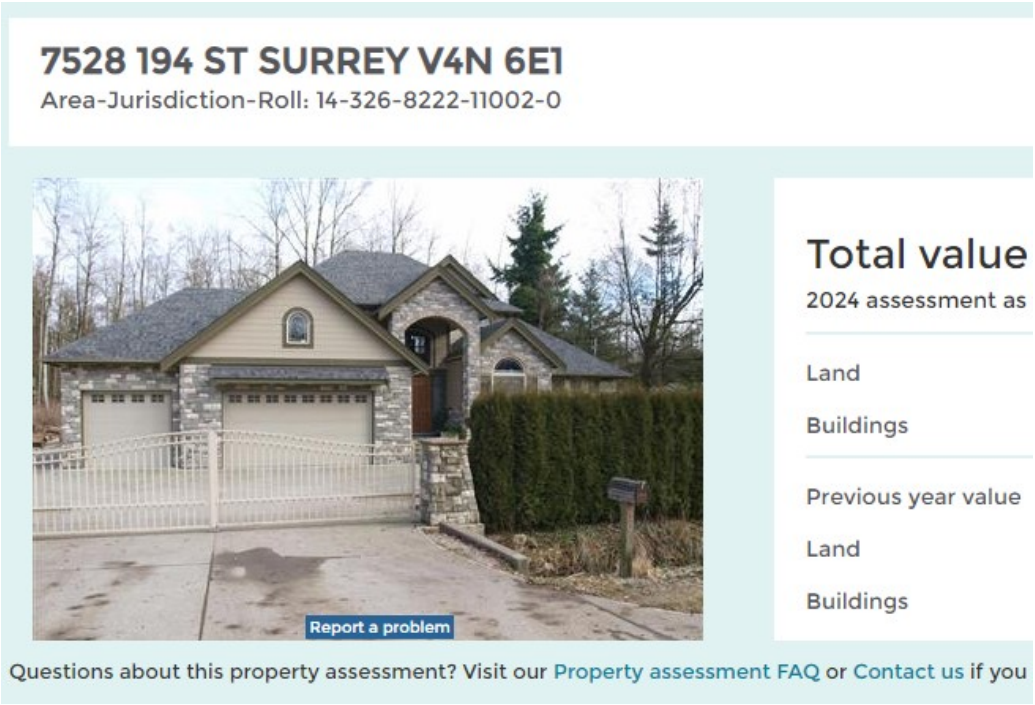


I also looked into the Qualico property further. The station layout could be squeezed onto that property as attached Option 3. Compare these two options, the layout on Qualico's property is much better than the one on Bosa's properties.

Hope above info helps and have a great weekend!
Kally

Kally Jiang (She/Her/Hers) | P. Eng.
Senior Engineer, Electrical Design
Stations Division, Transmission Engineering

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6911 Southpoint Drive, E06th Floor
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T 604 528 2605
F 604 528 1600
E Kally.Jiang@bchydro.com

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From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, July 18 9:56 AM
To: Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: FW: TM0592 - Willoughby Heights Sub, Alt 20

Hi Kally, a new set of properties has arisen for consideration. Please refer to the e-mail string below. The two properties together are 100 m wide by 391 m long. Can you have a quick look and see whether we could accommodate all the requirements on this parcel> That would dbe the 4 linepositions, the 25 kV section and potentially a 69 kV section? Can you respond back directly to Robert, Dmitry as well as me? I will be on vacation for two weeks so will not be able to respond after mid day tomorrow.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Wednesday, July 17, 2024 2:12 PM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Cc: Chan, David Y.M. <David.Chan@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM0592 - Willoughby Heights Sub, Alt 20

Hi Dmitry,
We will need planning and engineering to look at it.
Problem that I see is that there is not two areas of access.
We are landlocked.
But let's brighter minds than mine make that decision.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
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C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, July 17 1:12 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Chan, David Y.M. <David.Chan@bchydro.com>
Subject: TM0592 - Willoughby Heights Sub, Alt 20

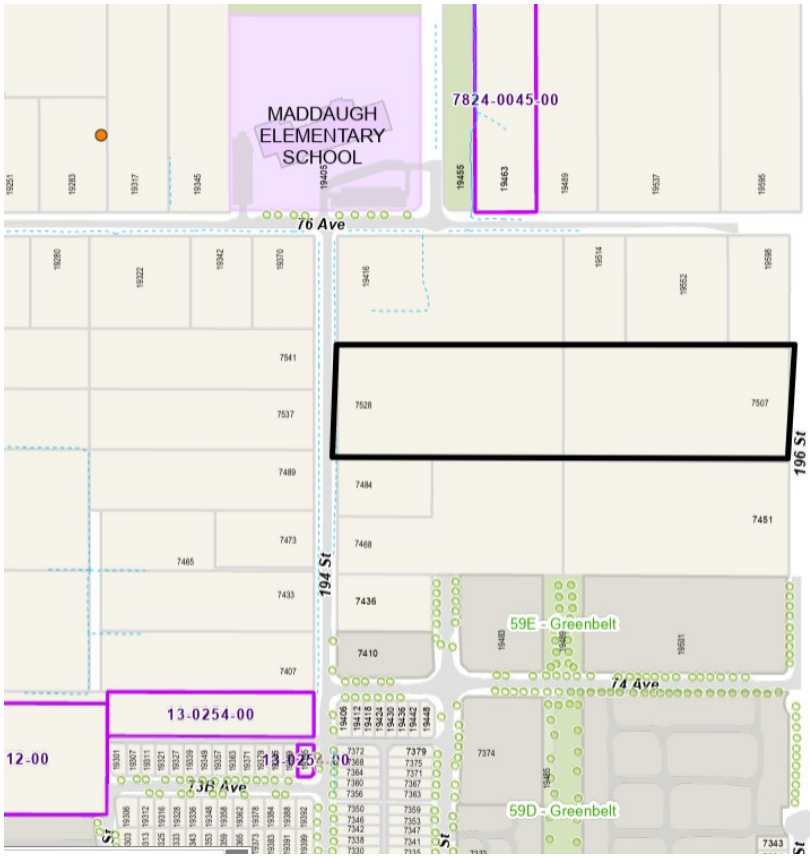
Hi Robert,

I have an update regarding Alternative 20. I spoke to both owners today and looks like both will be willing to sell at the right price. Here are the details of our conversation:

1) 7451 196 ST SURREY – private owner, wants to develop a townhouse. The owner will talk to the rest of the owners to see what price may work for them. I expect it to be $3M+ per acre.

2) 7507 196 ST SURREY – owned by Bosa Properties, they also own a property to the west (7528 194 ST SURREY). I spoke to the Director of Acquisitions and Bosa is currently talking to someone who is seriously interested in buying both properties. The price they are looking to get for both is $2.5-$3M per acre. Bosa is interested in selling both lots, less interested in selling only one. From the design perspective, is it feasible to build a substation on such a long narrow lot (just over 9 acres) fronting 196 St and 194 St? Please refer to the snip below.

If it is feasible then we should probably pursue the 2 Bosa lots instead and act fast.



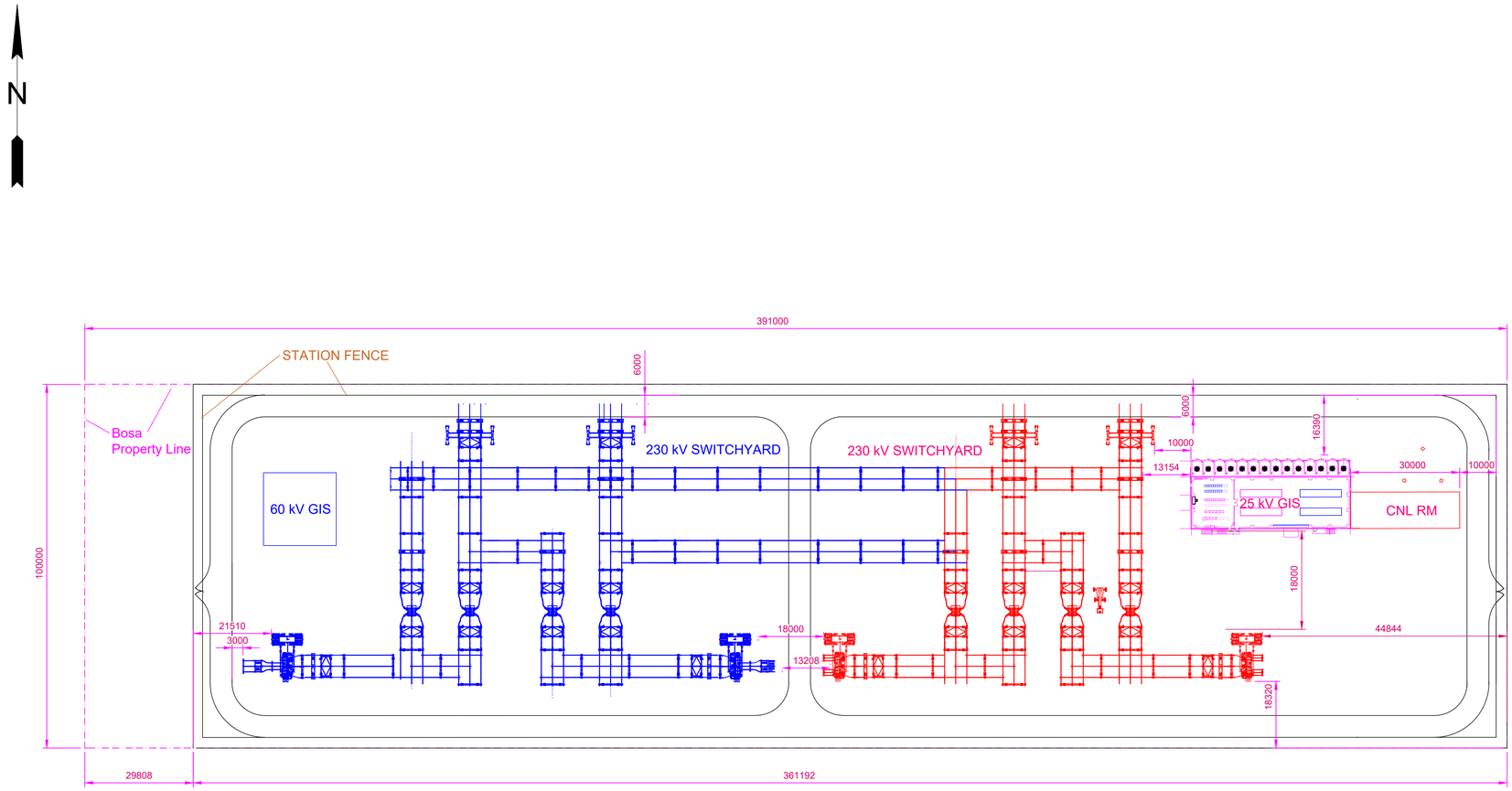
Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604 623 3566
M 604 690 9836
E dmitry.sherevkulov@bchydro.com

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NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

SCALE: 1:1 — 0 — 50mm

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SHOWN

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K.JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

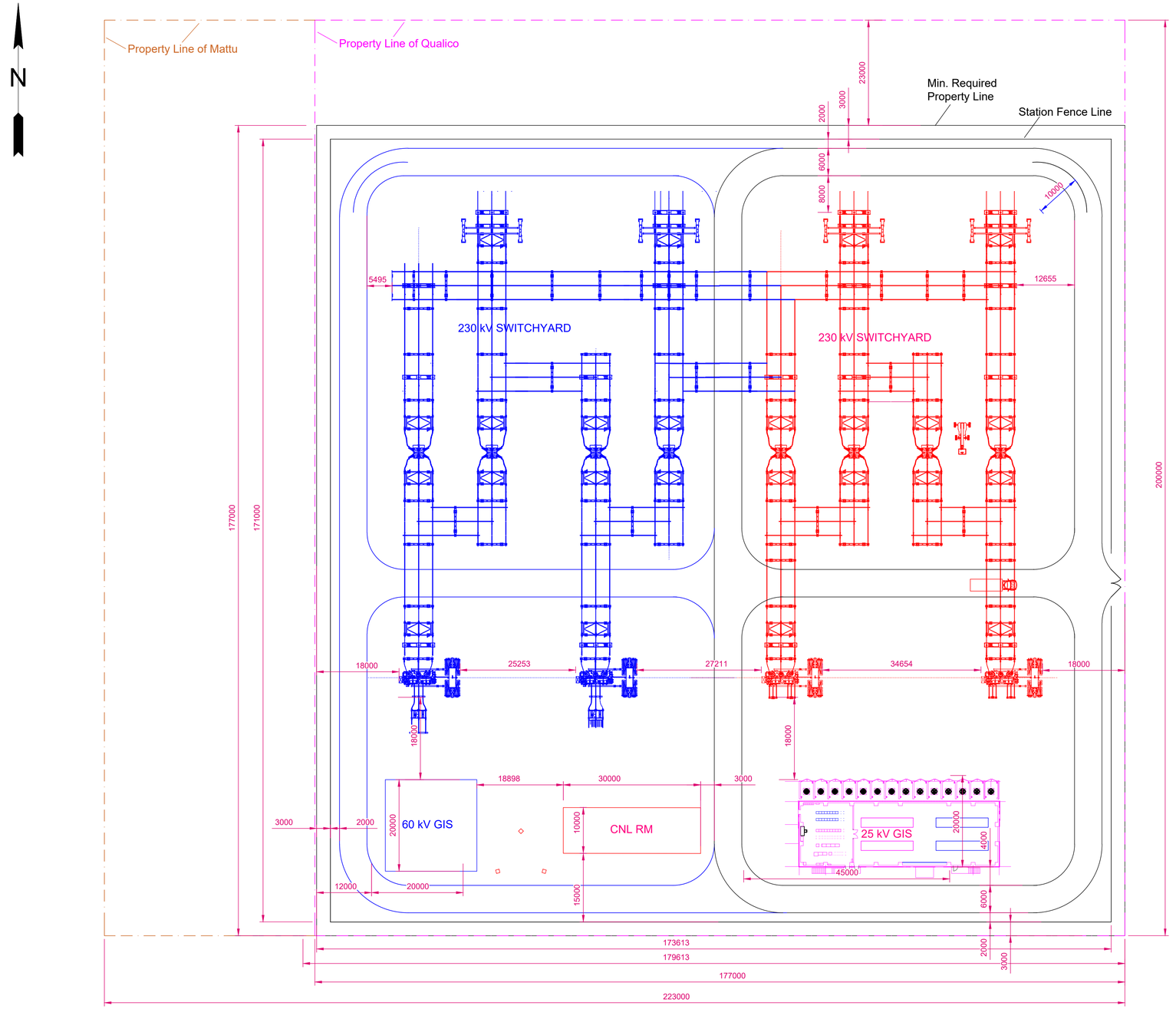
WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024JUL19		WIB-E05-SK004			D	0A

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

C:\Users\kjang\OneDrive - BC Hydro\F25 Projects\1-CIPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240718-Bosa\WIB-E05-SK004-Option 1-Outdoor 230 +GIS 60n25-To Fit Bosa Property-20240715.dwg
Drawing Unit = Metric (4)
Width: 44.0
2/19/2024 4:15 PM



NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
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COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
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FOR DISCUSSION PURPOSES ONLY

SCALE: 1:1 — 0 — 50mm

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SHOWN

REFERENCE DRAWINGS

NO | REMARKS | REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K.JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024JUL10		WIB-E05-SK003-Option 2			D	0A

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C:\Users\kjiang\OneDrive - BC Hydro\F25 Projects\1-CIPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240705-Qualico\3rd set\WIB-E05-SK003-Option 3-2-Outdoor 230 +GIS 60in25-To Fit Qualico Property-20240710.dwg
Drawing Unit = Metric (4)
Model Space, 1:1
7/15/2024 4:03 PM

From: Chwaklinski, David
Sent: 2025, February 13 10:29 AM
To: Hepple, Robert
Cc: Chwaklinski, David
Subject: RE: TM-0592 WIB Property Purchase

As I have not been directly involved in the McLellan project I can only provide this information

Four new 230 kV line positions are being created at McLellan Substation. It is expected that they will be used to supply the future Willoughby and Campbell Heights Substations. Willoughby will be connected via underground cables terminated either within or near the McLellan Station. The details have not been finalized at this time. Campbell Heights is expected to be connected via overhead Transmission to the McLellan line positions.

From: Hepple, Robert
Sent: Thursday, February 13, 2025 10:17 AM
To: Chwaklinski, David
Subject: RE: TM-0592 WIB Property Purchase

How is it connected to the MLN substation?
This is the language I need

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2025, February 13 10:15 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM-0592 WIB Property Purchase

I would say that “The project initially assumed that the connection point was to be a Tap connection somewhere along 2L076. Following initial investigation of target properties a decision was made by “???????” that Willoughby would be connected to McLellan Substation.”

My understanding was that Surinder was involved in the decision, but I don’t know any more than that.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, February 13, 2025 10:06 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM-0592 WIB Property Purchase

Hi David,
I thought so.
So what is the correct language to insert?
Robert

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2025, February 13 10:01 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM-0592 WIB Property Purchase

H Robert. That was the initial assumption before someone made the decision to connect at McLellan.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, February 13, 2025 8:34 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: FW: TM-0592 WIB Property Purchase

Wrong David,
Can you confirm the point of interconnection?
Robert

From: Hepple, Robert
Sent: 2025, February 13 8:22 AM
To: Qin, Martin L <Martin.Qin2@bchydro.com>
Cc: Chan, David Y.M. <David.Chan@bchydro.com>
Subject: TM-0592 WIB Property Purchase

Hi Martin and David,
I have been reviewing a report authored by Andrew in IR on our WIB property purchase.
In the report he makes the following statement;

“Transmission connection for the new substation will likely be loop-in loop-out of the existing 2L76 line (this will be confirmed by Transmission Planning).”

Is this correct?

Robert

Robert Hepple P.Eng.

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From: Berdusco, Jeff
Sent: 2024, June 24 9:21 AM
To: Evans, Jen; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Jen,

My notes from our chat say Alt 8 and 15 were cancelled for Campbell Heights…..only was supposed to review 14.

I have it completed, and can send it anytime, but Harry and I would just have to look at it together quickly.

Can you confirm 15 is a go

J

From: Evans, Jen
Sent: Monday, June 24, 2024 9:02 AM
To: Berdusco, Jeff ; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Hi Jeff,

I can’t find wildlife comments on Alternative 15 – anything to add for this property?

Let me know. Thanks,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Sent: 2024, June 19 10:09 AM
To: van Oort, Harry <Harry.vanOort@bchydro.com>; Evans, Jen <Jen.Evans@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Hi Jen,

Harry and I have met and decided on a response. I have attached our 3 working documents but also populated your excel sheets. Please let me know if there is anything else to look at.

As Harry mentions, it would be great to be involved in some type of ranking for the different properties. From an enviro prospective, there certainly are a few that rise and a few that get pushed down due to our results.

Thanks!

J

From: van Oort, Harry <Harry.vanOort@bchydro.com>
Sent: Tuesday, June 18, 2024 11:02 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Berdusco, Jeff <Jeff.Berdusco@bchydro.com>; Brady, Karen <Karen.Brady@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Hi Jen

I just went over this with Jeff and he will provide updated screening info.

When it comes time to rank the properties, please loop me in as the weighting of screening values isn't necessarily straighforward.

Thanks

H

From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: 2024, June 18 9:31 AM
To: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>; Brady, Karen <Karen.Brady@bchydro.com>
Cc: van Oort, Harry <Harry.vanOort@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Thanks Jeff for pointing out the error – please find attached UPDATED site plan for the new Qualico site from the PM.

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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From: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Sent: 2024, June 18 7:48 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Brady, Karen <Karen.Brady@bchydro.com>
Cc: van Oort, Harry <Harry.vanOort@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review

Hi Jen, No problem.

However before I spend time on this…….I overlayed the KMZ file and its over top of the Alt 17 that we screened last week.

Can you confirm this new alternative (Red polygon) is the same boundary as the previous Alt 17 (blue polygon)



From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: Monday, June 17, 2024 3:21 PM
To: Brady, Karen <Karen.Brady@bchydro.com>; Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Cc: van Oort, Harry <Harry.vanOort@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: TM-0592 Willoughby Additional Alternative for high level review

Hi Karen and Jeff,

We have been given an additional property to screen for TM-0592 Willoughby – please see attached kmz.

BC Hydro charge code: TM0592 1410 A01H

Thanks in advance,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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E jen.evans@bchydro.com

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, June 17 10:45 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Lee, Johnson <Johnson.Lee@bchydro.com>
Subject: Willoughby Current 4 Alternatives

Hi Jen and Rob,
Here is the KMZ file for Willoughby.
As discussed in our project meeting, we are not considering Alt 17A & 17B any further, as the Owner (Qualico) wants to develop these properties.
Qualico has offered instead, what I am calling Option 8.1 acres.
Lauren can you please identify this option it in your SVA file? I suspect it will be Alt. 18 but you decide.
Qualico is requesting a Term Sheet, as a precursor to an Option Agreement, which we will prepare.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
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C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: van Oort, Harry
Sent: 2024, June 18 10:02 AM
To: Evans, Jen; Berdusco, Jeff; Brady, Karen
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jen

I just went over this with Jeff and he will provide updated screening info.

When it comes time to rank the properties, please loop me in as the weighting of screening values isn't necessarily straighforward.

Thanks

H

From: Evans, Jen
Sent: 2024, June 18 9:31 AM
To: Berdusco, Jeff ; Brady, Karen
Cc: van Oort, Harry ; Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review - UPDATED site plan

Thanks Jeff for pointing out the error – please find attached UPDATED site plan for the new Qualico site from the PM.

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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E jen.evans@bchydro.com

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Smart about power in all we do.

From: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Sent: 2024, June 18 7:48 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Brady, Karen <Karen.Brady@bchydro.com>
Cc: van Oort, Harry <Harry.vanOort@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review

Hi Jen, No problem.

However before I spend time on this…….I overlayed the KMZ file and its over top of the Alt 17 that we screened last week.

Can you confirm this new alternative (Red polygon) is the same boundary as the previous Alt 17 (blue polygon)



From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: Monday, June 17, 2024 3:21 PM
To: Brady, Karen <Karen.Brady@bchydro.com>; Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Cc: van Oort, Harry <Harry.vanOort@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: TM-0592 Willoughby Additional Alternative for high level review

Hi Karen and Jeff,

We have been given an additional property to screen for TM-0592 Willoughby – please see attached kmz.

BC Hydro charge code: TM0592 1410 A01H

Thanks in advance,

Jen

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, June 17 10:45 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Lee, Johnson <Johnson.Lee@bchydro.com>
Subject: Willoughby Current 4 Alternatives

Hi Jen and Rob,
Here is the KMZ file for Willoughby.
As discussed in our project meeting, we are not considering Alt 17A & 17B any further, as the Owner (Qualico) wants to develop these properties.
Qualico has offered instead, what I am calling Option 8.1 acres.
Lauren can you please identify this option it in your SVA file? I suspect it will be Alt. 18 but you decide.
Qualico is requesting a Term Sheet, as a precursor to an Option Agreement, which we will prepare.
Robert

Robert Hepple P.Eng.

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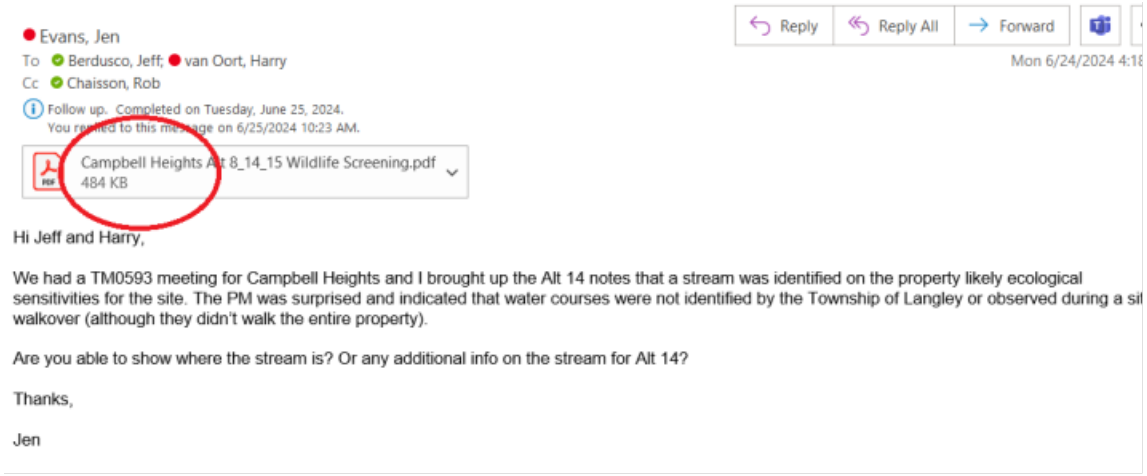
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From: Berdusco, Jeff
Sent: 2024, June 25 12:01 PM
To: Evans, Jen; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Follow Up Flag: Follow up
Flag Status: Flagged

Sorry no

The email sent previously asking Harry and I (on June 24 at 16:18) about a stream that bisects Alt 14 specifically referred to Campbell Heights.



So for clarity, that is the Alternative I adjusted our assessment for.

Alternate 14d for Willoughby is another discussion! 😊

FWIW, Alt 14d for Willoughby has a stream nearby, but does not bisect the property.

Please call the cell if you would like to discuss any time.

Jeff

From: Evans, Jen
Sent: Tuesday, June 25, 2024 11:39 AM
To: Berdusco, Jeff ; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Hi Jeff,

Just want to ensure we're taking about the same site. The priority site of interest is Alt 14d shown in the attached.

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

Smart about power in all we do.

From: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Sent: 2024, June 25 10:29 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Ok, updated.

Please let me know if that works?

J

From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: Tuesday, June 25, 2024 11:08 AM
To: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Ok thanks Jeff. Yes please update the comments.

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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M 778-873-7022
E jen.evans@bchydro.com

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From: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>
Sent: 2024, June 25 9:23 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Hi Jen,
Its a limitation to the desktop screening. The treed property certainly looks like riparian, or a stream goes through and is possibly connected to the Latimer Pond area.

That is based on desktop only. Nothing mapped shows a stream. If a field visit has confirmed absence of a stream, then that risk can be removed.

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P 604-528-7897
M 778-873-7022
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bchydro.com

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Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14
Attachments: Campbell Heights Alt _14 Wildlife Screening.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Ok, updated.

Please let me know if that works?

