



Development Permit Panel

**Council Chambers, City Hall
6911 No. 3 Road**

**Wednesday, July 25, 2018
3:30 p.m.**

MINUTES

Motion to adopt the minutes of the Development Permit Panel meeting held on July 11, 2018.

- 1. GENERAL COMPLIANCE – REQUEST BY OMICRON ARCHITECTURAL ENGINEERING CONSTRUCTION LTD. FOR A GENERAL COMPLIANCE RULING AT 15111 WILLIAMS ROAD AND RICHMOND KEY 195105**

(File Ref. No.: DP 11-566011) (REDMS No. 5862615 v. 2)

APPLICANT: Omicron Architectural Engineering Construction Ltd.

PROPERTY LOCATION: 15111 Williams Road and Richmond Key 195105

Director's Recommendations

That the attached plans to the staff report titled “Application by Omicron Architectural Engineering Construction Ltd. for a General Compliance Ruling at 15111 Williams Road and Richmond Key 19510,” dated June 28, 2018, from the Director, Development, involving changes to the development design be considered in General Compliance with Development Permit DP 11-566011.

- 2. New Business**

- 3. Date of Next Meeting: August 15, 2018**

ADJOURNMENT



City of Richmond

Minutes

Development Permit Panel Wednesday, July 11, 2018

Time: 3:30 p.m.

Place: Council Chambers
Richmond City Hall

Present: Cecilia Achiam, Chair
John Irving, Director, Engineering
Victor Wei, Director, Transportation

The meeting was called to order at 3:30 p.m.

Minutes

It was moved and seconded

That the minutes of the meeting of the Development Permit Panel held on June 27, 2018 be adopted.

CARRIED

1. Development Permit 17-781050 (REDMS No. 5868738 v. 3)

APPLICANT: 1082843 BC Ltd (Refined Properties)

PROPERTY LOCATION: 22720 and 22740 Westminster Highway

INTENT OF PERMIT:

1. Permit the construction of a 25-unit townhouse project on a site zoned "High Density Townhouses (RTH1)"; and
2. Vary the provisions of Richmond Zoning Bylaw 8500 to reduce the exterior side yard setback to McLean Avenue from 4.5 m (14.8 ft.) to 4.0 m (13.1 ft.) for limited portions of two buildings.

Applicant's Comments

Karen Smith, Engage Architecture, provided background information on the proposed development and highlighted the following:

1.

Development Permit Panel

Wednesday, July 11, 2018

- the proposed townhouse project consists of 25 units in six buildings with a typical building height of three-storeys;
- the subject site is close to public transit connections;
- there are no habitable spaces on the ground floor of the townhouse units due to flood plain restrictions;
- all units are provided with a balcony and private yard;
- two convertible units are proposed and all units are provided with aging-in-place features; and
- the proposed exterior side yard setback variances are minimal and apply to small sections of two buildings (Buildings 1 and 6) along McLean Avenue;

In addition, Ms. Smith reviewed the proposed shingle style architecture for the buildings and its main features, which include, among others, gables, large exterior shingle surfaces and windows, and projecting bays. Also, Ms. Smith reviewed the proposed architectural treatments, materials and colour scheme for the project.

In closing, Ms. Smith noted that in response to the recommendations of the Advisory Design Panel, the design team introduced changes to improve the project, including (i) emphasizing the gable ends of the two buildings facing Westminster Highway, (ii) shifting the large trellis feature closer to the site entry, (iii) reducing the building setback along Westminster Highway but still meeting the zoning requirements to increase the separation between the two buildings in the middle of the site (i.e., Buildings 4 and 5), and (iv) slightly increasing the size of the outdoor amenity area and introducing additional surface paving treatment within and around the outdoor amenity area.

Meredith Mitchell, M2 Landscape Architecture, provided an overview of the main landscaping features of the project and highlighted the following:

- large street trees are proposed along Westminster Highway to provide a significant presence;
- trees proposed to be planted along McLean Avenue are medium-sized and trees on private yards will be planted in pots due to the statutory right-of-way (SRW) to be registered on the site adjacent to McLean Avenue;
- native and adaptive non-native plant materials are proposed on the site, majority of which are medium-sized deciduous trees to allow for sunlight penetration into the site;
- the programming for the outdoor amenity area has been simplified to provide for active and passive uses;
- the paving treatment across the internal drive aisle adjacent to the outdoor amenity area has been modified to visually enlarge the amenity space;
- the location of the trellis feature and paving treatment at the site entry have been modified to make the entry to the site more welcoming;
- some existing on-site trees will be removed and remaining trees will be protected;

Development Permit Panel

Wednesday, July 11, 2018

- a large Douglas fir feature tree is proposed at the southeast corner of the site adjacent to the cul-de-sac to draw attention towards the site entry and differentiate it from the entry to the adjacent single-family home; and
- a bench is proposed to be installed at the corner of Westminster Highway and McLean Avenue to provide a seating area and community amenity at the corner.

In reply to queries from the Panel, the project's design team noted that (i) the proposed size of street trees will be determined through the Servicing Agreement and considers the location of services and utility kiosks as well as a lamp post along Westminster Avenue, (ii) the small size of the site and the provision for street access in buildings fronting Westminster Highway do not necessitate the provision of a pedestrian pathway to access the bus stop to the north of the site along Westminster Highway, and (iii) the applicant will investigate opportunities for increasing the permeable surface paving treatment on the site.

Staff Comments

Wayne Craig, Director, Development, noted that (i) there is a Servicing Agreement associated with the project which includes frontage works along Westminster Highway and McLean Avenue and construction of a cul-de-sac at the east end of McLean Avenue, (ii) the proposed setback variances apply to limited portions of two buildings and respond to the context appropriately, (iii) acoustical reports will be provided that address CMHC noise standards and interior thermal conditions prior to the subject development permit application advancing to Council, and (iv) the project has been designed to achieve an EnerGuide rating of 82.

Gallery Comments

None.

Correspondence

None.

Panel Decision

It was moved and seconded

That a Development Permit be issued which would:

1. ***permit the construction of a 25-unit townhouse project on a site zoned "High Density Townhouses (RTH1)"; and***
2. ***vary the provisions of Richmond Zoning Bylaw 8500 to reduce the exterior side yard setback to McLean Avenue from 4.5 m (14.8 ft.) to 4.0 m (13.1 ft.) for limited portions of two buildings.***

CARRIED

Development Permit Panel
Wednesday, July 11, 2018

2. Date of Next Meeting: July 25, 2018

3. Adjournment

It was moved and seconded

That the meeting be adjourned at 3:46 p.m.

CARRIED

Certified a true and correct copy of the Minutes of the meeting of the Development Permit Panel of the Council of the City of Richmond held on Wednesday, July 11, 2018.

Cecilia Achiam
Chair

Rustico Agawin
Committee Clerk



City of Richmond

Report to Development Permit Panel

To: Development Permit Panel

Date: June 28, 2018

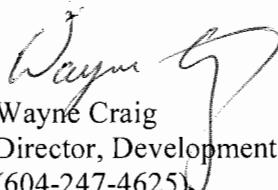
From: Wayne Craig
Director, Development

File: DP 11-566011

Re: Application by Omicron Architectural Engineering Construction Ltd. for a
General Compliance Ruling at 15111 Williams Road and Richmond Key 195105

Staff Recommendation

That the attached plans involving changes to the development design be considered in General Compliance with Development Permit DP 11-566011.



Wayne Craig

Director, Development
(604-247-4625)

WC:db
Att. 5

Staff Report

Origin

Omicron Architectural Engineering Construction Ltd., on behalf of Ecowaste Industries Ltd., has requested a General Compliance Ruling regarding a previously issued Development Permit (DP 11-566011) for the Richmond Industrial Centre development at 15111 Williams Road and Richmond Key 195105 (Attachment 1), which was endorsed by the Development Permit Panel at its meeting held on July 13, 2016, and approved by Council on January 23, 2017.

The main changes to the approved Development Permit include the following:

1. Straightening Pierson Road by shifting the southern end approximately 40 m to the east (Attachment 2). Modifications to the statutory right-of-way (SRW) legal documents and the related Servicing Agreement plans (SA13-641028, SA14-677209, SA16-737220) will be required to reflect the change in alignment and the associated works (e.g. frontage improvement relocations, fill adjustments, off-site landscaping, etc.).
2. Modifications to the lease lot configurations, conceptual building layouts and on-site landscaping and parking.
3. Modifications to the configuration and landscaping selections for the ESA/RMA compensation planting area at the south foot of Pierson Road. The modifications are required to address the implications of additional fill needed to accommodate the shifting of the Pierson Road – Francis Road intersection eastward along Francis Road. This extra fill will result in a slight (approximately 30 m²) encroachment into the ESA/RMA compensation area. The encroachment is addressed through increased habitat compensation as discussed in the analysis section of this report.

Attachment 3 shows the relevant approved Development Permit plans which require adjustments (the areas of adjustment are cloud outlined on each sheet). Attachment 4 shows the proposed replacement Development Permit plans.

Background

Development surrounding the subject site is as follows:

To the north: A 54 ha (132.5 acre) Agriculture (AG1) zoned parcel owned by Ecowaste Industries and operated as a landfill site under the authority of the Ministry of Environment.

To the east: No. 7 Road Canal and Port Metro Vancouver's Port terminal and associated industrial lands. These properties are zoned "Industrial (I)".

To the south: A Canadian National Railway right-of-way (ROW) and a 30.35 ha (75 acre) lot owned by Port Metro Vancouver (PMV) are located immediately south of the development site. The PMV site is currently vacant, but is expected to be used for port related industrial uses. The western most portion of PMV's site is being prepared for the proposed Vancouver Airport Fuel Facilities Corp. (VAFFC) jet fuel receiving facility. The PMV site is zoned "Industrial (I)".

On the south side of Williams Road, is a 3.8 ha (9.5 acre) “Industrial (I)” zoned parcel owned by the VAFFC. The VAFFC is proposing to use this property for its YVR marine terminal facility for offloading jet fuel from marine vessels.

To the west: Across the Savage Road road allowance, five large lots all within the Agricultural Land Reserve (ALR). Zoning on four of the properties is Agricultural (AG1); while zoning on the fifth lot is Golf Course (GC). The golf course is known as “Country Meadows”. Only one (1) of these lots is currently being farmed.

Finding of Facts

Neither Pierson Road nor Zylmans Way are dedicated roads. As part of the Development Permit considerations associated with the approved Development Permit (DP 11-566011) Statutory Right-of-Ways (SROWS) were registered over these two private roads to allow public right-of-passage (PROP) once the roads have been constructed. These roads will be designed and constructed through City Servicing Agreements. The straightening of Pierson Road will necessitate a corresponding adjustment to the SROW associated with that road alignment. The analysis section of this report outlines the implications and rationale behind the proposed road realignment.

Analysis

Pierson Road Realignment

The proposal involves moving the southern end of Pierson Road approximately 40 m to the east; allowing for a straightening of Pierson Road between Blundell Road and Francis Road. See Attachment 2 for an overlay showing the existing and proposed Pierson Road alignment. The rationale for straightening Pierson Road is to allow for more efficient use of the land base.

Building footprints and parking layouts for the proposed developments adjacent to Pierson Road, particularly for areas in vicinity of buildings #2, 7, 9 and 10 (as shown on the Development Phasing Plan in Attachments 3 and 4), will be significantly improved with the more regular lot shapes. Neither Engineering staff nor Transportation staff have concerns with the Pierson Road realignment and these roads will be reviewed through amendments to the current Servicing Agreements.

Lease Lot Area Configuration and Conceptual Building Footprints

Under the original Development Permit application conceptual building sizes, building footprints and parking areas were provided in the development phasing plan drawings. While Ecowaste Industries is taking a “build to suit” approach to the development, each Building Permit application is reviewed by City staff to ensure compliance with the master plans approved as part of the original Development Permit (DP 11-566011). The modifications proposed through this application were considered by staff to be significant enough to warrant the General Compliance ruling.

In the proposed revised conceptual layout, five building lease lot areas and three building footprints would be adjusted. The adjustments will result in a relatively small increase in the site’s total floorspace of approximately 743 m^2 ($8,000 \text{ ft}^2$) for an overall build out total of approximately $266,678 \text{ m}^2$ ($2,870,500 \text{ ft}^2$). What this modest space increase does not convey is the more important aspect of improved and more useable building footprints which will be more attractive to today’s high tech industrial users. Even with the proposed overall floorspace to

increase the total proposed floorspace of 0.41 FAR will be well below the 1.0 FAR maximum permitted under the “Industrial (I)” zone for the 652,110 m² site.

While parking requirements will be determined with each “build to suit” application, the revised conceptual layout appears to be more typical and more efficient in the vicinity of buildings 9 and 10 in particular. The new layout will improve the truck yards for both buildings by making them larger and more flexible for circulation and trailer storage. Actual parking requirements and final layouts will be confirmed with each subsequent Building Permit application.

Landscape Adjustments

The proposed road/lease lot adjustments will result in a reconfiguration of the landscaping related to each on-site building application and landscaping along the Pierson Road street frontages as a result of the road realignment. Adjustments to the Pierson Road street frontages landscaping will be addressed via modified plan submissions as part of the Servicing Agreement(s).

On-site building related landscaping would be addressed with each Building Permit application and reviewed against the landscaping master plans approved as part of the original Development Permit (DP 11-566011). The proposed landscape revisions will result in an increase of 40 additional trees, 313 additional shrubs and 730 m² (7,858 ft²) more seeded areas over the originally approved Development Permit plans.

ESA/RMA Compensation Area

Because development north of Francis Road will be built atop the Eowaste landfill, their grade elevations will be significantly higher than the grade elevations for the portion of the development south of Francis Road (i.e. up to 15 m GSC north of Francis Road vs. 5 to 7 m GSC south of Francis Road). In order for Francis Road to connect to Pierson Road, the original development proposed fill to be added to Francis Road to gradually rise up to Pierson Road. With the proposed shifting of the Pierson Road/Francis Road intersection eastward by 40 m, as shown in Attachment 2, the required fill within the Francis Road Right of Way will also extend further eastward with the effect of creating a slope encroachment into the area where the future ESA/RMA compensation area will be located just south of Francis Road. Engineering staff have reviewed this proposal and have no concerns with the additional fill proposed but will monitor the fill works through the required Servicing Agreements to ensure compliance with City Engineering standards.

To mitigate the impacts of the 30 m² slope encroachment into the future ESA/RMA compensation area from the extra fill on the Francis Road Right of Way, the applicant’s environmental consultants, Keystone Environmental, have redesigned the proposed compensation enhancement by adjusting the shape of the proposed wetland and its cross section profile. In addition, they have refined the species selection list to better suit the modified terrain. As a result, the revised compensation planting area increases the aquatic net benefit by 952 m² over the approved Development Permit plans to 1,132 m² and increases the terrestrial net benefit by 1,000 m² over the approved Development Permit plans to 5,088 m². Overall, the habitat balance under the revised plan will increase by approximately 22.6%.

The revised plans include updated representative planting sections and plant selection lists. All of the proposed plant selections are native species selected for suitability to the terrain where they will be planted. A report by Keystone Environmental comparing the approved Development Permit plan for the ESA/RMA compensation area and the proposed revised plan is provided in Attachment 5.

Legal Agreement Revisions

Under the approved Development Permit (DP 11-566011), a detailed set of legal agreements were registered on Title, including Statutory Right-of-Ways associated with the road alignments, covenants to ensure on-site and ESA/RMA landscaping will be installed, covenants for planted ALR buffers, covenants outlining development phasing including utility construction phasing and Public Art contributions.

The proposed adjustments to the Development Plans provided in Attachment 4 will require amendments to five legal documents that were registered in association with DP 11-566011. The table below provides a summary overview of the nature of the changes involved.

Table 1: Legal Documents Requiring Adjustment

Legal Documents Requiring Amendment	Summary of Changes Required
No Build Covenant over lands north of Francis Road	Replace Phasing Plan
No Build Covenant over lands south of Francis Road	Replace Phasing Plan
Public Art and Landscaping Covenant over the entire development site	Replace Phasing Plan. Replace Landscape Plan and Planting List
Surveyor Plan EPP 65854 and Application	Replace the surveyor reference plan.
Covenant, Statutory Right of Way and Rent Charge (public right of passage) over the entire development site	Replace the surveyor reference plan Replace Phasing plan

The proposed shifting of Pierson Road and the related filling within the Francis Road Right of Way will also affect the alignment of an emergency access route through the site that was required as part of the approved Development Permit (DP 11-566011).

