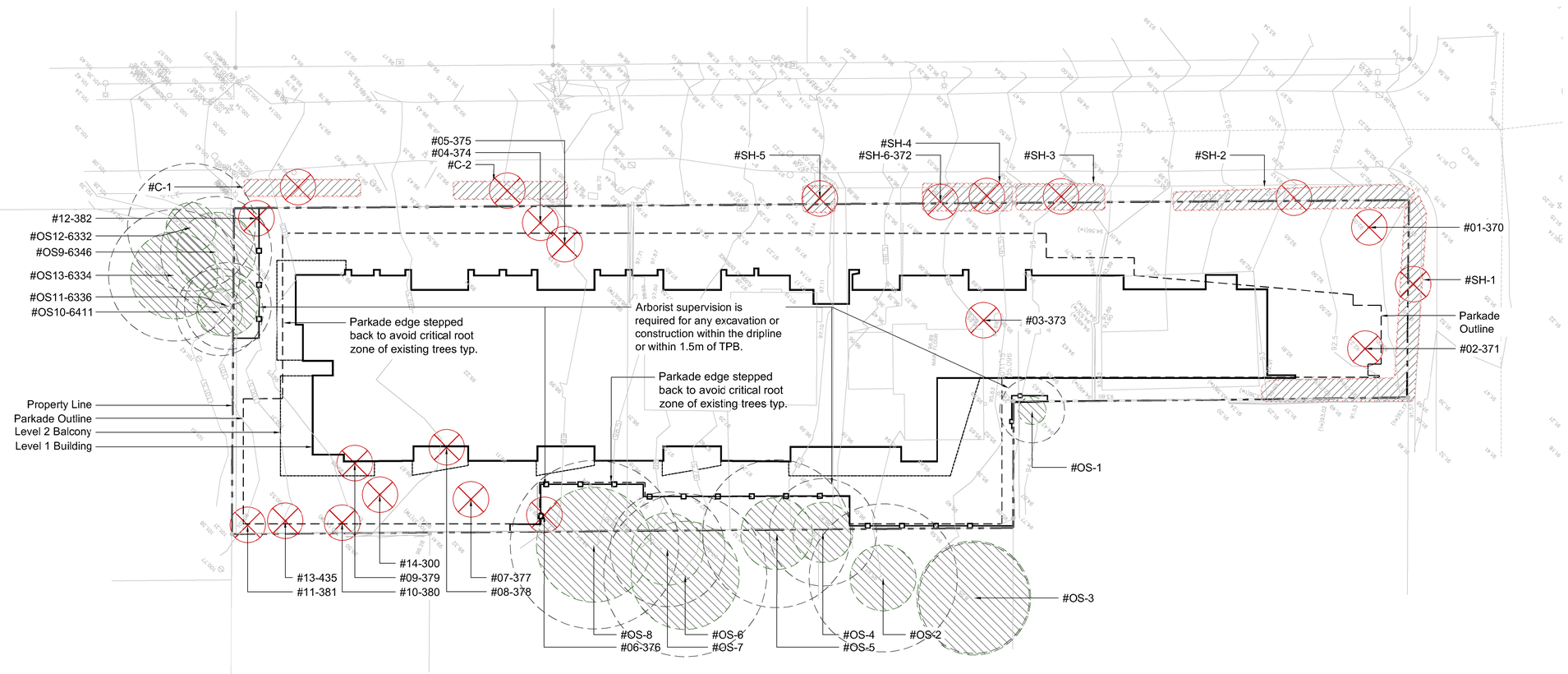
Drawing Title: DEMOLITION PLAN

VDZ Project #: DP2018-59

Drawing #: L-02

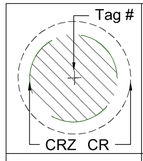
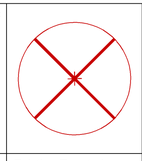
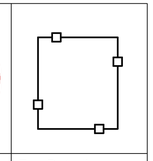
NORTH

Z:\PROJECTS\DEVELOPMENT PERMIT\ACTIVE\DP2018-59 VIDAL STREET\DWGS\SHEETS\L-02 TREE PROTECTION AND REMOVAL PLAN_DEMOLITION.DWG



1 TREE PROTECTION AND REMOVAL PLAN
Scale 1:250

LEGEND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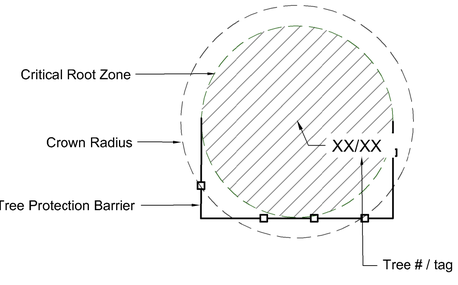

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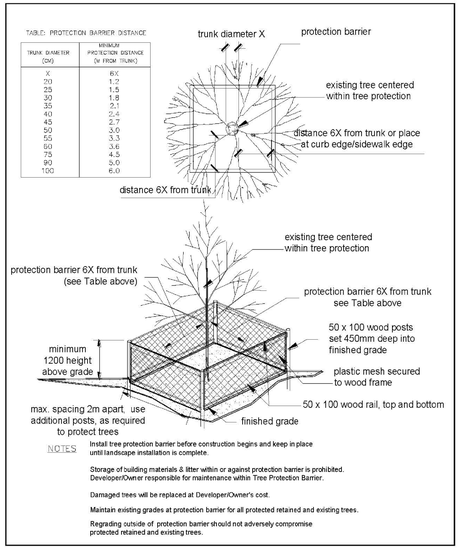

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Original Sheet Size: 24"x36"
Scale: 1:250

Drawing Title: TREE PROTECTION AND REMOVAL PLAN
VDZ Project #: DP2018-59
Drawing #: L-02

Land Title Act

Charge

General Instrument – Part 1

1. Application

Hamilton Duncan Law Corporation
1450-13401 108th Avenue
Surrey BC V3T 5T3
6045814677

S. 219 Covenant - Tree Protection

2. Description of Land

PID/Plan Number	Legal Description
007-223-480	LOT 41 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 35379
001-267-744	STRATA LOT 1 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236
029-484-413	LOT 1 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN EPP46879
001-267-761	STRATA LOT 2 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236
007-208-677	LOT 8 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 13684

3. Nature of Interest

Type	Number	Additional Information
COVENANT		S. 219 - Tree Protection
PRIORITY AGREEMENT		Granting Priority over Mortgage No. CB904727 and Assignment of Rents No. CB904728
PRIORITY AGREEMENT		Granting Priority over Mortgage No. CB952860 Assignment of Rents No. CB952861

4. Terms

Part 2 of this instrument consists of:

(b) Express Charge Terms Annexed as Part 2

5. Transferor(s)

WS VIDAL PROPERTIES HOLDINGS LTD., NO.BC1163846

BANCORP BALANCED MORTGAGE FUND II LTD., NO.BC0856913

BANCORP GROWTH MORTGAGE FUND II LTD., NO.BC0856914

BANCORP FINANCIAL SERVICES INC., NO.BC0712503

VERSABANK

WEST LAKESIDE CAPITAL CO., LIMITED

6. Transferee(s)

THE CORPORATION OF THE CITY OF WHITE ROCK
15322 BUENA VISTA AVENUE
WHITE ROCK BC V4B 1Y6

7. Additional or Modified Terms

8. Execution(s)

This instrument creates, assigns, modifies, enlarges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**WS VIDAL PROPERTIES HOLDINGS LTD.** By their Authorized Signatory **Name:** **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**BANCORP BALANCED MORTGAGE FUND II LTD** By their Authorized Signatory **Name:** **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**BANCORP GROWTH MORTGAGE FUND II LTD.** By their Authorized Signatory **Name:** **Name:**

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	YYYY-MM-DD	**BANCORP FINANCIAL SERVICES INC.** By their Authorized Signatory **Name:** **Name:**

Officer Certification

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Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**VERSABANK** By their Authorized Signatory **Name:** **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**WEST LAKESIDE CAPITAL CO., LIMITED** By their Authorized Signatory **Name:** **Name:**

Officer Certification

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Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
	YYYY-MM-DD	**The Corporation of the City of White Rock** By their Authorized Signatory

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Electronic Signature

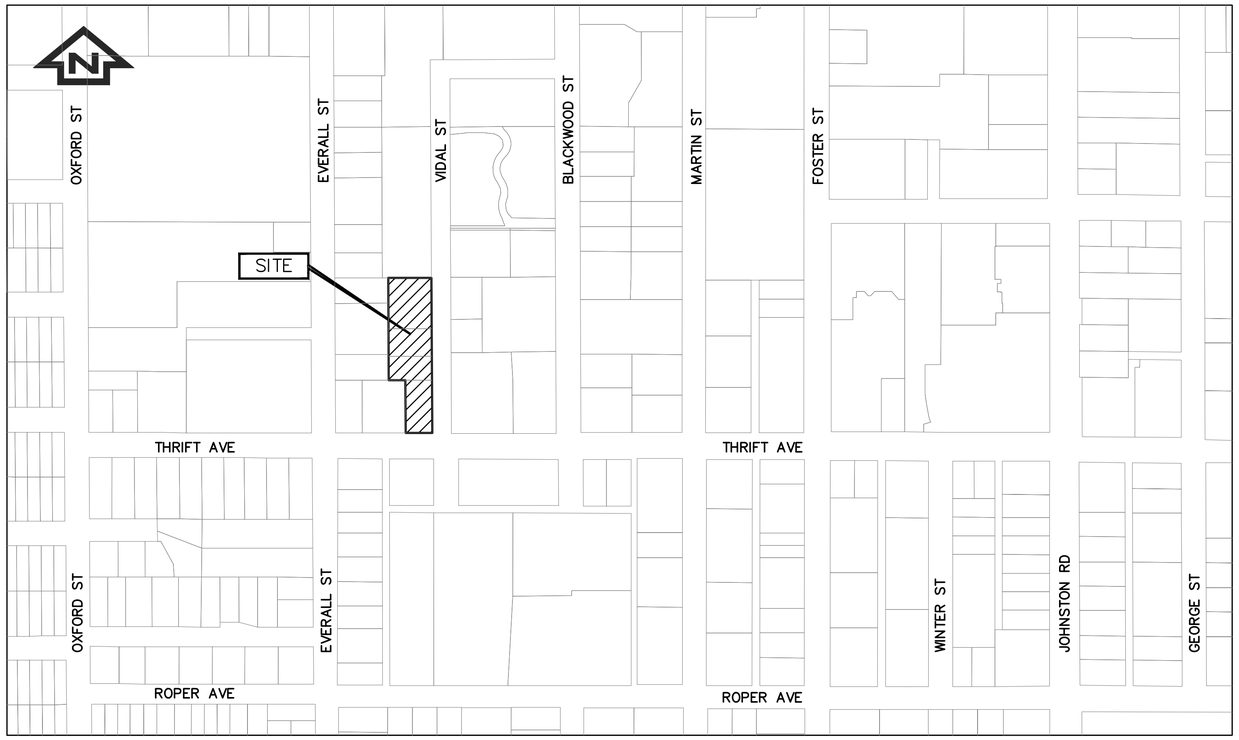
Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

City of White Rock
ENGINEERING SERVICES

VIDAL STREET-
MULTI UNIT RESIDENTIAL DEVELOPMENT

1441, 1443-45, 1465 VIDAL ST AND 14937 THRIFT AVE
WHITE ROCK. BC

WS VIDAL PROPERTIES LP



SITE PLAN
SCALE: 1:2500

DRAWING INDEX

DRAWING TITLE	DRAWING NUMBER
GENERAL NOTES	S19-0280/A-01
CONCEPTUAL KEY PLAN	S19-0280/A-02
CONCEPTUAL CROSS SECTION AND DETAILS	S19-0280/A-03
CONCEPTUAL STORM WATER MANAGEMENT PLAN	S19-0280/A-04
CONCEPTUAL SANITARY PLAN	S19-0280/A-05
EROSION AND SEDIMENT CONTROL PLAN	S19-0280/A-06

