



# City of Richmond

## Report to Committee

**To:** Planning Committee

**Date:** August 13, 2019

**From:** Wayne Craig  
Director, Development

**File:** RZ 18-824565

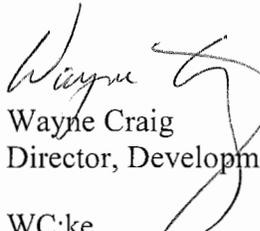
**Re:** Application by SNC Lavalin Inc. for Rezoning of portions of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Agriculture (AG1) and Light Industrial (IL) to a Site Specific Zone

### Staff Recommendation

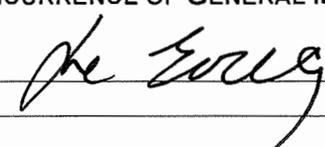
That Richmond Zoning Bylaw 8500, Amendment Bylaw 9940 to create the “BC Ferries Fleet Maintenance and Moorage (ZI14)” zone, and to:

- 1) Rezone 12300 No. 5 Road and 12800 Rice Mill Road from “Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)” and;
- 2) Rezone a portion of 12280 No. 5 Road and 12700 Rice Mill Road from “Agriculture (AG1) and Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)”;

be introduced and given first reading.

  
Wayne Craig  
Director, Development

WC:ke  
Att.

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Transportation	<input checked="" type="checkbox"/>	

## Staff Report

### Origin

SNC Lavalin Inc., on behalf of BC Ferry Services Inc. (BC Ferries), has applied to the City of Richmond for permission to rezone a portion of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Light Industrial (IL) and Agriculture (AG1) to a new site specific zone “BC Ferries Fleet Maintenance and Moorage (ZI14)” in order to allow for the phased upgrading of BC Ferries Fleet Maintenance Unit (FMU) located in the Shellmont Planning Area between No. 5 Road and Highway 99. The site will be consolidated into one parcel bisected by the existing CN Rail line which runs through the property.

This report responds to the following referral from the June 18, 2019 Planning Committee meeting:

*That the staff report titled “Application by SNC Lavalin Inc. for Rezoning of Portions of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Agriculture (AG1) and Light Industrial (IL) to a Site-Specific Zone” be referred back to staff to consult with the Ministry of Transportation and Infrastructure and all appropriate bodies for acknowledgement that they understand the implications of this application on the George Massey Tunnel enhancement project and City of Richmond property and report back as soon as possible.*

### Findings of Fact

At the June 18, 2019 Planning Committee meeting, there was discussion about the corporate structure of BC Ferries in relation to project approval to upgrade the BC Ferries FMU. The applicant has provided this information, summarized as follows:

- BC Ferries is an independently managed company.
- The BC Ferries Commissioner acts as an independent commercial regulator. Their responsibility includes reviewing and considering any proposals for major capital expenditures for approval.
- The Province of BC establishes policy and service levels.
- The Province of BC does not make decisions on deploying capital assets or incurring capital expenditures. Those are left to BC Ferries management, although BC Ferries Commissioner review and approval is required for large capital expenditures.
- The proposal to upgrade the BC Ferries FMU requires approval from the BC Ferries Commissioner. This approval process would be sequenced with the development applications required from the City.
- The applicant anticipates this project will be submitted to the BC Ferries Commissioner in late 2019.

### **Additional Consultation Undertaken**

In response to the June 18, 2019 Planning Committee referral, a letter (dated June 27, 2019) was sent from the City to applicable groups within the Ministry of Transportation and Infrastructure (the Ministry), including the staff lead for the George Massey Crossing project team (Attachment A – copy of City letter to the Ministry).

The City's letter sought confirmation that the George Massey Crossing project team is aware of and also has no concerns with the proposed rezoning application involving the BC Ferries site, and City properties located north of the BC Ferries site at 12851 Rice Mill Road and 12100 Hartnell Road (Attachment B – Property Map).

In addition, the City requested further clarification of the Ministry's expectations, anticipated process and timing related to the City's property at 10640 No. 5 Road (i.e., the Gardens Agricultural Park) located near the northwest corner of Highway 99 and Steveston Highway.

Prior to the June 18, 2019 Planning Committee meeting, City staff consulted with and received a response on February 8, 2019 from Ministry staff at the Lower Mainland District office indicating no objection to the proposed rezoning application.

### **Ministry Response**

In response to the City letter, written correspondence has been received from the Ministry and additional communication occurred amongst City and Ministry staff (including the project lead on the George Massey Crossing project team). The following is a summary of the Ministry responses to City staff on this matter:

- Confirms that the Ministry, including the George Massey Crossing project team, continue to have no objection to the BC Ferries FMU rezoning proposal (12700 & 12800 Rice Mill Road, 12280 No 5 Road, 12300 No 5 Road), consistent with the Ministry's response to the City on February 8, 2019.
- For City properties (10640 No. 5 Road; 12851 Rice Mill Road and 12100 Hartnell Road), the Ministry communicated that as potential solutions for the George Massey Crossing are still under study, the Ministry is not in a position to comment further on these sites.

City staff work closely and are in continuous contact with Ministry staff with the George Massey Crossing project team. Council will be updated as soon as additional information and updates become available on this matter.

### **Analysis**

In relation to the BC Ferries FMU rezoning proposal, the position of the Ministry, including the George Massey Crossing project team, remains unchanged and consistent with their previous comments provided to the City on February 8, 2019 indicating no objection to the rezoning.

For the three separate City properties (12851 Rice Mill Road, 12100 Hartnell Road and 10640 No. 5 Road), the Ministry indicates that a review of the George Massey Crossing is underway

and that until a solution has been confirmed, they would not be in a position to comment on the City properties at this time.

The previous staff report and accompanying attachments, including rezoning considerations, remain applicable and are contained in Attachment C.

### **Conclusion**

This report responds to the June 18, 2019 Planning Committee referral for staff to undertake additional consultation with the Ministry, including the George Massey Crossing project team, and report back. Ministry staff has responded confirming no objections to the subject rezoning as summarized in this report.

Based on the additional consultation with and response from the Ministry, Staff recommend that Richmond Zoning Bylaw 8500, Amendment Bylaw 9940, to rezone a portion of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Light Industrial (IL) and Agriculture (AG1) to a new site specific zone "BC Ferries Fleet Maintenance and Moorage (ZI14)" in order to allow for the phased upgrading of BC Ferries FMU, be introduced and given first reading.



Kevin Eng  
Planner 2

KE:lce

Attachment A: City letter (dated June 27, 2019) to the Ministry (includes Attachments 1-3)

Attachment B: Property Map

Attachment C: Original Staff report and attachments (includes Attachments 1-8)



# City of Richmond

6911 No. 3 Road,  
Richmond, BC V6Y 2C1  
www.richmond.ca

June 27, 2019  
File: 10-6350-05-08/2019-Vol 01

Planning and Development Division  
Transportation

Lina Halwani  
Director, Planning and South Coast Region Major Project Lead  
Ministry of Transportation and Infrastructure  
Suite 310 – 1500 Woolridge Street  
Coquitlam, BC V3K 0B8

Dear Ms. Halwani:

**Re: Council Referral Regarding BC Ferries, City-Owned Lands and the George Massey Crossing Project**

At the City of Richmond's Planning Committee meeting held June 18, 2019, the Committee considered a rezoning application (RZ 18-824565) for portions of the BC Ferries Fleet Maintenance Unit site on the south side of Rice Mill Road in the vicinity of Highway 99 and the north entrance to the George Massey Tunnel. The staff report can be found at: [https://www.richmond.ca/\\_shared/assets/4\\_-\\_BL9940\\_PLN\\_06181953869.pdf](https://www.richmond.ca/_shared/assets/4_-_BL9940_PLN_06181953869.pdf). The Committee minutes can be found at: [https://www.richmond.ca/cityhall/council/agendas/planning/2019/061819\\_minutes.htm](https://www.richmond.ca/cityhall/council/agendas/planning/2019/061819_minutes.htm) (scroll to Item 4).

Following discussion amongst Committee members regarding the potential impacts of this application on the future George Massey Crossing project, the report was referred back to staff *"to consult with the Ministry of Transportation and Infrastructure and all appropriate bodies for acknowledgement that they understand the implications of this application on the George Massey Tunnel enhancement project and City of Richmond property and report back as soon as possible."*

For your reference, Attachment 1 is the response from Ministry staff to the City indicating no objection to the proposed rezoning application. The City is seeking confirmation that the George Massey Crossing project team is aware of and also has no concerns with the rezoning application, particularly with respect to the BC Ferries and City properties at 12851 Rice Mill Road and 12100 Hartnell Road as shown in Attachment 2.

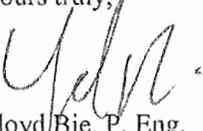
The City further requests clarification of the Ministry's expectations, anticipated process and timing related to the City's property at 10640 No. 5 Road (i.e., the Gardens Agricultural Park) located near the northwest corner of Highway 99 and Steveston Highway (Attachment 3).

For clarity, the table below provides further details on the properties identified in Attachments 2 and 3.

Owner	Address	PID	Legal
City of Richmond	12100 Hartnell Road 12751 Rice Mill Road	003-538-451	LOT 6 SEC 6&7 BLK 3N RG 5W PL NWP23654 Lot 6, Block 3N, Plan NWP23654, Section 6&7, Range 5W, New Westminster Land District
	12851 Rice Mill Road	004-203-691	SEC 6 BLK 3N RG 5W PL NWP25346 Parcel A, Block 3N, Plan NWP25346, Section 6, Range 5W, New Westminster Land District
BC Ferry Services Inc	12700 Rice Mill Road 12280 No. 5 Road	004-203-780	SEC 7 BLK 3N RG 5W PL NWP25346 Parcel B, Block 3N, Plan NWP25346, Section 7, Range 5W, New Westminster Land District, Except Plan 20. 834 AC TAKEN FOR HWY
	12300 No. 5 Road	004-161-980	LOT 7 SEC 7/8 BLK 3N RG 5W PL NWP27577 Lot 7, Block 3N, Plan NWP27577, Section 7/8, Range 5W, New Westminster Land District
	12800 Rice Mill Road	026-081-181	LOT 1 SEC 7 BLK 3N RG 5W PL BCP14018 Lot 1, Block 3N, Plan BCP14018, District Lot 6852, Section 7, Range 5W, Group 1, New Westminster Land District, & DL 8018 DEAS FERRY BASIN
City of Richmond	10640 No. 5 Road	028-631-595	LOT F SEC 31 BLK 4N RG 5W PL EPP12978 Lot F, Block 4N, Plan EPP12978, Section 31, Range 5 W, New Westminster Land District

We request a response to this letter prior to July 31, 2019 so that the Ministry's comments can be taken into consideration by Committee and Council at the first meeting in September 2019. If you have any questions, you may contact me directly at [lbie@richmond.ca](mailto:lbie@richmond.ca) or 604-276-4131.

Yours truly,



Lloyd Bie, P. Eng.  
*Director, Transportation*

pc: Elena Farmer, District Manager, Lower Mainland District, Ministry of Transportation and Infrastructure  
David Sharpe, FMU Executive Director, BC Ferries  
David McWalter, Project Manager, SNC Lavalin  
Wayne Craig, Director, Development, City of Richmond

LB:jc

**Brownlee, David**

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**From:** Cruz, Roanna S TRAN:EX <Roanna.Cruz@gov.bc.ca>  
**Sent:** Friday, 8 February 2019 10:43  
**To:** Brownlee, David  
**Subject:** RE: Rezoning Within the Controlled Area-12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road BC Ferries FMU - RZ 18-824565

Hi David:

Richmond File: RZ 18-824565

MOTI File: 2019-00692

I apologize, unfortunately I did not assign this referral to anyone and it has just come to my attention that we have not provided any comments.

We have no objection to the proposed rezoning. Please note the following comments:

- The Provincial Approving Officer has confirmed that he does not need to sign off on the subdivision plan for the consolidation of properties.
- The proposed dike alignment within MOTI right-of-way will require permit approval from the ministry. Detailed design drawings will need to be submitted to this office for review and approval.
- The existing building within the encroachment into Rice Mill Road has a permit that was issued from this office on October 5<sup>th</sup>, 2018, Permit No. 2018-05498. The permit was issued to British Columbia Ferry Services Inc. and allows an existing building to be located approximately 1.82 metres from the Highway 99 right-of-way. When this building is demolished, any replacement buildings must meet our minimum setback of 3 metres or the municipal setback, whichever is greater.
- The provincial building/structure setback is 4.5 metres (from the Highway 99 right-of-way). The building/structure setback can be reduced to 3 m when there is existing alternative access to a municipal street. See Section 12 of the Provincial Public Undertakings Regulation BC Reg. 513/2004. If the municipal setback is greater, the greater setback will apply. [http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/513\\_2004#section12](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/513_2004#section12)
- An access permit for the existing Rice Mill Rd access road has been issued from this office. Permit No. 2016-04984 was issued to British Columbia Ferry Services Inc. dated November 21, 2016 for the installation, operation and maintenance of and access/access road (within Ministry right-of-way) along Hwy 99 at Rice Mill Road.
- Please provide the storm water management plans for our review.

Roanna Cruz  
Sr. District Development Technician  
Ministry of Transportation and Infrastructure  
Lower Mainland District  
#310 – 1500 Woolridge Street  
Coquitlam, B.C. V3K 0B8  
Phone: 604-527-2243  
Email: [Roanna.Cruz@gov.bc.ca](mailto:Roanna.Cruz@gov.bc.ca)

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**From:** Brownlee, David [<mailto:DBrownlee@richmond.ca>]  
**Sent:** Monday, October 15, 2018 12:34 PM  
**To:** Cruz, Roanna S TRAN:EX  
**Subject:** Rezoning Within the Controlled Area-12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road BC Ferries FMU

Good afternoon Roanna;  
Attached is our request for review of the BC Ferries Fleet Maintenance Facility (FMU) at the Deas Basin adjacent to the Massey Tunnel in Richmond.  
The application is for a partial rezoning of the BC Ferries FMU site.  
Please feel free to contact me if you have any questions regarding the submission.

Regards

David Brownlee | Planner 2  
City of Richmond  
Development Applications Department  
6911 No. 3 Road, Richmond, B.C., V6Y 2C1  
Tel: 604-276-4200  
Oct 15 2018

City and BC Ferries Properties on Rice Mill Road

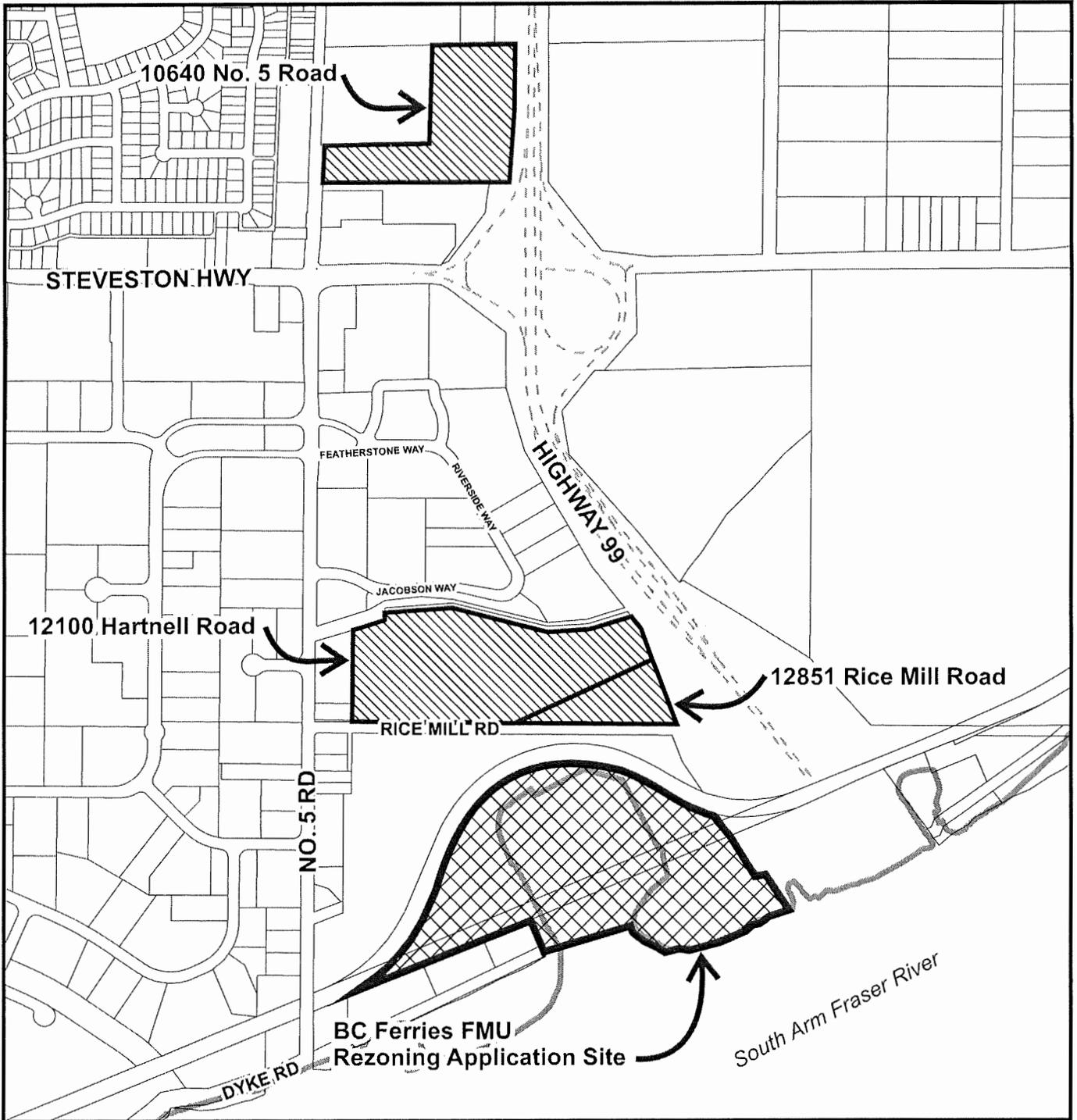


City Property near northwest corner of Highway 99 and Steveston Highway





City of  
Richmond



Property Context Map

Original Date: 08/13/19

Revision Date:

Note: Dimensions are in METRES



**City of  
Richmond**

**Report to Committee**

**To:** Planning Committee  
**From:** Wayne Craig  
Director, Development

**Date:** June 3, 2019  
**File:** RZ 18-824565

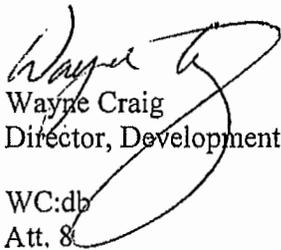
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**Staff Recommendation**

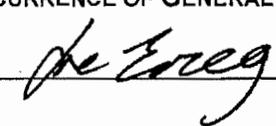
That Richmond Zoning Bylaw 8500, Amendment Bylaw 9940 to create the “BC Ferries Fleet Maintenance and Moorage (ZI14)” zone, and to:

- 1) Rezone 12300 No. 5 Road and 12800 Rice Mill Road from “Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)” and;
- 2) Rezone a portion of 12280 No. 5 Road and 12700 Rice Mill Road from “Agricultural (AG1) and Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)”;

be introduced and given first reading.

  
Wayne Craig  
Director, Development

WC:db  
Att. 8

REPORT CONCURRENCE		
ROUTED TO:	CONCURRENCE	CONCURRENCE OF GENERAL MANAGER
Engineering Sustainability	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	

## Staff Report

### Origin

SNC Lavalin Inc., on behalf of BC Ferry Services Inc. (BC Ferries), has applied to the City of Richmond for permission to rezone a portion of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Light Industrial (IL) and Agricultural (AG1) to a new site specific zone "BC Ferries Fleet Maintenance and Moorage (ZI14)" in order to allow for the phased upgrading of BC Ferries Fleet Maintenance Unit (FMU) located in the Shellmont Planning Area between No. 5 Road and Highway 99 (Attachment 1). The site will be consolidated into one parcel bisected by the existing CN Rail line which runs through the property.

The redevelopment project is intended to replace ageing infrastructure, improve the efficiency of the operation, implement flood protection measures for the site, and generally ensure that the facility meets the long-term demands of the BC Ferries fleet. This application represents the first two phases of a longer term planned upgrade of the BC Ferries Fleet Maintenance site.

BC Ferries was transformed from a Provincial Crown Corporation into an independent commercial operation in April, 2003. As a result of this transformation, BC Ferries is required to seek municipal approvals which previously it was not obligated to do. The nature and extent of the proposed redevelopment have necessitated the request for rezoning of a portion of the site to bring the land use designations into line with the use of the site.

### Findings of Fact

BC Ferries Fleet Maintenance Unit (FMU) site is generally located south of Rice Mill Road between No. 5 Road and the Highway 99 right of way and is centered around the Deas Basin where the ferry vessels moor while being repaired and serviced. Some outdoor storage occurs on lands immediately to the west of the basin and there is an existing small office building and staff parking lot at the northeast corner of the site, but the majority of the land side active fleet maintenance operations occur east of the basin and south of the CN Rail corridor which bisects the site. That area contains more than 20 larger buildings and numerous smaller structures that support BC Ferries on-going maintenance operations providing parts storage, mechanical workshops, paint shops, fabrication areas, office space and staff amenities, etc. The site is a secured facility with 24 hour security provided in accordance with Federal regulations.

The foreshore area of the site and the vegetated forest stands in the northwest corner of the site north of the CN Rail corridor are designated in the City's Official Community Plan (OCP) as Environmentally Sensitive Areas (ESA). Riparian Management Areas (RMA) have been designated along the south side of Rice Mill Road and along the MOTI slough just east of the site. (Attachment 2, Plan # q).

## Surrounding Development

Surrounding Development is as follows:

- To the North: An 8.26 ha (20.41 acre) Agriculture (AG1) zoned vacant parcel at 12751 Rice Mill Road owned by the City and the 1.67 ha (4.13 acre) model airplane park at 12851 Rice Mill Road. The airplane park is also zoned Agriculture (AG1). The watercourse along the south side of Rice Mill Road is designated as a Riparian Management Area (RMA).
- To the East: A Ministry of Transportation and Infrastructure (MOTI) right-of-way containing the access road to the BC Ferries site, Highway 99 and the beginning of the George Massey Tunnel. A drainage watercourse that runs along Highway 99 just east of the BC Ferries site is designated as a 15 m Riparian Management Area (RMA).
- To the South: The Fraser River. The foreshore area of the Fraser River is designated as an Environmentally Sensitive Area.
- To the West: Five "Agricultural (AG1)" and two "Light Industrial (IL)" zoned parcels lie between BC Ferries property and No. 5 Rd. Only the south-west portion of BC Ferries' property abuts No. 5 Rd. The five agricultural parcels range in area between 1,335 m<sup>2</sup> (0.33 ac) and 6,677 m<sup>2</sup> (1.65 ac). All of these agricultural lots are outside of the Agricultural Land Reserve. The two light industrial parcels are 1,780 m<sup>2</sup> and 2,266 m<sup>2</sup> (0.44 ac and 0.56 ac) in area respectively.

A CN Rail right-of-way bisects the site curving around, and just north of, the Deas Basin.

## Development Information

The proposed rezoning will apply to only the portion of the BC Ferries owned lands south of the CN Rail corridor (i.e. the Deas Basin and lands on both sides of the basin as shown in Attachment 1). BC Ferries lands north of the CN Rail corridor will retain their current zoning. The rationale for the partial rezoning is primarily to focus on the active area of the site.

This redevelopment project involves a two phased redevelopment of the FMU facility spread over a period of approximately five years (2019-2024). The scope of work generally includes:

- Demolition of a number of existing buildings;
- Site preparation and services;
- Construction of new consolidated industrial buildings;
- Raising portions of the site by approximately 0.55 +/- m to adjust for anticipated climate change induced sea level rise;
- Supplying and installing a new basin crane with up to 50 ton capacity;
- Constructing marine foundations and a loading pier for the basin crane;
- Upgrading of utility connections (e.g. water, sanitary, etc.);
- Providing compensation and enhancement for Environmentally Sensitive Area (ESA) and Riparian Management Area (RMA) impacts; and
- Building an advanced section of the dike network planned for the facility.

The two phases of redevelopment will result in the construction of approximately 15,502.0 m<sup>2</sup> (166,862 ft<sup>2</sup>) of new building construction and the retention of approximately 6,209.5 m<sup>2</sup> (66,838.5 ft<sup>2</sup>) of existing buildings. Each development phase will be coordinated with increases in the site grades intended to mitigate flood risk.

Although the majority of the works will occur in the south-east area of the site south of the CN Rail line, some utility upgrades will also occur along Rice Mill Road and through portions of the lands north of the CN Rail to accommodate pipe upgrades. An overview of the utility works is provided in the “Analysis” section of this report.

Conceptual Development Plans are provided in Attachment 2 and a Development Application Data Sheet providing technical details about the development proposal is provided in Attachment 4.

In addition to the conceptual plan set submission, SNC Lavalin has undertaken and submitted a number of technical studies (listing provided in Attachment 6) in support of its Rezoning application. Each of these submissions have been reviewed by staff and comments on key aspects from the documents are included in the “Related Policies & Studies” and “Analysis” sections below.

### **Related Policies & Studies**

#### Official Community Plan

BC Ferries FMU site is designated for “Industrial” land use in the Official Community Plan (OCP).

BC Ferries current and proposed future use of the FMU site is principally industrial use oriented to marine vessel repair and maintenance. The proposed uses are compliant with the OCP’s “Industrial” designation.

Portions of the site are also designated as Environmentally Sensitive Areas (ESA). This is discussed further in the following section.