The Statutory Right-of-Way and Covenant registered on Title is flexible enough to accommodate the proposed alignment shifts, but a requirement for submission of a report by a qualified surveyor, confirming that the affected area complies with the relevant sections of the Building Code providing for emergency access (i.e. BCBC 3.2.5.6) is required. Submission of this confirmation will be required prior to Council approval of the proposed General Compliance. Full design of the crossing will be addressed through the development's Servicing Agreement.

Conclusions

Omicron Architectural Engineering Construction Ltd. has requested a General Compliance Ruling on the approved Richmond Industrial Centre development at 15111 Williams Road and Richmond Key 195105 to accommodate the straightening of Pierson Road and more efficient use of the available land. The proponent's modifications will also result in improved landscaping for on-site areas and the ESA/RMA compensation area.

Staff have no objections to the proposed revisions and recommend support of this General Compliance request for the proposed changes to the approved Development Permit and related legal agreements as outlined in this report.



David Brownlee
Planner 2
(604-276-4200)

DCB:blg

Attachments:

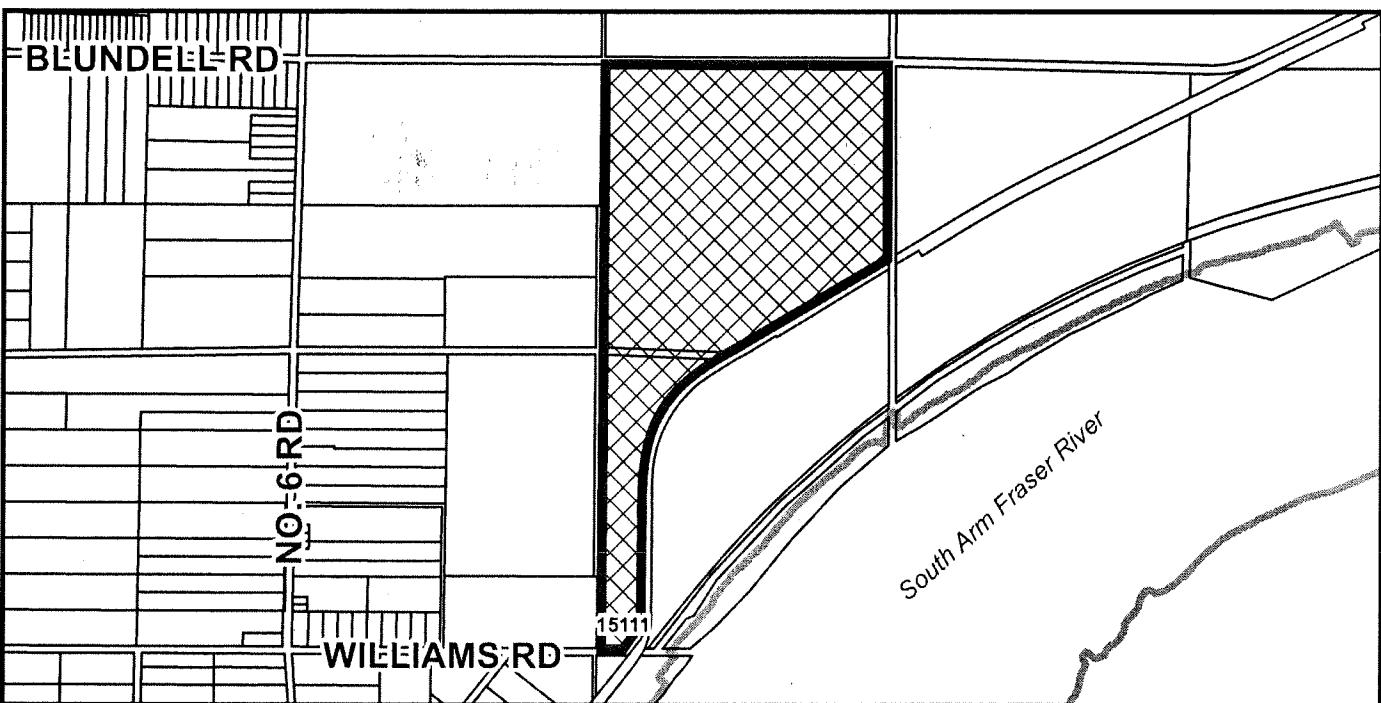
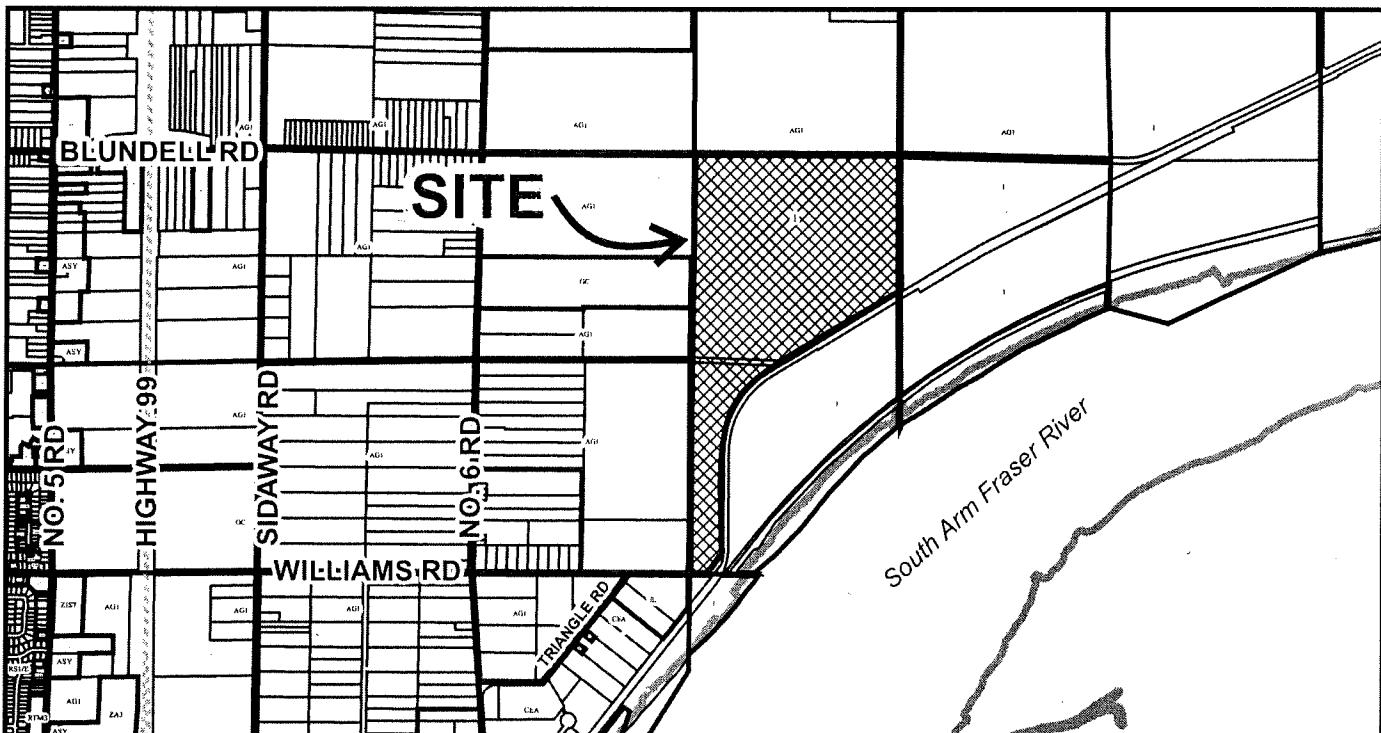
- Attachment 1: Location Map
- Attachment 2: Overlay Plan Showing the Existing and Proposed Pierson Road Alignment
- Attachment 3: Copies of Relevant Approved Development Permit Plans With Changes Outlined
- Attachment 4: Proposed Replacement Development Permit Plans
- Attachment 5: Keystone Environmental Report – RIC Graymont/Pierson Road Realignment Compensation Wetland Feasibility Ecowaste.

The following are to be met prior to Council approval:

- Registration of the modified legal documents as outlined in Table 1.
- Confirmation by a qualified surveyor that the emergency access area affected by the proposed realignment of Pierson Road comply with the Access Route Design section (BCBC 3.2.5.6) of the Provincial Building Code.



**City of
Richmond**

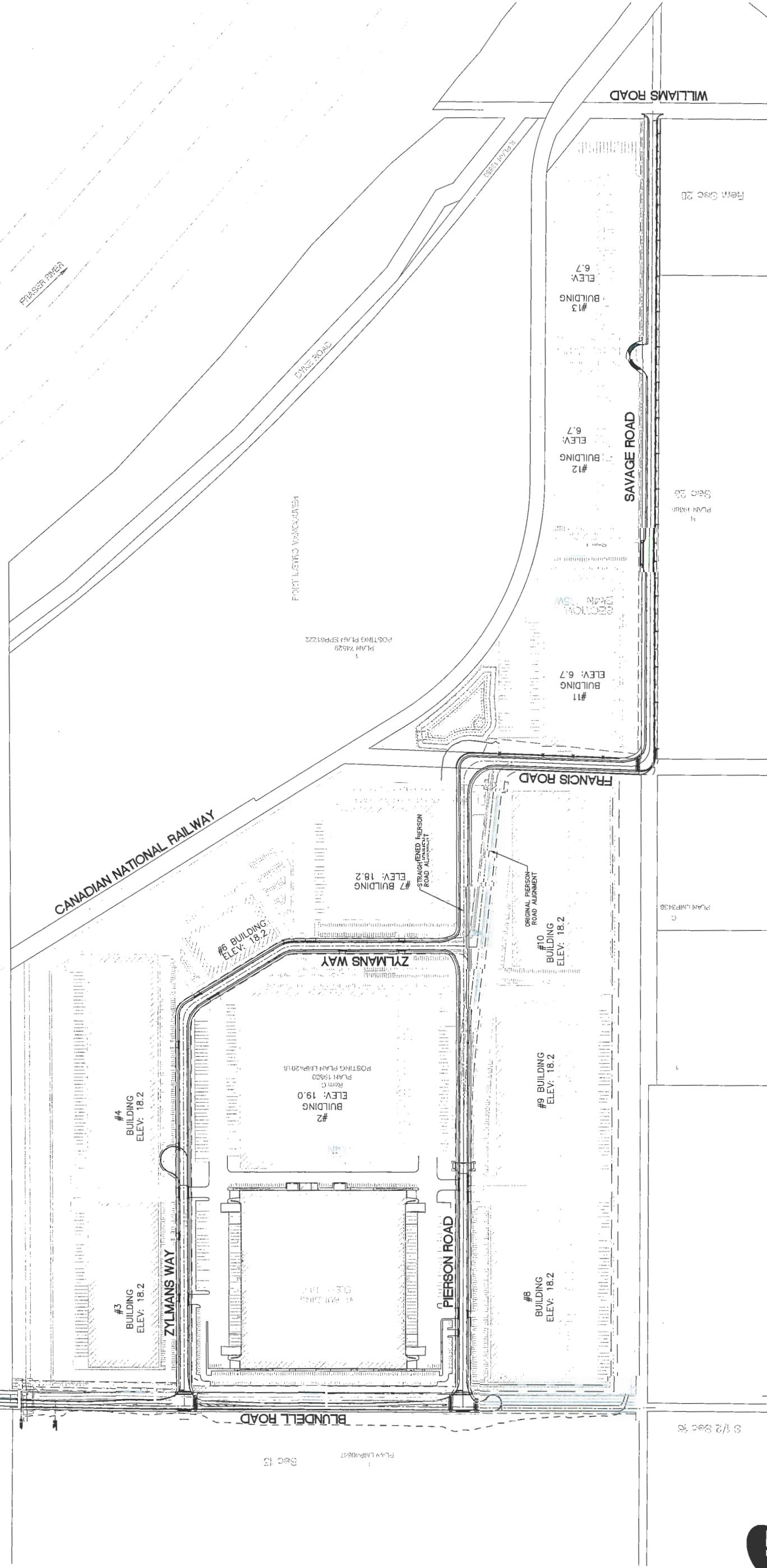


N	DP 11-566011	Original Date: 06/08/18
		Revision Date:
Note: Dimensions are in METRES		

ATTACHMENT 2:

Overlay Plan Showing The Existing And Proposed Pierson Road Alignment

No. 7 ROAD CANAL



B.C. GAS SERVICES
200-4090 Cassiar Hwy, Kelowna, BC V1Z 4L5
Phone: 250-862-2321-1411
Fax: 604-391-6163

TELEPHONE: 1-800-742-5885
CELLPHONE: 4886-2743-01-C-SK010
NOTE: B.C. GAS REQUIRES 10 DAYS NOTICE PRIOR TO THE COMMENCEMENT OF ANY WORK.
PLANS & A LIST OF SERVICE LINE LOCATIONS MUST BE OBTAINED FROM:

BC. CAL.
CITY PROJECT NO. 2011-2743
PHONE: 250-862-2321-1411
FAX: 604-391-6163

PIERSON ROAD STRAIGHTENING CONCEPTUAL REVIEW
DESCRIPTION
REVISIONS

CITY FILE NO. SAI6-737220
CITY OF RICHMOND
ROAD
6911
VER 2C
RICHMOND, B.C.

ELOWASTE INDUSTRIES LTD.
RICHMOND INDUSTRIAL CENTRE - PHASE 1 AND PHASE 2
ROADWORKS
PIERSON ROAD REALIGNMENT
PHASING PLAN

DESIGN: Lb.
DRAWN: Lb.
CHECKED: C.C.
BROUGHT IN: Lb.
SHEET NO.: 2743-01-C-SK010
DATE: 2016/02/17
SCALE: 1:2500
SEC. NO.: 2743-5
REV.: 0f

PLAN NO.: 15629
POSTING PLAN LPB12018

PLAN DATE: 2016/02/17

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

PLAN CHECKED BY: PLANNING DEPT.

PLAN APPROVED BY: PLANNING DEPT.

PLAN ISSUED BY: PLANNING DEPT.

PLAN REVISED BY: PLANNING DEPT.

PLAN DRAWN BY: PLANNING DEPT.