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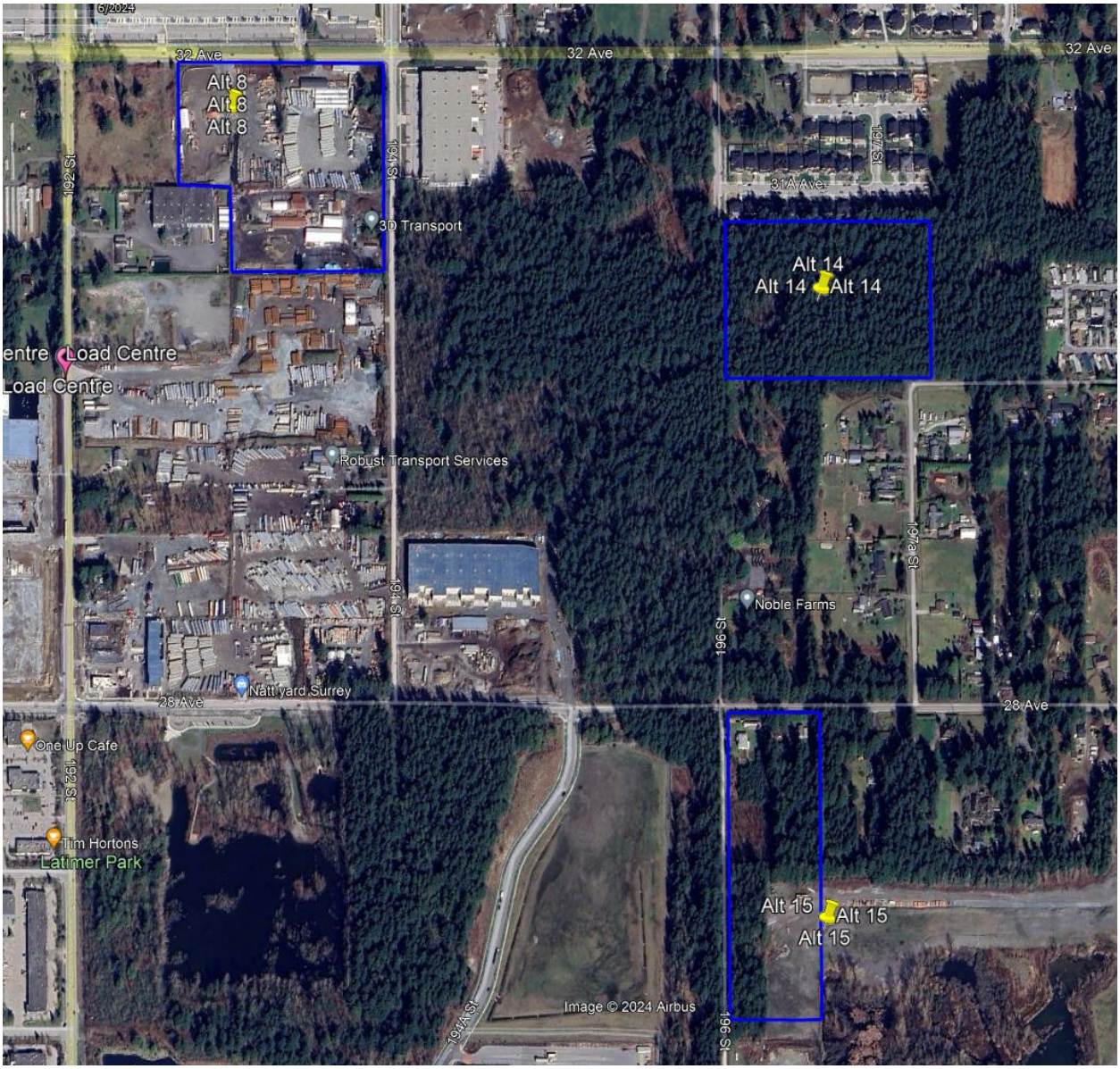
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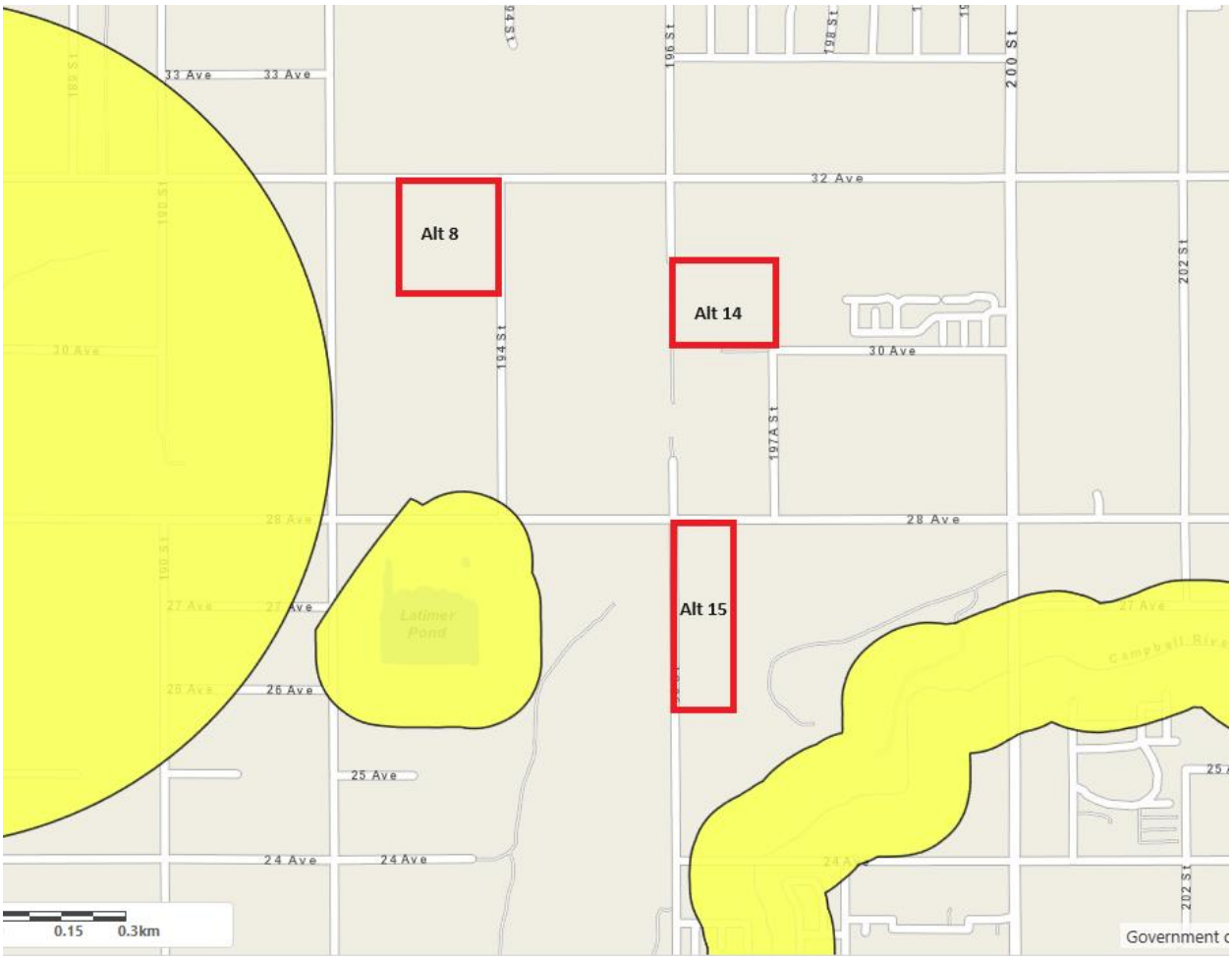
bchydro.com

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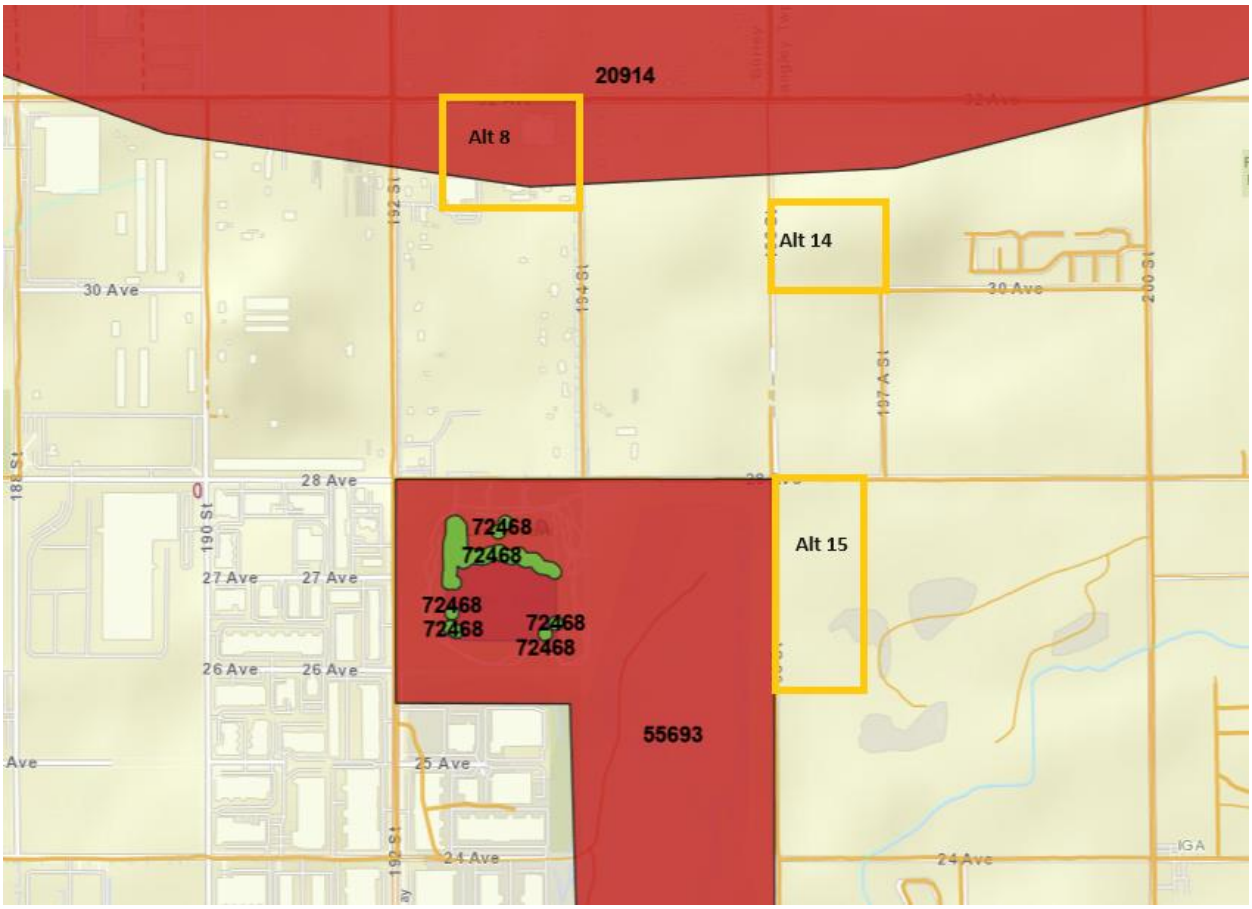
Critical Habitat			Comment	Alt 14	Comment	Alt 15	Comment
Presence of Critical Habitat	% coverage			0			
Presence of Garry Oak Ecosystem	Y/N			N			
Mature Forest	% coverage			100			
Presence of Old Growth Forest	% coverage			0			
Presence of Wetland	% coverage			0	Potential Risk: Stream may bisect the property. Field verification required to elliminate risk.		



Campbell Heights Google Earth Image



Campbell Heights Critical Habitat Information



Campbell Heights CDC information: Alt 8 inside Mountain Beaver CH. Alt 15 Next to Northern Red Legged Frog.

No documented occurrences for Alt 14, however the property is 100% treed and a large stream bisects the property. Its likely there will be ecological sensitives to consider which would rank this property low from an Environmental standpoint.

From: Berdusco, Jeff
Sent: 2024, June 25 9:23 AM
To: Evans, Jen; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Follow Up Flag: Follow up
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From: Berdusco, Jeff
Sent: 2024, June 25 12:38 PM
To: Evans, Jen; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Follow Up Flag: Follow up
Flag Status: Flagged

Yes, I updated Campbell Heights Alt 14 today and that lines up with the KMZ file in your last email.

Cheers,

J

From: Evans, Jen
Sent: Tuesday, June 25, 2024 1:19 PM
To: Berdusco, Jeff ; van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Ok no worries Jeff. My mistake - these properties are really blending!

You are correct! It is TM0593 Campbell Heights Alt 14 – outlined on the attached. This is the property that was rechecked and the comments updated – correct?

Jen

_____

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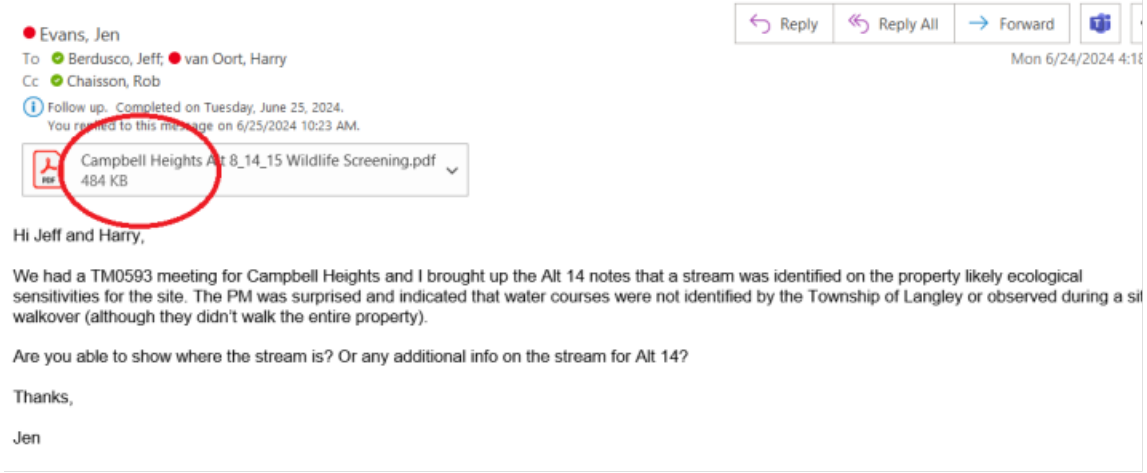
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To: Evans, Jen <Jen.Evans@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM-0592 Willoughby Additional Alternative for high level review -Alt 14

Sorry no

The email sent previously asking Harry and I (on June 24 at 16:18) about a stream that bisects Alt 14 specifically referred to Campbell Heights.


Reply | Reply All | Forward

Evans, Jen
To Berdusco, Jeff; van Oort, Harry
Cc Chaisson, Rob
Mon 6/24/2024 4:18
Follow up. Completed on Tuesday, June 25, 2024.
You replied to this message on 6/25/2024 10:23 AM.
Campbell Heights Alt 8_14_15 Wildlife Screening.pdf
484 KB

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Are you able to show where the stream is? Or any additional info on the stream for Alt 14?

Thanks,

Jen

So for clarity, that is the Alternative I adjusted our assessment for.

Alternate 14d for Willoughby is another discussion! 😊

FWIW, Alt 14d for Willoughby has a stream nearby, but does not bisect the property.

Please call the cell if you would like to discuss any time.

Jeff

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Hi Jeff,

Just want to ensure we're taking about the same site. The priority site of interest is Alt 14d shown in the attached.

Jen

_____

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Jen

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From: Hepple, Robert
Sent: 2024, June 10 2:38 PM
To: Sherevkulov, Dmitry
Cc: Chan, David Y.M.; Chwaklinski, David; Parmar, Surinder
Subject: RE: TM0592- Willoughby Heights - Properties in West Clayton for BC Hydro
Attachments: Qualico Offer 8.1 Acres.jpg

Hi David and Dmitry,
I propose we meet with them and explore an Option to Purchase the 78th Ave. property with the provision that we can also be successful in purchase the 8 acres to the south.
Let's see what they want for the 8.1 acres and what they know about the property to the south.
Can you set up a meeting please ?
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Sherevkulov, Dmitry
Sent: 2024, June 10 2:09 PM
To: Hepple, Robert

Cc: Chan, David Y.M.
Subject: TM0592- Willoughby Heights - Properties in West Clayton for BC Hydro

Hi Robert,

Please see the email from Qualico below.

Qualico plans to develop the two lots on 76 Ave. Properties on 80 Ave will be used as a storm pond to service surrounding development in the drainage catchment (both have an Option to Purchase on the title).

Other properties available for sale are listed below and only the first one could be suitable given its size.

Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604 623 3566
M 604 690 9836
E dmitry.sherevkulov@bchydro.com

bchydro.com

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From: Nathan Hildebrand <nathan.hildebrand@qualico.com>
Sent: 2024, June 10 10:19 AM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Cc: Eric Zhu <eric.zhu@qualico.com>
Subject: [External] Properties in West Clayton for BC Hydro

You don't often get email from nathan.hildebrand@qualico.com. Learn why this is important

Don't click on links or open attachments unless you trust the sender and are expecting the link or attachment. If you suspect this message to be phishing, please report it by clicking the Report Message button in the Outlook toolbar and select "Phishing."

Dmitry,

Circling back to our discussion of last week. This is confirming that Qualico is not interested in selling 18535 or 18477/18497 76th Avenue. These are part of our main development lands in West Clayton. 18478 80th Avenue is part of a purchase agreement we have with the owner to provide the needed storm pond to service all of the properties in this drainage catchment.

We do own land in North East Clayton to the east which could also service this area in the future. We may be willing to discuss selling the following properties if they work for your organization:

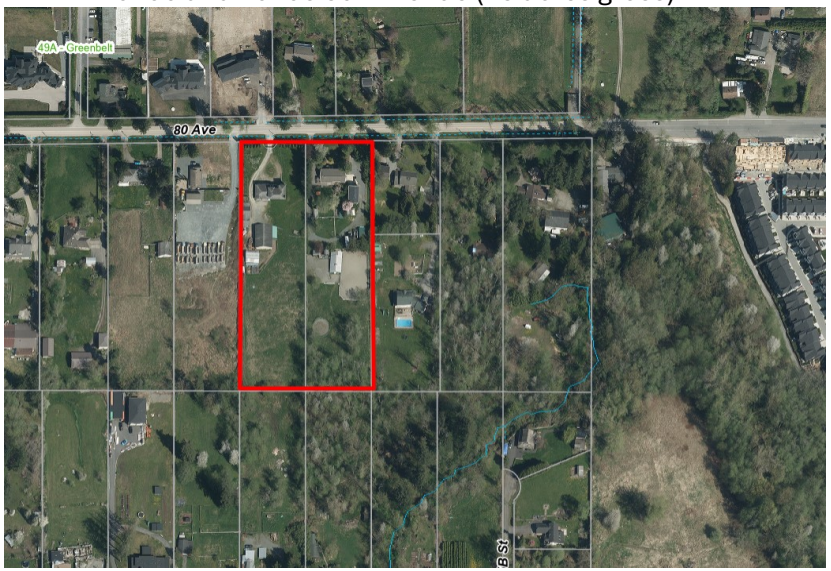
- 19526 and 19570 78th Avenue (~8.1 acres gross)



- 19317 and 19345 76th Avenue (~5 acres gross)



- 19490 and 19498 80th Avenue (~5 acres gross)



Take a look and if you would like to discuss, give me a call.

Thanks

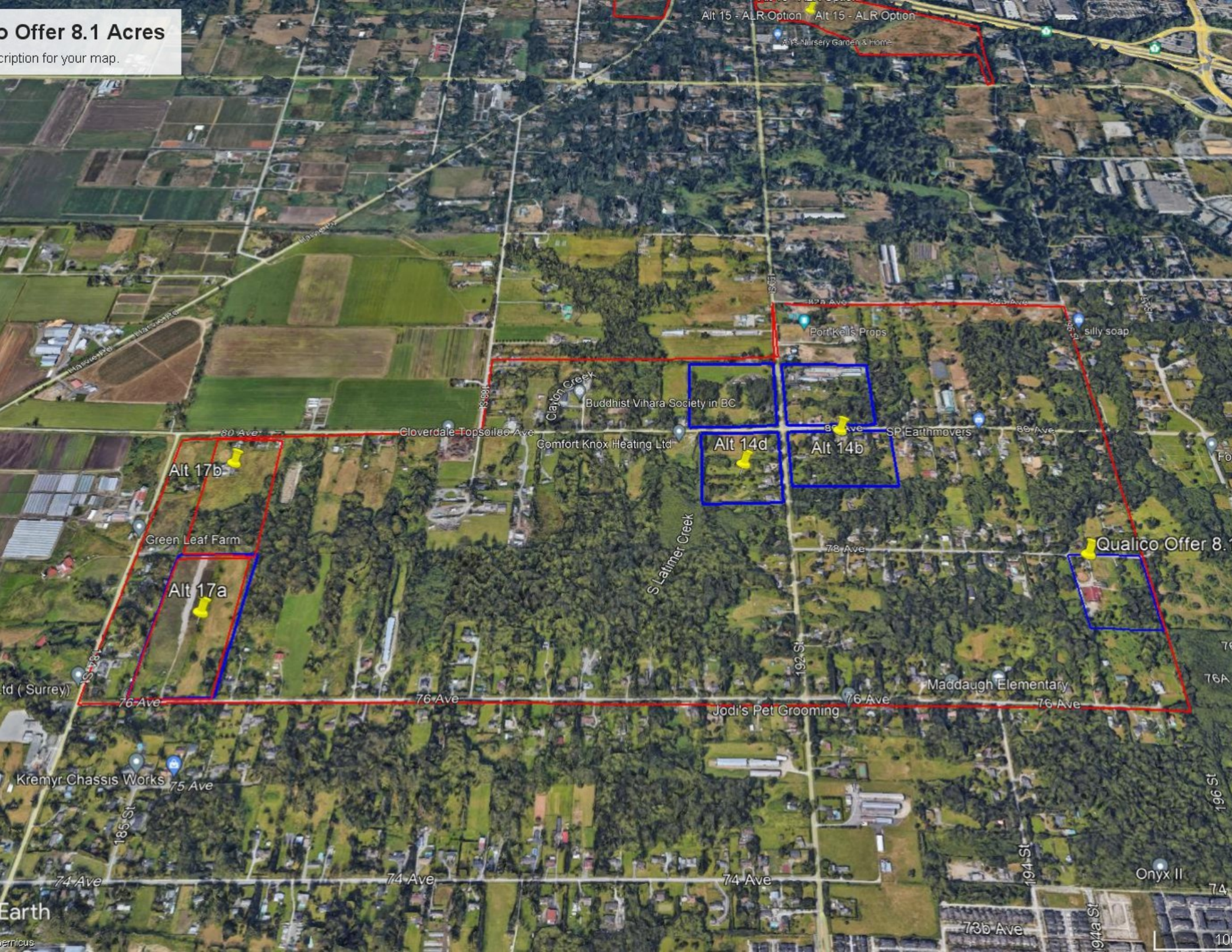
Nathan Hildebrand
Vice President

QUALICO communities

#201 – 6525 177B Street
Surrey, BC, V3S 5N4

Direct: 604 579 0421
Cell: 604 562 8665
Email: nathan.hildebrand@qualico.com

Qualico.com


o Offer 8.1 Acres
cription for your map.
Alt 15 - ALR Option
Alt 15 - ALR Option
Port Kells Props
silly soap
Clayton Creek
Buddhist Vihara Society in BC
Cloverdale Topsoil
Comfort Knox Heating Ltd
SP Earthmovers
Alt 14d
Alt 14b
Alt 17b
Green Leaf Farm
Alt 17a
S Latimer Creek
Qualico Offer 8.1
Maddaugh Elementary
Jodi's Pet Grooming
Kremyr Chassis Works
Onyx II
80 Ave
78 Ave
76 Ave
75 Ave
74 Ave
73b Ave
184 St
185 St
192 St
194 St
196 St

From: Hepple, Robert
Sent: 2024, June 10 2:38 PM
To: Sherevkulov, Dmitry
Cc: Chan, David Y.M.; Chwaklinski, David; Parmar, Surinder
Subject: RE: TM0592- Willoughby Heights - Properties in West Clayton for BC Hydro
Attachments: Qualico Offer 8.1 Acres.jpg

Hi David and Dmitry,
I propose we meet with them and explore an Option to Purchase the 78th Ave. property with the provision that we can also be successful in purchase the 8 acres to the south.
Let's see what they want for the 8.1 acres and what they know about the property to the south.
Can you set up a meeting please ?
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

Smart about power in all we do.

From: Sherevkulov, Dmitry
Sent: 2024, June 10 2:09 PM
To: Hepple, Robert

Cc: Chan, David Y.M.
Subject: TM0592- Willoughby Heights - Properties in West Clayton for BC Hydro

Hi Robert,

Please see the email from Qualico below.

Qualico plans to develop the two lots on 76 Ave. Properties on 80 Ave will be used as a storm pond to service surrounding development in the drainage catchment (both have an Option to Purchase on the title).

Other properties available for sale are listed below and only the first one could be suitable given its size.

Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604 623 3566
M 604 690 9836
E dmitry.sherevkulov@bchydro.com

bchydro.com

Smart about power in all we do.

From: Nathan Hildebrand <nathan.hildebrand@qualico.com>
Sent: 2024, June 10 10:19 AM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Cc: Eric Zhu <eric.zhu@qualico.com>
Subject: [External] Properties in West Clayton for BC Hydro

You don't often get email from nathan.hildebrand@qualico.com. Learn why this is important

Don't click on links or open attachments unless you trust the sender and are expecting the link or attachment. If you suspect this message to be phishing, please report it by clicking the Report Message button in the Outlook toolbar and select "Phishing."

Dmitry,

Circling back to our discussion of last week. This is confirming that Qualico is not interested in selling 18535 or 18477/18497 76th Avenue. These are part of our main development lands in West Clayton. 18478 80th Avenue is part of a purchase agreement we have with the owner to provide the needed storm pond to service all of the properties in this drainage catchment.

We do own land in North East Clayton to the east which could also service this area in the future. We may be willing to discuss selling the following properties if they work for your organization:

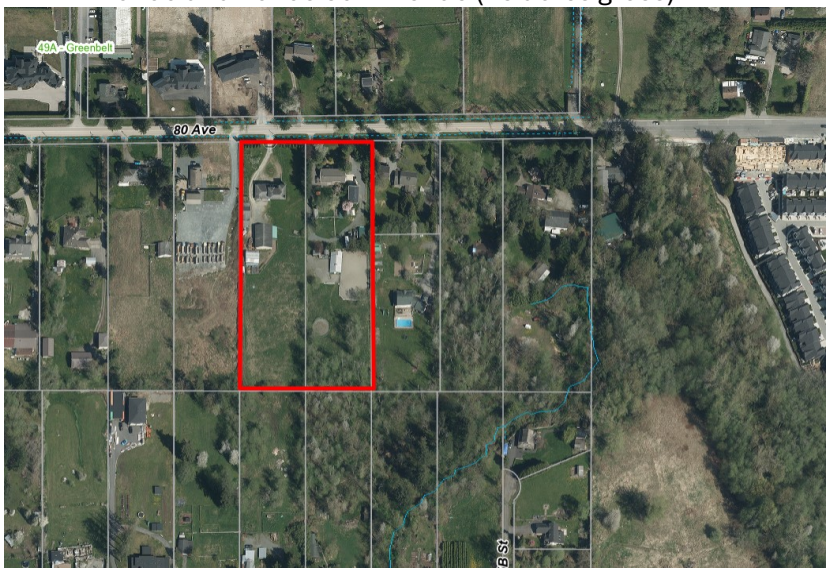
- 19526 and 19570 78th Avenue (~8.1 acres gross)



- 19317 and 19345 76th Avenue (~5 acres gross)



- 19490 and 19498 80th Avenue (~5 acres gross)



Take a look and if you would like to discuss, give me a call.

Thanks

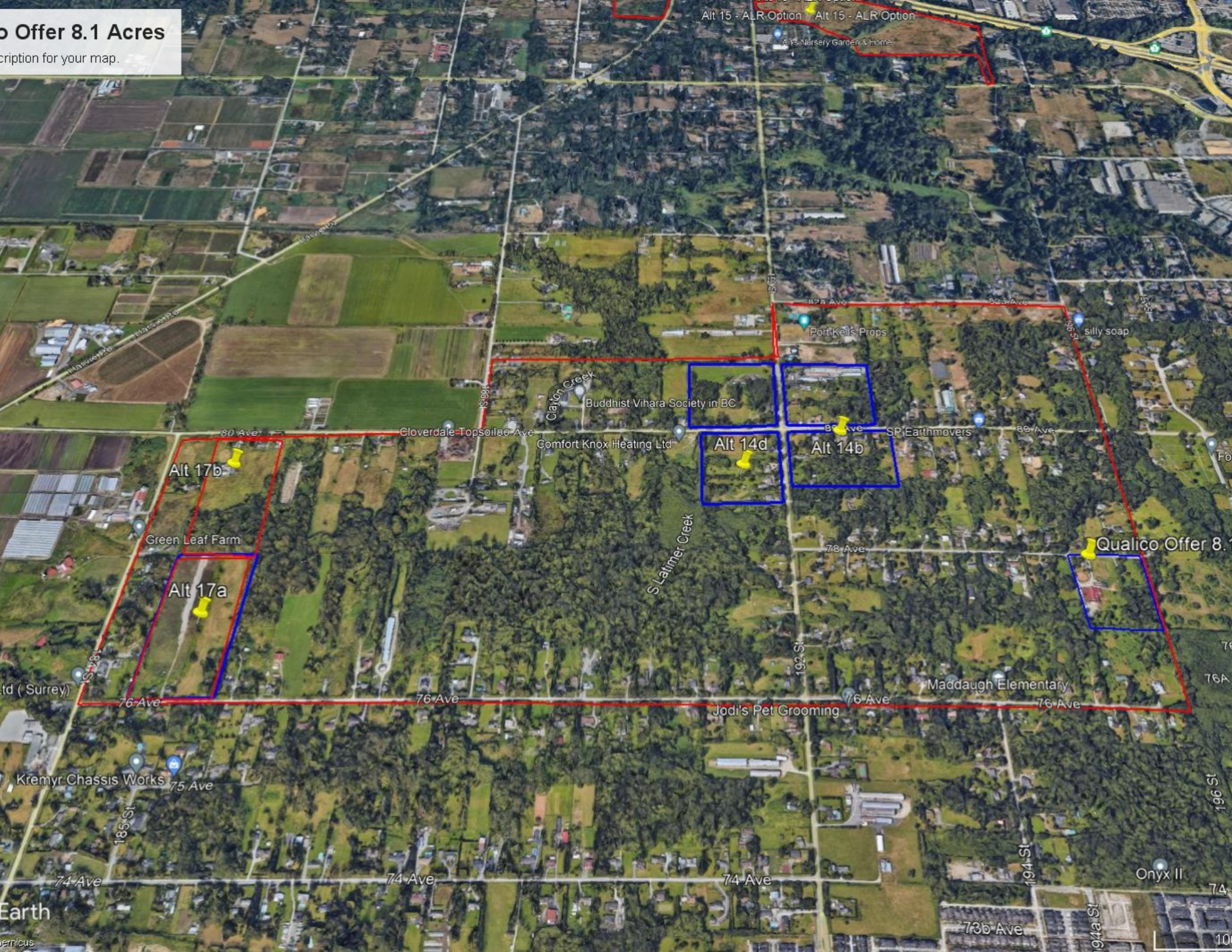
Nathan Hildebrand
Vice President

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Qualico.com


o Offer 8.1 Acres
cription for your map.
Alt 15 - ALR Option
Alt 15 - ALR Option
Port Kells Props
silly soap
Clayton Creek
Buddhist Vihara Society in BC
Cloverdale Topsoil
Comfort Knox Heating Ltd
SP Earthmovers
Alt 14d
Alt 14b
Alt 17b
Green Leaf Farm
Alt 17a
S Latimer Creek
Qualico Offer 8.1
Maddaugh Elementary
Jodi's Pet Grooming
Kremyr Chassis Works
Onyx II
80 Ave
78 Ave
76 Ave
75 Ave
74 Ave
73b Ave
184 St
185 St
192 St
194 St
196 St

From: Jiang, Kally
Sent: 2024, July 10 6:26 PM
To: Chwaklinski, David
Cc: Parmar, Surinder; Hepple, Robert
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase
Attachments: WIB-E05-SK003-Option 2-Outdoor 230 +GIS 60n25-To Fit Qualico Property-20240710.pdf

Hi, Dave,

Please check attached sketch for details and let me know if there is any concern.

