



City of
Richmond

Report to Development Permit Panel
Planning and Development Department

To: Development Permit Panel

Date: April 2, 2013

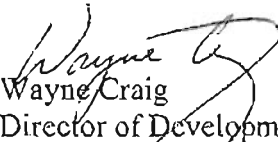
From: Wayne Craig
Director of Development

File: DP 13-631971

Re: Application by Baljit Dhillon for a Development Permit at 10880 Granville Avenue

Staff Recommendation

That a Development Permit be issued which would permit the construction of a septic field that will partially encroach into an Environmentally Sensitive Area (ESA) in the rear of a property at 10880 Granville Avenue, zoned Agricultural District (AG1).


Wayne Craig
Director of Development

WC:jc
Att. 4

Staff Report

Origin

Baljit Dhillon has applied to the City of Richmond for permission to develop a septic field at 10880 Granville Avenue that will be partially located within an Environmentally Sensitive Area (ESA) located in the rear of the property. The 0.2 ha site is zoned Agricultural District (AG1). The ESA extends approximately 19.5 metres into the site from the rear property line.

Development Information

Please refer to attached Development Application Data Sheet (**Attachment 1**) for a comparison of the development data with the relevant Bylaw requirements. The development did not require a rezoning as the proposed residential use is permitted under the existing Agricultural District (AG1). The recently constructed single family dwelling (March 2013) meets all of the required setbacks and height restrictions under the Agricultural District (AG1). The development keeps all above ground structures and driveways within the zoning district's 50 m maximum setback area. Sanitary sewer is unavailable; therefore, a septic field is required.

Background

Development surrounding the subject site is as follows:

- To the north: large single family residential lots, zoned AG1;
- To the east: large single family residential lots with ESA designations at the rear, zoned AG1;
- To the south: an agricultural lot being cultivated with cranberries, zoned AG1; and
- To the west: single family residential lots, two with ESA designations, zoned AG1.

The subject property and all of the surrounding properties are within the Agricultural Land Reserve.

Findings of Fact

Riparian Management Area

The property lies adjacent to a Riparian Management Area (ditch) that runs along the front portion of the property. The RMA has a buffer area approximately 5 m wide that extends into the subject property. The newly constructed house is not located within the 5 metre buffer area. A building permit for the house was issued with the standard RMA conditions of protective fencing and sediment and erosion control.

Perimeter ditch

There is also a perimeter ditch that lies along the southern property boundary between the cultivated field to the south and the subject site. The ditch typically contains standing water and would be seasonally dry. It is not an RMA.

Septic field location

In February 2013, the applicant retained an engineering consultant to look at the option of placing the septic field in the front yard so as to avoid encroaching into the ESA at the rear of the property (**Attachment 2**). The consultant concluded that even with the smallest septic field size designed with the highest level of treatment, the design would not meet the requirements of the *Health Act*. Factors affecting appropriate design and size include the soil conditions, site permeability and the required setbacks from existing utilities and the Riparian Management Area.

Analysis

The proposed 228 m² septic field will be located in the rear yard of the site which will require the conversion of a 1.0 metre wide by 30.726 m long section of ESA comprised of low growing salal into a septic field.

Biologist's Assessment

A full site assessment of the subject site's ESA area and the ESA areas on adjacent lots was undertaken by Triton Environmental Consultants Ltd. in March 2013. They evaluated the habitat values in the ESA relative to the location of the proposed 228 m² (7.5m x 30 m) septic field to be located in the rear yard (**Attachment 3**). The septic field will be located 18 m from the perimeter ditch, a distance which complies with the requirements of the Health Act. No changes to the ditch or adjacent vegetation are proposed. The septic field will encroach approximately one metre into the ESA across the width of the ESA.

ESA impact

- A total of 16 tagged European birch trees were identified in the ESA on the subject site. An additional 13 Vaccinium bushes > 1.5 m tall, were observed in the ESA with 11 clustered in the SW corner of the property and two in the SE corner of the property.
- Low growing salal (*Gaultheria shallon*), mosses and lichens dominate the understory.
- Two bylaw sized trees will need to be removed to accommodate the septic field.
- No listed species occurrences were identified at 10880 or the immediately adjacent properties.

Proposed Mitigation Measures

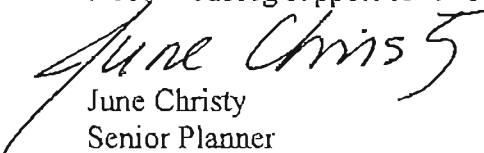
- After construction, the septic field will be planted with shallower rooting native fern and shrub species.
- Tree replacement will be native and planted adjacent to the forest edge. They will be replaced at a minimum ratio of 2 for 1 per the City's Official Community Plan;
- An equal area to the portion of the ESA that is disturbed by the septic field will be planted with tall shrubs at a spacing of 2.0 m to offset loss of ecological value (**Attachment 4**). This would mean shrub planting in the forested portion of the property south of the septic field. This would be in addition to the revegetation proposed (ferns and low shrubs) for the septic field area. A total of 33 shrubs and ten trees will be planted in the ESA as follows:
 - Lodgepole pine (5 specimens)
 - Western white birch (5 specimens)
 - Evergreen huckleberry (19 specimens)

- Salal (14 specimens)
- The species were selected on the basis of site-specific and shade conditions in the ESA.
- A restrictive covenant will be registered on title to ensure that the preservation of the vegetation in the ESA and that there is no construction of buildings, structures or improvements (e.g., paving) in the ESA area.