</

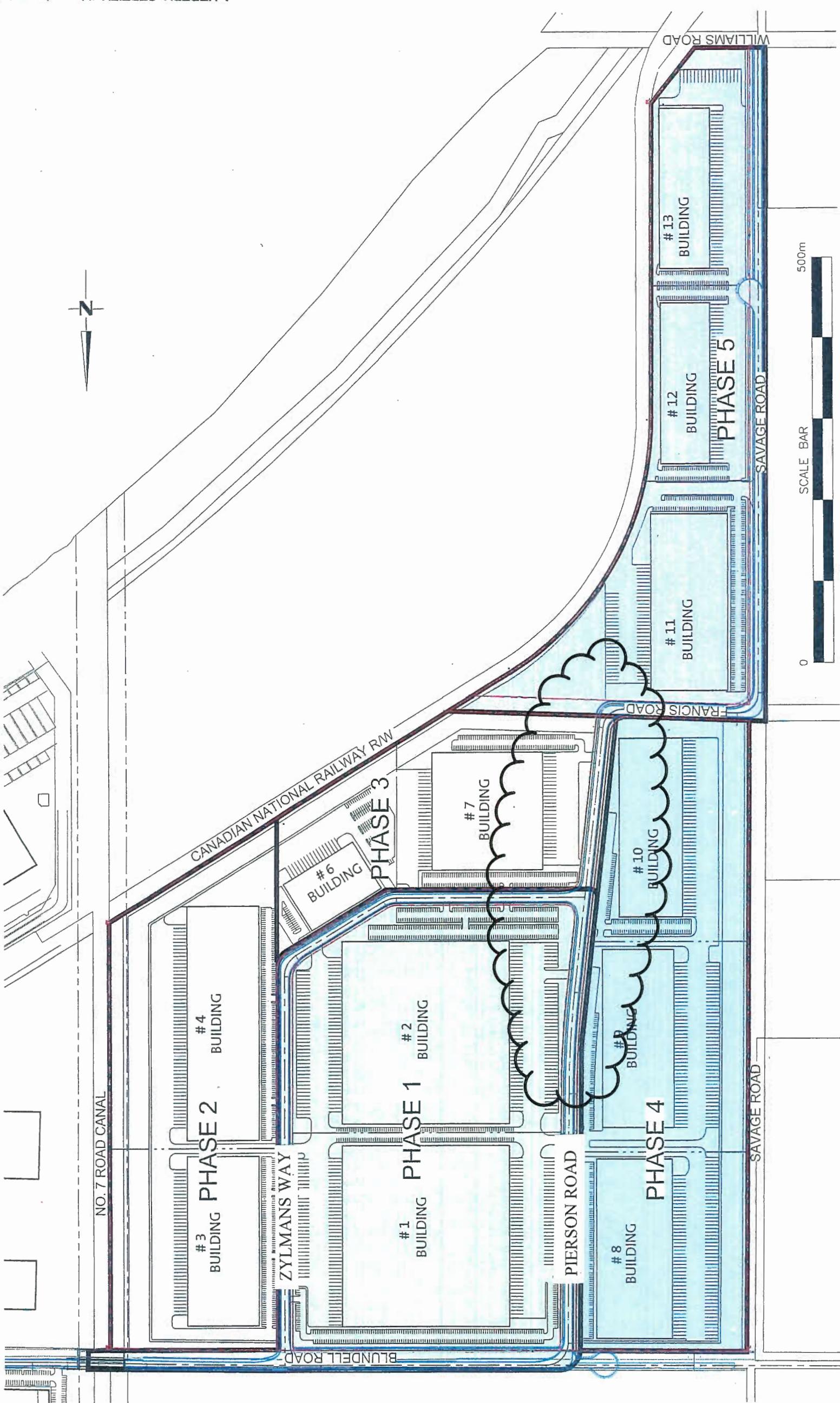
ATTACHMENT 3:

Copies Of Relevant Approved Development Permit Plans With Changes Outlined

JUL 13 2016

PL 13 #1

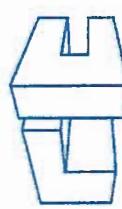
CLAUDIA JESSON, Acting Corporate Officer
 Approved by Richmond City Council on January 23, 2011
 correct copy of P 2 of 19 to DP 11-56601
 I HEREBY CERTIFY this to be a true and



DEVELOPMENT PHASING PLAN

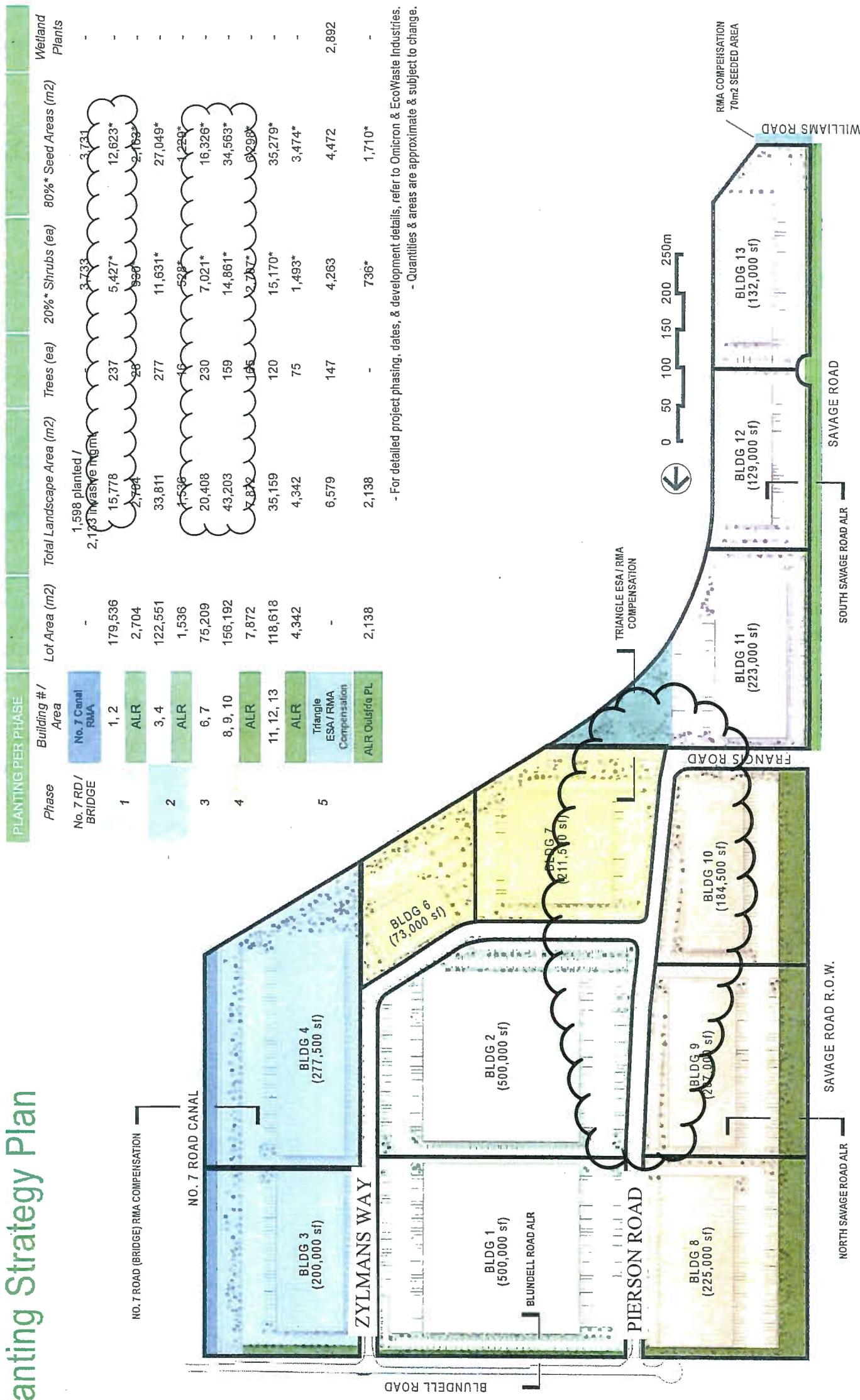
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
 FILE NO. DP 11-56601

Richmond
Industrial
Centre



NP 11-56601

Planting Strategy Plan



LANDSCAPE PLAN AND PLANTING OVERVIEW

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-56601



NP 11 - 566011

Richmond
Industrial
Centre

JUL 13 2016

2016

CLAUDIA JESSEN, Acting Corporate Officer
Approved by Richmon City Council on January 25, 2011
I HEREBY CERTIFY this to be a true and
correct copy of P 3 of 14 to DP 11-566011

Proposed Plant Lists - Site & ALR Buffer

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	<i>AMELANCHIER ALNIFOLIA</i>	SERVICEBERRY	MIXED 7, 10 POTS
2	<i>BETULA NIGRA</i>	RIVER BIRCH	MIXED 7, 10 POTS
3	<i>CRATAEGUS SPP.</i>	HAWTHORN	MIXED 7, 10 POTS
4	<i>MALUS FUSCA</i>	PACIFIC CRAB APPLE	MIXED 7, 10 POTS
5	<i>PICEA SPP</i>	SPRUCE	MIX 1.2 - 2.5M HT
6	<i>PINUS CONTORTA</i>	SHORE PINE	MIX 1.2 - 2.5M HT
7	<i>PRUNUS EMARGINATA</i>	BITTER CHERRY	MIXED 7, 10 POTS
8	<i>PSEUDOTSUGA MENZIESII</i>	DOUGLAS FIR	MIX 1.2 - 2.5M HT
9	<i>ROBINA PSEUDOACACIA</i>	BLACK LOCUST	MIX 1.2 - 2.5M HT
10	<i>QUERCUS PALUSTRIS</i>	PIN OAK	MIX 1.2 - 2.5M HT

REPRESENTATIVE SHRUBS & WETLAND PLANTS

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	<i>SASKATOON</i>	AMELANCHIER ALNIFOLIA	5 POTS
2	<i>*RED-OOSIER DOGWOOD</i>	CORNUS SERICEA OR C. STOLONIFERA	5 POTS
3	<i>PACIFIC NINEBARK</i>	PHYSOCARPUS CAPITATUS	5 POTS
4	<i>*SNOWBERRY</i>	SYMPHORICARPOS ALBUS	5 POTS
5	<i>*THIMBLEBERRY</i>	RUBUS PARVIFLORUS	5 POTS
6	<i>*SALMONBERRY</i>	RUBUS SPECIOSUS	5 POTS
7	<i>HOOKER'S WILLOW</i>	SALIX HOOKEANA	5 POTS
8	<i>*RED ELDERBERRY</i>	SAMBUCUS RACEMOSA VAR. ARBORESCENS	5 POTS
9	<i>CATTAIL</i>	TYPHALATIFOLIA	1 POTS
10	<i>SLOUGH SEDGE</i>	CAREX LYNGBYEI	1 POTS
11	<i>*SEALED SEDGE</i>	CAREX ROSTRATA	1 POTS
12	<i>COMMON RUSH</i>	JUNCUS EFFUSUS	1 POTS
13	<i>HARDSTEM BULRUSH</i>	SCIRPUS LACUSTRIS	1 POTS

Note: 50% of plants selected should be from those identified with an (*) as per the City of Richmond's Criteria for the Protection of Environmentally Sensitive Areas.

Proposed Plant Lists - ESA/RMA Comp.

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	<i>*REDALDER</i>	ALNUS RUBRA	MIX 1.2 - 2.5M HT
2	<i>*BLACK COTTONWOOD</i>	POPULUS BALSAMIFERA OR P. TRICHOCARPA	MIX 1.2 - 2.5M HT
3	<i>BITTER CHERRY</i>	PRUNUS EMARGINATA	MIX 1.2 - 2.5M HT
4	<i>*PACIFIC WILLOW</i>	SAUX LUCIDA SSP. LASIANDRA	5 POTS
5	<i>*SITKA SPRUCE</i>	PICEA Sitchensis	MIX 1.2 - 2.5M HT
6	<i>WESTERN RED CEDAR</i>	THUJA PLICATA	MIX 1.2 - 2.5M HT

REPRESENTATIVE SHRUBS & WETLAND PLANTS

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	<i>SASKATOON</i>	AMELANCHIER ALNIFOLIA	5 POTS
2	<i>*RED-OOSIER DOGWOOD</i>	CORNUS SERICEA OR C. STOLONIFERA	5 POTS
3	<i>PACIFIC NINEBARK</i>	PHYSOCARPUS CAPITATUS	5 POTS
4	<i>*SNOWBERRY</i>	SYMPHORICARPOS ALBUS	5 POTS
5	<i>*THIMBLEBERRY</i>	RUBUS PARVIFLORUS	5 POTS
6	<i>*SALMONBERRY</i>	RUBUS SPECIOSUS	5 POTS
7	<i>HOOKER'S WILLOW</i>	SALIX HOOKEANA	5 POTS
8	<i>*RED ELDERBERRY</i>	SAMBUCUS RACEMOSA VAR. ARBORESCENS	5 POTS
9	<i>CATTAIL</i>	TYPHALATIFOLIA	1 POTS
10	<i>SLOUGH SEDGE</i>	CAREX LYNGBYEI	1 POTS
11	<i>*SEALED SEDGE</i>	CAREX ROSTRATA	1 POTS
12	<i>COMMON RUSH</i>	JUNCUS EFFUSUS	1 POTS
13	<i>HARDSTEM BULRUSH</i>	SCIRPUS LACUSTRIS	1 POTS

REPRESENTATIVE SHRUBS, GRASSES & SEED LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	<i>ARCTOSTAPHYLOS UVA-URSI</i>	KINNICKINICK	4" POTS
2	<i>CAREX SPP</i>	SEDGE, VARIOUS	1 POTS
3	<i>FESTUCA SPP</i>	BLUE FESCUE	1 POTS
4	<i>POTENTILLA FRUTICOSA</i>	SHRUBBY CINQUEFOIL	5 POTS
5	<i>PHYSOCARPUS OPULIFOLIUS</i>	NINEBARK	5 POTS
6	<i>RISES SANGUINEUM</i>	FLOWERING CURRANT	5 POTS
7	<i>ROSA NUTKANA</i>	NOOTKA ROSE	5 POTS
8	<i>RUBUS PARVIFLORUS</i>	SALMONBERRY	5 POTS
9	<i>SALIX HOOKEANA</i>	HOOKER'S WILLOW	5 POTS
10	<i>SPIREA DOUGLASSII</i>	HARDHACK	5 POTS
11	<i>SYMPHORICARPOS ALBUS</i>	SNOWBERRY	5 POTS
12	NATIVE GRASS AND WILDFLOWER SEED	COASTAL REVEGETATION MIX, SUPPLEMENTED WITH CAMASSIA & ERYTHRORHIZUM	

Additional Plan
added. Adjusted
current plan to 3a
and added 3b for the
wetland.

Jul 13 2016
CLAUDIA JESSON, Acting Corporate Officer
Approved by Richmond City Council on January 23, 2011
correct copy of P.L. 4 of 19 to DP 11-56601
HEREBY CERTIFY this to be a true and

CLAUDIA JESSON, Acting Corporate Officer
Approved by Richmond City Council on January 23, 2011
correct copy of P.L. 4 of 19 to DP 11-56601
HEREBY CERTIFY this to be a true and

GENERAL SITE PLANTING LIST

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

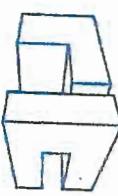


DP 11-566011

AIR BUFFER LOCATIONS

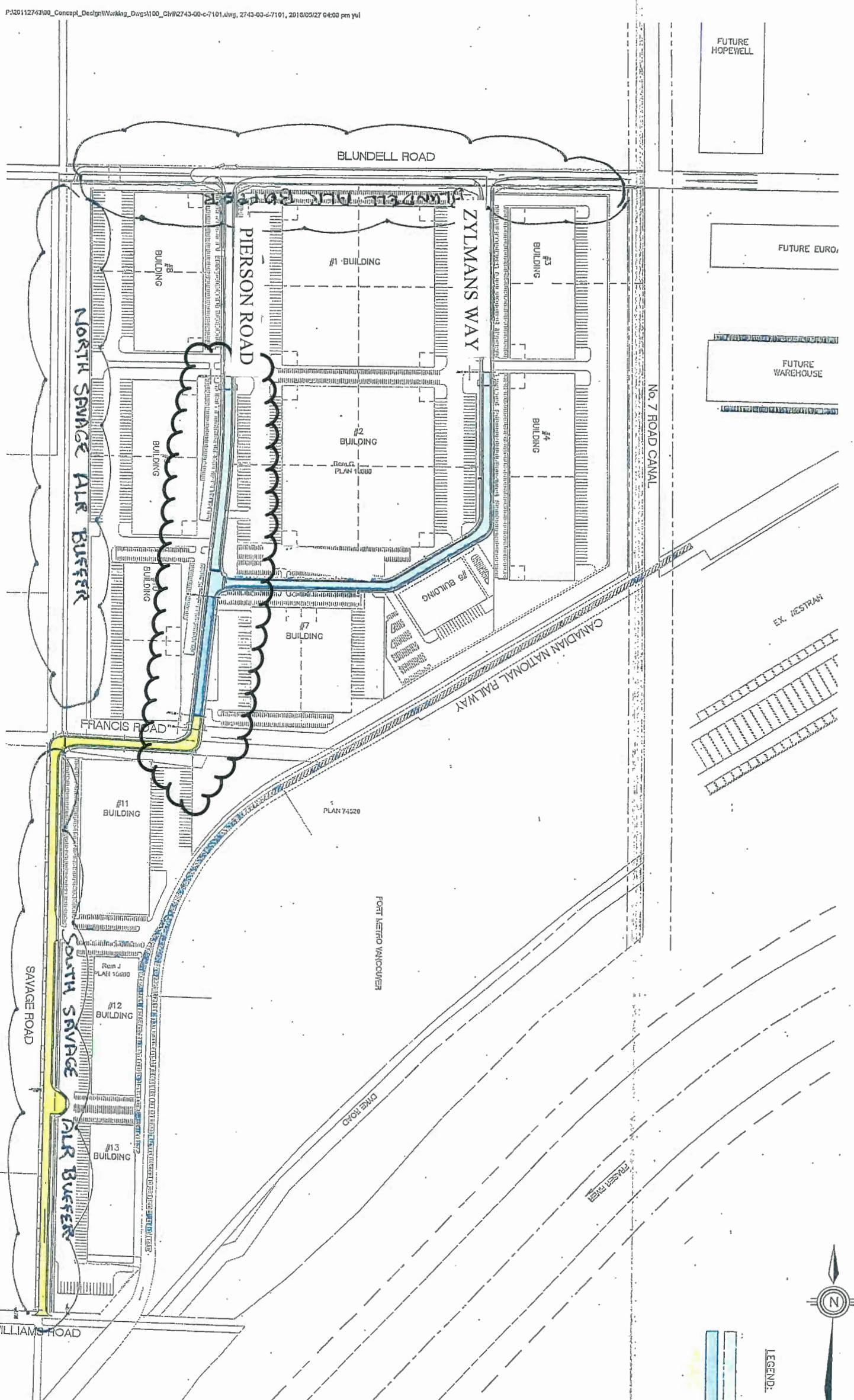
RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

FILE NO. DP 11-566011



Richmond
Industrial
Centre

DP 11-566011



I HEREBY CERTIFY this to be a true and correct copy of P 5 of 19 to DP 11-566011 approved by Richmond City Council on January 23, 2011.