WEDLER ENGINEERING
www.wedler.com
EGBC PERMIT TO PRACTICE NUMBER: 1000196

THE WEDLER GROUP
- Abbotsford 1.604.746.0300
- Chilliwack 1.604.792.0651
- Courtenay 1.250.334.3263
- Surrey 1.604.588.1919

ISSUED FOR DP

GENERAL

1. FOR SITE DIMENSIONS, REFER TO LEGAL SURVEYOR'S PLANS. FOR BUILDING LAYOUT DIMENSIONS, REFER TO ARCHITECTURAL SITE PLANS.
2. ALL ELEVATIONS AND INVERTS ARE SHOWN IN METRES RELATED TO GEODETIC SURVEY OF CANADA.
3. ALL DIMENSIONS ARE SHOWN IN METRES, PIPE DIAMETERS ARE SHOWN IN MILLIMETRES
4. ALL WORKS, MATERIALS AND TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF WHITE ROCK STANDARDS, THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS AND THE B.C. PLUMBING CODE AS APPLICABLE.
5. THE CONTRACTOR SHALL PHOTOGRAPH, PRIOR TO CONSTRUCTION, ANY EXISTING FEATURES TO BE DISTURBED. THE CONTRACTOR SHALL RESTORE ALL DISTURBED PAVEMENT, CURBS, SIDEWALKS, LANDSCAPING, FENCES OR ANY OTHER FEATURES AFFECTED BY THE CONSTRUCTION WORKS TO ORIGINAL CONDITIONS OR BETTER, AND TO THE SATISFACTION OF THE CITY OF WHITE ROCK AND WEDLER ENGINEERING.
6. THE CONTRACTOR MUST CONTACT THE CITY OF WHITE ROCK AND WEDLER ENGINEERING PRIOR TO CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING DURING WHICH CONSTRUCTION METHODS, TIMING AND INSPECTIONS WILL BE DISCUSSED.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION LAYOUT.
8. CHANGES TO THE DESIGN MUST BE APPROVED IN WRITING BY WEDLER ENGINEERING. FAILURE TO NOTIFY WEDLER ENGINEERING IN ADVANCE OF CHANGES MAY RESULT IN REJECTION OF WORK.
9. SUBSTITUTION OF ANY MATERIAL SPECIFIED WITH A MATERIAL EQUAL OR BETTER IN QUALITY OR PERFORMANCE WILL BE PERMITTED ONLY WITH THE EXPRESS WRITTEN APPROVAL OF WEDLER ENGINEERING. WEDLER ENGINEERING'S DETERMINATION FOR THE "EQUAL OR BETTER" SHALL BE FINAL AND BINDING.
10. THE CONTRACTOR SHALL NOTIFY WEDLER ENGINEERING A MINIMUM OF 2 WORKING DAYS PRIOR TO REQUIRED INSPECTIONS INCLUDING, BUT NOT LIMITED TO THE FOLLOWING:
    a. DURING PIPE LAYING
    b. DURING PREPARATION OF PAVEMENT STRUCTURE
    c. TESTING OF ALL UTILITIES
    d. AFTER COMPLETION OF ALL WORK
11. TRENCHES ACROSS EXISTING PAVEMENT, CURBS, SIDEWALK AND BOULEVARDS SHALL BE REINSTATED IN COMPLIANCE WITH CITY OF WHITE ROCK SPECIFICATIONS AND MASTER MUNICIPAL CONSTRUCTION DOCUMENTS STANDARD DETAIL DRAWINGS AND ANY RECOMMENDATIONS OF THE GEOTECHNICAL ENGINEER.
12. THE CONTRACTOR SHALL MAINTAIN ALL MUNICIPAL AND STRATA ROADS PROVIDING ACCESS TO THE CONSTRUCTION SITE AND ARRANGE FOR ADEQUATE STREET CLEANING DURING TIMES OF CONSTRUCTION.
13. THE CONTRACTOR SHALL MAINTAIN SERVICES AND ACCESS TO EXISTING RESIDENCES AND BUSINESSES AT ALL TIMES. ANY DISRUPTIONS THAT ARE UNAVOIDABLE WILL REQUIRE A MINIMUM OF 48 HOURS NOTICE. AS A MINIMUM, SINGLE LANE TRAFFIC MUST BE MAINTAINED AT ALL TIMES. THE CONTRACTOR SHALL AT ALL TIMES IMPLEMENT AND MAINTAIN ADEQUATE TRAFFIC CONTROL TO ENSURE THE CONVENIENCE AND SAFETY OF THE TRAVELING PUBLIC, THE SAFETY OF THE WORKERS ON THE PROJECT AND THE PROTECTION OF THE WORK TO THE SATISFACTION OF WEDLER ENGINEERING AND THE CITY OF WHITE ROCK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPROPRIATE MEASURES TO ENSURE THE SAFETY OF PEDESTRIANS, CYCLISTS AND MOTORISTS, AND THE SECURITY OF THE WORK AREA DURING CONSTRUCTION. ALL EXCAVATION LEFT OPEN DURING NON-CONSTRUCTION AND UNSUPERVISED PERIODS SHALL BE ADEQUATELY FENCED AND BARRIERED.
14. PRIOR TO FINALIZING BUILDING SERVICE LOCATIONS, THE CONTRACTOR SHALL VERIFY AND CONFIRM WITH INSTALLED BUILDING PLUMBING AND COORDINATE WITH ARCHITECTURAL DRAWINGS.
15. CONTRACTOR SHALL ACCURATELY RECORD, ON A CURRENT SET OF PLANS, IN A NEAT MANNER, ALL CHANGES AND DELETIONS TO REFLECT THE "AS CONSTRUCTED" INSTALLATION, THIS SET OF PLANS SHALL BE MAINTAINED ON SITE, AND WILL BE REVIEWED PERIODICALLY DURING THE COURSE OF CONSTRUCTION. THIS SET OF PLANS SHALL BE RETURNED TO THE ENGINEER AT THE COMPLETION OF THE WORKS AND PRIOR TO THE ISSUANCE OF SUBSTANTIAL PERFORMANCE.
16. TRAFFIC CONTROL IS TO BE MAINTAINED AT ALL TIMES WHEN WORKING ON MUNICIPAL RIGHTS-OF-WAY (SIGNS, BARRICADES, FLAGPERSONS). A HIGHWAY USE PERMIT MUST BE OBTAINED FROM THE CITY OF WHITE ROCK ENGINEERING DEPARTMENT PRIOR TO WORKS WITHIN THE MUNICIPAL RIGHT-OF-WAY.
17. CONSTRUCTION IN AND ABOUT A WATERCOURSE MUST RECEIVE PRIOR APPROVAL FROM THE PROVINCIAL MINISTRY OF ENVIRONMENT AND/OR THE FEDERAL DEPT. OF FISHERIES AND OCEANS, WHERE APPLICABLE.
18. LEGAL SURVEY POSTS MONUMENTS ARE TO BE REPLACED IF DESTROYED OR DAMAGED DURING CONSTRUCTION; THIS WORK IS TO BE UNDERTAKEN BY A B.C. LAND SURVEYOR.
19. APPROVED PIT RUN MUST BE USED FOR BACKFILL IN TRENCHES WHEN INSIDE ROAD LIMITS, APPROVED NATIVE MATERIAL MAY BE USED AS DIRECTED BY THE ENGINEER.
20. WHERE INFILLING OF EXISTING DITCHES, ETC. IS REQUIRED OR PROPOSED, AND WHERE SERVICES ARE CONSTRUCTED IN FILL SECTIONS, THE FILL MATERIAL IS TO BE APPROVED GRANULAR MATERIAL. PLACED IN LIFTS NOT EXCEEDING 300mm AND COMPACTED TO 95% MODIFIED PROCTOR DENSITY.

EXISTING STRUCTURES AND UTILITIES

1. INFORMATION ON THE DRAWINGS REGARDING EXISTING UTILITIES WAS COMPILED FROM MUNICIPAL RECORD DRAWINGS, CONSTRUCTION DRAWINGS AND FIELD SURVEYS. THIS INFORMATION IS NOT NECESSARILY ACCURATE OR COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL DATA BY EXPOSURE PRIOR TO ANY CONSTRUCTION AND TO IMMEDIATELY REPORT ANY DISCREPANCIES TO WEDLER ENGINEERING. PRIOR TO CONSTRUCTION, ALL TIE-IN INVERTS SHALL BE CONFIRMED, AND EXPOSURES PERFORMED WHERE THERE IS POTENTIAL FOR CONFLICTS BETWEEN EXISTING AND PROPOSED SERVICES. ANY COSTS RESULTING FROM THE CONTRACTOR'S FAILURE TO DO SO SHALL BE AT THE CONTRACTOR'S EXPENSE.
2. PRIOR TO ANY WORKS THE CONTRACTOR SHALL ASCERTAIN FOR HIMSELF THE EXACT LOCATION OF BOUNDARIES OF LEGAL PROPERTIES, RIGHTS-OF-WAY OR EASEMENTS. ANY COST RESULTING FROM SPECIAL CONSTRUCTION METHODS, EQUIPMENT OR MATERIALS REQUIRED TO PERFORM ANY WORKS FORMING PART OF THIS CONTRACT WITHOUT ENCROACHING ON OR CAUSING DAMAGE TO OTHER PROPERTY, SHALL BE INCLUDED IN THE CONTRACT PRICE, AND NO ADDITIONAL PAYMENT WILL BE MADE FOR SUCH WORKS.
3. PRIOR TO ANY WORKS THE CONTRACTOR SHALL CONFIRM LOCATION OF EXISTING ONSITE STORM, WATER AND SANITARY MAINS. ANY DISCREPANCIES BETWEEN ACTUAL PIPE LOCATIONS AND DESIGN DRAWING ASSUMPTIONS SHALL BE REPORTED TO WEDLER ENGINEERING.
4. EXISTING ONSITE CATCH BASINS AND MANHOLES TO BE REMOVED AND LEADS CAPPED.
5. ANY EXISTING SITE SERVICES ENCOUNTERED DURING CONSTRUCTION SHOULD BE CONFIRMED AS ABANDONED, AND REMOVED WHERE CONFLICTS WITH NEW WORK EXISTS. FOR PIPES THAT ARE TO BE LEFT IN PLACE, ENDS ARE TO BE PLUGGED WITH SANDBAGS AS REQUIRED.

