

Vancouver Island Rail Transit

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www.railtransit.ca

The Island Rail Corridor would be preserved for an **Intercity Rail, Regional Rail, Freight Service**, and a **Multi-Use Trail** beside the rail line.



Intercity Passenger Service

- The rail line would be upgraded with new rail and concrete ties to allow for scheduled passenger rail service throughout the day.
- The rail line would be placed underground around First Nations reserves per their requirements.
- Station platforms are 170m long initially with the ability to extend to 300m. This would allow for future expansion to ten bilevel coaches with a locomotive at each end.
- The travel time between Courtenay and Victoria or Port Alberni and Victoria would be a under **3.5** hours.
(The travel time between Courtenay and Victoria would be over 5 hours on five BC Transit buses)

Regional Rail Passenger Service

- Until an automated metro is built in the Victoria area the Island Rail Corridor can be used to compliment the rapid bus and provide additional capacity between the Western Communities and Victoria.
- A 15 minute frequency during peak hours with four 4-car Stadler Flirt EMUs coupled together would have a capacity of 4800pphd. This does not include the hourly Intercity train from Courtenay and Pt Alberni.
- A half hour frequency between Langford and Victoria would have a capacity of 2400pphd.
- The travel time between Langford and Downtown Victoria is approximately **21** minutes.

Freight Rail Service

- All freight would run on the mainline outside of the passenger rail schedule.
- New services would be feasible when the rail line is upgraded.

Passenger Rail Rolling Stock

- Deisel Electric Multiple Units with batteries and a pantograph would cost less overall to operate and maintain than a locomotive with coaches. The only Diesel Electric Multiple Unit that is FRA compliant is the Stadler Flirt for North America.
- Initially two trains coupled together running northbound would split at Parksville with one train running to Pt Alberni and one train running to Courtenay. The southbound trains from Pt Alberni and Courtenay would reconnect at Parksville and continue on to Victoria. The uncoupling and coupling of trains takes 2-5 minutes.
- Additional trains can be added per ridership requirements with a maximum of four trains coupled together.
- The picture below shows a four car Stadler Flirt DEMU which runs on the Ottawa Trillium Line. An EMU would not have the small car in the middle of the train.



Possible Ridership

Using Appendix Table G-14 and Table G-16 in the CVRD Stantec Report as a reference with 6 hrs off peak, the number of possible rail trips on the Island Rail Corridor with the existing population on Vancouver Island shows as follows.

- CVRD at around 1.5 million possible rail trips per year.
- RDN at around 2.4 million possible rail trips per year.
- Comox Valley RD at around 564,000 possible rail trips per year.
- Port Alberni immediate area at around 452,000 possible rail trips per year.

This is a total of a possible **4.9 million possible rail trips per year** north of the Malahat. This does not include the CRD.

Costs to Upgrade the Island Rail Corridor

• Upgrading the rail line to the Ultimate Stage on the Victoria Sub and the Pt Alberni Sub	\$829 million
• Ten 4-car DEMUs (two spares) plus Ten 2-car DEMUs (Two spares)	\$250 million
• Signaling system for the Island Rail Corridor (289km)	\$289 million
• Overhead catenary between Langford and Victoria (16km)	\$80 million
• Tunnel section under Cowichan Tribes Koksilah (1km)	\$270 million
• Tunnel and route around Halalt and Squaw-Hay-One First Nations (2km)	\$600 million
• Tunnel section under Snaw-Naw-As First Nation (1.4km)	\$379 million
• Tunnel section under Esquimalt First Nation and Songhees First Nation (1km)	\$270 million
• Tunnel section to Downtown Victoria plus station (2.1km plus 300m station box)	<u>\$650 million</u>
Total	\$3617 million

Annual Maintenance

• The annual maintenance for the track is around	\$30 million
• The annual maintenance for the trains is around	\$7.2 million
• The cost for train drivers is around	<u>\$4 million</u>
Total	\$41.2 million

- The annual maintenance cost could be funded by a five cent gasoline only Tax in the five Regional Districts.
- The cost to upgrade the Island Rail Corridor is \$12.5 million per km. The Bus on Shoulder lanes along Hwy 1 in the CRD are \$25 million per km. A LRT (Tram) is \$250 million per km. Elevated Skytrain is \$375 million per km.

Intercity Passenger Rail Schedule: Example

Northbound						
Train #	Victoria	Duncan	Nanaimo	Parksville	Courtenay	Pt Alberni
1	07:00am	08:10am	08:54am	09:26am	10:26am	10:26am
2	08:00am	09:10am	09:54am	10:26am	11:26am	11:26am
3	09:00am	10:10am	10:54am	11:26am	12:26pm	12:26pm
4	10:00am	11:10am	11:54am	12:26pm	01:26pm	01:26pm
5	11:00am	12:10am	12:54pm	01:26pm	02:26pm	02:26pm
6	12:00pm	01:10pm	01:54pm	02:26pm	03:26pm	03:26pm
7	01:00pm	02:10pm	02:54pm	03:26pm	04:26pm	04:26pm
8	02:00pm	03:10pm	03:54pm	04:26pm	05:26pm	05:26pm
1	03:00pm	04:10pm	04:54pm	05:26pm	06:26pm	06:26pm
2	04:00pm	05:10pm	05:54pm	06:26pm	07:26pm	07:26pm
3	05:00pm	06:10pm	06:54pm	07:26pm	08:26pm	08:26pm
4	06:00pm	07:10pm	07:54pm	08:26pm	09:26pm	09:26pm

Southbound						
Train #	Pt Alberni	Courtenay	Parksville	Nanaimo	Duncan	Victoria
5	06:26am	06:26am	07:26am	07:58am	08:42am	09:51am
6	07:26am	07:26am	08:26am	08:58am	09:42am	10:51am
7	08:26am	08:26am	09:26am	09:58am	10:42am	11:51am
8	09:26am	09:26am	10:26am	10:58am	11:42am	12:51pm
1	10:26am	10:26am	11:26am	11:58am	12:42pm	01:51pm
2	11:26am	11:26am	12:26pm	12:58pm	01:42pm	02:51pm
3	12:26pm	12:26pm	01:26pm	01:58pm	02:42pm	03:51pm
4	01:26pm	01:26pm	02:26pm	02:58pm	03:42pm	04:51pm
5	02:26pm	02:26pm	03:26pm	03:58pm	04:42pm	05:51pm
6	03:26pm	03:26pm	04:26pm	04:58pm	05:42pm	06:51pm
7	04:26pm	04:26pm	05:26pm	05:58pm	06:42pm	07:51pm
8	05:26pm	05:26pm	06:26pm	06:58pm	07:42pm	08:51pm

All Fare Zones

- Fares are based on BC Transit Victoria single ticket price.

Zone	1	2	3	4	5	6	7
City	CRD	Shawnigan	Duncan	YCD	Parksville	Buckley Bay	Campbell River
		Cobble Hill	Chemainus	Nanaimo	Qualicum	Courtenay	
		Cowichan	Ladysmith	Lantzville	Coombs	Pt Alberni	

Zones	1	2	3	4	5	6	7
Fares	\$3.00	\$6.00	\$9.00	\$12.00	\$15.00	\$18.00	\$21.00
Monthly Pass	\$90	\$130	\$170	*	*	*	*

Note: Children 12 years and under ride free. Children 5 years and under must be accompanied by someone 12 years and older.

Example: Individual Ticket: Courtenay to Victoria \$18.00 / Nanaimo to Victoria \$12.00 / Parksville to Duncan \$12.00

