

Toth and Associates Environmental Services

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April 29, 2020

Darren Gaudreault

Ballard Fine Homes Ltd.

#1-546 Island Highway W

Parksville, BC, V9P1H2

**Re: Assessment of proposed house sites on Lot C, Plan VIP71752, District Lot 17&78,
Newcastle Land District (PID# 024-935-000), Qualicum Beach.**

Introduction

Toth and Associates Environmental Services conducted an environmental assessment of the building envelopes associated with two new proposed house sites on the 4.186 ha subject property on May 3, 2019.

Background Review

- Schedule 2.1 of the Town of Qualicum Beach's Official Community Plan (OCP) Bylaw No. 800, 2018 designates the Land Use on the subject property as "Single-family Residential".
- Schedule 2.4 of the OCP designates Aquatic Habitat Greenway "G5" (Little Qualicum / Laburnum) on the subject property.
- Schedule 2.5 of the OCP designates a Hazardous Lands Development Permit Area (Floodplain) on the subject property.

The Ecological Greenways Development Permit Area (DPA) information indicates that DPA boundaries for Area G5 shall include sensitive land in one of four types:

- a) The Riparian Assessment Areas required by the RAR. Within the Development Permit Area boundaries, Aquatic Habitat Greenways shall be defined to include the Streamside Protection and Enhancement Areas (SPEAs) as defined under the RAR.
- b) Aquatic Habitat Greenways that encompass all wetlands, which means all areas of land that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, vernal pools and estuaries, plus wetland buffers, as recommended by a Registered Professional Biologist.
- c) Upland Habitat Greenways that encompass sloping terrain plus 3m from the top of sloping terrain and 3m from the toe of sloping terrain.
- d) Upland Habitat Greenways that encompass any nest tree of an eagle, peregrine falcon, gyrfalcon, osprey, heron or burrowing owl, plus nest tree buffers, as recommended by a Registered Professional Biologist.

The Hazardous Lands DPA information indicates that this DPA is applicable to flood-prone lands, coastal properties that are susceptible to storm damage including, but not limited to, all those lands within the Plan area with a natural grade greater than 30%.

A memorandum prepared by Lawson Lundell LLP to Robert Regan-Pollock Holdings Inc. dated December 31, 2010 indicated 2 registered covenants on the subject property (EP108971 & EP108973) and indicated that Covenant EP108973 prevents further subdivision of this lot or re-zoning without the prior approval of the Minister of Environment Lands and Parks, Water Management, Vancouver Island Region. Moreover, it limits the construction of new buildings to be at least fifteen meters away from the natural boundary of any watercourse and also establishes a minimum elevation of useable area within any building to be at least five meters geodetic survey of Canada Datum.

A biophysical assessment report prepared by Chatwin Engineering Ltd. (C. Zamora, R.P.Bio) for Thorconsult Ltd. dated March 7, 2007 indicated that the boundaries of the swampland on the subject property were identified by GPS survey on February 1, 2007. The report indicated that drainage from the property is via a 600 m long, 900mm diameter storm drain to the beach. The Chatwin report also referenced a previous biophysical assessment conducted for the property by Keystone Environmental Ltd.

It is our understanding based on discussion with JE Anderson & Associates that the wetland boundary was delineated again by C. Zamora, R.P.Bio (Aquaparian Environmental Consulting Ltd.) approximately a year prior to our survey.

Section 6.3.8 of the Town of Qualicum Beach Land Use and Subdivision Bylaw No. 580, 1999 indicates that:

- a) On parcels containing a watercourse, or adjacent to another parcel containing a Watercourse, with an average slope of bank of 5% or less, no building or structure shall be constructed, altered, moved or extended, within the following setbacks:
 - i. within 15.0 m horizontal distance from the natural boundary or within 18.0 m horizontal distance from a stream centre line, whichever is greater, as illustrated in Table 1 and Table 2 of Schedule 6D;
 - ii. within 30.0 m horizontal distance from the natural boundary of the Little Qualicum River.
- b) On parcels containing a watercourse, or adjacent to another parcel containing a watercourse, with an average slope of bank greater than 5%, no building or structure shall be constructed, altered, moved or extended, within the following setbacks:
 - i. within 15 m horizontal distance from the top of the slope or the first significant and regular break in the slope, whichever is greater, as illustrated in Table 3 of Schedule 6D; or
 - ii. within 30.0 m horizontal distance from the natural boundary of the Little Qualicum River; whichever is greater.