The proposed mitigation satisfactorily addresses the net loss of habitat resulting from the minor encroachment of the septic field into the ESA area. It also complies with the intent of the applicable sections of the Official Community Plan.

Conclusion

Staff have reviewed the technical aspects related to the proposed construction of the septic field at 10880 Granville Avenue and the potential implications to the Environmentally Sensitive Area (ESA). The applicant has sufficiently addressed issues related to ESA concerns. Staff are recommending support for this Development Permit application.


June Christy
Senior Planner

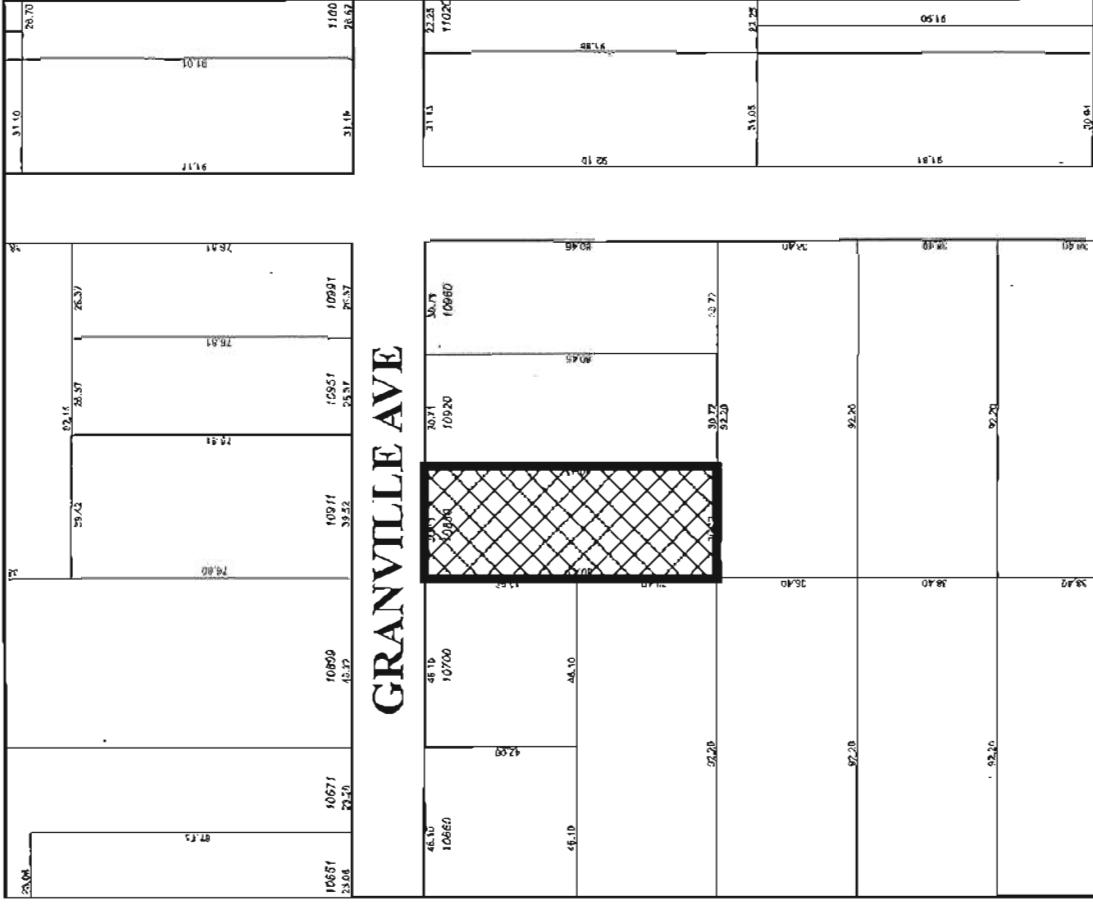
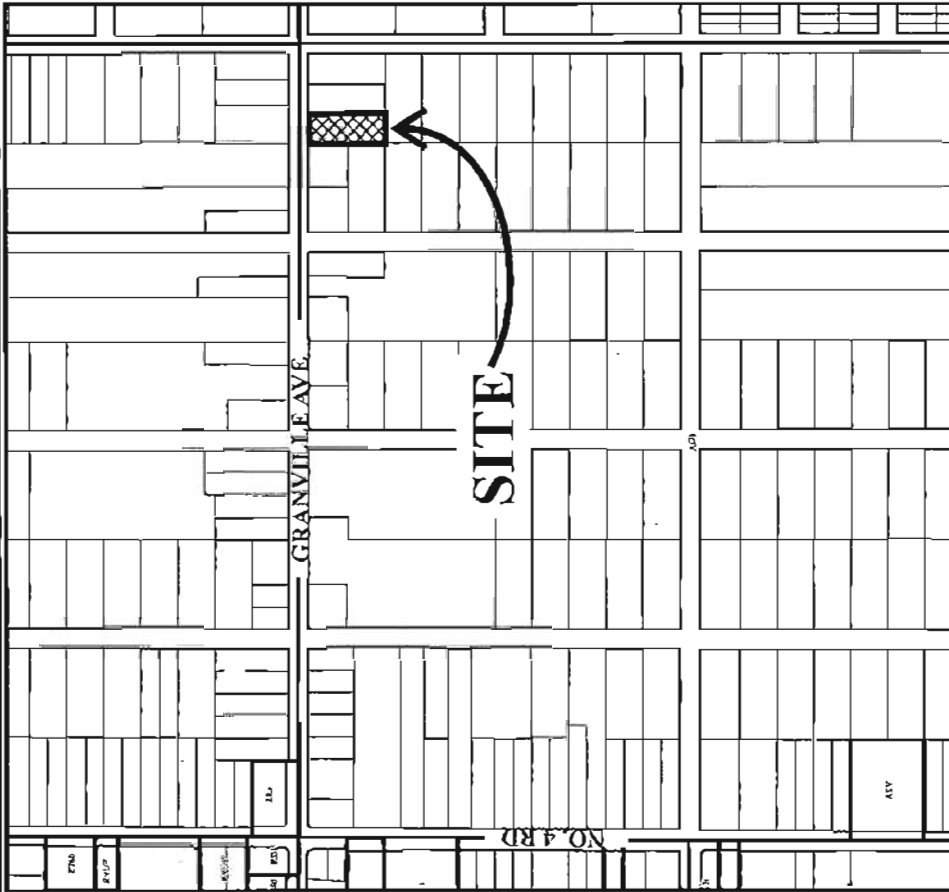
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The following are to be met prior to forwarding this application to Council for approval:

- Receipt of a Letter-of-Credit for landscaping in the amount of \$771.50 (based on applicant provided quote).
- Registration of a legal agreement on title to ensure: the preservation of the vegetation in the Environmentally Sensitive Area and that no construction of buildings, structures or improvements (e.g., paving) will be made in the ESA area.
- Registration of a Flood Plain covenant specifying a minimum FCL of 2.9 GSC.



City of Richmond



DP 13-631971 SCHEDULE "A"

Original Date: 03/20/13

Revision Date:

Note: Dimensions are in METRES



DP 13-631971

Attachment 1

Address: 10880 Granville Avenue

Applicant: Baljit Dhillon

Owner: Baljit Dhillon

Planning Area(s): East Richmond

Floor Area Gross: 850 m² (9,150 ft²)

	Existing	Constructed in 2013
Site Area:	2,469 m ²	Same
Land Uses:	Single family dwelling	Same
OCP Designation:	Agriculture	Same
Zoning:	Agricultural District (AG1)	Same
Number of Units:	1	1

	Bylaw Requirement	Constructed in 2013	Variance
Floor Area Ratio:	0.60	0.34	none permitted
Lot Coverage:	N/A	N/A	None
Setback – Front Yard:	Min. 6.0	6.54 m	None
Setback – Side Yard:	Min. 1.2 m on one side with 3.0 m on the other side	1.2 m and 4 m	None
Maximum Setback	Max. 50 m	49.46 m	None
Setback – Rear Yard:	Min. 6.0 m	Exceeds minimum	None
Height (m):	Max. 2 ½ storeys, but shall not exceed 10.5 m	2 ½ storeys	None
Lot Size:	Min 828 m ²	2,469 m ²	None
Total off-street Spaces:	2	3	None

Giuriato Consulting Inc.

Surveying & Engineering/ Sewage Disposal Specialists
 21808 - 52A Avenue
 Langley, B.C., V2Y 1L3

Cel: 604-868-7775
 Email: giuriato at hotmail.ca

City of Richmond
 c/o Baljit Dhillon

Date: Feb. 25/2013

Dear Sir,

RE: Sewage Disposal System for 10880 - Granville Avenue, Richmond, B.C.

Our client has requested we look at the option of placing the sewage disposal system for this dwelling in the front yard. The attached sketch shows the location of the currently proposed sewage disposal system and the utilities and driveway located in the front yard.

Sewage disposal systems have to be designed according to the Sewerage Systems regulations and Standard Practice Manual as provided by the Health Authority. This is a large dwelling with a daily design flow rate of 3994 litres/day. There are three types of systems under the health Act, type 1, 2 and 3. Type 2 and 3 are treatment plant systems. With treatment plant systems you can make the field smaller. We are proposing a type 3 system which has the highest level of pre-treatment and the smallest field size.