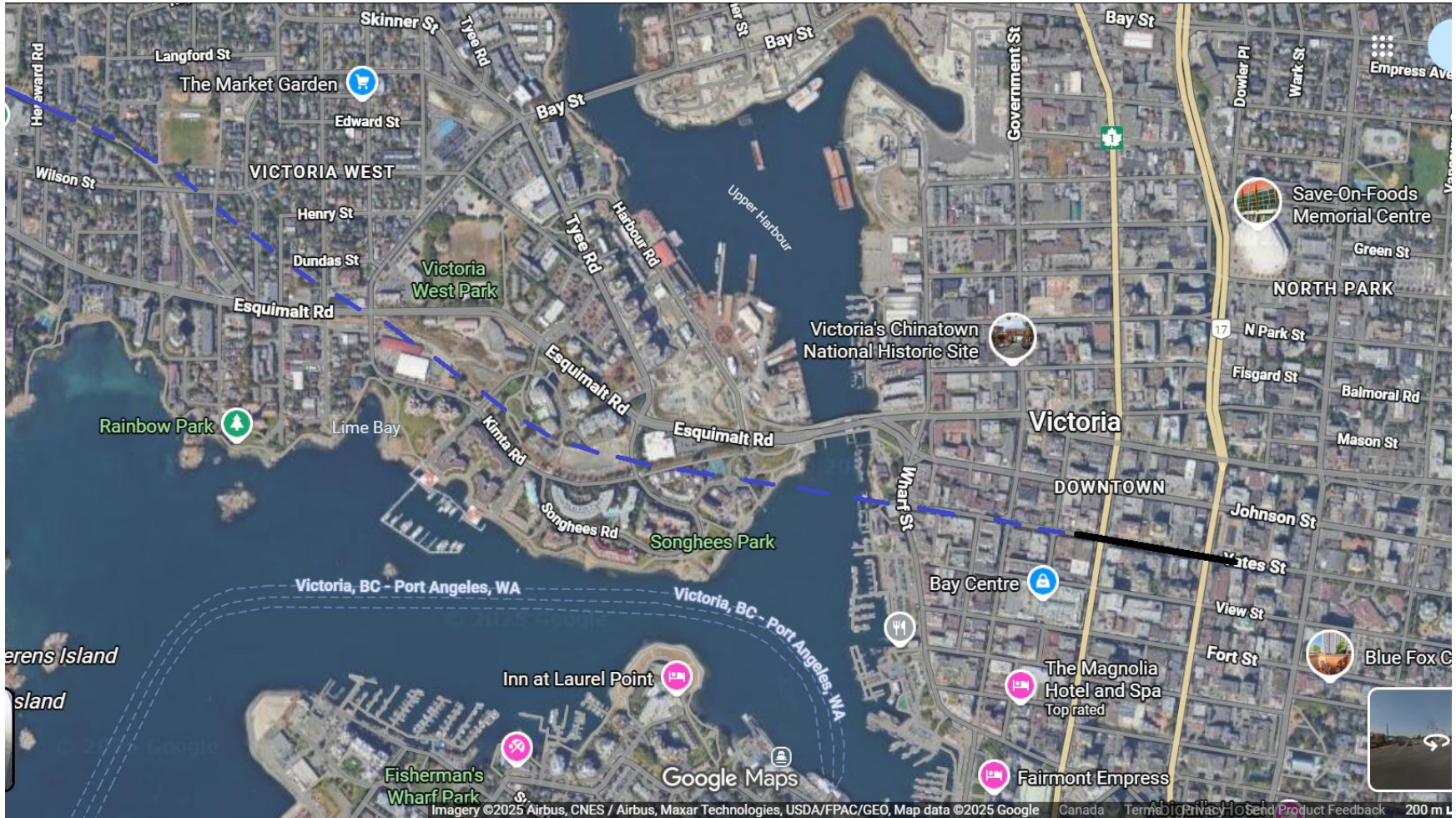
Travel Time and Average Speed between Stations

Station to Station		km	Minutes	Avg. Sp.
Victoria	Esquimalt	4.8	7	45km/hr
Esquimalt	View Royal	5	7	45km/hr
View Royal	Langford	4.2	7	40km/hr
Langford	Shawnigan	31	31	60km/hr
Shawnigan	Cobble Hill	4.7	5	60km/hr
Cobble Hill	Cowichan	4.4	5	60km/hr
Cowichan	Duncan	10	8	80km/hr
Duncan	Chemainus	18	14	80km/hr
Chemainus	Ladysmith	12	9	80km/hr
Ladysmith	YCD	9	7	80km/hr

Station to Station		km	Minutes	Avg. Sp.
YCD	Nanaimo	14	14	60km/hr
Nanaimo	Lantzville	14.5	15	60km/hr
Lantzville	Parksville	22	17	80km/hr
Parksville	Qualicum	10.6	8	80km/hr
Qualicum	Buckley	39	30	80km/hr
Buckley	Courtenay	22	17	80km/hr
Courtenay	Campbell R	38	28	80km/hr
Parksville	Coombs	7	6	70km/hr
Coombs	Port Alberni	56.4	48	70km/hr

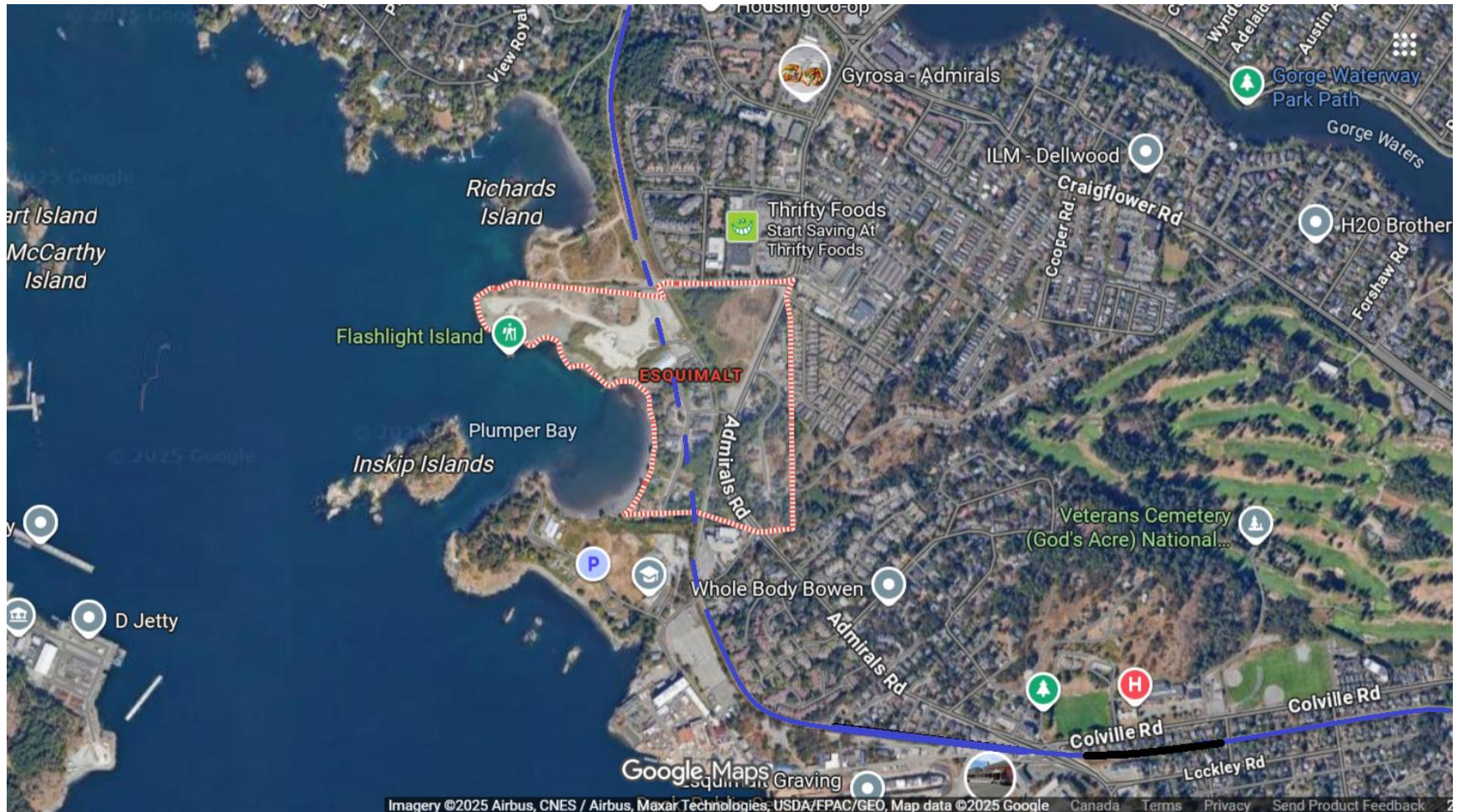
Downtown Victoria Underground Station

- The station would have a double track and an island platform with a length of 300m. The tunnel starts east of Hereward Rd.