#### Environmentally Sensitive Areas and Riparian Management Areas

Portions of the site along the waterfront and in the northwest corner of the site north of the CN Rail right-of-way are designated in the City’s Official Community Plan (OCP) as Environmentally Sensitive Areas (ESA). The area paralleling the southern edge of Rice Mill Road is designated as a 5 m wide Riparian Management Area (RMA). As required by the City’s OCP, SNC Lavalin, on behalf of BC Ferries, has submitted a separate Development Permit application (DP 18-824566) to address potential impacts to the ESA and RMA designated areas as a result of the proposed development. A description of the proposed ESA impacts and compensation/enhancement is provided in the “Analysis” section of this report. The proposed compensation plan will create a net gain of over 2:1 in functional habitat, improving poor to low quality habitat within the industrial site.

### BC Ferries Agriculturally Zoned Parcels

As noted earlier, portions of the BC Ferries properties are zoned "Agricultural (AG1)", however, none of the properties involved are within the BC Agricultural Land Reserve. The Agricultural zoning is a remnant from when the area was farmed prior to the Massey Tunnel construction. The zoning was not updated when BC Ferries acquired the site as they were originally a Provincial Crown operation and not subject to Municipal land use jurisdiction. Under the current application only those portions of the agriculturally zoned lands south of the CN Rail corridor are proposed to be rezoned.

### Floodplain Management Implementation Strategy

The operational portions of the BC Ferries site will lie outside the City's diking system. Under the City's Flood Plain Designation and Protection Bylaw No. 8204 developments outside the dike system would typically be required to meet the Flood Construction Level (FCL) of 4.35 m GSC. The proponent is seeking a site-specific exemption on the basis of an engineer prepared flood protection plan which would see portions of the site raised in coordination with the site's redevelopment and the establishment of Statutory Right-of-Ways for current and future dike construction across portions of the BC Ferries site. BC Ferries Floodplain Management response and the City Engineering staff's analysis are discussed in more detail in the "Analysis" section of this report.

### Fisheries and Oceans Canada (DFO)

As the proposed redevelopment will involve in-water works to accommodate a tower crane, stormwater outfall replacement and pier installation, a review was undertaken by the Federal Department of Fisheries and Oceans (DFO). On the basis of their assessment, DFO has issued a letter of advice to BC Ferries (Attachment 7) with a series of recommended measures such as working within instream timing windows, use of an Environmental Monitor, installation of silt curtains, pile installation via vibratory hammer instead of impact pile driving, etc. Subject to BC Ferries implementing these measures, DFO concluded that the project would not result in serious harm to fish or prohibited effects on listed aquatic species at risk. Authorization under the Fisheries Act or a permit under the Species at Risk Act would therefore not be required.

### NAV Canada

NAV Canada reviewed the proposed works and subsequently issued a letter to BC Ferries (dated October 25, 2018) advising that "they have no objection to the project as submitted".

### Transport Canada

Transport Canada has reviewed the proposed development plans and determined that "the work is not likely to substantially interfere with navigation". On the basis of their review and subject to adherence to five terms and conditions relating to the quality of construction, lighting, removal of piles and prohibitions to obstruction of navigation aids/navigation, Transport Canada has issued their permission to proceed.

### BC Ministry of Transportation and Infrastructure (MOTI) Review

Correspondence from the Ministry of Transportation and Infrastructure (MOTI) was received on February 11, 2019 advising that the Ministry has no objection to the proposed rezoning.

### BC Ministry of Environment Review

A site profile and a remediation plan were submitted to the Ministry of Environment & Climate Change Strategy by BC Ferries and SNC Lavalin. Their submission noted that all contamination at, and migrating from, the site has been delineated and outlined a remediation plan that would be coordinated with the site's redevelopment.

The Ministry has issued a release letter (dated October 29, 2018) indicating that the site profile was satisfactory and that they have accepted the proposed remediation plan. The Ministry's letter states that "pursuant to the Local Government Act (section 557(2)(e)), that the City of Richmond may approve the zoning and development permit application under this section because the Director has received and accepted a notice of independent remediation with respect to the site". The Ministry's release applies to the entire BC Ferries site, not just to the area to be rezoned.

## **Analysis**

### Transportation and Site Access

A Traffic Impact Study (TIS – report dated December 6, 2018) was prepared and submitted by SNC Lavalin. The intent of the report was to:

- Determine the current level of traffic to the site and whether the site's traffic can be accommodated in surrounding roads with future growth;
- Review the parking requirements;
- Review site accessibility by alternate modes;
- Establish improvements needed to accommodate traffic as required;

The report notes that during peak season the facility employs a workforce of approximately 200 staff consisting of 140 BC Ferries employees and 60 contractor employees with the peak season running from early September to early May. The site typically operates with two shifts during that period and only one shift during non-peak season. The report also indicates that BC Ferries does not anticipate any increase in the number of workers at the site after it has been redeveloped.

The TIS conclusions are that the site's operation and associated traffic can be accommodated with no additional off-site upgrades required. Rice Mill Road was found to be adequate for pedestrian and cyclist travel. The development will provide on-site showers, change rooms and bike parking/lockers to encourage more bicycle commuting as recommended in the TIS.

The development will provide approximately 257 parking spaces, including 5 accessible spaces, 7 medium and 4 large loading bays, 42 Class 1 and 42 Class 2 bicycle spaces. Each of these provisions meet, or exceed, the current Zoning Bylaw No. 8500 requirements.

Transportation staff advise that the findings and recommendations provided by the TIS are supportable and that no new signal, intersection or road upgrades are required as a result of the proposed development.

Access to the site is, and will continue to be, provided through permit with the Ministry of Transportation and Infrastructure (MOTI) through an access permit (MOTI 2016-04984) issued November 21, 2016 providing for the installation, operation maintenance access via the roadway along the east side of the site that connects to Rice Mill Road.

Submission of a construction parking and traffic management plan to the Transportation Division is required prior to the issuance of a Building Permit (this requirement is included in the Rezoning Considerations in Attachment 8).

#### Engineering Review – Utilities and Site Servicing

The proposed redevelopment will require the consolidation of all the properties and the installation or upgrading of various services and utilities to service the site. Retained buildings are being reviewed through Building Approvals for BC Building Code equivalencies with some internal upgrading measures being made through separate building permit applications as necessary. A requirement for consolidation of the lots prior to Rezoning adoption is included in the Rezoning Considerations (Attachment 8).

The site's overall redevelopment will require a separate Servicing Agreement in order to provide the necessary works and services needed to support the development as proposed. A summary of site servicing requirements, as determined by Engineering, includes the following:

- Upgrading of approximately 680 m of watermain along Rice Mill Road;
- Installation of fire hydrants along Rice Mill Road per City spacing requirements;
- Establishing a right of way for a new water meter;
- Fill and abandon the storm sewer culverts at the entrance on Rice Mill Road;
- Upgrading the sanitary sewer works within the City right-of-way at No. 5 Road;
- Entering into a license agreement for the encroachment of the privately owned sanitary forcemain into the City road right-of-way;
- Undergrounding of overhead service lines (hydro, Telus, other); and
- Provision of approximately 1,010 m of dike and dike right-of-way through the development site with the physical dike construction to occur, through legal agreements, in three segments each with different timing and criteria:
  - i) Segment 1, located roughly in the east half of the site, will be constructed by the proponent to elevation 4.7 m in the future when needed for flood protection. The timing of constructing this segment will be determined by the City;
  - ii) Segment 2, located roughly in the centre of the site, will be constructed by the proponent to an interim elevation of 4.0 m through this development's Servicing Agreement, then raised in the future by the proponent to elevation 4.7 m when needed

for flood protection. The timing of raising this segment from 4.0 m to 4.7 m will be determined by the City;

- iii) Segment 3, located roughly on the west half of the site, will be constructed by the proponent to elevation 4.7 m through this development's servicing agreement.
- iv) In the future, Segments 1, 2, and 3 will be raised to elevation 5.5 m (separately from this development). The rights-of-ways secured through this development will provide adequate space for the future 5.5 m dike.

The Rezoning Considerations (Attachment 8) include a requirement for registration of a statutory right-of-way covering the entire dike alignment prior to Bylaw adoption. This SRW shall begin at the NE corner of the bay and shall connect to the existing dike at the southern extent of Rice Mill Road, as shown on Appendix (1) attached to the Servicing Agreement requirements in Attachment 8. The width of this SRW, will be determined through the servicing agreement and shall be sufficient to fit a standard City dike with erosion protection.

#### Tree Retention and Replacement

The applicant has submitted a Certified Arborist's Report which identifies on-site and off-site tree species, assesses tree structure and condition, and provides recommendations on tree retention and removal relative to the proposed development. The Report assesses 82 bylaw-sized trees that will be impacted on the subject site. No street trees or trees on neighbouring properties will be impacted by the proposed redevelopment.

The City's Tree Preservation Coordinator has reviewed the Arborist's Report and supports the Arborist's findings, with the following comments:

- 22 trees impacted by sanitary line (tag# 443-459, 462-466)
  - 59 trees impacted by new dike (tag# 1-56, 898,899 and 900)
  - 1 tree conflicts with on-site functions (tag# 600)
  - A total of 82 trees impacted by the development and noted to be removed.
  - Provide tree protection as per City of Richmond Tree Protection Information Bulletin Tree-03.
  - Replacement trees should be specified at 2:1 ratio as per the OCP.
  - The applicant proposes to plant 70 replacement trees. 94 trees cash-in-lieu (\$47,000).
- The Tree Management Plan provided in Attachment 3 shows the locations of the trees proposed for removal.

Engineering staff note that the proposed sanitary line will be a private system which cannot be located within Rice Mill Road. The proponent worked with staff to propose an alternative alignment along an internal gravel pathway and thereby minimize the tree impacts to the extent possible.

#### *Tree Replacement*

The applicant wishes to remove 82 on-site trees. The 2:1 replacement ratio would require a total of 164 replacement trees. The applicant has agreed to plant 70 trees on site. The required

replacement trees are to be of the following minimum sizes, based on the size of the trees being removed as per Tree Protection Bylaw No. 8057.

No. of Replacement Trees	Minimum Caliper of Deciduous Replacement Tree	Minimum Height of Coniferous Replacement Tree
24	6 cm	3.5 m
46	8 cm	4 m

To satisfy the 2:1 replacement ratio established in the OCP, the applicant will contribute \$47,000 to the City's Tree Compensation Fund in lieu of the remaining 94 trees that cannot be accommodated on the subject property after redevelopment.

#### *Tree Protection*

No trees on neighbouring properties will be impacted by the proposed development however protective fencing will be required along portions of the foreshore area. The applicant has submitted a tree protection plan showing the trees to be retained and the measures taken to protect them during development stage (Attachment 3, Plans # w-x: "Tree Management Plan Drawings"). To ensure that the trees identified for retention are protected at development stage, the applicant is required to complete the following items:

- Prior to final adoption of the rezoning bylaw, submission to the City of a contract with a Certified Arborist for the supervision of all works conducted within or in close proximity to tree protection zones. The contract must include the scope of work required, the number of proposed monitoring inspections at specified stages of construction, any special measures required to ensure tree protection, and a provision for the arborist to submit a post-construction impact assessment to the City for review.
- Prior to demolition of the existing dwelling on the subject site, installation of tree protection fencing around all trees to be retained. Tree protection fencing must be installed to City standard in accordance with the City's Tree Protection Information Bulletin Tree-03 prior to any works being conducted on-site, and remain in place until construction and landscaping on-site is completed.

#### **Environmental Review**

##### *Environmentally Sensitive Area (ESA) Detailed Assessment*

Three ESAs have been designated on site (Attachment 2, Plan #q: "City of Richmond Environmentally Sensitive Areas and Riparian Management Areas"):

- 6.80 ha (16.8 ac) located north of the CN rail line, classified as "Upland Forest" and "Old Fields and Shrublands";
- 3.38 ha (8.35 ac) located within the 30 m (98.4 ft.) above high water mark of the Fraser River, classified as "Shoreline"; and
- 3.34 (8.25 ac) ha located 30 m (98.4 ft.) below high water mark of the Fraser River, classified as "Intertidal";

The ESA north of the CN rail line is designated as a "site", as opposed to a "hub", in the Ecological Network Management Plan in recognition of the ecological services that this area provides.

***Proposed Impacts to ESA***

Within the area north of the CN Rail, impacts to the “Upland Forest” and “Old Fields and Shrublands” ESA will result from the installation of a new sanitary sewer line. The area of impact is estimated as 1,134 m<sup>2</sup> (12,206 ft<sup>2</sup>) by SNC Lavalin based on a working width of 4 m (to accommodate a 1.2 m wide trench).

Within the main BC Ferries work site, impacts to the “Shoreline” and “Intertidal” ESA are estimated as 1,514 m<sup>2</sup> (16,297 ft<sup>2</sup>) by SNC Lavalin as follows:

- 1,252 m<sup>2</sup> (13,476 ft<sup>2</sup>) within the Shoreline ESA for the buildings, roads and diking which impact permeable or vegetated areas within the site. Redevelopment of Shoreline ESA areas that are already impacted by buildings or roads are not considered to impact the ESA;
- 10 m<sup>2</sup> (107.6 ft<sup>2</sup>) within the Intertidal ESA; and
- 252 m<sup>2</sup> (2,713 ft<sup>2</sup>) within the Intertidal ESA to permit construction of the new access pier, trestle and tower crane.

(Attachment 2, Plan #: “Area in ESA SH-5 and IT-5 Impacted by the Proposed Development”).

Total impacts to all ESA areas is estimated to be 2,648 m<sup>2</sup> (28,503 ft<sup>2</sup>). Detailed information from the biophysical inventory and wildlife survey assessments will be provided through the Development Permit review (DP 18-824566).

***Tree Inventory within the ESA***

The arborist report submitted by Diamond Head Consulting identified 22 trees proposed to be removed within the ESA due to conflicts with the proposed sanitary alignment (tag# 443-459, 462-466).

18 Bylaw-sized trees were inventoried within the areas of Shoreline and Intertidal ESA. Of these only one tree is proposed to be removed within the Shoreline ESA (Tree tag # 600) as it would interfere with the clear working area of the future crane operations.

Tree replacements for the 23 trees removed from the ESA are proposed to be replaced through 45 new tree installations within the proposed compensation area north of the CN Rail line and an additional 25 new trees along the shoreline ESA adjacent to the Fraser River resulting in a better than 2 for 1 replacement. The tree removals and replacements are included in Attachment 3 (Plans # w-x: “Tree Management Plan Drawings”).

***Mitigation Measures***

To minimize impacts to the ESA, the new sanitary sewer line is proposed to be aligned within a gravel pathway and cleared area on the site. Fencing will be installed to limit access outside of the working width, and the disturbed ground will be re-seeded with native grasses and wildflowers post-development.

***Proposed Compensation and Landscape Restoration***

Total ESA disturbance across the site is calculated at 2,648 m<sup>2</sup> (28,503 ft<sup>2</sup>) with total compensation of 6,251 m<sup>2</sup> (67,285 ft<sup>2</sup>) resulting in a net gain of 2.36:1 (Attachment 2, Plan # v, “Habitat Balance Sheet”).

The proposed compensation plan will result in a net-gain of functional habitat within the ESA with no net loss of total ESA designated on site. The establishment of native shrubs and herbaceous vegetation throughout the enhancement areas, with pockets of trees to provide canopy, will create moderate to high quality habitat, restore ecological function and promote biodiversity within the ESA. Preliminary plans are provided in Attachment 2. Detailed plans will be included in the Development Permit review (DP 18-824566).

#### ***Monitoring and Maintenance***

To ensure that the proposed enhancements have the best chance of survival and that invasive species are controlled, monitoring, maintenance and annual reporting by a Qualified Environmental Professional (QEP) will occur for 5 years following installation of the landscape restoration plan. Reports will be provided to the City.

Securities acceptable to the Director of Development will be sought through the Development Permit review to ensure the landscape restoration including plants, soil, irrigation and the five year monitoring program; tree installations within the ESA; installation of tree and ESA protection fencing. Registration of legal agreements to ensure protection and retention of ESA on private land will also be required through the Development Permit review.

#### ***Riparian Management Areas***

There are two Riparian Management Areas (RMAs) designated at the perimeter of the site, consisting of a 5 m RMA associated with a watercourse along the south side of Rice Mill Road and a 1.5 m RMA associated with the slough located to the east of the site. The two watercourses do not connect, but an RMA designated watercourse on the north side of Rice Mill Road does connect to the slough to the east.

#### ***5 m RMA***

The 5 m (16.4 ft.) RMA is associated with a drainage watercourse that is daylighted for approximately 550 m (1,805 ft.) and connects to the City's drainage system to the west. The south bank is vegetated with grasses, Himalayan blackberry, black cottonwood and small shrubs such as red-osier dogwood. The north bank adjacent Rice Mill Road is grass on gravel, which is regularly mowed by the City. No fish were present within the RMA.

Impacts to the RMA will result from excavation of a 1.2 m trench for a new water line, which will be restricted to the impervious/disturbed area of the RMA. Total disturbance is calculated as 695 m<sup>2</sup> (7,481 ft<sup>2</sup>). The exact alignment of the waterline will be subject to review by Engineering through the required Servicing Agreement.

#### **Proposed Compensation and RMA Restoration**

In addition to hydroseeding the area that will be disturbed during installation of the water main, restoration is proposed in the form of removal of two undersized and dormant 300 mm diameter corrugated steel culverts. Habitat value and ecological function will be improved within the 5 m RMA when the 54 m<sup>2</sup> that is currently occupied with redundant culverts is converted to a vegetated, open watercourse. After the culverts are removed, the ditch geometry will be restored

covering areas of 30 m<sup>2</sup> and 24 m<sup>2</sup>. The watercourse will be hydroseeded to promote ground cover within the watercourse.

#### Mitigation Measures

Prior to any works being taken in this area, a site-specific Erosion and Sediment Control Plan must be submitted to the City and approved by the Environmental Manager. City of Richmond Environment Department staff will conduct a site visit to inspect the installed mitigation measures, prior to giving leave to commence with construction.

Works are to be completed in accordance with the City of Richmond's Riparian Management Areas Bulletin INFO-23, the approved Construction Environmental Management Plan, and the site-specific Erosion and Sediment Control Plan. Culvert removal will proceed in accordance with requirements under the Water Sustainability Act and Standards and Best Practices for Instream Works. Disturbed areas will be re-vegetated with a native riparian seed mix in accordance with the Riparian Area Regulation Re-vegetation Guidelines.

The mitigation measures have been added to the Servicing Agreement requirements attached to the Rezoning Considerations (Attachment 8- "Sustainability").

#### *15 m RMA*

The 15 m (49.2 ft.) RMA is associated with an off-site watercourse that drains south through a pump station to the Fraser River. No impacts are anticipated to the 15 m RMA as a result of the proposed BC Ferries development.

#### Flood Construction Elevation

Under the City's Flood Plain Designation and Protection Bylaw No. 8204 the required flood construction elevation for developments outside the City's dikes is 4.35 m GSC. Due to the operational necessity of needing to keep their infrastructure closer to the average water level, BC Ferries propose to build the two phases of development associated with this application so that their building slab elevations are at 3.85 m GSC. Land grades associated with each phase will be raised from the current elevations of approximately 3.2 m GSC to support these slab heights. BC Ferries long term flood strategy is to raise the site grades as necessary to correspond to sea level rise and as future buildings are replaced.

The City's Engineering Department has indicated that the City will permit the minimum Flood Construction Level for the site to be 3.85 m with the understanding that the owner and applicant accept all risks associated with flooding due to construction outside of the City's dike. The owner will be solely responsible for flood protection on their site. The owner/applicant will also be responsible for confirming that the proposed strategy addresses any provincial flood protection requirements with the provincial Inspector of Dikes, prior to rezoning adoption.

The Rezoning Considerations (Attachment 8) include a requirement for registration of a legal agreement establishing a minimum Flood Construction Elevation of 3.85 m GSC for all new buildings constructed after May 1, 2019. The Considerations also include a requirement for the owner/applicant to submit written confirmation from the provincial Inspector of Dikes, acceptable to the City's Director of Engineering, that the proposed strategy to incrementally raise

the subject site and structures in the future, as needed for flood protection, is acceptable to the Provincial Dike Authority. The confirmation from the Provincial Inspector of Dikes is required prior to Rezoning adoption.

#### Built Form and Architectural Character

BC Ferries new facilities will be constructed in two phases with the first phase including a machine shop, weld shop, life safety appliance shop, covered storage, a tower crane and supporting access pier. The second phase will include an outfitting trades building with two covered storage areas.

The industrial buildings will be one, two or three storey structures varying in height with the machine shop being the tallest at approximately 22.2 m (73 ft. measured from top of slab) and the outfitting trades building being approximately 13.7 m (45 ft. measured from top of slab).

The building exteriors are anticipated to consist of prefinished insulated metal panels painted "regal white" with curtain wall glazing and spandrel glass panels. Panelized translucent skylights will be incorporated into the machine shop building. Each building will include identification signage.

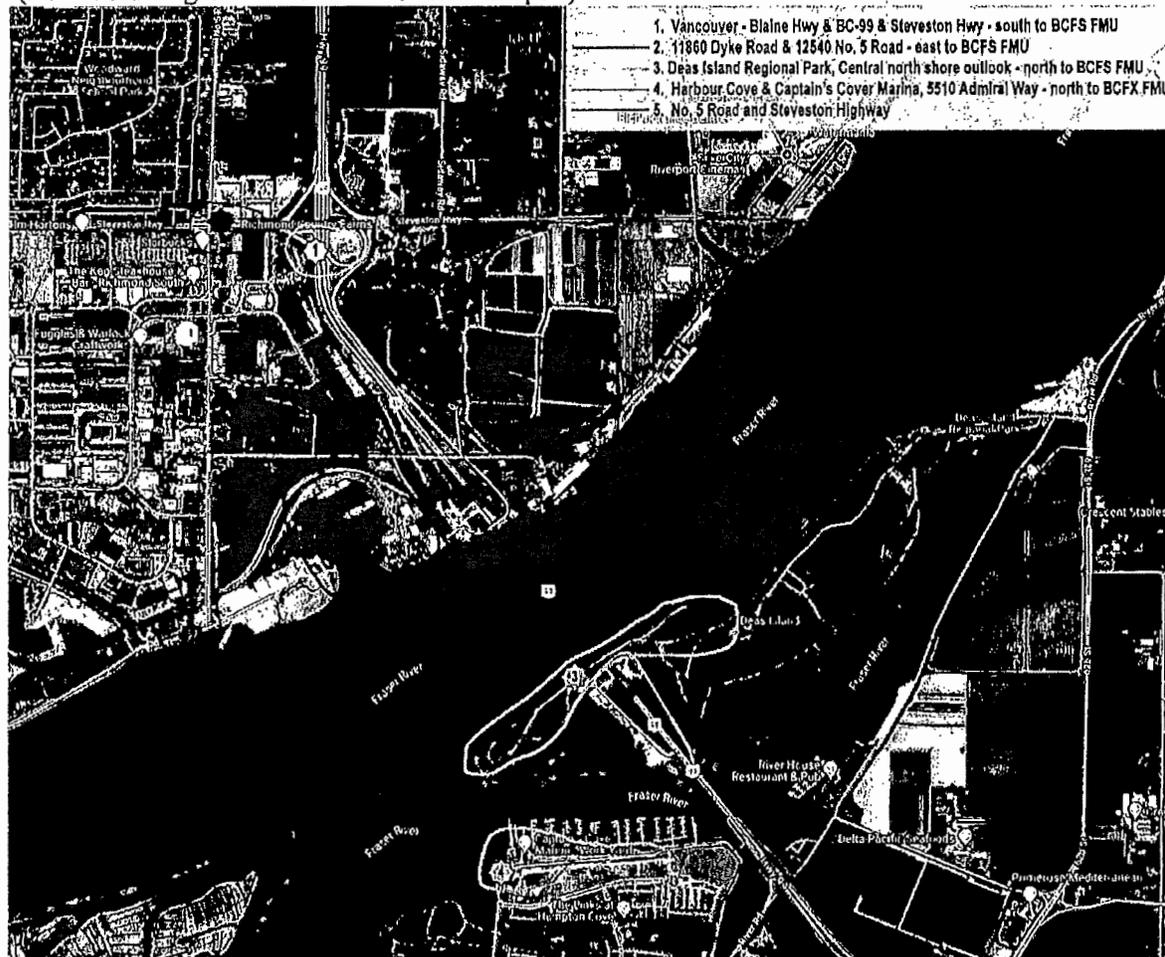
An 11.5m (38 ft.) wide steel and concrete pier with supporting pile structures will extend more than 70 m (230 ft.) into the Deas basin. A new sheet pile wall will be installed where the pier meets the land. The tower crane will be located at the end of the pier within the Deas Basin. The preliminary design accommodates a maximum crane height of 84 m (276 ft.) with a reach of approximately 96 m (315 ft.). The actual crane design which will be refined as the project moves forward. The crane will be of steel construction.

#### Visual Impact Assessment

A visual impact assessment report prepared by Goldwing Continuum Architects Inc (dated August 9, 2018) was reviewed and supported by Environment Sustainability staff. The purpose of the assessment was to determine the overall visual impact of the development, specifically the proposed tower crane, from nearby viewpoints. The impacts were assessed from five strategic visual sensitivity areas (circled areas on the diagram) and five viewpoint areas as listed below and numbered on the diagram.