WATER SYSTEM

1. THE CONTRACTOR SHALL SUPPLY ALL MATERIALS AND FITTINGS REQUIRED FOR THE TIE-INS.
2. THE CONTRACTOR SHALL ENSURE THAT ALL SECTIONS OF MAINS HAVE TEST POINTS AND TEMPORARY BLOW-OFFS SUITABLE TO ENSURE ADEQUATE PRESSURE TESTING, CHLORINATION AND FLUSHING.
3. PRESSURE TESTING, CHLORINATION AND FLUSHING PROCEDURES TO CONFORM TO AWWA STANDARDS.
4. DISCHARGE OF CHLORINATED WATER INTO DITCHES, STORM SEWERS OR WATERCOURSES IS STRICTLY PROHIBITED.
5. THRUST BLOCKS SHALL BE INSTALLED AT ALL FITTINGS AND CHANGES IN DIRECTION UNLESS JOINT RESTRAINTS SPECIFIED. TO BE INSTALLED AS PER MMCD SPECIFICATIONS.
6. PIPES MAY BE DEFLECTED AT JOINT TO MAXIMUM OF ½ MANUFACTURER'S RECOMMENDATION ALLOWABLE.
7. DOMESTIC WATER SERVICES TO COMPLY WITH THE B.C. PLUMBING CODE. WATER PIPE TO HAVE A MINIMUM COVER OF 1.0m BELOW FINISHED GRADE.
8. ALL VALVE BOXES TO BE MR-6, 300mm HEIGHT.
9. ALL FIRE HYDRANTS TO BE MULLER SUPER CENTURION A423 PER CITY OF WHITE ROCK STANDARD DETAIL SSDD-W4A.
10. THE CONTRACTOR SHALL ACCURATELY RECORD, ON A CURRENT SET OF PLANS, IN A NEAT MANNER, ALL CHANGES AND DELETIONS TO REFLECT THE "AS CONSTRUCTED" INSTALLATION, THIS SET OF PLANS SHALL BE MAINTAINED ON SITE, AND WILL BE REVIEWED PERIODICALLY DURING THE COURSE OF CONSTRUCTION. THIS SET OF PLANS SHALL BE RETURNED TO THE ENGINEER AT THE COMPLETION OF THE WORKS AND PRIOR TO THE ISSUANCE OF SUBSTANTIAL PERFORMANCE.
11. REFER TO CITY OF WHITE ROCK STANDARD DETAIL SSDD-W12 FOR RESIDENTIAL WATER SERVICE CONNECTION DETAILS

GENERAL WATER ULTILITY INFORMATION

WATER QUALITY TESTING:

REQUIRED TESTING FROM CONTRACTORS TO BE BY 3RD PARTY TESTING COMPANY OR OBSERVED BY CITY WATER STAFF PRIOR TO THE CITY ACCEPTING AND TYING-IN TO EXISTING WATER UTILITY DISTRIBUTION SYSTEM;

1. PRESSURE TEST TO MMCD 30 11 01 PAGE 20, 3.19.3 OR AWWA M23 & C605 STANDARD, AND OBSERVED BY CITY WATER OPERATOR OR THID PARTY CONTRACTOR.
2. DISINFECTION OF AWWA STANDARDS. UNITS TO BE IN ppm RESIDUAL AFTER 24 HOURS
3. MICRO BIOLOGICAL TEST TO AWWA STANDARD, 2 TESTS 24 HOURS APART (TOTAL COLIFORM AND E. COLI COUNT)
    a. PROVIDE MICRO BIOLOGICAL TEST FOR EACH TIE-IN POINT AND ENDS OF THE INSTALLED WATERMAIN
    b. PROVIDE MICRO BIOLOGICAL TEST FOR EACH SERVICE CONNECTION
5. THE CONTRACTOR IS TO CONTACT SIMON PITHER, LEAD WATER OPERATOR, AT 604-880-4220 TO CONFIRM THE TIE IN PROCEDURE AND WORKS, AT THE START OF THE PROJECT.

SANITARY SEWER & DRAINAGE SYSTEM

1. SUMP MANHOLES REQUIRED FOR DRAINAGE SYSTEM WORKS, UNLESS OTHERWISE NOTED.
2. THE PIPE DISTANCES SHOWN ON STORM AND SANITARY SEWER DRAWINGS ARE MEASURED HORIZONTALLY FROM MANHOLE CENTERLINE TO MANHOLE CENTERLINE TO CORRESPOND WITH THE "MEASUREMENT AND PAYMENT" SECTIONS FOR STORM & SANITARY SEWERS IN THE MASTER MUNICIPAL CONSTRUCTION DOCUMENTS.
3. THE GRADE OF THE PIPE IS DETERMINED FROM THE INVERT ELEVATIONS AT THE INLETS & OUTLETS OF THE MANHOLES AND THE HORIZONTAL DISTANCE BETWEEN THE MANHOLE INLET & OUTLET OF THE PIPE RUN.
4. ALL MANHOLES TO BE 1050ø UNLESS OTHERWISE NOTED.
5. ALL PIPES TO BE PVC CLASS 150 UNLESS OTHERWISE NOTED.
6. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE OIL INTERCEPTOR FOR APPROVAL PRIOR TO PURCHASING.

QUALITY CONTROL

1. ALL TESTING SHALL BE PERFORMED BY A CERTIFIED TESTING COMPANY AT EXPENSE TO THE OWNER.
2. ALL MATERIALS TESTING OF THE SUBGRADE, GRANULAR MATERIALS, CONCRETE, ASPHALT, TOPSOIL AND COMPACTION TESTS REQUIRED IS THE RESPONSIBILITY OF THE CONTRACTOR. THE COSTS ASSOCIATED WITH MATERIALS TESTING TO BE BORNE BY THE OWNER.
3. THE COSTS FOR ALL CLEANING, FLUSHING, PRESSURE AND LEAKAGE TESTING, DISINFECTION AND BACTERIOLOGICAL TESTING AS REQUIRED FOR WATER, SANITARY AND DRAINAGE SYSTEMS TO BE BORNE BY THE CONTRACTOR.
4. IN ADDITION TO THE CITY OF WHITE ROCK REQUIREMENTS, THE CERTIFICATE OF SUBSTANTIAL PERFORMANCE WILL NOT BE ISSUED PRIOR TO RECEIPT BY WEDLER ENGINEERING OF COPIES OF ALL REQUIRED CERTIFICATES, INSPECTION AND TESTING REPORTS.

TREE PROTECTION

1. MAINTAIN TREE PROTECTION BARRIER DURING SITE CLEARING AND CONSTRUCTION.
2. ANY CONSTRUCTION WITHIN THE TREE RETENTION AREA IS TO BE SUPERVISED BY THE PROJECT ARBORIST.
3. NO EXCAVATIONS, DRAINS, SERVICE TRENCHES OR ANY OTHER DISRUPTION IS PERMITTED WITHIN THE RETENTION AREA. CONTACT THE PROJECT ARBORIST PRIOR TO PROCEEDING WITH ANY DISTURBANCES WITHIN THE RETENTION AREA.
4. MAINTAIN EXISTING GRADES AT THE LIMITS OF THE PROTECTION BARRIER.

BEFORE YOU DIG

EXISTING UNDERGROUND UTILITIES SHOWN ON THIS DRAWING WERE COMPILED FROM A COMBINATION OF VARIOUS AS-CONSTRUCTED RECORD DRAWINGS AND SOME FIELD SURVEYS. THIS INFORMATION IS NOT NECESSARILY ACCURATE OR COMPLETE AND MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION WHERE POTENTIAL CONFLICTS EXIST. CONTRACTOR TO CONTACT TELUS, B.C. HYDRO, FORTISBC, AND BC ONE CALL PRIOR TO CONSTRUCTION TO CONFIRM LOCATIONS FOR UTILITIES AND APPURTENANCES REQUIRING ADJUSTMENT. ANY DISCREPANCIES REQUIRING CHANGES TO DESIGN MUST BE REPORTED TO WEDLER ENGINEERING LLP. IMMEDIATELY. ALL UTILITIES IN THE PATHWAY OF PROP. INSTALLATIONS SHALL BE PRE-LOCATED TO DETERMINE IF THERE ARE ANY CONFLICTS PRIOR TO CONSTRUCTION OF NEW UTILITY.

LEGAL:

LOT 1 PLAN EPP46879
LOT B PLAN 13684
LOT 41 PLAN 35379
STRATA PLAN NWS2236
ALL OF SEC 10 TP 1 NWD

BM / ELEVATIONS ARE GEODETIC
TBM: (CVRD-2005-IN METERS) DERIVED FROM CONTROL MONUMENT 89H5101 LOCATED AT SE CORNER OF THE INTERSECTION OF VIDAL ST. AND THRIFT AVE. ELEVATION=91.149m.

REV	DESCRIPTION	YYYY-MM-DD	BY
A	ISSUED FOR DP	2019-01-29	EF
B	UPDATED BASEPLAN	2020-02-24	EF
C	UPDATED BASEPLAN	2022-05-18	ST
D	RE-ISSUED FOR DP	2023-12-13	STM

REV	DESCRIPTION	YYYY-MM-DD	BY

PROJ. MGR.	SR
DESIGN/DRAWN	ST/SR
PEER REVIEWED	SR
HORIZ. SCALE	--
VERT. SCALE	--

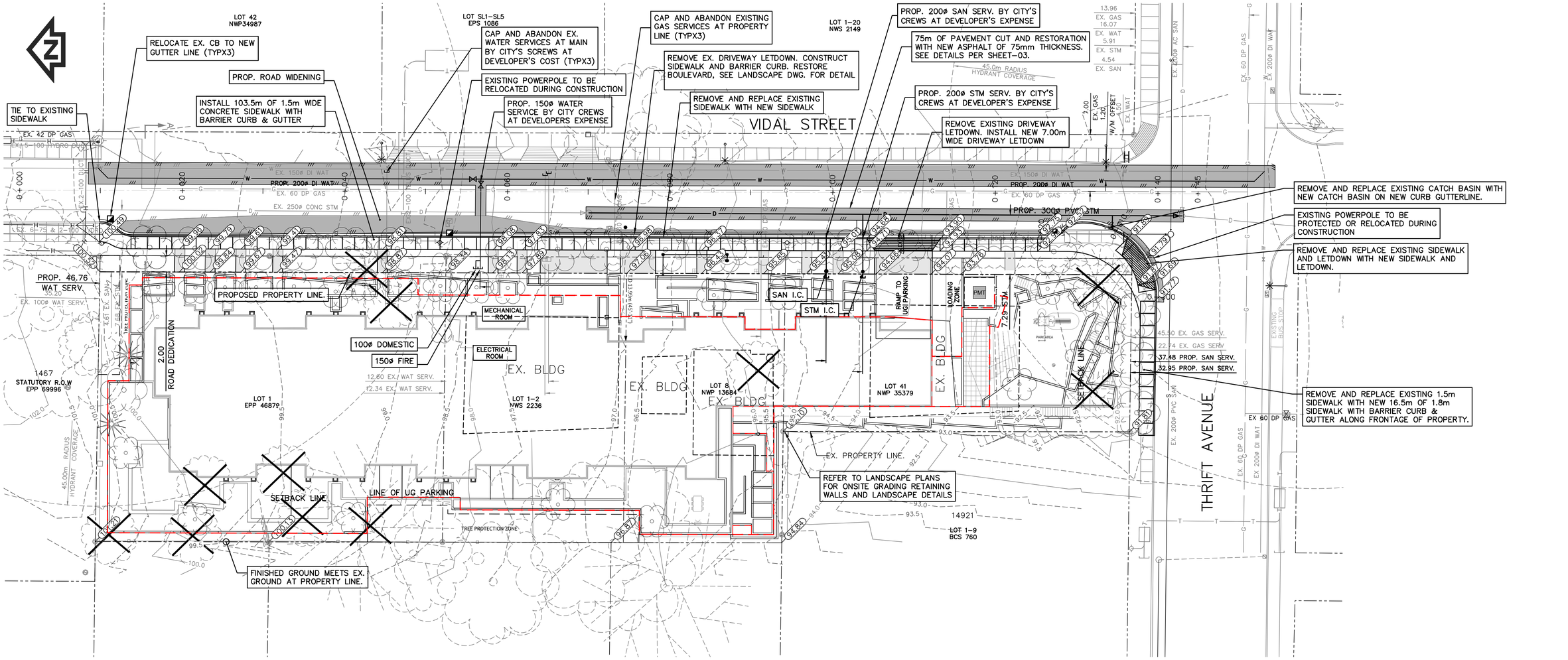
WEDLER ENGINEERING
www.wedler.com
EGBC PERMIT TO PRACTICE NUMBER: 1000196

THE WEDLER GROUP
Abbotsford 1.604.746.0300
Chilliwack 1.604.792.0651
Courtenay 1.250.334.3263
Surrey 1.604.588.1919

WS VIDAL PROPERTIES LP
VIDAL STREET - RESIDENTIAL BUILDING
1441, 1443-45, 1465 VIDAL ST AND 14937 THRIFT AVE, WHITE ROCK

GENERAL NOTES

DRAWING NO. 9 OF
S19-0280/A-01
LOCAL GOVERNMENT FILE -FILE-
PHASE
REVISION D



NOTES

1. ALL EXISTING SERVICES ARE TO BE CAPPED AND ABANDONED.
2. GEOTECHNICAL RECOMMENDATIONS ARE REQUIRED FOR ROAD WIDENING
3. ONSITE LANDSCAPING TO ACT AS STORMWATER BMP FOR TREATMENT AND BIO–FILTRATION.
4. WATER METER AND DCVA TO BE PROVIDED, INSIDE BUILDING. REFER TO MECHANICAL DRAWINGS FOR DETAILS.