CLAUDIA JESSON, Acting Corporate Officer

Plan #1a

JUL 13 2016

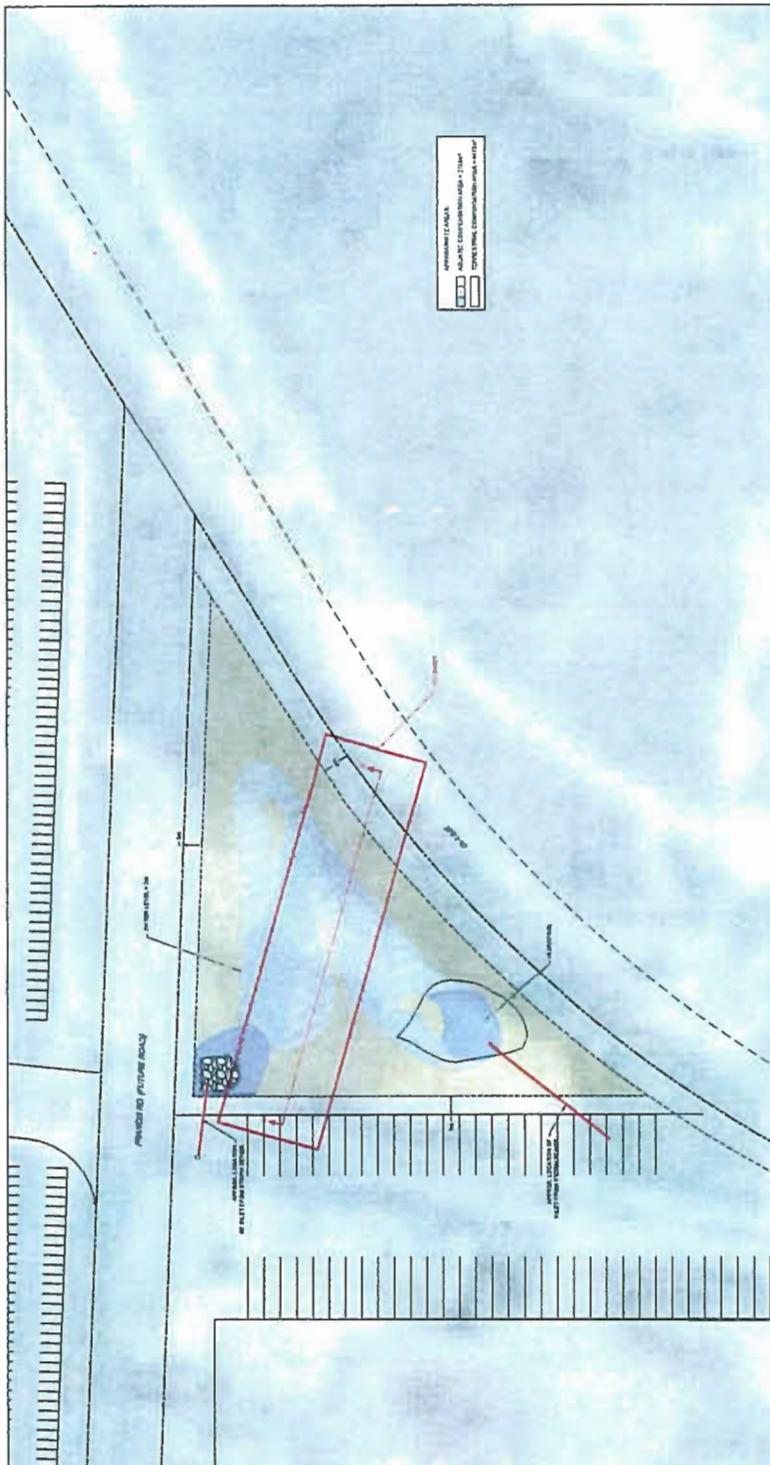
JUL 13 2016

Plan. 5

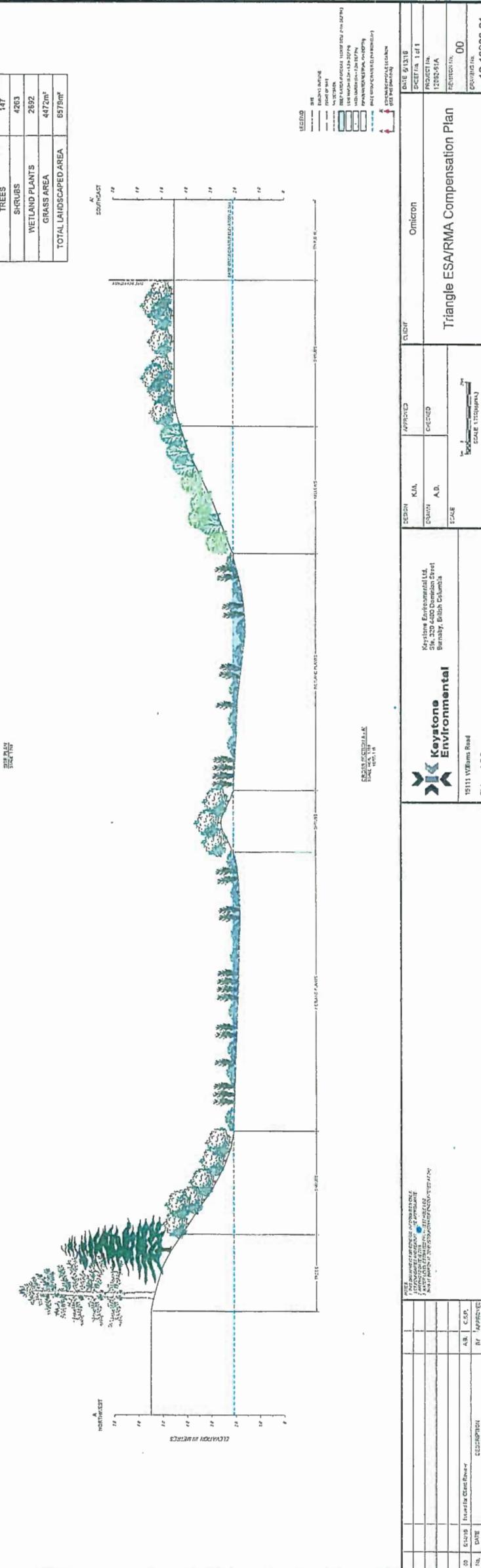
New plans are split into Plan 5a and 5b.

CLAUDIA JESSON, Acting Corporate Officer

HEREBY CERTIFY this 23rd day of January 2017
Contract copy of P-14 to DP-11-5660H
Approved by Richardson City Council on January 23, 2017



TREES	147
SHRUBS	4263
WETLAND PLANTS	2692
GRASS AREA	4472m ²
TOTAL LANDSCAPED AREA	6575m ²



TRIANGLE ESA / RMA COMPENSATION SECTION, PLAN & PLANTING LIST

RE DEVELOPMENT
EFILE NO. DP 11-566011

Richmond
Industrial
Centre

08 11-566011

JUL 13 2016

Law #7

CLAUDIA JESSON, Acting Corporate Officer

Water colour

of the new *and* *the old*

Approved by Richmond City Council on January

correct copy of p 4 of 19 to DP 11-5660

I HEREBY CERTIFY this to be a true and

Official Unit
Same

Richmond Industrial Centre Habitat Balance Sheet and Proposed Compensation

Site / Photo Number	Habitat Type	Impacted ESA / RMA Requiring Compensation (m ²)	Road ROWs		Compensation Area Required Repacement)	Compensated Likely Habitat for in Same Ecological Unit	Compensated Likely Habitat for Same Ecological Unit
			Total	Road ROWs			
11101	Lot 11101 (Ecowaste Property)	480	Savage Rd: 1,600	2,080	2:1	1,040	Yes
1123	Lot 1123 (Negibouring Property)	2,164	Savage Rd: 205	2,369	2:1	1,185	Yes
2a	Freshwater Aquatic	-	Savage / Francis Rd: 105	147	2:1	74	Yes
3a	RMA	-	Williams Rd: 42				No ^t
2b	Riparian Terrestrial	-	Savage / Francis Rd: 101	142	2:1	71	Yes
3b		-	Williams Rd: 41				No ^t
4	ESA	Storm Water Outfall - Brackish Aquatic	-	Williams Rd: 75	2:1	38	No [*]
5	RMA	No.7 Canal Bridge - Riparian Terrestrial	-	Blundell Rd: 732	732	1:1.5	1,098
6	ESA	Riparian Terrestrial	6,688	54	Savage / Francis Rd: 5,586	12,308	-
					Required Compensation Sub-Total	3,506	-
					+ Additional 25% for Net Benefit / Local Values	4,383	-
					Total Required Aquatic Compensation	1,440	-
					Total Required Terrestrial Compensation	2,943	-

* Brackish intertidal aquatic impacts from the storm water outfall will be compensated as part of the upland constructed wetland (unlike habitat), based on the limited area of impacts and limited value an isolated brackish compensation area would provide.

† Compensation habitat will not be located in the same contiguous ecological unit based on the inability to establish compensation areas on the Ecowaste property that maintain direct connectivity to impacted areas beyond the property boundaries. Providing compensation habitat in a concentrated area at >25% of the replacement ration is considered to represent a no net loss of habitat.

Proposed Habitat Compensation (m^2)

Proposed Habitat Compensation (m ²)		Location	Compensation Habitat Type	Impacted Habitat Type / Location	Area Compensated	Total Compensation Area	Compensated Like Habitat Area	Compensated Like Habitat for Same Ecosystem Unit				
Site / Photo Number	Photo											
7 Ecowaste "Triangle Land" Constructed Wetland	Freshwater Aquatic	ESA Lot 1123 and Road ROWs	RMA Road ROWs	1,040	1,588	Yes	No [†]	No [†]				
				ESA Storm Water Outfall								
				ESA Additional Net Benefit								
				ESA Lot 1123 and Road ROWs								
				RMA Road ROWs								
	Riparian Terrestrial	RMA Road ROWs	ESA Additional Net Benefit	1,185	3,230	Yes	No [†]	No [†]				
				ESA Additional Net Benefit								
				RMA Road ROWs								
				ESA Additional Net Benefit								
				RMA Additional Net Benefit								
8 Williams Road Entrance Culvert Removal & Watercourse Restoration	Freshwater Aquatic	Riparian Terrestrial	RMA Additional Net Benefit	70	70	Yes	Yes	-				
				RMA No. 7 Road Canal ROWs								
9 No. 7 Road Canal Riparian Restoration	Riparian Terrestrial	Riparian Terrestrial	RMA Additional Net Benefit	1,098	3,731	-	-	-				
				RMA Additional Net Benefit								
Total Proposed Aquatic Compensation						1,620	-	-				
Total Proposed Terrestrial Compensation						7,031	-	-				
Aquatic Net Benefit (1,620 - 1,440)						180	-	-				
Terrestrial Net Benefit (7,031 - 2,943)						4,088	-	-				

HABITAT BALANCE SHEET

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

DP 11-566011

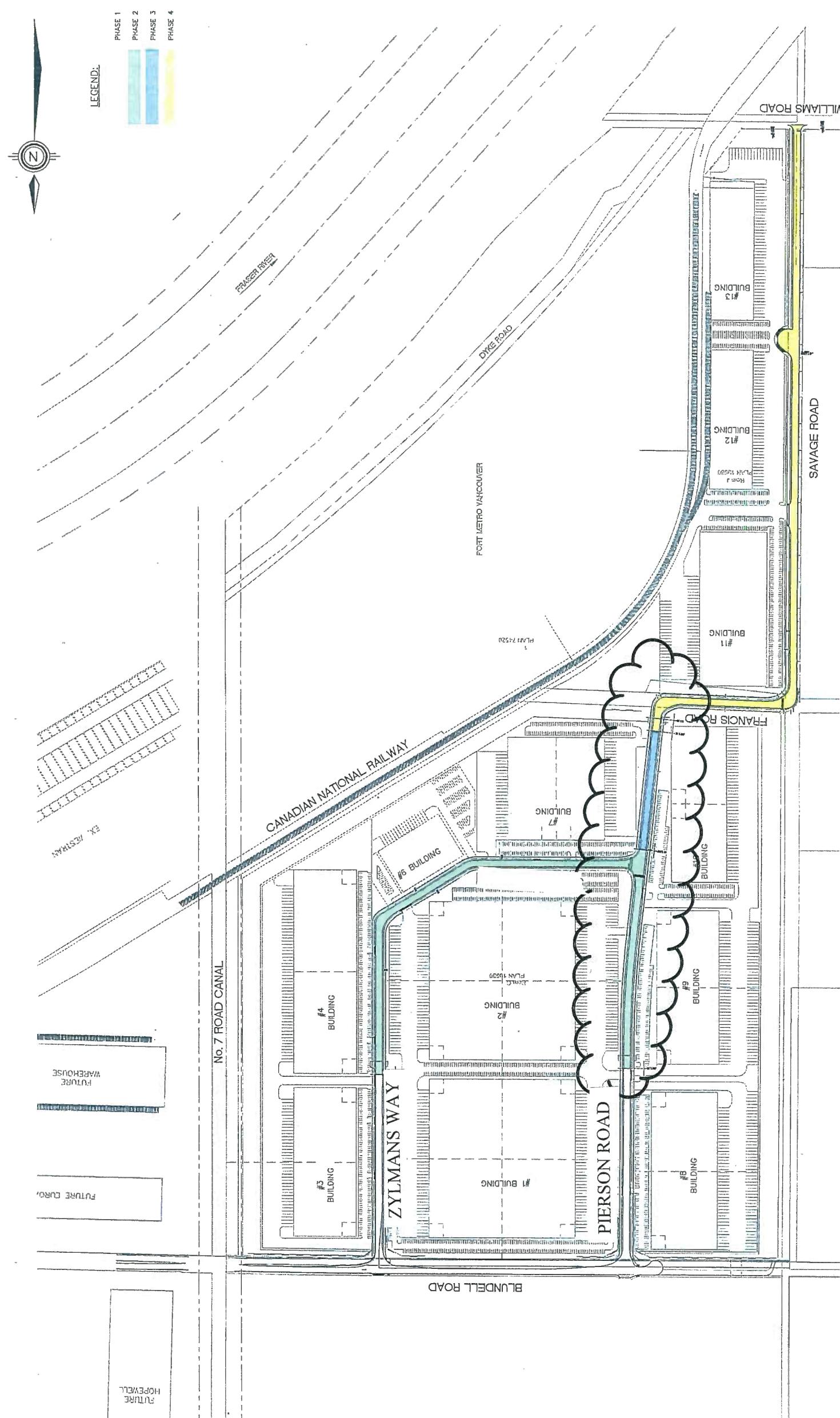
JUL 13 2011

PLC #9

CLAUDIA JESSON, Acting Corporate Officer

CLAUDIA JESSON

I HEREBY CERTIFY this to be a true and
correct copy of P 11 of 19 to DP 11-566011
approved by Richmond City Council on January 23, 2011



