

Environmental Impact Statement for 44390 Bayview Road, Lake Errock



Prepared For

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TABLE OF CONTENTS

1	INTRODUCTION	1
1.1	OTHER ENVIRONMENTAL STUDIES	3
1.1.1	<i>Tree Management Report</i>	3
1.1.2	<i>Riparian Areas Protection Regulation Assessment</i>	3
2	REGULATORY REQUIREMENTS AND STANDARDS	4
2.1	ZONING BYLAW NO. 599-1992	4
2.2	OFFICIAL COMMUNITY PLAN BYLAW NO. 0020-1998	4
2.3	RIPARIAN AREAS DEVELOPMENT PERMIT BYLAW NO. 1262-2014	5
2.4	BC RIPARIAN AREAS PROTECTION REGULATION	5
2.5	<i>WILDLIFE ACT</i> [RSBC 1996]	6
2.6	<i>MIGRATORY BIRDS CONVENTION ACT</i> , 1994 (S.C. 1994, C. 22) & <i>MIGRATORY BIRDS REGULATION</i> (C.R.C., C. 1055)	6
2.7	OTHER MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS	7
3	METHODS AND APPROACH	8
4	EXISTING ENVIRONMENTAL CONDITIONS	10
4.1	ANTHROPOMORPHIC FOOTPRINT	10
4.2	TOPOGRAPHY	10
4.3	VEGETATION	10
4.4	WILDLIFE	10
4.5	AQUATIC RESOURCES	11
5	POTENTIAL PROJECT EFFECTS	12
5.1	VEGETATION	12
5.2	WILDLIFE	12
5.3	AQUATIC RESOURCES	13
5.3.1	<i>Harrison River</i>	13
5.3.2	<i>Unnamed Stream</i>	13
6	CONCLUSION	14
7	REFERENCES	15



LIST OF APPENDICES

APPENDIX A	TREE MANAGEMENT PLAN	ERROR! BOOKMARK NOT DEFINED.
APPENDIX B	FVRD PRE-APPLICATION LETTER	ERROR! BOOKMARK NOT DEFINED.

LIST OF TABLES

Table 1. BC Species and Ecosystem Explorer search results for potential wildlife species at risk and habitat attributes.	10
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LIST OF FIGURES

Drawing 1. 44390 Bayview Road Conceptual Site Plan.....	2
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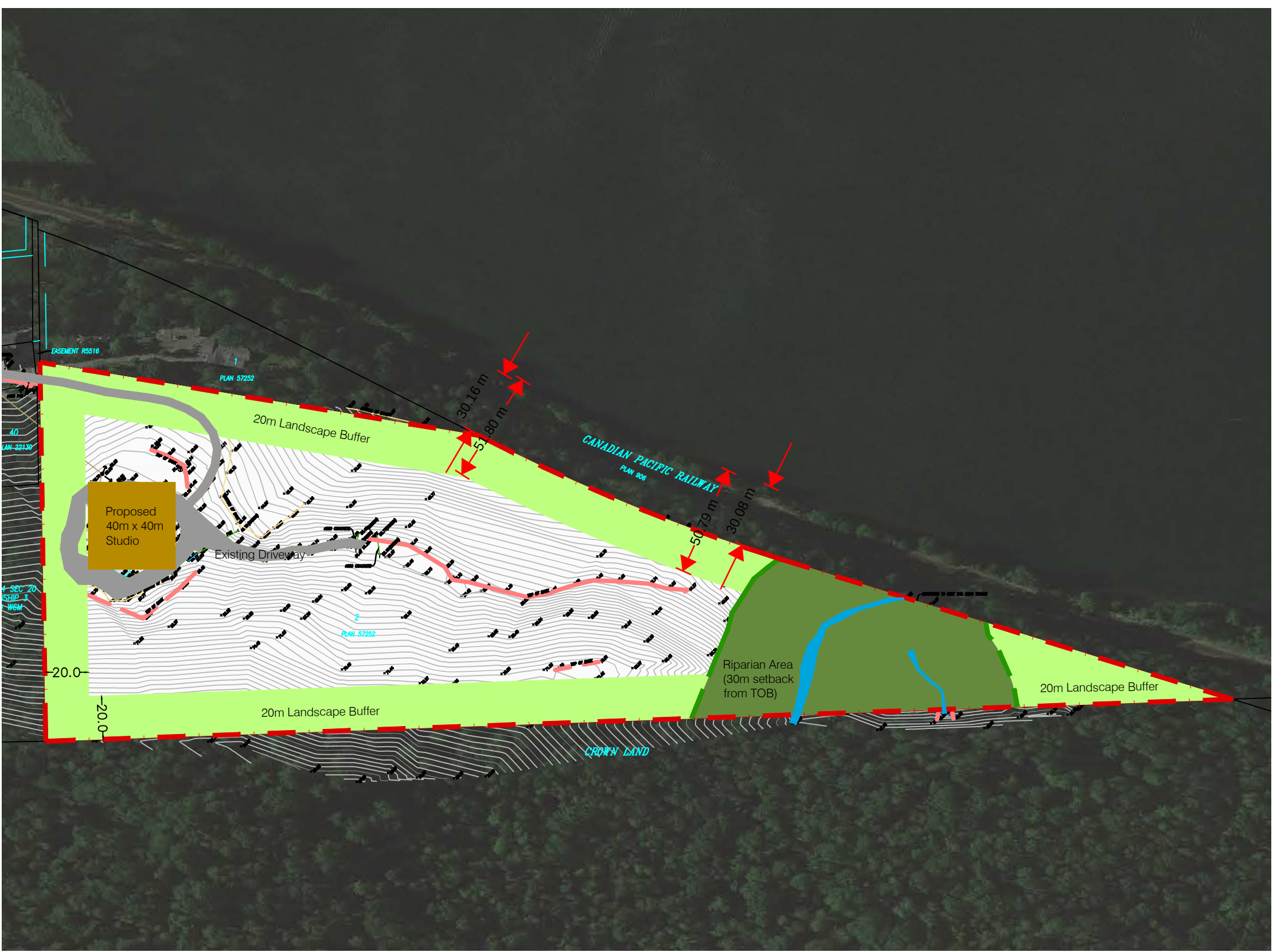