1. BC Highway 99 and Transit Stop west side of Highway 99 south of Steveston Highway
2. Intersection of No 5 Road at 11860 Dyke Road, Richmond
3. Deas Island Regional Park - Pedestrian Pathway along south bank of the Fraser River
4. Harbour Cove & Captain's Cove Marina – 5510 Admiral Way, Delta
5. No. 5 Road and Steveston Highway, Richmond

Visual Impact Assessment Sensitivity and Viewpoint Locations  
(from Goldwing Continuum Architects Inc. report)



The assessment concludes that the visual impact is considered low to medium for the Deas Island Regional Park (location 3) and the No. 5 Road and Steveston Highway (location 5) locations with the upper portion of the tower crane expected to be visible. The visual impact for all three remaining locations (locations 1, 2 and 4) is considered low with existing landscape vegetation and the new facilities helping to mitigate the overall visual impact.

The assessment notes that the visual impact of the proposed tower crane will vary depending upon factors such as the viewing distance, number and type of viewers and duration and angle of view of the crane. But notes that existing communication and hydro transmission towers in the area will have a greater impact than the crane.

#### Existing Legal Encumbrances

Several legal encumbrances exist on Title that will need to be addressed as part of the proposed development. The encumbrances are as follows:

- An earlier dike right-of-way was established over portions of the BC Ferries site in 1981 (RD144951 with reference to plan NWD 59814). The right-of-way does not entirely align with the dike alignment proposed for the current development and will need to be discharged after the new right-of-way has been registered on title. The Rezoning Considerations (Attachment 8) include a requirement for the discharge of RD144951 after the replacement dike right-of-way has been registered on title.
- A statutory right-of-way in favour of BC Hydro runs across portions of the BC Ferries site to accommodate an array of high voltage power lines. The location of the right-of-way carries restrictions over the type and height of vegetation that can be planted within the area controlled by the agreement. Compensation areas have been located to avoid conflicts with BC Hydro's right-of-way.
- A statutory right-of-way in favour of the Greater Vancouver Water District (GVWD -- aka Metro Vancouver) crosses through BC Ferries' site protecting a main water line leading to Delta. The applicant has been working in coordination with the GVWD and the City regarding the proposed dike alignment and intersections with the GVWD's water main. The Servicing Agreement requirements in the Rezoning Considerations (Attachment 8) include a requirement for BC Ferries to submit to the City confirmation of the GVWD's acceptance of the encroachment of the proposed dike and associated improvements into the GVWD water line right-of-way. The confirmation will be required as part of the Servicing Agreement.

#### Fire Prevention

Preliminary reviews of fire hydrant locations, access route widths, capacity of internal roadways to support fire vehicles and truck turning radii were undertaken by the Fire Department. A Construction Fire Safety plan submitted by the proponent has been reviewed and accepted by the Fire Department. BC Ferries have indicated that they do not plan to store fuel for the ferries at the Terminal.

#### Garbage and Recycling

A preliminary Waste Management Overlay Plan (WMOP) has been prepared and submitted by the applicant (plan dated December 12, 2018) indicating that sufficient waste collection and sorting facilities can be accommodated at the site. The plan provides for sorting of 11 different types of waste materials including compost, paper, glass, plastics, wood, metals, hazardous waste and asbestos. Sorting stations are located in several areas of the site associated with work areas where the different waste materials would be generated. Each location provides appropriate loading space for garbage/recycling collection. City Garbage and Recycling staff have reviewed and signed off on the proposed WMOP plan.

### Public Art

Based on buildable floor area for the new construction of approximately 15,502 m<sup>2</sup> (166,862 ft<sup>2</sup>) industrial floor area, the recommended public art contribution based on Administrative Guidelines of \$0.24/SF (2018 rate) is approximately \$40,047.00. BC Ferries has agreed to make the contribution all at once. The Rezoning Considerations (Attachment 8) includes the requirement for the contribution the Richmond's Public Art Reserve prior to Bylaw adoption.

### Site Specific Zoning

Because of the nature of the uses on the site and the foreshore topography considerations, a new site specific zone, "BC Ferries Fleet Maintenance and Moorage (ZI14)", was prepared for this development application.

The proposed site specific zone includes a range of permitted uses tailored to the site's ongoing operations as well as some broad industrial uses. The uses have been reviewed by BC Ferries. The zone also accommodates the calculation of building heights measured from top of slab rather than average finished grade as is typical within Zoning Bylaw No. 8500 and it provides for building heights in excess of the Zoning Bylaw's current 12 m (39.37 ft.) height standard in the industrial zoning schedules (see discussion under "Building Height Measurement" for more details). Finally it accommodates the installation of a single tower crane of up to 84 m GSC in height which is essential to BC Ferries future operations.

#### *Building Height Measurement:*

Under the City's Zoning Bylaw No. 8500, building height is typically measured from the average grade of the site not from the building slab elevations. BC Ferries site, however, includes the Deas basin, an area of submerged fee simple lands which would skew the calculation of the average site grade creating a flood construction elevation (FCL) that would be below the site's existing grade level.

The second building height consideration is that BC Ferries is proposing to place their building slabs at 3.85 GSC and raise grades over time as buildings are replaced.

Given these considerations, the site-specific zoning for the subject site accommodates the measurement of building heights from the slab elevation rather than the average grade of the site. The site specific zoning also restricts the maximum building height to the lesser of 22.2 m as measured from top of slab or a maximum building height of 26.6 GSC (approximately 4.35 GSC + 22.2 m). This allows BC Ferries to raise to the grades for future buildings up to City's current FCL of 4.35 m GSC (the City's current minimum FCL for sites outside the dike system) while at the same time restricting the maximum building height to 22.2 m.

### Sustainability Features

Both design and operational measures are being incorporated into the development to address efficiency and sustainability. A list of the proposed sustainability features proposed for the site is provided in Attachment 5.

### Development Permit Review

The proposed development will undergo a separate design review via Development Permit application (DP 18-824566). Specific issues to be addressed through the review will include:

- Assessing compliance with the Official Community Plan Development Permit Guidelines.
- Verify setbacks, building heights and overall compliance with the Site Specific zoning;
- A review of the proposed exterior materials and colours;
- A review of vehicle parking spaces to ensure compliance with the parking requirements in the Zoning bylaw No. 8500;
- Review detailed landscaping species selections, sizes and quantities;
- Confirm habitat compensation requirements for ESA/RMA are addressed;
- Establish legal agreements to ensure appropriate monitoring and survival;
- Confirm plans reflect minimum flood construction elevations; and
- Confirm building setbacks from the dike right-of-ways.

### **Financial Impact or Economic Impact**

As a result of the proposed development, the City will take ownership of developer contributed assets such as roadworks, waterworks, storm sewers, sanitary sewers, and dikes. The anticipated operating budget impact for the ongoing maintenance of these assets is estimated to be \$254,000; this will be considered as part of the 2020 Operating budget.

### **Conclusion**

SNC Lavalin's application on behalf of BC Ferries for permission to rezone a portion of 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road from Light Industrial (IL) and Agricultural (AG1) to a new site specific zone "BC Ferries Fleet Maintenance and Moorage (ZI14)" in order to allow for the phased upgrading of BC Ferries Fleet Maintenance Unit (FMU) has undergone an extensive technical review addressing issues such as new dike alignment and construction, environmental impact mitigation and compensation, utility servicing, visual impact assessment and archaeological reviews. A custom site specific zoning schedule has been prepared to address the particulars of the site and the proposed uses anticipated.

On the basis of its technical review, staff recommend that Richmond Zoning Bylaw 8500, Amendment Bylaw 9940 to create the “BC Ferries Fleet Maintenance and Moorage (ZI14)” zone, and to:

- 1) Rezone 12300 No. 5 Road and 12800 Rice Mill Road from “Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)” and;
- 2) Rezone a portion of 12280 No. 5 Road and 12700 Rice Mill Road from “Agricultural (AG1) and Light Industrial (IL)” to “BC Ferries Fleet Maintenance and Moorage (ZI14)”;

be introduced and given first reading.



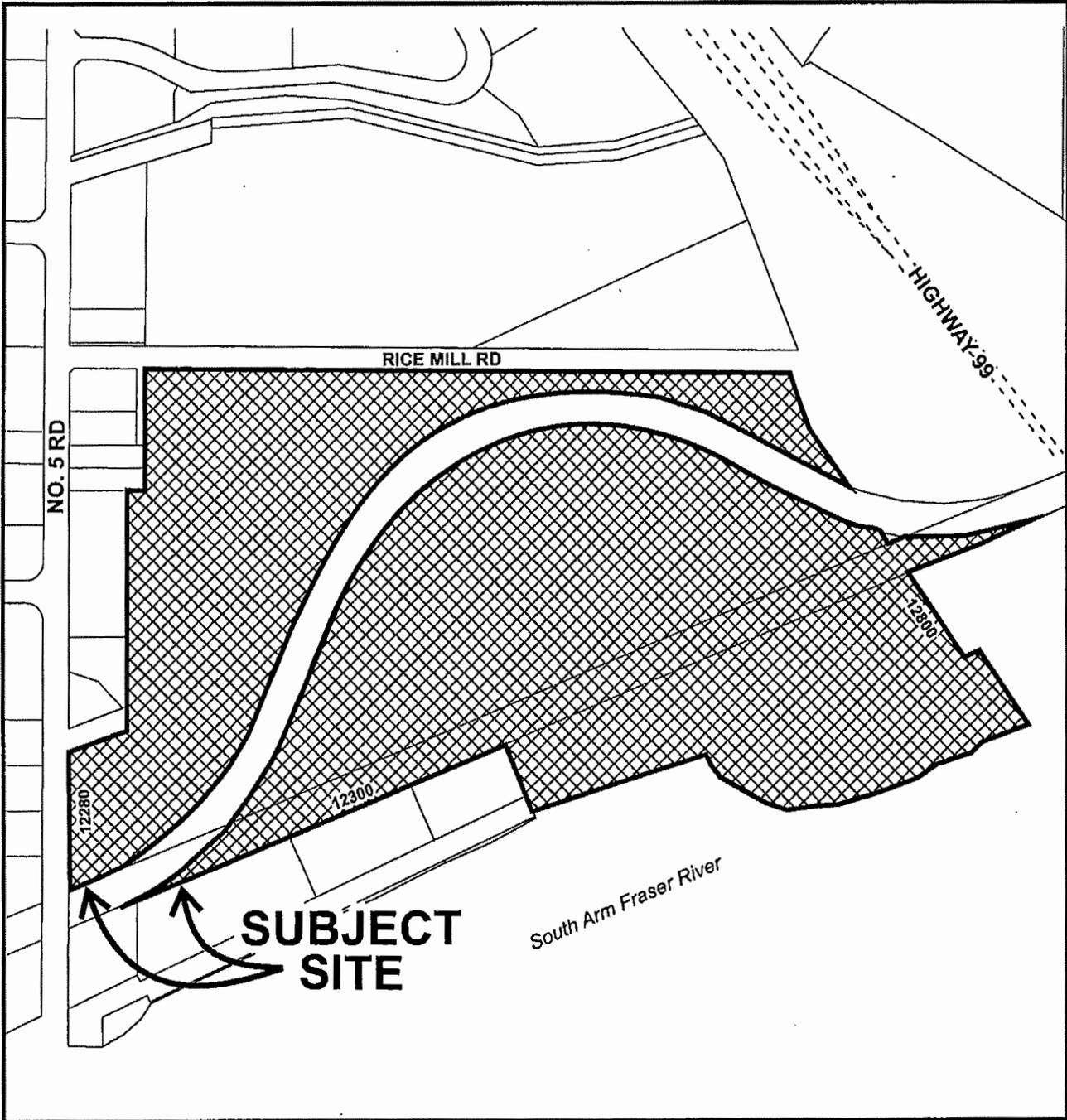
David Brownlee  
Planner 2

DCB:rg

- Attachment 1: Location Map and Area to be Rezoned
- Attachment 2: Conceptual Development Plans
- Attachment 3: Tree Management Plan
- Attachment 4: Development Application Data Sheet
- Attachment 5: Proposed Sustainability Features
- Attachment 6: Technical Studies Submitted
- Attachment 7: DFO Letter of Advice
- Attachment 8: Rezoning Considerations



City of  
Richmond



RZ 18-824565

Original Date: 04/23/19

Revision Date:

Note: Dimensions are in METRES

PLN - 171  
PLN - 144



City of  
Richmond



RZ 18-824565

Original Date: 08/17/18

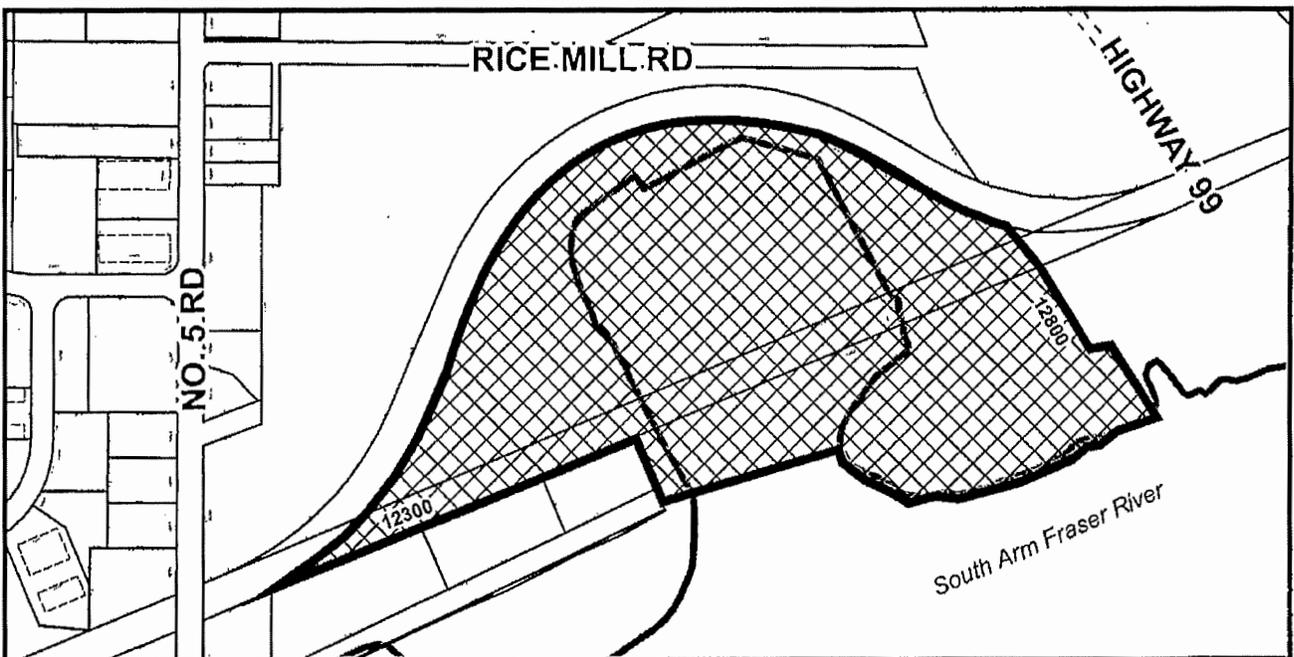
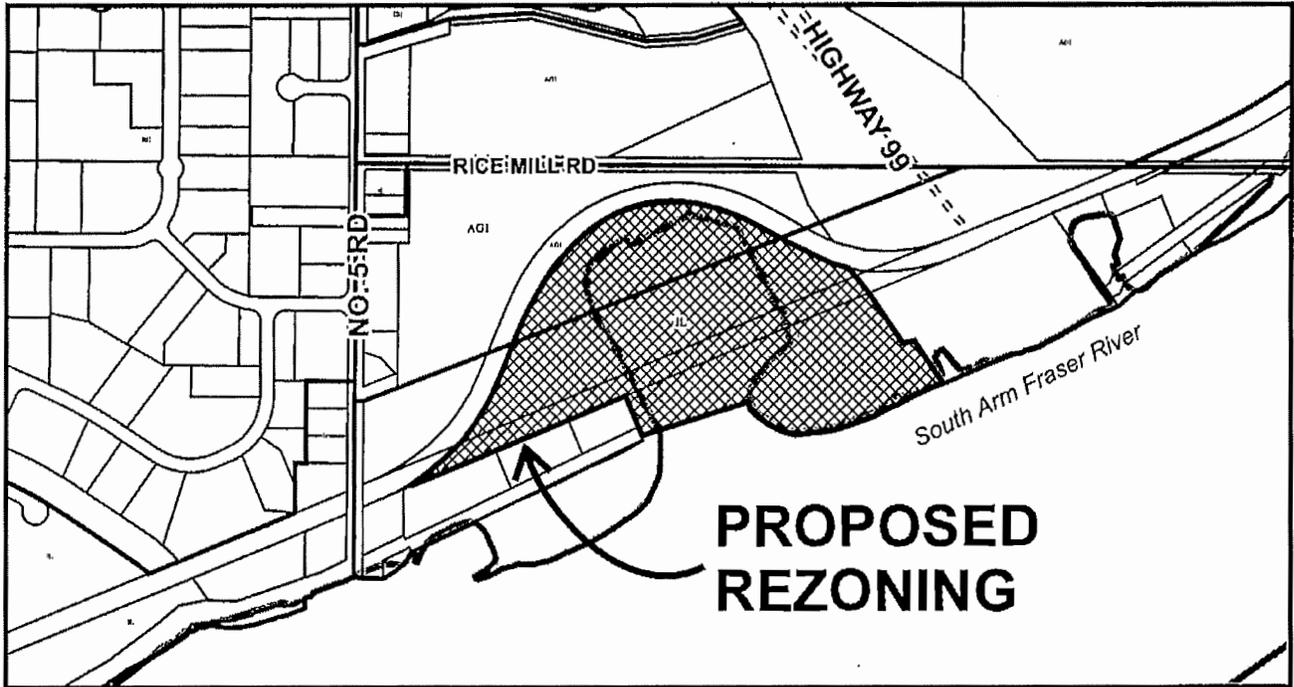
Revision Date:

Note: Dimensions are in METRES

PLN - 172  
PLN - 145



# City of Richmond



## RZ 18-824565

Original Date: 06/20/18

Revision Date: 09/28/18

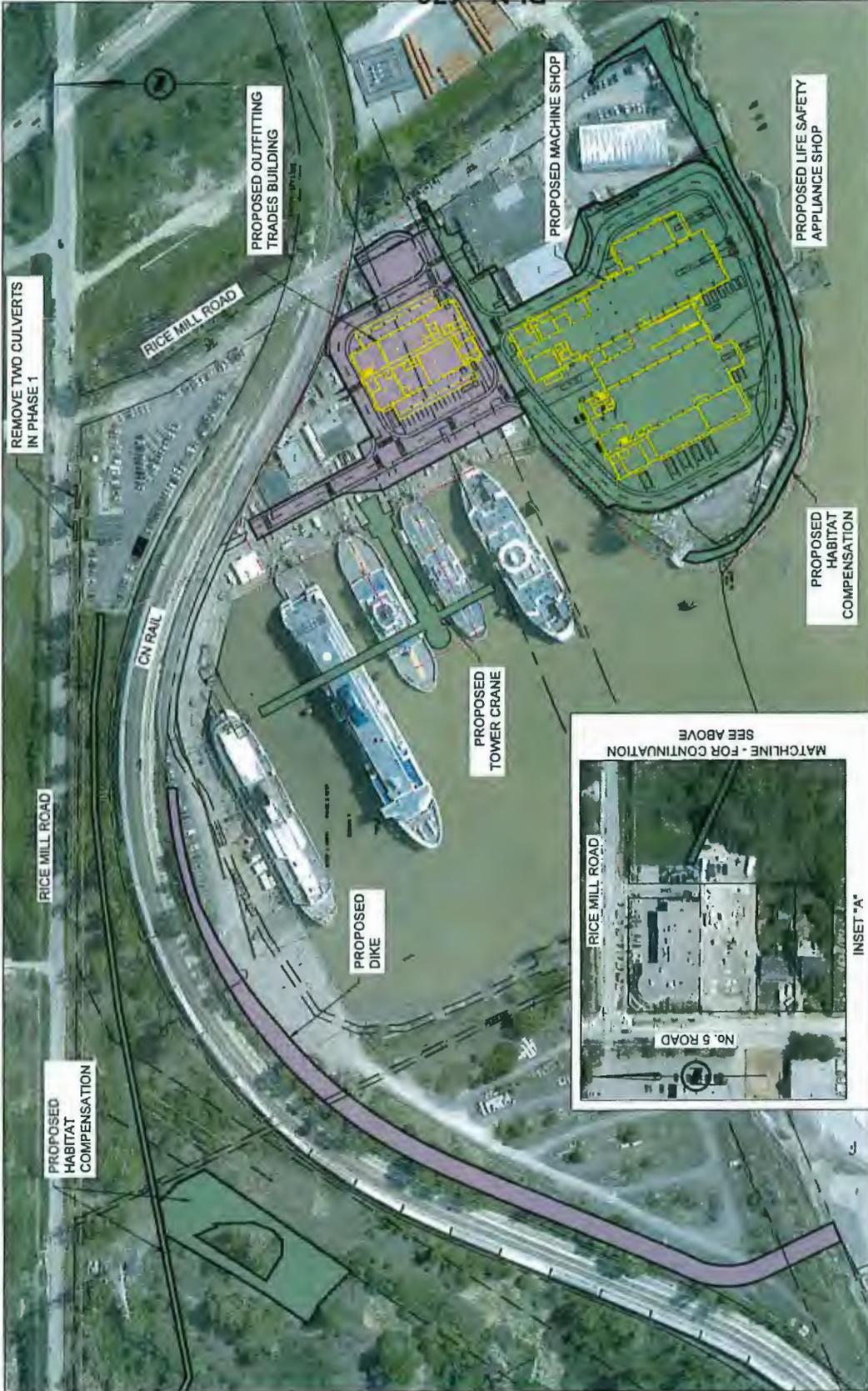
Note: Dimensions are in METRES

PLN - 173  
PLN - 146

### Conceptual Development Plans - Index

	Document:	Plan No.
1	Site Plan	a
2	Construction Phasing Plan	b
3	Building Elevation drawings	c-f
4	Basin Crane drawings	g-i
5	Grading Plan	j
6	Parking Plan	k-o
7	Waste Management Overlay Drawing	p
8	Environmentally Sensitive Areas and Riparian Management Areas	q
9	AREA in ESA SH-5 and IT-5 Impacted by the Proposed Development	r
10	Landscape Plan drawings	s-u
11	Habitat Balance Sheet	v





PHASE 1: Nov 2019 to Aug 2021  
 PHASE 2: Sep 2021 to Aug 2023

MATCHLINE - FOR CONTINUATION  
 SEE INSET \*A\*

MATCHLINE - FOR CONTINUATION  
 SEE ABOVE

FLEET MAINTENANCE UNIT (FMU) FMU DEVELOPMENT PROJECT OVERALL SITE CONSTRUCTION PHASE PLAN		BC Ferries British Columbia Ferry Services Inc.	PROJECT NO. 14-350-DK-C9001 SHEET NO. A
PREPARED BY: J. L. J. CHECKED BY: J. K. K. DATE: 14.03.2021	DESIGN NO. 14-350-DK-C9001 SHEET NO. A	SNC-LAVALIN INC.	PROJECT NO. 14-350-DK-C9001 SHEET NO. A
DATE: 14.03.2021 SCALE: 1:5000 FULL SIZE	PROJECT NO. 14-350-DK-C9001 SHEET NO. A	PROJECT NO. 14-350-DK-C9001 SHEET NO. A	PROJECT NO. 14-350-DK-C9001 SHEET NO. A

Plan #6

Plan # C

No.	DESCRIPTION
02-1	213mm DIAMETER X 6mm THICK WALL CONCRETE FILLED STEEL BOLLARD. COMPLETE WITH HELIX DESIGN WITH HELIXE PLASTIC POST GUARD (SAFETY YELLOW WITH RED REFLECTIVE STRIPES. MANUFACTURER SUPREMGUARD OR APPROVED ALTERNATE). CAST BOLLARD TO STRUCTURAL EXPOSE 1220mm OF BOLLARD ABOVE FINISH-RED GRADE
07-4	REFINISHED INSULATED METAL PANEL (22 GAUGE BOTH SURFACES). WALLS. KINGSPAN KS MICRO-RIB OR MF FIRE RATED HF MICRO-RIB WHERE REQUIRED TO BE FIRE RATED AS PER RATED MANUFACTURER'S RATING. COMPLETE WITH KINGSPAN EXTRUSIONS, ROOFS: KINGSPAN KINGZIP PANELS. METAL FINISH COLOR: REGAL WHITE - REFER TO FINISH SCHEDULE TABLES AND SPECIFICATIONS
08-4	CURTAIN WALL GLAZING WITH ALUMINUM FRAMES WITH FINISHES - REFER TO WINDOW AND DOOR ELEVATIONS AND SPECIFICATIONS
08-5	CURTAIN WALL FRAME FINISH TO MATCH BUILDING METAL PANEL - REFER TO WINDOW AND DOOR ELEVATIONS AND SPECIFICATIONS
08-9	WELDED PRESSED STEEL DOOR FRAME COMPLETE WITH TEMPERED GLAZED PANELS - REFER TO WINDOW AND DOOR SCHEDULE & SPECIFICATIONS
08-11	PAINTED INSULATED STEEL OVERHEAD ROLLUP DOOR - REFER TO DOOR SCHEDULE. PROVIDE STEEL MEMBER BACKING FOR SUPPORT AS REQUIRED BY DOOR MANUFACTURER
10-15	WAY-FINDING PANEL SET TO WINDOW AND DOOR ELEVATIONS AND DOOR SPECIFICATIONS
10-17	SIGNAGE CABINET / SPANDREL PANEL WITH INSULATED BACK PANEL BEHIND (REFER TO ELEVATIONS FOR OVERALL DIMENSIONS). LETTERS CUT AND PUSH THRU ACRYLIC AND PUSH THRU ACRYLIC LETTERS CUT TRANSLUCENT BLUE VINYL ON THE FACE. CABINET COLOR TO MATCH BUILDING METAL PANEL COLOR