Thanks,
Kally

From: Chwaklinski, David
Sent: 2024, July 10 10:58 AM
To: Jiang, Kally
Cc: Parmar, Surinder ; Hepple, Robert ; Chwaklinski, David
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase

Thank You Kally, I notice that you fit it with the line positions heading to the West. I understand why you did that but we will probably require them to go north. My thoughts are that we would construct part of the station with two line positions and the 25 kV section initially and if necessary expand in the future. TO do so we would need to obtain additional land to the west. This is currently under consideration. Please see the attached mapping.



Ultimately, to use the Qualicao property we would also need the Mattu property to the west. When combined (if it happens) the properties would be 223 m wide by 188 m deep. Can you redo the layout so that the line positions exit to the north and the 3rd and 4th line positions and associated 230 kV buswork (and the 60 kV yard) are future?

This will give us a good understanding of how we can best move forward.

This would also apply to the collection of properties to the south listed as Dhoot and Ngo although the line positions would need to exit southwards. The initial key is to determine what an interim statin would look like with provision for expansion. If you have any questions please let me know.

From: Jiang, Kally <Kally.Jiang@bchydro.com>
Sent: Monday, July 8, 2024 6:05 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Parmar, Surinder <Surinder.Parmar@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase

Hi, Dave,

I worked out a sketch as attached for the option which with 230 kV outdoor and 25 kV / 60 kV indoor equipment arrangement. It seems like the property of 177 m by 200 m offered by Qualico just big enough for this arrangement. I didn't try the other option with 230 kV outdoor and 25kV indoor GIS arrangement since the 230kV outdoor arrangement dominates the space requirement and 60kV GIS won't save space significantly.

Thanks,

Kally

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, July 04 10:59 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase

Gentlemen, previously we had prepared some layouts based on various options such as 230/25 AIS (no 60 kV), 230/60/25 AIS, and 230/60/25 GIS indoor. I have attached them for consideration. Based on Surinder's comments I believe we can place a 230/25 AIS station on the 177.0 m x 200 m (~ 8 Acre Parcel) from Qualico. Please review WIB-E05-SK002-1_R0A Option 1 for details. This would include four 230 kV line positions. If we go GIS we can certainly fit the 60 kV section on the site although with the layout shown it assumed Underground line connections. Please refer to the three GIS layouts for more information. I will ask electrical to develop a layout using 4 -230 outdoor line positions and room for Indoor 25 kV GIS and one with 25 kV and 60 kV GIS for discussion purposes.

If you look at WIB-E05-SK001-Option 1 you can see how we could construct the initial phase of the project with two 230 line positions and the 25 kV AIS section on a portion of the property say 110 m x 200 m and then we could expand in the future to include the two extra line positions and the 60 kV section. I would suggest expanding to the West if possible although the creek on the property may be problematic. We would need to carefully consider at which end of the property the 230 lines come in and where the distribution would go out but I think as a first stage the Qualico property will suffice.

Kally, can you develop a new layout that uses 230 kV outdoor equipment and 25 kV indoor and a second one with 230 outdoor and 25 kV and 60 kV indoor equipment to see if it would fit on the 177 m by 200 m Qualico propertry?

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, July 4, 2024 10:24 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase

David,
No not at this time. Surinder view is that the 60kV switching station is in the future. If and when it is a requirement, we will assemble more land at that time.
Robert

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, July 04 10:17 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM-0592 Willoughby Project Qualico Land Purchase

Robert, can you confirm if the 60 kV section is still part of the requirements? This will have a significant impact on what we can do.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, July 4, 2024 9:54 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: TM-0592 Willoughby Project Qualico Land Purchase

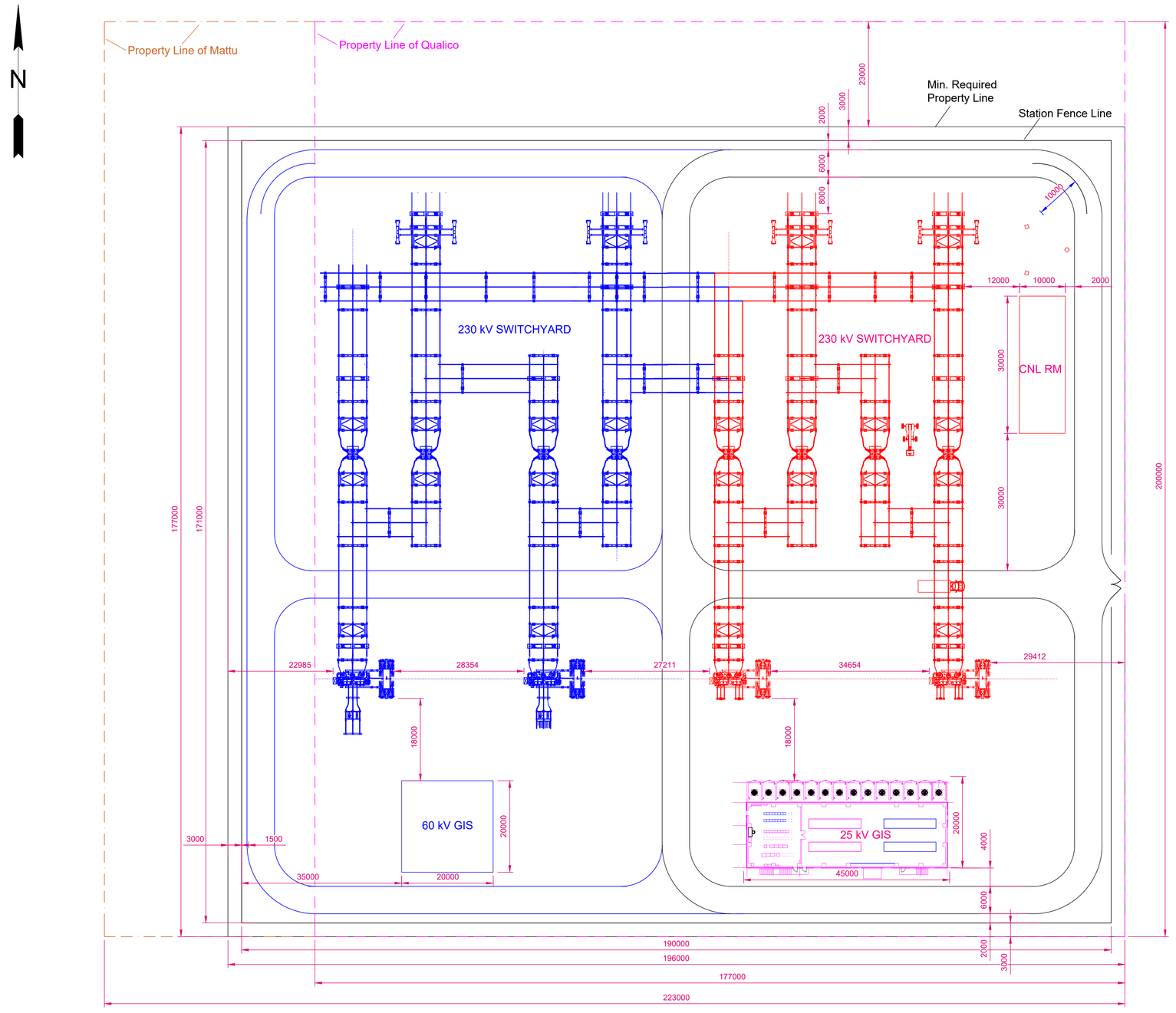
Hi David,
Further to my voice mail, can you have stations engineering look at a layout, that may incorporate an indoor switchyard, on the attached Qualico 8-acre site?
It will help us decide that if we can not assemble additional property we could still go ahead with the 8-acres purchase from Qualico.
Thank you,
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

SCALE: 1:1 — 0 — 50mm

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SHOWN

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K.JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024JUL10		WIB-E05-SK003-Option 2			D	0A

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

C:\Users\kjiang\OneDrive - BC Hydro\F25 Projects\1-CJPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240705-Qualico\2 set\WIB-E05-SK003-Outdoor 230 +GIS 60\25-To Fit Qualico Property-20240710.dwg
Drawing Unit = Metric (4)
Layout: A1 - L
7/10/2024 4:19 PM

From: Berdusco, Jeff
Sent: 2024, June 07 2:17 PM
To: Evans, Jen; van Oort, Harry; Brady, Karen
Cc: Chaisson, Rob
Subject: RE: TM0592 Willoughby property review UPDATED KMZ

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jen,

Just working through these last few requests.

Can you confirm the habitat requirements have changed to a simple %Overlap with Critical or Sensitive Habitat and % Forested?

Just want to make sure I'm looking at the correct excel sheet!

J

From: Evans, Jen
Sent: Monday, June 3, 2024 1:12 PM
To: Berdusco, Jeff ; van Oort, Harry ; Brady, Karen
Cc: Chaisson, Rob
Subject: FW: TM0592 Willoughby property review UPDATED KMZ

Hi,

Please use this UPDATED kmz file and please enter info into this excel sheet here:

TM-0592_Willoughby_SDM_2024-05-30.xlsx (bchydro.bc.ca)

Thanks,

Jen

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro
6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: Evans, Jen
Sent: 2024, June 03 11:08 AM
To: Berdusco, Jeff <Jeff.Berdusco@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>; Brady, Karen <Karen.Brady@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: TM0592 Willoughby property review

Hi All,

Three additional properties have been identified as potential alternatives for BC Hydro property purchase. We have been asked to conduct a high level Wildlife and Heritage reviews for the properties.

A kmz file is attached showing Alternative 14, 15 and 17.

The SDM link is here for input: https://ppm.bchydro.bc.ca/projects/TM-0592/ProjectDocuments/Forms/AllItems.aspx?RootFolder=%2fprojects%2fTM%2d0592%2fProjectDocuments%2fProject%5fManagement%2f1%5fIDN%2fProject%5fPlan&FolderCTID=0x01200008B64CF36F7FF14297FFFE66C15B991B

Select the TM-0592 Willoughby SVA Analysis 2023-11-14 Excel file

Charge code: TM0592 1410 A01H

Thanks so much,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro
6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: Brady, Karen
Sent: 2024, October 24 9:25 AM
To: Evans, Jen
Cc: Heritage; Chaisson, Rob
Subject: RE: TM-0592 Willoughby Property

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jen

I think the most prudent thing to say would be that BC Hydro has checked the provincial databases and that no archaeological sites or heritage properties are registered for the subject property. And other than that, no archaeological assessment has been undertaken to date as that will be decided if/when a property is selected.

I think that should be safe enough.

Thanks, Karen.

_____

Karen Brady | Environmental Professional (Heritage)

BC Hydro
P 778-256-5770

From: Evans, Jen
Sent: 2024, October 22 5:32 PM
To: Brady, Karen
Cc: Heritage ; Chaisson, Rob
Subject: FW: TM-0592 Willoughby Property

Hi Karen,

In the email below, IR has requested high level Heritage info to share with FN regarding a property BC Hydro is considering to purchase – Alt 20. I've attached the internal high level results for Alt 20 here.

Please let me know what/if info can be shared externally with First Nations.

Thanks,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro
6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: Wanamaker-Briggs, Andrew <Andrew.Wanamaker-Briggs@bchydro.com>
Sent: 2024, October 22 11:42 AM
To: Chaisson, Rob <Rob.Chaisson@bchydro.com>; Evans, Jen <Jen.Evans@bchydro.com>
Cc: Archibald Carson, Corry <Corry.Archibald@bchydro.com>
Subject: TM-0592 Willoughby Property

Hi Both,

I've confirmed with Properties that IR will share the Bosa property location with First Nations once the Conditional Purchase Agreement is signed. IR would send a future update to FNs with the other property locations as they come under contract.

As we update FNs it would be ideal to share high level environmental info, such as heritage recommendations. Are you able to share your findings/recommendations from the studies on the Alt 20 properties?

Please and thanks,
Andrew

Andrew Wanamaker-Briggs (he/him) **|** Indigenous Relations Coordinator, Southwest Region
P (604) 841-2845
E Andrew.Wanamaker-Briggs@bchydro.com

BC Hydro
6911 Southpoint Dr, 10th Floor
Burnaby, BC V3N 4X8
bchydro.com

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Sent from the unceded traditional territory of
the Coast Salish peoples, including the Musqueam,
Squamish and Tsleil-Waututh First Nations

From: Brady, Karen
Sent: 2023, December 04 8:29 AM
To: Evans, Jen; Heritage
Cc: Chaisson, Rob
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jen

Can you please clarify the address?

19979 &6 Ave. Langley

It's Column J.

Thanks, Karen.

_____

Karen Brady | Environmental Professional (Heritage)

BC Hydro
P 778-256-5770

From: Evans, Jen
Sent: 2023, November 27 3:24 PM
To: Heritage
Cc: Chaisson, Rob
Subject: TM0592 Willoughby, Langley - Property Screenings

Hi Heritage,

Would you be able to provide assistance with reviewing 7 properties on the attached (Properties 1 through 7) with respect to line 29 on the attached:

- Presence of Registered Burial site

The purpose is to support an analysis of a single viable alternative.

Charge code is TM0592 1000 A00A

Please reach out to myself or Rob (cc'd here) if you have any questions.

Thanks,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro
6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Sent: 2023, November 24 10:18 AM
To: Evans, Jen <Jen.Evans@bchydro.com>
Subject: Property Screenings

Hi Jen.
Please see the TM0592 Wiloughby SDM spreadsheet attached. It appears to include 7 potential properties for Environmental Screening. Please prioritize this over Goldstream. Call if you would like to discuss.

Thanks
Rob

Rob Chaisson
Environmental Risk Manager
Project Environmental Risk Management

BC Hydro
6911 Southpoint Drive
Burnaby, BC V3N 4X8

P 604.528.3450
M 778.988.5220
E Rob.Chaisson@bchydro.com

From: Brady, Karen
Sent: 2023, December 06 11:01 AM
To: van Oort, Harry; Chaisson, Rob; Heritage; Evans, Jen
Cc: Knighton, Mykol
Subject: RE: TM0592 Willoughby, Langley - Property Screenings
Attachments: Copy of TM-0592_Willoughby_SVA_Analysis_2023-11-14 plus arch.xlsx; Willoughby High Level Arch Review TM0592.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hello All

Please find attached the completed spreadsheet and brief memo summarizing the results and, importantly, the limitations of the review.

I hope this meets everyone's needs.

I should have the Goldstream review ready this afternoon.

Thanks, Karen.

_____

Karen Brady | Environmental Professional (Heritage)

BC Hydro
P 778-256-5770

From: van Oort, Harry
Sent: 2023, December 04 2:52 PM
To: Chaisson, Rob ; Brady, Karen ; Heritage
Cc: Evans, Jen
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

I think it supposed to be:

7687 200 St., 7635 198B St., 19979 76 Ave. Langley

From: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Sent: 2023, December 04 9:59 AM
To: Brady, Karen <Karen.Brady@bchydro.com>; Heritage <Heritage@bchydro.com>
Cc: Evans, Jen <Jen.Evans@bchydro.com>; van Oort, Harry <Harry.vanOort@bchydro.com>
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Hi Karen.
You can check with Harry as he has already completed the review for the Willoughby properties.

From: Brady, Karen <Karen.Brady@bchydro.com>
Sent: 2023, December 04 8:29 AM
To: Evans, Jen <Jen.Evans@bchydro.com>; Heritage <Heritage@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Hi Jen

Can you please clarify the address?

19979 &6 Ave. Langley

It's Column J.

Thanks, Karen.

_____

Karen Brady | Environmental Professional (Heritage)

BC Hydro
P 778-256-5770

From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: 2023, November 27 3:24 PM
To: Heritage <Heritage@bchydro.com>

Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: TM0592 Willoughby, Langley - Property Screenings

Hi Heritage,

Would you be able to provide assistance with reviewing 7 properties on the attached (Properties 1 through 7) with respect to line 29 on the attached:

- Presence of Registered Burial site

The purpose is to support an analysis of a single viable alternative.

Charge code is TM0592 1000 A00A

Please reach out to myself or Rob (cc'd here) if you have any questions.

Thanks,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro
6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

Smart about power in all we do.

From: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Sent: 2023, November 24 10:18 AM
To: Evans, Jen <Jen.Evans@bchydro.com>
Subject: Property Screenings

Hi Jen.

Please see the TM0592 Wiloughby SDM spreadsheet attached. It appears to include 7 potential properties for Environmental Screening. Please prioritize this over Goldstream. Call if you would like to discuss.

Thanks
Rob

_____

Rob Chaisson
Environmental Risk Manager
Project Environmental Risk Management

BC Hydro
6911 Southpoint Drive
Burnaby, BC V3N 4X8

P 604.528.3450
M 778.988.5220
E Rob.Chaisson@bchydro.com

Memo

To: Jen Evans, Rob Chaisson, Harry van Oort

From: Karen Brady

CC: Mykol Knighton

Date: December 6, 2023

RE: Willoughby, Langley – Property Screenings (TM-0592)

1. Project Location

The project is in the Township of Langley with specific properties bound by 197 Street to the west, 82 Avenue to the north, 75 Avenue to the south, and 202A Avenue to the east (Figure 1).

2. Scope of Work

BC Hydro has requested a high-level archaeology review of 16 properties within the Township of Langley, as outlined in Table 1, below.

Property	Address	Property	Address
1	7888 200th Street	9	7541 202A Street
2	7950 200th Street	10	20069 80 Avenue
3	7782 200 Street	11	20053 80 Avenue
4	7755 202A Street	12	20011 80 Avenue
5	7633 202A Street	13	8092 200 Street
6	7570 200 Street	14	7687 200 Street
7	7536 200 Street	15	7635 198B Street
8	7591 202A Street	16	19979 76 Avenue

3. Methods and Objectives

This review consists of a brief review of the Provincial Heritage Register, accessed via Remote Access to Archaeological Data (RAAD) website application. The objective of the review is two-fold:

a. to identify any recorded archaeological sites within, or near, the properties listed above, and
b. determine whether the archaeological sites, if present, are of sufficient scientific significance to impede development of the property.

This review does not include an assessment of archaeological potential – the likelihood that archaeological sites may be encountered – but simply to indicate whether sites of a particular type, such as human burials or other sites of high scientific significance have been recorded within or near the properties listed above.

4. Results

The results of the review indicate that no archaeological sites have been recorded within, or near, the properties listed in Table 1. One archaeological site – comprised of a historical-era building – is located at 7967 197 Street, in Langley. The building has been registered at DjRq-155 and consists of the Rizun Residence. It has been restored and is now incorporated into a condominium development.

5. Recommendations

This cursory review indicates that no archaeological sites have been recorded within, or near, the properties listed in Table 1. As this review does not include an assessment of archaeological potential, it is recommended that an further archaeological work, such as a Heritage Screening, be conducted once the initial SDM has been completed.

6. Closure

I trust this memo provides you with the information you require. If you have any questions, do not hesitate to contact me.



Figure 1. Location of Willoughby, Langley Property Screenings (TM-0592).

Similar											
	Select a property for purchase that meets the requirments for the efficient development of a 230										
Criteria	**Units**	Alternate 1 - Property 1	Alternate 2 - Property 2	Alternate 3 - Property 3	Alternate 4 - Property 4	Alternate 5 - Property 5	Alternate 6 - Property 6	Alternate 7 - Property 7	Alternate 8 - Property 8	Alternate 9 - Property 9	Alternate 10
		7888,7950 200th st. Langley	7782 200 St. Langley	7755 202A St. Langley	7633 202A St. Langley	7570,7536 200 St, 7591,7541 202A St. Langley	20069,20053, 20011 80Ave, 8092 200 St. Langley	7687 200 St., 7635 198B St., 19979 76 Ave. Langley	Vacant Lands (?), Langley	Vacant Lands (?), Langley	
Distribution access restricted by waterway	Y/N										
Zoned appropriately											
Viable RoW for Transmission	Y/N										
Free sides for access/egress of t/d (>2 Min)	ea										
Appropriate size of Site (Min Size - 20625 m^2 or 221900 SF)	m^2	20,709	123,539	45716	43414	80084	34206	71737	19950	22010	
Preferred Minimum Length of short Sides (>115 m)	y/n										
Property Aspect Ratio (Between 1:75:1 and 1:1)	y/n										
Max 3% slope	Y/N										
Seismic risk (Liquifaction/Amplification)	Risk rating										
Total Area:Usable Area	$M^2/M^2 < 2$										
Presence of Critical Habitat	% coverage										
Presence of Garry Oak Ecosystem	Y/N										
Presence of Old Growth Forest	% coverage										
Presence of Wetland	% coverage										
Contaminated site?	Y/N										
Presence of Registered Burial site	Y/N	N	N	N	N	N	N	N	no address	no address	
Greenfield	Y/N										
Permitting	Y/N										

From: van Oort, Harry
Sent: 2023, November 28 1:34 PM
To: Evans, Jen
Cc: Chaisson, Rob
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Follow Up Flag: Follow up
Flag Status: Flagged

Thanks Jen!

From: Evans, Jen
Sent: 2023, November 28 1:10 PM
To: van Oort, Harry
Cc: Chaisson, Rob
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Hi Harry,

Agreed – I found this difficult as well. I used the Township of Langley geosource map at the same time as Google Earth maps to determine the property boundaries.

Here is a link to the map site I used:

https://geosource.tol.ca/

I found it useful since it also showed wetland/creek areas.

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

BC Hydro

6911 Southpoint Drive E-11
Burnaby, BC V3N 4X8

P 604-528-7897
M 778-873-7022
E jen.evans@bchydro.com

bchydro.com

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From: van Oort, Harry <Harry.vanOort@bchydro.com>
Sent: 2023, November 28 12:21 PM
To: Evans, Jen <Jen.Evans@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: RE: TM0592 Willoughby, Langley - Property Screenings

Hi Jen and Rob

When I punch in the addresses I get a pin on the street, but its hard for me to know exactly where the property boundaries are – can you send me maps?

From: Evans, Jen <Jen.Evans@bchydro.com>
Sent: 2023, November 27 2:27 PM
To: van Oort, Harry <Harry.vanOort@bchydro.com>
Cc: Chaisson, Rob <Rob.Chaisson@bchydro.com>
Subject: TM0592 Willoughby, Langley - Property Screenings

Hi Harry,

Would you be able to provide assistance with reviewing 7 properties on the attached (Properties 1 through 7) with respect to lines 24-27 on the attached:

- Presence of Critical Habitat
- Presence of Garry Oak Ecosystem
- Presence of Old Growth Forest
- Presence of Wetland

The purpose is to support an analysis of a single viable alternative.

Charge code is TM0592 1000 A00A

Please reach out to myself or Rob (cc'd here) if you have any questions.

Thanks,

Jen

_____

Jen Evans, B.Sc., P.Ag | Senior Environmental Coordinator, Environment

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Burnaby, BC V3N 4X8

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M 778-873-7022
E jen.evans@bchydro.com

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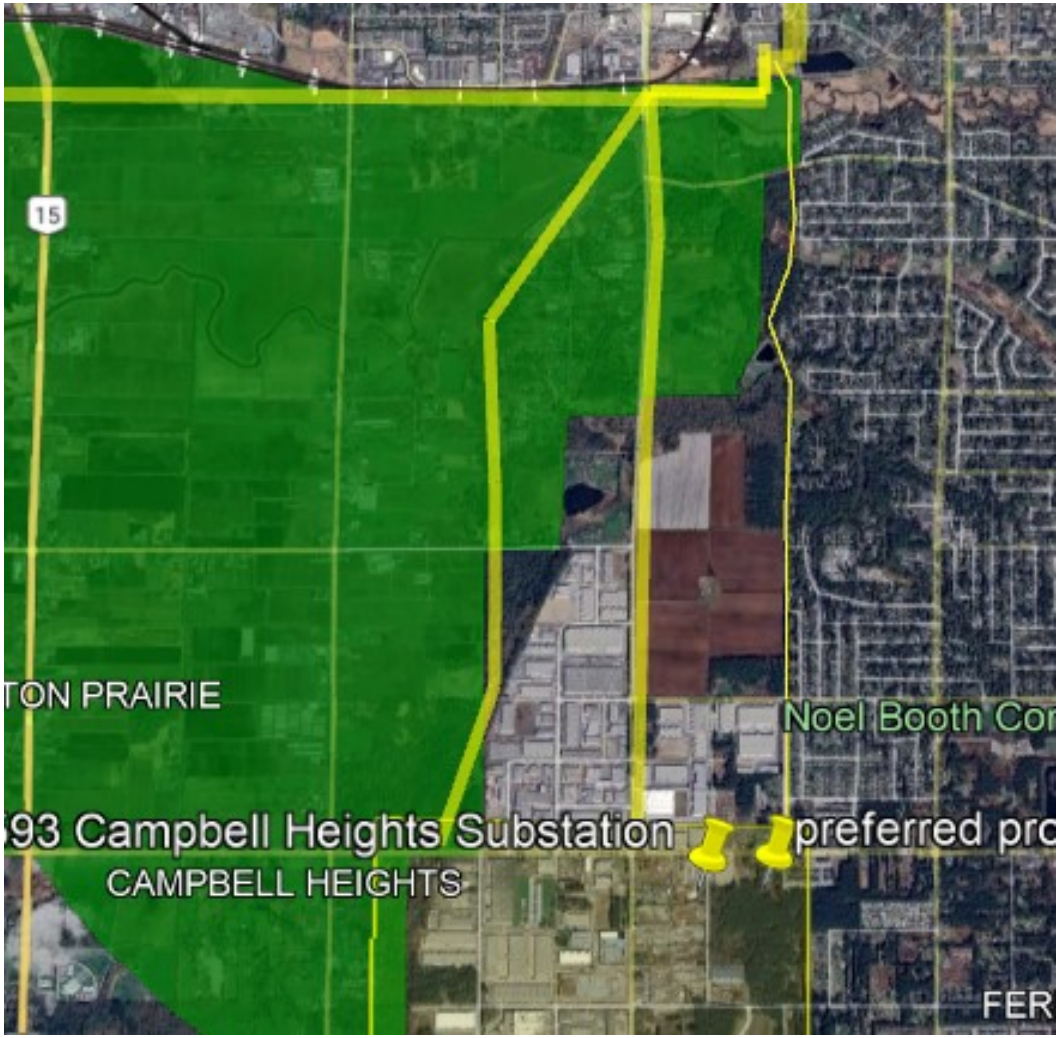
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From: Steels, Craig
Sent: 2024, September 24 12:55 PM
To: Randt, David; Chwaklinski, David
Subject: RE: TM-0593 Campbell Heights Conceptual Design meeting
Attachments: alr_boundary_for_google_earth.kmz

Hi David C,

I found that there's a kmz available for the ALR (attached). I will just make a mention of it in the memo, in the context that it may be easier to route overhead lines within the ALR since they are compatible land uses, and since that land is held out from development, the property owners are not giving up development potential when overhead lines are put on their property. The west-most proposed route I originally had is within the ALR and might be able to build an overhead line. The newly identified location is outside of the ALR and overhead lines are likely blocked by dense urbanization.

I asked Himanshu for high-level cost of 230 kV overhead double-circuit steel poles (he said $1.8M to $2.0M per km) and for u/g (waiting to hear back on that one). We may not put that in the memo (up to you) but it's good to have.



Kind regards,

Craig Steels, P.Eng. | Consultant, Transmission Lines Engineering, BC Hydro

C 825 437 6575 craig.steels@bchydro.com

From: Randt, David
Sent: Tuesday, August 13, 2024 10:05 AM
To: Steels, Craig ; Chwaklinski, David
Subject: RE: TM-0593 Campbell Heights Conceptual Design meeting

Craig,

That is no problem – let me know when the memo is ready for my input. I will be able to provide input after September 2nd.