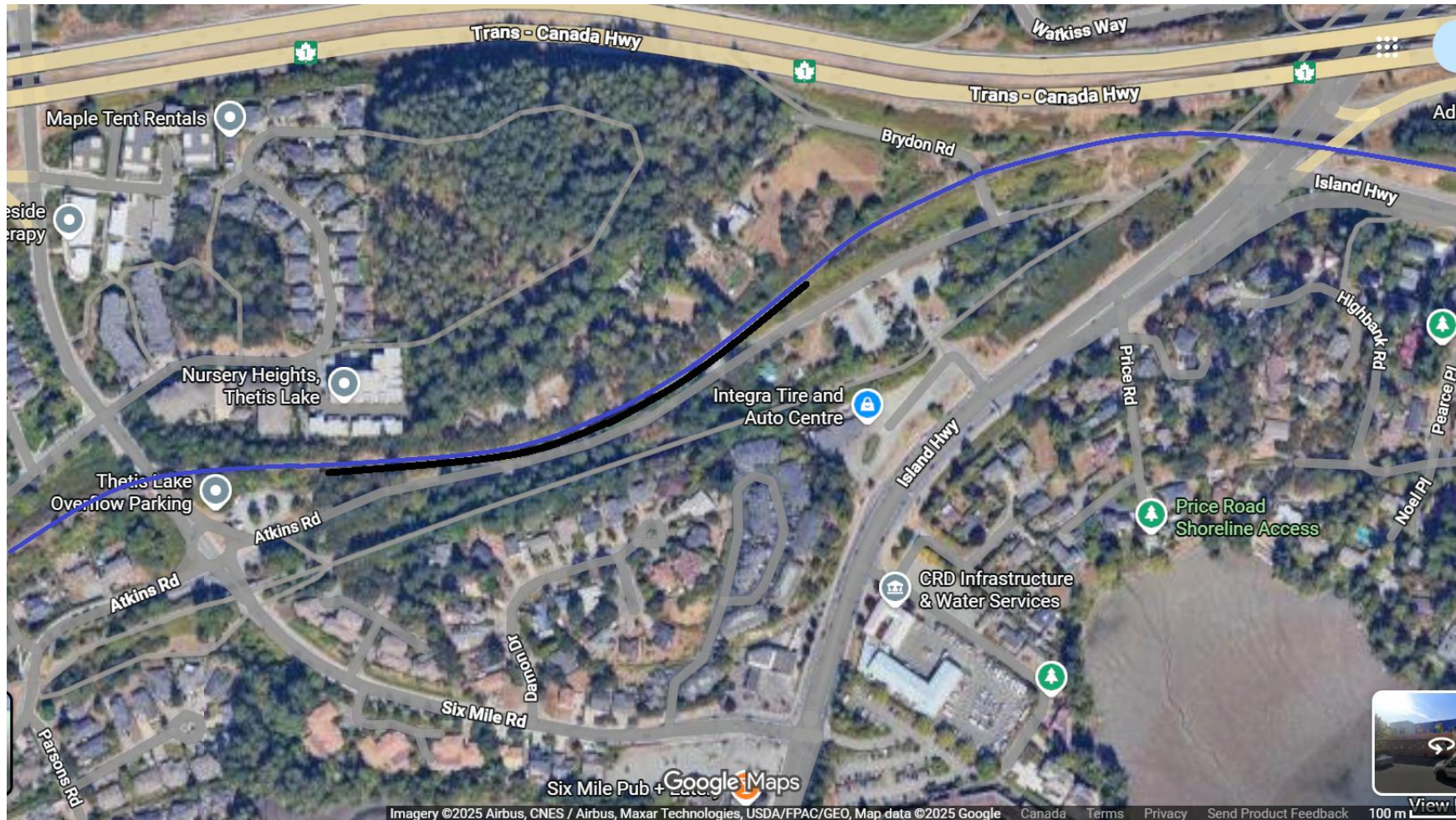
Admirals Station

- The station would be on the surface then the line would go underground under the Esquimalt and Songhees First Nations Reserve.

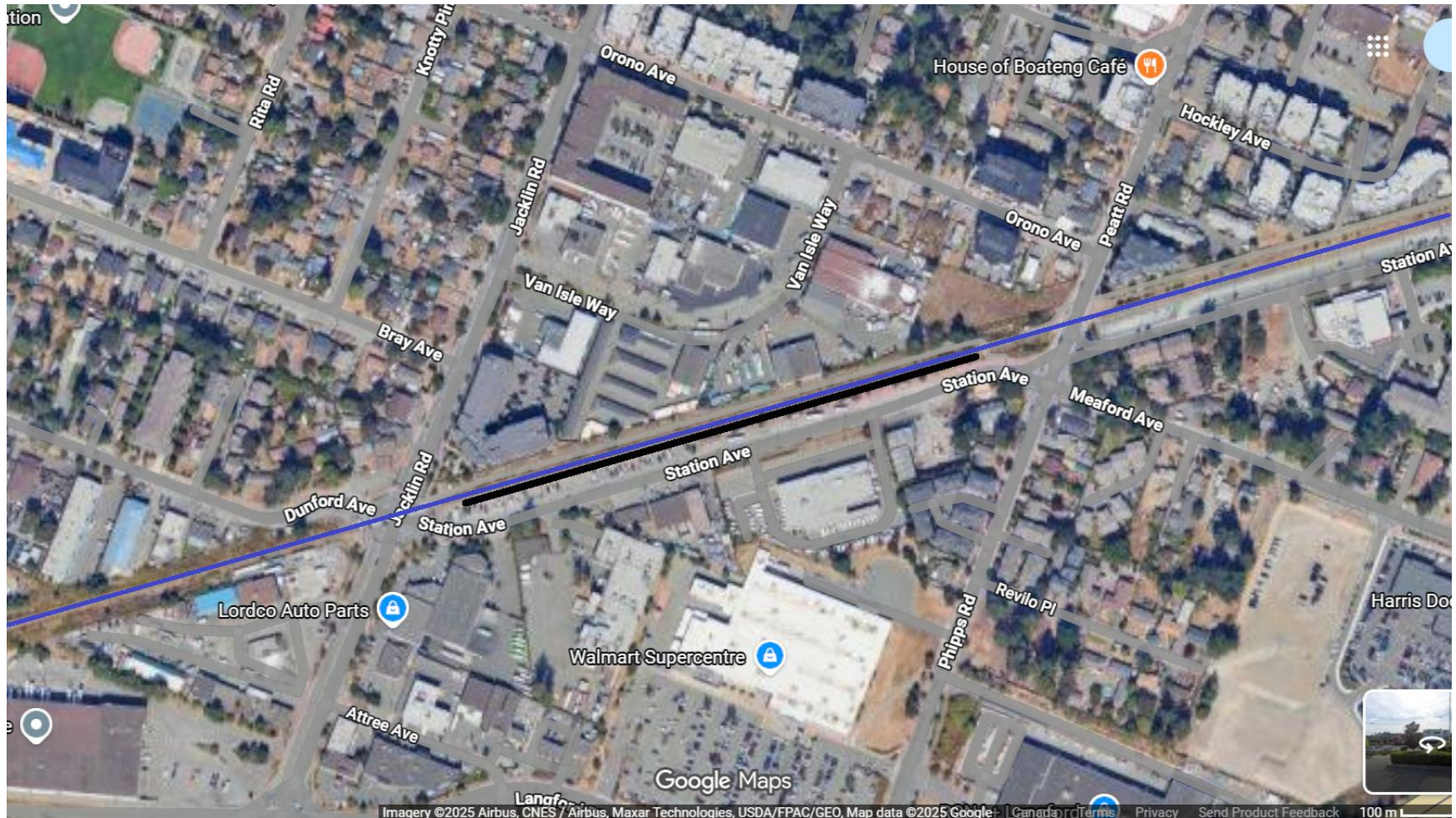


Six Mile Station

- Bus Route # 53 frequency would need to be increased to allow for easy access to the Victoria General Hospital for passengers boarding north of the Malahat.