**ELEVATION - EXTERIOR (WEST)**

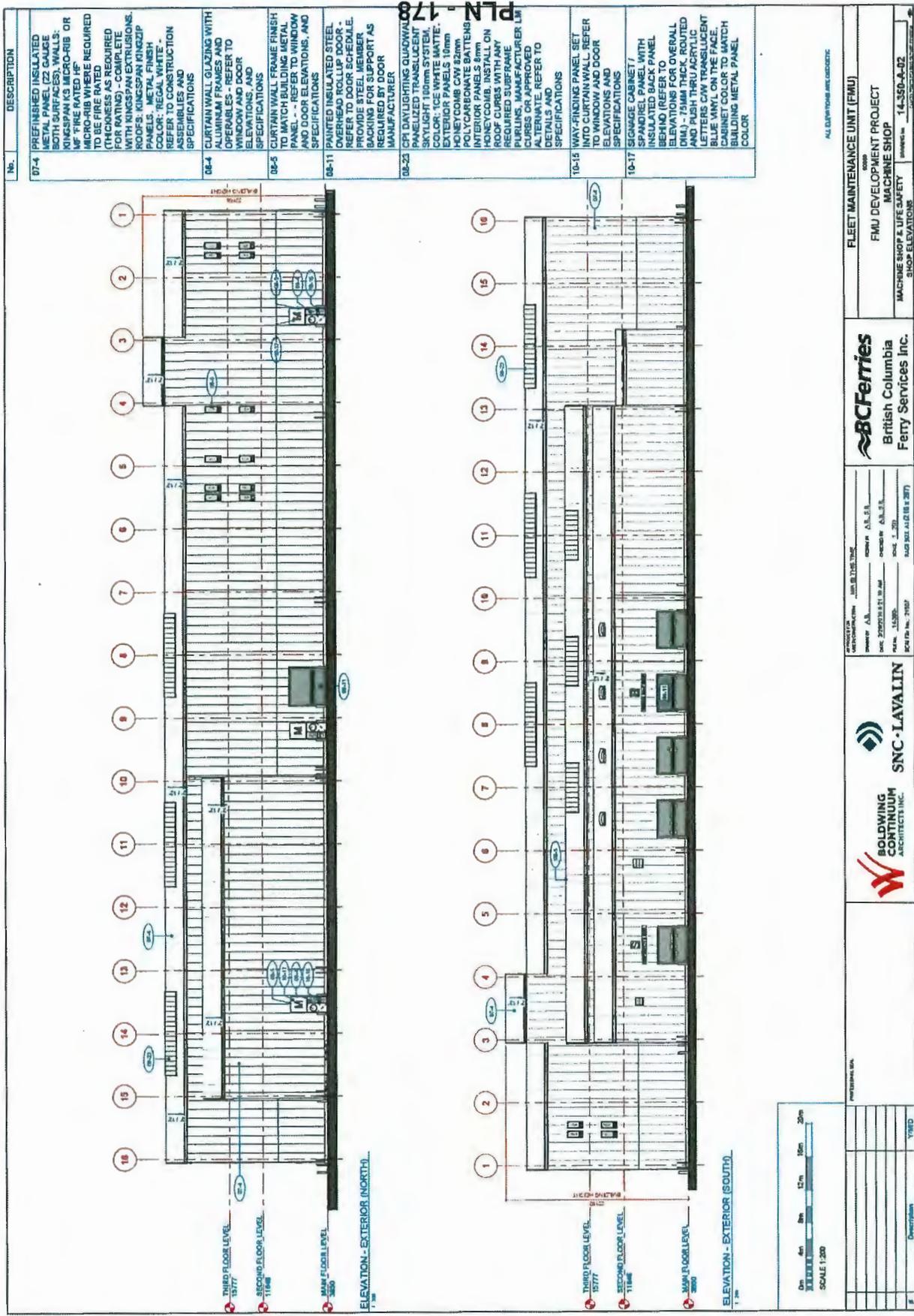
**ELEVATION - EXTERIOR (EAST)**

THIRD FLOOR LEVEL 10777  
 SECOND FLOOR LEVEL 11648  
 MAIN FLOOR LEVEL 2000

SCALE 1:200

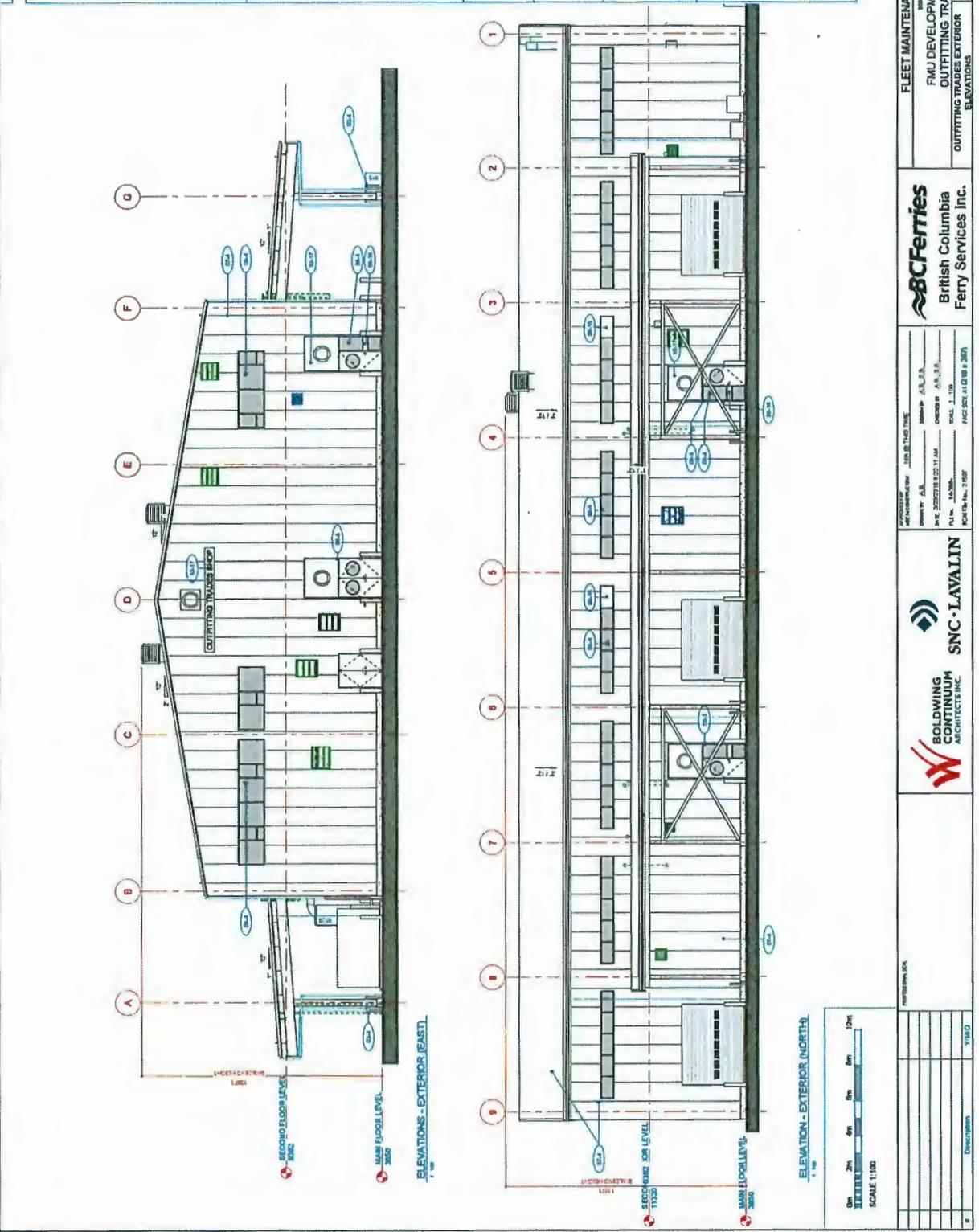
<b>FLEET MAINTENANCE UNIT (FMU)</b> FMU DEVELOPMENT PROJECT MACHINE SHOP	
<b>BC Ferries</b> British Columbia Ferry Services Inc.	PROJECT NO. 14-350-A-01 DATE: 14-SEP-2014
<b>BOLDWING ARCHITECTS INC.</b>	DRAWING NO. 14-350-A-01 DATE: 14-SEP-2014
<b>SNC-LAVALIN</b>	PROJECT NO. 14-350-A-01 DATE: 14-SEP-2014
PROJECT NO. 14-350-A-01 DATE: 14-SEP-2014	PROJECT NO. 14-350-A-01 DATE: 14-SEP-2014

Plan # d



Plan B2

No.	DESCRIPTION
02-4	2135mm LONG, 100mm HEIGHT X 6mm THICK WALL, COARSE FILLED COMPLETE WITH HIGH DENSITY POLYETHYLENE PLASTIC POST GUARD (SAFETY YELLOW WITH RED REFLECTIVE STRIPES). MANUFACTURER SURGUARD OR APPROVED ALTERNATE. CAST BOLLARD IN CONCRETE BASE (MINIMUM OF 450mm DIAMETER). EXPOSED FINISH TO MATCH ABOVE FINISHED GRADE
07-4	PREFINISHED INSULATED METAL PANEL (22 GAUGE WITH SURFACES). MICRO-RIB OR MF FIRE RATED MF MICRO-RIB WHERE REQUIRED TO BE FIRE RATED (THICKNESS AS REQUIRED FOR RATING). COMPLETE EXTRUSIONS, ROOFS; KINGSPAN KINGZIP PANELS. METAL FINISH COLOR: REGAL WHITE. REFER TO CONSTRUCTION SPECIFICATIONS AND SPECIFICATIONS
08-4	CURTAIN WALL GLAZING WITH ALUMINUM FRAMES AND OPERABLES - REFER TO CONSTRUCTION SPECIFICATIONS AND ELEVATIONS AND ELEVATIONS AND SPECIFICATIONS
08-5	CURTAIN WALL FRAME FINISH TO MATCH BUILDING METAL PANEL. - REFER TO WINDOW AND DOOR ELEVATIONS, AND SPECIFICATIONS
08-16	ALUMINUM CURTAIN WALL WINDOWS WITH SPANREL GLASS PANEL. MATCH OPAC/DAL-300. COLOR: LIGHT WHITE #0-9186 WITH INGLATED BACK PAAL MINIMUM R12
10-17	SIGNAGE CABINET / SPANREL PANEL WITH INSULATED BACK PANEL BEHIND (REFER TO ELEVATIONS FOR TEAM THICK, ROUTED AND PUSH THRU ACRYLIC LETTERS C/W TRANSLUCENT BLUE VINYL ON THE FACE. COLOR TO MATCH BUILDING METAL PANEL COLOR



No.	Description	YIELD

ALL ELEVATIONS ARE GEOMETRIC

FLEET MAINTENANCE UNIT (FMU)

FMU DEVELOPMENT PROJECT  
OUTFITTING TRADES BUILDING  
OUTFITTING TRADES EXTERIOR ELEVATIONS  
PROJECT No. 14-350-A-01

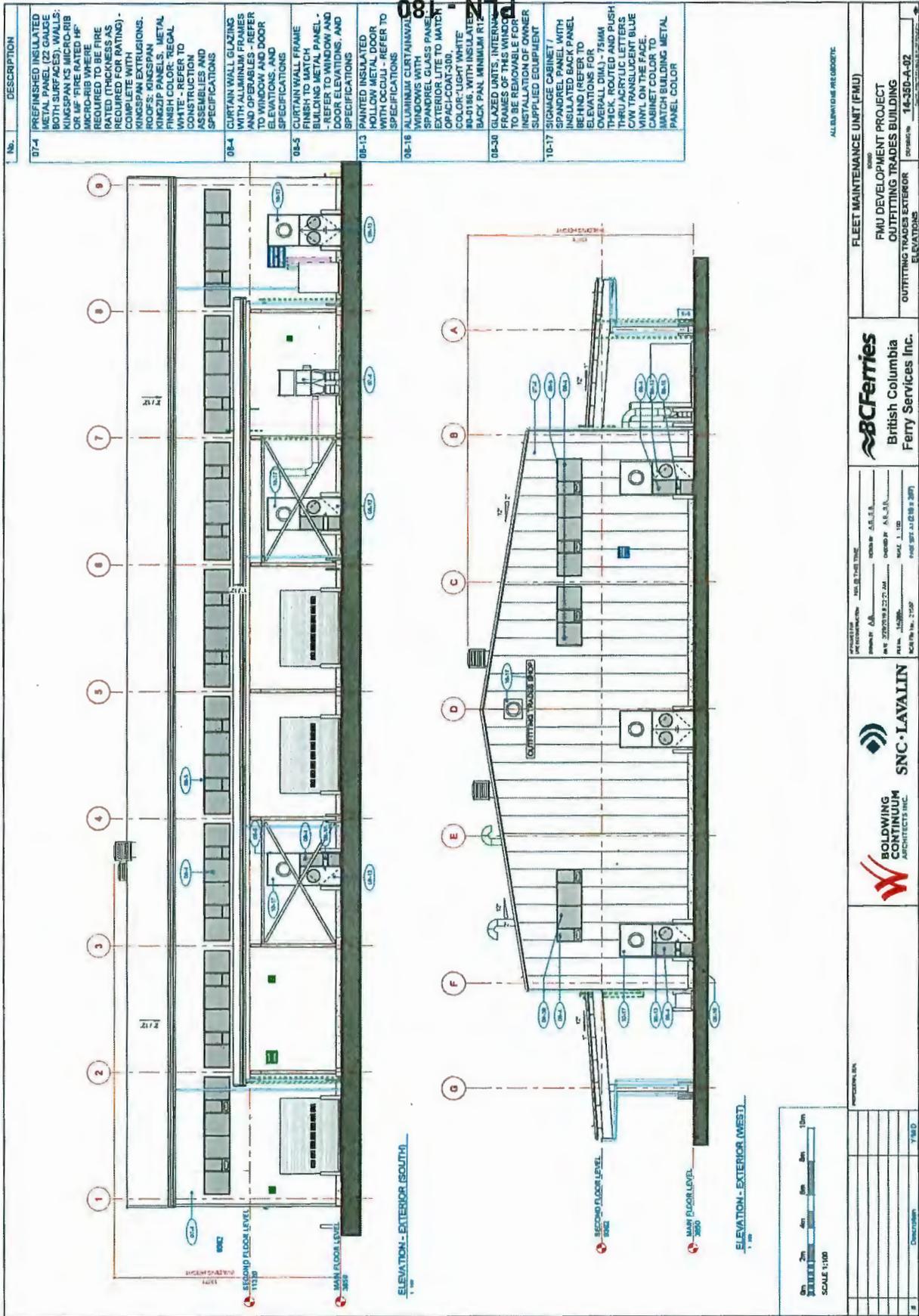
**BC Ferries**  
British Columbia  
Ferry Services Inc.

PROJECT NO. 14-350-A-01  
DATE: 2023/12/11  
SCALE: 1:100  
PROJECT NO. 14-350-A-01

**SNC-LAVALIN**

**BOLDWING  
CONTINUUM  
ARCHITECTS INC.**

DATE: 2023/12/11  
SCALE: 1:100  
PROJECT NO. 14-350-A-01



No.	DESCRIPTION
07-4	PREFINISHED INSULATED METAL PANELS - 22 GAUGE, BOTH SIDES, WITH KINGSPAN KS MICRO-RIB OR KF FIRE RATED HF MICRO-RIB WHERE REQUIRED TO BE FIRE RATED (THICKNESS AS REQUIRED FOR RATINGS) - KINGSPAN EXTENSIONS. ROOFS: KINGSPAN KINGZIP PANELS, METAL FINISH COLOR: REGAL WHITE - REFER TO CONSTRUCTION SPECIFICATIONS AND SPECIFICATIONS
08-4	CURTAIN WALL GLAZING WITH ALUMINUM FRAMES AND OPERABLES - REFER TO ELEVATIONS AND SPECIFICATIONS
08-5	CURTAIN WALL FRAME FINISH TO MATCH BUILDING METAL PANEL - REFER TO WINDOW AND DOOR ELEVATIONS, AND SPECIFICATIONS
08-13	PAINTED INSULATED HOLLOW METAL DOOR WITH OCCUR - REFER TO SPECIFICATIONS
08-18	ALUMINUM CURTAIN WALL SYSTEM WITH SPANDREL GLASS PANELS EXTERIOR LITE TO MATCH OPACI-COAT-300, COLOR: LIGHT WHITE 90-0196, WITH INSULATED BACK PAN. MINIMUM RTI
08-30	GLAZED UNITS, INTERIOR FRAMES OF THIS WINDOW TO BE REGIONAL FIBER SUPPLIED EQUIPMENT
10-17	SIGNAGE CABINET / SPANDREL PANEL WITH INSULATED BACK PANEL BEHIND (REFER TO ELEVATIONS FOR OVERALL DIM.) - 75MM THICK, ROUTED AND PUSH DOWN TO REVEAL SIGNAGE VINYL ON THE FACE. CABINET COLOR TO MATCH BUILDING METAL PANEL COLOR

PLN - 153

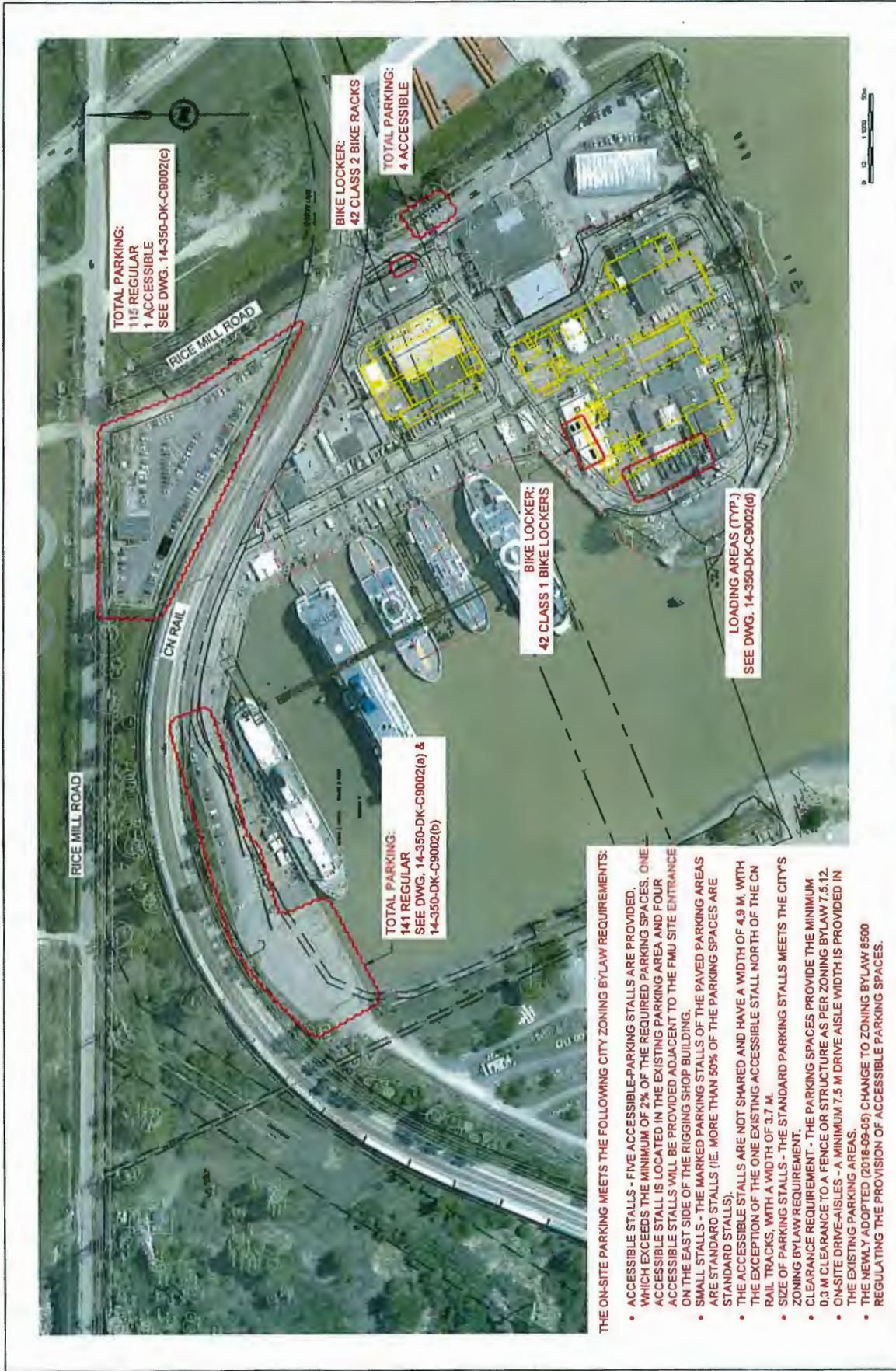
Plan # f



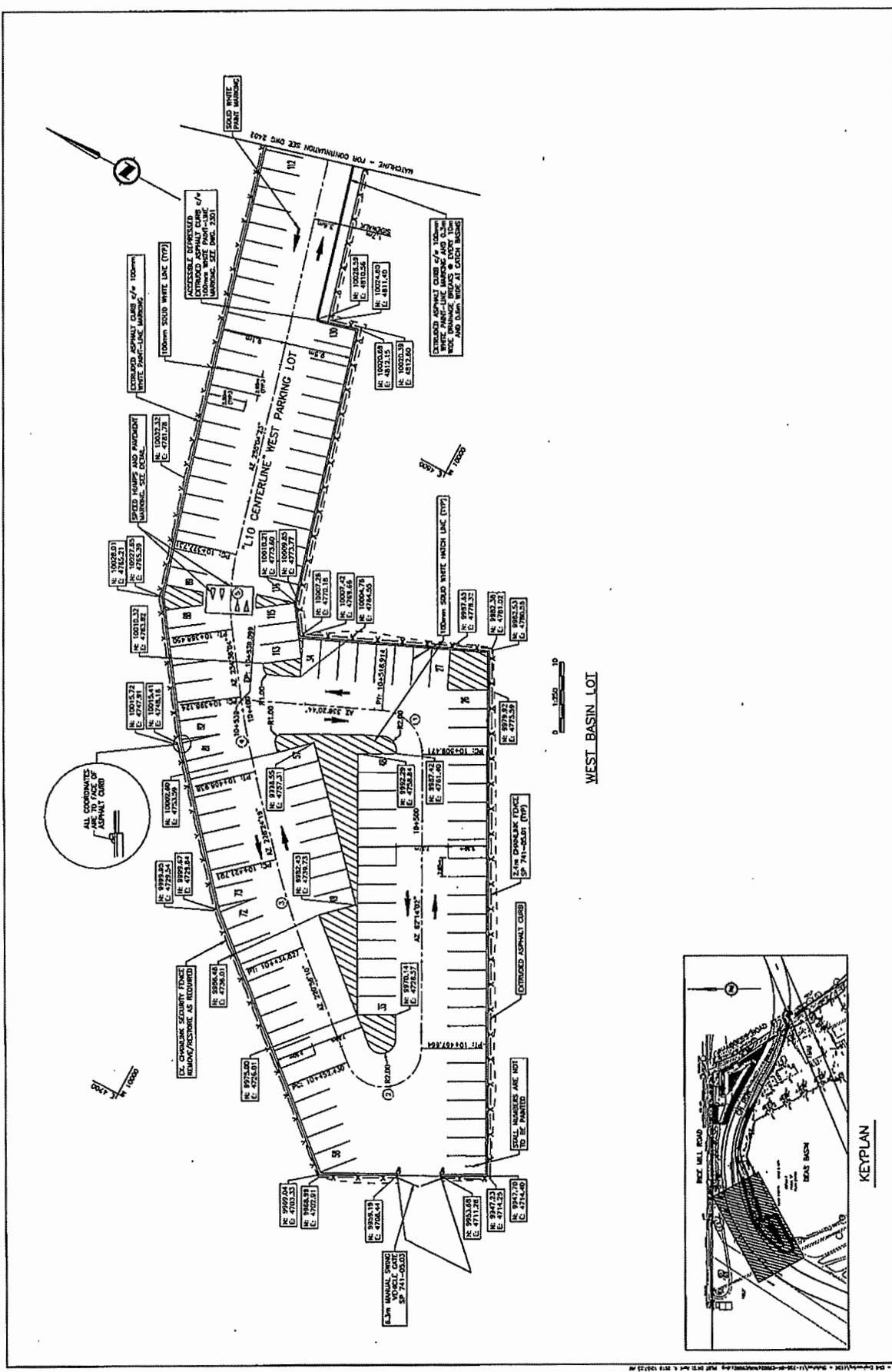








Plan # 1

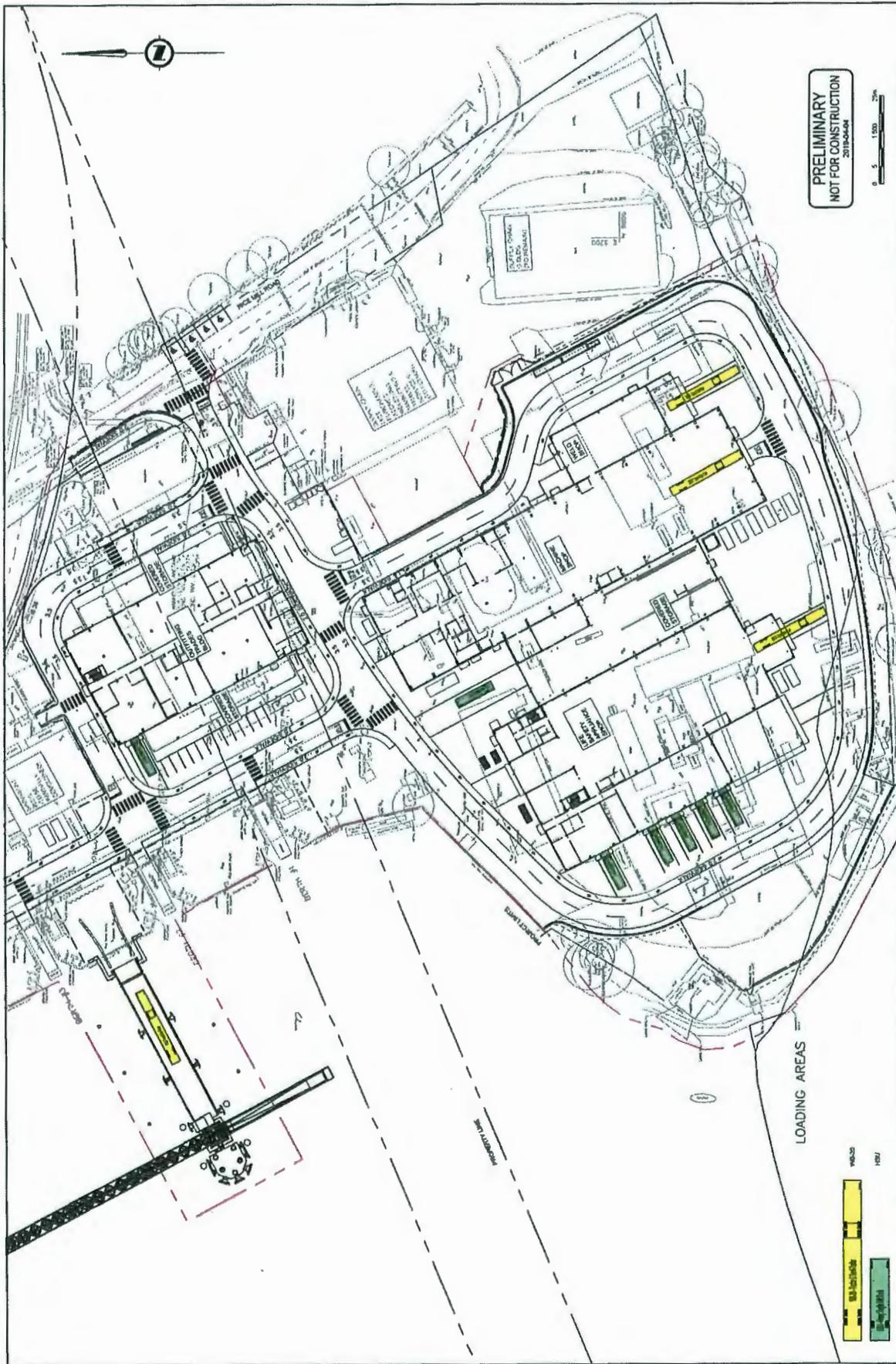


FLEET MAINTENANCE UNIT (FMU) FMU DEVELOPMENT PROJECT OVERALL SITE PARKING PLAN		Drawing No. 14-360.DK-C9002(0)	
<b>BC Ferries</b> British Columbia Ferry Services Inc.		SHEET NO. 1229 SCALE: 1:2500 DATE: 12/20/14 PROJECT: FLEET MAINTENANCE UNIT (FMU)	
REVISIONS V1/P1 V1/P2 V1/P3 V1/P4 V1/P5 V1/P6 V1/P7 V1/P8 V1/P9 V1/P10	REVISIONS F G H J K	DATE OF SUBMISSION: _____ DRAWN BY: _____ CHECKED BY: _____ FILE NO.: _____ PROJECT NO.: _____ SHEET NO. OF (TOTAL SHEETS): _____	