Can you send me the lines .kmz?

Regards,
David

ON LEAVE AUGUST 15 to SEPTEMBER 2 (INCLUSIVE)

David Randt, M.Eng., P.Eng., PMP
Contractor
Senior Geotechnical Engineer, Transmission Line Engineering

BC Hydro
M 604-835-6880
E David.Randt@bchydro.com

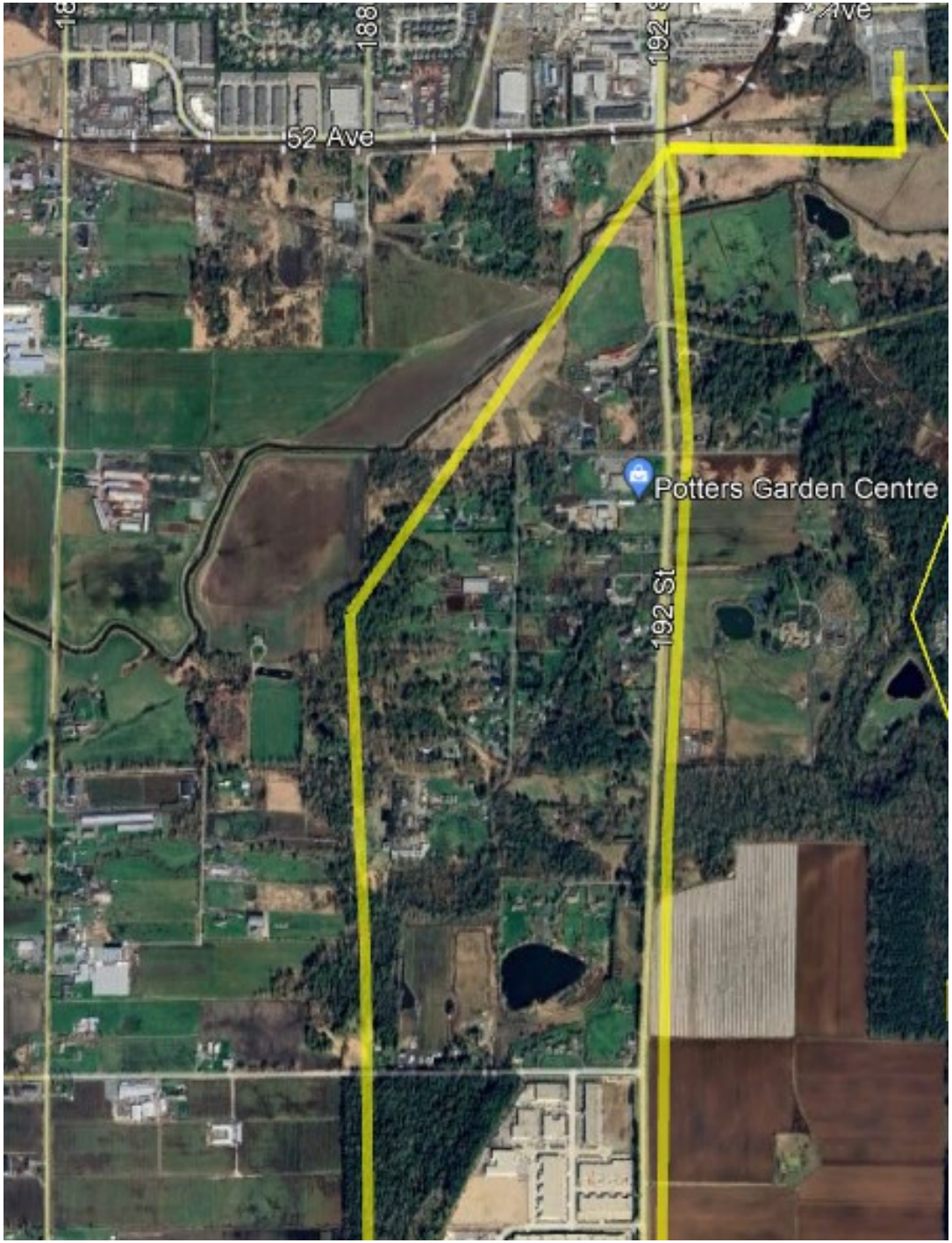
From: Steels, Craig <Craig.Steels@bchydro.com>
Sent: Tuesday, August 13, 2024 9:57 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Randt, David <David.Randt@bchydro.com>
Subject: RE: TM-0593 Campbell Heights Conceptual Design meeting

Hi David and David,

As we discussed in the meeting, you want a memo with a high-level yes/no type assessment of feasibility of connecting overhead transmission to the preferred substation site. As mentioned, the Campbell heights location looks to be the best out of all of the substation addition projects and I can see it is yes. I will make a short memo with screenshots of the three conceptual routes below.

David Randt:

Could you please provide a few paragraphs about foundations for double-circuit steel pole?


52 Ave
Potters Garden Centre
192 St

Kind regards,

Craig Steels, P.Eng. | Consultant, Transmission Lines Engineering, BC Hydro

C 825 437 6575 craig.steels@bchydro.com

-----Original Appointment-----
From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: Monday, May 27, 2024 11:45 AM
To: Chwaklinski, David; Kadivar, Amin; Randt, David; Steels, Craig; Zeng, Ken
Cc: Samani, Sam
Subject: TM-0593 Campbell Heights Conceptual Design meeting
When: Tuesday, August 13, 2024 9:30 AM-10:00 AM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Hi Folks I would like to meet to discuss the Campbell heights property purchase Conceptual Design Stage. I have already sent out the design plan, the work package and the Charge codes. I want to discuss the properties we will be looking at and how we will supply the power to the future substation. I have a short agenda

Agenda
Introductions
Discuss project and properties under consideration.
Discuss schedule and deliverables
Update on tasks

I have made this a recurring meeting every two weeks until we reach the end of the stage.
I think a half hour is suitable for this. I understand everyone is busy so not everyone can make every meeting. I woud appreciate it if you could let me know if you cant make it so we can move on quickly.

Please let me know if you have any questions or concerns. Thanks

---

Microsoft Teams Need help?

Join the meeting now

Meeting ID: 218 489 966 967

Passcode: EFaJyy

Dial in by phone

+1 604-343-0415,,378773346# Canada, Vancouver

Find a local number

Phone conference ID: 378 773 346#

For organizers: Meeting options | Reset dial-in PIN

Do NOT send or post NERC CIP-related confidential files in Teams. Share only necessary information via screenshare in Teams meetings when there is a valid business reason to do so. For additional information, contact your respective CIP Compliance Teams.

_____

From: Sydorov, Dmitri D
Sent: 2025, January 17 10:36 AM
To: Berisso, Hussien
Cc: Chwaklinski, David; Hepple, Robert; Sydorov, Dmitri D; Zhang, Michael; Manurung, Cynthia; Hou, Terri
Subject: RE: WIB and CBS Location
Attachments: Bosa-Kool-Walia.pdf

Hussien – similar request: who is a DIS Lead for WIB project? Task: 25kV outside the WIB fence lead to identify his/her preference for 25kV feeders' location options on the attachment for (task:) sub layout to accommodate.

_____
Dmitri Sydorov PE, P.Eng | Sr. Engineer,T-Stations Engineering
Office: 604.528.1519
_____

From: Zhang, Michael
Sent: 2025, January 17 10:27 AM
To: Manurung, Cynthia ; Khan, Jahangir ; Sydorov, Dmitri D ; Hou, Terri
Cc: Berisso, Hussien ; Chwaklinski, David ; Hepple, Robert
Subject: RE: WIB and CBS Location

Cynthia, Terri and I have discussed her draft scope for substation egress outside the substation. it appears the internal layout proposals and egress draft were not aligned.
I suggest distribution team meet with Dmitri brainstorming it.

Thanks,
Michael

From: Manurung, Cynthia <Cynthia.Manurung@bchydro.com>
Sent: 2025, January 17 9:34 AM
To: Khan, Jahangir <Jahangir.Khan@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Hou, Terri <Terri.Hou@bchydro.com>; Zhang, Michael <Michael.Zhang@bchydro.com>
Cc: Berisso, Hussien <Hussien.Berisso@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: WIB and CBS Location

Thank you everyone and welcome to Hydro, Dmitri.
As the layout design is being finalized, please also consider 25kV line entries.

@Zhang, Michael can you pls review the attached and work with Dmitri to see how the 25kV lines enter WIB? Pls reach out to Terri for the overall distribution system plan.

Cynthia Manurung, P.Eng
Regional Distribution Planning Specialist – Fraser Valley

M 604 812 4322

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From: Khan, Jahangir <Jahangir.Khan@bchydro.com>
Sent: 2025, January 17 8:45 AM
To: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Hou, Terri <Terri.Hou@bchydro.com>; Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Subject: RE: WIB and CBS Location

Happy Friday everyone,
Dmitri has kindly accepted a lot of projects from Ken. As he has indicated below, there is a lot to catch up for him.

Please allocate sufficient time for Dmitri to settle in. We are under huge resource crunch.
Cheers,

Jahangir Khan | Team Lead,T-Stations Engineering
Tel: 604-528-2910 (D), 604-314-7083 (M)

From: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Sent: 2025, January 17 8:41 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Hou, Terri <Terri.Hou@bchydro.com>; Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Khan, Jahangir <Jahangir.Khan@bchydro.com>; Berisso, Hussien

<Hussien.Berisso@bchydro.com>
Subject: RE: WIB and CBS Location

Hi all,

I'm a new hire of the BC Hydro with accesses, for example, access to the CADD folder for redlines submission still being set-up/pending. I've never been involved in WIB project until yesterday morning. The latest layout files (attached) I received from Ken Zeng are incomplete in-terms of 230kV and 60kV lines entries into the new substation for alignment with the WIB layout design. I was in-contact yesterday with the WIB TL lead for (Martin L Qin) to identify options for line entries (attached e-mail). Once this step is done, me and Marian will produce the better layout design which will surely fit into attached property envelope file, and then I will re-submit the redlines for re-drafting as per my leadership instructions. This is all that I can provide at this point.

Kind regards,

_____
Dmitri Sydorov PE, P.Eng | Sr. Engineer,T-Stations Engineering
Office: 604.528.1519

_____

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2025, January 17 8:23 AM
To: Hou, Terri <Terri.Hou@bchydro.com>; Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: WIB and CBS Location

Terri,
As stated in an earlier email, Dmitri is working on a layout for the Bosa/Kool/Walia property.
This is part of our Due Diligence for the property purchase.
As soon as he is finished, I will send you a copy for your approval and comments.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 360.410.2244
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Hou, Terri <Terri.Hou@bchydro.com>
Sent: 2025, January 17 8:12 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: WIB and CBS Location

Hi Robert,

WIB please.

Regards,
Terri

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2025, January 17 8:11 AM
To: Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Hou, Terri <Terri.Hou@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: WIB and CBS Location

For WIB, CBS or MLN?

From: Manurung, Cynthia <Cynthia.Manurung@bchydro.com>
Sent: 2025, January 16 3:03 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Hou, Terri <Terri.Hou@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: WIB and CBS Location

Thanks Rob. We are finalizing the Scope Note for the distribution egress plan and would like to know where the feeder section is going to be located. If you have a rough layout, can you send us a copy?

Cynthia Manurung, P.Eng
Regional Distribution Planning Specialist – Fraser Valley

M 604 812 4322

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2025, January 16 2:54 PM
To: Manurung, Cynthia <Cynthia.Manurung@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Hou, Terri <Terri.Hou@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: WIB and CBS Location

Cynthia,
Dmitri Sydorov is working on the layout with Marian Balea.
Here are the properties.
We are under Conditional Purchase Agreements with Bosa and Kool.
We are offering on Walia.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 360.410.2244
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Manurung, Cynthia <Cynthia.Manurung@bchydro.com>
Sent: 2025, January 16 2:44 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>

Cc: Hou, Terri <Terri.Hou@bchydro.com>
Subject: WIB and CBS Location

Hi Robert and David, I heard that properties have been selected for both WIB and CBS. Can you share the location for both properties?

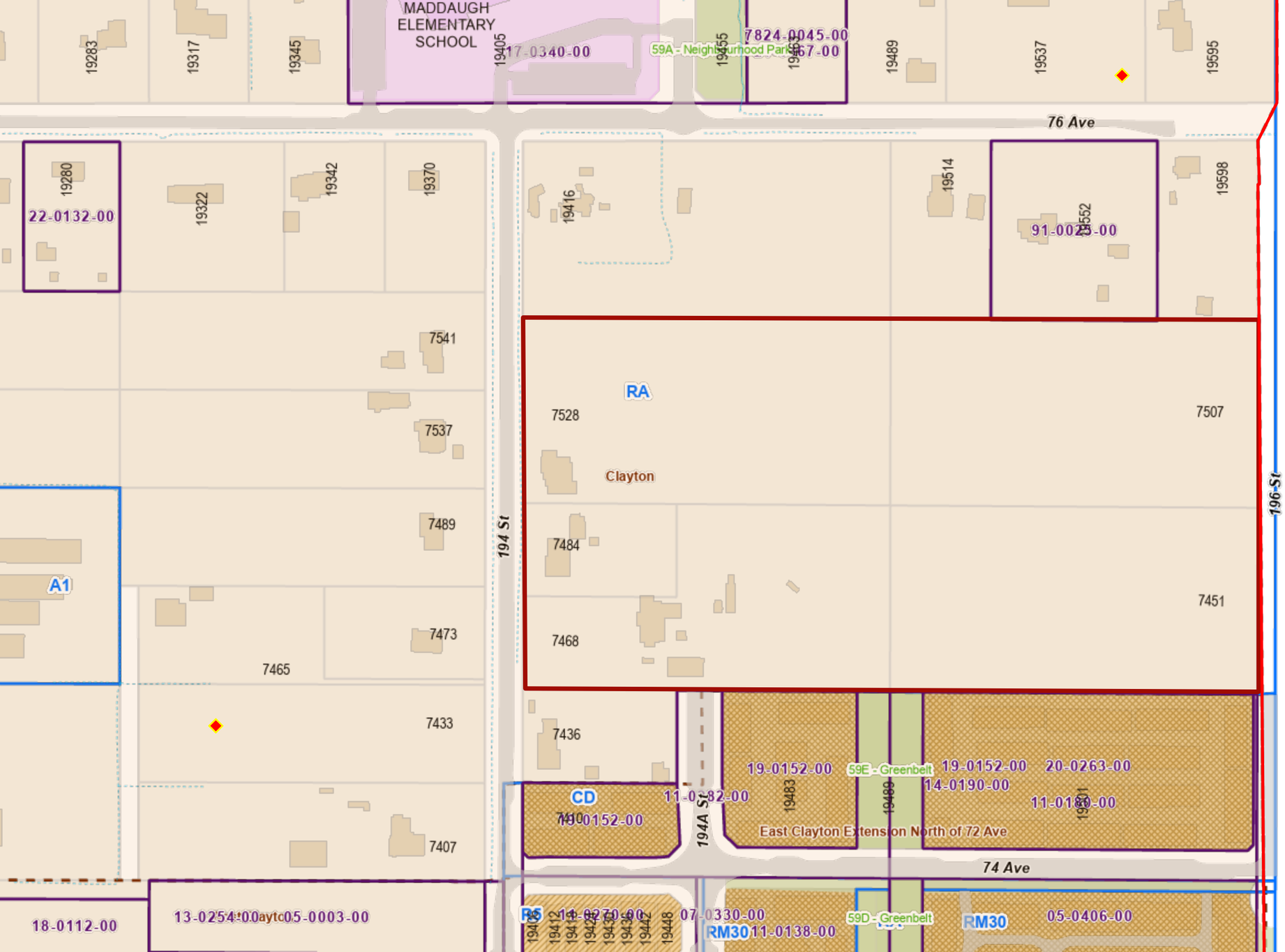
Also, can you share the substation layout for both substations? We need the layout to determine the distribution duct bank plan. Lynn suggested to reach out to the PE for drawing but I don't know who that is.

Cynthia Manurung, P.Eng
Regional Distribution Planning Specialist – Fraser Valley

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E cynthia.manurung@bchydro.com
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MADDAUGH ELEMENTARY SCHOOL
19283
19317
19345
19405
17-0340-00
59A - Neighbourhood Park
19455
19467
7824-0045-00
19489
19537
19595
76 Ave
19280
22-0132-00
19322
19342
19370
19416
19514
19552
91-0025-00
19598
7541
7537
7489
A1
7473
7465
7433
7407
RA
7528
7507
Clayton
7484
7451
7468
194 St
196 St
7436
19-0152-00
59E - Greenbelt
19-0152-00
20-0263-00
14-0190-00
11-0190-00
19483
19489
19501
CD
11-0182-00
194A St
East Clayton Extension North of 72 Ave
74 Ave
18-0112-00
13-0254-00
05-0003-00
RM30
07-0330-00
11-0138-00
59D - Greenbelt
RM30
05-0406-00

From: Parmar, Surinder
Sent: 2024, October 30 11:45 AM
To: Chan, David Y.M.; Hepple, Robert
Cc: Sherevkulov, Dmitry; Chwaklinski, David
Subject: RE: Willoughby Alt 20 - 7484 - 174th St. Surrey
Attachments: FW: Willoughby Property - WIB - Bosa Property

David:

See the attachment and email string in which IP agreed that if possible – let us get that Kool property also along with Kang and Bosa.

Short answer is: IP will like to have additional property for the future plans of using the battery banks at these sites.

Surinder Parmar, P.Eng., PMP
BC Hydro
6911 Southpoint Drive

P 604.528.7731
M 604.561.2702
E Surinder.Parmar@bchydro.com

bchydro.com

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From: Chan, David Y.M.
Sent: 2024, October 30 11:05 AM
To: Hepple, Robert ; Parmar, Surinder
Cc: Sherevkulov, Dmitry ; Chwaklinski, David
Subject: RE: Willoughby Alt 20 - 7484 - 174th St. Surrey

An explanation of what has changed and why the Project is acquiring Kool and the small property will be required, because this was not presented or discussed with Al when we received approvals to assemble the Bosa site, which were the Bosa properties and Kang.

Regards,

David

David Y. M. Chan | Manager – Acquisitions and Sales

Real Estate Services, Properties

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604-623-3998
M 604-328-8678
E david.chan@bchydro.com

bchydro.com

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, October 30 10:58 AM
To: Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: FW: Willoughby Alt 20 - 7484 - 174th St. Surrey

Hello Surinder,
Here is the information you asked for on the small property next to Kool. The address is 7484 – 174th St. Surrey BC.
Dmitry and David C are putting a memo together for Al L requesting approval to offer over appraised value at $8M.
Kool is stating his bottom line is $9M. So with Al's approval, we should be to reach agreement somewhere in between.
Robert

Robert Hepple P.Eng.

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W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, October 30 10:46 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: Willoughby Alt 20 - small property

Hi Robert,

I attached the title for the small property next to Kool. It's owned by an individual and the title shows the last transfer of ownership was in 2024 at $2.2M. However, it is not a market sale, the transfer price is exactly the same as assessed value so most likely they inherited it. The value was declared for tax purposes. I think the market value for this property is a little higher than $2.2M.

_____

Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604 623 3566
M 604 690 9836
E dmitry.sherevkulov@bchydro.com

bchydro.com

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From: Parmar, Surinder
Sent: 2024, September 19 11:46 AM
To: Lee, Tony S.C. (BCH); Chan, David Y.M.; Sherevkulov, Dmitry; Hepple, Robert
Cc: Pradhan, Anil
Subject: FW: Willoughby Property - WIB - Bosa Property

Gents:

See string of emails below.

In summary – we have IP management consent to buy the Parcel #4 (south-west of Bosa) along with our earlier plan to buy Parcels 1, 2 and 3.

I will leave it with our Properties SMEs to review/decide on when to approach the owners of Parcel 3 and Parcel 4 owner and start these negotiations.

Let me know if any questions/clarifications that you need from me.



Surinder Parmar, P.Eng., PMP
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6911 Southpoint Drive

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M 604.561.2702
E Surinder.Parmar@bchydro.com

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From: Kumar, Ajay <Ajay.Kumar@bchydro.com>
Sent: 2024, September 19 11:19 AM
To: Parmar, Surinder <Surinder.Parmar@bchydro.com>; Holland, Melissa <Melissa.Holland@bchydro.com>
Cc: Kelly, Neil <Neil.Kelly@bchydro.com>
Subject: RE: Willoughby Property - WIB - Bosa Property

Hi Surinder,

Thanks for the update. I am supportive of acquiring Parcel 4.

Regards,

Ajay

From: Parmar, Surinder <Surinder.Parmar@bchydro.com>
Sent: 2024, September 16 3:05 PM
To: Holland, Melissa <Melissa.Holland@bchydro.com>; Kumar, Ajay <Ajay.Kumar@bchydro.com>
Cc: Kelly, Neil <Neil.Kelly@bchydro.com>
Subject: Willoughby Property - WIB - Bosa Property

Melissa / Ajay: Quick heads up to both of you so that you are upto speed on the latest.

See the Map below

Properties marked 1 and 2 are owned by Bosa. Each property is around 4.766 Acres. Total Bosa property = 9.5 acres.

With Al's consent – we have a tentative agreement with Bosa to buy these two parcels for $20.5M (around $2.15M / acre).

Properties team will be drawing up agreement with Bosa and get it signed off in the next week or so.



Next steps:

- With the Bosa deal almost made, Properties will be talking with the owner of Parcel 3 (Mr Kang), who also owns the 4.766 acre parcel.
- We are hoping to have the deal made for a similar $2M to $2.2M per acre range.
- Hopefully in the next week or so, we will find out how successful we are going to be in making deal with Mr Kang.

Assuming we have these 3 parcels (around 14.3 acres) we should be able to build our outdoor substation (which requires min 12 acres) .

Ajay:

This is a question for you.

In the figure above – Parcel 4 is currently up for sale also.

Since onetime you had mentioned to Neil, that IP may be looking to install battery banks in the future - I think it will be good idea for BCH to try to secure this parcel also.

This will give us lot of flexibility to accommodate any future plans that IP may have for this area.

What are your thoughts on that?

If you agree, we can ask Properties to approach the owner of Parcel 4 also and secure it – of course, we will be trying to make a deal for similar $/acre that we are agreeing with Bosa.

Surinder Parmar, P.Eng., PMP
BC Hydro
6911 Southpoint Drive

P 604.528.7731
M 604.561.2702
E Surinder.Parmar@bchydro.com

bchydro.com

Smart about power in all we do.

From: Chan, David Y.M. <David.Chan@bchydro.com>
Sent: 2024, September 13 3:16 PM
To: Leonard, Allan <Allan.Leonard@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Thanks Al and great call on going back at $20M first.

We will now work with the team and Bosa to prepare the Purchase and Sale Agreement.

Regards,

David

David Y. M. Chan | Manager – Acquisitions and Sales

Real Estate Services, Properties

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604-623-3998
M 604-328-8678

E david.chan@bchydro.com

bchydro.com

From: Leonard, Allan <Allan.Leonard@bchydro.com>
Sent: 2024, September 13 2:31 PM
To: Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Thanks Tony – I am comfortable with the $20.5M offer and agree that it would be a good acquisition for the reasons outlined below.

Thanks David – good outcome.

AL

From: Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>
Sent: 2024, September 13 2:02 PM
To: Chan, David Y.M. <David.Chan@bchydro.com>; Leonard, Allan <Allan.Leonard@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Al,

I support accepting the counteroffer of $20.5M or $2.15M per acre. It's a reasonable price and within the realm of market value.

We are not considering expropriation at this stage, but I wanted you to be aware of the following:

Under an expropriation scenario, despite any appraisal evidence a taking authority submits to the courts to defend it position, we have seen recent examples where the Courts have gone out of their way to side with the landowner. In addition to exposure to additional compensation as part of a court ruling, this are potential hundreds of thousands of dollars that would be incurred as part of the expropriation process.

Having the Bosa property under contract, would provide additional leverage with adjacent owners in future negotiations and likely lead to an expedited timeframe for land acquisition for this project.

Regards,

Tony

_____

Tony S.C. Lee | Senior Manager, Real Estate Services, Properties

P 604 623 3773
M 604 838 1020
E tony.lee@bchydro.com

Smart about power in all we do.

From: Chan, David Y.M. <David.Chan@bchydro.com>
Sent: 2024, September 13 10:39 AM
To: Leonard, Allan <Allan.Leonard@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Hi Al,

My contact (Director of Acquisitions) at Bosa phoned me and we spent some time discussing BC Hydro's counter offer.

As anticipated, he wanted to counter at $21,000,000 and I said no, that won't work. He has replied to my email countering at $20,500,000 or $2.15M per acre.

Please let me know your thoughts/instructions.

Regards,

David

David Y. M. Chan | Manager – Acquisitions and Sales

Real Estate Services, Properties

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333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604-623-3998
M 604-328-8678
E david.chan@bchydro.com

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From: Leonard, Allan <Allan.Leonard@bchydro.com>
Sent: 2024, September 13 9:09 AM
To: Chan, David Y.M. <David.Chan@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Thanks David

From: Chan, David Y.M. <David.Chan@bchydro.com>
Sent: 2024, September 13 9:08 AM
To: Leonard, Allan <Allan.Leonard@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Thanks Al, I'll counter at $2.1M per acre or $20M and report back.

Regards,

David

David Y. M. Chan | Manager – Acquisitions and Sales

Real Estate Services, Properties

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333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604-623-3998
M 604-328-8678
E david.chan@bchydro.com

bchydro.com

From: Leonard, Allan <Allan.Leonard@bchydro.com>
Sent: 2024, September 13 8:55 AM
To: Chan, David Y.M. <David.Chan@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: WIB - Bosa Property

Thanks David, Given the original offer and counteroffer of $1.8M and $2.4M, wondering why we wouldn't go back at $2.1M as it would see both parties adjust by $300K/acre?

AL

From: Chan, David Y.M. <David.Chan@bchydro.com>
Sent: 2024, September 13 8:35 AM
To: Leonard, Allan <Allan.Leonard@bchydro.com>; Dunn, Hilary <Hilary.Dunn@bchydro.com>; Lee, Tony S.C. (BCH) <Tony.Lee@bchydro.com>; Kelly, Neil <Neil.Kelly@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: WIB - Bosa Property

Hello everyone,

After our meeting yesterday afternoon, I wrote to Bosa and they replied shortly after.

I provide details below and the map attached.

Bosa Properties (2 parcels – 9.53 acres)	Dates	Offer Amounts
First contact	July 17, 2024	
BC Hydro Business Case Approved	August 26, 2024	
BC Hydro Initial Offer at Appraised Value	September 5, 2024	$17.5M or $1.8M per acre
Bosa Counter Offer	September 6, 2024	$22.9M or $2.4M per acre
BC Hydro Counter Offer (per our meeting)	September 12, 2024	$19.1M or $2M per acre
Bosa Counter Offer	September 12, 2024	$22M or $2.3M per acre
BC Hydro Proposed Counter Offer	**September 13, 2024**	**$21M or $2.2M per acre**

Based on interactions and negotiations to date, I believe Bosa will agree to $21M or $2.2M per acre ($400K per acre/23% over appraised value). I believe this is good price for BC Hydro's substation use.

The Kang property to the south is 4.766 acres, appraised at $8.1M or $1.7M per acre. If we project a similar per acre value for its acquisition or $8M-$10M, the site could be assembled at around $30M.

Please let me know your thoughts.

I am seeking your approval to respond to Bosa at $21M or $2.2M per acre.

Thank you everyone for your iput.

David

David Y. M. Chan | Manager – Acquisitions and Sales

Real Estate Services, Properties

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604-623-3998
M 604-328-8678
E david.chan@bchydro.com

bchydro.com

From: Chwaklinski, David
Sent: 2025, January 13 10:21 AM
To: Yu, Lily; Khan, Jahangir
Cc: Hepple, Robert; Balea, Marian; Chwaklinski, David
Subject: RE: Willoughby and Campbell Heights property Purchase - replacement for Ken and Kally
Attachments: WIB-E05-SK006-Op1-Outdoor AIS-To Fit Bosa+Kang Properties-20240916.pdf; WIB-E05-SK006-Op2-Outdoor AIS-To Fit Bosa+Kang Properties-20240916.pdf; Bosa-Kool-Walia.pdf; Bosa-Kool-Walia-Kang.pdf

Importance: High

Good morning Lily and Jahangir. I am following up on my e-mail from Mid December where I requested a new designer be assigned to my projects. As both Ken and Kally have moved on, I need to have a new electrical designer assigned for the final bit of effort for Willoughby and Campbell Heights substation property acquisition. The main effort is to develop a revised layout for Willoughby. We have a layout based on Bosa and Kang property. (See SK006 Option 1 and 2) Since those were completed by Kally, we have pivoted to a new set of properties called Bosa-Kool- Walia (see attached) that needs a layout.