Based on the native soil conditions depth and permeability for this site the infiltration bed width should be max. 1m. The max. bed loading rate for a type 3 system is 128 litres/day/sq.m.. Therefore we need a bed $3994/128 = 31.2$ m long. The bed is the raised center portion of a field. Using the entire lot width we have been able to get a bed 26m long which is 16% less than we would like. To compensate we have made the bed width 2m. As engineers we can have some latitude. In short the field we have proposed is shorter than what we would normally propose.

Proposed fields have to be setback 3m from utilities and 1.5m from driveways. The attached site plan shows the utilities and driveway. If we take into account the setbacks we can get a field bed length of 12.4m. Approximately 40% of what is needed. If we relocated both the waterline and gas line we could get a bed length of 19.8m which is 63% of what is needed. That is the absolute maximum bed length we could get.

In addition there is a ditch out front. I am not sure of the classification of this ditch. If it is a creek we have to maintain a 50 foot setback. This would be hard to achieve given the location of the dwelling. If it is seasonal and dries up in the summer we would need a 25 foot setback.

.....2

Page 2

In conclusion, we cannot meet the requirements of the Health Act by putting the sewage disposal system in the front yard for the reasons listed above. If a much smaller field was proposed in the front yard the effluent could wind up polluting the roadside ditch.

If you have any questions please contact me at 604-868-7775.

Sincerely,

Ralph Guriato, P.Eng./B.C.L.S.





8971 Beckwith Road
Richmond, BC V6X 1V4

Phone 604 279 2093
Fax 604 279 2047

Updated March 27, 2013

Mr. Baljit Dhillon
c/o Mr. Dale Badh
10880 Granville Avenue
Richmond, BC, V6Y 1R4

Re: Assessment of a mapped Environmentally Sensitive Area (ESA) at 10880 Granville Avenue in Richmond, BC

1.0 Introduction

Triton Environmental Consultants LTD (Triton) was retained to conduct a field survey of a mapped Environmentally Sensitive Area (ESA) at 10880 Granville Avenue, Richmond, BC (Figure 1). The purpose of the survey was to evaluate habitat values in the ESA relative to a proposed 228.235 m² (7.576 m x 30.126 m) septic field south of the built house. The septic field will be located 18 m from an ephemeral ditch bordering the southern property boundary. This will require the conversion of a 1.0 m wide by 30.726 m long section of low growing salal (*Gaultheria shallon*) with two trees (TAG ID# 1562 and 1564)¹ in the ESA to a grass covered septic field.

2.0 Methods

Triton reviewed the Conservation Data Centre (CDC) mapping tool for known species at risk occurrences. Triton also visited the site twice in March 2013 during dry weather conditions and walked part of all of the following areas:

- ESA on 10880 (full site assessment)
- LOTS 78, 79 and 94 to the west, south west and immediate south of 10880
 - LOTS 78 and 79 are forested and LOT 94 supports cultivated *Vaccinium*

¹ European birch (*Betula pendula*) specimens, 29 cm dbh and 22 cm dbh respectively.

We also took photos of the section of ESA on the residential property to the east of 10880 at 10920. Plant species and wildlife sign were documented on 10880 and general observations were recorded for the remaining areas.



Figure 1. Overview of 10880 and surrounding properties

3.0 Results and discussion

No listed species occurrences were identified at 10880 or the immediately adjacent properties (Appendix 1). A total of 16 tagged European birch trees were identified in the ESA on 10880, which extended roughly 19.5 m north of the SE corner property pin (Photos 1 to 3). An additional 13 *Vaccinium* bushes ≥ 1.5 m tall, were observed in the ESA, with 11 clustered in the SW corner of the property and two in the SE corner of the property (Photo 4).

Low growing salal dominated the understory (Photo 5). Mosses and lichens observed at 10880 included: *Brachytehcium sp*, *Dicranum (scoparium and tauricum)*, *Kindbergia sp*, *Plagiothecium undulatum*, *Polytrichum sp*, *Cladonia chlorophaea*. A summary of tree diameters and health commentary provided by Frogger's Creek Tree Consultants (August 2011) is provided in Table 1. As indicated in Section 1.0, tree #1562 and 1564 would need to be removed to accommodate the septic field.