Based on the map review and field survey it is our understanding that Section 6.3.8a)i) would apply to the subject property and therefore the setback requirements would be 15 m from natural boundary.

Results

Based on the previous studies conducted on Lot C, it is our understanding that several factors contribute to the presence of surface water on the subject property including:

1. Run-off directed onto the property from stormwater retention features on the adjacent property to the west;
2. Drainage from upslope areas in the vicinity of Eagleridge and Park Ridge Place; and,
3. Although separated from the Little Qualicum River by the raised grade of Laburnum Road, the subject property represents a historic floodplain of the river and as such is still heavily influenced by the groundwater table of the river.

Based on the findings of the Chatwin Engineering report, the provincial *Riparian Areas Regulation* would not apply to the drainage features on the property, as these features do not provide fish habitat, or flow via surface flow to downstream freshwater fish habitat.

The field survey of the northerly proposed house site (House Site 1) indicated that this site (Figure 1) was located below the natural boundary of a winter-wet swampland. Evidence of wet season surface water ponding was prevalent throughout the building envelope area. The vegetation community consisted of mature red alder, with an understorey of red-osier dogwood, salmonberry, and hard-hack with a herb layer of horsetail, lady fern and slough sedge (Photographs 1 & 2).

Elevated, drier terrestrial forest dominated sites that do not appear to be subject to seasonal flooding were noted approximately 18 m south of Site 1 at waypoint 364 (Photograph 3), and 30 m north of Site 1 at waypoint 379.

The field survey of the southerly proposed house site (Site 2) indicated that this site is on an elevated, relatively dry site (Photograph 4) that is not subject to seasonal flooding. The constructed drainage channel (Photograph 5) which carries run-off from the stormwater retention features on the adjacent property runs northerly approximately 15 m away from the south and east sides of the proposed house site.

No occupied bird nest sites, bald eagle or heron nest sites were documented on Lot C during the field survey. A bald eagle nest was noted approximately 125 m south of proposed house site 2. This nest site is identified by the BC Wildlife Tree Stewardship Atlas as BAEA-106-002, with nest records from 2004 - 2009. A pair of barred owls were heard calling from the vicinity of the steep slope south of Lot C. Evidence of use of the subject property by blacktail deer including tracks, trails, beds, shed antlers and winterkill suggest a persistent level of moderately high use.

No amphibians were observed during the field survey.

Discussion

Since our field survey and initial reporting JE Anderson & Associates has provided two topographic plans showing the Aquaparian wetland boundary and 15 m watercourse setbacks. The plans provided by JE Anderson & Associates (Dwgs. 61281-7 & 61281-10) also included an alternate arrangement for the two proposed house sites. In option 61281-7 (Figure 2) the two house sites are clustered on the elevated area located south of waypoint 364 that we assessed for House Site 2. In option 61281-10 (Figure 3), one house site is situated on the elevated area we identified at waypoint 379 in the northwest corner of the property, and one house with a potential future carriage home is located on the elevated area south of waypoint 364.

Both of these house site options utilize the driest areas of the property and will not require intrusion within the 15 m watercourse setbacks.

It is our understanding that the Town of Qualicum Beach did not request a Development Permit application for development of the proposed house sites. However, we have been informed that the Town of Qualicum Beach requires that our report state whether the proposed development complies

with the requirements of the Aquatic Habitat Greenway DPA as detailed in the Official Community Plan.

The Ecological Greenways DPA information indicates that DPA boundaries for Area G5 shall include Aquatic Habitat Greenways that *encompass all areas of land that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support vegetation typically adapted for life in saturated soil conditions, including swamps, marshes, bogs, fens, vernal pools and estuaries, plus wetland buffers, **as recommended by a Registered Professional Biologist.*** The natural boundary of the Aquatic Habitat Greenway on Lot C has been identified by C. Zamora, R.P.Bio in 2007 and 2018, and in the vicinity of the proposed house sites by myself in May 2019. The wetland buffer is established by the Town's 15 m watercourse setbacks required by the Land Use and Subdivision Bylaw.