PLN - 186  
 PLN - 159







PRELIMINARY  
NOT FOR CONSTRUCTION  
2018-04-04

0 5 10 20m

FLEET MAINTENANCE UNIT (FMU)  
FMU DEVELOPMENT PROJECT  
OVERALL SITE  
PARKING PLAN

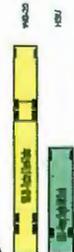
**BC Ferries**  
British Columbia  
Ferry Services Inc.

APPROVED FOR CONSTRUCTION  
DATE: 14-03-2018  
SCALE: 1:250

**SNC-LAVALIN**  
SNC-Parsons Energy & Infrastructure

NO.	REVISIONS	DATE	BY	APP.
E				
D				
C				
B				
A				

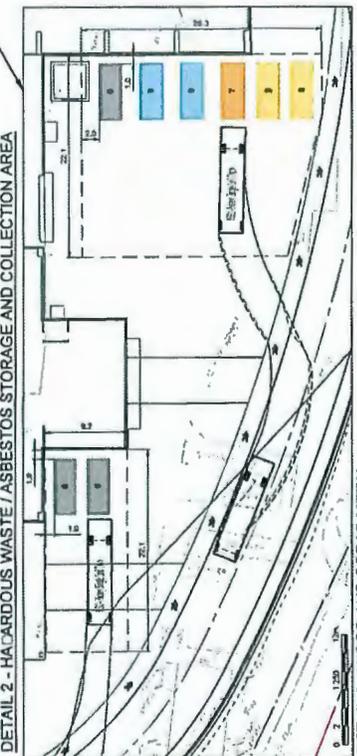
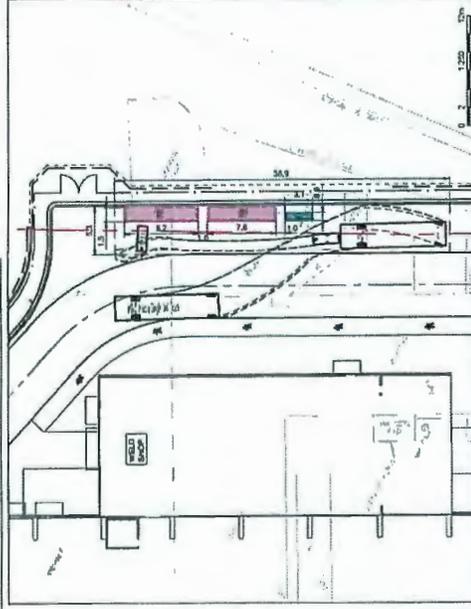
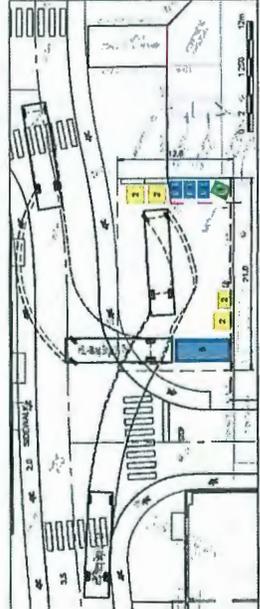
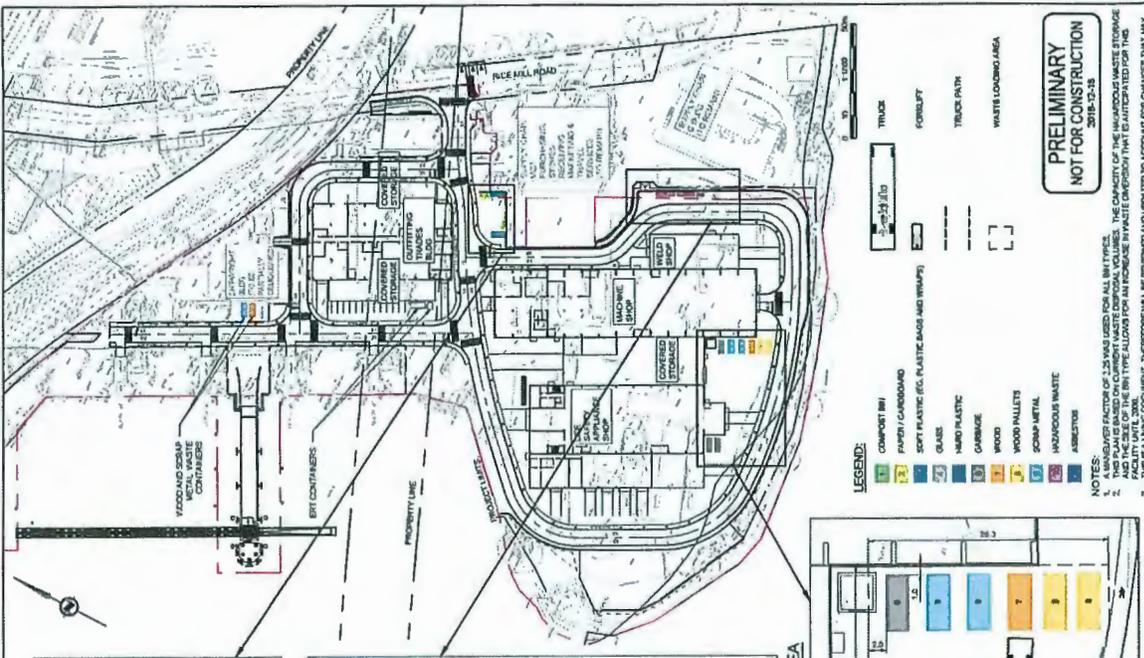
LOADING AREAS



PLN - 189  
PLN - 162

Plan # 0

Plan # P



**CARBON / PAPER / ORGANICS**  
541 SF

SOUTH OF OUTFITTING BLDG  
GROUND FLOOR, DATED OUTSIDE AREA

WASTE BIN TYPE	WASTE COLLECTION SERVICE	WASTE STORAGE FREQUENCY	STORAGE AREA REQUIRED (SQ FT)	COLLECTION FREQUENCY
4 YARD	PROGRESSIVE WASTE	ORGANICS	8.87	WEEKLY
8 YARD	PROGRESSIVE WASTE	CARBON	5.5	ON CALL
1 YARD	PROGRESSIVE WASTE	WASTE	2.8	WEEKLY
20 YARD	PROGRESSIVE WASTE	GLASS	1.38	WEEKLY
1 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	23.48	WEEKLY
1 YARD	PROGRESSIVE WASTE	SOFT PLASTIC	15.3	WEEKLY

SPACE ALLOCATION FOR STORAGE FACILITY (NUMBER OF CONTAINERS FOOTPRINT OF EACH CONTAINER IS INDICATED)

SPACE ALLOCATION FOR STORAGE FACILITY NEEDED

**HAZARDOUS WASTE STORAGE AND COLLECTION AREA**  
CHEMICAL STORAGE BUILDING CAPACITY OF 40 DRUMS (20 PER EACH DRUM)

WASTE BIN TYPE	WASTE COLLECTION SERVICE	WASTE STORAGE FREQUENCY	STORAGE ON SITE
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	2
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	4
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	2

TOTAL HAZARDOUS WASTE STORAGE CAPACITY: 11 DRUMS

**HAZARDOUS WASTE STORAGE AND COLLECTION AREA**  
CHEMICAL STORAGE BUILDING CAPACITY OF 19 TOTES (100L EACH TOTE)

WASTE BIN TYPE	WASTE COLLECTION SERVICE	WASTE STORAGE FREQUENCY	STORAGE ON SITE
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1

TOTAL HAZARDOUS WASTE STORAGE CAPACITY: 19 TOTES

**ASBESTOS WASTE STORAGE AND COLLECTION AREA**  
16 OF THE SITE

WASTE BIN TYPE	WASTE COLLECTION SERVICE	WASTE STORAGE FREQUENCY	STORAGE ON SITE
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1
8 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	1

TOTAL ASBESTOS WASTE STORAGE CAPACITY: 16 TOTES

**WOOD AND SCRAP METAL**  
751.6 SF

SOUTH OF OUTFITTING BLDG  
GROUND FLOOR, DATED OUTSIDE AREA

WASTE BIN TYPE	WASTE COLLECTION SERVICE	WASTE STORAGE FREQUENCY	STORAGE AREA REQUIRED (SQ FT)	COLLECTION FREQUENCY
40 YARD	PROGRESSIVE WASTE	WOOD	33.48	ON CALL
40 YARD	PROGRESSIVE WASTE	WOOD PALLETS	8.87	ON CALL
40 YARD	PROGRESSIVE WASTE	SCRAP METAL	18.31	ON CALL
40 YARD	PROGRESSIVE WASTE	HAZARDOUS WASTE	18.31	WEEKLY

SPACE ALLOCATION FOR STORAGE FACILITY (NUMBER OF CONTAINERS FOOTPRINT OF EACH CONTAINER IS INDICATED)

SPACE ALLOCATION FOR STORAGE FACILITY NEEDED

**LEGEND:**

- 1 COMPACT BI
- 2 PAPER / CARDBOARD
- 3 SOFT PLASTIC (E.G. PLASTIC BAGS AND WRAPS)
- 4 GLASS
- 5 HARD PLASTIC
- 6 GARBAGE
- 7 WOOD
- 8 WOOD PALLETS
- 9 SCRAP METAL
- 10 HAZARDOUS WASTE
- 11 ASBESTOS

**NOTES:**

1. THE CAPACITY OF THE WASTE STORAGE AREAS FOR ALL WASTE TYPES IS BASED ON THE WASTE STORAGE CAPACITY OF THE WASTE STORAGE AREAS AND THE USE OF THE BIN TYPE ALLOWED FOR AN INCREASE IN WASTE DIVERSION THAT IS ANTICIPATED FOR THIS PROJECT.
2. THIS IS A PRELIMINARY DOCUMENT. THEREFORE IT WILL BE REVIEWED AND UPDATED TO ACCOUNT FOR CHANGES THAT MAY OCCUR DURING THE PROJECT.
3. IMPACT ON WASTE MANAGEMENT.

**PRELIMINARY NOT FOR CONSTRUCTION 2018-10-15**

**SNC-LAVALLIN**  
SNC - Project Number: 80707

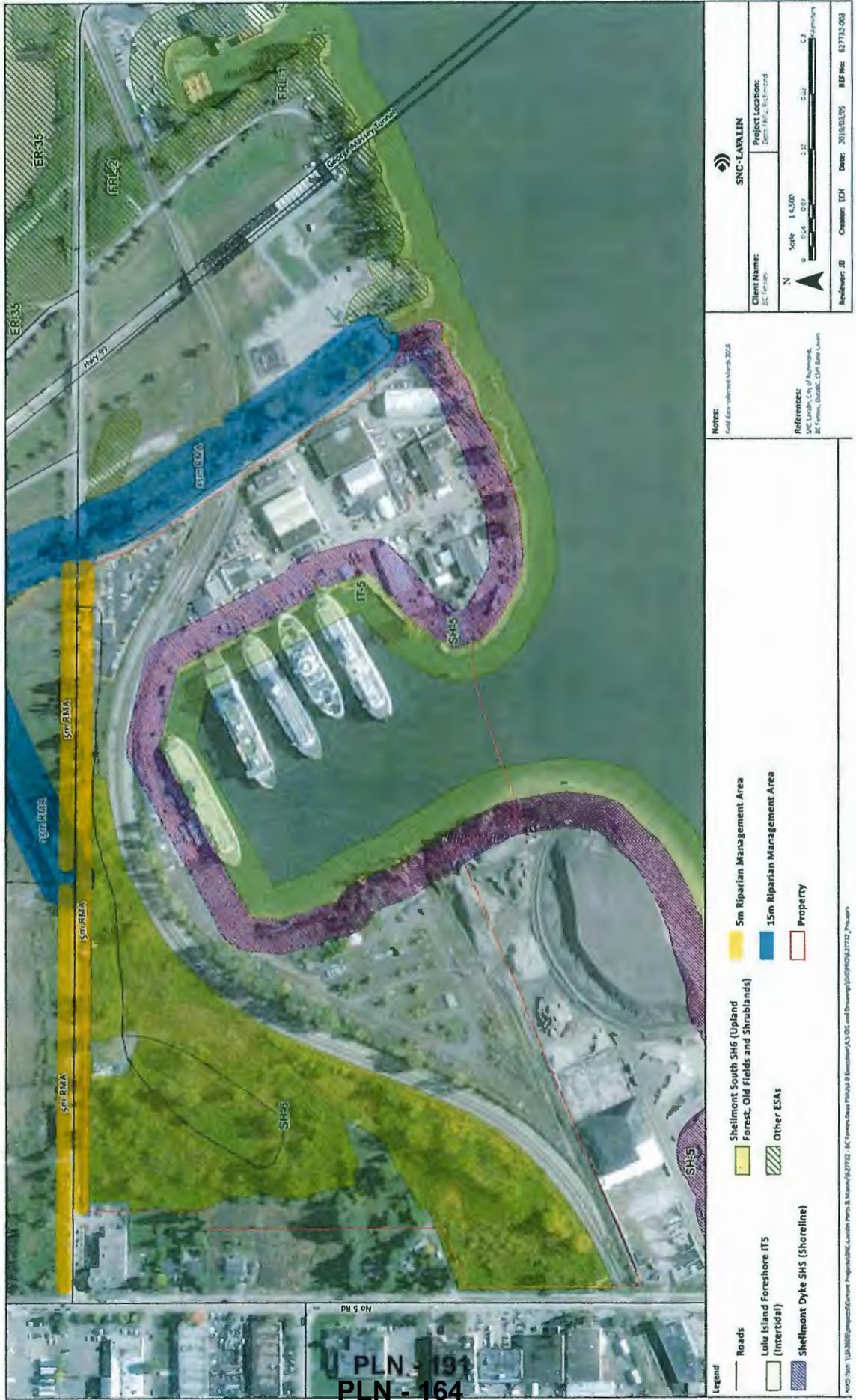
**BCFermies**  
British Columbia Ferry Services Inc.

**FLEET MAINTENANCE UNIT (FMU)**  
FMU DEVELOPMENT PROJECT  
OVERALL SITE  
WASTE MANAGEMENT PLAN

PROJECT NO. 14-350-C0031  
REVISIONS: 1002

NO.	DATE	BY	REVISIONS
E		K	
D		J	
C		I	
B		H	
A		G	
		F	
		E	

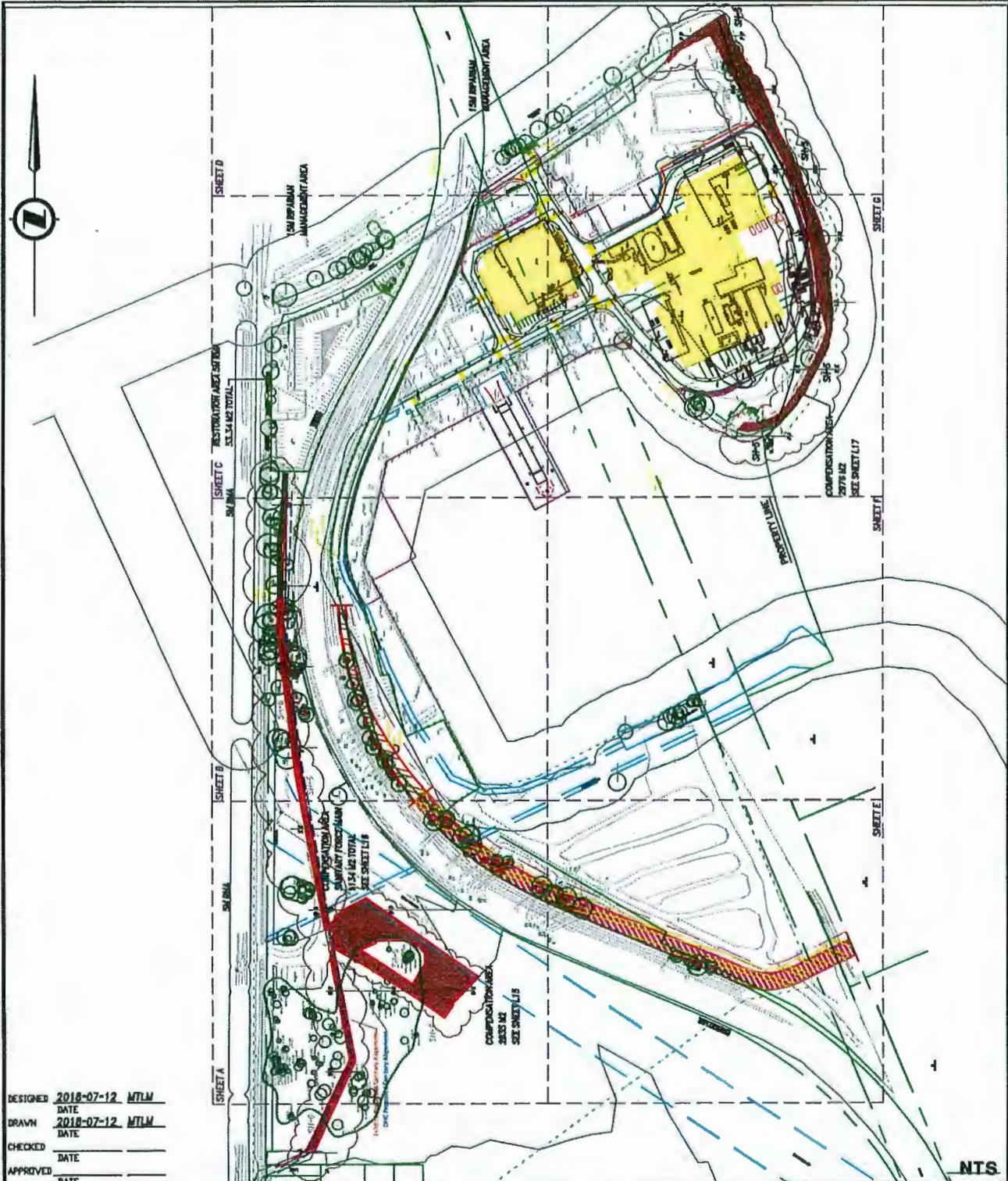
Figure 4: City of Richmond Environmentally Sensitive Areas and Riparian Management Areas



Plan # 9



Plan # 5



DESIGNED 2018-07-12 MTLM  
 DATE  
 DRAWN 2018-07-12 MTLM  
 DATE  
 CHECKED \_\_\_\_\_  
 DATE  
 APPROVED \_\_\_\_\_  
 DATE

REVISIONS

REV	DATE	DESCRIPTION	BY
1	2018-07-12	KEY PLAN	MTLM
2	2018-08-08	LANDSCAPE PLAN	DY
3	2019-03-07	REV. PER CITY COMMENTS; PROVIDE 8.5/11 DOC	MTLM
4	2019-03-23	REV. PER CLIENT COMMENTS; ADDIT. INFO	MTLM
5	2019-04-18	REV. PER CITY COMMENTS; CONSULTANT INFO	MTLM



FMU DEVELOPMENT PROJECT  
 RICE MILL ROAD, RICHMOND  
 LANDSCAPE MASTERPLAN  
**ESB COMPENSATION AREA KEYPLAN**



PROVINCE CONTRACT No. 03902	SUB-CONSULTANT No. M2LAND-18-054
DRAWING No. L15	08

PLN - 193  
 PLN - 166

Plan # 1

**ARBORIST**



EXISTING TREE



EXISTING TREE REMOVED

--- ARBORIST SCOPE OF WORK AREA

- - - - - ARBORIST TREE PROTECTION FENCING (BASED ON ARBORIST REPORT; UTILIZE EXISTING CHAINLINK)

**ARCHITECTURE**



AREA OF DISTURBANCE



PROPOSED BUILDINGS



EXISTING STRUCTURES TO BE REMOVED



STRUCTURES TO BE RETAINED

**LANDSCAPE ARCHITECTURE**



PROPOSED LANDSCAPE AREA



PROPOSED ESA COMPENSATION AREA  
6945 M<sup>2</sup> PROPOSED TOTAL

**RIPARIAN MANAGEMENT AREAS AND ENVIRONMENTALLY SENSITIVE AREAS (ESA'S)**



ENVIRONMENTALLY SENSITIVE AREA II-5  
INTERTIDAL (30M SEAWARD SETBACK)



HIGH WATER MARK



15M RIPARIAN MANAGEMENT AREA



ENVIRONMENTALLY SENSITIVE AREA (SH-5)  
SHORELINE 30M ABOVE HIGH WATER MARK



ENVIRONMENTALLY SENSITIVE AREA (SH-6)  
UPLAND FOREST, OLD FIELDS, AND SHRUBLANDS



5M RIPARIAN MANAGEMENT AREA



5M RIPARIAN MANAGEMENT AREA (RESTORATION AREA)  
AND SANITARY FORCE MAIN RESTORATION AREA  
TERRALINK SEED; RIPARIAN / WETLAND REVEGETATION  
SEED MIX; PRODUCT #22200330, 50-100 LB/ACRE

**ARCHITECTURAL DIKE LOCATION**



PHASE 1 DIKE LOCATION



PHASE 2 DIKE LOCATION



FUTURE DIKE LOCATION

**ARBORIST NOTES**

- PLEASE REFER TO ARBORIST REPORT BY DIAMOND HEAD CONSULTING FOR:  
BC FERRIES FMU FACILITY  
PHASE 2, 3 AND 4 ARBORIST REPORT IN SUPPORT OF DEVELOPMENT PERMIT  
12800 RICE MILL RD, RICHMOND, BC  
MARCH 25, 2019
- THE ARBORIST REPORT IDENTIFIES THREE PHASES OF WORK THAT ARE PHYSICALLY SEPARATED FROM EACH OTHER: PHASE 2 (MAIN SITE), PHASE 3 (DIKE), AND PHASE 4 (SANITARY LINE).
- TREE FENCING IS REQUIRED IN TWO LOCATIONS:
  - IN THE PHASE 2 AREA, FENCING IS REQUIRED ALONG THE FRASER RIVER IN THE LOCATION OF THE PROPOSED HABITAT PROTECTION ZONE IN ORDER TO PROTECT THE MATURE TREES THAT WILL BE RETAINED. THE HABITAT PROTECTION ZONE WILL RESULT IN A LARGER, PERMANENT TREE PROTECTION ZONE THAN CURRENTLY EXISTS. THE FENCING SHOULD BE INSTALLED IN THE LOCATION OF THE EXISTING CHAIN-LINK FENCE AS A MINIMUM.
  - IN THE PHASE 4 AREA, FENCING IS REQUIRED WHERE THE NEW SANITARY LINE WILL BE INSTALLED. THIS FENCING WILL PROTECT MATURE TREES ALONG RICE MILL RD.
- TREE TOTALS FROM PHASE 2 INCLUDE TREES THAT HAVE SINCE BEEN CONFIRMED TO BE OFF-SITE INCLUDING THE ONE HIGH RISK TREE 549. COMPLETE TREE INVENTORIES HAVE NOT BEEN GIVEN AS A RESULT OF CHANGING INFORMATION AND ONGOING REVISIONS. THE REPORT WILL FOCUS ON TREE REMOVALS AND TREE PROTECTION ADJACENT TO DEVELOPMENT. ONE ON-SITE TREE IN THE PHASE 2 SECTION WILL BE REMOVED DUE TO CONFLICTS. A TOTAL OF 82 TREES HAVE BEEN IDENTIFIED FOR REMOVAL DUE TO CONFLICTS: 1 TREE IN THE PHASE 2 AREA (MAIN SITE); 59 TREES IN THE PHASE 3 AREA (DIKE); AND 22 TREES IN THE PHASE 4 AREA (SANITARY LINE).
- TREE REPLACEMENT WILL BE AT A 2:1 RATIO, AS CONFIRMED BY THE CITY OF RICHMOND. WITH 82 TREES TO BE REMOVED, THAT WILL REQUIRE 164 REPLACEMENT TREES. IF TREES CANNOT BE PLANTED ON-SITE, THE CITY WILL DETERMINE THE COMPENSATION FOR THE DEFICIT.
- NO TREES NOTED ON ADJACENT SITES THAT HAVE POTENTIAL TO BE IMPACTED BY WORK ON SITE.