1 INTRODUCTION

Sean Patrick O'Reilly of Harrison Production Inc. (the client) has contracted EDI Environmental Dynamics Inc. (EDI) to prepare an Environmental Impact Statement (EIS) as a part of a Pre-Application Submission for a proposed Film Production Facility in Lake Errock, BC (the site). The site consists of one land parcel located at 44390 Bayview Road, Electoral Area C. The proposed development includes demolishing the existing residence situated on the west side of the site (Drawing 1), rezoning the lot to facilitate development of a Film Production Facility, and amending the Official Community Plan designation to facilitate development of a Film Production Facility.

This EIS addresses environmental considerations such as tree conservation and riparian areas as described in the Fraser Valley Regional District (FVRD) Pre-Application Letter (FVRD 2020) submission requirement. Guidelines from the municipal bylaws and provincial regulations listed in the EIS were followed when compiling the EIS. The objective of the EIS is to identify and protect important environmental values that are important to Electoral Area C community values by providing a high-level summary of the proposed development and its potential impact.

Conceptual Plan



LEGAL DESCRIPTION
PID: 002-041-154
Lot 2 Plan NWP57252 Section 21
Township 3 Range 30
Meridian Land District 36

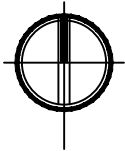
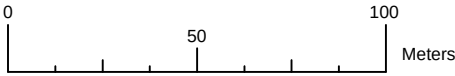
GROSS SITE AREA
5.26 hectares / 12.99 acres

NET SITE AREA
(west of riparian area)
4.32 hectares / 10.68 acres

EXISTING DESIGNATIONS
OCP: Limited Use
Zoning: R-3

PROPOSED DESIGNATIONS
OCP: Rural
Zoning: R-6

LOT YIELD
Existing: 1 lot
Proposed: 1 lot + Riparian Area





1.1 OTHER ENVIRONMENTAL STUDIES

1.1.1 TREE MANAGEMENT REPORT

Arbortech Consulting (Arbortech) conducted site investigations of trees onsite on October 8 and 21, 2020 to assess existing forest cover within the site to determine tree density, species composition, age class, structural class, and general health condition (Arbortec 2020). Stand plot sampling occurred at four locations to estimate the tree data for the site. An estimate of 418 trees to be removed in the clearing areas (Appendix A) was reported by the arborist. The report also states tree replacement requirements are to be confirmed by the municipality and specifications for the replacement trees can be provided by the Arbortech once the criteria is known.