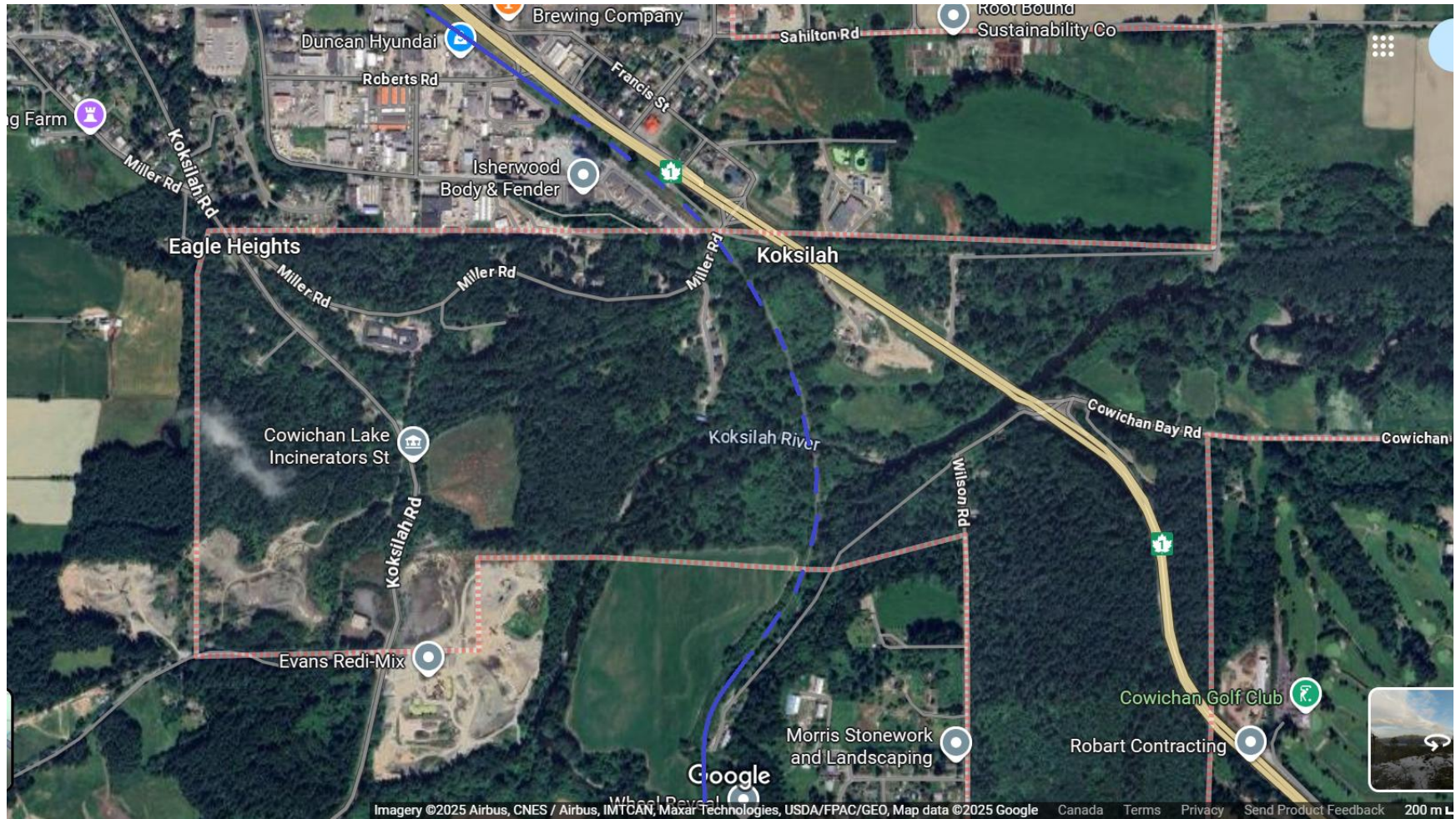


Langford Station



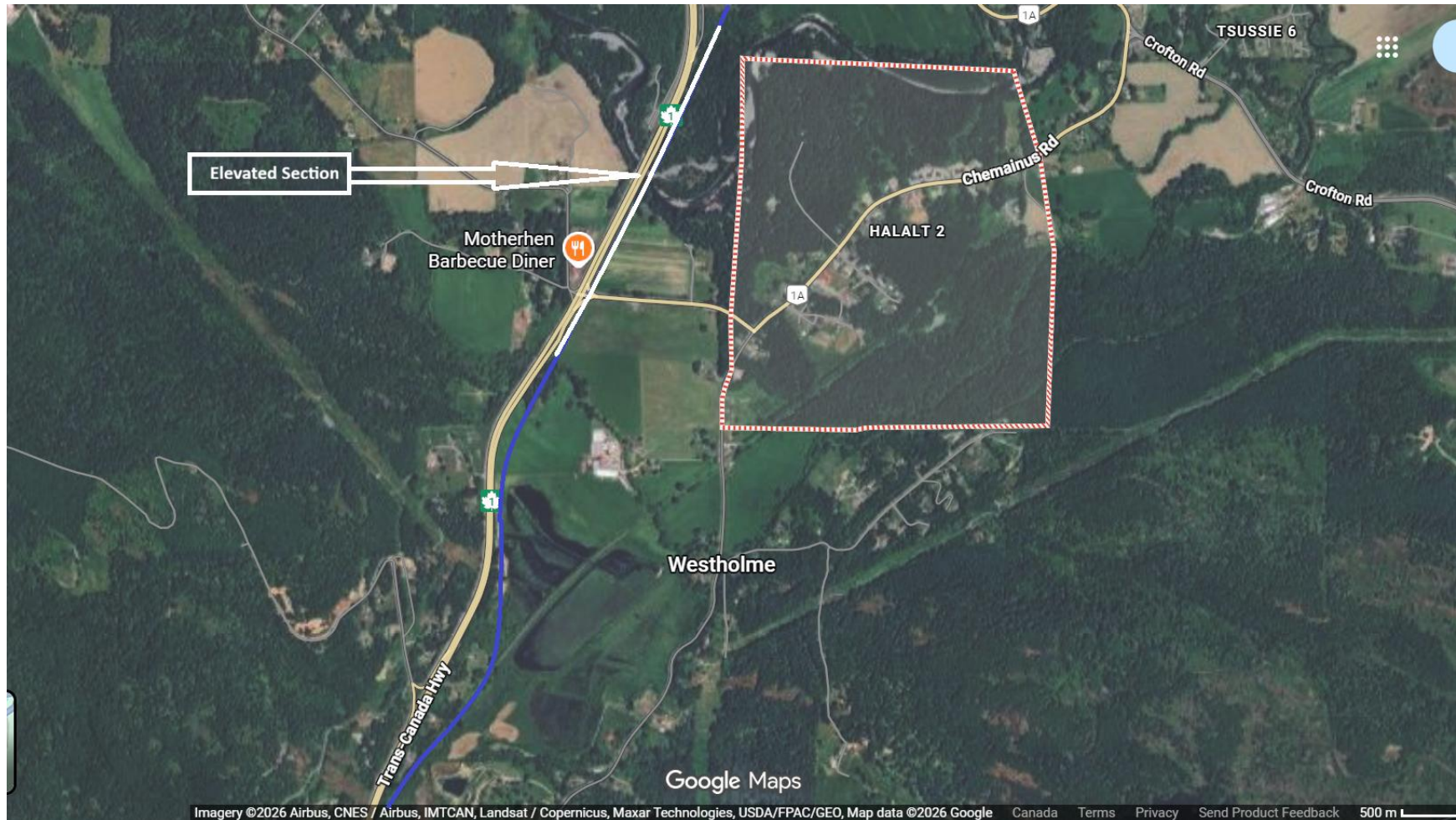
Cowichan Tribes Reserve

- A tunnel section through the reserve and under the Koksilah River.



Halalt First Nation Reserve

- The rail line would go around the Halalt First Nations Reserve.



Stz'uminus First Nation: Squaw-Hay-One 11 Reserve



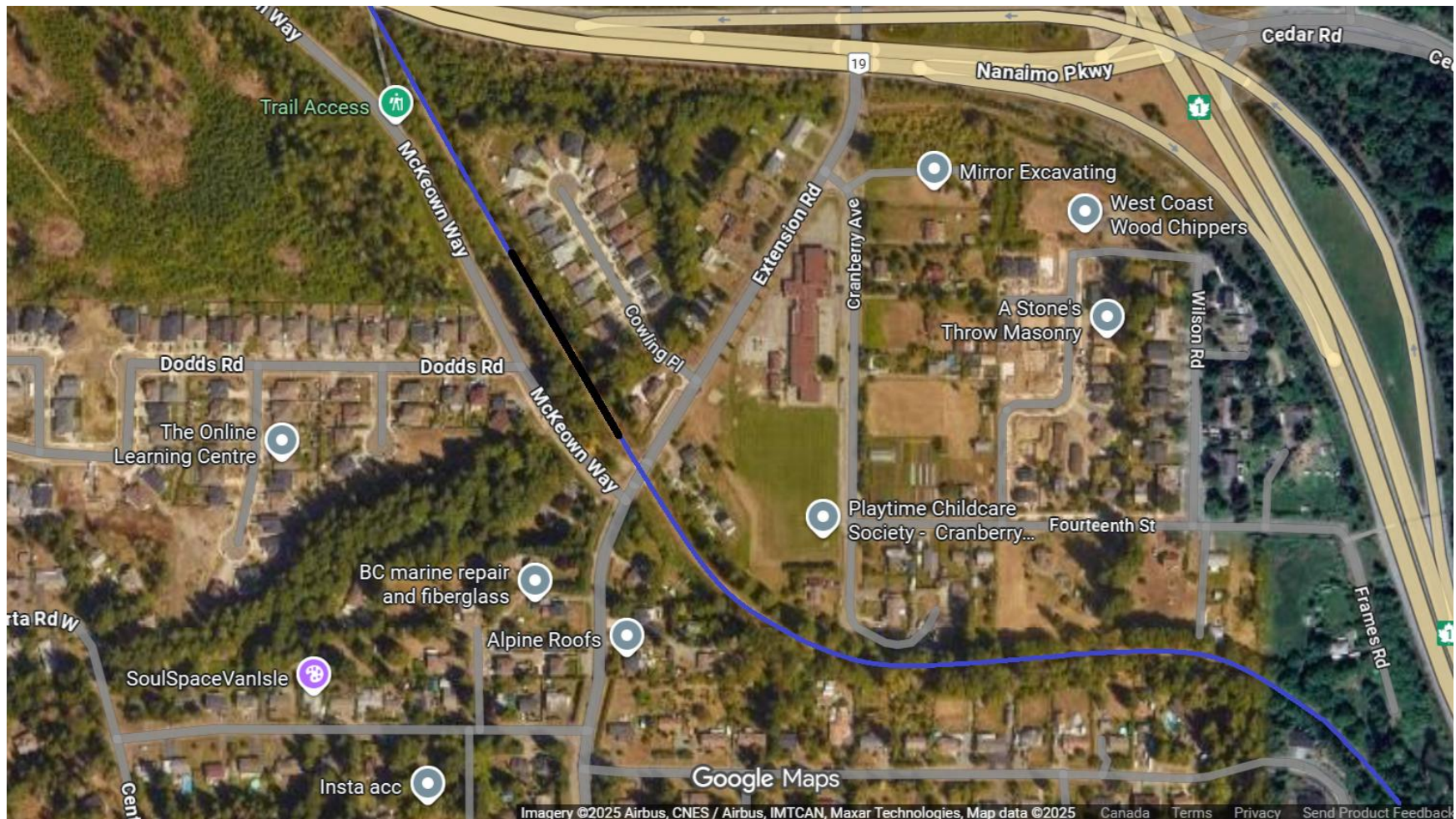
Stz'uminus First Nation: Oyster Bay 12 Reserve

- A station could be placed by the commercial area for First Nation access and increase business traffic.