**ENVIRONMENTAL NOTES:**

- PLEASE REFER TO BC FERRIES FLEET MAINTENANCE UNIT (FMU) DEVELOPMENT PROJECT ENVIRONMENTAL ASSESSMENT REPORT; ENVIRONMENTALLY SENSITIVE AREA (ESA) DEVELOPMENT PERMIT REPORT BY SNC LAVALIN DATED: JUNE 04, 2019 CONSISTS OF REPORT FOR BOTH RIPARIAN/AQUATIC AND TERRESTRIAL AREAS
- THREE AREAS OF ESA DELINEATED WITHIN THE SITE; SHELLMONT SOUTH SH-6 (UPLAND FOREST, OLD FIELDS AND SHRUBLANDS), SHELLMONT DYKE SH-5 (SHORELINE) AND LUKU ISLAND FORESHORE IT-5 (INTERTIDAL). THE PROJECT IS NOT EXPECTED TO AFFECT THE EXISTING CONNECTIVITY OF THE ESA'S.
- THE MAJORITY OF CONSTRUCTION WILL TAKE PLACE ON PREVIOUSLY DEVELOPED LANDS. SPECIFIC PROPOSED CONSTRUCTION WORKS WITHIN THE SITE THAT HAVE THE POTENTIAL TO AFFECT FISH OF WILDLIFE HABITAT ARE; INSTALLATION OF NEW CRANE IN THE EASTERN AREA OF THE DEAS BASIN. CONSTRUCTION OF A PORTION OF THE FLOOD PROTECTION DIKE SYSTEM.
- NO VEGETATION SPECIES AT RISK WERE NOTED AT TIME OF SITE VISIT (PLEASE SEE REPORT FOR FULL DISCUSSION OF SPECIES). TWO WILDLIFE SPECIES AT RISK WERE OBSERVED (DOUBLE CRESTED CORMORANT AND GREAT BLUE HERON). NO NESTING COLONIES ARE PRESENT IN OR NEAR THE SITE.
- UNNAMED DITCH AT RICE MILL ROAD; NOT CONNECTED TO SLOUGH AT EAST END AND CONNECTED TO CITY OF RICHMOND SEWER DRAINAGE SYSTEM TO THE WEST; NOT CONSIDERED FISH HABITAT. DESIGNATED A 5M RMA BY CITY.
- UNNAMED SLOUGH EAST OF SITE; WITH GRAVITY DRAINAGE PUMP SYSTEM; SMALL FISH SPECIES NOTED IN SAMPLING. SALMONIDS AND SPAWNING HABITAT CONSIDERED POOR DUE TO CHANNEL SUBSTRATES. REARING HABITAT MODERATE, OVERWINTERING HABITAT MODERATE TO GOOD. DESIGNATED A 15M RMA BY CITY.
- PLEASE SEE ENVIRONMENTAL REPORT FOR AREA CALCULATIONS OF DISTURBANCE TO ESA'S. GENERALLY, SCOPE OF WORK OF DP AREA WILL HAVE LIMITED IMPACT WITH VEGETATED AREAS. FOOTPRINT WILL OVERLAP APPROX. 8028 M<sup>2</sup> OF SHORELINE (MAJORITY OF WHICH IS DEVELOPED PAVED, GRAVELLED INDUSTRIAL LAND). NO VEGETATION SPECIES AT RISK ARE KNOWN TO BE PRESENT ON THE SITE AND THE SITE HAS LIMITED POTENTIAL FOR OCCURRENCES OF PLANT SPECIES OF RISK DUE TO HISTORIC CONTEXT. DP AREA FOOTPRINT DOES NOT OVERLAP SENSITIVE TERRESTRIAL WILDLIFE HABITAT.
- HABITAT COMPENSATION AREAS IS DISCUSSED IN ENVIRONMENTAL REPORT; TOTAL AREA IS 2976 M<sup>2</sup> AT SHORELINE, 2635 M<sup>2</sup> AT UPLANDS AND 1134 M<sup>2</sup> AT SANITARY LINE RESTORATION; 6945 M<sup>2</sup> TOTAL. M<sup>2</sup> LANDSCAPE ARCHITECTURE WILL PROVIDE PLANTING PLAN IN COORDINATION WITH SNC. SEE SHEETS L13-L15 FOR SUGGESTED HATCHES FOR PLANTING PLAN. SHELLMONT SOUTH SH-6 (UPLAND FOREST, OLD FIELDS AND SHRUBLANDS), SHELLMONT DYKE SH-5 (SHORELINE) ARE DENOTED AS COMPENSATION AREAS
- AN IRRIGATION SYSTEM COMPRISED OF WATER HOSES AND SPRINKLERS WILL BE TEMPORARILY ESTABLISHED IN THE AREA AND OPERATED BY A TIMER (BASED ON SEASON). FOR THE FIRST THREE MONTHS POST-PLANTING, THE COMPENSATION AREAS WILL BE IRRIGATED DAILY TO PROMOTE OPTIMAL SOIL-WATER BUDGET CONDITIONS FOR ESTABLISHMENT. FOR THE REMAINDER OF THE FIRST YEAR, POST-PLANTING, THE COMPENSATION AREAS WILL BE IRRIGATED WEEKLY. FOR THE NEXT TWO YEARS THE COMPENSATION AREAS WILL BE IRRIGATED WEEKLY DURING SPRING AND SUMMER.

DESIGNED 2018-07-12 MTLW  
DATE  
DRAWN 2018-07-12 MTLW  
DATE  
CHECKED \_\_\_\_\_  
DATE  
APPROVED \_\_\_\_\_  
DATE

**REVISIONS**

REV	DATE	DESCRIPTION	BY
1	2018-07-12	KEY PLAN	MTLW
2	2018-08-08	LANDSCAPE PLAN	DY
3	2019-03-07	REV. PER CITY COMMENTS; PROVIDE 5.5/11 DOC	MTLW
4	2019-03-28	REV. PER CLIENT COMMENTS; ADDIT. INFO	MTLW
5	2019-04-16	REV. PER CITY COMMENTS; CONSULTANT INFO	MTLW



FMU DEVELOPMENT PROJECT  
RICE MILL ROAD, RICHMOND  
LANDSCAPE MASTERPLAN  
CONSULTANT REPORT NOTES



PROVINCE CONTRACT No. 03902	SUB-CONSULTANT No. M2LAND-18-054
DRAWING No. L3	08

PLN - 194  
PLN - 167

Plan # 11

**PLANT SCHEDULE** **SH-5 PLANT MATERIAL** **M2 JOB NUMBER: 18-045**

KEY QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS
<b>TREE</b>			
15	ALNUS RUBRA	RED ALDER	8CM CAL; B4B
15	CORNUS NUTTALLII	PACIFIC DOGWOOD	8CM CAL; B4B
15	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	4M HT; B4B
A2	ANAPHALIS MARGARITACEA	PEARLY EVERLASTING	#1 POT
6	SAULTHERIA SHALLOM	SALAL	#2 POT; 1M O.G.
PP	PHYSOCARPUS CAPITATUS	PACIFIC NINE-BARK	#2 POT
R	ROSA NUTKANA	NOOTKA ROSE	#2 POT
SA	SAMBUCUS RACEMOSA	ELDERBERRY	#2 POT; 40CM
SY	SYMPHORICARPOS ALBUS	SNOWBERRY	#2 POT; 30CM
<b>PERENNIAL</b>			
L2	LUPINUS POLYPHYLLUS	LARGE LEAF LUPINE	#2 POT

NOTES: \* PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNTA STANDARDS. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. \* REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. \* SEARCH AND REVIEW: MAKE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. \* SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD - DEFINITION OF CONDITIONS OF AVAILABILITY.

**ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. PROVIDE CERTIFICATION UPON REQUEST.**

**PLANT SCHEDULE** **SH-5 PLANT MATERIAL** **M2 JOB NUMBER: 18-045**

KEY QTY	BOTANICAL NAME	COMMON NAME	PLANTED SIZE / REMARKS
<b>TREE</b>			
6	ACER MACROPHYLLUM	BIGLEAF MAPLE	8CM CAL; B4B
6	CORNUS NUTTALLII	PACIFIC DOGWOOD	8CM CAL; B4B
9	CRATAEGUS DOUGLASII	BLACK HAWTHORN	8CM CAL; B4B
4	MALUS FUSCA	PACIFIC CRABAPPLE	8CM CAL; B4B
<b>SHRUB</b>			
AR	ARONIA MELANOCARPA	CHOKEBERRY	#2 POT; 35CM
CC	CORNUS SERICEA	RED OSIER DOGWOOD	#2 POT; 50CM
O	HOLODISCUS DISCOLOR	OCEANSPRAY	#2 POT; 1M O.G. TRIANGULAR SPACING
RH	RUEUS PARVIFLORUS	THIMBLEBERRY	#2 POT
S	SALIX LASIANDRA	PACIFIC WILLOW	1.2M HT; B4B
<b>PERENNIAL</b>			
F	FRASARIA CHILOENSIS	COASTAL STRAWBERRY	#1 POT
B	LATHYRUS JAPONICAS	BEACH PEA	#2 POT

NOTES: \* PLANT SIZES IN THIS LIST ARE SPECIFIED ACCORDING TO THE BC LANDSCAPE STANDARD, LATEST EDITION. CONTAINER SIZES SPECIFIED AS PER CNTA STANDARDS. BOTH PLANT SIZE AND CONTAINER SIZE ARE THE MINIMUM ACCEPTABLE SIZES. \* REFER TO SPECIFICATIONS FOR DEFINED CONTAINER MEASUREMENTS AND OTHER PLANT MATERIAL REQUIREMENTS. \* SEARCH AND REVIEW: MAKE PLANT MATERIAL AVAILABLE FOR OPTIONAL REVIEW BY LANDSCAPE ARCHITECT AT SOURCE OF SUPPLY. AREA OF SEARCH TO INCLUDE LOWER MAINLAND AND FRASER VALLEY. \* SUBSTITUTIONS: OBTAIN WRITTEN APPROVAL FROM THE LANDSCAPE ARCHITECT PRIOR TO MAKING ANY SUBSTITUTIONS TO THE SPECIFIED MATERIAL. UNAPPROVED SUBSTITUTIONS WILL BE REJECTED. ALLOW A MINIMUM OF FIVE DAYS PRIOR TO DELIVERY FOR REQUEST TO SUBSTITUTE. SUBSTITUTIONS ARE SUBJECT TO BC LANDSCAPE STANDARD - DEFINITION OF CONDITIONS OF AVAILABILITY.

**ALL PLANT MATERIAL MUST BE PROVIDED FROM CERTIFIED DISEASE FREE NURSERY. PROVIDE CERTIFICATION UPON REQUEST.**

DESIGNED 2018-07-12 MTLM  
 DATE  
 DRAWN 2018-07-12 MTLM  
 DATE  
 CHECKED \_\_\_\_\_  
 DATE  
 APPROVED \_\_\_\_\_  
 DATE

REVISIONS

REV	DATE	DESCRIPTION	BY
1	2018-07-12	KEY PLAN	MTLM
2	2018-08-08	LANDSCAPE PLAN	DY
3	2018-03-07	REV. PER CITY COMMENTS; PROVIDE 8.5/11 DOC	MTLM
4	2018-03-23	REV. PER CLIENT COMMENTS; ADDIT. INFO	MTLM
5	2018-04-18	REV. PER CITY COMMENTS; CONSULTANT INFO	MTLM



FMU DEVELOPMENT PROJECT  
 RICE MILL ROAD, RICHMOND  
 LANDSCAPE MASTERPLAN  
 SNC-LAVALIN  
 E8A COMPENBATION PLANT LISTS SH-5 AND SH-6

PROVINCE CONTRACT No. 03902	SUB-CONSULTANT No. M2LAND-18-054
DRAWING No. L30	08

PLN - 195  
 PLN - 168



## HABITAT BALANCE SHEET

### Disturbances and Compensation for Impacts in ESA SH-5 and ESA IT-5.

Type of Disturbance/Enhancement	ESA Classification	Habitat Type	Area of Disturbance in ESA (m <sup>2</sup> )	Area of Compensation (m <sup>2</sup> )	Compensation Ratio
Buildings, roads and diking.	Shoreline ESA SH-5	Poor to low quality (vegetated)	1,252		
Stormwater outfalls	Intertidal ESA IT-5	Low quality rip rap and sheet pile wall	10		
Access pier, trestle and tower crane	Intertidal ESA IT-5	Subtidal (no true intertidal habitat)	252		
Shoreline Enhancement (Soil amendment, remove invasives, plant trees, shrubs and forbs)	Shoreline ESA SH-5	Moderate to high quality (vegetated)		2,976	
Intertidal Enhancement (Rock reef creation)	Intertidal ESA IT-5	Moderate quality habitat		440*	
<b>Disturbance Summary</b>			<b>1,514</b>	<b>3,416</b>	<b>2.3:1</b>

\* Note: 440 m<sup>2</sup> of intertidal enhancement is equivalent to 176 m<sup>2</sup> after applying the rugosity factor, as accepted by DFO. Environmental Assessment Appendix A includes rationale and calculations regarding the application of a rugosity factor towards habitat productivity.

### Disturbances and Proposed Compensation for Impacts in ESA SH-6

Type of Disturbance/Enhancement	ESA Classification	Habitat Type	Area of Disturbance in ESA (m <sup>2</sup> )	Area of Compensation (m <sup>2</sup> )	Compensation Ratio
Sanitary force main	Upland forest, old field and shrublands ESA SH-6	Disturbed (poor to low quality), Shrubland, Upland Forest.	1,134		
Grassed Enhancement (hydroseeding to establish ground cover)	Upland Forest and Shrubland ESA SH-6	Low quality (vegetated)		1,134*	
Upland Forest and Shrubland Enhancement (Soil amendment, remove invasives, plant trees, shrubs and forbs)	Upland forest, old field and shrublands ESA SH-6	Moderate to high quality (vegetated)		2,835	
<b>Disturbance Summary</b>			<b>1,134</b>	<b>2,835</b>	<b>2.5:1</b>

\* Note: Although the 1,134 m<sup>2</sup> area of sanitary trenchline will be restored to enhance the habitat, it was not included in the total compensation area or compensation ratio calculation since the proposed grass habitat does not fully conform with the upland forest, shrublands and old fields designation of the ESA.

### Disturbances and Proposed Compensation for impacts in 5m RMA

Type of Disturbance/Enhancement	ESA Classification	Habitat Type	Area of Disturbance in ESA (m <sup>2</sup> )	Area of Compensation (m <sup>2</sup> )	Compensation Ratio
Water main	5 m RMA	Disturbed / impervious (poor quality)	695		
Culvert Removal and Ditch Restoration	5 m RMA	Restored ditch		54	
5 m RMA Enhancement	5 m RMA	Restored ground surface and grass.		695	
<b>Disturbance Summary</b>			<b>695</b>	<b>749</b>	<b>1.1:1</b>

**LEGEND**

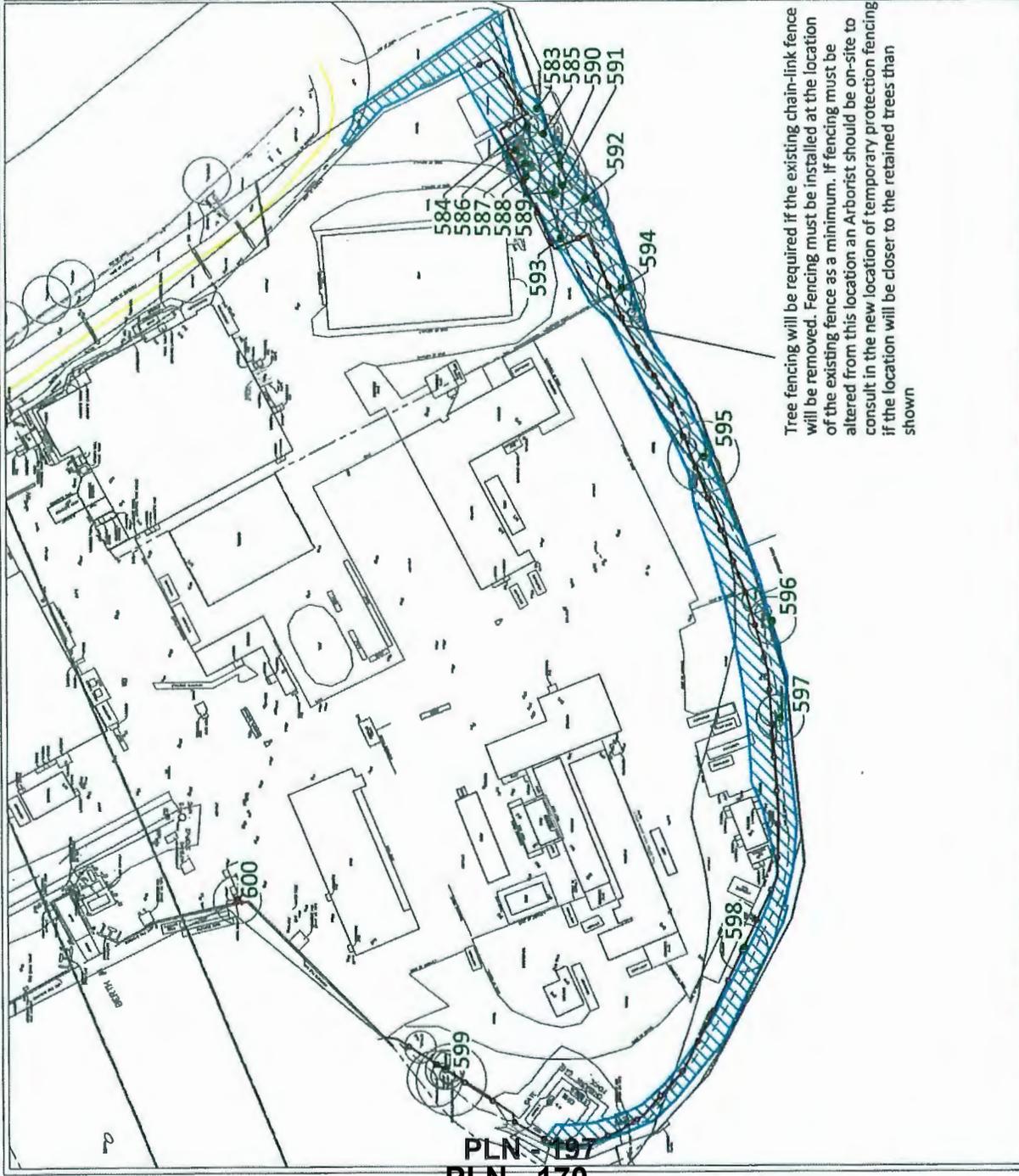
- CRITICAL ROOT ZONE
- NO-BUILD ZONE
- TREE PROTECTION ZONE AND FENCING
- SURVEYED TREE TO BE RETAINED
- UN-SURVEYED TREE TO BE RETAINED
- × TREE TO BE REMOVED
- ▨ COMPENSATION AREA

**NOTES**

- The location of in-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a registered BC Land Surveyor.
- All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree.
- The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. (The trees diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree)
- No work is permitted within the Tree Protection Zone with the exception of swales. Swale construction is only permitted under the direct supervision of an arborist.
- The 1.5m area No Build Zone does not allow for any building foundation wall encroachment. Excavation is permitted within this area under the direct supervision of an arborist.
- Drainage works such as lawn basins, associated piping or services are permitted within the No Build Zone under the direct supervision of an arborist.
- This plan is based on a topographic and tree location survey provided by the owners' registered British Columbia Land Surveyor (BCLS) and layout drawings provide by the owners' Engineer (P Eng).
- This plan is provided for context only, and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plan and engineering plans.

Drawing No: XXX  
 Date: 2019/04/16  
 Drawn by: KS  
 Page Size: LETTER(8.5"x11")

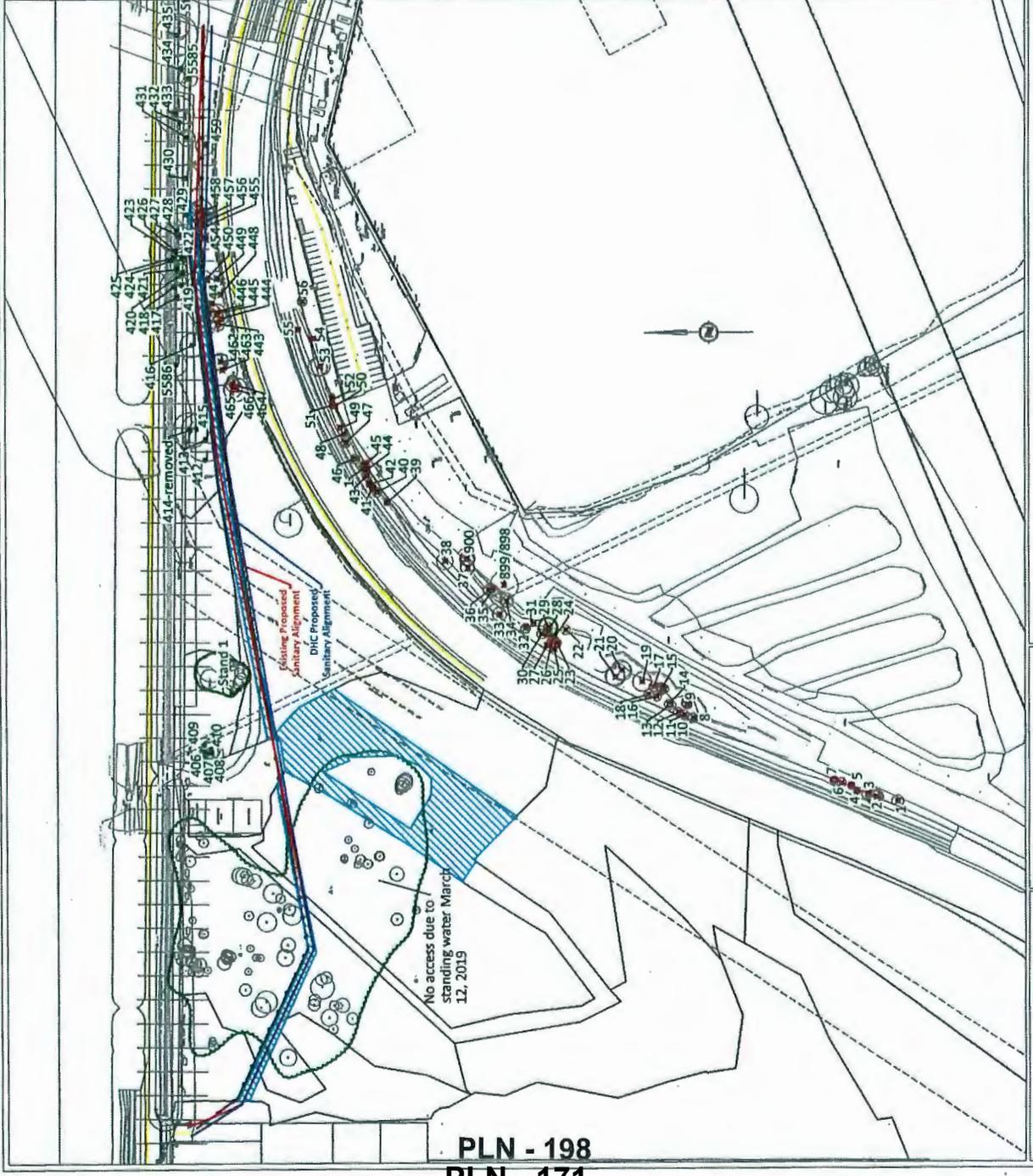
Page #  
 1 of 1



Drawing title: Tree Management Plan - Phase 2  
 Project address: 12800 Rice Mill Rd  
 Client: SNC Lavalin

3559 COMMERCIAL STREET  
 VANCOUVER BC | V5N 4E8  
 T 604.733.4886 | F 604.733.4879





- LEGEND**
- CRITICAL ROOT ZONE
  - NO-BUILD ZONE
  - TREE PROTECTION ZONE AND FENCING
  - SURVEYED TREE TO BE RETAINED
  - UN-SURVEYED TREE TO BE RETAINED
  - ✕ TREE TO BE REMOVED
  - ▨ COMPENSATION AREA

- NOTES**
1. The location of un-surveyed trees on this plan is approximate. Their location and ownership cannot be confirmed without being surveyed by a Registered BC Land Surveyor.
  2. All tree protection fencing must be built to the relevant municipal bylaw specifications. The dimensions shown are from the outer edge of the stem of the tree.
  3. The tree protection zone shown is a graphical representation of the critical root zone, measured from the outer edge of the stem of the tree. (If the trees diameter was added to the graphical tree protection circles to accommodate the survey point being in the center of the tree)
  4. No work is permitted within the Tree Protection Zone with the exception of swales. Swale construction is only permitted under the direct supervision of an arborist.
  5. The 1.5m area No Build Zone does not allow for any building foundation wall encroachment. Excavation is permitted within this area under the direct supervision of an arborist.
  6. Drainage works such as lawn basins, associated piping or services are permitted within the No Build Zone under the direct supervision of an arborist.
  7. This plan is based on a topographic and tree location survey provided by the owners' Registered British Columbia Land Surveyor (BCLS) and layout drawings provide by the owners' Engineer (P Eng).
  8. This plan is provided for context only, and is not certified as to the accuracy of the location of features or dimensions that are shown on this plan. Please refer to the original survey plan and engineering plans.