ROAD PHASING PLAN

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

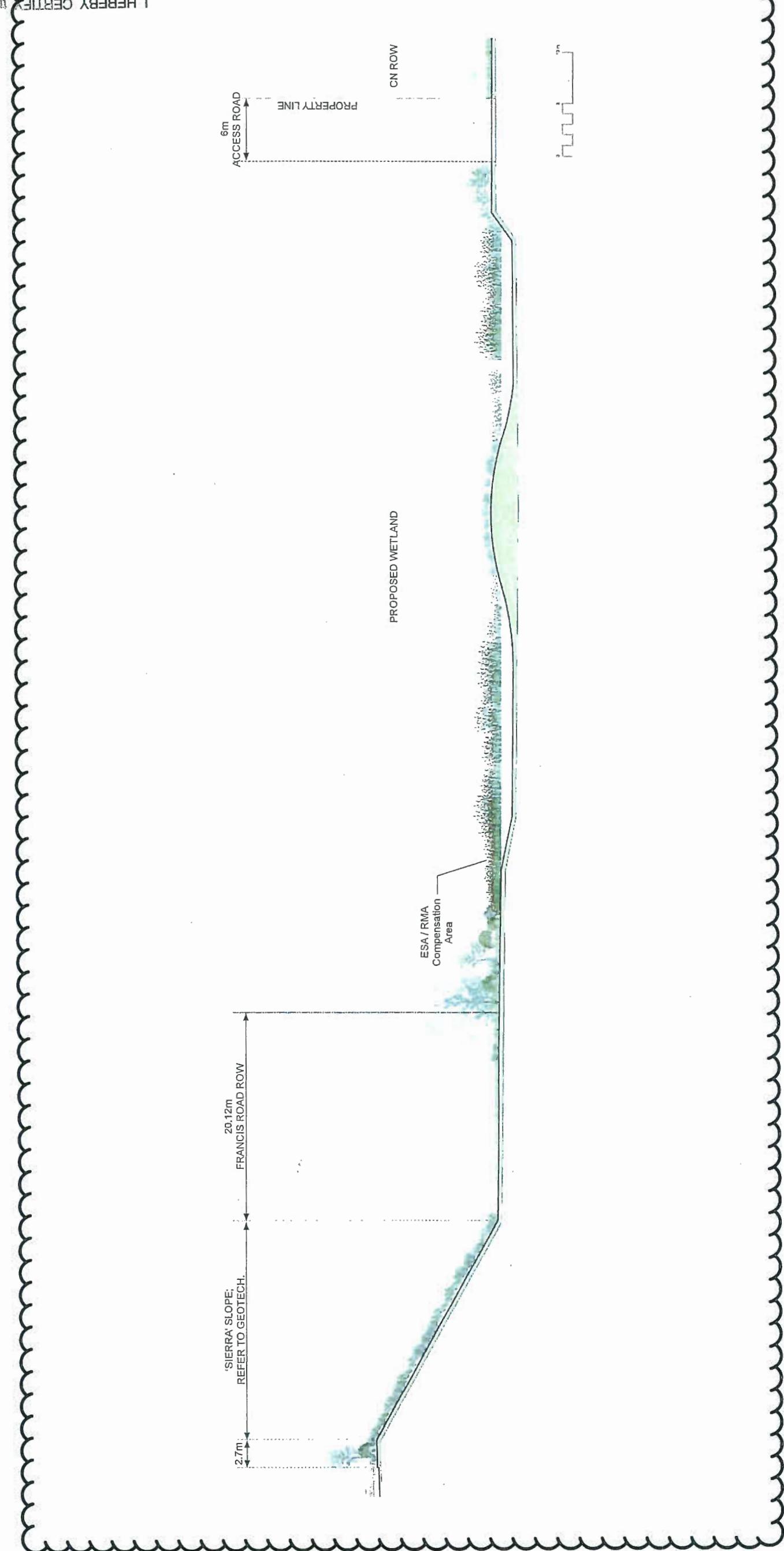
Richmond
Industrial
Centre

NP 11-566011

JUL 13 2016

P1a#17

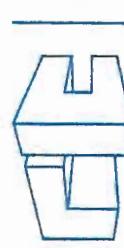
CLAUDIA JESSON, Acting Corporate Officer
Approved by Richmond City Council on January 23, 2017
Copied copy off P 19 of 19 to 19 DP 11-566011
I HEREBY CERTIFY this to be a true and
correct copy of P 19 of 19 to 19 DP 11-566011



ONSITE COMPENSATION AREA

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

Richmond
Industrial
Centre



DP 11-566011

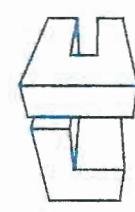
ATTACHMENT 4:

Proposed Replacement Development Permit Plans



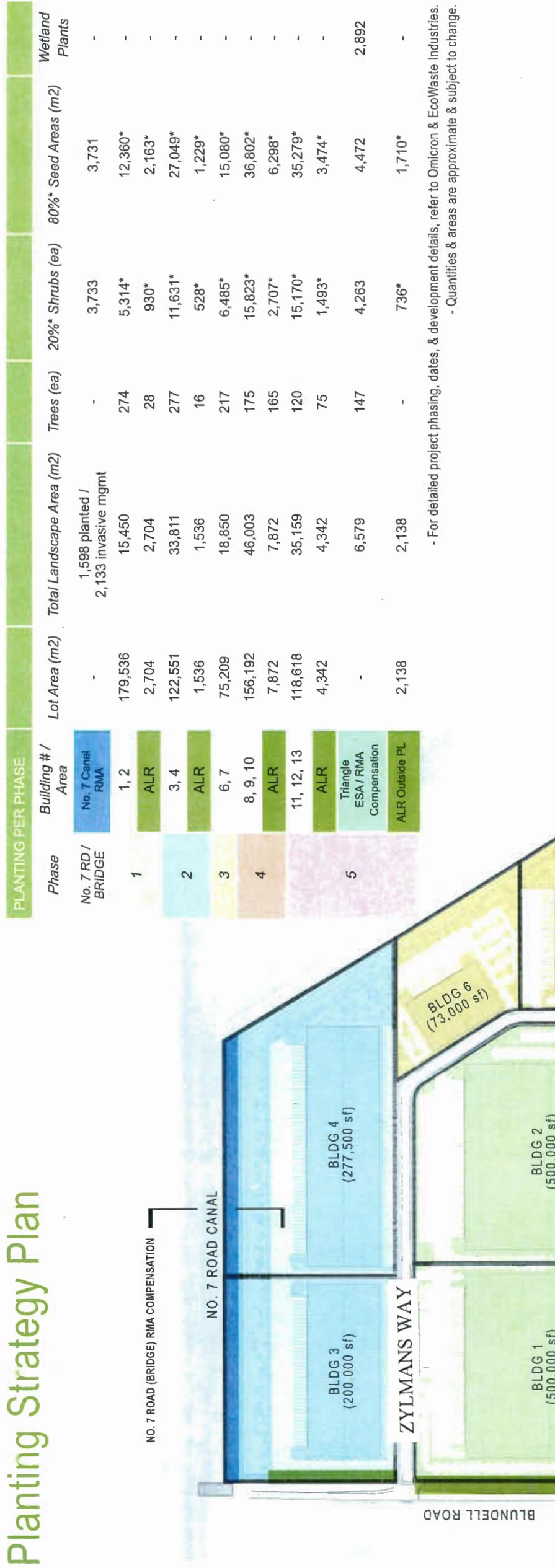
DEVELOPMENT PHASING PLAN

RICHMOND INDUSTRIAL CENTRE DEVELOPMENT

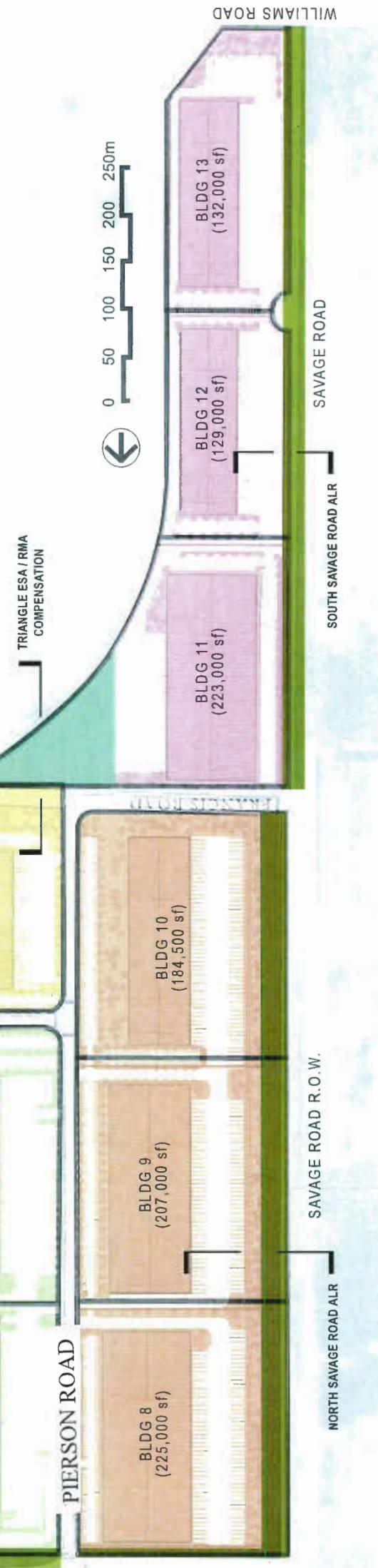


**Richmond
Industrial
Centre**

Planting Strategy Plan



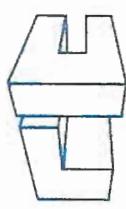
Plan #2



LANDSCAPE PLAN AND PLANTING OVERVIEW

DP 11-566011 RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

Richmond Industrial Centre



Proposed Plant Lists - Site & ALR Buffer

Proposed Plant Lists - Site & ALR Buffer

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	AMELANCHIER ALNIFOLIA	SERVICEBERRY	MIXED 7, 10 POTS
2	BETULAL NIGRA	RIVER BIRCH	MIXED 7, 10 POTS
3	CRATAEGUS SPP.	HAWTHORN	MIXED 7, 10 POTS
4	MALUS FUSCA	PACIFIC CRAB APPLE	MIXED 7, 10 POTS
5	PICEA SPP	SPRUCE	MIX 1.2 - 2.5M HT
6	PINUS CONTORTA	SHORE PINE	MIX 1.2 - 2.5M HT
7	PRUNUS EMARGINATA	BITTER CHERRY	MIXED 7, 10 POTS
8	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	MIX 1.2 - 2.5M HT
9	ROBINA PSEUDOACACIA	BLACK LOCUST	MIX 1.2 - 2.5M HT
10	QUERCUS PALUSTRIS	PIN OAK	MIX 1.2 - 2.5M HT

REPRESENTATIVE TREE LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	*RED ALDER	ALNUS RUBRA	MIX 1.2 - 2.5M HT
2	*BLACK COTTONWOOD	POPULUS BALSAMIFERA OR P. TRICHOCARPA	MIX 1.2 - 2.5M HT
3	BITTER CHERRY	PRUNUS EMARGINATA	MIX 1.2 - 2.5M HT
4	*PACIFIC WILLOW	SALIX LUCIDA SSP. LASIANDRA	5 POTS
5	*SITKA SPRUCE	PICEA Sitchensis	MIX 1.2 - 2.5M HT
6	WESTERN RED CEDAR	THUJA PLICATA	MIX 1.2 - 2.5M HT

Plan #3a

REPRESENTATIVE SHRUBS & WETLAND PLANTS

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	SASKATOON	AMELANCHIER ALNIFOLIA	5 POTS
2	*RED-OISER DOGWOOD	CORNUS SERICEA OR C. STOLONIFERA	5 POTS
3	PACIFIC NINEBARK	PHYSOCARPUS CAPITATUS	5 POTS
4	*SNOWBERRY	SYMPHORICARPOS ALBUS	5 POTS
5	*THIMBLEBERRY	RUBUS PARVIFLORUS	5 POTS
6	*SALMONBERRY	RUBUS SPECIOSUS	5 POTS
7	HOOKER'S WILLOW	SALIX HOOKERIANA	5 POTS
8	*RED ELDERBERRY	SAMBUCUS RACEMOSA VAR. ARBORESCENS	5 POTS
9	CAITAIL	TYPHA LATIFOLIA	1 POTS
10	SLOUGH SEDGE	CAREX LYNGBYEI	1 POTS
11	*BEAKED SEDGE	CAREX ROSTRATA	1 POTS
12	COMMON RUSH	JUNCUS EFFUSUS	1 POTS
13	HARDSTEM BULRUSH	SCIRPUS LACUSTRIS	1 POTS

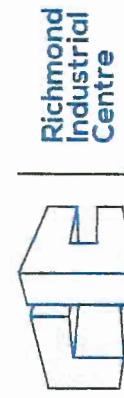
Note: 50% of plants selected should be from those identified with an (*) as per the City of Richmond's Criteria for the Protection of Environmentally Sensitive Areas.

REPRESENTATIVE SHRUBS, GRASSES & SEED LIST

No.	BOTANICAL NAME	COMMON NAME	SIZES & NOTES
1	ARCTOSTAPHYLOS UVA-URSI	KINNICKINICK	4" POTS
2	CAREX SPP	SEDEGE, VARIOUS	1POTS
3	FESTUCA SPP	BLUE FESCUE	1POTS
4	POTENTILLA FRUTICOSA	SHRUBBY CINQUEFOIL	5POTS
5	PHYSOCARPUS OPULIFOLUS	NINEBARK	5POTS
6	RIBES SANGUINEUM	FLOWERING CURRENT	5POTS
7	ROSA NUTKANA	NOOTKA ROSE	5POTS
8	RUBUS PARVIFLORUS	SMOONBERRY	5POTS
9	SALIX HOOKERIANA	HOOKER'S WILLOW	5POTS
10	SPIREA DOUGLASSII	HARDHACK	5POTS
11	SYMPHORICARPOS ALBUS	SNOWBERRY	5POTS
12	NATIVE GRASS AND WILDFLOWER SEED	COASTAL REVEGETATION MIX, SUPPLEMENTED WITH CAMASSIA & ERYTHRORIUM	

GENERAL SITE PLANTING LIST

DP 11-566011 RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



- GENERAL NOTES**
- EXISTING TREES (NATIVE) AND OTHER NATIVE VEGETATION SHOULD BE RETAINED, WHERE POSSIBLE - ALL TREES MUST BE AUTHORIZED BY PARKS PRIOR TO REMOVAL
 - BUFFER AREAS AROUND NATIVE TREES TO BE RETAINED SHOULD BE CLEARLY MARKED
 - WHERE AREAS ARE DISTURBED DURING CONSTRUCTION, THE CONTRACTOR SHOULD REPLANT USING NATIVE PLANTS
 - REFER TO INVASIVE SPECIES MANAGEMENT MEASURES IN PROJECT'S ENVIRONMENTAL PROTECTION PLAN AND THE CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN
 - THE FINAL TREE PROTECTION FENCE IS TO BE INSTALLED ALONG THE PERIMETER OF THE RESTORATION PLANTING AREA, BETWEEN THE PLANTING AREA AND MAINTAINED GRASS AREA
 - GENERAL PLANTING SPECIFICATIONS:
 - RESTORATION PLANTINGS SHOULD BE BASED ON 1 TREE OR SHRUB PER 1 SQUARE METRE DENSITY WITHIN FULLY CLEARED AREAS, THIS MAY VARY DEPENDING UPON DENSITY OF EXISTING NATIVE SPECIES
 - ALL TREE/SHRUB SPECIES SHOULD BE OF GUARANTEED NURSERY STOCK.
 - STOCK PLANTED DURING THE FALL (SEPT.- OCT.) AND SPRING (MARCH- APRIL) HAS THE GREATEST LIKELIHOOD OF SURVIVING
 - THE BOTANICAL NAME SHOULD BE USED WHEN ORDERING STOCK TO ENSURE THAT THE DESIRED NATIVE SPECIES IS BEING PURCHASED.
 - EACH SPECIMEN SHOULD BE TAGGED WITH THE BOTANICAL NAME AND THE TAG SHOULD BE LEFT ATTACHED AFTER PLANTING
 - CONIFEROUS TREES SHOULD COMprise NOT LESS THAN 10% NOR MORE THAN 25% OF THE TREE STOCK PLANTED
 - TREE STOCK SHOULD BE 2m IN HEIGHT WHEN PURCHASED AND PLANTED AT LEAST 2m APART
 - PLANTING ON A GIVEN AREA BEING ENHANCED MUST BE SUCCESSFUL TO AN 80% TAKE. IF MORE THAN 20% DIE OVER ONE YEAR, REPLANTING IS REQUIRED
 - A MINIMUM OF 50% OF TREES AND SHRUBS PLANTED SHOULD BE FRUIT-BEARING SPECIES
 - GROWING MEDIUM IS TO BE FREE OF ANY SUBSOILS, ROOTS, NOXIOUS GRASS, WEEDS, TOXIC MATERIALS, STONE OVER 30 MM DIAMETER, FOREIGN OBJECTS, AND POSSESS AN ACIDITY RANGE (pH) OF 5.5 TO 7.5
 - A FIVE YEAR MONITORING AND MAINTENANCE PLAN IS TO BE CARRIED OUT. PLANT MAINTENANCE IS TO INCLUDE WATERING, SELECTIVE PRUNING, AND CLEARING OF INVASIVE SPECIES (I.E., BLACKBERRY AND JAPANESE KNOTWEED)
 - AFTER PLANTS HAVE BEEN PLANTED, A NATIVE SEED MIX APPROVED BY THE CITY SHALL BE APPLIED TO EXPOSED SOILS TO MINIMIZE EROSION AND COLONIZATION BY INVASIVE SPECIES
 - RESTORATION PLANTING TO BE "SITE FIT" AND PLACED TO MINIMIZE DISTURBANCE TO ROOT ZONES OF EXISTING RETAINED TREES
 - ISA CERTIFIED ARBORIST TO BE ON SITE TO OVERSEE ALL GRUBBING AND RESTORATION PLANTING AROUND RETAINED TREES