Nanaimo Chase River Station

- This station is here because it would take two buses and 30 minutes to connect to the next closest train station.



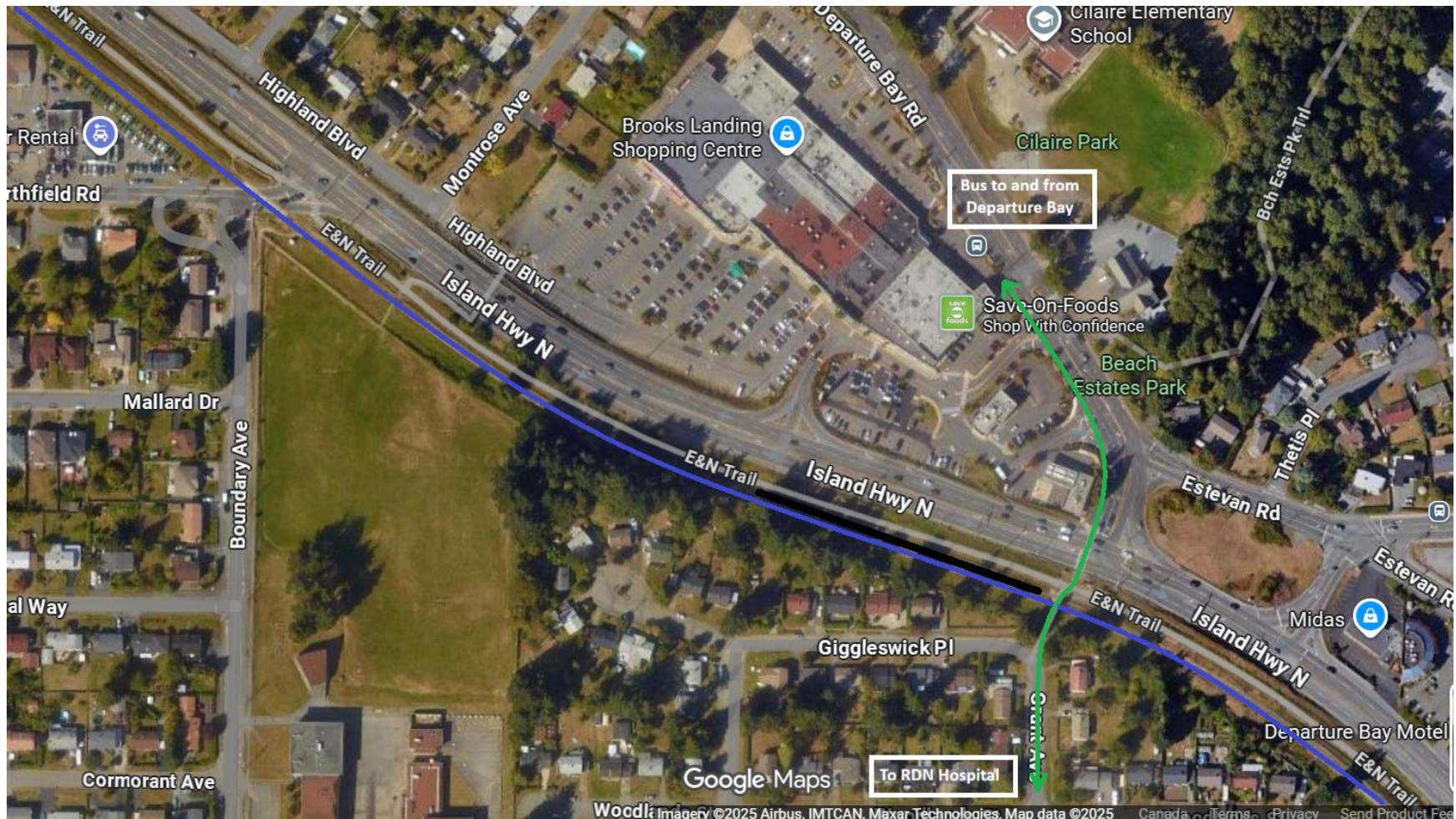
Nanaimo City Centre Station and Snuneymuxw First Nations Reserve

- **Option 1:** Place the rail line underground under the reserve along the existing right of way.
- **Option 2:** When a new rail link is built to Duke Point connecting to a rail barge terminal, the right of way through the Snuneymuxw First Nations Reserve can be returned to the First Nation and the Wellcox Yard redeveloped. The rail line to Coastal Wood Industries would be retained.