Drawing No: XXX  
 Date: 2019/04/16  
 Drawn by: KW  
 Page Size: LETTER(8.5"x11")

Drawing title: Tree Management Plan - Phase 3 and 4  
 Project address: 12800 Rice Mill Rd  
 Client: SNC Lavalin

3559 COMMERCIAL STREET  
 VANCOUVER BC | V5N 4E8  
 T 604.733.4886 | F 604.733.4879



PLN - 198  
 PLN - 171

Plan # x



**RZ 18-824565**

**Attachment 4**

Address: 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road

Applicant: SNC Lavalin Inc.

Planning Area(s): Shellmont

	Existing	Proposed
<b>Owner:</b>	BC Ferry Services Ltd.	No Change
<b>Site Size (m<sup>2</sup>):</b>	245,065.5 m <sup>2</sup> (60.56 ac)	No Change
<b>Land Uses:</b>	Marine Vessel Repair and Moorage	No Change
<b>OCP Designation:</b>	Industrial	No Change
<b>Zoning:</b>	"Agricultural (AG1)" and "Light Industrial (IL)"	North of the CN Rail Corridor: No Change South of the CN Rail Corridor: "BC Ferries Fleet Maintenance and Moorage (Z114)"
<b>Other Designations:</b>	Environmentally Sensitive Areas over portions of the site	Encroachment and Compensation to be addressed via DP

On Future Subdivided Lots	Bylaw Requirement	Proposed	Variance
Floor Area Ratio:	Max. 1.0	0.1	None permitted
Buildable Floor Area (m <sup>2</sup> ) *	Max. 245,065.5 m <sup>2</sup> (2,637,863 ft <sup>2</sup> )	Proposed New: 15,502.0 m <sup>2</sup> (166,862 ft <sup>2</sup> ) Existing Retained: Max. 6,209.5 m <sup>2</sup> (66,838.5 ft <sup>2</sup> ) Combined Total: 21,711.5 m <sup>2</sup> (233,701 ft <sup>2</sup> )	None permitted
Lot Coverage (% of lot area):	Building: Max. 60%	Building: Max. 7.1% Non-porous Surfaces: Max. 14.3% Total: Max. 21.4%	None
Lot Size:	245,065.5 m <sup>2</sup> (60.56 ac)	Same	None
Setbacks (m):	Front (East PL): Min. 3.0 m Rear: Min. 0 m Side: Min. 0 m	Front (East PL) Min: 0.0 m for existing, min 3.0 m for new construction after May 1, 2019 Rear: Min. 3.0 m Side: Min. 3.0 m	None

<b>On Future Subdivided Lots</b>	<b>Bylaw Requirement</b>	<b>Proposed</b>	<b>Variance</b>
Height (m):	Buildings: 23 m GSC (measured from slab) Heavy Lift Crane: 84.0 m GSC	Buildings: 22.2 m GSC (measured from slab) Heavy Lift Crane:83.1 m GSC	None
Accessible Spaces	Min. 5	5	None
Off-street Parking Spaces – Total:	Min. 218	257	None
Bicycle Spaces	Min. Class 1: 42 Min. Class 2: 42	Class 1: 42 Class 2: 42	None
Loading Spaces	Min. 5 medium Min. 4 large	7 medium 4 large	None

## Proposed Sustainability Features

Both design and operational measures are being incorporated into the development to address efficiency and sustainability. These measures include the following:

1. Limited skylights to reduce energy consumption.
2. Light coloured roof to reduce heat build-up.
3. Low VOC interior paint coatings.
4. Central heating plant using condensing boilers and a low temperature heating system to allow future fuel switching and a lower carbon energy operation compared to a low budget business as usual gas-fired terminal heating appliances approach.
5. Use of air source heat pump chillers to generate a significant portion of low carbon heating during the shoulder seasons, and to allow heat recovery operation from steady-state year round cooling loads in the buildings.
6. Variable speed heating and chilled water pump systems to minimize electrical energy use during low load seasonal periods.
7. Chilled beam cooling and heating systems in the offices areas of each building using a dedicated outdoor air system equipped with heat recovery sections.
8. Occupancy controlled HVAC terminals in all offices and amenity spaces to allow reduction of system energy use when spaces are unoccupied.
9. Extensive use of ceiling de-stratification fans to mix space air and keep warm buoyant air driven down to the occupied zone in high bay areas.
10. Manually controlled point source local exhaust systems to minimize constant central exhaust fan operations.
11. Variable speed high efficiency shop air compressors with specifications for leak-free compressed air piping distribution, and large receiver tanks to minimize run-time cycling of the main air compressors.
12. Extensive System Commissioning requirements are specified to insure that the energy efficiency measures are tested, balanced, and commissioned prior to turnover to BC Ferries.
13. High efficiency gas-fired condensing domestic hot water heaters coupled with low flow plumbing fixtures to minimize service water heating energy use.
14. Local small electric domestic hot water heaters for remote service sink and emergency eye-wash and shower stations to minimize the amount of insulated domestic hot water distribution, and insulated recirculation piping.
15. Extensive floor drainage and sanitary drainage containment and oil interception with sediment filtration to insure sanitary sewer flows leaving the site are treated as much as possible at the source, and contained within the spaces.
16. Extensive local polluted drain water containment where chemical cleaning and contaminated sanitary waste drainage is produced (Chemical Cleaning and Wash area and Life Boat washing and cleaning area).

Technical Reports Submitted

1. Arborist Report, prepared by Diamond Head, dated April 9, 2019 (REDMS 6170332);
2. Archaeological Overview Assessment (AOA), prepared by Arrowstone Archaeological Research and Consulting Ltd., dated September 15, 2016 (REDMS 6165681).
3. Construction Environmental Management Plan (CEMP), prepared by SNC Lavalin, dated April 15, 2019, (REDMS 6170374).
4. Department of Fisheries Letter of Advice, dated February 27, 2019 (REDMS 6143363).
5. Environmental Assessment ESA DP Report, prepared by SNC Lavalin, dated April 15, 2019 (REDMS 6170298).
6. Fire Response Plan. Prepared by GHJ Consultants Ltd., dated December 12, 2018 (REDMS 6135049)
7. Flood Protection Plan (powerpoint), prepared by SNC Lavalin, updated April 12, 2019 (REDMS 6167724).
8. Geotechnical Input to the West Dike Design (Segments 2 to 3), prepared by Tetra Tech, dated February 22, 2019 (REDMS 6135058).
9. Grading and Drainage Plan prepared by SNC Lavalin, dated February 1, 2019 (REDMS 6135062).
10. Letter from Nav Canada, dated October 25, 2018 (REDMS 6143393). (Air navigation)
11. Letter From Transport Canada Navigation Protection Program, Dated December 10<sup>th</sup>, 2018 (REDMS 6165138).
12. MOECCS Release Letter For Site Profile, Dated October 29<sup>th</sup>, 2018 (REDMS 6017755).
13. MOTI Setback Permit (For Existing Buildings), Dated October 5<sup>th</sup>, 2018 (REDMS 6165138).
14. Soil Management Plan, included within the CEMP document (REDMS ).
15. Traffic Assessment (rev3), prepared by SNC Lavalin, dated December 6, 2018 (REDMS 6047959) – pending rev4 for minor edits;
16. Visual Impact Assessment (VIA), prepared by Boldwing Continuum Architects Inc., dated August 9, 2018 (REDMS 6165687).
17. Waste Management Overlay Plan prepared by SNC Lavalin, dated December 18, 2018 (REDMS 6065374).
18. Landscape Plan Revisions, dated April 16, 2019 (REDMS 6170361)



Fisheries and Oceans  
Canada

Pêches et Océans  
Canada

Pacific Region  
3190 Hammond Bay Road  
Nanaimo, BC V9T 6N7

Région du Pacifique  
3190 rue Hammond Bay  
Nanaimo, CB V9T 6N7

*Your file* *Voire référence*

February 27, 2019

*Our file* *Notre référence*

18-HPAC-00751

Scott Hall  
BC Ferries Services Inc.  
500-1321 Blanshard Street  
Victoria, BC, V8W 0B7

Via email: [RScott.Hall@bcferries.com](mailto:RScott.Hall@bcferries.com)

**Subject: Tower Crane Installation, Deas Basin Fraser River, Richmond –  
Implementation of Measures to Avoid and Mitigate Serious Harm to Fish**

Dear Mr. Hall:

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on August 13, 2018. We understand that you propose to:

- Redevelop the BC Ferries Fleet Maintenance Unit (FMU) in Richmond. Construction activities which have the potential to impact fish and fish habitat include:
  - Removal of two sets of dolphin piles where the crane and pier are proposed to be installed;
  - Installation of 23 piles using a vibratory hammer or impact hammer from a spud barge for the access pier and crane pad foundation;
  - Infilling an area in front of an existing sheet pile wall at the shoreline for construction of an access pier abutment;
  - Seismic support activities including installation of timber piles below the river bed to support the access pier;
  - Installation of a raised access pier and decking for the crane pad; and,
  - Replacement of the existing stormwater outfall in Deas Basin.

Our review considered the following information:

- Request for Review package as provided by SNC-Lavalin to DFO via email on August 13, 2018 including:
  - Request for Review Form;
  - Site Location and Design Drawings prepared by SNC-Lavalin, dated June 12, 2018;
  - Habitat Impact and Offsetting Drawings prepared by SNC-Lavalin, dated August 2, 2018; and,
  - Site photos, dated March 14, 2018.

Canada

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PLN - 203  
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- Information collected during the site visit attended by Sandy Foxall and Kris Singer (DFO), and Peter Troffe and David McWalter (SNC-Lavalin) on November 15, 2018;
- Project update letter provided by SNC-Lavalin to DFO on February 20, 2019 including:
  - Updated scope of works;
  - Updated quantification and mitigation effects to CRA fish habitat; and,
  - Updated habitat offsetting plan.

Your proposal has been reviewed to determine whether it is likely to result in serious harm to fish which is prohibited under subsection 35(1) of the *Fisheries Act* unless authorized. Your proposal has also been reviewed to determine whether it is likely to affect listed aquatic species at risk, any part of their critical habitat or the residences of their individuals in a manner which is prohibited under sections 32, 33 and subsection 58(1) of the *Species at Risk Act*, unless authorized.

To avoid and mitigate the potential for serious harm to fish as well as prohibited effects on listed aquatic species at risk, we recommend implementing the measures listed below, as per your project plan and discussions with DFO:

- All instream works will be conducted during the instream work window for the Fraser River Estuary Area 28 (July 16 to February 28).
- Barges and other vessels used during the project should not disturb the foreshore or basin seabed.
- An Environmental Monitor (EM) will monitor instream construction activities including conducting water quality monitoring to ensure that water quality adheres to provincial water quality guidelines for the protection of aquatic life.
- When possible, works will be conducted during favourable weather and low water conditions (i.e., low tide).
- A silt curtain will be installed around the work area in Deas Basin to contain potential sedimentation during instream works, where possible.
- Existing riparian vegetation along shorelines will be protected from potential damage during construction activities.
- Install sheet piles around the area to be infilled to isolate the work area prior to infilling activities.
- All rock used during the project (e.g., construction of enhancement features, etc.) should be clean and free of dirt, etc. before placing in the water. The rock should be carefully placed into position as opposed to just dumped into the water.
- All fish should be removed from within isolated work areas prior to in-water works.
- A vibratory hammer will be used as the primary pile driving method. Impact pile driving will only be used if piles cannot be installed using a vibratory hammer.
- Potential vibration impacts to fish will be monitored during pile driving (i.e., acoustic monitoring). The Program acknowledges the pile driving best management practices reference that shock waves not be in excess of 30 kPa;

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however, updated information on acoustic noise thresholds for fish presented below should be applied:

- The criteria agreed upon by the US Fisheries Hydroacoustic Working Group (FHWG, 2009) for the onset of effects of percussive pile driving activities in terms of injuries to fishes identified the dual criteria of a peak sound pressure level of 206 dB re: 1  $\mu$ Pa and a SELcum of 187 dB re: 1  $\mu$ Pa<sup>2</sup>·s. These thresholds are the most up-to-date for protection of fish from acoustic injuries in North America (<http://acousticstoday.org/wp-content/uploads/2015/05/Assessing-the-Impact-of-Underwater-Sounds-on-Fishes-and-Other-Forms-of-Marine-Life-Anthony-D.-Hawkins-and-Arthur-N.-Popper.pdf>); and,
- Sound levels for fish should not exceed 206 dB re: 1  $\mu$ Pa and a SELcum of 187 dB re: 1  $\mu$ Pa<sup>2</sup>·s, acoustic monitoring should occur at 10 m from the noise source.
- If monitoring indicates sound levels in excess of the above thresholds at the 10 m monitoring distance for fish, the activity should cease and only resume after additional mitigation measures are implemented. The above mentioned acoustic thresholds are applicable to all underwater generated noise, such as, but not limited to, those from blasting, hydraulic ramming, and vibratory hammers.

Provided that you incorporate these measures into your plans, the Program is of the view that your proposal will not result in serious harm to fish or prohibited effects on listed aquatic species at risk. As such, an authorization under the *Fisheries Act* or a permit under the *Species at Risk Act* is not required.

Should your plans change or if you have omitted some information in your proposal, further review by the Program may be required. Consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppe/index-eng.html>) or consult with a qualified environmental consultant to determine if further review may be necessary. It remains your responsibility to avoid causing serious harm to fish and avoid prohibited effects on listed aquatic species at risk, any part of their critical habitat or the residences of their individuals.

It is also your *Duty to Notify* DFO if you have caused, or are about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to <http://www.dfo-mpo.gc.ca/pnw-ppe/violation-infraction/index-eng.html>, or to the DFO-Pacific Observe, Record and Report phone line.

Please notify this office at least 10 days before starting your project. A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet all other federal, territorial, provincial and municipal requirements that apply to your proposal.

If you have any questions with the content of this letter, please contact Sandy Foxall at our Nanaimo office at 250-756-7295, by fax at 250-756-7229, or by email at

.../4

Sandy.Foxall@dfo-mpo.gc.ca. Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Vincent Harper  
Senior Fisheries Protection Biologist  
Fisheries Protection Program

cc. Sandy Foxall, DFO, Nanaimo  
Peter Troffe, SCN-Lavalin, Burnaby  
David McWalter, SNC-Lavalin, Victoria



**City of  
Richmond**

**Rezoning Considerations**  
Development Applications Department  
6911 No. 3 Road, Richmond, BC V6Y 2C1

**Address:** 12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road **File No.:** RZ 18-824565

**Prior to final adoption of Richmond Zoning Bylaw 8500, Amendment Bylaw 9940, the developer is required to complete the following:**

1. Consolidation of all the lots into one development parcel.
2. Submission of a Contract entered into between the applicant and a Certified Arborist for supervision of any on-site works conducted within the tree protection zone of the trees to be retained. The Contract should include the scope of work to be undertaken, including: the proposed number of site monitoring inspections, and a provision for the Arborist to submit a post-construction assessment report to the City for review.
3. Installation of appropriate tree protection fencing around all trees to be retained as part of the development prior to any construction activities, including building demolition, occurring on-site.
4. Granting of an approximately 1,010 m (3,314 ft.) long Statutory Right-of-Way (SRW) for the purposes of dike works covering the entire dike alignment as outlined under "Section 5 Dike Works" of the Servicing Agreement requirements and to the satisfaction of the General Manager, Engineering and Public Works.
5. Registration of a legal agreement on title identifying a minimum habitable elevation of 3.85 m GSC for all new construction after May 1, 2019. The legal agreement shall indemnify the City for all flood-related damages at the site as a result of the variance, and shall include acceptance from the owner that flood protection on their site will be their sole responsibility. Based on BC Ferries' intended use of the site, which is incompatible with the City's flood construction level of 4.35 m geodetic for buildings outside of the dike, the City will permit the minimum Flood Construction Level to be lowered to 3.85 m with the understanding that the owner and applicant accept all risks associated with flooding due to construction outside of the City's dike.
6. The owner/applicant is to submit written confirmation from the Provincial Inspector of Dikes acceptable to the City's Director of Development that the proposed strategy to incrementally raise the subject site and structures in the future, as needed for flood protection, addresses any provincial flood protection requirements. The intent to incrementally raise the site and structures in the future as needed for flood protection will be the sole responsibility of the owner.
7. The owner/applicant is to submit to the City written confirmation of the GVWD's (Metro Vancouver) acceptance of the encroachment of the proposed dike and associated improvements into the GVWD water line right-of-way.
8. The submission and processing of a Development Permit\* completed to a level deemed acceptable by the Director of Development.
9. City acceptance of the developer's offer to voluntarily contribute \$0.24/SF (2018 rate) per buildable square foot (e.g. \$40,047.00) to the City's public art fund. This contribution is for both phase 1 and phase 2 of the development.
10. Discharge of the existing dike right-of-way (RD144951 with reference to plan NWD 59814). The discharge is to follow the registration of the replacement dike right-of-way noted earlier in these Rezoning Considerations.
11. Enter into a Servicing Agreement\* for the design and construction of dike works, utility services and frontage works. Works include, but may not be limited to, the following:

**PLN - 207  
PLN - 180**

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**A Servicing Agreement is required to design and construct the following works, to be registered on Title prior to Rezoning adoption.**

**1) Water Works:**

- a) Using the OCP Model and with the upgrades identified below, there will be 424 L/s of water available at a 20 psi residual at the Rice Mill Road frontage. Based on your proposed development, your site requires a minimum fire flow of 250 L/s.
- b) At Developer's cost, the Developer is required to:
  - i) Submit, as part of the first servicing agreement submission, Fire Underwriter Survey (FUS) fire flow calculations confirming that the available fire flow of 424 L/s with water main upgrades is adequate for onsite fire protection. Calculations must be signed and sealed by a Professional Engineer.
  - ii) Provide a right-of-way for the water meter. Minimum right-of-way dimensions to be the size of the meter box (from the City of Richmond supplementary specifications) + any appurtenances (for example, the bypass on W2o-SD) + 0.5 m on all sides. Exact right-of-way dimensions to be finalized via the servicing agreement process.
  - iii) Install a new water connection, complete with meter and meter box, to serve the proposed development.
  - iv) Provide fire hydrants along Rice Mill Road per City spacing requirements.
  - v) Upgrade approximately 680 m of 250 mm water main to 300 mm along Rice Mill Road from No 5 Road to the driveway entrance of the site as required to meet the fire flow demand for the proposed development.
- c) At Developer's cost, the City is to:
  - i) Reconnect all existing water service connections to the new water main.
  - ii) Complete all tie-ins for the proposed works to existing City infrastructure.

**2) Storm Sewer Works:**

- a) At Developer's cost, the Developer is required to:
  - i) Fill and abandon the existing 310 mm culvert at the entrance on Rice Mill Road to the driveway access to the development site. Prior to filling and abandoning the culvert, the developer's engineer shall confirm via video inspection that there are no connections to the culvert and that the culvert can be safely abandoned, and provide a signed and sealed letter with the servicing agreement confirming the same.
  - ii) Provide a sediment and erosion control plan for the proposed onsite and offsite works, to be reviewed as part of the servicing agreement design.

**3) Sanitary Sewer Works:**

- a) At Developer's cost, the Developer is required to:
  - i) Replace the portion of the existing privately-owned sanitary forcemain that is within the City road dedication (approximately 80 m) with approximately 30 m of City-owned gravity-fed sanitary sewer and approximately 50 m of privately-owned force main, located within the roadway. The exact lengths of private- and City-owned sewer shall be determined during the servicing agreement process. A gravity-fed system shall be used to the extent possible, transitioning to a private forcemain once issues with cover arise. The design of the forcemain shall minimize the length of the forcemain located within City road dedication as much as possible (i.e., shall transition into the development site as soon as possible).
  - ii) Enter into a license agreement with the City for the proposed encroachment of the privately-owned sanitary forcemain into City road right-of-way. The license agreement shall, among other things:
    - i. Place ownership, maintenance responsibility, and liability of the sanitary forcemain with the developer/owner;
    - ii. Impose license fees for use of the City road right-of-way;
    - iii. Require the developer/owner to design and construct the forcemain to the satisfaction of the General Manager, Engineering & Public Works via the servicing agreement;

- iv. Require the developer/owner to relocate or remove the forcemain upon reasonable request from the City;
  - v. Require the developer/owner to remove the private forcemain within the roadway and connect to a City-owned system if/when one becomes available, upon request from the City; and
  - vi. Indemnify the City.
- b) At Developer's cost, the City is to:
- i) Complete all tie-ins of the proposed works to existing City infrastructure.

**4) Frontage Improvements:**

- a) At Developer's cost, the Developer is required to:
- i) Coordinate with BC Hydro, Telus and other private communication service providers:
    - i. Before relocating/modifying any of the existing power poles and/or guy wires within the property frontages.
    - ii. To underground overhead service lines.
  - ii) Locate/relocate all above ground utility cabinets and kiosks required to service the proposed development, and all above ground utility cabinets and kiosks located along the development's frontages, within the development's site (see list below for examples). A functional plan showing conceptual locations for such infrastructure shall be included in the development design review process. Please coordinate with the respective private utility companies and the project's lighting and traffic signal consultants to confirm the requirements (e.g., statutory right-of-way dimensions) and the locations for the aboveground structures. If a private utility company does not require an aboveground structure, that company shall confirm this via a letter to be submitted to the City. The following are examples of statutory right-of-ways that shall be shown on the architectural plans/functional plan, the servicing agreement drawings, and registered prior to SA design approval:
    - BC Hydro PMT – 4.0 x 5.0 m
    - BC Hydro LPT – 3.5 x 3.5 m
    - Street light kiosk – 1.5 x 1.5 m
    - Traffic signal kiosk – 2.0 x 1.5 m
    - Traffic signal UPS – 1.0 x 1.0 m
    - Shaw cable kiosk – 1.0 x 1.0 m
    - Telus FDH cabinet – 1.1 x 1.0 m

**5) Dike Works:**

- a) Through this rezoning, the City will secure from the developer an approximately 1010 m-long dike and dike right-of-way through the development site. Based on the developer's site constraints and the proposed use of the site, the City understands that construction of the entire dike is not feasible for the developer at this time. The right-of-way for the entire dike will be registered through the rezoning process; however, the developer's construction of the dike will be done in stages, as follows:
- i) Segment 1, located roughly in the east half of the site, will be constructed to elevation 4.7 m in the future when needed for flood protection. The timing of constructing this segment will be determined by the City;
  - ii) Segment 2, located roughly in the centre of the site, will be constructed to an interim elevation of 4.0 m through this development's servicing agreement, then raised in the future to elevation 4.7 m when needed for flood protection. The timing of raising this segment from 4.0 m to 4.7 m will be determined by the City;
  - iii) Segment 3, located roughly on the west half of the site, will be constructed to elevation 4.7 m through this development's servicing agreement.
- b) In the future, Segments 1, 2, and 3 will be raised to elevation 5.5 m (not covered by this development). The rights-of-ways secured through this development will provide adequate space for the future 5.5 m dike.
- c) At Developer's cost, the Developer is required to:
- i) *Dike SRW*: Prior to rezoning adoption, provide registered statutory rights-of-ways for diking, as follows:
    - i. *Segment 1*: an approximately 430 m long SRW along the northern property line adjacent to the CNR property and the eastern property line adjacent to Rice Mill Road. This SRW shall begin at the NE corner

- of the bay and shall connect to the existing dike at the southern extent of Rice Mill Road, as shown on Appendix (1). The width of this SRW, which will be determined through the servicing agreement, shall be sufficient to fit a standard City dike to elevation 5.5 m with erosion protection. The SRW shall:
- (a) Prohibit any excavation or construction within the SRW without prior written consent from the City.
  - (b) Include provisions requiring the Developer to design and construct a dike to the satisfaction of the General Manager, Engineering and Public Works at a time where this is required for the purpose of flood protection, as determined at the sole discretion of the City. The dike shall be built to elevation 4.7 m and conform to the City and Provincial specifications and standards for dike design and construction that are most current at the time of design and construction. If the Developer fails to fulfill such obligations within the time specified in the right-of-way agreement, the City may carry out the Developer's obligations to complete the necessary construction, including the demolition of any existing structures within the SRW, at the Owner's cost.
  - (c) Provide the City with unrestricted vehicular and man access to all sections of the SRW for the purpose of dike maintenance and future upgrade.
  - (d) Upon completion of the construction of the dike, the City shall have full rights of access to the SRW area for the purposes of inspecting, maintaining and upgrading the dike. The dike will be owned and maintained by the City.
- ii. *Segments 2 & 3*: an approximately 17 m wide (or as required to fit a standard City dike to elevation 5.5 m with erosion protection, as determined through the servicing agreement), approximately 580 m long SRW extending north from the existing dike at the south-west corner of the site along the west side of Metro Vancouver's water main to the north property line of the site adjacent to CNR's property, and continuing eastward to tie into the Section A SRW identified above, as shown on Appendix (1). The SRW shall:
    - (a) Prohibit any excavation or construction within the SRW without prior written consent from the City.
    - (b) Provide the City with unrestricted vehicular and man access to all sections of the SRW for the purpose of dike maintenance and future upgrade.
    - (c) Upon completion of the construction of the dike, the City shall have full rights of access to the SRW area for the purposes of inspecting, maintaining and upgrading the dike. The dikes shall be owned and maintained by the City.
    - (d) *Segment 2*: Where the dike is not constructed to the City's standard to an elevation of 4.7 m, the SRW shall include provisions requiring the Owner/Developer to raise the dike to elevation 4.7 m at the Developer/Owner's cost, to the satisfaction of the General Manager, Engineering and Public Works at a time where this is required for the purpose of flood protection, as determined at the sole discretion of the City. If the Developer fails to fulfill such obligations within the time specified in the right-of-way agreement, the City may carry out the Developer's obligations to complete the necessary construction, including the demolition of any existing structures within the SRW, at the Owner's cost.
  - iii. Minimum building setback from the dike rights-of-way shall be 3.0 m for all new buildings. Existing buildings constructed prior to 2019 shall be exempt from this setback requirement.
  - iv. Any crossings of the dike SRW proposed for this development must be reviewed and approved by the City. This includes, but is not limited to, private onsite services such as water, storm, and sanitary, hydro, and tel. Crossings will be required to be designed and constructed in a way to minimize impact to the dike, and must be in conformance with Dike Maintenance Act Approval for Pipe Crossings of Dikes (2014) or any superseding guidelines.
  - v. The Developer shall coordinate the design and alignment of the Segment 1 dike and dike SRW with the Ministry of Transportation and Infrastructure, and ensure that the SRW width and configuration is adequate to construct a future 5.5 m dike that addresses MOTI concerns. The developer shall obtain a conceptual-level sign-off from MOTI for the future Segment 1 dike prior to the SRW width being finalized.
- ii) Discharge the existing dike right-of-way as reflected on Plan 59814.
  - iii) *Dike Access*: Provide maintenance vehicle access to all portions of the City dike and dike SRW, to the satisfaction of the General Manager, Engineering and Public Works. Prior to rezoning adoption, the developer is to provide a dike access plan showing how City maintenance vehicles will access the dike in the interim and ultimate conditions, and indicating any required items to facilitate access, such as ramps, turnarounds, rights-of-ways, etc., which shall be secured from the developer through the servicing agreement. Access ramps shall be designed to accommodate the TAC's SU vehicle and be at no more than 10% grade.