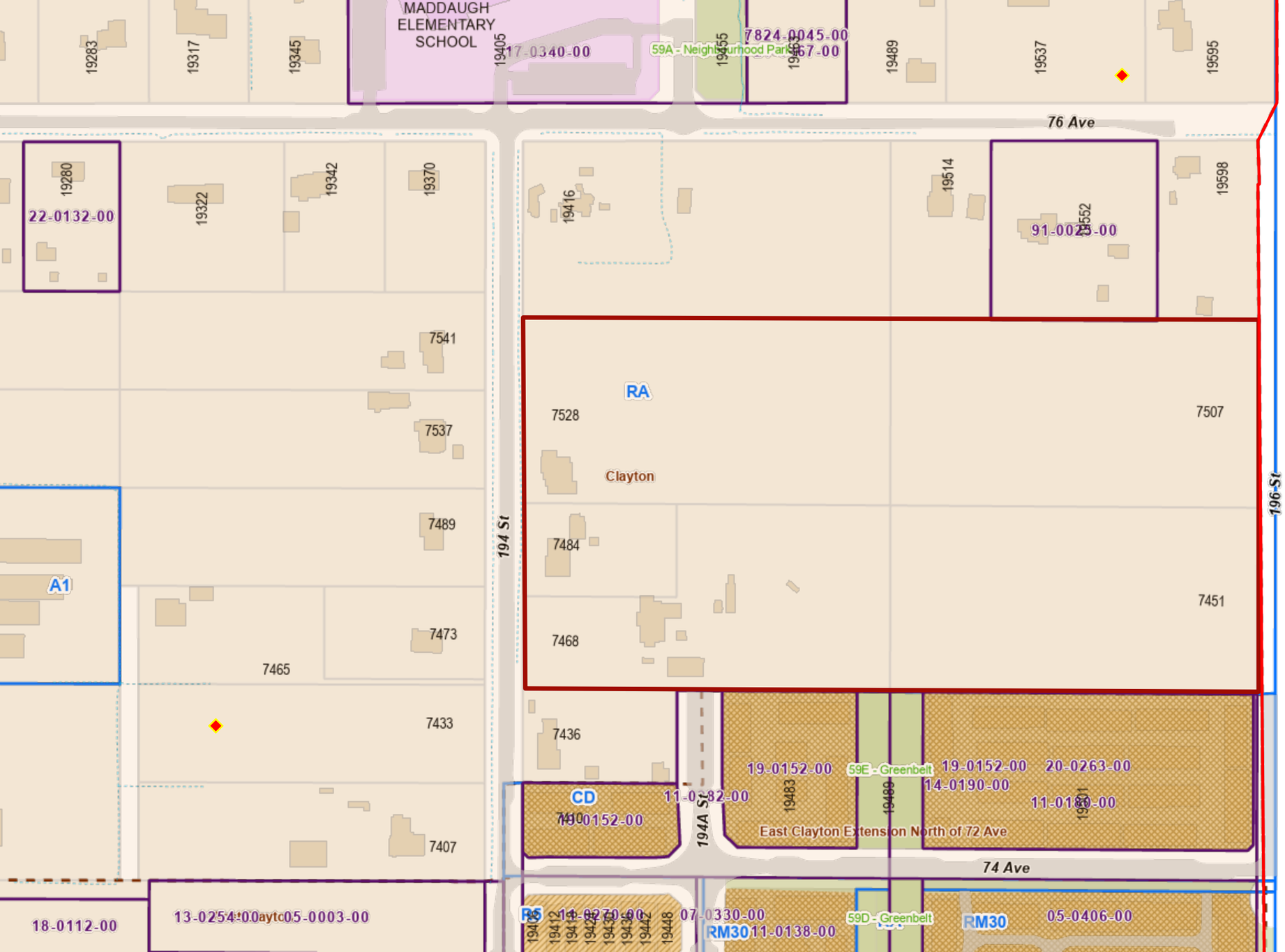
At this time, our intention is to take the Bosa-Kang layout and revise it (Mirror image if you will) to fit on the Bosa-Kool-Walia property. I need that quickly as we are finalizing property acquisition, but we can't complete until we have a workable layout. Please note, it does not have to be the final layout as we expect that at some point we will obtain the Kang property and the layout will be able to be optimized (See Bosa-Kool-Walia-Kang).

Can you please provide me with a new designer or if you can convince Kally or Ken to help us through this next bit of effort I would appreciate it. If you could let me know who the designer will be and copy Robert Hepple I would appreciate it. FYI I am on vacation from Jan 15 to February 5th so Robert will deal with the designers in my absence. Please let me know if you have any questions.

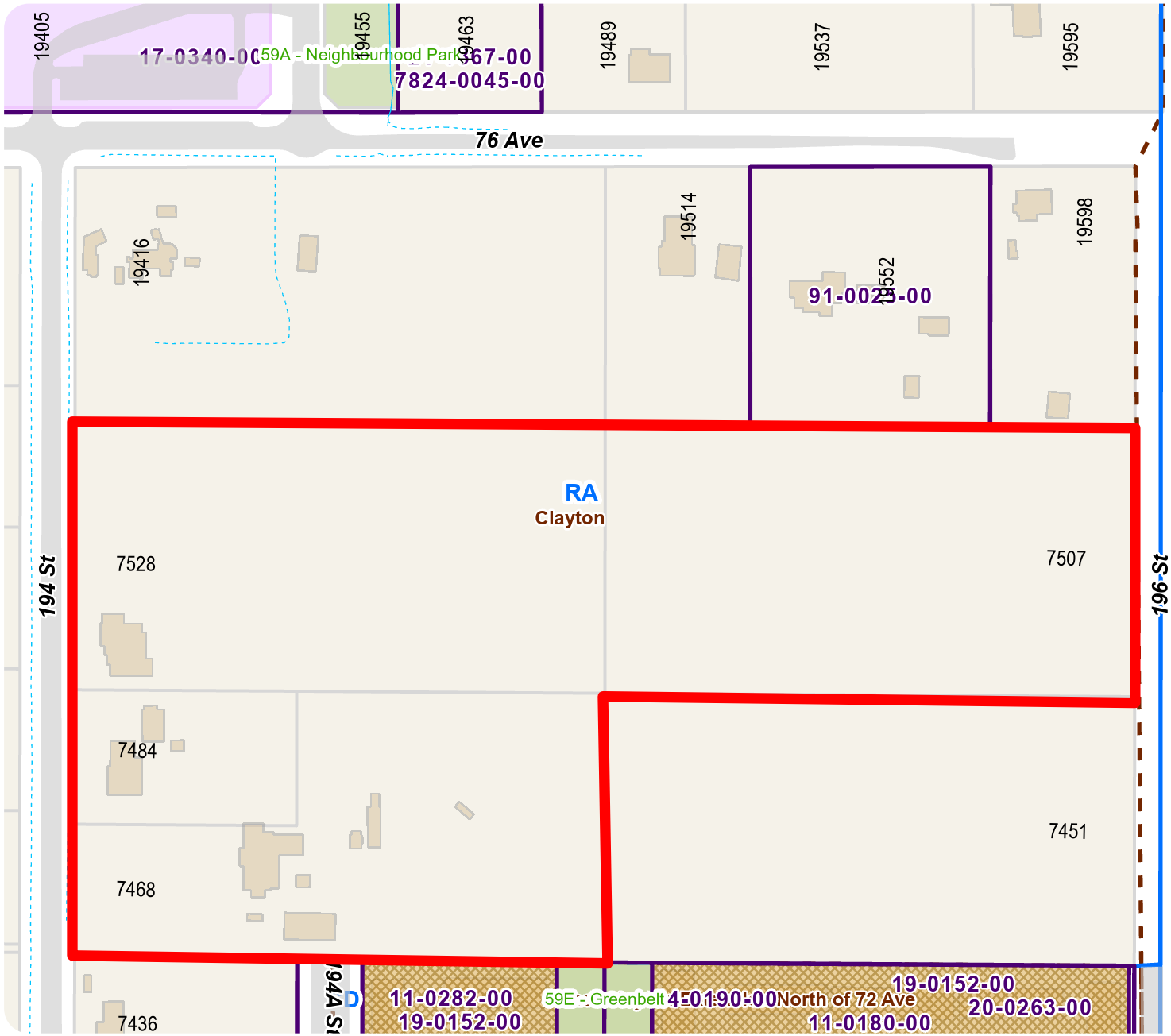
Marian I am copying you as you reviewed the electrical memos and will presumably review any layout.

From: Chwaklinski, David
Sent: Friday, December 13, 2024 11:22 AM
To: Yu, Lily ; Khan, Jahangir
Cc: Hepple, Robert ; Chwaklinski, David
Subject: Willoughby and Campbell Heights property Purchase - replacement for Ken and Kally

Good morning Lily and Jahangir, I recently found out that Ken and Kally are moving on to new roles and wont be able to support me in the property purchase projects. Can you tell me who might be assigned in their place? I have received a request to develop a new layout for the Willoughby property and I would like to discuss with a designer. Thanks


MADDAUGH ELEMENTARY SCHOOL
19283
19317
19345
19405
17-0340-00
59A - Neighbourhood Park
19455
19467
7824-0045-00
19489
19537
19595
76 Ave
19280
22-0132-00
19322
19342
19370
19416
19514
19552
91-0025-00
19598
7541
7537
7489
A1
7473
7465
7433
7407
RA
7528
7507
Clayton
7484
7451
7468
194 St
196 St
7436
19-0152-00
59E - Greenbelt
19-0152-00
20-0263-00
14-0190-00
11-0190-00
19483
19489
19501
CD
11-0182-00
194A St
East Clayton Extension North of 72 Ave
74 Ave
18-0112-00
13-0254-00
05-0003-00
RM30
07-0330-00
11-0138-00
59D - Greenbelt
RM30
05-0406-00

City of Surrey Mapping Online System



Bosa-Kool-Walia

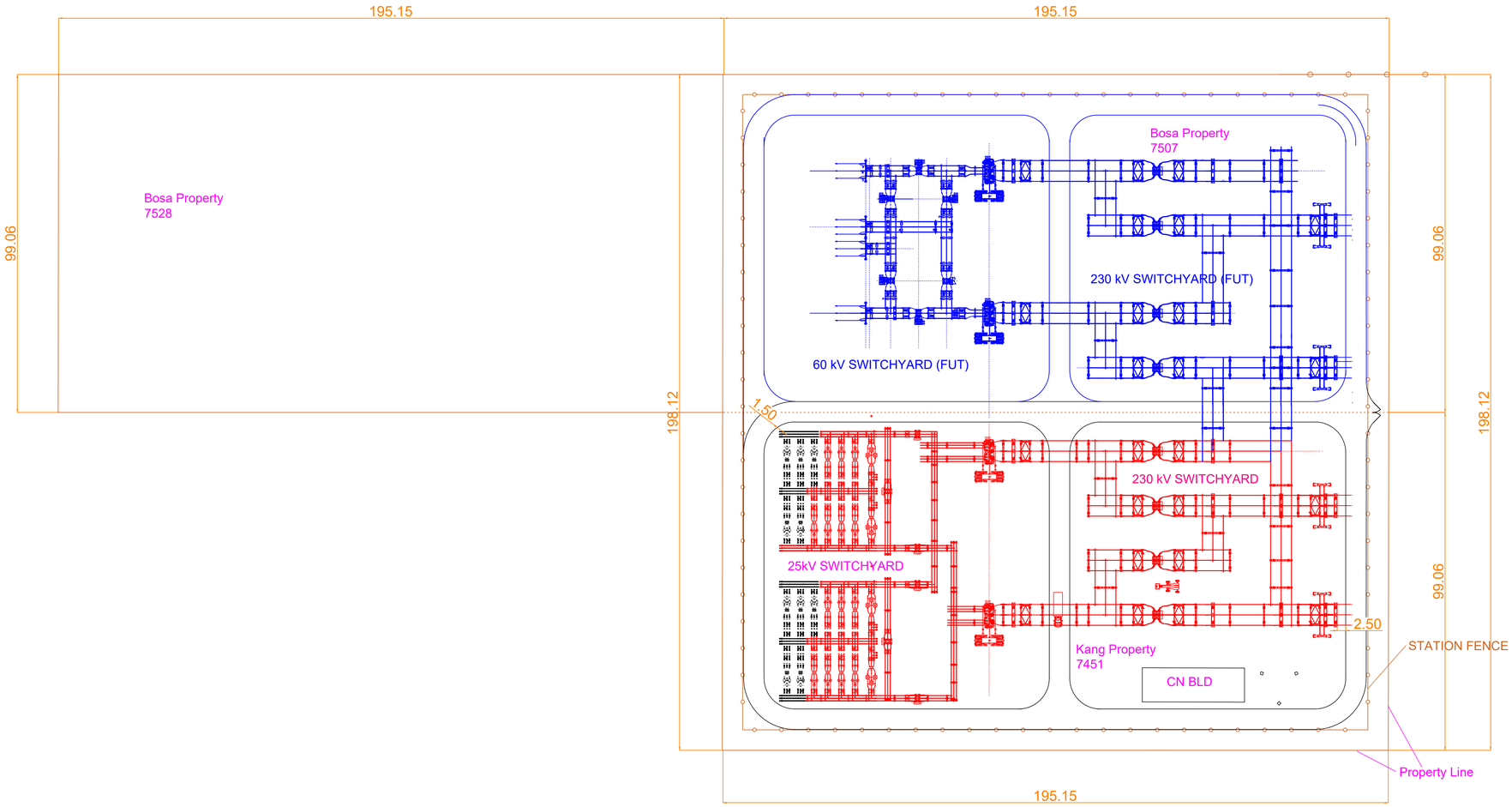
Scale: 1:2,209

The data provided is compiled from various sources and is NOT warranted as to its accuracy or sufficiency by the City of Surrey.
This information is provided for information and convenience purposes only. Lot sizes, legal descriptions and encumbrances must be confirmed at the Land Title Office. Use and distribution of this map is subject to all copyright and disclaimer notices at cosmos.surrey.ca

0 0.01 0.03 0.05 0.08
km

Map created on: 2024-12-05

N



NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K. JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

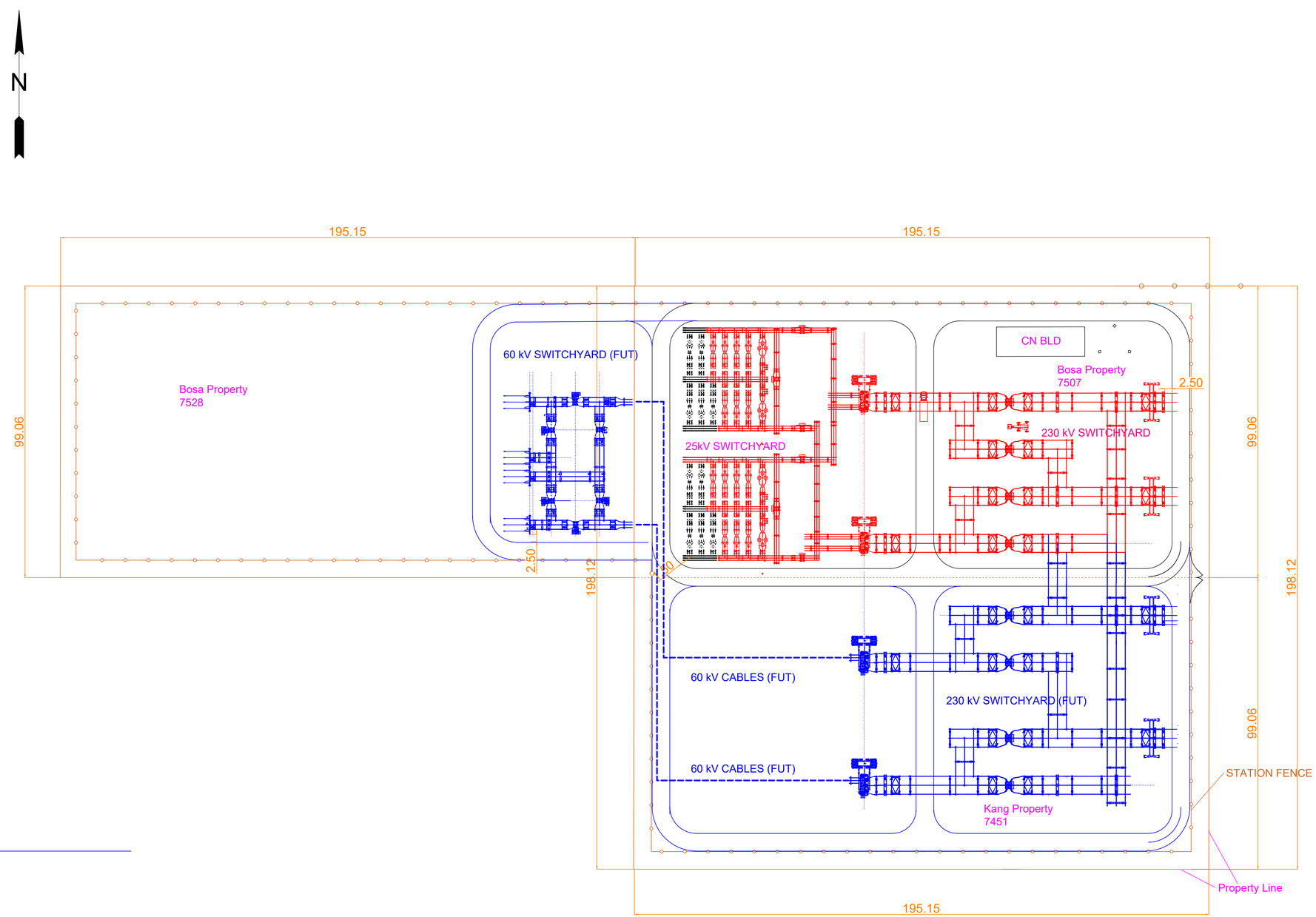
DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024SEP16		WIB-E05-SK006-OP1			D	0

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C:\Users\kjiang\OneDrive - BC Hydro\F25 Projects\1-CIPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240913-New for Bosa+Kang\WIB-E05-SK006-Opb-Outdoor AIS-To Fit Bosa+Kang Properties-20240916.dwg
Drawing Unit = Metric (4)
JIANG, KAI
9/16/2024 4:30 PM

NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
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5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE



COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

C:\Users\kjiang\OneDrive - BC Hydro\F25 Projects\1-CIP\D2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240913-New for Bosa+Kang\WIB-E05-SK006-Op5-Outdoor AIS-To Fit Bosa+Kang Properties-20240916.dwg
Drawing Unit = Metric (4)
JIANG, KAI
9/16/2024 4:30 PM

REFERENCE DRAWINGS

NO	REMARKS
	REVISIONS

DESIGN NUMBER		DSGN	K. JIANG
WORK ORDER NUMBER		INDEP CHK	
CSA S250 ACCURACY NAD - UTM		DFTG	K. JIANG
		DFTG CHK	
BASE ACCURACY LEVEL:		INSP	
ASB ACCURACY LEVEL:		REV	K. ZENG
		ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024SEP16		WIB-E05-SK006-OP2			D	0

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

From: Hepple, Robert
Sent: 2025, February 21 7:49 AM
To: Chwaklinski, David; Lee, Dylan
Cc: Chan, David Y.M.
Subject: RE: Willoughby Confirmatory Investigation - draft Report

Yes, I agree.

From: Chwaklinski, David
Sent: 2025, February 20 3:17 PM
To: Hepple, Robert ; Lee, Dylan
Cc: Chan, David Y.M. ; Chwaklinski, David
Subject: RE: Willoughby Confirmatory Investigation - draft Report
Importance: High

Hi Robert. I have reviewed KCB's draft factual report and Dylan's summary. Based on the data I see no reason not to proceed with completion of the purchase of the Bosa and Kool properties. I recommend that David Chan proceed with the completion while Dylan makes the minor revisions to his memo and KCB revise their report.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, February 20, 2025 2:40 PM
To: Lee, Dylan <Dylan.Lee@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>
Subject: FW: Willoughby Confirmatory Investigation - draft Report

Hi Dylan,
A couple of catches.
Please exclude the Walia property as an area of interest.
Correct the spelling of the Walia property.
Thank you,
Robert

Robert Hepple P.Eng.

Project Manager, Stations

Capital Infrastructure Project Delivery
BC Hydro
6911 Southpoint Drive, B02
C 360.410.2244
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

Smart about power in all we do.

From: Lee, Dylan <Dylan.Lee@bchydro.com>
Sent: 2025, February 20 2:35 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>
Subject: RE: Willoughby Confirmatory Investigation - draft Report

Hi David,

Please sign so I can file.
No significant geotechnical concerns. Please review summary points.
Let me know if you have any questions.

Thanks
Dylan

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2025, February 20 2:23 PM
To: Lee, Dylan <Dylan.Lee@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: Willoughby Confirmatory Investigation - draft Report

Hi Dylan, have you received the draft report from KCB yet?

From: Chwaklinski, David
Sent: 2025, October 09 10:49 AM
To: Sydorov, Dmitri D
Cc: Chwaklinski, David; Kelly, Katrina
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Dmitri, FYI BC Hydro has obtained the Walia property for the Willoughby Substation. Your WIB_E05-SK006-Op1 that was included in the e-mail below is being used as the baseline Layout until the final piece of the property picture is obtained. I will be placing the Option 1 drawing in the workspace for permanent record. Can you please provide me with the CADD versions so I can add them to the file as well? Thanks

---

From: Sydorov, Dmitri D
Sent: Thursday, February 13, 2025 11:41 AM
To: Berisso, Hussien ; Hepple, Robert ; Chwaklinski, David
Cc: Balea, Marian ; Sydorov, Dmitri D ; Khan, Jahangir ; Qin, Martin L ; Hou, Terri
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hussien/Robert/David – as requested, please see attached drafted versions of the ne WIB general arrangement inside considered property envelope.
TL and DIS substation entry/exit for this stage was coordinated on my end with TL and DIS leads.

Regards,

_____
Dmitri Sydorov PE, P.Eng | Sr. Engineer,T-Stations Engineering
Office: 604.528.1519
_____

From: Berisso, Hussien
Sent: 2025, February 10 10:00 AM
To: Khan, Jahangir ; Hepple, Robert
Cc: Sydorov, Dmitri D ; Balea, Marian ; Jelenici, Flori ; Armstrong, Mazana ; Parmar, Surinder ; Groves, Christa
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Thank you, Jahangir, for confirming Dmitri will continue working on the WIB construction project. As you may be aware, I am working with other station team on this project, and so far, I am pleased with progress by the team. Dmitri has already completed the electrical section of the DP, Amin/Civil has completed both DB

& DP contributions for Civil scope. Equipment & Mechanical are also on track to complete. The deadline for the EOI/RFSQ and RFP is currently set for March and Sep 2025, respectively.

Thank you for your understanding. We do appreciate your team's support.

Regards,

Hussien Berisso, MSc, P. Eng | Project Engineer Specialist, Stations Project Engineering

BC Hydro
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M: 604.862.9081
E: hussien.berisso@bchydro.com

bchydro.com

Smart about power in all we do.

From: Khan, Jahangir <Jahangir.Khan@bchydro.com>
Sent: 2025, February 10 9:31 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Armstrong, Mazana <Mazana.Armstrong@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Morning everyone
Thanks for your kind attention to our resourcing concerns. Appreciate reaching out directly and sharing more information.

I understand that the current work on the WIB Construction projects is mostly around preparing EOI, RFP etc. The design input needs to be very high-level. More importantly, the deadline is not imminent, and we have several months to complete this task.

With this, I am happy to bring Dmitri back into project. Hope Marian will be able to support. Only request is, please provide as much calendar flexibility as possible.
Best,

_____
Jahangir Khan | Team Lead,T-Stations Engineering

Tel: 604-528-2910 (D), 604-314-7083 (M)

From: Armstrong, Mazana <Mazana.Armstrong@bchydro.com>
Sent: 2025, February 04 10:00 AM
To: Parmar, Surinder <Surinder.Parmar@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Khan, Jahangir <Jahangir.Khan@bchydro.com>; Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Surinder,

Sure, let me circle back with my team leads and we will get back to you.

Thanks,

Mazana

Mazana Armstrong, Ph.D., P.Eng., SMIEEE | Division Manager, Transmission Stations Engineering

P 604 528 3328
M 604 968 6986
E mazana.armstrong@bchydro.com

From: Parmar, Surinder <Surinder.Parmar@bchydro.com>
Sent: 2025, February 04 8:56 AM
To: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Khan, Jahangir <Jahangir.Khan@bchydro.com>; Berisso, Hussien <Hussien.Berisso@bchydro.com>; Armstrong, Mazana <Mazana.Armstrong@bchydro.com>
Cc: Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Mazana:

We need to have a discussion on this as soon as possible.

As you know the Executive is looking us to advance the EPC RFP for the Construction project.

Since this is not our normal project delivery method, we need Engineering support to complete the deliverables.

So please let us know asap who from TE will be helping Hussien in producing the needed Engineering deliverables for the RFP.

Surinder Parmar, P.Eng., PMP
BC Hydro
6911 Southpoint Drive

P 604.528.7731
M 604.561.2702
E Surinder.Parmar@bchydro.com

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From: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Sent: 2025, February 04 8:36 AM
To: Khan, Jahangir <Jahangir.Khan@bchydro.com>; Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Armstrong, Mazana <Mazana.Armstrong@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Jahangir – all clear and understood on my end.
Thanks.

_____
Dmitri Sydorov PE, P.Eng | Sr. Engineer,T-Stations Engineering
Office: 604.528.1519

_____

From: Khan, Jahangir <Jahangir.Khan@bchydro.com>
Sent: 2025, February 04 8:33 AM
To: Berisso, Hussien <Hussien.Berisso@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Cc: Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Armstrong, Mazana <Mazana.Armstrong@bchydro.com>;

Parmar, Surinder <Surinder.Parmar@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Morning Hossien
The report you attached is for the Purchase project (TM-0592). My concern is about the construction/turnkey project (TM-0637).

If the scope of turnkey work is now changed, please resubmit or amend the resource request. Previously, Marian was assigned to support the RFSQ.

@Sydorov, Dmitri D: Please pause your work on the WIB (& CBS) construction project TM-0637 (& TM-0632). Work on the property projects (TM-0593 and TM-0592) continues.

PS: We are facing dire resource crunch. Appreciate your understanding.
Cheers,

_____
Jahangir Khan | Team Lead,T-Stations Engineering
Tel: 604-528-2910 (D), 604-314-7083 (M)

_____

From: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Sent: 2025, February 03 3:42 PM
To: Khan, Jahangir <Jahangir.Khan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Balea, Marian <Marian.Balea@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Jahangir,

The station electrical contribution for the property purchase project is nearly complete with signed Electrical memo attached. However, there have been some changes to the property, prompting Dmitri to revise the conceptual layout according to the updated property line we're considering acquiring. As a result, there's not much remaining for Station Engineering on this project.

For the construction project, CIPD has requested that internal engineering proceed with developing the design plan and design basis for FEAS, which will be used in the procurement process (RFSQ and RFP). Detailed design will be handled in DEF, which will be under the scope of the EPC contractor. Additionally, I've been asked to prepare the WPDT for FEAS and will be requesting estimates from Station Electrical and other relevant disciplines. The decision on who will prepare the detailed specifications for the RFP has not been made yet, but most of the information developed in FEAS will serve as the foundation.

@Parmar, Surinder & @Hepple, Robert please add if I may have missed anything.

Regards,

Hussien Berisso, MSc, P. Eng | Project Engineer Specialist, Stations Project Engineering

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P: 604.528.1570
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E: hussien.berisso@bchydro.com

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From: Khan, Jahangir <Jahangir.Khan@bchydro.com>
Sent: 2025, February 03 3:05 PM
To: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Balea, Marian <Marian.Balea@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Hussien
I understand you have engaged Dmitri on this project and various design activities are on the go.

In the rush of transitioning Ken's projects to Dmitri, we may have missed the blurry line between the Property Purchase project vs. the Construction project.

I realized this is the Construction project. As such, I need to make you aware that Dmitri is not officially assigned to this resource yet, Marian is.

This is mentioned in the resourcing pages WIB and CBS. On top of that, this is a turnkey project. Our involvement on design tasks should ideally be zero – that applies for Dmitri.



Please consult with Marian and discuss with the PM as appropriate.
Thanks.

_____
Jahangir Khan | Team Lead,T-Stations Engineering
Tel: 604-528-2910 (D), 604-314-7083 (M)
_____

From: Khan, Jahangir
Sent: 2025, January 28 3:25 PM
To: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Hussein
I would prefer not to go for OT if at all possible. Please let me know if this is extremely time-sensitive. This project is going on for multiple years, so struggling to understand the drivers for the OT need and urgency.
Cheers,

_____
Jahangir Khan | Team Lead,T-Stations Engineering
Tel: 604-528-2910 (D), 604-314-7083 (M)
_____

From: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Sent: 2025, January 28 3:20 PM
To: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Cc: Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Khan, Jahangir <Jahangir.Khan@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hussien – to work on WIB Preliminary Design Basis and Design Plan this/next week I may require your approval for me to work over the weekends overtime. Since I'll be away to GLN Feb 4-5 things are getting very busy to meet the next week deadline.