LEGEND

	EXISTING	PROPOSED		
POWER POLE			WALKWAY	
WOOD FENCE			ROAD WIDENING	
TREE			U/G PARKING	
STREETLIGHT			TREE REMOVAL	
EDGE OF PAVEMENT			TREE PROTECTION BARRIER	
CURB & GUTTER				
END CAP				
ELEVATION	00.00	00.00		
STORM	D	D		
SANITARY	S	S		
WATER	W	W		
CATCH BASIN				
LOT LINE				

LEGAL:
LOT 1 PLAN EPP46879
LOT 8 PLAN 13684
LOT 41 PLAN 35379
STRATA PLAN NWS2236
ALL OF SEC 10 TP 1 NWD

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PROJ. MGR.	SR
DESIGN/DRAWN	ST/SR
PEER REVIEWED	SR
HORIZ. SCALE	1:250
VERT. SCALE	--

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THE WEDLER GROUP
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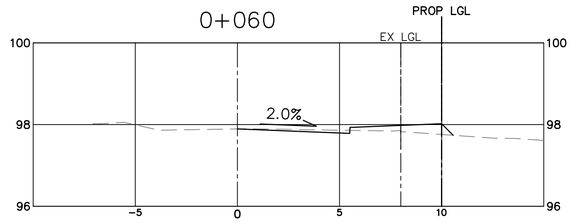
Chilliwack 1.604.792.0551
Courtenay 1.250.334.3263
Surrey 1.604.588.1919

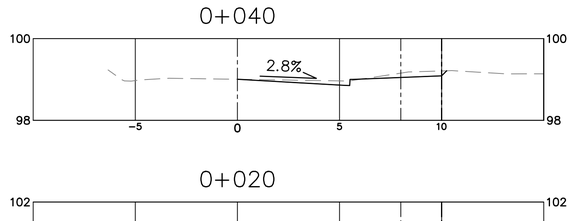
WS VIDAL PROPERTIES LP
VIDAL–RESIDENTIAL BUILDING
1441, 1443–45, 1465 VIDAL ST AND 14937 THRIFT AVE, WHITE ROCK

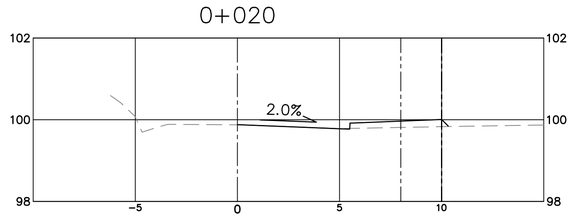
CONCEPTUAL KEY PLAN & GRADING PLAN

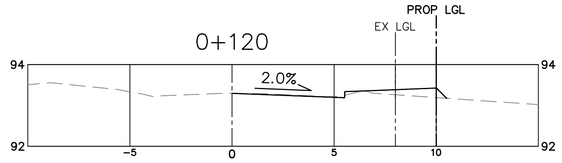
DRAWING NO. S19–0280/A–02 OF 9
LOCAL GOVERNMENT FILE –FILE–
PHASE
REVISION D

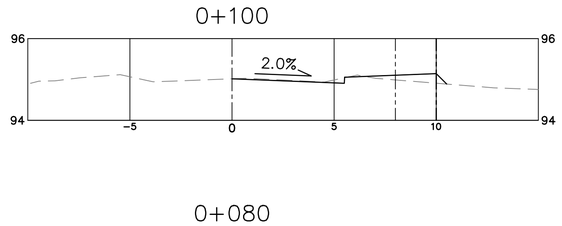
PROGRESS PRINT - NOT FOR CONSTRUCTION

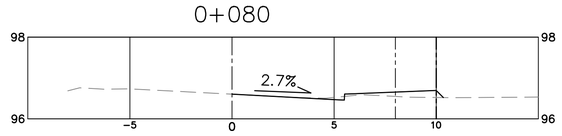


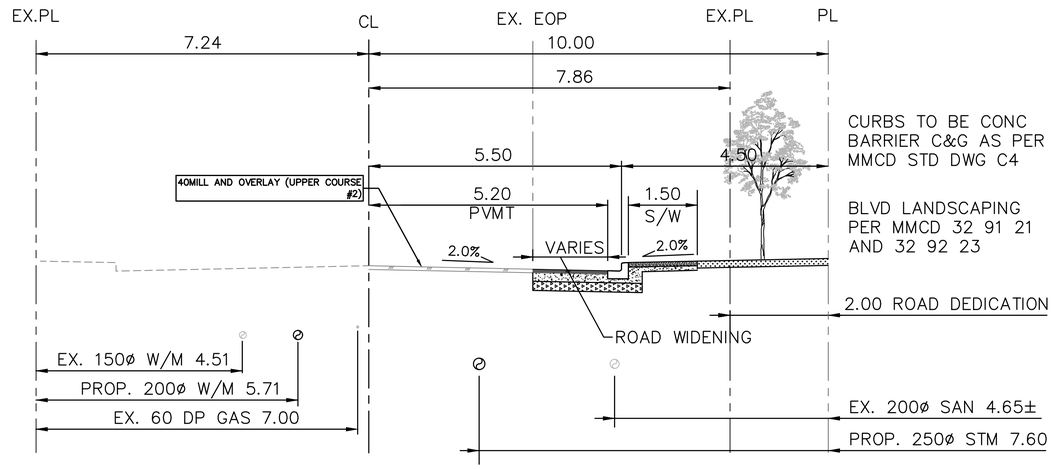




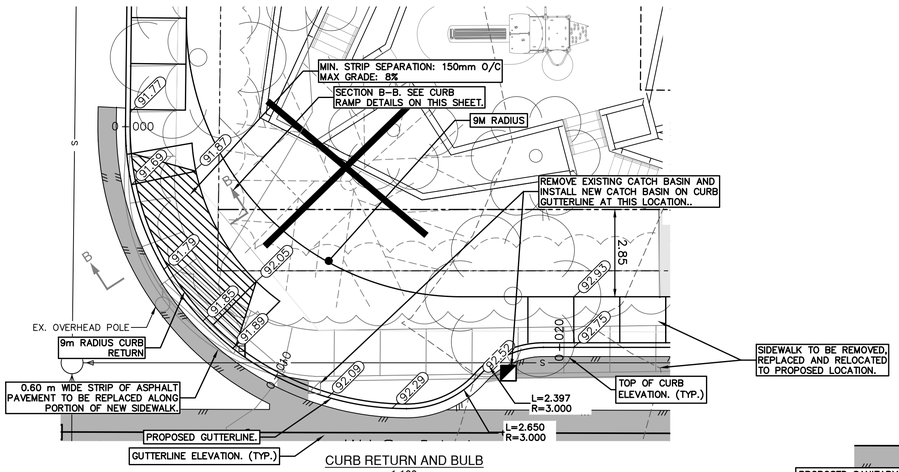








TYPICAL ROAD SECTION A-A
N.T.S



CURB RETURN AND BULB
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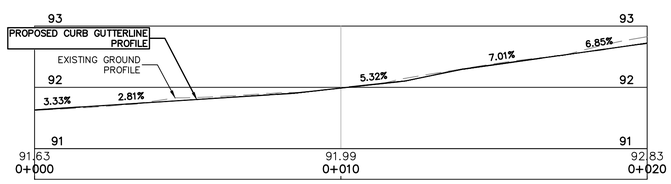

CURB-RETURN PROFILE
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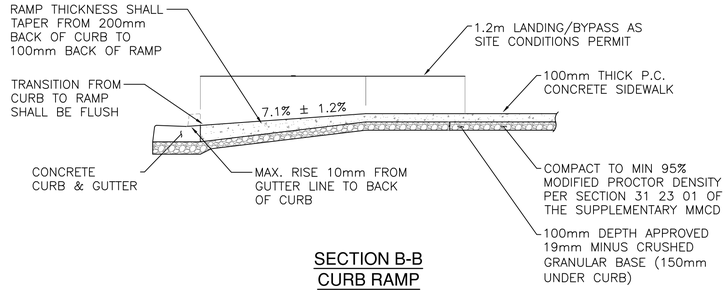
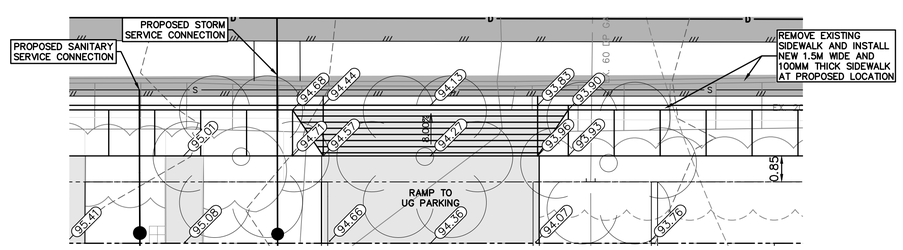
1:50 V



SECTION B-B
CURB RAMP



LETDOWN DETAIL
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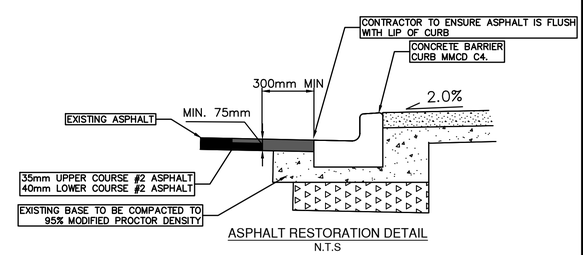
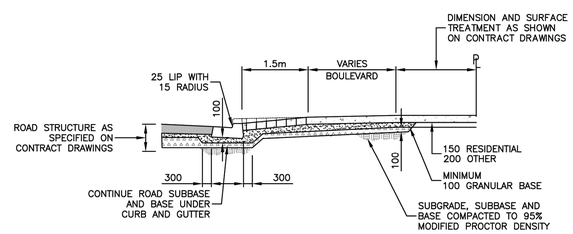


ASPHALT RESTORATION DETAIL
N.T.S



SECTION A-A

LETDOWN SECTION DETAIL
N.T.S

LEGAL:

LOT 1 PLAN EPP46879
LOT B PLAN 13684
LOT 41 PLAN 35379
STRATA PLAN NWS2236
ALL OF SEC 10 TP 1 NWD

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PROJ. MGR.	SR
DESIGN/DRAWN	ST/SR
PEER REVIEWED	SR
HORIZ. SCALE	1:250
VERT. SCALE	--

WEDLER ENGINEERING
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Courtenay 1.250.334.3263
Surrey 1.604.588.1919