The Ecological Greenways guidelines indicate that *"Other than excluded in Actions Not Requiring an Ecological Greenway Development Permit, no alteration of land or vegetation within the Aquatic Habitat or Upland Habitat Development Permit Areas shall be undertaken without a permit issued pursuant to this bylaw"*. It is our understanding that the proposed development would occur outside the Aquatic Habitat Greenway DPA boundary established by surveys conducted by Registered Professional Biologists.

The Ecological Greenways guidelines also indicate that *"the aquatic habitat greenway or upland habitat greenway shall be conserved in a vegetated state, free of **development of structures or paving**"*.

The survey noted a line of pink flagging tape located slightly north of Site 1. We assumed that this flagging was the wetland boundary flagging from the Aquaparian survey. However, the wetland boundary that we documented in the vicinity of House Site 1, including evidence of surface water ponding and a swampland vegetation community indicated that the wetland boundary extends south and west from the previously flagged boundary.

The assessed house sites, alternate house sites, wetland boundary, setbacks and features of the property are shown on Figure 4.

Conclusion

Based on our review of the Ecological Greenways DPA information it appears that the proposed development complies with the Aquatic Habitat Greenway DPA requirements.

Please contact us if you require additional information.

Sincerely,



Steve Toth, ASCT, R.P.Bio.