Table 1. 10880 ESA tree data compiled from the Frogger 2011 report

TAG#	DBH (m)	HT (m)	CR (m)	Health / structural condition
1562	0.29	17	3	Poor, leaning
1564	0.22	12	3	Leaning
1565	0.38	16	4	-
1566	0.3	16	3	Fair, leaning
1569	0.32	15	3	Declining
1570	0.28	15	3	Declining, leaning
1571	0.35	20	4	Fair
1572	0.28/0.25/0.23	15	4	Poor, dead top
1573	0.3	12	3	Poor, top broke out
1576	0.28	20	4	Fair, leaning
1577	0.25	15	3	Poor, Top dead
1578	0.38/0.24	19	5	Declining
1579	0.36	17	4	Fair
1580	0.32/0.28	15	5	Declining
1581	0.35	20	4	Declining

DBH- diameter at breast height, **HT** – Height, **CR**-Crown radius

A perimeter ditch is located along the southern property boundary between the berry field on LOT 94 and the ESA on 10880. Based on our field observations this ditch typically contains standing water and would be seasonally dry (Photos 6 and 7). The proposed septic field is ≥ 18 m from this ditch, which we understand through discussions with Giuriato Consulting Ltd (Giuriato) is consistent with the requirements of the *Health Act*. No changes to the ditch or adjacent vegetation community are proposed.

The ESA on 10880 provides poor to no habitat for provincially and / or federally listed plant and animal species. It also provides poor habitat for wildlife overall. The understory is limited to low growing salal cover and some largely isolated *Vaccinium* bushes. Tree cover is limited to deciduous, introduced birch in declining condition. No coniferous tree cover occurs on the property. The lack of a continuous and dense tall shrub layer in combination with more abundant tree cover makes the ESA on 10880 unsuitable for wildlife travel, thermal or hiding cover. The same conditions also result in poor nesting bird habitat overall. The only wildlife sign observed in the ESA was a stick nest in disrepair in a European birch on the residential property to the east (I0920) (Photo 8).

4.0 Mitigation planting in the ESA

The City requires planting in the ESA to offset the conversion of the 30.726 m² to septic field, including Trees 1562 and 1564. A total of 33 shrubs and 10 trees will be planted in the ESA as follows:

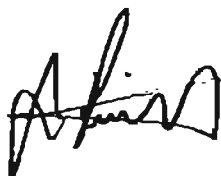
- lodgepole pine (*Pinus contorta*) (#3 pot) (5 specimens)
- Western white birch *Betula papyrifera* (#3 pot) (5 specimens)
- evergreen huckleberry (*Vaccinium ovatum*) (#2 pot) (19 specimens)
- salal (#2 pot) (14 specimens)

These species were selected on the basis of site-specific soil and shade conditions in the ESA. Additionally birch, pine, *Vaccinium* and salal are already successfully established in / adjacent to the ESA on 10880. Consistent with our understanding of the City's requirements, shrubs will be planted on 2 m centers. The cost to supply and install the plants identified above would be \$771.50 excluding taxes.

5.0 Closing

If you have any questions, comments or concerns about this letter, please contact the undersigned at 604-279-2093 (office), jrithaler@triton-env.com or kgraf@triton-env.com

Sincerely,



John Rithaler, Operations Manager, RPBio, PBIol



Karla Graf, Project Manager
Bach. Env. Eng., Dip T. RRM., Cert Tech Comm.

Triton Environmental Consultants Ltd.



Photo 1. ESA on 10880 facing northwest (March 2013)



Photo 2. ESA on 10880 facing west (March 2013)



Photo 3. Typical tree cover on 10880 (March 2013)



Photo 4. *Vaccinium* shrubs in SW corner of 10880 (March 2013)



Photo 5. Low growing salal with isolated tree cover on 10880 (March 2013)



Photo 6. Perimeter ditch on 10880 at property pin (March 2013)



Photo 7. Perimeter ditch on 10880 (March 2013)



Photo 8. Stick nest in birch on 10920 to the east (March 2013)



Photo 9. Condition of ESA on 10920 to the east (March 2013)