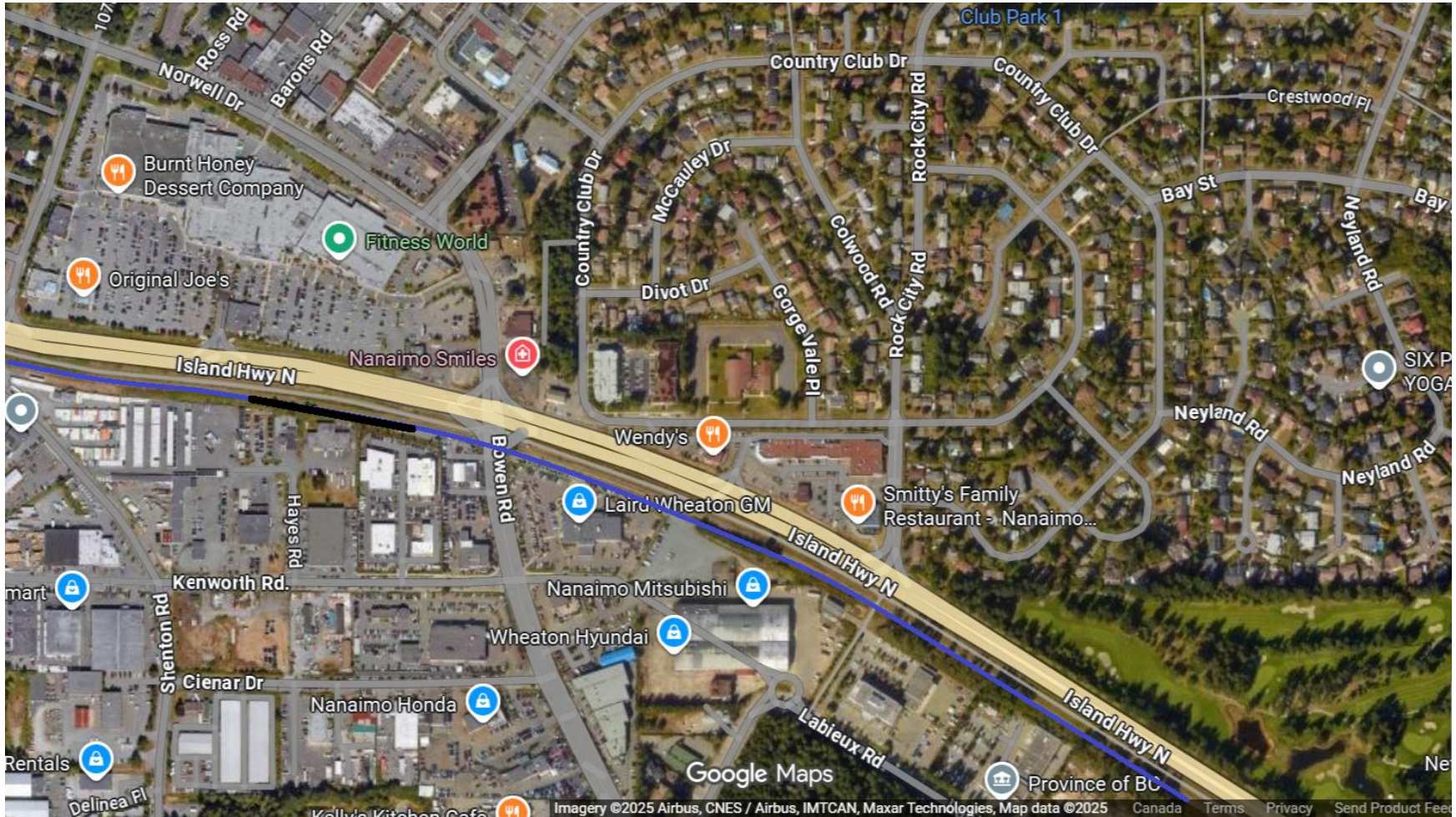


Nanaimo Brooks Landing Station

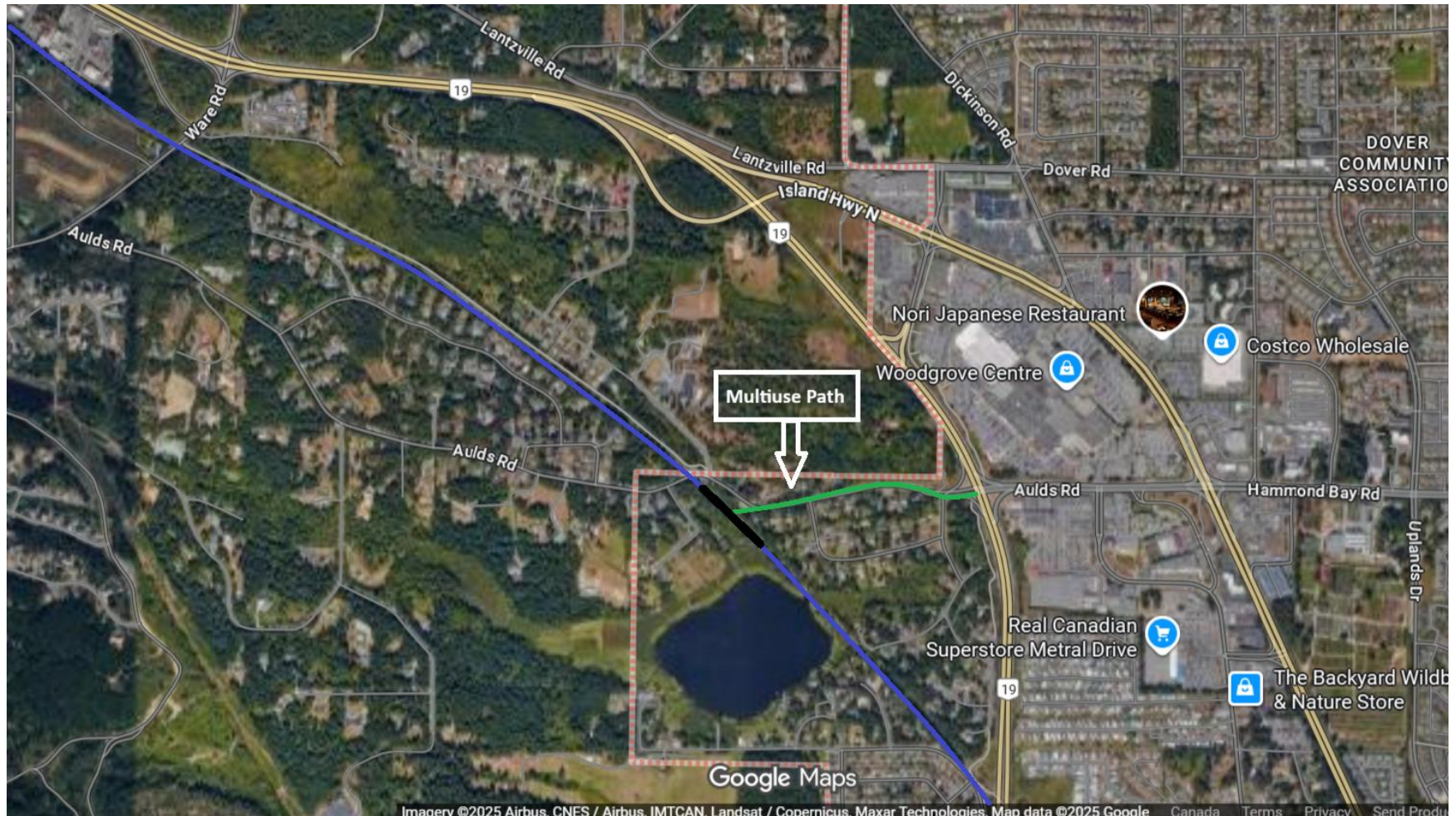
- This station is the transfer point to the Departure Bay Ferry Terminal via the Hammond Bay Bus.
- Pedestrian access is in green on map.