Toth and Associates Environmental Services

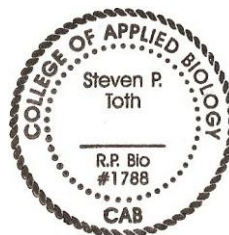


Figure 1. Originally proposed House Sites 1 & 2

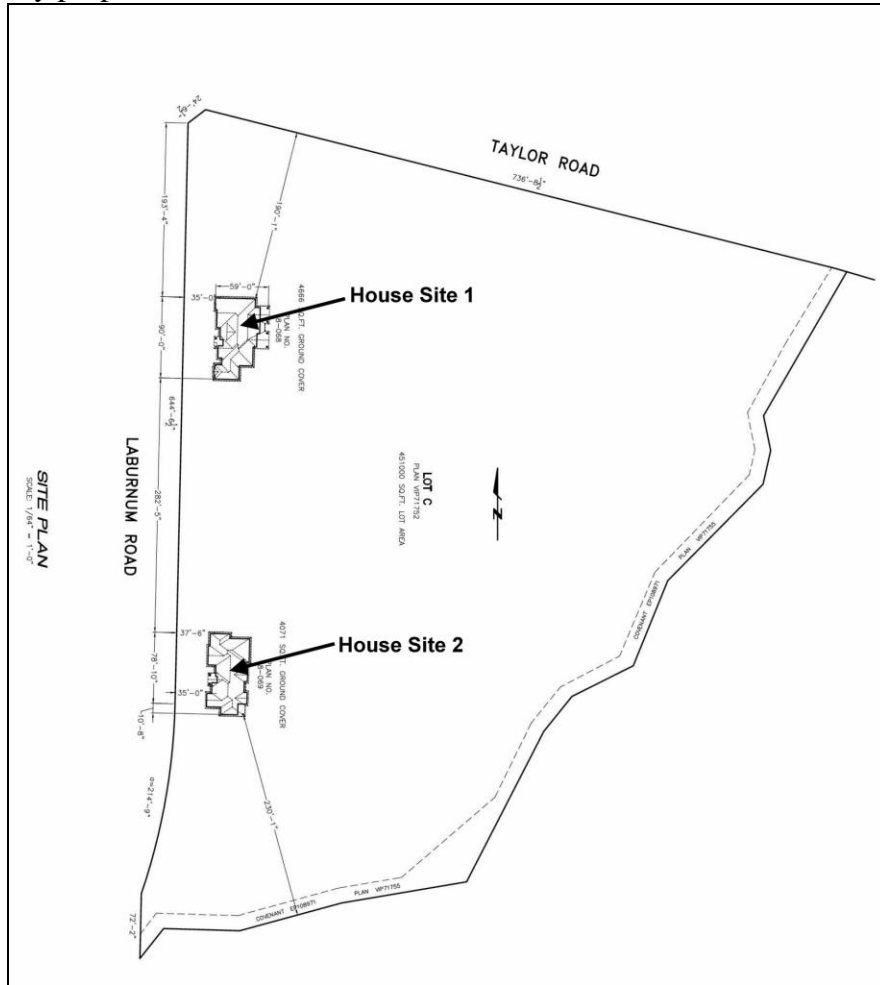


Figure 2. JE Anderson & Associates Drawing 61281-7

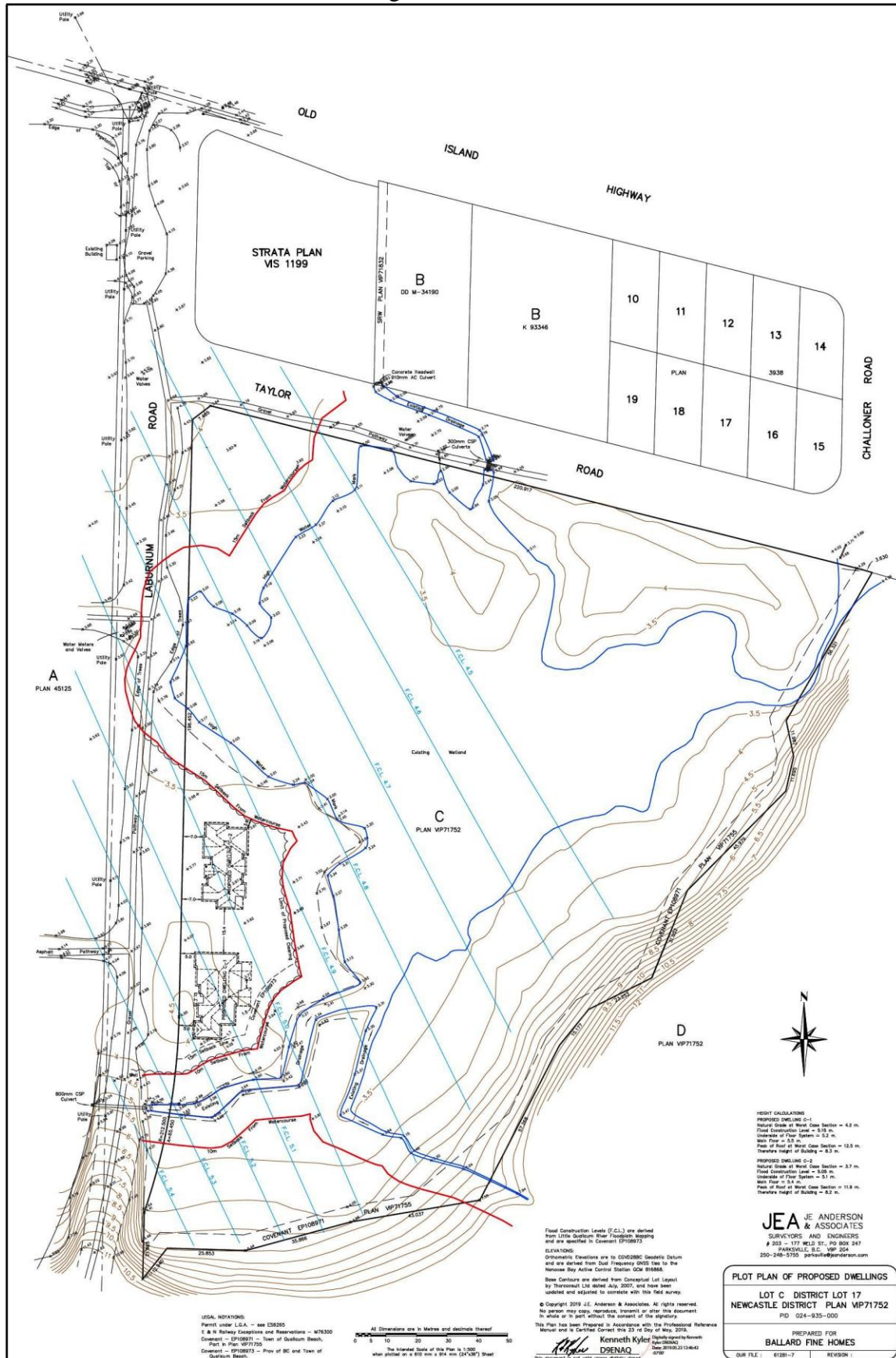