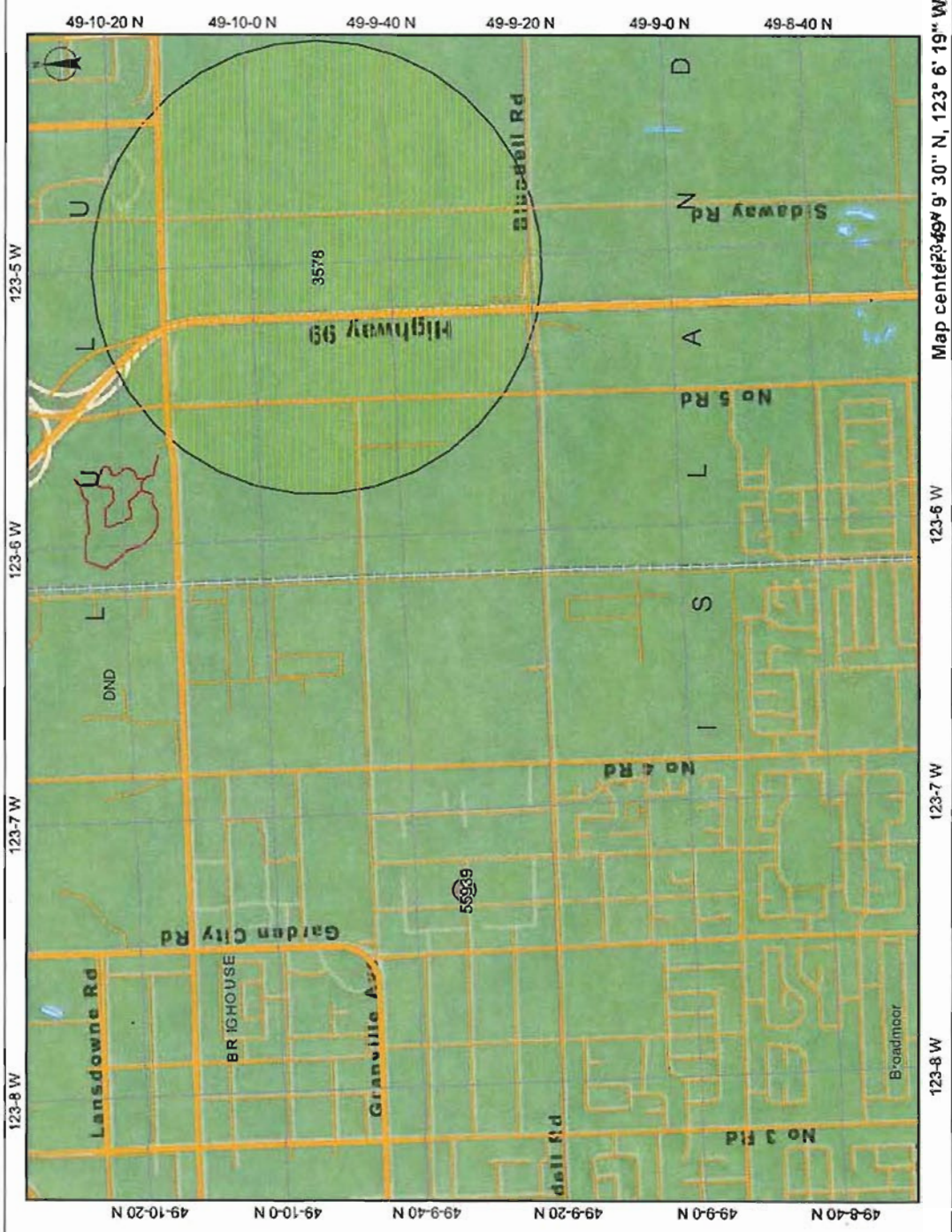
Photo 10. Condition of ESA on LOT 78 immediately to the west of the ESA on 10880 (March 2013)

APPENDIX 1: CDC SEARCH RESULTS (March 2013)

- ID 55939, red legged frog (*Rana aurora*), on General Currie Road, between Heather Street and Ash Street, Richmond. 2004-04-21, 2004: One adult, four juveniles and six unclassified frogs were observed in a backyard pond (SPI database - incidental sightings, accessed July 2010)
- ID 3578, northern water-meal (*Wolffia borealis*) southeast corner of Highway 99, Dease Island Highway and Westminster Highway. 1980-09-10. Floating in large colonies with *Lemna minor* in stagnant, water-filled ditch

BC Conservation Data Centre - Occurrence Report

Listed species occurrences



Legend

- Non-sensitive Occurrences
- Animal - Vertebrate
- Animal - Invertebrate
- Plant - Vascular
- Plant - Non-vascular
- Ecological Community
- Masked Sensitive Occurrences
- Big Trees

Occurrence data is updated frequently. This map should be considered out of date 6 months after **March 9, 2013**. For more information about the BC CDC visit: <http://www.env.gov.bc.ca/cdc/>