- iv) *Dike Construction:* Construct an approximately 580 m-long embankment dike within Segments 2 & 3 of the SRW, extending from the NE extent of the SRW (at the connection to Segment 1 of the SRW) to the south property line adjacent to property 003-543-765 as shown on Appendix (2). The dike shall satisfy the following conditions:
- i. The dike shall be designed by a Professional Geotechnical Engineer.
  - ii. The dike shall be constructed to an elevation of 4.7 m geodetic (except segment 2, as noted under point 3), and designed to accommodate a future elevation of 5.5 m geodetic. The waterside slope of the dike shall be a maximum of 2:1 and the landside slope of the dike shall be a maximum of 3:1, except as recommended by the developer's geotechnical engineer and reflected on Appendix (2). The crest of the dike shall be a minimum 4.0 m wide and shall accommodate vehicular access. All dike construction and design, including materials, shall be in conformance with City standard drawing MB-98 or MB-99, Dike Design and Construction Guide – Best Management Practices for British Columbia (2003), and Environmental Guidelines for Vegetation Management on Flood Protection Works to Protect Public Safety and the Environment (1999), or any superseding guidelines.
  - iii. *Segment 2:* At the existing asphalt parking lot (segment 2 on Appendix (2)), the dike crest elevation may be constructed to 4.0 m geodetic, with the ability to be raised to 5.5 m geodetic in the future.
  - iv. The dike shall be designed to have a smooth transition to the existing dike towards the west, with a maximum slope of 3:1. No retaining walls within the dike crest or slope area are permitted.
  - v. The dike shall include erosion protection on the waterside slope.
  - vi. The Developer shall coordinate the dike alignment, design and construction with Metro Vancouver with regards to impacts to and from Metro Vancouver's water transmission main.
  - vii. The design and construction of the dike shall complete to the satisfaction of the General Manager, Engineering and Public Works and any other relevant dike approving authorities. Once approved by the City, the developer must submit an application for a Dike Maintenance Act approval to the Ministry of Forest, Lands, Natural Resources Operations and Rural Development.
  - viii. The developer shall submit to the City a FLAC or Plaxis analysis for the dike to assess seismic performance of the dike design under the three seismic design scenarios specified in the Ministry of Forest, Lands, Natural Resources Operations and Rural Development's Seismic Design Guidelines for Dikes (2014) or any superseding guidelines.

**6) Sustainability:**

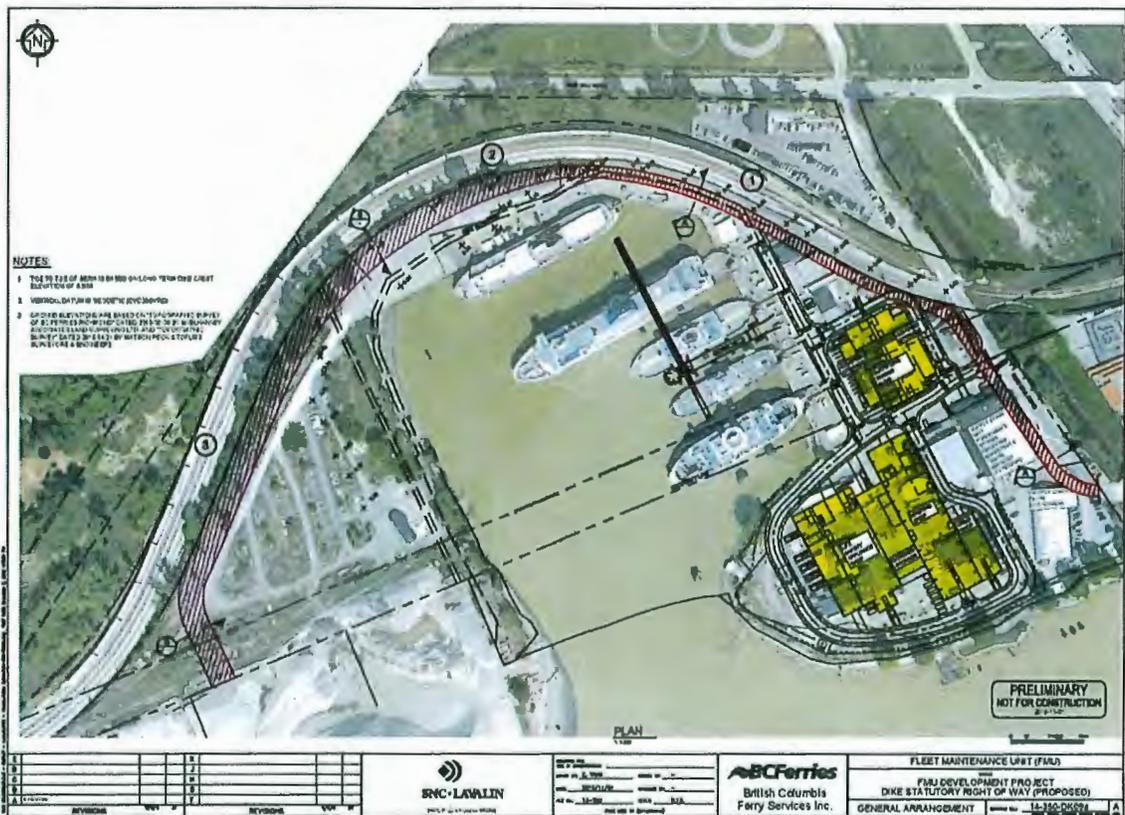
- a) Two redundant culvert crossings within the Riparian Management Area along the south side of Rice Mill Road are to be removed and the open watercourse reinstated and re-vegetated. Culvert removal will proceed in accordance with requirements under the Water Sustainability Act and Standards and Best Practices for Instream Works. Disturbed areas will be re-vegetated with a native riparian seed mix in accordance with the Riparian Area Regulation Re-vegetation Guidelines.
- b) A site-specific Erosion and Sediment Control Plan must be submitted to the City and approved by the Environmental Manager prior to any works being undertaken within, or that could impact, the designated Riparian Management Area(s).
- c) All works within, or that could impact, designated Riparian Management Areas are to be completed in accordance with the City of Richmond's Riparian Management Areas Bulletin INFO-23, the approved Construction Environmental Management Plan, and the site-specific Erosion and Sediment Control Plan.

**7) General Items:**

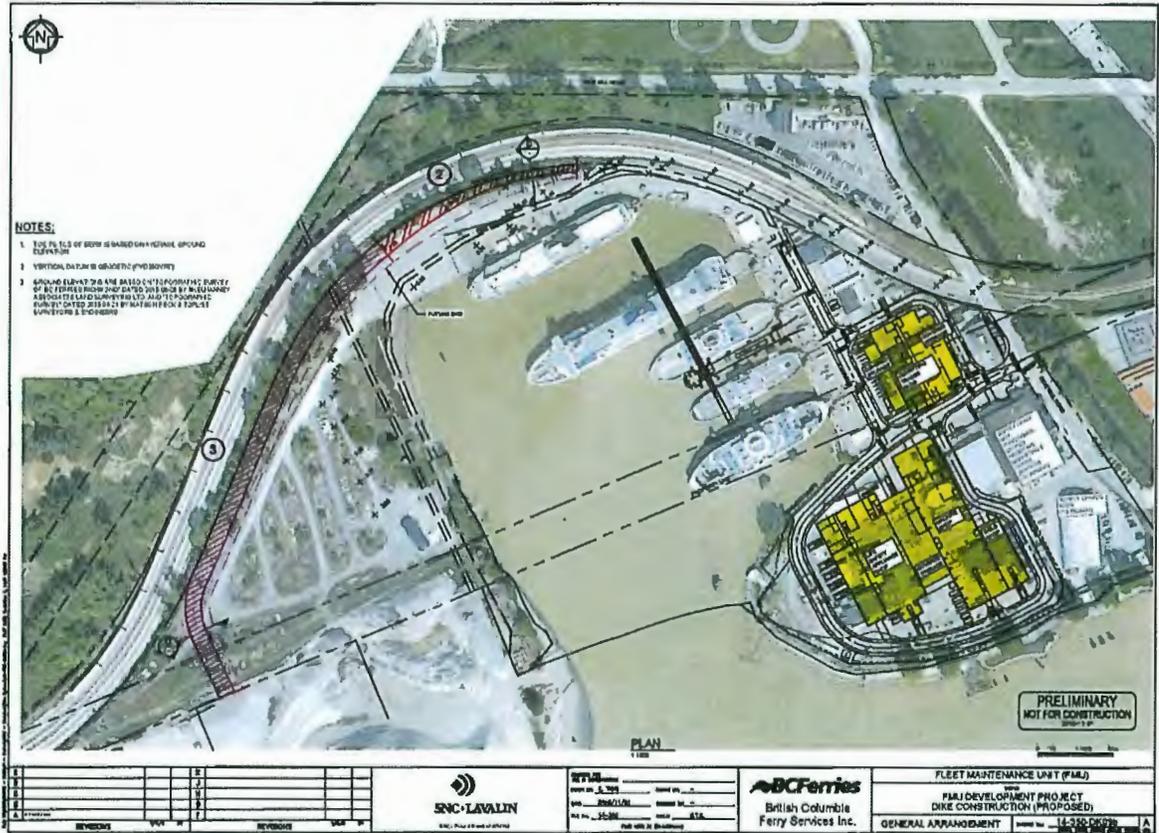
- a) At Developer's cost, the Developer is required to:
  - i) Coordinate with Metro Vancouver to:
    - i. obtain approval for the proposed encroachment of the dike fill into their existing water main right-of-way through the site;
    - ii. confirm any potential impacts due to construction;

- iii. provide any improvements, including modifications to the existing SRW, as required for the protection of the water main; and
- iv. comply with their requirements regarding the same.
- ii) Enter into, if required, additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering, including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.

Appendix 1



Appendix 2



**Prior to Building Permit Issuance, the developer must complete the following requirements:**

1. Submission of a Construction Parking and Traffic Management Plan to the Transportation Department. Management Plan shall include location for parking for services, deliveries, workers, loading, application for any lane closures, and proper construction traffic controls as per Traffic Control Manual for works on Roadways (by Ministry of Transportation) and MMCD Traffic Regulation Section 01570.
2. Incorporation of accessibility measures in Building Permit (BP) plans as determined via the Rezoning and/or Development Permit processes.
3. Obtain a Building Permit (BP) for any construction hoarding. If construction hoarding is required to temporarily occupy a public street, the air space above a public street, or any part thereof, additional City approvals and associated fees may be required as part of the Building Permit. For additional information, contact the Building Approvals Department at 604-276-4285.

**Note:**

- \* This requires a separate application.
- Where the Director of Development deems appropriate, the preceding agreements are to be drawn not only as personal covenants of the property owner but also as covenants pursuant to Section 219 of the Land Title Act.

All agreements to be registered in the Land Title Office shall have priority over all such liens, charges and encumbrances as is considered advisable by the Director of Development. All agreements to be registered in the Land Title Office shall, unless the Director of Development determines otherwise, be fully registered in the Land Title Office prior to enactment of the appropriate bylaw.

**PLN - 213**  
**PLN - 186**

Initial: \_\_\_\_\_

The preceding agreements shall provide security to the City including indemnities, warranties, equitable/rent charges, letters of credit and withholding permits, as deemed necessary or advisable by the Director of Development. All agreements shall be in a form and content satisfactory to the Director of Development.

- Additional legal agreements, as determined via the subject development's Servicing Agreement(s) and/or Development Permit(s), and/or Building Permit(s) to the satisfaction of the Director of Engineering may be required including, but not limited to, site investigation, testing, monitoring, site preparation, de-watering, drilling, underpinning, anchoring, shoring, piling, pre-loading, ground densification or other activities that may result in settlement, displacement, subsidence, damage or nuisance to City and private utility infrastructure.
- Applicants for all City Permits are required to comply at all times with the conditions of the Provincial *Wildlife Act* and Federal *Migratory Birds Convention Act*, which contain prohibitions on the removal or disturbance of both birds and their nests. Issuance of Municipal permits does not give an individual authority to contravene these legislations. The City of Richmond recommends that where significant trees or vegetation exists on site, the services of a Qualified Environmental Professional (QEP) be secured to perform a survey and ensure that development activities are in compliance with all relevant legislation.

[Signed Concurrence in File]

\_\_\_\_\_  
Signed

\_\_\_\_\_  
Date



**Richmond Zoning Bylaw 8500  
Amendment Bylaw 9940 (RZ18-824565)  
12700 and 12800 Rice Mill Road, 12280 and 12300 No. 5 Road**

The Council of the City of Richmond, in open meeting assembled, enacts as follows:

1. Richmond Zoning Bylaw 8500 is amended by inserting Section 23.14 thereof the following:

**“23.14 BC Ferries Fleet Maintenance and Moorage (ZI14)**

**23.14.1 Purpose**

A site specific zone to provide for the service, moorage and maintenance of BC Ferries fleet.

**23.14.2 Permitted Uses**

- commercial vehicle parking and storage
- contractor service
- industrial, general
- industrial, heavy
- manufacturing, custom indoor
- vehicle & equipment services, industrial
- vehicle body repair or paint shop
- vehicle repair

**23.14.3 Secondary Uses**

- residential security/ operator unit
- outdoor storage

**23.14.4 Permitted Density**

1. The maximum floor area ratio is 1.0.

**23.14.5 Permitted Lot Coverage**

1. The maximum lot coverage is 60% for buildings.

**23.14.6 Yards & Setbacks**

1. The minimum front (east) yard setback is 4.5 m for all new construction after May 1, 2019.
2. The minimum exterior side yard is 3.0 m.

3. There is no minimum interior side yard or rear yard.

#### **23.14.7 Permitted Heights**

1. The maximum **height** for **buildings** is the lesser of 22.2 m above top of building slab elevation or 26.6 m GSC.
2. The maximum **height** is 84.0 m GSC for a single heavy lift crane and 20.0 m for all other **accessory structures**.

#### **23.14.8 Subdivision Provisions/Minimum Lot Size**

1. There is no minimum **lot width, lot depth** or **lot area**.

#### **23.14.9 Landscaping & Screening**

1. **Landscaping** and **screening** shall be provided according to the provisions of Section 6.0.

#### **23.14.10 On-Site Parking and Loading**

1. On-site **vehicle** and bicycle parking and loading shall be provided according to the standards set out in Section 7.0.

#### **23.14.11 Other Regulations**

1. The following **Outdoor storage** uses are prohibited from occurring:
  - a. **Outdoor storage** of food products;
  - b. **Outdoor storage** of goods or materials that are capable of being transmitted above, across or below a land or water surface due to the effects of weather;
  - c. **Outdoor storage** of goods or materials that constitute a health, fire, explosion or safety hazard;
  - d. Producing, discharging or emitting odiferous, toxic, noxious matter or vapours, effluents, heat, glare, radiation, noise, electrical interference or vibrations.
2. In addition to the regulations listed above, the General Development Regulations in Section 4.0 and the Specific Use Regulations in Section 5.0 apply.”
2. The Zoning Map of the City of Richmond, which accompanies and forms part of Richmond Zoning Bylaw 8500, is amended by repealing the existing zoning designation of the following area and by designating it “**BC FERRIES FLEET MAINTENANCE AND MOORAGE (ZI14)**”.

That area shown cross-hatched on “Schedule A attached to and forming part of Bylaw No. 9940”

3. This Bylaw may be cited as “**Richmond Zoning Bylaw 8500, Amendment Bylaw 9940**”.

FIRST READING

\_\_\_\_\_

A PUBLIC HEARING WAS HELD ON

\_\_\_\_\_

SECOND READING

\_\_\_\_\_

THIRD READING

\_\_\_\_\_

OTHER CONDITIONS SATISFIED

\_\_\_\_\_

MINISTRY OF TRANSPORTATION AND  
INFRASTRUCTURE APPROVAL

\_\_\_\_\_

ADOPTED

\_\_\_\_\_

\_\_\_\_\_  
MAYOR

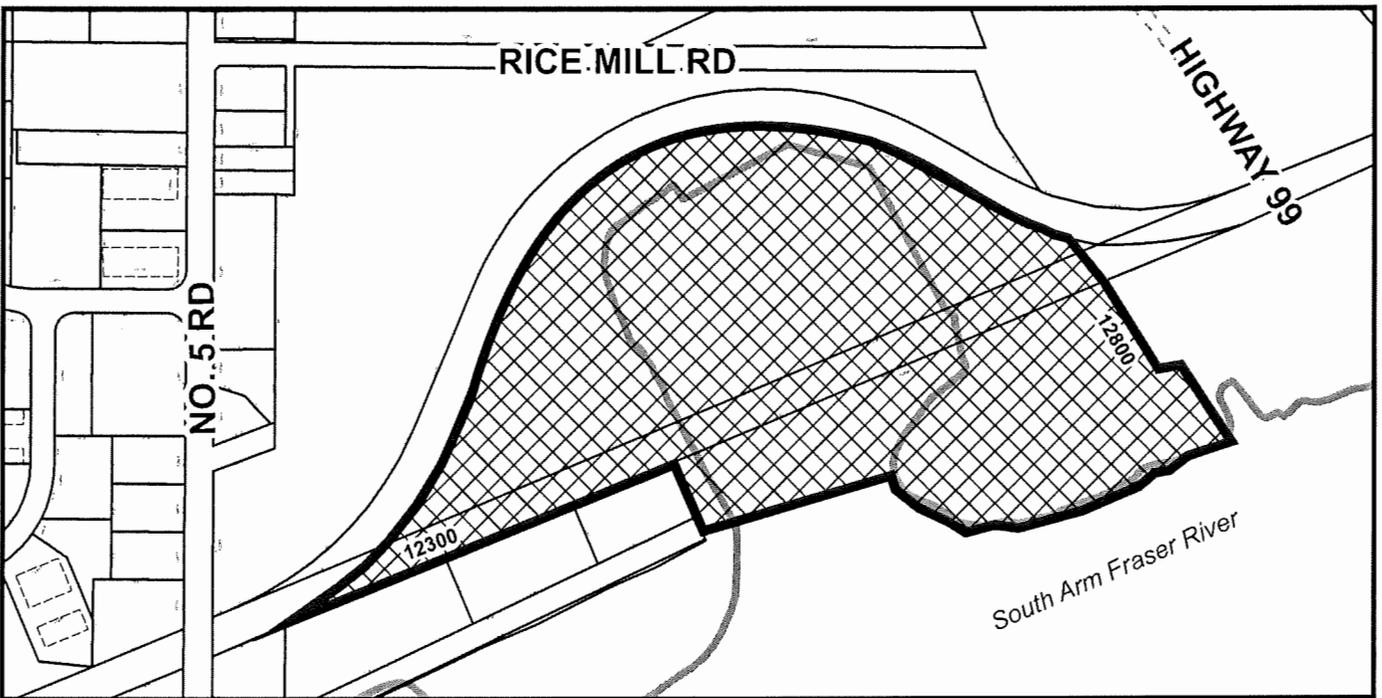
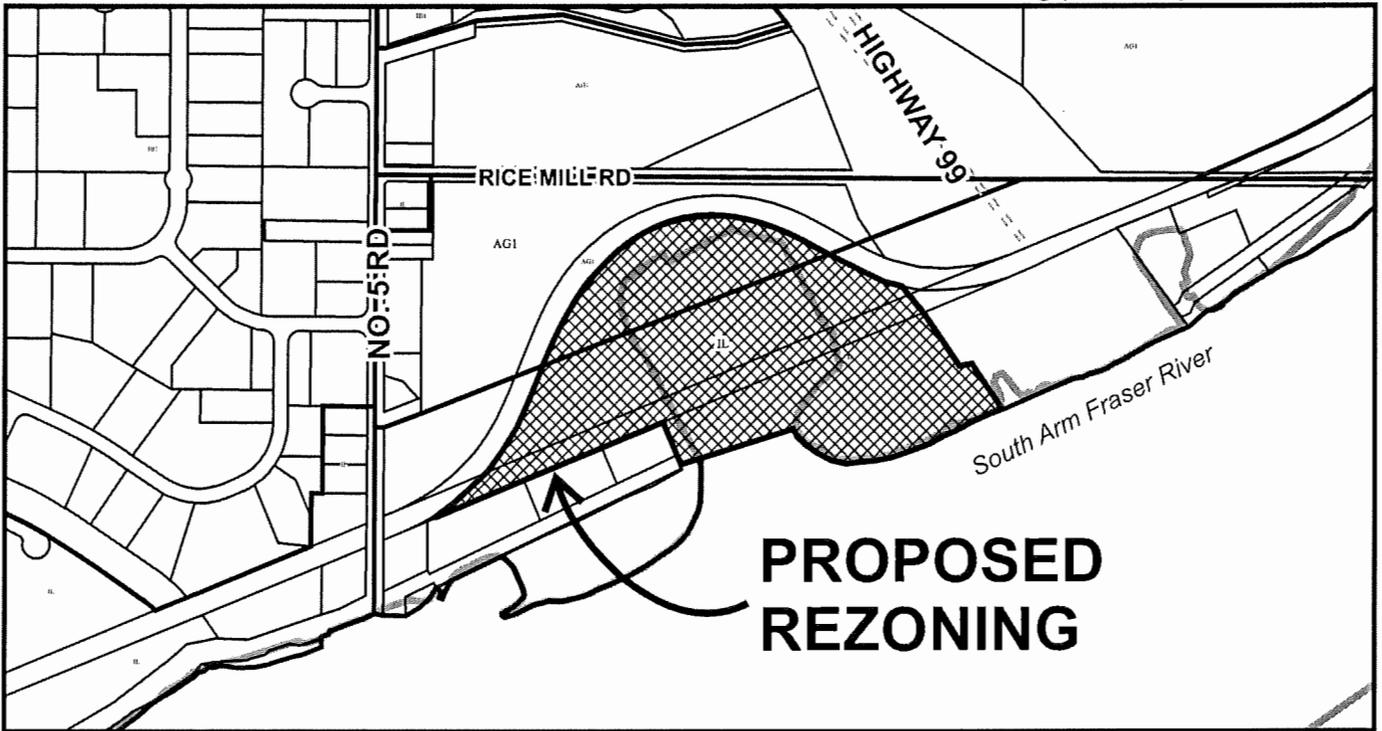
\_\_\_\_\_  
CORPORATE OFFICER

CITY OF RICHMOND
APPROVED by
<i>AB</i>
APPROVED by Director or Solicitor
<i>[Signature]</i>



# City of Richmond

Schedule A attached to and forming part of Bylaw No. 9940



## RZ 18-824565

Original Date: 06/20/18

Revision Date: 10/12/18

Note: Dimensions are in METRES

PLN - 191