80% NATIVE FORBS GRASS SEED MIX ROADSIDE RIPARIAN COASTAL SEED MIX			
SUPPLIER	APPLICATION TYPE	FUNCTION	NOTES
PREMIER PACIFIC SEEDS LTD	COASTAL ROADSIDE RIPARIAN		
	FAST GROWING		
	EROSION AND SEDIMENT CONTROL		
	POLLINATOR ATTRACTANT		
	MITIGATE INVASIVE PLANT GROWTH IN DISTURBED SOILS		
	LOW GROWTH HEIGHT		
	ANY TIME, IDEALLY NOT IN PROLONGED DROUGHT OR FROST		
	20-30 KG/HA		
	\$22.50/KG		
	ANNUAL RYEGRASS ESTABLISHES QUICKLY, IF THE PLANTING AREA IS HIGHLY DISTURBED AND SUBJECT TO SIGNIFICANT EROSION, OR IS IN PROXIMITY TO INVASIVE PLANTS AND/OR INVASIVE PLANT ROOT MATERIAL THIS IS THE PREFERRED SEED MIX.		
SEED MIX	WT% WEIGHT	WEIGHT LB	WEIGHT LB
Achillea millefolium, YARROW*	0.25	2,800,000	1.24
Agrostis scabra, TICKLEGRASS*	1	4,000,000	7.06
Anaphalis margaritacea, PEARLY EVERLASTING*	0.25	8,000,000	3.63
Aster subspicatus, DOUGLAS ASTER*	0.25	1,120,000	0.49
Deschampsia cespitosa, TUFTED HAIRGRASS*	5	2,100,000	18.55
Festuca occidentalis, WESTERN FESCUE*	5	490,000	4.41
Festuca ovina, SHEEP'S FESCUE QUATRO	21	530,000	19.89
Festuca rubra var. rubra, CREEPING RED FESCUE	16	455,000	12.05
Festuca rubra, NATIVE RED FESCUE*	20	600,000	21.19
Lolium multiflorum, ANNUAL RYEGRASS (DIPLOID)	30	217,000	11.5
Lupinus polyphyllus, BIG LEAF LUPINE*	2	23,000	0.08
*NATIVE TO COASTAL BRITISH COLUMBIA			100

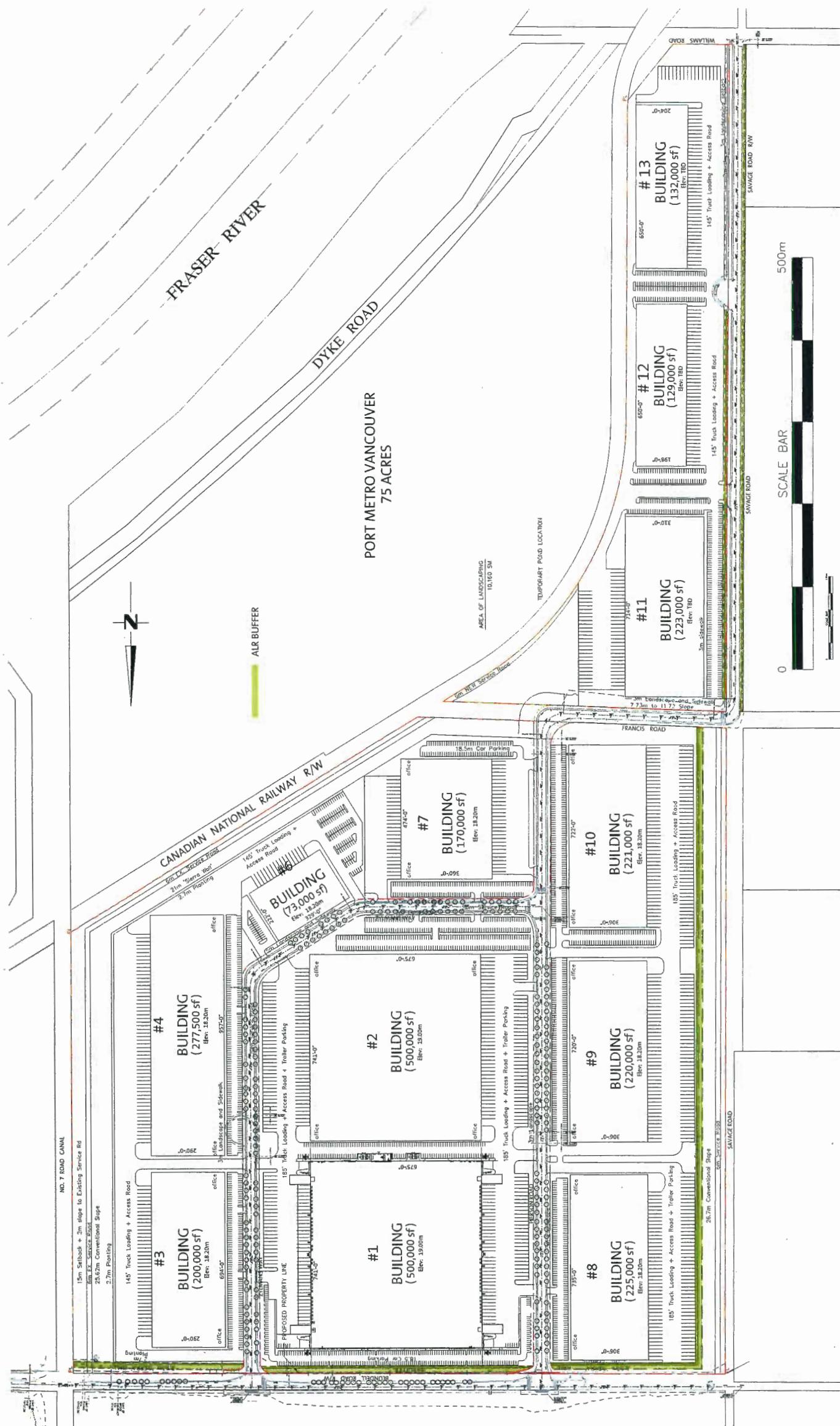
NEW PLANTS TO BE INSTALLED			
SPECIFICATIONS	COUNT	COUNT	LATIN NAME
NO. 1 POT; DENSLEY BRANCHED; WELL ESTABLISHED	1278	884	Camassia esculenta
NO. 1 POT; DENSLEY BRANCHED; WELL ESTABLISHED	174	526	Rubus spectabilis
NO. 1 POT; MULTI-STEMMED; DENSLEY BRANCHED; WELL ESTABLISHED	633	633	Salix hookeriana
NO. 1 POT; MULTI-STEMMED; DENSLEY BRANCHED; WELL ESTABLISHED	12	12	Salix sitchensis
NO. 1 POT; DENSLEY BRANCHED; WELL ESTABLISHED	27	27	Sambucus racemosa
2.0M CONTAINER GROWN (MIN. NO. 7 POT); DENSLEY BRANCHED; WELL ESTABLISHED	100	3534	Thuya plicata
2.0M CONTAINER GROWN (MIN. NO. 7 POT); DENSLEY BRANCHED; WELL ESTABLISHED	27	27	Acer circinatum
TOTAL	3534		VINE MAPLE

NOTE:
 • PLANT SPACING AND COUNT TO BE DETERMINED FOLLOWING INVASIVE REMOVAL
 • PLANT SPECIES SELECTED TAKES CONSIDERATION ENVIRONMENTAL FEATURES OF THE AREA

GENERAL SITE PLANTING LIST

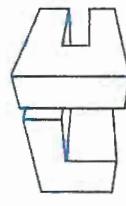
DP 11-566011 RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



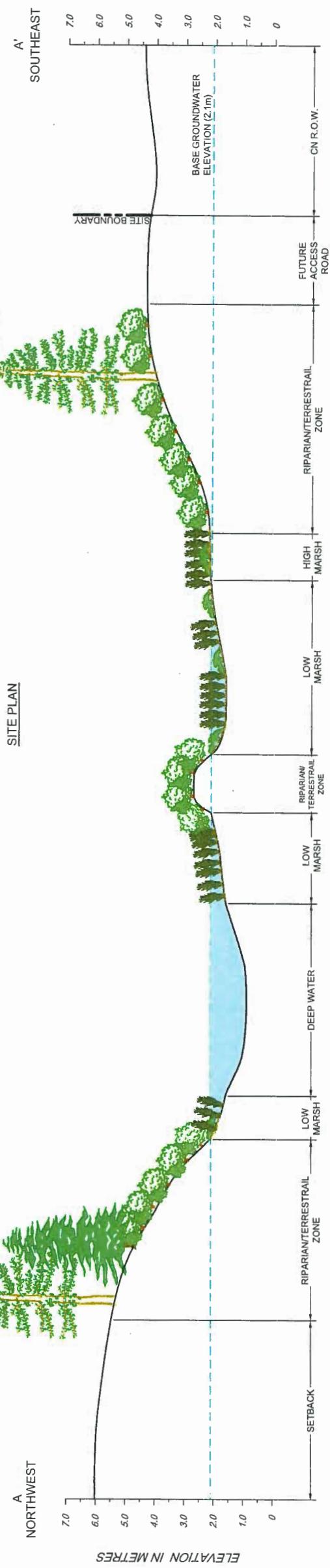
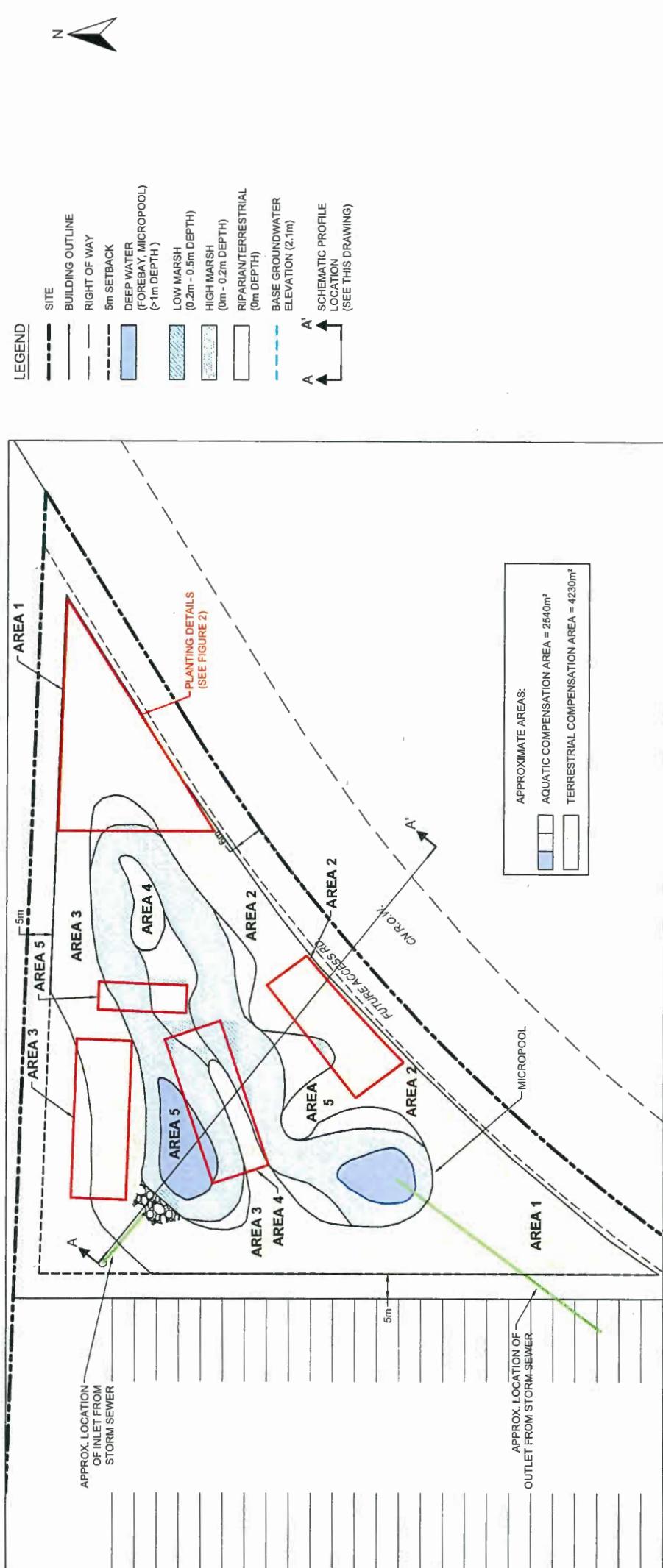


ALR BUFFER LOCATIONS

RE DEVELOPMENT
FILE NO. DP 11-56601



Richmond
Industrial
Centre



CROSS SECTION A - A'