Nanaimo Country Club Station

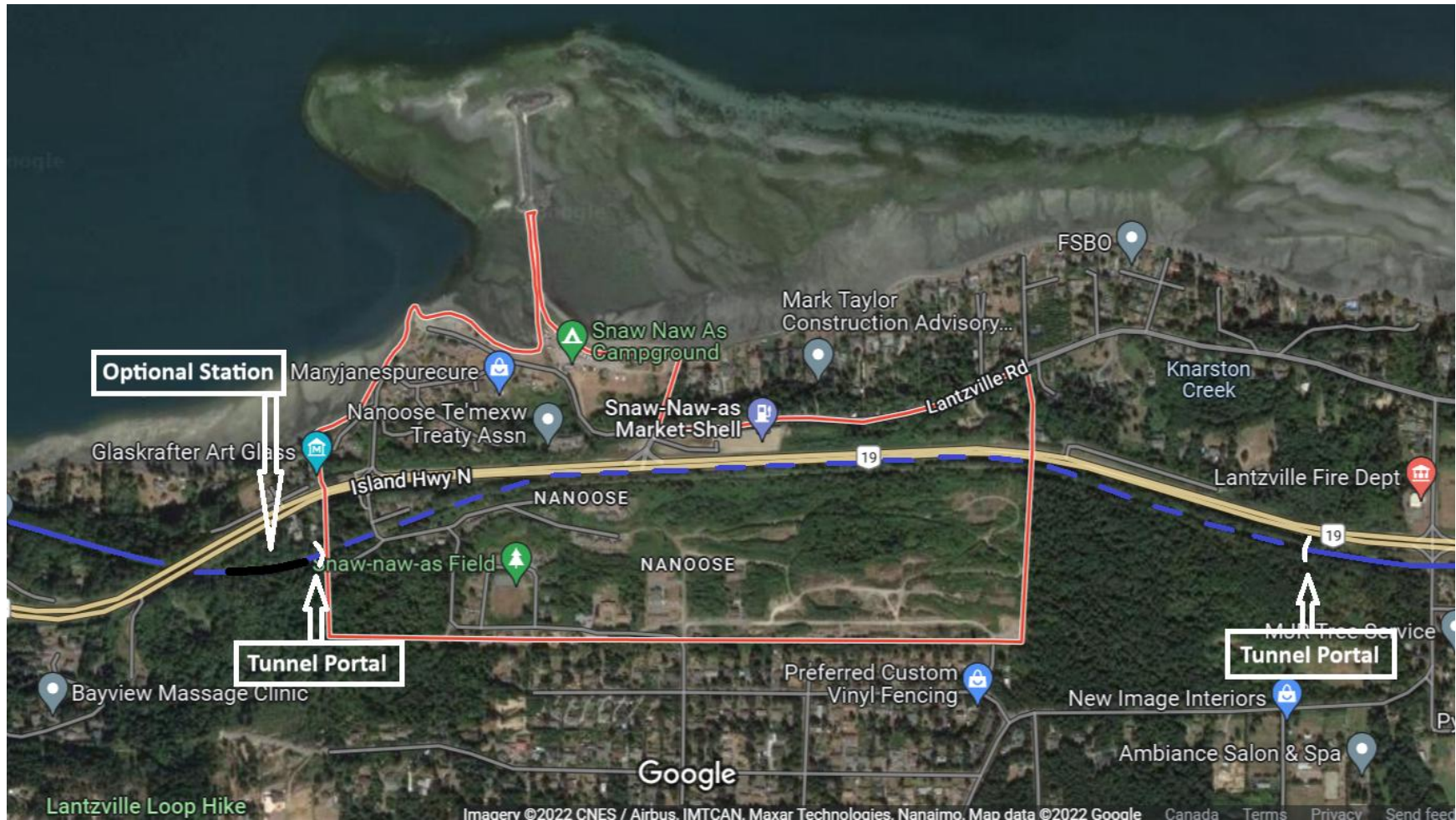


Lantzville-Nanaimo Woodgrove Station



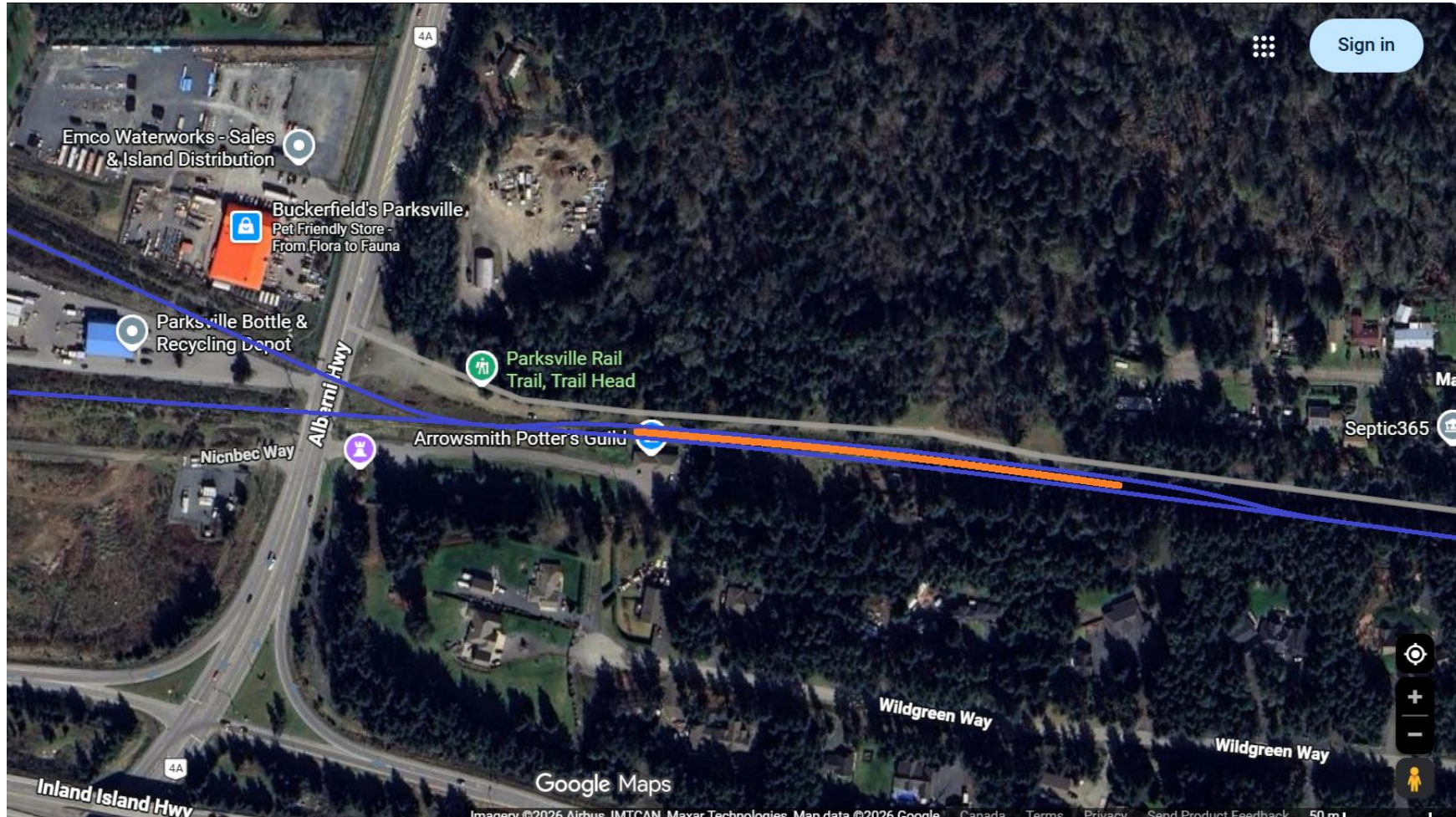
Snaw-Naw-As First Nation Reserve

- The line would be placed underground through the reserve.

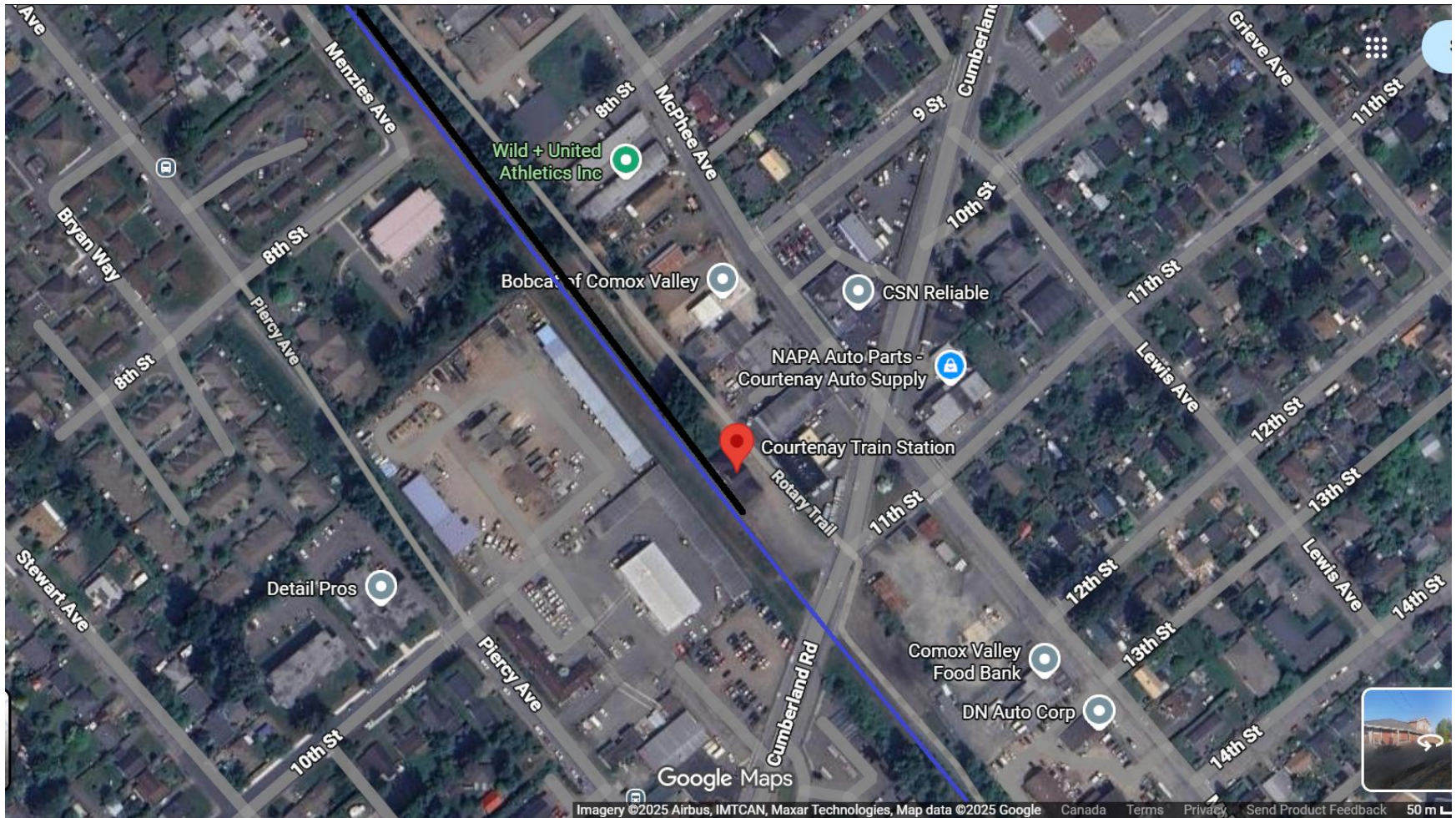


Parksville Station

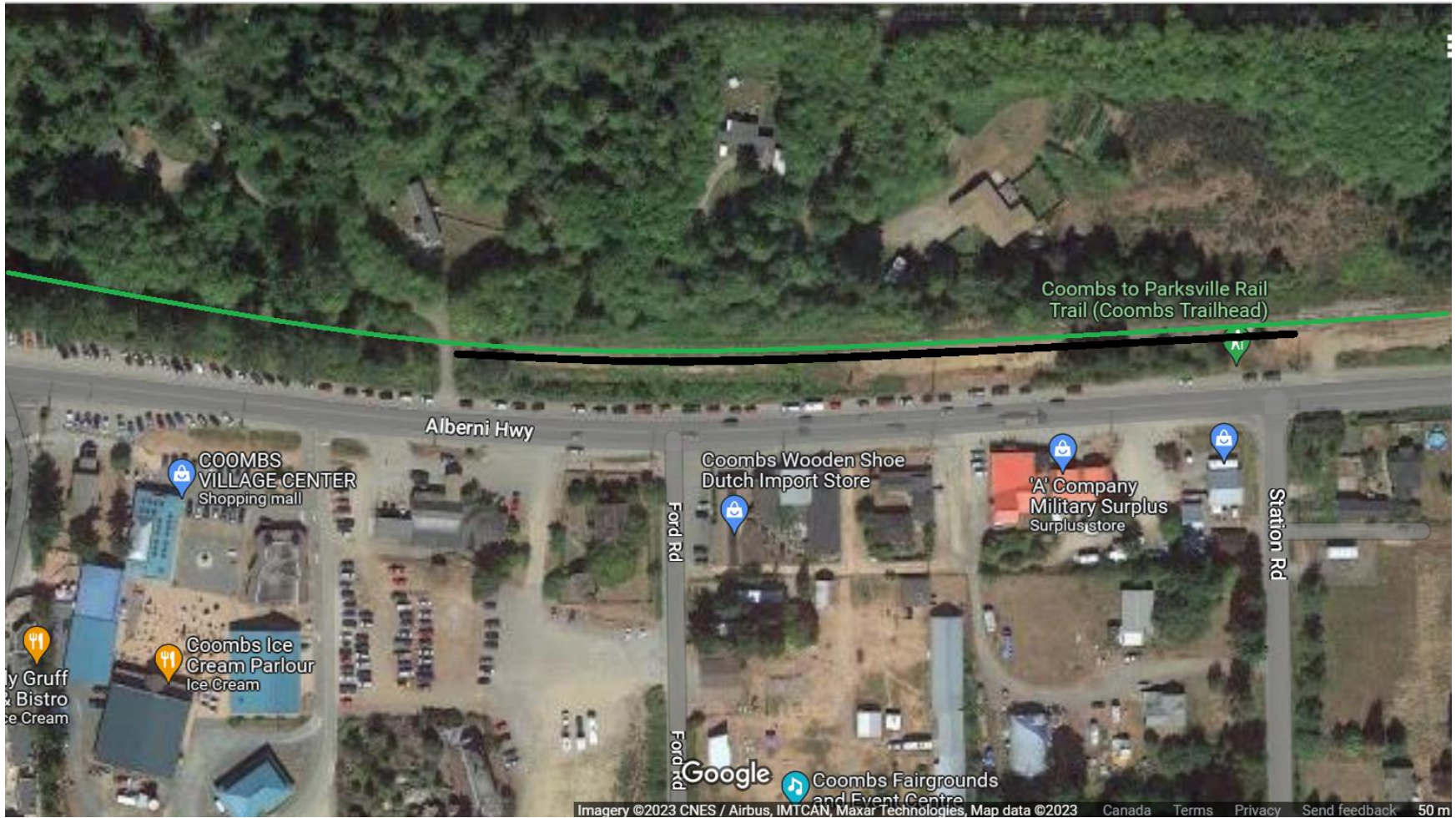
- Platform length would be 300m long initially.