WS VIDAL PROPERTIES LP

VIDAL-RESIDENTIAL BUILDING

1441, 1443-45, 1465 VIDAL ST AND 14937 THRIFT AVE, WHITE ROCK

CONCEPTUAL CROSS SECTION AND DETAILS

DRAWING NO. S19-0280/A-03 OF 9

LOCAL GOVERNMENT FILE -FILE-

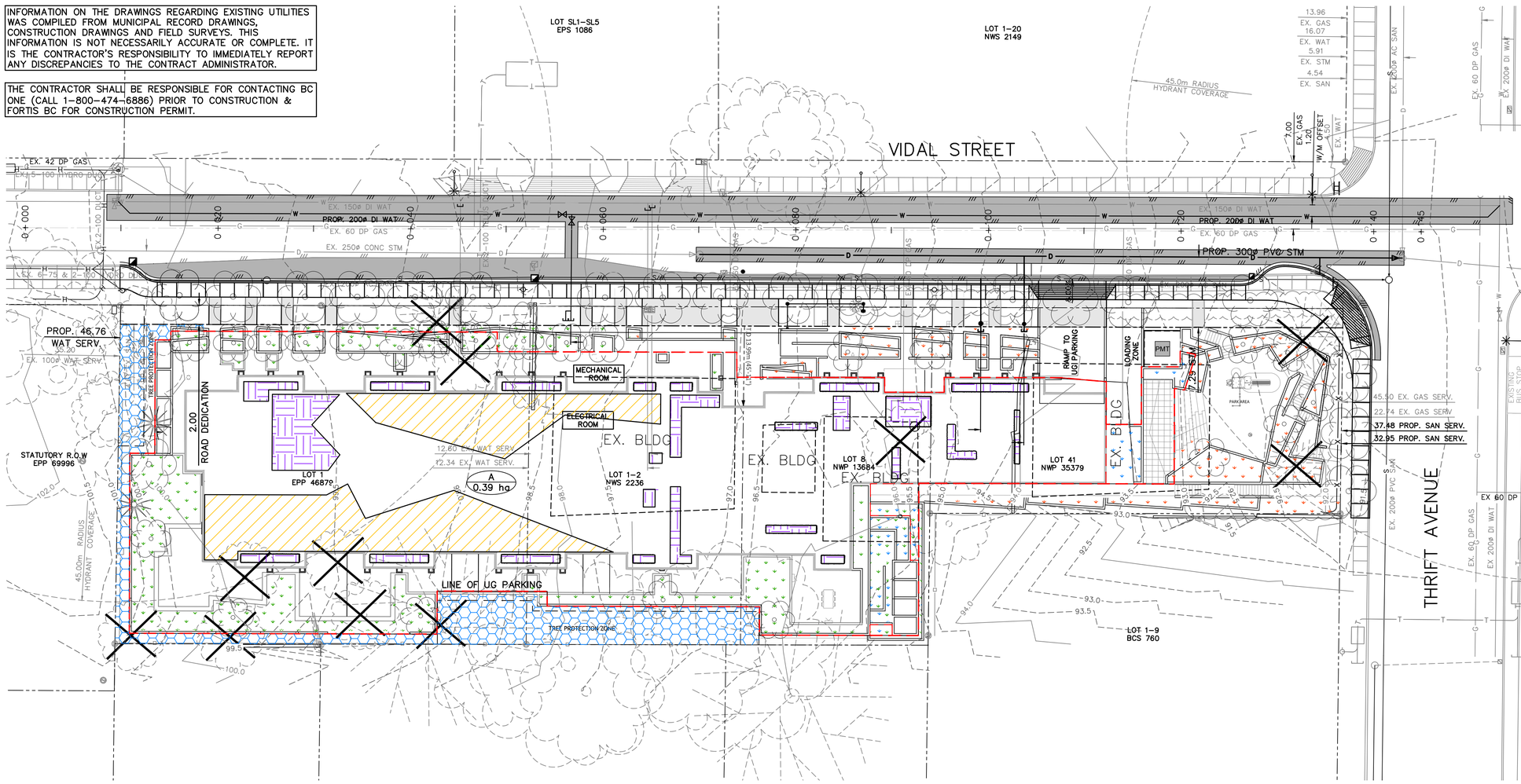
PHASE

REVISION D

PROGRESS PRINT - NOT FOR CONSTRUCTION

INFORMATION ON THE DRAWINGS REGARDING EXISTING UTILITIES WAS COMPILED FROM MUNICIPAL RECORD DRAWINGS, CONSTRUCTION DRAWINGS AND FIELD SURVEYS. THIS INFORMATION IS NOT NECESSARILY ACCURATE OR COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO IMMEDIATELY REPORT ANY DISCREPANCIES TO THE CONTRACT ADMINISTRATOR.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING BC ONE (CALL 1-800-474-6886) PRIOR TO CONSTRUCTION & FORTIS BC FOR CONSTRUCTION PERMIT.



NOTE: FOR THE DEPTH OF LANDSCAPING AREAS, REFER TO SOIL CALCULATIONS ON THIS SHEET.

LEGEND

- 100 YEAR OVERLAND FLOW
- EXISTING STORM SEWER
- SITE AREA (ha.) — A 0.39 ha
- MINOR CONTOURS — 23.5
- MAJOR CONTOURS — 24.0

- PARKADE TREE/PLANTER AREA (102.32 sq.m) ON SLAB
- PARKADE TREE/PLANTER AREA (217.16 sq.m) OFF SLAB
- GROUND TREE/PLANTER AREA (355.85 sq.m) OFF SLAB
- GROUND NATIVE SOIL (251.7 sq.m) OFF SLAB
- ROOFTOP PLANTING GREEN ROOF (322.0 sq.m) ON SLAB
- ROOFTOP SHRUB AREA (181.1 sq.m) ON SLAB

STORMWATER MANAGEMENT AS PER THE FINAL ISMP REPORT DATED APRIL 16, 2010.

GENERAL SITE CONDITION

SITE SLOPE =5%.

SITE IS LOCATED IN AREA A (ISMP REPORT FIGURE 3 PRELIMINARY RISK ZONES AND IT HAS >= 3M BLUE CLAY ABOVE AQUIFER

AS PER RECOMENDATION ON ISMP THIS AREA HAS IDENTIFIED AS NOT FAVORABLE FOR INFILTRATION AND RUNOFF THESE AREAS SHOULD INSTALL LOW IMPACT BMPS TO MANAGE RUNOFF VOLUME AND QUANTITY. WHEN BMPS ARE PROVIDED, PERFORATED UNDER DRAIN SYSTEM SHOULD BE PROVIDED TO CONNECT TO CITY STORM SYSTEM.

TOTAL SITE AREA = 3875m^2 (AS PER THE ARCHITECTURAL PLANS)
BUILDING AREA = 1534m^2 (AS PER THE ARCHITECTURAL PLANS)
PERCENTAGE OF IMPERVIOUS =39%

AS PER ISMP 30mm OF RAINFALL SHOULD BE CAPTURED ON SITE

TOTAL CAPTURE REQUIREMENT = 0.03*3875 = 116.25m^3

CAPTURE FROM IN-SITU SOILS.

REFER TO LANDSCAPING DRAWINGS FOR LANDSCAPE AREAS AND DETAILS.

PLANTERS (PARKADE 1 AND 2)
OFFSLAB

SHRUB AREA WITH 450mm SOIL DEPTH = 217.16m^2
SOIL VOLUME = 97.72m^3 RETENTION VOLUME = 22.48m^3

TREE AREA WITH 550mm SOIL DEPTH = 28m^2
SOIL VOLUME = 15.4m3 RETENTION VOLUME = 3.54m^3

ONSLAB

SHRUB AREA WITH 450mm SOIL DEPTH = 102.32m^2
SOIL VOLUME = 46.04m^3 RETENTION VOLUME = 10.59m^3

TOTAL PARKADE 1 AND 2 WATER RETENTION = 36.61m^3

MAINFLOOR
OFFSLAB

SHRUB AREAS = 355.85m^2 (450mm SOIL DEPTH) = SOIL VOLUME = 160.13m^3 WATER RETENTION = 160.13*0.23 = 36.83m^2

NATIVE SOIL = 251.67m2 (300mm TOP SOIL) = 75.50m^3
WATER RETENTION = 75.50*0.23 = 17.37m^3

TREE AREA = 80m^2 (550mm SOIL DEPTH) = 44m^3
WATER RETENTION = 44*0.02 = 0.88m^3

TOTAL ON GRADE WATER RETENTION: 55.08m^2

ROOF TOP LEVEL
ONSLAB

GREEN ROOF AREA WITH 95.25mm HIGH SOIL = 322m^2
SOIL VOLUME = 30.67m^3 RETENTION VOLUME = 7.05m^3

SHRUB AREAS WITH 450mm SOIL DEPTH = 181.11m^2
SOIL VOLUME = 81.50m^3 RETENTION VOLUME = 18.75m^3

TREE AREA WITH 550mm SOIL DEPTH = 20m^2
SOIL VOLUME = 11m^3 RETENTION VOLUME = 0.22m^3

TOTAL ROOF LEVEL = 26.02m^3

TOTAL RETENTION CAPACITY ON-SITE: 117.71m^3

THE PROPOSED SITE RETENTION CAPACITY CAN HOLD GREATER THAN 100% OF THE CAPTURE REQUIREMENT.

LEGAL:
LOT 1 PLAN EPP46879
LOT 8 PLAN 13684
LOT 41 PLAN 35379
STRATA PLAN NWS2236
ALL OF SEC 10 TP 1 NWD

BM/ ELEVATIONS ARE GEODETIC
TBM: (GVRD-2005-IN METERS) DERIVED FROM CONTROL MONUMENT 89H5101 LOCATED AT SE CORNER OF THE INTERSECTION OF VIDAL ST. AND THRIFT AVE. ELEVATION=91.149m

REV	DESCRIPTION	YYYY-MM-DD	BY
A	ISSUED FOR DP	2019-01-29	EF
B	UPDATED BASEPLAN	2020-02-24	EF
C	UPDATED BASEPLAN	2022-05-18	ST
D	RE-ISSUED FOR DP	2023-12-13	STM

PROJ. MGR.	SR
DESIGN/DRAWN	ST/SR
PEER REVIEWED	SR
HORIZ. SCALE	1:250
VERT. SCALE	--

WEDLER ENGINEERING
www.wedler.com
EGBC PERMIT TO PRACTICE NUMBER: 1000196
THE WEDLER GROUP
Abbotsford 1.604.746.0300
Chilliwack 1.604.792.0651
Courtenay 1.250.334.3263
Surrey 1.604.588.1919

WS VIDAL PROPERTIES LP
VIDAL-RESIDENTIAL BUILDING
1441, 1443-45, 1465 VIDAL ST AND 14937 THRIFT AVE, WHITE ROCK

CONCEPTUAL STORM WATER MANAGEMENT PLAN

DRAWING NO. S19-0280/A-04 OF 9
LOCAL GOVERNMENT FILE -FILE-
PHASE
REVISION D

PROGRESS PRINT - NOT FOR CONSTRUCTION

Land Title Act
Charge
General Instrument – Part 1

1. Application

Hamilton Duncan Law Corporation
1450-13401 108th Avenue
Surrey BC V3T 5T3
6045814677

File No. 20014007
Housing Agreement and Covenant

2. Description of Land

PID/Plan Number	Legal Description
007-223-480	**LOT 41 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 35379**
001-267-744	**STRATA LOT 1 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236**
029-484-413	**LOT 1 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN EPP46879**
001-267-761	**STRATA LOT 2 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236**
007-208-677	**LOT 8 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 13684**

3. Nature of Interest

Type	Number	Additional Information
COVENANT		
PRIORITY AGREEMENT		**Granting Priority over Mortgage No. CB904727 and Assignment of Rents No. CB904728**

4. Terms

Part 2 of this instrument consists of:

(b) Express Charge Terms Annexed as Part 2

5. Transferor(s)

WS VIDAL PROPERTIES HOLDINGS LTD., NO.BC1163846

BANCORP BALANCED MORTGAGE FUND II LTD., NO.BC0856913

BANCORP GROWTH MORTGAGE FUND II LTD., NO.BC0856914

BANCORP FINANCIAL SERVICES INC., NO.BC0712503

VERSABANK

6. Transferee(s)

THE CORPORATION OF THE CITY OF WHITE ROCK
15322 BUENA VISTA AVENUE
WHITE ROCK BC V4B 1Y6

7. Additional or Modified Terms

8. Execution(s)

This instrument creates, assigns, modifies, enlarges or governs the priority of the interest(s) described in Item 3 and the Transferor(s) and every other signatory agree to be bound by this instrument, and acknowledge(s) receipt of a true copy of the filed standard charge terms, if any.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**WS VIDAL PROPERTIES HOLDINGS LTD.** By their Authorized Signatory _____

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**BANCORP BALANCED MORTGAGE FUND II LTD.** By their Authorized Signatory _____ **Name:** _____ **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**BANCORP GROWTH MORTGAGE FUND II LTD.** By their Authorized Signatory _____ **Name:** _____ **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**BANCORP FINANCIAL SERVICES INC.** By their Authorized Signatory _____ **Name:** _____ **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**VERSABANK** By their Authorized Signatory _____ **Name:** _____ **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Witnessing Officer Signature	Execution Date	Transferor / Transferee / Party Signature(s)
_____	YYYY-MM-DD	**THE CORPORATION OF THE CITY OF WHITE ROCK** By their Authorized Signatory _____ **Name:** _____ **Name:**

Officer Certification

Your signature constitutes a representation that you are a solicitor, notary public or other person authorized by the *Evidence Act*, R.S.B.C. 1996, c.124, to take affidavits for use in British Columbia and certifies the matters set out in Part 5 of the *Land Title Act* as they pertain to the execution of this instrument.