Figure 3. JE Anderson & Associates Drawing 61281-10

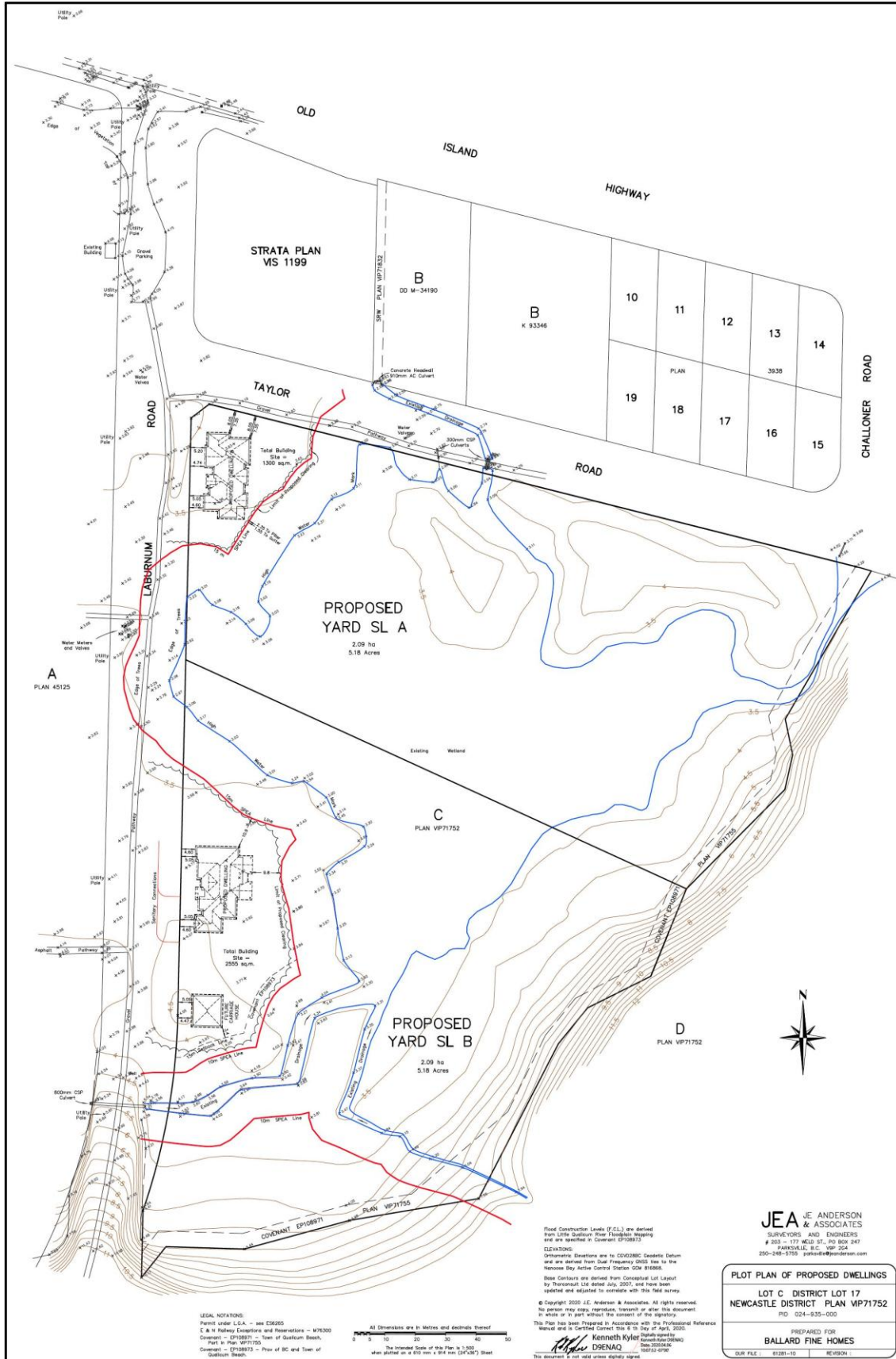
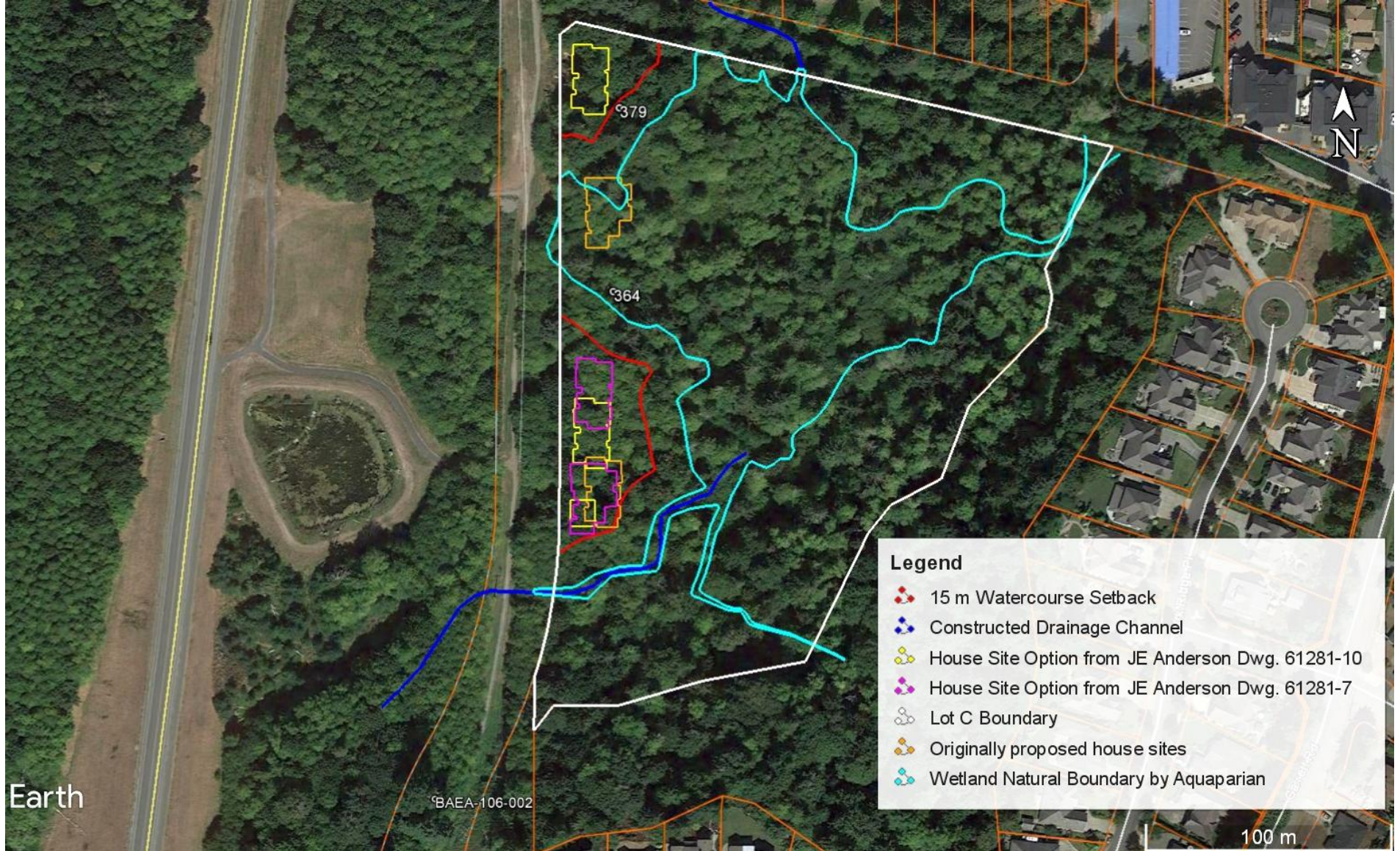


Figure 4. August 2016 air photo with proposed house sites and drainage features on Lot C





Photograph 1. View from west property line to House Site 1.



Photograph 2. View of swampland east of House Site 1.



Photograph 3. View of drier, elevated site south from waypoint 364.



Photograph 4. View of forest cover at House Site 2.



Photograph 5. View of stormwater channel south of House Site 2.