Index Map



MAP COMPILATION:
 Projection: Albers Equal Area Conic
 Datum: NAD 83

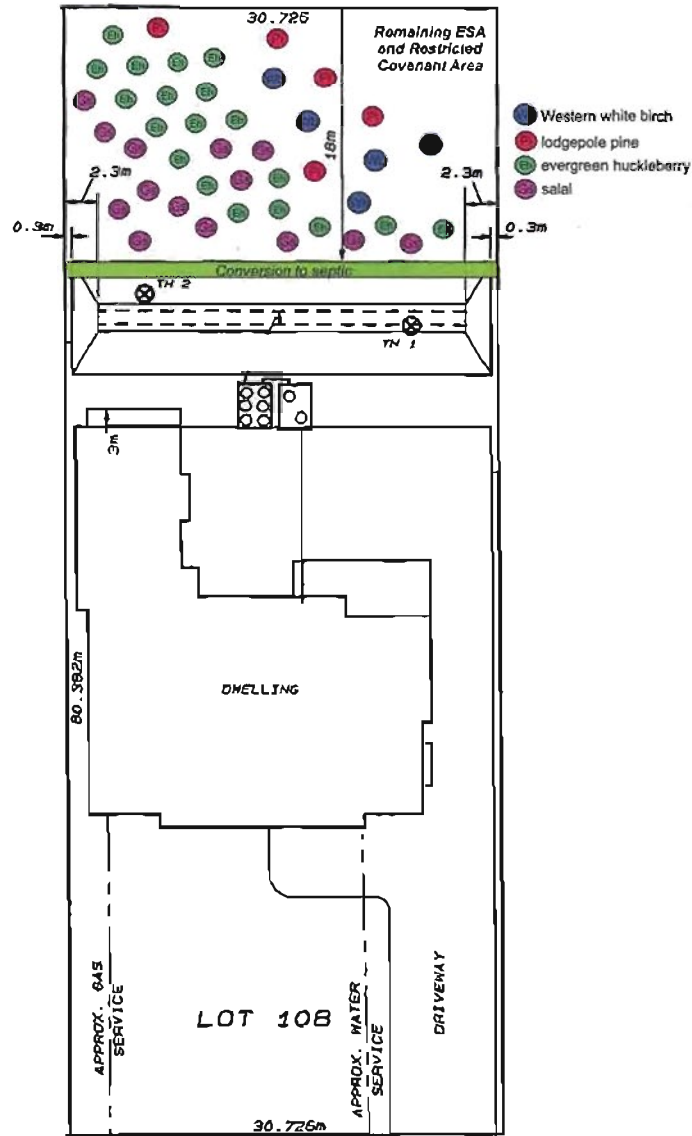
Scale: 1:27,728

Map centre: 49° 9' 30" N, 123° 6' 19" W

2400 m.
 1600
 800
 0

Province of British Columbia
 Ministry of Environment

Map Created March 9, 2013



GRANVILLE AVENUE

SPECIAL NOTES:
 1) SEPTIC TANK AND TREATMENT PLANT CAN BE RE-LOCATED AS NECESSARY WITH APPROVAL FROM GIURIATO CONSULTING INC.

Restricted covenant area: shall not construct or permit to be constructed any building, structure or improvement whatsoever in or on the Restrictive Covenant Area (or any part thereof) or permit any part of the Restrictive Covenant Area to be paved or covered over (whether by asphalt, concrete, brick or stone rock or otherwise) and shall not cut down, dig up, up-root or remove any vegetation in the Restrictive Covenant Area provided however if the Owner first receives the City's written consent to do so, the Owner may remove such trees that, in the opinion of a Certified Arborist, are dangerous or hazardous or may remove such vegetation that is considered by the City to be invasive

LEGAL DESCRIPTION:
 Lot 108, Section 14, Blk. 4 N.,
 Rg. 6 W., Pl. 43494. N.W.D.

SITE ADDRESS:
 10880 - Granville Avenue, Richmond

Figure 2
Overview of ESA - 10880 Granville

Base Map Source: Giurato survey drawing **Map Datum:**

Project No: 4818 **File No:** 4818-01-001 **Date:** March 27, 2013
Fig 2



City of Richmond

Development Permit

No. DP 13-631971

To the Holder: Baljit Dhillon and Gurdial Dale Badh
Property Address: 10880 Granville Avenue
Address: 1223 – 20800 Westminster Highway, Richmond

1. This Development Permit is issued subject to compliance with all of the Bylaws of the City applicable thereto, except as specifically varied or supplemented by this Permit.
2. This Development Permit applies to and only to those lands shown cross-hatched on the attached Schedule "A" and any and all buildings, structures and other development thereon.
3. Subject to Section 692 of the Local Government Act, R.S.B.C.: septic field construction, compensation landscaping shall be constructed generally in accordance with Figure 1 and Figure 2 attached hereto.
4. As a condition of the issuance of this Permit, the City is holding the security in the amount of \$771.50 to ensure that development is carried out in accordance with the terms and conditions of this Permit. Should any interest be earned upon the security, it shall accrue to the Holder if the security is returned. The condition of the posting of the security is that should the Holder fail to carry out the development hereby authorized, according to the terms and conditions of this Permit within the time provided, the City may use the security to carry out the work by its servants, agents or contractors, and any surplus shall be paid over to the Holder. Should the Holder carry out the development permitted by this permit within the time set out herein, the security shall be returned to the Holder. The City may retain the security for up to one year after inspection of the completed landscaping in order to ensure that plant material has survived.
5. If the Holder does not commence the construction permitted by this Permit within 24 months of the date of this Permit, this Permit shall lapse and the security shall be returned in full.

To the Holder: Baljit Dhillon and Gurdial Dale Badh

Property Address: 10880 Granville Avenue

Address: 1223 – 20800 Westminster Highway, Richmond

6. The land described herein shall be developed generally in accordance with the terms and conditions and provisions of this Permit and any plans and specifications attached to this Permit which shall form a part hereof.