Electronic Signature

Your electronic signature is a representation that you are a designate authorized to certify this document under section 168.4 of the *Land Title Act*, RSBC 1996 c.250, that you certify this document under section 168.41(4) of the act, and that an execution copy, or a true copy of that execution copy, is in your possession.

PART 2 – TERMS OF INSTRUMENT

HOUSING AGREEMENT AND COVENANT
(Section 483 *Local Government Act* and Section 219 *Land Title Act*)

THIS AGREEMENT made the _____ day of May, 2024,

BETWEEN:

WS VIDAL PROPERTIES HOLDINGS LTD., INC. NO. BC1163846
315 – 13338 Central Avenue, Surrey, B.C. V3T 0M3

(the "**Owner**")

OF THE FIRST PART

AND:

THE CORPORATION OF THE CITY OF WHITE ROCK, a municipal corporation under the Community Charter of the Province of British Columbia, and having its City Offices at 15322 Buena Vista Avenue, White Rock, BC V4B 1Y6

(the "**City**")

OF THE SECOND PART

WHEREAS:

A. Section 483 of the *Local Government Act* permits the City to enter into and note on title to lands, housing agreements which may include, without limitation, conditions in respect to the form of tenure of housing units, availability of housing units to classes of persons, administration of housing units, and rent that may be charged for housing units;

B. Section 219 of the *Land Title Act* permits the registration of a covenant of a positive or a negative nature in favour of the City in respect of the use of land and construction on land;

C. The Owner is the owner of the Lands (as hereinafter defined);

D. The Owner made an application to rezone the Lands from RS-1 (One Unit Residential Zone), RT-1 (Two Unit (Duplex) Residential Zone), and CD-32 (Comprehensive Development Zone (1455-65 Vidal Street)) to CD-68 Comprehensive Development Zone (14937 Thrift Avenue and 1441, 1443-45, 1465 Vidal Street) to permit the development of a six-storey rental apartment building (the "Building") with 139 rental units, including 14 Rent Controlled Rental Units; and

E. The Owner and the City wish to enter into this Agreement (as hereinafter defined) to provide long-term rental housing on the terms and conditions set out in this Agreement.

In consideration of $1.00 and other good and valuable consideration (the receipt and sufficiency of which is acknowledged by both parties), and in consideration of the promises exchanged below, the Owner and the City covenant and agree pursuant to section 483 of the *Local Government Act* and section 219 of the *Land Title Act* as follows:

ARTICLE 1 DEFINITIONS AND INTERPRETATION

1.1 Definitions – In this Agreement, the following words have the following meanings:

(a) "**Age of Majority**" means 19 years of age;

(b) "**Agreement**" means this agreement together with all LTO forms, schedules, appendices, attachments and priority agreements attached hereto or incorporated by reference herein;

(c) "**Daily Amount**" means $100.00 per day as of January 1, 2024, adjusted annually thereafter by adding thereto an amount calculated by multiplying $100.00 by the percentage change authorized for maximum rent increases under the *Residential Tenancy Act* from January 1, 2024, to January 1 of the year that a written notice is delivered to the Owner by the City pursuant to section 5.2 of this Agreement. In the absence of obvious error or mistake, any calculation by the City of the Daily Amount in any particular year shall be final and conclusive;

(d) "**Dwelling Unit**" means a residential dwelling unit or units located or to be located on the Lands, and includes, where the context permits, a Secured Rental Unit and a Rent Controlled Rental Unit, and in the event of uncertainty arising from interpretation of this definition, has the same meaning as in the City's zoning bylaw as amended or replaced from time to time;

(e) "**Excess Charges**" means any amount of rent charged in respect of a tenancy of a Rent Controlled Rental Unit that is in excess of Permitted Rent, plus any fees or charges of any nature whatsoever that are charged in respect of the tenancy of a Rent Controlled Rental Unit that are not Permitted Tenant Charges, and includes all such amounts charged in respect of any tenancy since the commencement date of the Tenancy Agreement in question, irrespective of when the City renders an invoice in respect of Excess Charges;

(f) "**Household**" means, in respect of a Dwelling Unit, all individuals occupying, or intending to occupy, that Dwelling Unit for more than thirty (30) consecutive days or more than forty-five (45) days total in any calendar year;

(g) "**Income Tested Tenant**" for Rent Controlled Rental Units means a Tenant thereof whose income does not exceed the Income Threshold;

(h) "**Income Threshold**" means a gross income of 80 percent of the median household income in the City of White Rock Income as defined by and based on data published

in the most recent Census of Canada, or if such data is not currently published, by the Province of British Columbia, or if such data is not currently published, by the CMHC, from time to time;

(i) "***Interpretation Act***" means the *Interpretation Act*, R.S.B.C. 1996, Chapter 238;

(j) "**Lands**" means the following lands and premises situate in the City of White Rock and any part, including a building or a portion of a building, into which said land is Subdivided:

LOT 8 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 13684
PID: 007-208-677

THE COMMON PROPERTY OF STRATA PLAN NWS2236

STRATA LOT 1 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236
PID: 001-267-744

STRATA LOT 2 OF SECTION 9 TOWNSHIP 1 NEW WESTMINSTER DISTRICT STRATA PLAN NW2236
PID: 001-267-761

LOT 1 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN EPP46879
PID: 029-484-413

LOT 41 SECTION 10 TOWNSHIP 1 NEW WESTMINSTER DISTRICT PLAN 35379
PID: 007-223-480;

(k) "***Land Title Act***" means the *Land Title Act*, R.S.B.C. 1996, Chapter 250;

(l) "***Local Government Act***" means the *Local Government Act*, R.S.B.C. 2015, Chapter 1;

(m) "**LTO**" means the New Westminster Land Title Office or its successor;

(n) "**Owner**" means the party described on page 1 of this Agreement as the Owner and any subsequent permitted owner of the Lands or of any part into which the Lands are Subdivided, and includes any person who is a registered owner in fee simple of a Dwelling Unit from time to time;

(o) "**Permitted Rent**" means the maximum rent set out in Schedule B of this Agreement in respect of the number of bedrooms of the Dwelling Unit in question and the type of dwelling unit (Secured Rental Unit or Rent Controlled Rental Unit), provided that the amounts set out in Schedule B of this Agreement may be increased once per year in

accordance with any maximum positive change authorized under the *Residential Tenancy Act* between January 1, 2024 and the month in which the rent is being increased, and may be further increased with the prior written consent of the City to cover unexpected increases in operating, maintenance and servicing costs;

(p) "**Permitted Tenant Charges**" means resident parking, typical monthly insurance premiums for tenant's household contents and third party liability insurance plus an amount equal to the average monthly charge for electricity supplied to all Dwelling Units on the lands by the B.C. Hydro and Power Authority based on electricity consumption over the previous twelve months only, and excludes without limitation any other amounts charged by the Owner from time to time in respect of any laundry, services or programs provided by or on behalf of the Owner and any other permitted charges as set out in section 3.1(c) whether or not such amounts are charged on a monthly or other basis to the Tenants;

(q) "**Priority Tenant**" means an Income Tested Tenant of a Rent Controlled Rental Unit who is or whose Household is comprised exclusively of persons who are 65 years or older or at risk of housing insecurity;

(r) "***Real Estate Development Marketing Act***" means the *Real Estate Development Marketing Act*, S.B.C. 2004, Chapter 41;

(s) "**Rental Unit**" means a Rent Controlled Rental Unit or a Secured Rental Unit;

(t) "**Rent Controlled Rental Unit**" means a Dwelling Unit designated as such in accordance with a building permit and/or development permit issued by the City and/or, if applicable, in accordance with any rezoning consideration applicable to the development on the Lands and includes, without limiting the generality of the foregoing, a Dwelling Unit charged by this Agreement;

(u) "***Residential Tenancy Act***" means the *Residential Tenancy Act*, S.B.C. 2002, Chapter 78;

(v) "**Secured Rental Unit**" means a Dwelling Unit which is not occupied by the registered or beneficial owner of the same, but which is made available by such owner to the general public at arm's length, for use as market rental accommodation in accordance with this Agreement, reasonably prudent landlord-tenant practices for rental residential accommodation and any and all laws applicable thereto;

(w) "***Strata Property Act***" means the *Strata Property Act*, S.B.C. 1998, Chapter 43;

(x) "**Subdivide**" means to divide, apportion, consolidate or subdivide the Lands or any building on the Lands, or the ownership or right to possession or occupation of the Lands or any building on the Lands, into two or more lots, strata lots, parcels, parts, portions or shares, whether by plan, descriptive words or otherwise, under the *Land Title Act*, the *Strata Property Act*, or otherwise, and includes the creation, conversion,

organization or development of "cooperative interests" or a "shared interest in land" as defined in the *Real Estate Development Marketing Act*;

(y) "**Tenancy Agreement**" means a tenancy agreement, lease, license or other agreement pursuant to the *Residential Tenancy Act* granting rights to occupy a Dwelling Unit;

(z) "**Tenant**" means an occupant of a Dwelling Unit by way of a Tenancy Agreement; and

(aa) "**Term**" means the period of time calculated in accordance with section 6.24.

1.2 Interpretation – In this Agreement:

(a) wherever the singular or masculine is used herein, the same shall be construed as meaning the plural, feminine or body corporate or politic, where the contents or parties so require;

(b) article and section headings have been inserted for ease of reference only and are not to be used in interpreting this Agreement;

(c) if a word or expression is defined in this Agreement, other parts of speech and grammatical forms of the same word or expression have corresponding meanings;

(d) reference to any enactment includes any regulations, orders or directives made under the authority of that enactment;

(e) reference to any enactment is a reference to that enactment as consolidated, revised, amended, re-enacted or replaced, unless otherwise expressly provided;

(f) the provisions of section 25 of the *Interpretation Act* with respect to the calculation of time apply;

(g) time is of the essence;

(h) all provisions are to be interpreted as always speaking;

(i) reference to a "party" is a reference to a party to this Agreement and to that party's respective successors, assigns, trustees, administrators and receivers. Wherever the context so requires, reference to a "party" also includes a Tenant, agent, officer and invitee of the party;

(j) reference to a "day", "month", or "year" is a reference to a calendar day, calendar month, calendar or calendar year, as the case may be, unless otherwise expressly provided; and

(k) where the word "including" is followed by a list, the contents of the list are not intended to circumscribe the generality of the expression preceding the word "including".

1.3 **Acknowledgements** - The Owner acknowledges and agrees that:

(a) except as expressly provided, nothing in this Agreement will relieve the Owner from any obligation or requirement arising under any applicable statute, bylaw or regulation in respect of the use, subdivision and development of the Lands;

(b) nothing contained or implied in this Agreement will prejudice or affect the City's rights, powers, duties or obligations in the exercise of its functions pursuant to the *Local Government Act*, the *Community Charter* or other statutes, bylaws, orders and regulations; and

(c) all obligations of the Owner under this Agreement will be at the cost of the Owner.

ARTICLE 2 USE AND CONSTRUCTION OF LANDS AND DWELLING UNITS

2.1 Use and Construction of Lands – The Owner covenants and agrees that:

(a) the Lands will not be developed and no building or structure will be constructed or used on the Lands unless as part of the development, construction, or use of any such building or structure, the Owner also designs and constructs to completion, in accordance with a building permit issued by the City, any development permit issued by the City and, if applicable, any rezoning consideration applicable to the development on the Lands, at least fourteen (14) Rent Controlled Rental Units; and

(b) notwithstanding that the Owner may be otherwise entitled, the Owner shall not occupy or permit to be occupied any Dwelling Unit on the Lands unless the Owner has:

(i) constructed the Rent Controlled Rental Units in accordance with this Agreement; and

(ii) all of the Rent Controlled Rental Units are ready for occupancy in accordance with all applicable laws, regulations and bylaws; and

(iii) delivered to the Director, Planning and Development Services, a final rent roll confirming the rents to be charged to the first occupants of the Secured Rental Units and Rent Controlled Rental Units; and

without limiting the general scope of section 6.4 and 6.5, the Owner does hereby waive, remise and release absolutely any and all claims against the City and City personnel for any losses that may derive from the withholding of an Occupancy Permit until there is compliance with the provisions of this section 2.1.