Please advise.

_____
Dmitri Sydorov PE, P.Eng | Sr. Engineer,T-Stations Engineering
Office: 604.528.1519
_____

From: Berisso, Hussien <Hussien.Berisso@bchydro.com>
Sent: 2025, January 28 3:13 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>
Subject: FW: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Robert,

Can you give Dmitri access to the Willoughby - Substation Construction - Home PPM site?

Regards,

Hussien Berisso, MSc, P. Eng | Project Engineer Specialist, Stations Project Engineering

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From: Berisso, Hussien
Sent: 2025, January 16 2:23 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Balea, Marian <Marian.Balea@bchydro.com>; Sydorov, Dmitri D <Dmitri.Sydorov@bchydro.com>; Kadivar, Amin <Amin.Kadivar@bchydro.com>; Majdzadeh, Fariborz <Fariborz.Majdzadeh@bchydro.com>; Sweet, Michael <Michael.Sweet@bchydro.com>; Cui, Philip <Philip.Cui@bchydro.com>; Bhanot, Jay <Jay.Bhanot@bchydro.com>; Duff, Gord <Gord.Duff@bchydro.com>; Qin, Martin L <Martin.Qin2@bchydro.com>; Mai, Karl <Karl.Mai@bchydro.com>; Mojebi-Mogharrar, Fariborz <fariborz.mojebi@bchydro.com>; Barnett, Garry <Garry.Barnett2@bchydro.com>; Duff, Gord <Gord.Duff@bchydro.com>; Lee, Dylan <Dylan.Lee@bchydro.com>; Lepiten, Ramon <Ramon.Lepiten@bchydro.com>; Zhang, Sam <Sam.Zhang@bchydro.com>; Rochwerger, Guilherme G <Guilherme.Rochwerger@bchydro.com>; Wen, Guoqiang <Guoqiang.Wen@bchydro.com>; Leite, Paulo <Paulo.Leite@bchydro.com>; Szutoo, Raymond <Raymond.Szutoo@bchydro.com>
Cc: Ma, Eddie <Eddie.Ma@bchydro.com>; Diallo, Boubacar <Boubacar.Diallo@bchydro.com>; Jelenici, Flori <Flori.Jelenici@bchydro.com>; Graham, Danny <Danny.Graham@bchydro.com>; Wilson, Sandra <Sandra.Wilson@bchydro.com>; Zabeti, Ped <Ped.Zabeti@bchydro.com>; Lin, Lynn <Lynn.Lin@bchydro.com>; Hansen, Adrian <Adrian.Hansen@bchydro.com>; Constantino, Marte <Marte.Constantino@bchydro.com>
Subject: RE: Willoughby New Substation Project (TM-0637) - Kick Off Meeting

Hi Team,

Thank you all for attending the WIB Construction project (TM-0637) Project Engineering Kick-off meeting. As discussed, this project will be executed using Engineering Procurement and Construction (EPC) project delivery method. At this stage, the engineering focus is on completing the preliminary design basis and design plan to support the EPC contractor qualification process by identifying key questions necessary for evaluating a qualified EPC contractor. Please review the relevant scope for your discipline and add your inputs in the design basis (important requirements in a high level for this stage). Kindly proved this by **Feb 14, 2025.**

I will be on AV from **Jan 17-24**, during this time if you have any questions, please reach out to @Hepple, Robert.

Charge code:

Willoughby Construction Project	TM0592 1560 CONS

The following documents are attached:

- Preliminary Design Basis
- Design Plan
- Investment Summary
- Issued Station Planning Scopenotes (Please review the latest Scopenotes for your respective discipline under SN5078, some SNs are still blank or in Draft form)
- Slides from kick-off meeting

Regards,

Hussien Berisso, MSc, P. Eng | Project Engineer Specialist, Stations Project Engineering

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-----Original Appointment-----
From: Berisso, Hussien
Sent: 2025, January 10 1:33 PM
To: Berisso, Hussien; Hepple, Robert; Balea, Marian; Sydorov, Dmitri D; Kadivar, Amin; Majdzadeh, Fariborz; Sweet, Michael; Cui, Philip; Bhanot, Jay; Duff, Gord; Qin, Martin L; Mai, Karl; Mojebi-Mogharrar, Fariborz
Cc: Ma, Eddie; Diallo, Boubacar; Jelenici, Flori; Rochwerger, Guilherme G; Zhang, Sam; Graham, Danny; Barnett, Garry; Wilson, Sandra; Lepiten, Ramon; Zabeti, Ped; Lin, Lynn; Lee, Dylan; Hansen, Adrian; Szutoo, Raymond; Leite, Paulo; Constantino, Marte; Wen, Guoqiang
Subject: Willoughby New Substation Project (TM-0637) - Kick Off Meeting
When: 2025, January 16 11:00 AM-12:00 PM (UTC-08:00) Pacific Time (US & Canada).
Where: Microsoft Teams Meeting

Hi All,

This is a kick-off meeting for a new Willoughby substation construction project (TM-0637). Finding a time that works for everyone is challenging, but please make an effort to attend.

Willoughby - Substation Construction - Home
https://ppm.bchydro.bc.ca/projects/TM-0637/ProjectDocuments/Project_Management/1_IDN/Communication/TM-0637_Investment_Summary.pdf

---

Microsoft Teams Need help?

Join the meeting now

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Passcode: mV3cA9Pj

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(888) 525-4968,,74411442# Canada (Toll-free)

Find a local number

Phone conference ID: 744 114 42#

For organizers: Meeting options | Reset dial-in PIN

Do NOT send or post NERC CIP-related confidential files in Teams. Share only necessary information via screenshare in Teams meetings when there is a valid business reason to do so. For additional information, contact your respective CIP Compliance Teams.

From: Chwaklinski, David
Sent: 2024, April 16 4:41 PM
To: Simpson, Lauren; Hepple, Robert; Armstrong, Tyler
Cc: Chwaklinski, David; Chaisson, Rob
Subject: RE: Willoughby Property Search

Good afternoon all. I have been reviewing the four parcels around 192nd and 80th. Of course, it is more complicated than it looks. Based on google earth all the sites have an average crossfall of between 5% to 7% (approximate) with some very steep sections. The elevation change appears to be from 9 to 17 m across the sites depending. While not ideal the properties are large enough we could likely develop a substation on all of them

Based on Surrey Maps COSMOS, Option two has 5 parcels to consolidate, the most buildings (active barns) but no apparent watercourse. Option 1 has about 6 properties to consolidate with the most residences but no apparent watercourses. Option 4 has four properties to consolidate (with residences) and has either ditching or streams that feed into south Latimer creek. The property boundary may touch south Latimer creek. Option 3 has the fewest parcels to consolidate with only two residences, but it appears to have a creek cutting across two of the three parcels and bounding one of the parcels.

Based on what I have seen if we can address the water course issue, I would choose Option 3 to go ahead with purely from a site development aspect. If the watercourse is a no go, I would recommend we go with Option 4 as it appears that the watercourses may be surface ditching only and we may be able to deal with them easier than a registered watercourse. Failing that I would go with option 1 as the properties do not look like they are “high end” ranches and there are no watercourses shown. I know I did not pick one, but this is the best I can do without more investigation in to the environmental aspects.

I will be out of the office tomorrow but will be available for discussion on Thursday.

From: Simpson, Lauren
Sent: Tuesday, April 16, 2024 11:41 AM
To: Hepple, Robert ; Armstrong, Tyler ; Chwaklinski, David
Subject: RE: Willoughby Property Search

We can carry these alternatives into CONC. I think We just need a decision now so David can finalize his report and you can complete the SoO.
We already have Alt 13.

For now I have added the following to the SDM table:

- Alternative 14 = one of the 4 ToL options
- Alternate 15 = ALR

An enviro screening can be conducted on Alt 14 and 15 in CONC.

This means we are carrying 6 alternatives into CONC. Unless we received feed back from the City regarding the other alternatives (5, 10, 11 & 13)??

Please advise.

Thanks, Lauren

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, April 16 10:57 AM
To: Simpson, Lauren <Lauren.Simpson@bchydro.com>; Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: Willoughby Property Search

Lauren,
We will add it now as David Chan and Surinder agree to approach City of Surrey with our finding and request to re-zone.
We will carry it into Conceptual.
I am also asking Tyler about Alternative 13. Can we carry this into Conceptual as well?

Robert Hepple P.Eng.

Project Manager, Stations
Capital Infrastructure Project Delivery
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W 604.528.3433
E Robert.Hepple@BCHydro.com

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From: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Sent: 2024, April 16 10:52 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: Willoughby Property Search

To confirm.

- David will select one of the four options on 80th and 192.
    - No enviro screening is required? If this is the case there is a risk that the selected property has some enviro restrictions.

- We will add the ALR site once we receive confirmation from the City of Surrey or now?

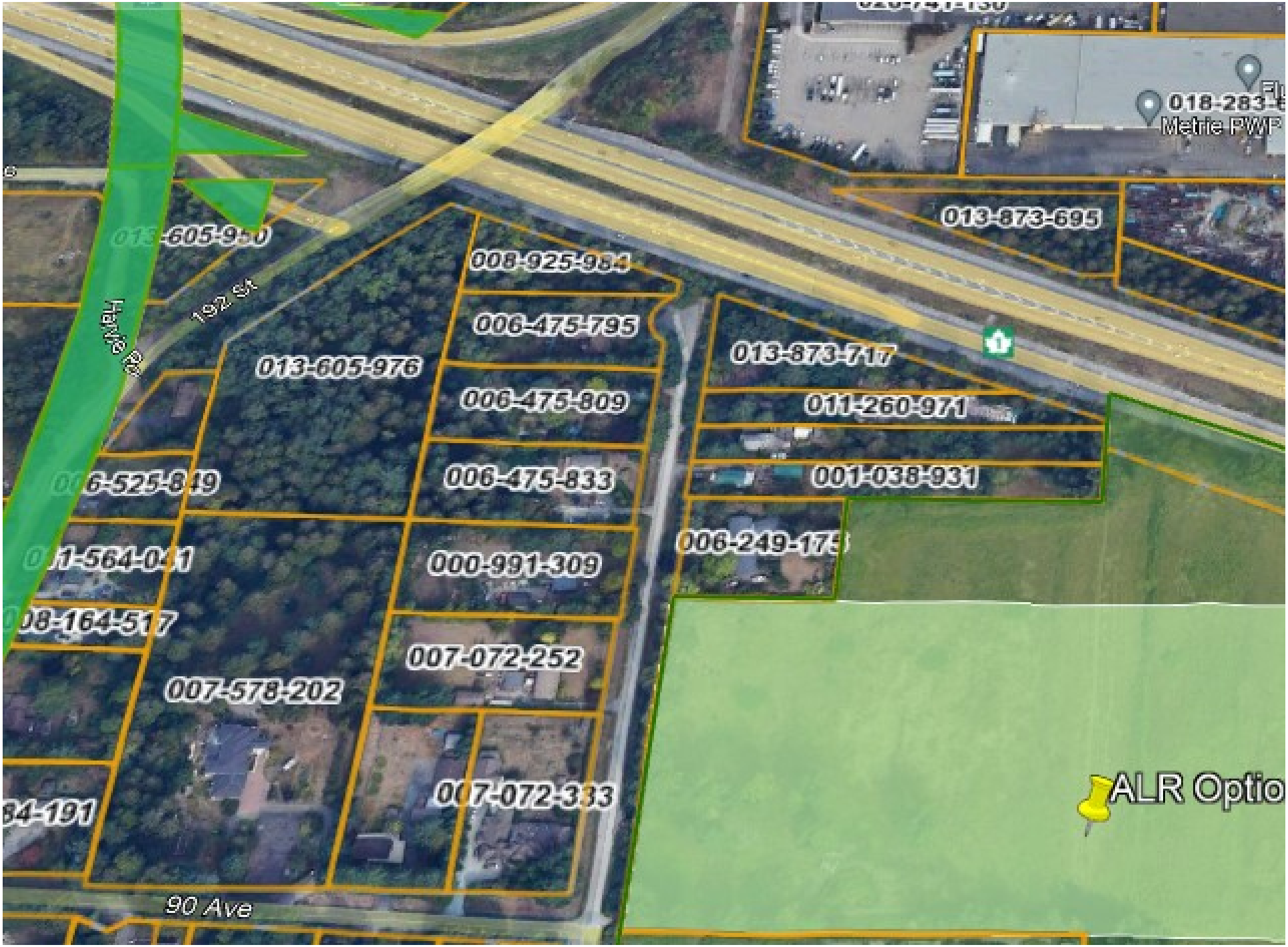
From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, April 16 10:31 AM
To: Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Willoughby Property Search

Tyler,
Good let's add the ALR site.
David just stopped by my desk and he will look at the 4 sites and choose one.
How about adding Alternate 13 the our list to go into Conceptual?

From: Armstrong, Tyler <Tyler.Armstrong@bchydro.com>
Sent: 2024, April 16 10:22 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Willoughby Property Search

Yes, that's what David Chan said as much when I asked him about the process with non farm use in ALR this morning. I looked at the site and I only see one viable parcel that would make sense for us as the others are landlocked.

See below roughly 12 acre.


018-283-
Metrie PWP
013-873-695
008-925-984
006-475-795
192 St
Hayden
013-605-976
006-475-809
013-873-717
011-260-971
006-475-833
001-038-931
000-991-309
007-072-252
007-578-202
007-072-333
ALR Optio
90 Ave

Regards,

_____

Tyler Armstrong | Property Representative – Acquisitions and Sales

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M 604 230 0187
E tyler.armstrong@bchydro.com

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, April 16 9:44 AM
To: Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Willoughby Property Search

Hi Tyler,
Yes, I agree with your proposal with one exception.
Surinder wants us to go to the City of Surrey and show them the ALR site and ask if they would be willing to re-zone it.
Do you agree?

Robert Hepple P.Eng.

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From: Armstrong, Tyler <Tyler.Armstrong@bchydro.com>
Sent: 2024, April 16 9:05 AM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Willoughby Property Search

Nick from ToL informed me this morning that the site near the highways is a detention pond and the surrounding areas are owned by a developer who has received approval for an office building. Therefore, we are back to considering the 192/80th intersection as the most likely option.

I suggest conducting a quick desktop study on all four corners to determine if there are any environmental concerns on one corner more than the others. We could choose the corner on the northwest (Option 4) with the least parcels as our primary option if the environmental conditions are favorable. Then, we could select one of the other corners (Option 2 or 4) with the least amount of parcels and a decent desktop environment as a backup option. Option 1 has the most parcels and therefore should be considered last.

Robert, I'll defer to you to confirm with the group if this is a reasonable course of action to take. If so, we need to update the SDM with our options.


LS_CADD Overlay
3/2024
006-845-878
Meewen Farms
006-845-720
006-845-835
006-845-860
Option 3 13.6 Acre
006-845-851
010-750-029
010-750-045
80 Ave
80 Ave
80 Ave
Comfort Knox Heating Ltd
192 St
007-791-887
Option 1 12.5 A
005-951-704
005-951-712
002-136-864
Option 4 11.8 Acre
003-370-879

Regards,

_____

Tyler Armstrong | Property Representative – Acquisitions and Sales

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M 604 230 0187
E tyler.armstrong@bchydro.com

bchydro.com

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, April 15 3:20 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Armstrong, Tyler <Tyler.Armstrong@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Willoughby Property Search

Tyler is waiting for ToL confirmation

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, April 15 1:30 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Armstrong, Tyler <Tyler.Armstrong@bchydro.com>
Cc: Simpson, Lauren <Lauren.Simpson@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: Willoughby Property Search

Robert or Tyler, can you identify the properties we are adding?

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Monday, April 15, 2024 9:40 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Simpson, Lauren

<Lauren.Simpson@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Cc: Gadhok, Satwant <Satwant.Gadhok@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Willoughby Property Search

David,
We will look at only one of the properties at 192nd and 80th but add two more identified in our discussions with Township of Langley.
Tyler will get us new clean KMZ maps showing locations.
I will forward these 3 locations to Anil Pradhan who will run them by transmission and distribution planning to get their feedback.
We will need their feedback before moving to Conceptual
Robert

Robert Hepple P.Eng.

Project Manager, Stations
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E Robert.Hepple@BCHydro.com

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From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, April 15 9:34 AM
To: Armstrong, Tyler <Tyler.Armstrong@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Chaisson, Rob <Rob.Chaisson@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: Willoughby Property Search

Good morning, everyone. Has a decision been made as to adding the four properties identified near 192nd and 80th to the list of properties we are going to evaluate in Conceptual? Or are we going to go forward with the four options currently identified in the SDM table? I would like to finalize my design plan and get it signed off if possible.

David Chwaklinski, P. Eng., FEC., PMP | Project Engineer Specialist
Lines and Interconnections

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Burnaby, BC V3N 4X8

M 778 833 3740
E david.chwaklinski@bchydro.com

From: Jiang, Kally
Sent: 2024, September 12 10:50 AM
To: Chwaklinski, David
Cc: Steels, Craig; Kadivar, Amin; Lee, Dylan; Hepple, Robert; Berisso, Hussien
Subject: RE: Willoughby Sub - New layout required
Attachments: WIB-E05-SK005-Op5-Outdoor AIS-To Fit Qualico+Mattu Properties-20240912.pdf

Hi, Dave,

As requested, please check attached option 5 for details. The layout is based on minimum dimension requirements and 10 meter more would be required to fit all AIS design in this case.

Thanks,
Kally

From: Chwaklinski, David
Sent: 2024, September 11 4:55 PM
To: Jiang, Kally
Cc: Steels, Craig ; Kadivar, Amin ; Lee, Dylan ; Hepple, Robert ; Berisso, Hussien ; Chwaklinski, David
Subject: RE: Willoughby Sub - New layout required

Thanks Kally. I was looking at your Option 4 that shows four line positions, the 25 kV and 60 kV as AIS. As you note it does not fit on the Qualico and Panhandle properties, but it looks very much like the layout you created using GIS for the 60 kV and 25 KV sections overlaid on the Qualico and Mattu properties. I did some quick calculations and if we include Mattu and provide a 15 m set back from the creek center there would be about 197 m width. With that I believe it may be possible to install a Full AIS station on the three properties. Can you please revisit that option and show it as AIS? I think we should consider this at least. I would include your original layout for reference, but I am having troubles accessing my files right now. I will be in the office tomorrow if you wish to discuss further.

Hussien, FYI.

From: Jiang, Kally <Kally.Jiang@bchydro.com>
Sent: Wednesday, September 11, 2024 4:03 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Steels, Craig <Craig.Steels@bchydro.com>; Kadivar, Amin <Amin.Kadivar@bchydro.com>; Lee, Dylan <Dylan.Lee@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby Sub - New layout required

Hi, Dave,

As our discussions, I checked all AIS design based on the Panhandle and Qualico properties. These properties are not big enough for all AIS design. Please see attached Option 3 & 4 for details.

Thanks,
Kally

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, September 03 8:22 AM
To: Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Steels, Craig <Craig.Steels@bchydro.com>; Kadivar, Amin <Amin.Kadivar@bchydro.com>; Lee, Dylan <Dylan.Lee@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby Sub - New layout required

Thanks Kally, I would like to meet with you to discuss in more detail to see if there is a solution. I will check your calendar and get beack to you.

From: Jiang, Kally <Kally.Jiang@bchydro.com>
Sent: Friday, August 30, 2024 4:08 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Steels, Craig <Craig.Steels@bchydro.com>; Kadivar, Amin <Amin.Kadivar@bchydro.com>; Lee, Dylan <Dylan.Lee@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: RE: Willoughby Sub - New layout required

Good afternoon, David,

I tried very hard to squeeze the equipment into the Panhandle property 19595. Unfortunately, it is not sufficient for AIS arrangement. It is very tight even for all GIS equipment. Please see attached sketches for details.

Thanks and have a nice long weekend,
Kally

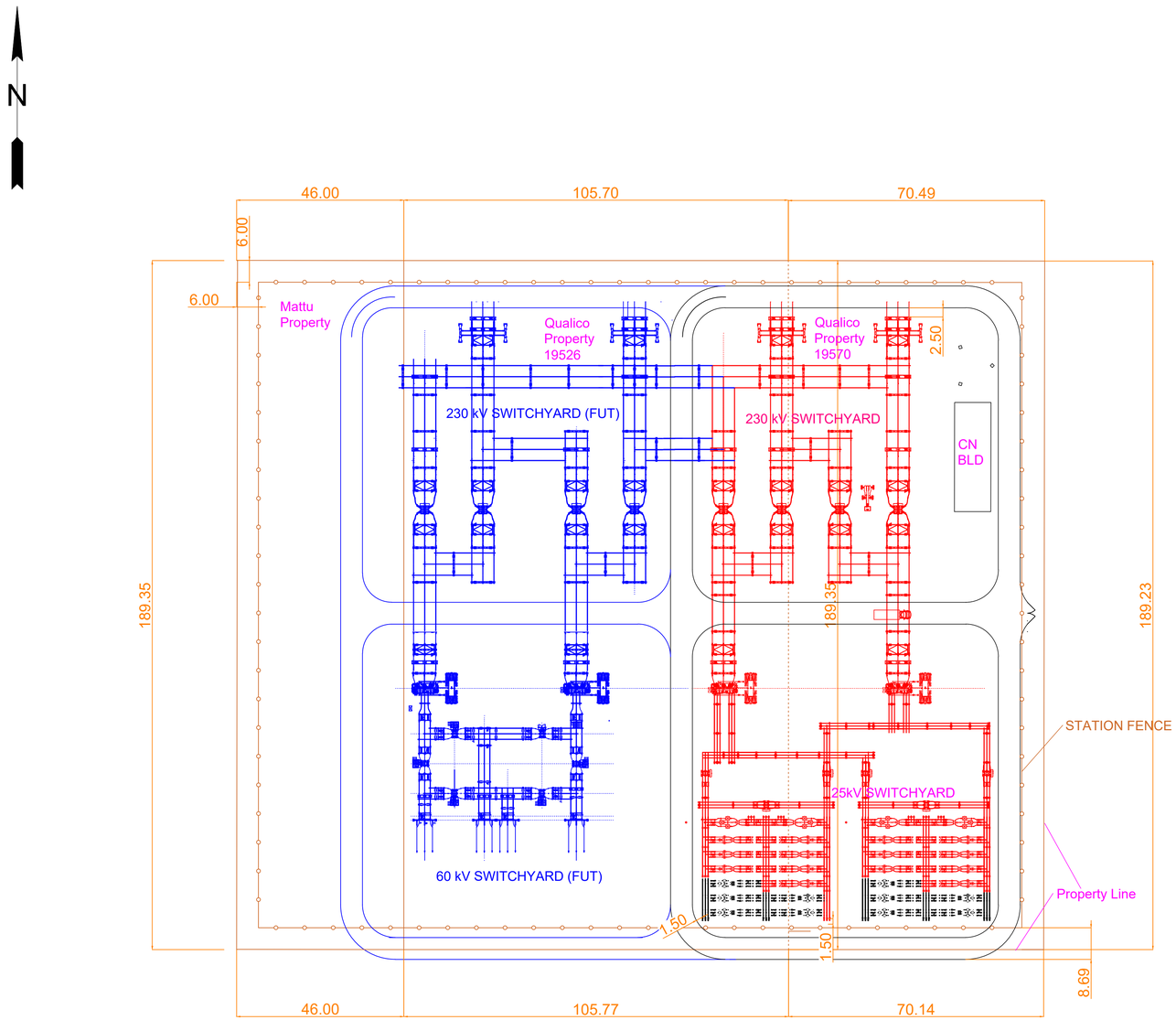
From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, August 22 9:54 AM
To: Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Steels, Craig <Craig.Steels@bchydro.com>; Kadivar, Amin <Amin.Kadivar@bchydro.com>; Lee, Dylan <Dylan.Lee@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: Willoughby Sub - New layout required

HI Kally, I have been asked by the PM to have a new Willoughby station layout prepared over the land parcels shown outlined in Red in the attached map. Can you please have a look and see what you can do? The concept is for the 2 - 230 kV line positions and transformers to be located on the “panhandle” portion of the property (19595). In your layout, please consider that the 2 future line positions and 60 kV section could go on to the parcel 19537 directly to the west of 19595 if it became available. Please review the map and one line and then develop your layout. If there any issues or questions please don’t hesitate to get in touch with me. Have a look and let me know when you think you can deliver this. Thanks

David Chwaklinski, P. Eng., FEC., PMP | Project Engineer Specialist
Lines and Interconnections

BC Hydro
6911 Southpoint Drive, E08
Burnaby, BC V3N 4X8

M 778 833 3740
E david.chwaklinski@bchydro.com



NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

C:\Users\kjiang\OneDrive - BC Hydro\F25 Projects\1-CIPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240912-New for Qualico\WIB-E05-SK005-Op5-Outdoor AIS-To Fit Qualico+ Properties-20240912.dwg
Drawing Unit = Metric (4)
JIANG, KAI, Y
9/12/2024 10:45 AM

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K. JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024SEP12		WIB-E05-SK005-OP5			D	0

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From: Chwaklinski, David
Sent: 2024, June 04 10:08 AM
To: Zou, Ming; Kwan, John
Cc: Hepple, Robert; Chwaklinski, David
Subject: WIlloughby and Campbell Heights Property Purchase

Hi Ming and John, I am looking into the Transmission Supply for two new stations, Willoughby (North of Langley City) and Campbell Heights (Southwest of Langley City). Is there a Transmission Planning one line for the supply of these stations?

Initially I assumed that it would be some form of Tap (Split the circuit) off 2L076 but recently I have heard that it is being considered to supply out of McLellan for both which would mean four new line positions. It may be that supply from Fleetwood makes more sense from a transmission perspective. Has your team developed any concepts for this future supply?

I understand it may be early for you but these decisions could have a large impact on our property selection.

I appreciate any insight you can provide.

David Chwaklinski, P. Eng., FEC., PMP | Project Engineer Specialist
Lines and Interconnections

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M 778 833 3740
E david.chwaklinski@bchydro.com

From: Armstrong, Tyler
Sent: 2024, March 27 11:49 AM
To: Chwaklinski, David; Chan, David Y.M.; Gadhok, Satwant; Lee, Johnson
Cc: Manurung, Cynthia; Pradhan, Anil; Lin, Lynn
Subject: RE: Willoughby Substation - Updated property search area
Attachments: Willoughby Search March 27-2024.kmz

Hello everyone,

I've reviewed the area map and overlaid ALR, watercourses, etc. Based on the size of the property we need, I believe it makes sense to target the intersection of 192nd and 80th. This location is squarely on the Surrey side, as the Langley side does not have sufficient sized properties and has watercourse issues.

I understand that this area is on the perimeter of the area map David shared (top left corner of the green box), but I believe it offers us four good options with:

- Sufficient egress on two sides
- Located on main arterial roads for distribution
- No apparent watercourse or ALR issues
- Agricultural and acreage homes should trade at significantly lower prices than the high-density properties we previously considered.

Please let me know your thoughts on targeting this 80th & 192nd intersection.

MAP: KMZ File attached


LS_CADD Overlay
3/2024
006-845-878
Meewen Farms
006-845-720
006-845-835
006-845-860
Option 3 13.6 Acre
006-845-851
010-750-029
010-750-045
80 Ave
80 Ave
80 Ave
Comfort Knox Heating Ltd
192 St
007-791-887
Option 1 12.5 A
005-951-704
005-951-712
002-136-864
Option 4 11.8 Acre
003-370-879

Regards,

_____

Tyler Armstrong | Property Representative – Acquisitions and Sales

BC Hydro
333 Dunsmuir St, 12th floor
Vancouver, BC V6B 5R3

P 604 623 3778
M 604 230 0187
E tyler.armstrong@bchydro.com

bchydro.com

Smart about power in all we do.

From: Chwaklinski, David
Sent: 2024, March 26 4:19 PM
To: Armstrong, Tyler ; Chan, David Y.M. ; Gadhok, Satwant ; Lee, Johnson
Cc: Manurung, Cynthia ; Pradhan, Anil ; Lin, Lynn
Subject: Willoughby Substation - Updated property search area

Based on our discussion this afternoon I have updated the property search area for Willoughby based on a 2.0 km radius around the preferred load center of 80th avenue and 200th street. Previously Distribution wanted the station within a 1.0 km square box centered on the load center. As we have discovered it will be a challenge to obtain approx. 10 acres where distribution wants it, and we probably need to look around 196th street along and north of 80th. It is not ideal for distribution, but we need to find a workable property.