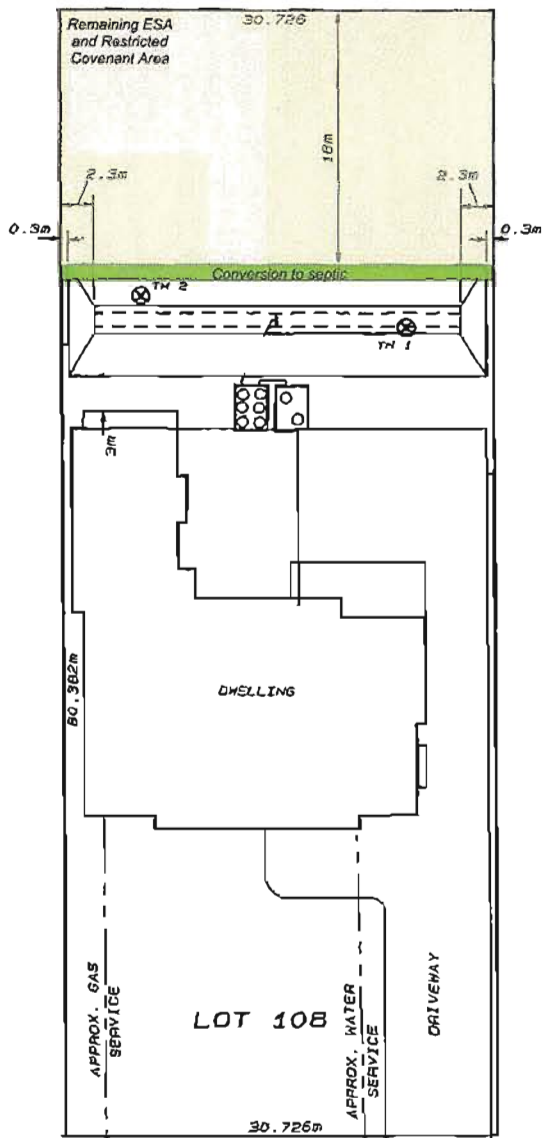
This Permit is not a Building Permit.

AUTHORIZING RESOLUTION NO.
DAY OF , .

ISSUED BY THE COUNCIL THE

DELIVERED THIS DAY OF , .

MAYOR



GRANVILLE AVENUE

SPECIAL NOTES:
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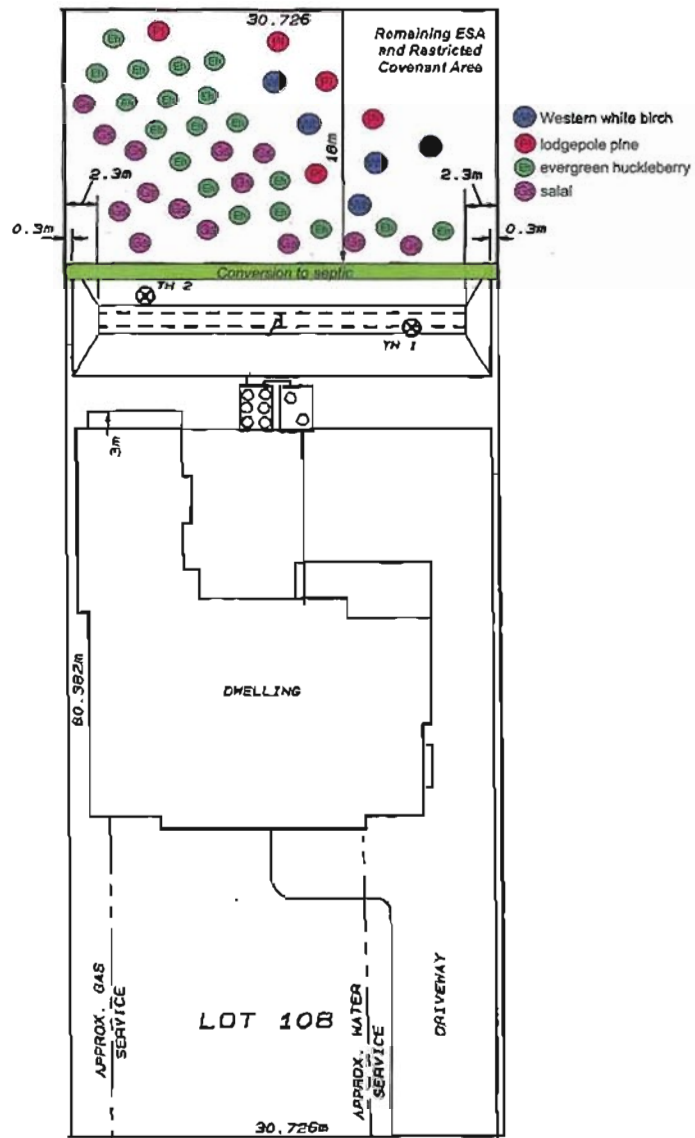
SITE ADDRESS:
 10880 - Granville Avenue, Richmond

Figure 1
Overview of ESA - 10880 Granville

0 16
meters

Basemap Source: Giurato survey drawing	Map Datum:	
Project No: 7801	File No: 7801-01-001 Fig 1	Date: March 27, 2013

TRITON
 CONSULTING



GRANVILLE AVENUE

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