2.2 Use of Rent Controlled Rental Units – The Owner covenants and agrees that, subject to the *Residential Tenancy Act*, the following apply in respect of those who occupy a Rent

Controlled Rental Unit:

(a) the total gross annual income of all individuals who are of the Age of Majority within the Household who occupy the Rent Controlled Rental Unit must not exceed the Income Threshold required for Income Tested Tenants under this Agreement; and

(b) at least seven (7) days prior to the occupancy of a Rent Controlled Rental Unit by a new tenant, the Owner of the Rent Controlled Rental Unit must deliver to the City a Statutory Declaration, substantially in the form (with, in the City's discretion, such further amendments or additions as deemed necessary) attached as Schedule A-1, sworn by the Income Tested Tenant under oath before a commissioner for taking affidavits in British Columbia, containing all of the information required to complete the Statutory Declaration.

2.3 Operation of Dwelling Units – The Owner agrees to operate and maintain the Dwelling Units only as Rental Units, subject to the *Residential Tenancy Act*.

2.4 Short-term Rentals Prohibited – The Owner agrees that no Dwelling Unit may be rented to any person for a term of less than one (1) year, but the Owner may continue renting a Dwelling Unit to the same person on a month to month basis following the expiry of the initial term for that Dwelling Unit, if applicable.

2.5 Requirement for Statutory Declaration – Wherever in this Agreement a statutory declaration is required, it must be executed in the form attached as a schedule to this Agreement and witnessed by a commissioner for oaths for British Columbia.

2.6 No Subdivision to Allow Separate Sale – The Owner must not without the prior approval of the City Council Subdivide a Dwelling Unit in a building on the Lands or transfer the title to a Dwelling Unit to a person unless all Dwelling Units in the building are transferred to the same person in accordance with section 3.3. Without limitation, the Owner acknowledges that the City will not support applications for Subdivision of any buildings on the Lands in any manner that would allow the Dwelling Units to be sold independently of each other.

2.7 City Authorized to Make Inquiries – The Owner hereby irrevocably authorizes the City to make such inquiries as it considers necessary in order to confirm that the Owner is complying with this Agreement.

2.8 Records and Inspection of Records - The Owner must retain all records that pertain to its obligations under this Agreement for not less than seven (7) years following the date of receipt or production of the records. The City will have the right to inspect the records including the right to enter any premises used by the Owner to keep or store the records at any time after the delivery of notice to the Owner and will have the immediate right to make extracts from and take copies of the records.

2.9 Strata Corporation is Subject to Agreement

(a) This Agreement will be binding upon all strata corporations ("Strata Corporations") created upon the strata title Subdivision of the Lands, or any Subdivided parcel of the Lands.

(b) Any Strata Corporation bylaw which prevents, restricts, or abridges the right to use the Affordable Rental Units as affordable rental housing will have no force and effect.

(c) No Strata Corporation will pass any bylaws preventing, restricting, or abridging the use of the Affordable Rental Units as affordable rental housing.

ARTICLE 3 OCCUPANCY, DISPOSITION AND ACQUISITION OF DWELLING RENTAL UNITS

3.1 Occupancy of Dwelling Units – The Owner must not rent, lease, license or otherwise permit occupancy of any Dwelling Unit except in accordance with the following additional conditions:

(a) the Dwelling Unit will be used or occupied only pursuant to a Tenancy Agreement;

(b) the monthly rent payable by a Tenant for the right to occupy a Dwelling Unit must not exceed the Permitted Rent in respect of the number of bedrooms of the Dwelling Unit;

(c) the Owner will not require the Tenant or any permitted occupant to pay any extra charges or fees for use of any facilities or amenities, or for sanitary sewer, storm sewer, water, other utilities, or property or similar tax;

(d) the Owner will attach a copy of this Agreement to every Tenancy Agreement;

(e) the Owner will include in the Tenancy Agreement a clause requiring the Tenant and each permitted occupant of the Dwelling Unit to comply with this Agreement;

(f) subject to the *Residential Tenancy Act*, the Owner will include in the Tenancy Agreement a clause entitling the Owner to terminate the Tenancy Agreement if:

(i) a Dwelling Unit is occupied by a person or persons other than the Tenant;

(ii) the total gross annual income of all individuals who are of the Age of Majority within the Household rises above the Income Threshold;

(iii) the Dwelling Unit is occupied by more than the number of people the City's building inspector determines can reside in the Dwelling Unit given the number and size of bedrooms in the Dwelling Unit and in light of any relevant standards set by the City in any bylaws of the City;

(iv) the Dwelling Unit remains vacant for three (3) consecutive months or longer, notwithstanding the timely payment of rent;

(v) the Tenant fails to pay rent when due in accordance with the Tenancy Agreement and the *Residential Tenancy Act*; or

(vi) the Landlord is entitled, for any reason, to terminate the Tenancy Agreement in accordance with the Tenancy Agreement and the *Residential Tenancy Act*,

and in the case of each breach, the Owner hereby agrees with the City to forthwith provide to the Tenant a notice of termination. The notice of termination shall provide that the termination of the tenancy shall be effective thirty (30) days following the date of the notice of termination;

(b) the Tenancy Agreement will identify all occupants of the Dwelling Unit and will stipulate that anyone not identified in the Tenancy Agreement will be prohibited from residing at the Dwelling Unit for more than thirty (30) consecutive days or more than forty-five (45) days total in any calendar year; and

(c) the Owner will forthwith deliver a certified true copy of the Tenancy Agreement to the City upon demand subject to the *Residential Tenancy Act*.

3.2 Tenant to Vacate Rental Unit Upon Termination – If the Owner has terminated the Tenancy Agreement, then the Owner shall use best efforts to cause the Tenant and all other persons that may be in occupation of the Dwelling Unit to vacate the Dwelling Unit on or before the effective date of termination subject to the *Residential Tenancy Act*.

3.3 No Separate Sale – The Owner covenants with the City that the Owner will not sell or transfer, or agree to sell or transfer, any interest in any building on the Lands (or if the building has been stratified, any strata lot) containing a Dwelling Unit on the Lands other than a full interest in the title to all Dwellings Units, and to a person that will in a manner satisfactory to the City continue to ensure that all Dwelling Units are available for rental in accordance with this Agreement.

3.4 Rental Tenure – The Owner covenants with the City that for the life of the Building it will take all steps required of it to guarantee that the Dwelling Units are occupied in accordance with the terms of this Agreement, granting the occupants a residential rental tenure to the Dwelling Unit that they occupy.

3.5 Minimum Tenure for Rent Controlled Rental Unit – Subject to the *Residential Tenancy Act,* each Rent Controlled Rental Unit must be occupied by Income Tested Tenant(s) at no more than the Permitted Rent for a minimum period of fifteen (15) years from the date on which the City has issued an occupancy permit for the Rent Controlled Rental Unit.

3.6 Priority Tenants – Notwithstanding anything else in this Agreement, a Priority Tenant

occupying a Rent Controlled Rental Unit at the end of the period specified in section 3.5 shall be entitled to continue occupying a Rent Controlled Rental Unit at no more than the Permitted Rent for the life of the Building.

ARTICLE 4 DEMOLITION OF DWELLING UNIT

4.1 **Demolition** – The Owner will not demolish a Dwelling Unit unless:

(a) the Owner has obtained the written opinion of a professional engineer or architect who is at arm's length to the Owner that it is no longer reasonable or practical to repair or replace any structural component of the Dwelling Unit, and the Owner has delivered to the City a copy of the engineer's or architect's report; or

(b) the Dwelling Unit is damaged or destroyed, to the extent of 40% or more of its value above its foundations, as determined by the City, in its sole discretion,

and, in each case, a demolition permit for the Dwelling Unit has been issued by the City and the Dwelling Unit has been demolished under that permit.
Following demolition, the Owner will use and occupy any replacement Dwelling Unit in compliance with this Agreement to the same extent and in the same manner as this Agreement applies to the original Dwelling Unit, and the Dwelling Unit must be approved by the City as a Rent Controlled Rental Unit, or Secure Rental Unit, in accordance with this Agreement.

ARTICLE 5 DEFAULT AND REMEDIES

5.1 Payment of Excess Charges – The Owner agrees that, in addition to any other remedies available to the City under this Agreement or at law or in equity, if a Dwelling Unit is used or occupied in breach of this Agreement, if an Dwelling Unit is rented at a rate in excess of the Permitted Rent or the Owner imposes in respect of any tenancy of a Dwelling Unit any fee or charge of whatsoever nature other than Permitted Tenant Charges, the Owner will pay the Excess Charges to the City. The Excess Charges are due and payable five (5) business days following receipt by the Owner of an invoice from the City for the same.

5.2 Payment of Daily Amount – The Owner agrees that, in addition to any other remedies available to the City under this Agreement or at law or in equity, if a Dwelling Unit is used or occupied in breach of this Agreement, or the Owner is otherwise in breach of any of its obligations under this Agreement, the Owner will pay the Daily Amount to the City for every day that the breach continues after forty-five (45) days' written notice from the City to the Owner stating the particulars of the breach. The Daily Amount is due and payable five (5) business days following receipt by the Owner of an invoice from the City for the same.

5.3 Rent Charge – The Owner hereby grants to the City a perpetual rent charge against the Lands securing payment by the Owner to the City of any amount payable by the Owner

pursuant to section 5.2 of this Agreement. The Owner agrees that the City, at its option, may enforce payment of such outstanding amount in a court of competent jurisdiction as a contract debt, by an action for and order for sale, by proceedings for the appointment of a receiver, or in any other method available to the City at law or in equity. This rent charge is created both under section 205(2)(b) of the *Land Title Act* as an integral part of the statutory covenant created by this Agreement and as a fee simple rent charge at common law. Enforcement of this rent charge by the City does not limit, or prevent the City from enforcing, any other remedy or right the City may have again the Owner.

5.4 **Damages Inadequate –** Notwithstanding section 5.2 and 5.3, the Owner acknowledges and agrees that in case of a breach of this Agreement which is not fully remediable by the mere payment of money and promptly so remedied, the harm sustained by the City and to the public interest will be irreparable and not susceptible of adequate monetary compensation.

5.5 **No Remedy is Exclusive –** No remedy under this Agreement is deemed to be exclusive but will, where possible, be cumulative with all other remedies available under this Agreement, at law or in equity.

ARTICLE 6 MISCELLANEOUS

6.1 **Housing Agreement** – The Owner acknowledges and agrees that:

(a) this Agreement includes a housing agreement entered into under section 483 of the *Local Government Act* and a covenant under section 219 of the *Land Title Act*;

(b) the Owner will, at its sole cost register this Agreement in the LTO pursuant to section 483 of the *Local Government Act* against the title to the Lands.

6.2 **Modification** – this Agreement may be modified or amended from time to time, by consent of the Owner and a bylaw duly passed by the Council of the City and thereafter if it is signed by the City and the Owner.

6.3 **Management** – The Owner covenants and agrees that it will furnish good and efficient management of the Dwelling Units, that all Dwelling Units will be managed by the same manager and that the Owner will permit representatives of the City to inspect the Dwelling Units at any reasonable time, subject to the notice provisions in the *Residential Tenancy Act*. The Owner further covenants and agrees that it will maintain the Dwelling Units in a good state of repair and fit for habitation and will comply with all laws, including health and safety standards applicable to the Lands. Notwithstanding the foregoing, the Owner acknowledges and agrees that the City, acting reasonably, may require the Owner, at the Owner's expense, to hire a person or company with the skill and expertise to manage the Dwelling Units.