Courtenay Station

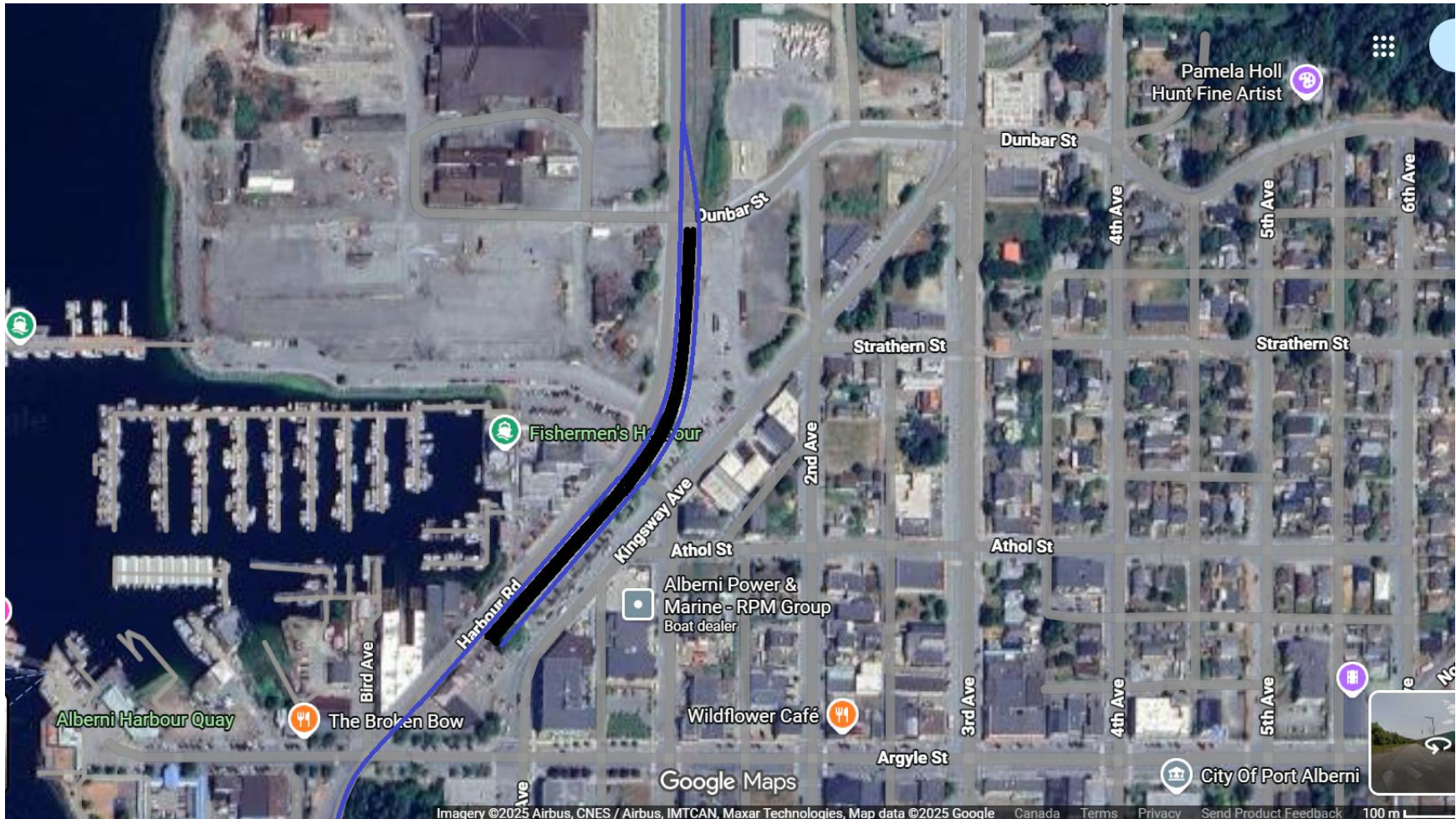


Coombs Station

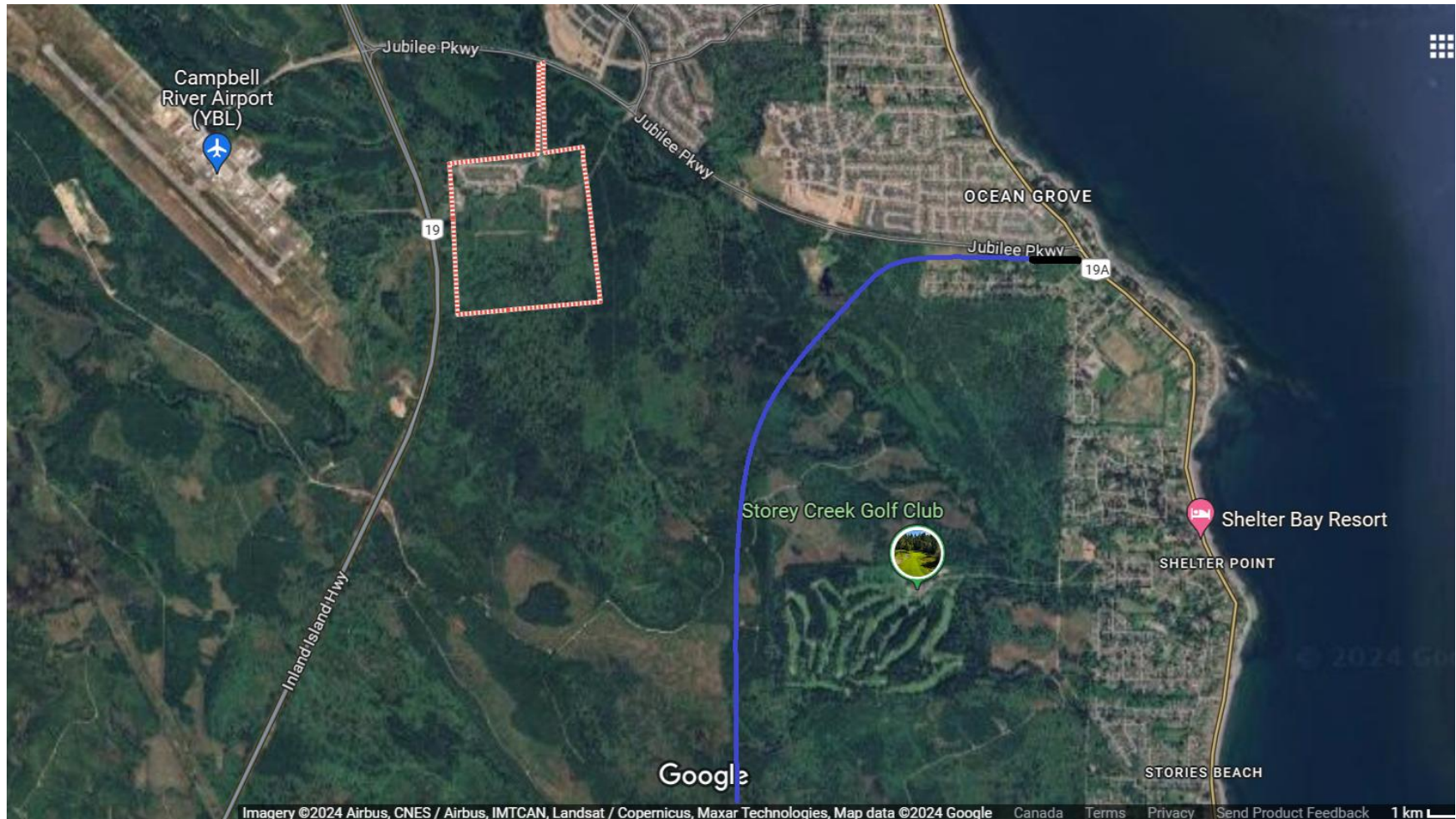


Port Alberni Station

- The existing train station would have an island platform to allow for the regular service to Victoria plus the Heritage train.
- Platform length would be 300m long initially.



Future Campbell River Station



Disclaimer

The author is not a professional planner or consultant. The document is written for an idea on upgrading the Island Rail Corridor.