TRIANGLE ESA / RMA COMPENSATION SECTION, PLAN & PLANTING LIST

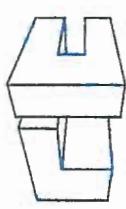
RE DEVELOPMENT
FILE NO. DP 11-56601



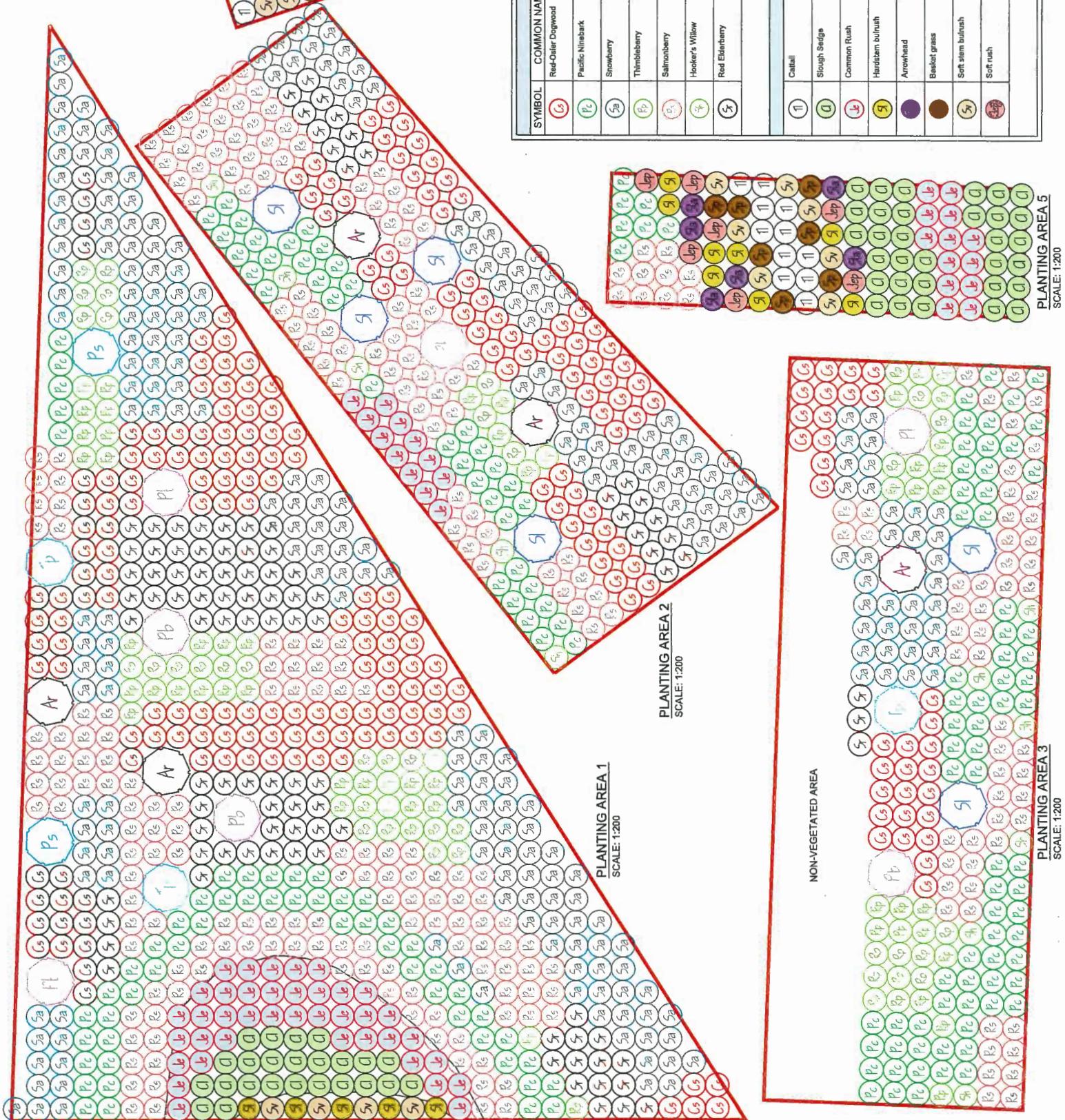
Richmond
Industrial
Centre

TRIANGLE ESA / RMA COMPENSATION SECTION, PLAN & PLANTING LIST

Richmond
Industrial
Centre



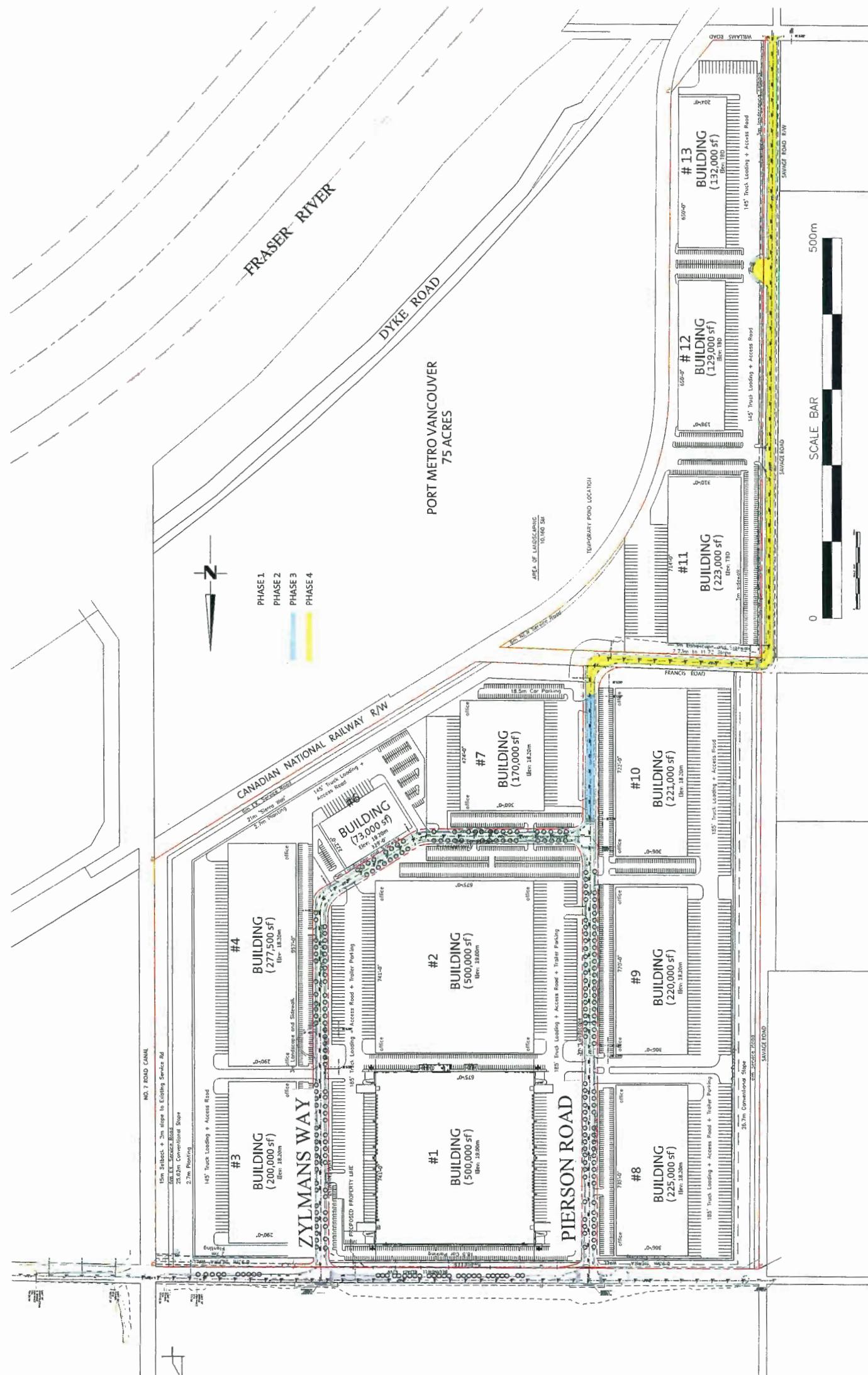
DP 11-566011 RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011



TREES		
SPECIFICATIONS	COMMON NAME	COUNT
no. 2 pot; multi-stemmed; densely branched; well established	<i>Alnus rubra</i>	29
1.2m container grown (min. no. 7 pot); densely branched; well established	<i>Ar</i>	
no. 2 pot; multi-stemmed; densely branched; well established	<i>Populus balsamifera</i> or <i>P. trichocarpa</i>	28
1.2m container grown (min. no. 7 pot); densely branched; well established	<i>Black Cottonwood</i>	
no. 2 pot; multi-stemmed; densely branched; well established	<i>Salix lucida</i> , <i>esp. flavidorn</i>	37
1.2m container grown (min. no. 7 pot); densely branched; well established	<i>Pacific Willow</i>	
no. 2 pot; multi-stemmed; densely branched; well established	<i>Silka spruce</i>	5
1.2m container grown (min. no. 7 pot); densely branched; well established	<i>Tsuga heterophylla</i>	
1.2m container grown (min. no. 7 pot); densely branched; well established	<i>Western Red Cedar</i>	5

SHRUBS		
SPECIFICATIONS	COMMON NAME	COUNT
no. 2 pot; multi-stemmed; densely branched; well established	<i>Comus serratus</i> or <i>C. albonotata</i>	923
no. 2 pot; multi-stemmed; densely branched; well established	<i>Physocarpus capitatus</i>	640
no. 2 pot; multi-stemmed; densely branched; well established	<i>Sympetrum album</i>	849
no. 2 pot; multi-stemmed; densely branched; well established	<i>Rubus parviflora</i>	367
no. 2 pot; multi-stemmed; densely branched; well established	<i>Rubus spectabilis</i>	973
no. 2 pot; multi-stemmed; densely branched; well established	<i>Salix hookeriana</i>	59
no. 2 pot; multi-stemmed; densely branched; well established	<i>Sambucus racemosa</i>	307
SHRUBS SUBTOTAL.		4118
WETLAND		
recommended depth 0.75m	<i>Typha latifolia</i>	343
recommended depth 0.15m	<i>Carex lyngbyei</i>	280
recommended depth 0.05m	<i>Juncus effusus</i>	332
recommended depth 0.30m	<i>Scirpus acutus</i>	356
recommended depth 0.30m	<i>Scirpus laevigatus</i>	288
recommended depth 0.30m	<i>Schoenoplectus acutus</i>	277
recommended depth 0.30m	<i>Scirpus validus</i>	205
recommended depth 0.30m	<i>Acorus calamus</i>	147
WETLAND SUBTOTAL.		2218

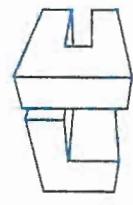
Plan #9

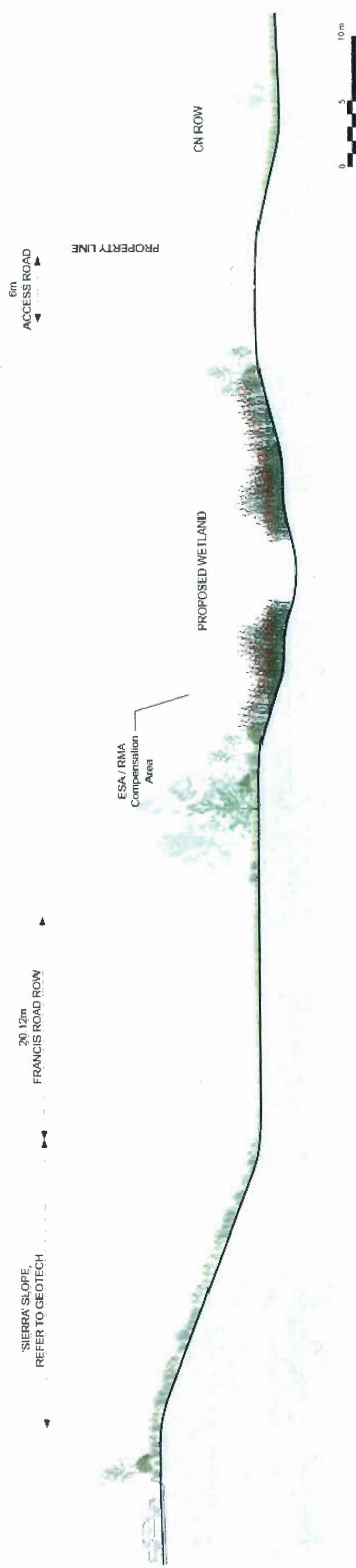


ROAD PHASING PLAN

MOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

**Richmond
Industrial
Centre**

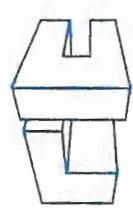




ONSITE COMPENSATION AREA

DP 11-566011 RICHMOND INDUSTRIAL CENTRE DEVELOPMENT
FILE NO. DP 11-566011

Richmond
Industrial
Centre





March 22, 2018

Ms. Alisa Bailey
 Omicron Canada Inc.
 Fifth Floor, Three Bentall Centre
 595 Burrard Street
 Vancouver, BC V7X 1L4

Dear Ms. Bailey:

**Re: RIC Graymont/Pierson Road Realignment Compensation Wetland Feasibility
 Ecowaste – Richmond Industrial Centre Project
 15111 Williams Road, Richmond, BC
 Project No. 13650**

In response to the City of Richmond's comments from the October 26, 2017 Richmond Industrial Centre Project meeting, Keystone Environmental Ltd. (Keystone Environmental) is pleased to present this letter to Omicron Canada Inc. (Omicron) outlining the feasibility of redesigning the proposed compensation wetland for the project. The redesign is required in order to accommodate the proposed realignment of Graymont/Pierson Road, while maintaining compliance with the compensation area requirements of the project's environmental submittals.

It is understood that straightening of the proposed Grayson/Pierson Road alignment is being considered, which will result in shifting the southern end of the road approximately 40 m to the east. This realignment will impact the proposed footprint of the "Triangle Lot" compensation wetland. This compensation wetland is required for offsetting impacts to aquatic and riparian habitat in City of Richmond designated Environmentally Sensitive Areas (ESAs) and Riparian Management Areas (RMAs) resulting from the project. The Richmond Industrial Centre Habitat Balance Sheet and Proposed Compensation letter submitted to the City of Richmond in March 2016 commits the project to result in a net benefit to aquatic and riparian habitat.

BACKGROUND

The proposed development of the Richmond Industrial Centre will cause the loss of approximately 4,800 m² of low-value habitat within designated ESAs and RMAs. The Savage Road ESA low-value habitat area impacted by the proposed development was classified by the City as a "freshwater wetland". As noted in our July 2015 Environmental Impact Assessment, water quality in this ESA was not characteristic of the tannic/sphagnum type water quality

documented in the bog-forest ESA located further north adjacent to the Blundell Road right-of-way. Vegetation present in the on-site ESA, including cattail, salmonberry, hardhack, and birch snags, typical to disturbed areas experiencing seasonal inundation. Wetland-bog species such as Labrador tea, bog laurel, and blueberry were not present.

The proposed compensation wetland in the “Triangle Lot” is intended to replicate similar conditions within the impacted Savage Road ESA, with a mixture of woody and herbaceous species to be included in the planting plan. Although the impacted Savage Road ESA is affected by seasonal stormwater fluctuations, the proposed constructed wetland is intended to accept stormwater flow fluctuations, while maintaining a consistently wetted area. The proposed compensation wetland is planned to be constructed to control water levels and minimize sediment accumulation, and therefore, is not considered characteristic of a classified natural wetland (i.e., bog, fen, marsh) undergoing successional processes.

The primary purpose of the proposed compensation area is to provide high-value aquatic and terrestrial habitat for similar low-value habitat impacted within the impacted Savage Road ESA. The proposed constructed habitat wetland is planned to include significant shallow areas to support the growth of emergent and submergent aquatic plants, deeper pools for diverse habitats for amphibians, waterfowl, and other wildlife, and terrestrial areas (riparian) with diverse native species that will incorporate snags and wildlife trees to offset for loss of similarly functioning habitat.

WETLAND FEASIBILITY

The City of Richmond has expressed concern about the ability of the proposed wetland to maintain an acceptable wetted area, and about the apparent isolation of the proposed compensation area from the Fraser River and adjacent ESA forested areas. A Wetland Feasibility Study and Conceptual Design was developed by Keystone Environmental, dated May 3, 2016, suggesting that a wetland is feasible based on the available information (i.e., groundwater elevations, etc.) at that time.

A hydrogeological assessment was recommended and is in progress to collect hydrogeological data (soil, seasonal groundwater elevations, and water quality) to support the ongoing wetland feasibility and design, and to help address the City’s concerns that the proposed wetland will provide a functioning habitat. This is currently in progress and data will be provided as they become available.

An update report titled *Revision 2 – Wetland Hydrogeological Assessment – Fall 2017 Update Report* by Keystone Environmental, dated February 6, 2018, was provided to the City for their review. This report summarized the works and data collected from June through October 2017. This update report included the following information:

- Installation of four new monitoring wells (installed in July 2017), including location, depth, topographical survey, and borehole log information.
- Collection and laboratory analyses of soil samples (collected during the new well installation, July 2017).
- Collection of groundwater samples from six monitoring wells (four new wells and two existing wells, collected in August 2017), to represent the dry summer conditions.

- Collection of groundwater table elevations, including the installation of pressure transducers (and routine data download) to monitor groundwater levels in the six monitoring wells over an extended period of time.
- Conduct hydraulic testing (slug-bail) at the six monitoring wells, to assess the hydraulic characteristics of the materials present in the proposed wetland area.

Since May 2016, recent changes to the proposed design of the development (straightening of the proposed Grayson/Pierson Road alignment) have resulted in reducing the area available in the “Triangle Lot” for the proposed compensation wetland. This letter re-evaluates the wetland feasibility based on the new design constraints.

The proposed road realignment will require changing the design slope of the wetland to 3 (H) to 1 (V), the previous design allowed for a 4 (H) to 1 (V) design slope. The proposed riparian planting plan for the wetland will be revised to include plant species suitable for the increased slope. Tree species, including western redcedar (*Thuja plicata*) and Sitka spruce (*Picea sitchensis*), originally proposed for the sloped areas on the north and west sides of the wetland is planned to be replaced with Pacific willow (*Salix lucida* ssp. *lasiandra*) and hooker's willow (*Salix hookeriana*), which are more suitable for slopes that may become seasonally inundated. This does not preclude planting of larger coniferous trees, such as cedar or spruce outside sloped areas. Additional trees is planned to be included on the flatter riparian area on the southeast side of the wetland. A detailed revised planting plan will be submitted to the City of Richmond for approval.

The March 2016 values were presented to the City of Richmond during the DP Approval process, which showed the minimum area required to adequately compensate for impacted ESAs/RMAs. In 2016, the wetland area was estimated based on conceptual layout that incorporated approximately 10 m setbacks from two sides of the “Triangle Lot,” which had a smaller footprint than when a more detailed layout was developed.

As requested by the City, changes to the wetland compensation areas as a result of the road realignment will be compared to the March 2016 values. The March 2016 and revised November 2017 Habitat Balance Sheets are provided as an attachment to this letter, highlighting changes to the “Triangle Lot” compensation wetland areas.