6.4 **Indemnity** – The Owner will indemnify and save harmless the City and each of its elected officials, officers, directors, and agents, and their heirs, executors, administrators, personal

representatives, successors and assigns, from and against all claims, demands, actions, loss, damage, costs and liabilities, which all or any of them will or may be liable for or suffer or incur or be put to by reason of or arising out of:

(a) any negligent act or omission of the Owner, or its officers, directors, agents, contractors or other persons for whom at law the Owner is responsible relating to this Agreement;

(b) the construction, maintenance, repair, ownership, lease, license, operation, management or financing of the Lands or any Dwelling Unit or the enforcement of any Tenancy Agreement; or

(c) without limitation, any legal or equitable wrong on the part of the Owner or any breach of this Agreement by the Owner.

6.5 **Release** – The Owner hereby releases and forever discharges the City and each of its elected officials, officers, directors, and agents, and its and their heirs, executors, administrators, personal representatives, successors and assigns, from and against all claims, demands, damages, actions, or causes of action by reason of or arising out of or which would or could not occur but for the:

(a) construction, maintenance, repair, ownership, lease, license, operation or management of the Lands or any Dwelling Unit under this Agreement; or

(b) the exercise by the City of any of its rights under this Agreement.

6.6 **Survival** – The indemnity and release set out in this Agreement will survive termination or discharge of this Agreement.

6.7 **Priority** – The Owner will do everything necessary, at the Owner's expense, to ensure that this Agreement will be noted and registered against title to the Lands in priority to all financial charges and financial encumbrances which may have been registered or are pending registration against title to the Lands save and except those specifically approved in advance in writing by the City or in favour of the City, and that a notice under section 483(5) of the *Local Government Act* will be filed on the title to the Lands.

6.8 **City's Powers Unaffected** – This Agreement does not:

(a) affect, fetter or limit the discretion, rights, duties or powers of the City under any enactment or at common law, including in relation to the use or subdivision of the Lands;

(b) impose on the City any legal duty or obligation, including any duty of care or contractual or other legal duty or obligation, to enforce this Agreement;

(c) affect or limit any enactment relating to the use or subdivision of the Lands; or

(d) relieve the Owner from complying with any enactment, including in relation to the use or subdivision of the Lands.

6.9 Agreement for Benefit of City Only – The Owner and the City agree that:

(a) this Agreement is entered into only for the benefit of the City;

(b) this Agreement is not intended to protect the interests of the Owner, any Tenant, or any future owner, lessee, occupier or user of the Lands or the building or any portion thereof, including any Dwelling Unit; and

(c) the City may at any time execute a release and discharge of this Agreement, without liability to anyone for doing so, and without obtaining the consent of the Owner.

6.10 No Public Law Duty – Where the City is required or permitted by this Agreement to form an opinion, exercise a discretion, express satisfaction, make a determination or give its consent, the Owner agrees that the City is under no public law duty of fairness or natural justice in that regard and agrees that the City may do any of those things in the same manner as if it were a private party and not a public body.

6.11 Notice – Any notice required to be served or given to a party herein pursuant to this Agreement will be sufficiently served or given if delivered, to the postal address of the Owner set out in the records at the LTO, and in the case of the City addressed to:

City of White Rock
15322 Buena Vista Avenue
White Rock, BC V4B 1Y6

Attention: Director of Corporate Administration

or to the most recent postal address provided in a written notice given by each of the parties to the other. Any notice which is delivered is to be considered to have been given on the first day after it is dispatched for delivery.

6.12 Enuring Effect – This Agreement will extend to and be binding upon and enure to the benefit of the parties hereto and their respective successors and permitted assigns.

6.13 Severability – If any provision of this Agreement is found to be invalid or unenforceable, such provision or any part thereof will be severed from this Agreement and the resultant remainder of this Agreement will remain in full force and effect.

6.14 Waiver – All remedies of the City will be cumulative and may be exercised by the City in any order or concurrently in case of any breach and each remedy may be exercised any number of times with respect to each breach. Waiver of or delay in the City exercising any or all remedies will not prevent the later exercise of any remedy for the same breach or any

similar or different breach.

6.15 **Whole Agreement** – This Agreement, and any documents signed by the Owner contemplated by this Agreement, represent the whole agreement between the City and the Owner respecting the use and occupation of the Dwelling Unit, and there are no warranties, representations, conditions or collateral agreements made by the City except as set forth in or contemplated by this Agreement.

6.16 **Further Assurance** – Upon request by the City the Owner will forthwith do such acts and execute such documents as may be reasonably necessary in the opinion of the City to give effect to this Agreement.

6.17 **Agreement Runs with Lands** – This Agreement burdens and runs with the Lands and every parcel into which it is Subdivided in perpetuity. All of the covenants and agreements contained in this Agreement are made by the Owner for itself, its personal administrators, successors and assigns, and all persons who after the date of this Agreement acquire an interest in the Lands.

6.18 **Equitable Remedies** – The Owner acknowledges and agrees that damages would be an inadequate remedy for the City for any breach of this Agreement and that the public interest strongly favours specific performance, injunctive relief (mandatory or otherwise), or other equitable relief, as the only adequate remedy for a default under this Agreement.

6.19 **No Joint Venture** – Nothing in this Agreement will constitute the Owner as the agent, joint venturer, or partner of the City or give the Owner any authority to bind the City in any way.

6.20 **Applicable Law** – The laws of British Columbia (including, without limitation, the *Residential Tenancy Act*) will apply to this Agreement and all statutes referred to herein are enactments of the Province of British Columbia.

6.21 **Deed and Contract** – By executing and delivering this Agreement the Owner intends to create **both** a contract and a deed executed and delivered under seal.

6.22 **Joint and Several** – If the Owner is comprised of more than one person, firm or body **corporate**, then the covenants, agreements and obligations of the Owner shall be joint and several.

6.23 **Limitation on Owner's Obligations** – The Owner is only liable for breaches of this Agreement that occur while the Owner is the registered owner of the Lands provided however that notwithstanding that the Owner is no longer the registered owner of the Lands, the Owner will remain liable for breaches of this Agreement that occurred while the Owner was the registered owner of the Lands. For greater certainty, the Owner shall not be liable for the breach of any obligation under this Agreement, if the act of complying with such obligation would be contrary to any applicable laws, including the *Residential Tenancy Act.*

6.24 **Term –** This Agreement will commence on the date of its making, and will continue until

the date:

(a) the Owner and City agree in writing to terminate this Agreement, and

(b) the City discharges this Agreement from title in the LTO as a covenant and from filing in the LTO as a housing agreement.

6.25 Expiry of Housing Agreement – Upon expiry, the Owner may provide to the City a draft discharge of this Agreement, which the City will execute and return to the Owner for filing and registration in the LTO.

IN WITNESS WHEREOF the parties hereto have executed this Agreement on the *Land Title Act* Charge General Instrument – Part 1 which is attached to and forms part of this Agreement.

SCHEDULE A - 1

STATUTORY DECLARATION

CANADA	)	**IN THE MATTER OF A HOUSING**
	)	**AGREEMENT WITH THE**
	)	**CORPORATION OF THE**
	)	**CITY OF WHITE ROCK**
PROVINCE OF BRITISH COLUMBIA	)	
	)	**("Housing Agreement")**

TO WITNESS:

I, _____ of _____, British Columbia,
[*Print name*] [*Address*]

DO SOLEMNLY DECLARE THAT:

1. This declaration is made with respect to the Dwelling Unit municipally described as _____, White Rock, British Columbia and legally described as PID: _____ (the "Rent Controlled Rental Unit").

2. I am an occupier of the Rent Controlled Rental Unit, having reached the age of 19 (the "Age of Majority"), and make this declaration to the best of my personal knowledge and believe the statements in this declaration are true.

3. This declaration is made pursuant to the Housing Agreement registered against title to the Rent Controlled Rental Unit (the "Housing Agreement").

4. I have received and reviewed a copy of the Housing Agreement and acknowledge that the terms and definitions in the Housing Agreement also apply to this declaration.

5. The names of all persons in my Household and their addresses for the past twelve (12) months are as follows:

_____
_____
_____
_____
_____

[*Insert names and addresses of all occupants of Rent Controlled Rental Unit Unit*]

6. The annual gross income of all of the individuals described in paragraph 5 above who have reached the Age of Majority is $_____. This amount does not exceed the Income Threshold under paragraph 7 below. Accompanying this declaration, unless otherwise waived in writing by the City, are true copies of the Notices of Assessment provided by the Canada Revenue Agency for the two most recent years for all individuals of my Household who are older than the Age of Majority.

7. As of the date of this declaration, the current Income Threshold for my Household is $_____.

8. I have a real and substantial connection with the City of White Rock based on one of the following considerations (*initial applicable box and provide details in space beside box*):

[____] I, or at least one member of my Household has resided in the City of White Rock for at least twelve (12) months before occupying the Rent Controlled Rental Unit (*provide details if applicable*):

_____

_____

[____] I, or at least one member of my Household has full-time employment within the City of White Rock (*provide details if applicable*):

_____

_____

[____] at least one member of the Household is enrolled in school or college on a full-time basis within the City of White Rock (*provide details if applicable*):

_____

_____

[____] I have a real and substantial connection with the City of White Rock based on the following considerations (*provide details if applicable*):

_____

_____

9. I agree to comply with the Owner's obligations under the Housing Agreement and other charges in favour of the City registered in the New Westminster Land Title Office against the Rent Controlled Rental Unit for so long as I am an occupier of the Rent Controlled Rental Unit.

10. I acknowledge and agree that damages are not an adequate remedy to the City in respect of any breach of the Housing Agreement by the Owner of a Rent Controlled Rental Unit, such that I agree the City will be entitled to an order for specific performance, injunction or other specific relief respecting any breach of this Agreement by the Owner or an occupier and to legal costs on a solicitor and client basis.

11. I make this solemn declaration, conscientiously believing it to be true and knowing that it is of the same force and effect as if made under oath and pursuant to the *Canada Evidence Act*.

DECLARED BEFORE ME AT)
_____ THIS)
_____ DAY OF _____, 20___)
)
)
_____)
Print name:)
A commissioner of oaths for the)
the Province of British Columbia)
[*Affix Commissioner's stamp or seal*)
)
)
)

_____
DECLARANT

NOTE: A false declaration may result in a fine of up to $2000.00, up to six months' imprisonment, or both.

SCHEDULE B

PERMITTED RENT

"Rent Controlled Rental Units" rented to Income Tested Tenants	
Unit Type	One, two and three-bedroom
Permitted Rent	20% below the average rent for each of these unit types in White Rock, British Columbia as determined by Canada Mortgage and Housing Corporation's most recent Rental Market Survey

"Secured Rental Units"				
Unit Type	Studio	One-Bedroom	Two-Bedroom	Three-Bedroom
Permitted Rent	No maximum	No maximum.	No maximum.	No maximum

PRIORITY - MEMORANDUM AS TO INTEREST

Mortgage CB904727 and Assignment of Rents CB904728 registered against the Lands at the New Westminster Land Title Office, are called herein the "Interest".

CONSENT TO PRIORITY

Bancorp Balanced Mortgage Fund II Ltd. (Incorporation No. BC0856913), Bancorp Growth Mortgage Fund II Ltd. (Incorporation No. BC0856914), Bancorp Financial; Services Inc. (Incorporation No. BC0712503), and VersaBank, the holders as joint tenants of the Interest referred to in the memorandum above written, in consideration of $1.00 now paid to us and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, each hereby consent to the granting of this Housing Agreement and each hereby covenant that this Housing Agreement and Covenant will rank in priority upon the Lands over the Interest as if this Housing Agreement and Covenant had been registered prior to the Interest.

IN WITNESS WHEREOF the parties have executed this Agreement on the *Land Title Act* Charge General Instrument – Part 1 to which this Housing Agreement and Covenant is attached and which form part of this Housing Agreement and Covenant, effective as of the date first above written.