David Chwaklinski, P. Eng., FEC., PMP | Project Engineer Specialist
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E david.chwaklinski@bchydro.com

From: Chwaklinski, David
Sent: 2025, August 05 3:51 PM
To: Sherevkulov, Dmitry; Kelly, Katrina
Cc: Parmar, Surinder; Chaisson, Rob; Wanamaker-Briggs, Andrew; Chan, David Y.M.; Chwaklinski, David
Subject: RE: Willoughby Substation - Walia property

I see no value in conducting any more pre purchase investigations other than to determine if the site is contaminated. Geotechnically the site will be the same as the surrounding sites we have information on. The risks for this property will be the same as identified for the other properties. Regardless of what is found we need this site to make a whole station and we will have to deal with what is found. The Contamination is the only concern which could impact the price we pay.

From: Sherevkulov, Dmitry
Sent: Tuesday, August 5, 2025 2:54 PM
To: Kelly, Katrina
Cc: Parmar, Surinder ; Chaisson, Rob ; Wanamaker-Briggs, Andrew ; Chan, David Y.M. ; Chwaklinski, David
Subject: Willoughby Substation - Walia property

Hi team,

We reengaged the property owner of the highlighted site in yellow below and now they indicated they would like to sell. The address is 7484 194 St Surrey, PID: 008-131-554.

Since we have completed all site investigations for the surrounding properties do we still need to do the same for the property below? I am wondering if we should include a 90-day subject removal period in the purchase agreement?

Katrina/Surinder: the purchase price is expected to be within $3,000,000 – do we have funding for it? I've met the owner last week and they are waiting for the offer. We should be able to sign the agreement around September and close before the end of the year. Please advise on the funding/chargecode.



Dmitry Sherevkulov | Property Representative
Acquisitions and Sales

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P 604 623 3566

M 604-690-9836
E dmitry.sherevkulov@bchydro.com

bchydro.com

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From: Zeng, Ken
Sent: 2024, March 08 4:10 PM
To: Chwaklinski, David
Cc: Jiang, Kally; Fajber, William; Carr, Arthur; Khan, Jahangir
Subject: RE: Willoughby/Campbell heights Substation Layouts
Attachments: CAMP-E05-SK003(2024-03-05_OneLIne)--Tight_R0B-All-GIS-INDOOR.pdf

David/Artur,
Thanks for the HSY reference.
Based on HSY and the space needed for an 8-CB 230kV indoor GIS and its cabling/termination, the ideal layout for a green field all GIS type layout might look like the attached, but could be smaller and the 230kV incoming lines space and orientation might not work for current concept.

In general, compared with the all-open low profile type, the all indoor-GIS type takes less than half of the property size.

We need outdoor GIS dimensions to see how it will look. I do not think there is a big difference.

Regards
Ken

From: Carr, Arthur
Sent: 2024, March 08 10:27 AM
To: Chwaklinski, David
Cc: Jiang, Kally ; Fajber, William ; Zeng, Ken
Subject: RE: Willoughby/Campbell heights Substation Layouts

Dave,

I'm going to say for 69kV, the size of an indoor GIS system is comparable to an outdoor AIS system but this is not true for the higher voltages such as 230kV.

For comparison purposes, I suggest you look at what was built at HSY in 2013 (7 Bay indoor 230kV GIS system). For Campbell Heights, it looks like we would need to have a building large enough for an 8 bay system but only build out 4 bays at this time. It would be a bit more complex in the future to build the GIS out to the full 8 bays compared to an AIS system but still doable.

Arthur.

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, March 08 9:49 AM
To: Carr, Arthur <Arthur.Carr@bchydro.com>; Zeng, Ken <Ken.Zeng@bchydro.com>

Cc: Jiang, Kally <Kally.Jiang@bchydro.com>; Fajber, William <Will.Fajber@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: Willoughby/Campbell heights Substation Layouts

No, the intent is to stay AIS but given that the availability of suitable properties is very low I am just thinking out loud if you will of how to make it work. For an AIS 230/69/25 station we need about 10 acres. There are almost no properties that large near the load center and the ones that exist have been tagged for residential development which means big dollars even if we could purchase. There are some smaller properties of 4 to 6 acres that may be available but I need to understand how much space is required if we use GIS equipment. The township made it clear that they are not in favour of an AIS station in their residential area so I am considering all options at this time.

From: Carr, Arthur <Arthur.Carr@bchydro.com>
Sent: Friday, March 8, 2024 9:23 AM
To: Zeng, Ken <Ken.Zeng@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Jiang, Kally <Kally.Jiang@bchydro.com>; Fajber, William <Will.Fajber@bchydro.com>
Subject: RE: Willoughby/Campbell heights Substation Layouts

Are we considering 25kV indoor MVGIS for this project?

Going from a fully AIS design to a fully GIS design is extreme on both ends of the spectrum (biggest area and lowest cost versus smallest area and highest cost).

Arthur.

From: Zeng, Ken <Ken.Zeng@bchydro.com>
Sent: 2024, March 08 9:02 AM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Cc: Carr, Arthur <Arthur.Carr@bchydro.com>; Jiang, Kally <Kally.Jiang@bchydro.com>; Fajber, William <Will.Fajber@bchydro.com>
Subject: RE: Willoughby/Campbell heights Substation Layouts

Hi David,
Based on the rough sketch I've attached (the first PDF), which reflects the latest one-line diagram (the second PDF), it appears that we'll need a 190m x 175m fenced yard for the substation. I recommend focusing our search on properties that can accommodate this size, rather than looking for a larger property.

If you have a specific property in mind with approximate dimensions and orientation, we can develop a layout that fits into it. This will allow us to determine which portions could utilize GIS (indoor or outdoor). It's important to have a physical idea of both the HV line incoming and LV line outgoing orientation from a system perspective. For instance, could we consider a layout comprising 230kV outdoor, 25kV indoor GIS, and 60kV outdoor GIS.

Equipment might be able to provide some samples from vendors for outdoor GIS, for 230 and 60kV. I did a few projects with 60kV, 25kV indoor GIS, or Hybrid only and I have never done an outdoor GIS.

We are all in the office on Tuesday and Thursday as required by the department.

Regards,

Ken

From: Fajber, William <Will.Fajber@bchydro.com>
Sent: 2024, March 07 5:29 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Zeng, Ken <Ken.Zeng@bchydro.com>; Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Carr, Arthur <Arthur.Carr@bchydro.com>
Subject: RE: Willoughby/Campbell heights Substation Layouts

It is mostly correct, although it is complicated.

We have used outdoor GIS at BC Hydro– one of the early versions was installed at HSY. It had some issues but nothing related to being outside.
We have also installed pieces of outdoor GIS recently, except that we call it hybrid breakers instead of outdoor GIS. We have that at Ingledow and Meridian in the 500 KV yard, and a new 230kv one at Camosun. We also have a small 138 KV GIS installation at Douglas Rd.

I would say that the opinions from the equipment team are mixed. An analogy would be whether you park a car on the street or park a car in the garage. If your card never leaves the garage, you would expect that it will last longer without the exposure from the elements. But it doesn't mean that you should not have a car that drives on the street.

As recently as yesterday, there is discussion about outdoor GIS as a possibility for use at Lougheed substation and Scott Rd. substation. That application is different than the ones above. It is potentially a very small footprint. The importance factor of the switch yard is lower in that a grid level station. And it is small enough that if the GIS needed to be disassembled, scaffolding and shrink wrapping can be applied to provide a clean work environment. Since it is outdoor, a mobile crane can reach everything pretty easily.

CIGRE reports that there are three times more problems with outdoor GIS than indoor GIS. That number came from their published reports on reliability. However, three times a very small number is still a small number.

And we have to consider whether the risk would outweigh the advantages of a small footprint. I am generally supportive of the idea.

I note that a small indoor 60 kV GIS in a building has almost the same footprint as an 60kv air insulated compact structure such as Newell, so it is less compelling. However an outdoor GIS would still have to be some distance from the fenceline, while a building could be at the edge of the property.

I will loop in Arthur in this conversation.

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, March 07 4:20 PM
To: Zeng, Ken <Ken.Zeng@bchydro.com>; Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Fajber, William <Will.Fajber@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: Willoughby/Campbell heights Substation Layouts

Ken and Kally, in a meeting with Township of Langley today they noted that properties suitable for a full outdoor station are few and far between, I am wondering if there is a middle ground between a full outdoor station and an indoor station. Can you also consider what decrease in property sizes would be (if

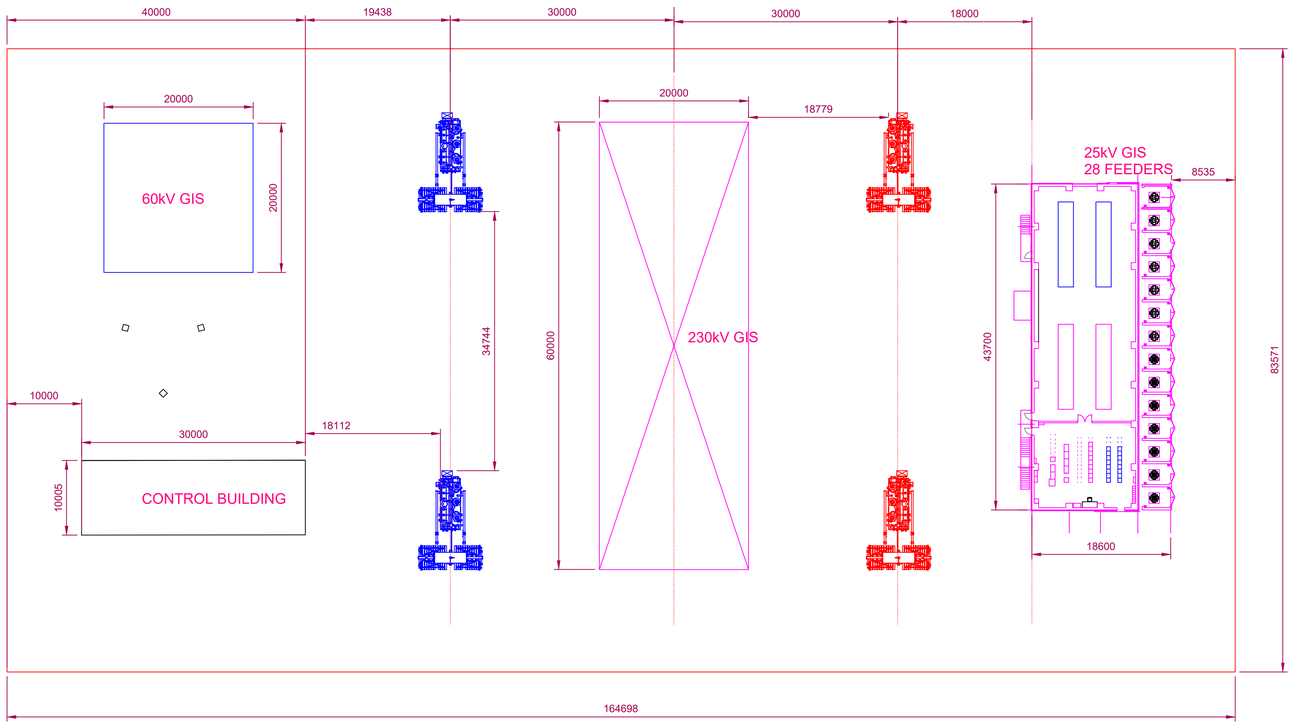
any) if we considered an outdoor GIS station. I will set up a meeting for next week to discuss in more detail. Which days do you come into the office. I think this meeting will be better face to face.

Will my recollection in talking to you some years ago is that we don't use outdoor GIS due to reliability. Im not sure If that is correct but if you could comment on it I would appreciate it.

David Chwaklinski, P. Eng., FEC., PMP | Project Engineer Specialist
Lines and Interconnections

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E david.chwaklinski@bchydro.com



NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
DARK/BLUE: FUTURE

FOR DISCUSSION PURPOSES ONLY

SCALE: 1:1 — 0 — 50mm

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SHOWN

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. Zeng
INDEP CHK	
DFTG	K. Zeng
DFTG CHK	
INSP	
REV	K. JIANG
ACPT	

BC Hydro

CAMPBELL HEIGHTS SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT ALL GIS-INDOOR

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024MAR07		CAMP-002-E05-SK003B			D	0A

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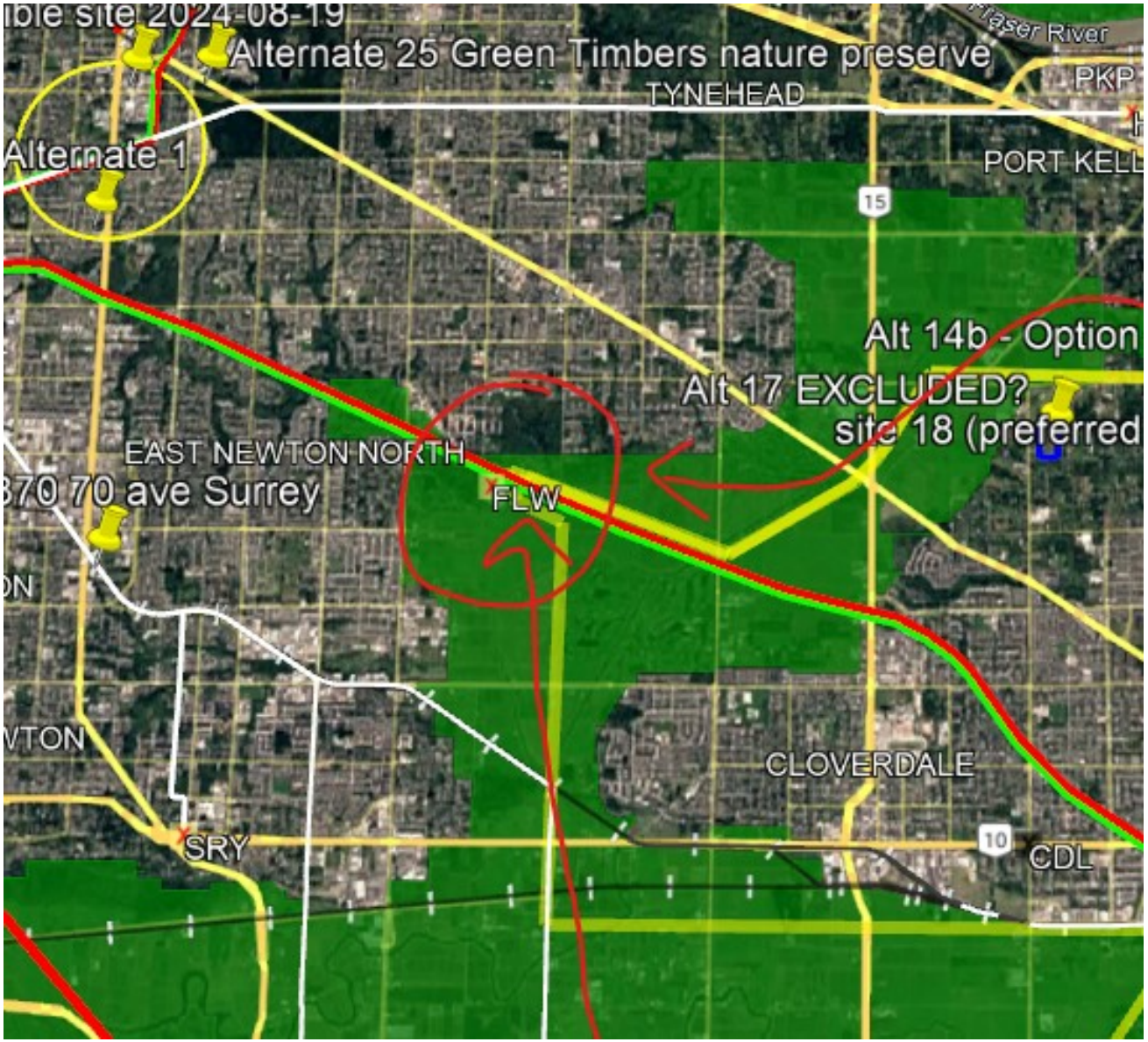
\\bchydro.adroot.bchydro.bc.ca\DATA\Engineering\Transmission\Stations\Projects\TM-0539\Campbell Heights and Willoughby\CAMP-E05-SK003\[2024-03-05_OneLine]~Tight_RGB.dwg
Drawing Unit = Metric (4)
Plotted: 5 Mar 2024 - 4:05 PM

From: Steels, Craig
Sent: 2024, September 24 1:03 PM
To: Chwaklinski, David
Cc: Mathur, Himanshu
Subject: substation addition projects

Hi David,

If I were to guess what would be a reasonably achievable overhead routing for transmission, I would say within the ALR since overhead lines and agriculture are compatible land uses, while dense urbanization is not.

I would put the Campbell heights and Willoughby substations close to the edge of the ALR and route overhead lines through Fleetwood sub where there is already an in-out 230 kV connection of 2L074 and 2L075. I guess we don't have that kind of power of suggestion.



Kind regards,

Craig Steels, P.Eng. | Consultant, Transmission Lines Engineering, BC Hydro

C 825 437 6575 craig.steels@bchydro.com

From: Hepple, Robert
Sent: 2024, September 17 1:46 PM
To: Parmar, Surinder
Cc: Sherevkulov, Dmitry; Chwaklinski, David
Subject: TM0592 - WIB Substation, Alt 20, Bosa-Kang Properties
Attachments: WIB-E05-SK004-Outdoor 230 +GIS 60n25-To Fit Bosa Property-20240719.pdf

Surinder,
Prior to the meeting with Al, I informed you and Neil that the Bosa property was the least desirable of our 3 alternatives from a technical perspective.
My choices were Qualico-Ngo-Dhoot 1st, Alt 14b 2nd and Bosa- Kang 3rd.
I found my email from Kally Jiang and in it she explains why Bosa-Kang is too narrow and would require the 230kV lines to enter the station from both the east and west directions.
It would require underground bus to connect which would be costly and an operational/maintenance challenge.
She was also showing indoor 60kv and 25kV GIS which drives up the cost.
I have asked David and Kally to re-look at the layout to see if adding Kang makes a difference.
Before we approach Kang, I am recommending we pause and have an engineering review of this property, after we have tried new layouts.
I forgot about the new house on the 7528 194th Surrey parcel.
I wonder if Mathew Brock forgot about it? How can he sell both parcels for $20.5M with a $5.5M house on the western parcel?
Let's check it out. Dmitry is there an encumbrance on the property in favor of the homeowner?
I will get back to you after David and Kally have re-looked at the station layout, so we can schedule a presentation from engineering.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
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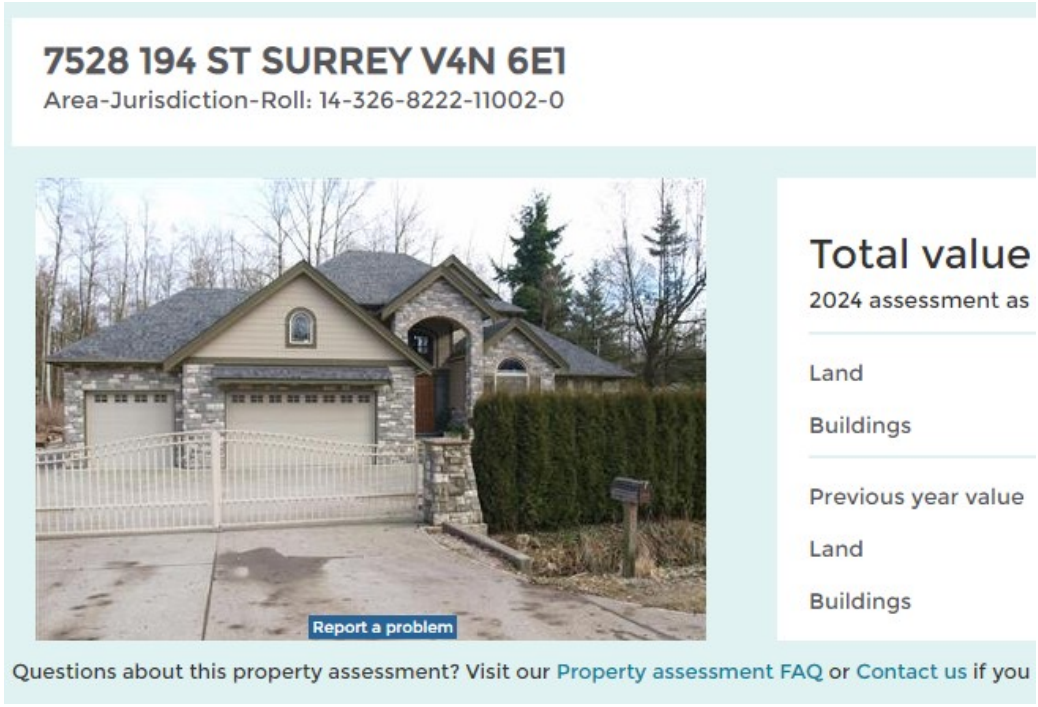
Smart about power in all we do.

From: Jiang, Kally
Sent: 2024, July 19 4:51 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Subject: RE: TM0592 - Willoughby Heights Sub, Alt 20

Good afternoon, All,

The station layout has been barely fitted onto the Bosa's properties of 100m x 391m lot. This Alternative 20 is not preferable from Station Electrical Design perspective with the reasons below.

1. The 100m width is extremely tight for layout.
2. How the 230kV transmission Lines enter the station would be a concern.
3. The connection between 230kV bus ring would be very long and costly.
4. The high voltage power cables run from TX to both 60/25kV GIS buildings would be complicated and costly.
5. Low voltage cables run from switchyard to the control building would be quite long and costly.
6. There is a beautiful house on Bosa's property of 7528 194 ST SURREY as picture below. It was built in year 2003 and relatively new. What a regret and waste if we have to demolish the house to build our station on the lot.



Kally Jiang (She/Her/Hers) | P. Eng.
Senior Engineer, Electrical Design
Stations Division, Transmission Engineering

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Smart about power in all we do.

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, July 18 9:56 AM
To: Jiang, Kally <Kally.Jiang@bchydro.com>
Cc: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: FW: TM0592 - Willoughby Heights Sub, Alt 20

Hi Kally, a new set of properties has arisen for consideration. Please refer to the e-mail string below. The two properties together are 100 m wide by 391 m long. Can you have a quick look and see whether we could accommodate all the requirements on this parcel> That would dbe the 4 linepositions, the 25 kV section and potentially a 69 kV section? Can you respond back directly to Robert, Dmitry as well as me? I will be on vacation for two weeks so will not be able to respond after mid day tomorrow.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Wednesday, July 17, 2024 2:12 PM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Cc: Chan, David Y.M. <David.Chan@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: TM0592 - Willoughby Heights Sub, Alt 20

Hi Dmitry,
We will need planning and engineering to look at it.
Problem that I see is that there is not two areas of access.
We are landlocked.
But let's brighter minds than mine make that decision.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
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C 925.967.5880
W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, July 17 1:12 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Cc: Chan, David Y.M. <David.Chan@bchydro.com>
Subject: TM0592 - Willoughby Heights Sub, Alt 20

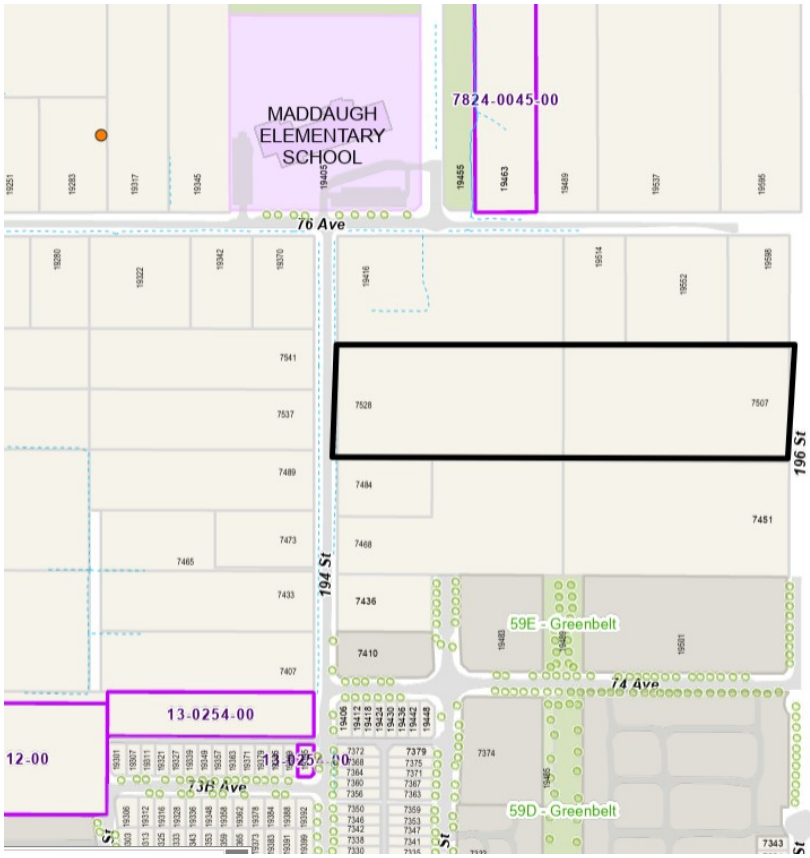
Hi Robert,

I have an update regarding Alternative 20. I spoke to both owners today and looks like both will be willing to sell at the right price. Here are the details of our conversation:

1) 7451 196 ST SURREY – private owner, wants to develop a townhouse. The owner will talk to the rest of the owners to see what price may work for them. I expect it to be $3M+ per acre.

2) 7507 196 ST SURREY – owned by Bosa Properties, they also own a property to the west (7528 194 ST SURREY). I spoke to the Director of Acquisitions and Bosa is currently talking to someone who is seriously interested in buying both properties. The price they are looking to get for both is $2.5-$3M per acre. Bosa is interested in selling both lots, less interested in selling only one. From the design perspective, is it feasible to build a substation on such a long narrow lot (just over 9 acres) fronting 196 St and 194 St? Please refer to the snip below.

If it is feasible then we should probably pursue the 2 Bosa lots instead and act fast.



Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

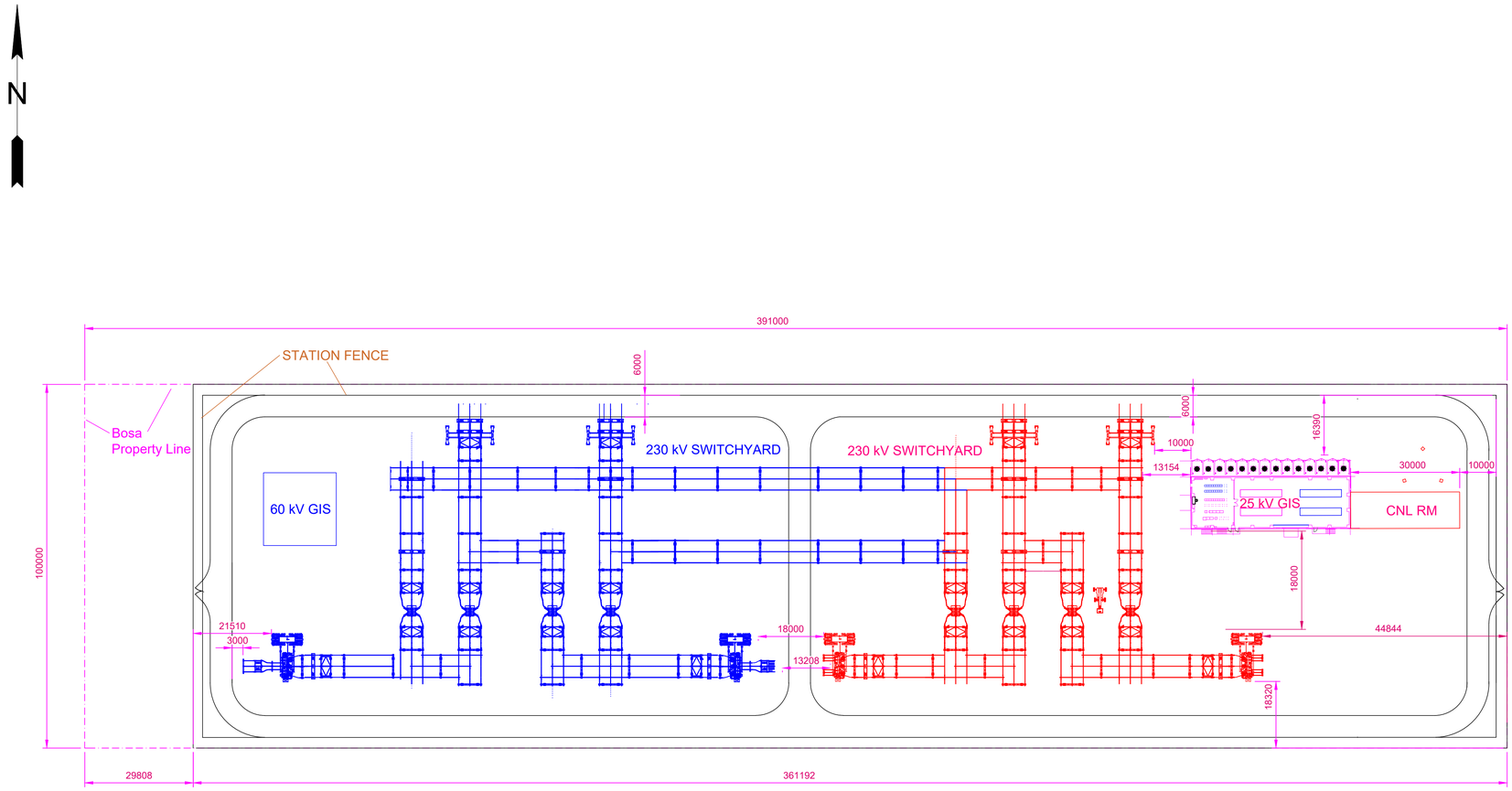
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P 604 623 3566
M 604 690 9836

E dmitry.sherevkulov@bchydro.com

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NOTES:

1. GATES TO BE INSTALLED AS FIT BASED ON SITE ORIENTATION.
2. IF FACILITY IS PLACED ON A SLOPED SITE ADDTIONAL SPATIAL REQUIREMENT WILL BE REQUIRED EFFECTIVELY MAKING THE FACILITY FOOTPRINT LARGER DEPENDINGON THE SLOP REQUIREMENT.
3. DITCH AND DRAINAGE SPACE REQUIREMENT IS NOT CONSIDERED AND IT SHOULD BE DESIGNED BY CIVIL.
4. GROUND GRID WILL BE INSTALLED 1 m BEYOND THE FENCE LINE AND COVER ALL GATE SWING AREAS.
5. DISTRIBUTION MANHOLE LOCATION IS NOT CONSIDERED AT THIS DESIGN STAGE

COLOR CODE FOR SCOPE OF WORK:
RED: THIS PROJECT
BLUE/BLACK DOTS: FUTURE

FOR DISCUSSION PURPOSES ONLY

SCALE: 1:1 — 0 — 50mm

ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS OTHERWISE SHOWN

REFERENCE DRAWINGS

NO	REMARKS

REVISIONS

DESIGN NUMBER	
WORK ORDER NUMBER	
CSA S250 ACCURACY NAD - UTM	
BASE ACCURACY LEVEL:	
ASB ACCURACY LEVEL:	

DSGN	K. JIANG
INDEP CHK	
DFTG	K.JIANG
DFTG CHK	
INSP	
REV	K. ZENG
ACPT	

BC Hydro

WILLOUGHBY SUBSTATION

230/60/25 KV SWITCHYARD
ULTIMATE LAYOUT

DATE	DIST	DRAWING NUMBER	REPORT NUMBER	FIG NO	SIZE	REV
2024JUL19		WIB-E05-SK004			D	0A

NOT TO BE REPRODUCED WITHOUT THE PERMISSION OF BC HYDRO

C:\Users\kjang\OneDrive - BC Hydro\F25 Projects\1-CIPD\2023-11-21_Willoughby Purchase Project\Design\Conceptual\20240718-Bosa\WIB-E05-SK004-Option 1-Outdoor 230 +GIS 60n25-To Fit Bosa Property-20240715.dwg
Drawing Unit = Metric (4)
Width: 44.0
2/19/2024 4:15 PM

From: Chwaklinski, David
Sent: 2024, May 30 3:10 PM
To: Liu, Feng; Jiang, Kally; Lee, Dylan; Steels, Craig
Cc: Chwaklinski, David
Subject: TM-0592 Updated property Information
Attachments: Willoughby Final 4 Options.kmz; Willoughby Final 4 Options.jpg

Hi team, I have received the updated property Information for Willoughby. Please see the map and the KMZ files for your use. It looks as if the PM wants to change the naming of the alternates but He hasn't formalized it yet. When it is done I will update you.

From: Hepple, Robert
Sent: Thursday, May 30, 2024 2:14 PM
To: Simpson, Lauren ; Sherevkulov, Dmitry ; Chwaklinski, David ; Chan, David Y.M. ; Parmar, Surinder ; Lee, Johnson
Subject: RE: Alternative Willoughby Locations

Hello Everyone,
I would like to call Option 1 the ALR property and work the naming as we move south.
I have cleaned up the KMZ and .jpg and think I have it right.
Dmitry do you agree?
Robert

From: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Sent: 2024, May 30 1:49 PM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Revise KMZ attached

From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, May 30 1:42 PM
To: Simpson, Lauren <Lauren.Simpson@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert

<Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Sorry, I mean vice versa, they should be on the east side, not west.
The west side has multiple creeks.

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From: Sherevkulov, Dmitry
Sent: 2024, May 30 1:41 PM
To: Simpson, Lauren <Lauren.Simpson@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Option 3 and 4 (Alt 14a and 14b) should be on the west side of 192 St. The east side has multiple creeks and these properties are not suitable.

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From: Simpson, Lauren <Lauren.Simpson@bchydro.com>
Sent: 2024, May 30 1:26 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Hi All,

Please find attached a KMZ with the 4 alternatives under consideration. Please note:

- the new property provided most recently by Dmitry is **Alt 17**.
- The two option on 80 Ave and 192 are **Alt 14a and 14b.**
- The ALR parcel is **Alt 15**

I believe this reflects the most recent discussions but Dmitry please confirm.

Cheers, Lauren

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, May 30 12:38 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Yes, I do. I think your final map includes the wrong parcel

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Thursday, May 30, 2024 12:32 PM
To: Chwaklinski, David <David.Chwaklinski@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Yes, David
It is the property Dmitry Identified as Option 1 which is immediately south of Option 2.
Do you have his email?
Robert

From: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Sent: 2024, May 30 12:04 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Cc: Chwaklinski, David <David.Chwaklinski@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Robert, I am wondering if I have missed something. The map you attached seems to include the property that Dmitry identified as Option two (three parcels) located at 184th and 80th. My recollection is that this property is off the table and we should be considering the Option 1 located at 184th and 76th (two parcels. Can you please clarify? I want to show the properties to the engineering team this afternoon and I want to make sure I am giving them the correct informations.

From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: Tuesday, May 28, 2024 8:05 AM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Dmitry,
Let's replace it with the first property and see what we can do with it.
Robert

From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, May 27 2:15 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Hi Robert,

The second property below is off the table now. There is an Option to Purchase on the title and according to the document the option can be exercised until November 2025.

Regarding the ALR property, it also has an Option to Purchase registered on the title. However, it expired in March 2024 and it is unclear whether the Purchaser is proceeding with an acquisition. I will find out when I contact the owner.

_____

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E dmitry.sherevkulov@bchydro.com

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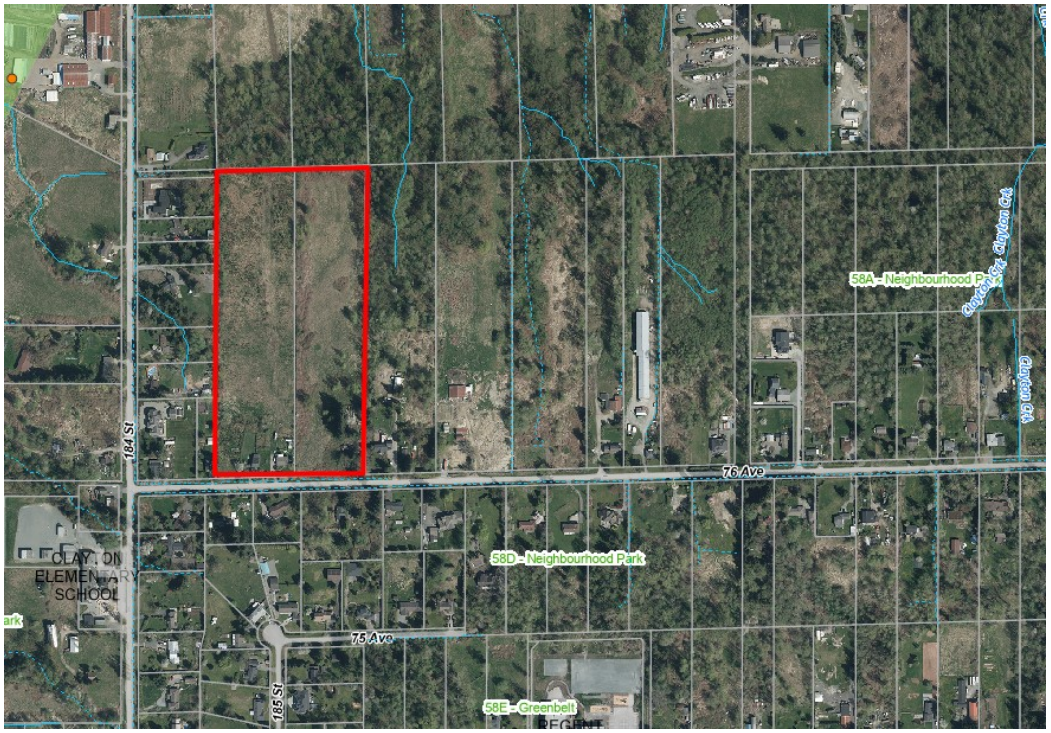
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From: Sherevkulov, Dmitry
Sent: 2024, May 22 3:04 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

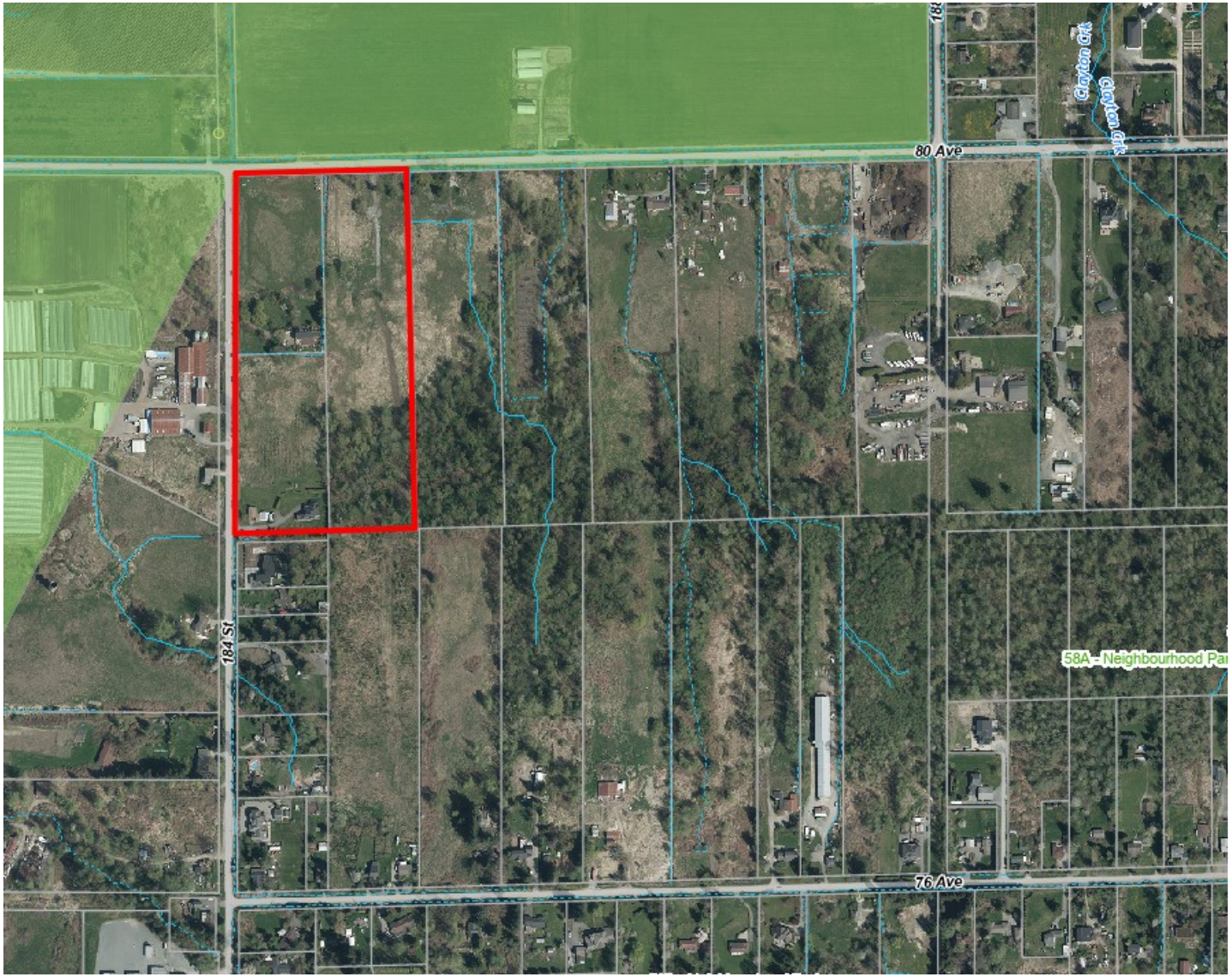
Hi Robert,

There are a couple of options I found in this area. The problem is that most properties north of 80Ave are in ALR. Also, this area has numerous creeks. Tyler previously identified 4 options at 192St & 80Ave, properties on the west side of 192St have multiple creeks so only east of 192St is suitable. However, it would require an assembly of 5-6 lots.

1) Two properties near 184St and 76Ave – 10 acre and 8 acres. PID: 010-996-001, 010-996-028



2) Three properties near 184St and 80Ave, 4.7 acres + 4.9 acres + 9.5 acres. PID: 002-904-977, 011-175-842, 011-175-869



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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, May 22 2:23 PM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Dmitry,
Attached is a map indicating the area we should focus on.
See if you can find 10 to 12 acres with minimum assembly.
We can include it in our site tour.
Robert

Robert Hepple P.Eng.

Project Manager, Stations
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W 604.528.3433
E Robert.Hepple@BCHydro.com

Web: BCHydro.com

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From: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>
Sent: 2024, May 22 1:02 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: RE: Alternative Willoughby Locations

Hi Robert,

Sounds good, I will search for another alternative in that area.

_____

Dmitry Sherevkulov | Property Representative – Acquisitions and Sales

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From: Hepple, Robert <Robert.Hepple@bchydro.com>
Sent: 2024, May 22 12:22 PM
To: Sherevkulov, Dmitry <Dmitry.Sherevkulov@bchydro.com>; Chan, David Y.M. <David.Chan@bchydro.com>; Parmar, Surinder <Surinder.Parmar@bchydro.com>; Chwaklinski, David <David.Chwaklinski@bchydro.com>; Simpson, Lauren <Lauren.Simpson@bchydro.com>
Subject: Alternative Willoughby Locations

Dmitry,
Nick from ToL is not supportive on land over by the University on the east side where we had identified the Realtor Joe Varing site.
Let's look on west of 196th along 80th ave to identify 12 acres of non-ALR land.
Lauren please delete the Varing site as an alternative.
Robert

Robert Hepple P.Eng.

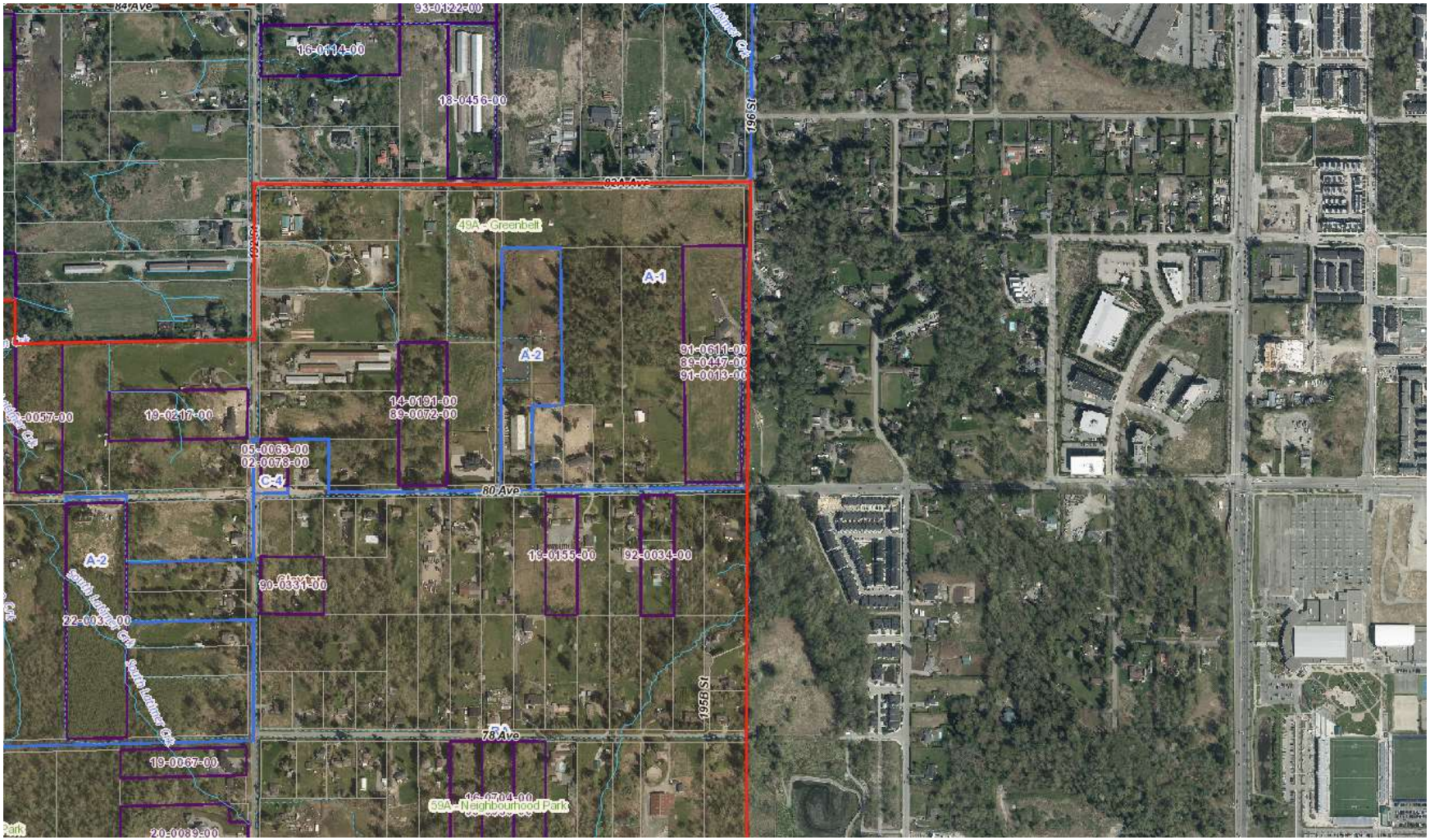
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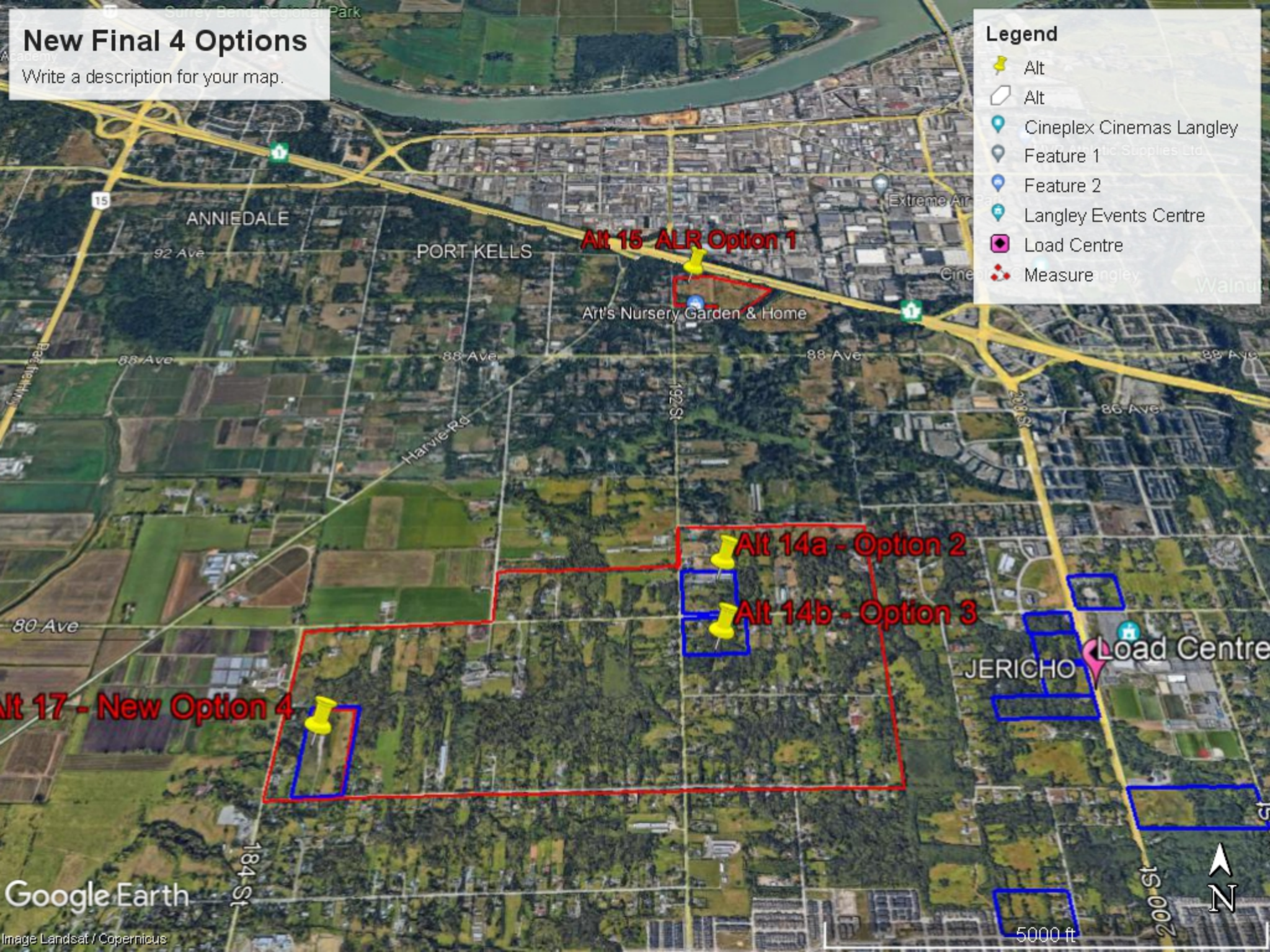
Web: BCHydro.com

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From: Nick Hosseinzadeh <nhosseinzadeh@tol.ca>
Sent: 2024, May 22 12:13 PM
To: Hepple, Robert <Robert.Hepple@bchydro.com>
Subject: [External] As discussed

As discussed, best bet may likely be on the Surrey side of the border.
As you can see, there are many large, undeveloped parcels ranging from 2.5-10 acres in size just down 80th Ave across the Surrey border.
Although they are generally acreages / being farmed today, they are NOT within the ALR. This is future, currently unserviced, future development land.
Additionally, land values in N Clayton were ~$2.5MM/A-$3MM/A a couple years ago. Compared to ~$6MM/A+ in Willougby where neighbourhood services have been installed.


84 Ave
93-0122-00
16-0114-00
18-0456-00
196 St
49A - Greenbelt
A-1
A-2
91-0611-00
89-0447-00
91-0013-00
14-0191-00
89-0072-00
19-0217-00
05-0063-00
02-0078-00
C-4
80 Ave
A-2
19-0155-00
92-0084-00
90-0331-00
South Ladner Crk
22-0033-00
195B St
78 Ave
19-0067-00
59A - Neighbourhood Park
20-0089-00


New Final 4 Options
Write a description for your map.
Legend
Alt
Alt
Cineplex Cinemas Langley
Feature 1
Feature 2
Langley Events Centre
Load Centre
Measure
Alt 15 ALR Option 1
Alt 14a - Option 2
Alt 14b - Option 3
Alt 17 - New Option 4
ANNIEDALE
PORT KELLS
JERICHO
Art's Nursery Garden & Home
Load Centre
92 Ave
88 Ave
80 Ave
86 Ave
192 St
184 St
200 St
Harvie Rd
Google Earth
Image Landsat / Copernicus
5000 ft
N

From: Beauchamp, Colin
Sent: 2025, December 03 2:19 PM
To: Kelly, Katrina
Subject: TM-0637 MLN to WIB 230kV Routing

Katrina - As requested, we have completed our preliminary 230kV routing study for 2 potential 230kV transmission lines connecting the expanded MLN substation to the new WIB substation. We examined potential overhead routes and potential underground routes.

OVERHEAD – We examined approximately 7 potential overhead routes that appeared to have the most direct path to WIB as well as the most space available for overhead circuits. We have saved the overhead route kmz file on the PPM workspace at this link. Although some portions of the routes were excellent for overhead 230kV, every route combination seemed to have at least one and often many restricted areas that did not seem to have enough space for a new overhead 230kV right-of-way (ROW). We produced an Adobe PDF file with our field observations and this file is also saved to the PPM link above. It is our preliminary conclusion that there does not seem to be enough space to existing buildings (homes, garages and business buildings) to fit 2 new 230kV overhead circuits without acquiring and removing some of the structures. The overhead transmission design team may find alternative routes that could work and/or they may find it advantageous to acquire the necessary private property rights to make the required additional space available for an overhead solution.

UNDERGROUND - We examined approximately 10 potential underground routes that appeared to have the most direct path to WIB as well as the most space available for underground circuits. We have saved the underground route kmz file on the PPM workspace at the same link as above. It does appear that feasible options exist to route the new 230kV underground circuits between MLN and WIB. We suggest discussing the findings of the underground examination with you in a Teams meeting to expand on the nuances of each route combination. Below are some high level comments that may be overridden by further detailed analysis completed by the transmission cable team once they begin a more detailed examination.

1. The Eastern 196 street route with potential skytrain bottleneck avoidance options appears to be the option with the most open space in several sections. It does, however, pass through a quite congested zone near the Fraser Highway crossing and Willoughby Mall area. We suggested a couple bypass options for this congested area. Some of these options would require new ROW on some private parcels on parking lots. The 196St option also requires a slight jog onto a private parcel or two to get around the railway overpass. The underground Fortis gas lines did a similar jog around and under the overpass.

2. For the Northern half of the route, the 194St and 194A St corridor looks quite promising and it has significantly less traffic for constructability. This middle corridor also has several open multiuse pathway zones and greenspace zones that seem wide open at the moment and would appear well-suited for an underground utility. Once construction is complete we could repair the pathway and complete minor landscaping to restore these areas to their original recreational use. The paved pathways are vehicle accessible so they would provide good long term access to these sections of our underground circuits for maintenance.

3. The Western 192 St option looks like it may have enough space for one or two underground circuits but it does have several congested areas, and particularly around the crossing of Fraser Highway and 64 Ave where there is considerable Skytrain construction underway. The cable team would need to examine this option closely to determine if there is enough space for our 230kV circuit(s).

Once we select our preferred routing of the transmission lines we might want to re-examine the WIB station design and particularly the 230kV termination points, particularly now that we have acquired the 7484 property. It might be advantageous to adjust the 230kV terminations to line up with the 194A St roadway and the southern greenspace route(s).

Contact me if you have any questions about this preliminary routing we completed.

Colin Beauchamp, RPF | Forester, Construction Services

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Baseline	**Similar**						
Problem:	Preferred (property is feasible - No significant concerns)	Select a property for					
	Possible (potential concerns/issues but property may still be feasible)	**Legend**					
	Exclude (potential significant concerns property unlikely to be feasible)						**See comments below**
Project Objective	**Criteria**	**Units**	Alternative 14b	Alternative 14d	Alternative 15 - ALR	Alternate 18	Alternate 12 - Property 10 &11
Rank				wetland on property and not large enough	Option to purchase		Not desirable - planned residential and 78B Ave is btw properties
Comments			undeveloped, older homes.	for sale signs noted on property. Property is not considered suitable due to water feature which reduces the usable size	an Option to Purchase registered on the title (expired in March 2024). Dmitry talked to owner beginning of June and they expressed interest in selling a portion of the property (12 acres). Waiting for response	qualico owned parcel with adjacent private parcels	
Civic			(SE corner of 192 St and 80 Ave)	(SW corner of 192 St and 80 Ave)	9010 192 ST SURREY	- 19526 78th Ave and 19570 78th Ave, ~8.1 acres gross, owned by Qualico - 19537 76th Ave & 19595 76th Ave – privately owned	19957 78B & 19925, 19974,19942,19910 78B Ave,
PID			005-951-704, 005-951-712, 002-229-561, 005-951-721, 003-370-879, 003-370-887	007-791-887, 002-136-864, 002-136-813, 018-738-745	portion of 003-179-184	011-988-959, 011-988-967 (optional: 002-401-436, 002-401-428, 005-545-048)	007-152-345, 007-152-353, 007-152-361, 007-152-388, 004-875-109, 007-152-370
	Lat / Long						
	Ownership type		Private		Private		Private
	Assessed value				7.2M		71.8 m
	Title review						
Optimize Location	Zoning (Township of Langley map)				ALR		SR-2