The following table presents a comparison of the aquatic and terrestrial riparian compensation areas for the “Triangle Lot” wetland areas presented in the March 2016 habitat balance with areas in the November 2017 redesign based on the proposed road realignment.

Habitat Type	March 2016 Wetland Design (m ²)	November 2017 Wetland Design (m ²)	Area Difference (m ²)	% Difference
Aquatic Area	1,588	2,540	+952	+60%
Terrestrial Riparian Area	3,230	4,230	+1,000	+31%
Total “Triangle Lot” Habitat Area	4,818	6,770	+1,952	+41%

The proposed realignment of Graymont/Pierson Road is feasible from a habitat compensation perspective, and is considered to maintain the functioning wetland habitat and achieve a net habitat balance as required by the City of Richmond. The proposed realignment will result in a slight (approximately 30 m²) encroachment into the "Triangle Lot." However, the total habitat areas available for the compensation wetland is being increased by 1,952 m² (when compared to March 2016 values), resulting in an overall net increase in both aquatic and riparian areas. It is understood the "Triangle Lot" wetland is planned to undergo detailed design and planting plan revisions to accommodate the new road footprint, and potential design responses to data collected from the Wetland Hydrogeological Assessment (currently in progress).

This letter has been prepared solely for the internal use of Omicron Canada Inc. and the City of Richmond, pursuant to the agreement between Keystone Environmental Ltd. and Omicron Canada Inc. By using the report, Omicron Canada Inc. and the City of Richmond agree that they will review and use the report in its entirety. Any use, reliance or decisions made based on this report by other parties without prior written approval by Keystone Environmental Ltd. are the responsibility of such parties and Keystone Environmental Ltd. accepts no responsibility for damages, if any, suffered by other parties as a result of decisions made or actions based on this report.

We trust that this letter provides an appropriate level of detail regarding the feasibility of redesigning the compensation wetland to accommodate the proposed realignment of Pierson Road. If you have any questions or require additional information, please do not hesitate to contact the undersigned.

Sincerely,

Keystone Environmental Ltd.



Thuy Wong, P.Eng., P.E.
Project Engineer



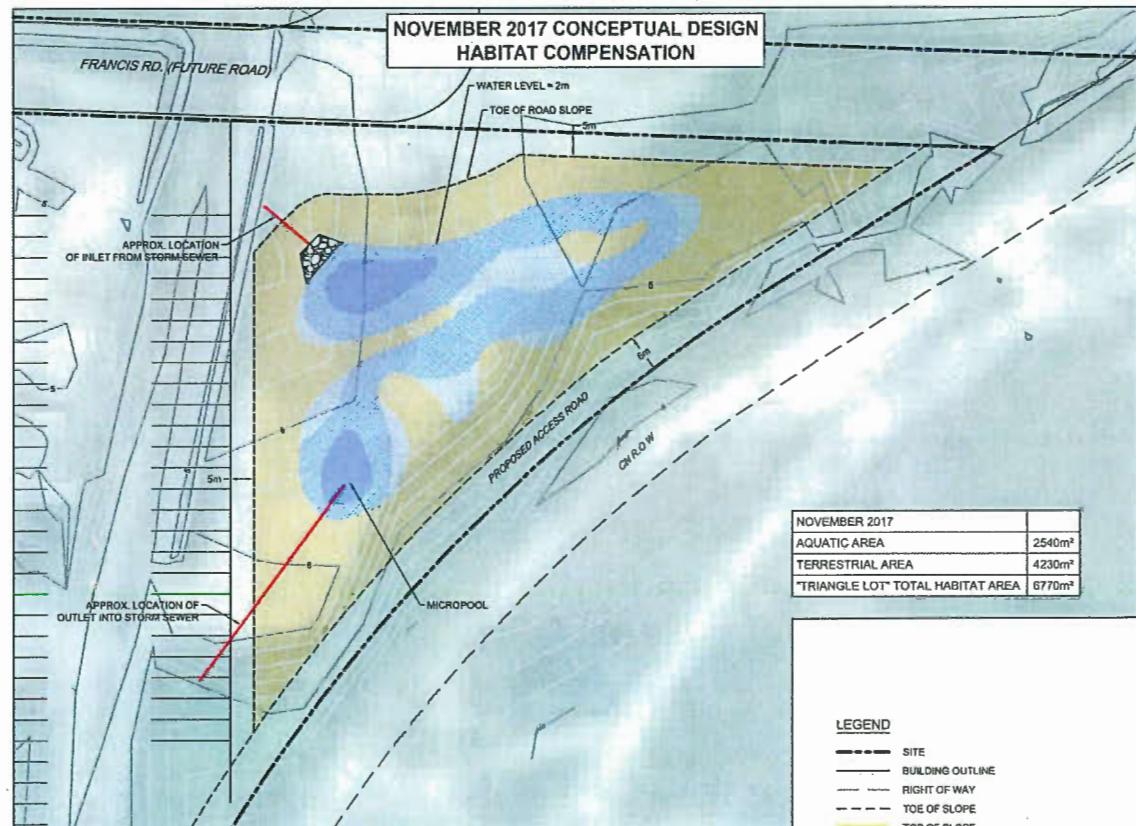
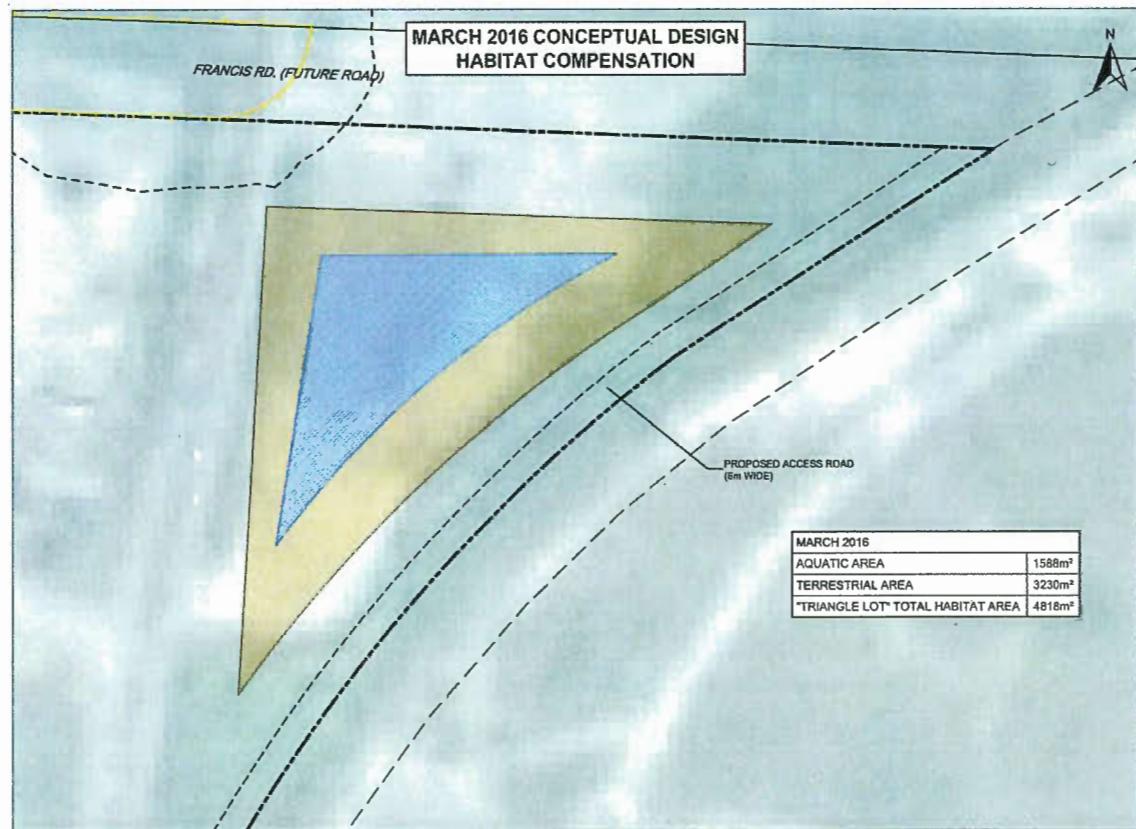
Craig Patterson, R.P.Bio.
Project Manager

I:\13600-13699\13650\Road Realignment Letter\R3\13650 180322 RIC Pierson Road Realignment Compensation Wetland Feasibility Letter.docx

ATTACHMENTS:

- Figure 1 – "Triangle Lot" Habitat Plan, March 2016 & November 2017
- March 2016 and November 2017 Richmond Industrial Centre Habitat Balance Sheets

FIGURE



LEGEND

- SITE
- BUILDING OUTLINE
- RIGHT OF WAY
- TOE OF SLOPE
- TOP OF SLOPE
- CONTOURS (m)
- 5m SETBACK
- DEEP WATER (FOREBAY, MICROPOOL) (>1m DEPTH)
- LOW MARSH (0.2m - 0.5m DEPTH)
- HIGH MARSH (0m - 0.2m DEPTH)
- RIPARIAN/TERRESTRIAL (0m DEPTH)

10m 0 50m

SCALE: 1:1000(approx.)



NOTES:
1. THIS DRAWING IS FOR GENERAL INFORMATION ONLY.
LOT BOUNDARIES AND FEATURES ARE APPROXIMATE.
2. DATE OF AERIAL PHOTO IS 2015.

15111 Williams Road
Richmond, BC

Omicron

REVISION No. 00 DATE Nov. 2017 PROJECT No. 13650-06A

PLOT SCALE: 1:1

DRAWN BY: TURL

CADD FILE No. I113600-138991\3650\Figs\Habitat Plan 2016 and 2017\Fig1-Habitat Plan-R0.dwg

Figure 1
"Triangle Lot" Habitat Plan:
March 2016 & November 2017

Richmond Industrial Centre Habitat Balance Sheet and Proposed Compensation – March 2016

Site / Photo Number	Habitat Type	Lot 1101 (Ecowaste Property)	Lot 1123 (Neighboring Property)	Road ROWs	Total	Compensation Ratio (Impact to Replacement)	Required Compensation Area	Compensated Like Habitat for Like Habitat	Compensated in Same Ecological Unit
Impacted ESA / RMA Requiring Compensation (m²)									
1	ESA	Freshwater Aquatic	-	480	Savage Rd: 1,600	2,080	2:1	1,040	Yes
		Riparian Terrestrial	-	2,164	Savage Rd: 205	2,369	2:1	1,185	Yes
2a		Freshwater Aquatic	-	-	Savage / Francis Rd: 105	147	2:1	74	Yes
3a	RMA	Riparian Terrestrial	-	-	Williams Rd: 42				No*
2b			-	-	Savage / Francis Rd: 101	142	2:1	71	Yes
3b		Riparian Terrestrial	-	-	Williams Rd: 41				No*
4	ESA	Storm Water Outfall -Brackish Aquatic	-	-	Williams Rd: 75	75	2:1	38	No†
5	RMA	No. 7 Canal Bridge -Riparian Terrestrial	-	-	Blundell Rd: 732	732	1:1.5	1,098	Yes
Non-Impacted Areas to be Removed from ESA (m²)									
6	ESA	Riparian Terrestrial	6,688	54	Savage / Francis Rd: 5,566	12,308	-	-	-
					Required Compensation Sub-Total	3,506	-	-	-
					+ Additional 25% for Net Benefit / Local Values	4,383	-	-	-
					Total Required Aquatic Compensation	1,440	-	-	-
					Total Required Terrestrial Compensation	2,943	-	-	-
Proposed Habitat Compensation (m²)									
					Impacted Habitat Type		Compensation Area	Total Compensation Area	Compensated Like Habitat for Like Habitat
					ESA Lot 1123 and Road ROWs		1,040	Yes	No†
					RMA Road ROWs		74	Yes	No†
					ESA Storm Water Outfall		38	No*	No†
					ESA Additional Net Benefit		436	-	-
					ESA Lot 1123 and Road ROWs		1,185	Yes	No†
					RMA Road ROWs		71	Yes	No†
					ESA Additional Net Benefit		1,974	-	-
					RMA Additional Net Benefit		32	32	-
					RMA Additional Net Benefit		70	70	-
					RMA No. 7 Road Canal ROWs		1,098	Yes	-
					RMA Additional Net Benefit		2,633	3,781	-
					Total Proposed Aquatic Compensation		1,620	-	-
					Total Proposed Terrestrial Compensation		7,031	-	-
					Aquatic Net Benefit (1,620 - 1,440)		180	-	-
					Terrestrial Net Benefit (7,031 - 2,943)		4,088	-	-

* Brackish intertidal aquatic impacts from the storm water outfall will be compensated as part of the upland constructed wetland (unlike habitat), based on the limited area of impacts and limited value an isolated brackish compensation area would provide.
† Compensation habitat will not be located in the same contiguous ecological unit based on the inability to establish compensation areas on the Ecowaste property that maintain direct connectivity to impacted areas beyond the property boundaries. Providing compensation habitat in a concentrated area at >25% of the replacement ration is considered to represent at no net loss of habitat.

Richmond Industrial Centre Habitat Balance Sheet and Proposed Compensation - November 2017

Site / Photo Number	Habitat Type	Compensation Habitat Type	Required Compensation Area (m ²)	Compensation Ratio (Impact to Replacement)	Required Compensation Area	Compensated Like Habitat for Same Ecological Unit			
Impacted ESA / RMA Requiring Compensation (m²)									
1	ESA	Freshwater Aquatic	-	480	Savage Rd: 1,600	2,080	2:1		
		Riparian Terrestrial	-	2,164	Savage Rd: 205	2,369	2:1		
2a		Freshwater Aquatic	-	-	Savage / Francis Rd: 105	147	2:1		
3a	RMA	Riparian Terrestrial	-	-	Williams Rd: 42	74	Yes		
2b			-	-	Savage / Francis Rd: 101	142	2:1		
3b			-	-	Williams Rd: 41	71	Yes		
4	ESA	Storm Water Outfall -Brackish Aquatic	-	-	Williams Rd: 75	75	No*		
5	RMA	No. 7 Canal Bridge -Riparian Terrestrial	-	-	Blundell Rd: 732	732	No*		
Non-Impacted Areas to be Removed from ESA (m²)									
6	ESA	Riparian Terrestrial	6,688	54	Savage / Francis Rd: 5,566	12,308	-		
Required Compensation Sub-Total									
+ Additional 25% for Net Benefit / Local Values									
Total Required Aquatic Compensation									
Total Required Terrestrial Compensation									
Proposed Habitat Compensation (m²)									
Site / Photo Number	Location	Compensation Habitat Type	Impacted Habitat Type / Location	Compensation Area	Compensation Area	Compensated Like Habitat for Same Ecological Unit	Compensated Like Habitat for Same Ecological Unit		
7	Ecowaste "Triangle Lot" Constructed Wetland	Freshwater Aquatic	ESA Lot 1123 and Road ROWs	1,040	1,040	Yes	No†		
			RMA Road ROWs	74	2,540	Yes	No†		
			ESA Storm Water Outfall	38	No*	No†	No†		
		Riparian Terrestrial	ESA Additional Net Benefit	1,398	-	-	-		
			ESA Lot 1123 and Road ROWs	1,185	71	Yes	No†		
			RMA Road ROWs	71	4,230	Yes	No†		
			ESA Additional Net Benefit	2,974	-	-	-		
8	Williams Road Entrance Culvert Removal & Watercourse Restoration	Freshwater Aquatic	RMA Additional Net Benefit	32	32	-	-		
			RMA Additional Net Benefit	70	70	-	-		
			RMA No. 7 Road Canal ROWs	1,098	3,731	Yes	Yes		
9	No. 7 Road Canal Riparian Restoration	Riparian Terrestrial	RMA Additional Net Benefit	2,633	-	-	-		
			Total Proposed Aquatic Compensation	2,572	-	-	-		
Total Proposed Terrestrial Compensation									
Aquatic Net Benefit (2,572 - 1,440)									
Terrestrial Net Benefit (8,031 - 2,943)									
5,088									

* Brackish intertidal aquatic impacts from the storm water outfall will be compensated as part of the upland constructed wetland (unlike habitat), based on the limited area of impacts and limited value an isolated brackish compensation area would provide.

† Compensation habitat will not be located in the same contiguous ecological unit based on the inability to establish connectivity to impacted areas beyond the property boundaries. Providing compensation habitat in a concentrated area at >25% of the replacement ratio is considered to represent a no net loss of habitat.