1.1.2 RIPARIAN AREAS PROTECTION REGULATION ASSESSMENT

A Riparian Areas Protection Regulation Assessment (RAPR) will be required at the development permitting stage for waterbodies within the Riparian Assessment Area (RAA) which spans 30 m from the boundary of the site. A field investigation of the stream located on the site side of the site has not yet been completed and would identify the habitat value, streamside setbacks, and protection measures for the aquatic resource.

Harrison River is greater than 30 m away from the site boundary so the RAPR does not apply; however, the Qualified Environmental Professional (QEP) tasked with the RAPR assessment will need verify where the assessment applies (Drawing 1). The QEP should be provided with current site plans for the RAPR assessment as the project nears the development permitting stage.



2 REGULATORY REQUIREMENTS AND STANDARDS

Development in the Fraser Valley Regional District adheres to the following regulatory requirements and standards.

2.1 ZONING BYLAW NO. 599-1992

A bylaw under the *Municipal Act* outlines zoning regulations, providing a set of rules that specify how a property may be developed and used (FVRD 1992). Zoning bylaws and other regulatory bylaws provide a means of implementing the area designation policies. All land in the Fraser Valley, Electoral Area C is assigned a land area designation which has its own unique zoning details including:

- Agricultural;
- Rural;
- Rural residential;
- Trade and Commercial service;
- Industrial processing and manufacturing; and
- Institutional service.

2.2 OFFICIAL COMMUNITY PLAN BYLAW NO. 0020-1998

The Official Community Plan (OCP) for portions of Electoral Area C, Morris Valley, Harrison Mills, and Lake Errock serves as a statement of the broad objectives and policies of the Regional Board regarding the existing and future land use in the Plan area (FVRD 1998). The purpose of the Plan is as follows:

- To establish objectives and policies for encouraging and directing settlement growth and development;
- To establish coordinated and consistent objectives and policies between the Regional Board, local citizens, Provincial and Federal agencies;
- To provide guidelines and procedures for the use of land, the provision of public services and the protection of the environment;
- To provide a policy framework for revising and implementing zoning and other bylaws in accordance with local conditions and community needs and preferences.

The Plan also provides the framework for preparing and adopting new zoning and regulatory bylaws within the Plan area. All rezonings must be consistent with the Plan. Zoning bylaws and other regulatory bylaws provide a means of implementing the area designation policies. The area designations include:

- Resort Residential
- Highway Commercial



- Agricultural
- Rural
- Limited Use

The proposed development is on a lot that is designated as Limited Use under the OCP. The Limited Use designation is intended to restrict intensive development in areas with geological hazards, limited road access, areas isolated from community services and areas which are environmentally sensitive. If future studies show that an area can accommodate a broader range of uses without being affected by geological hazards or damaging to environmentally sensitive areas, an amendment to re-designate the land can be made through the OCP.

2.3 RIPARIAN AREAS DEVELOPMENT PERMIT BYLAW NO. 1262-2014

Development Permit Area 3-C consists of all those parcels of land within the OCP and entirely or partially within a Riparian Assessment Area (FVRD 1998). A Riparian Assessment Area is the area within 30 m of the highwater mark of a stream or the top of bank of a ravine less than 60 m in width or 10 m beyond the top of bank for ravines greater than 60 m in width. The Fish Protection Act and the Riparian Areas Regulation require local governments to protect streams and riparian areas when exercising powers with respect to residential, commercial and industrial development. The Riparian Areas Regulation, listed in Bylaw No. 1262-2014, was amended on November 1, 2019 and is now the Riparian Areas Protection Regulation, B.C. Reg. 99/2020. The most recent provincial riparian protection regulations are described in section 2.4.

A development permit must be obtained prior to the subdivision of land or residential, commercial, institutional, or industrial development in a Riparian Assessment Area. A development permit is not required for any residential, commercial, institutional and industrial development that is demonstrated to be outside of a Riparian Assessment Area.

2.4 BC RIPARIAN AREAS PROTECTION REGULATION

Under the BC *Riparian Areas Protection Act*, the Riparian Areas Protection Regulation, B.C. Reg. 99/2020 calls on local governments to protect riparian areas during residential, commercial, and industrial development by ensuring that a QEP conducts a science-based assessment of proposed activities to determine an appropriate riparian setback. The purpose of the Regulation is to protect the many and varied features, functions and conditions that are vital for maintaining stream health and productivity.

Under the RAPR, riparian setbacks (referred to as Streamside Protection and Enhancement Areas or SPEA), may be determined following a Simple Assessment Method or Detailed Assessment. The Simple Assessment Method is based on an evaluation of specific stream characteristics – fish-bearing status, nature of stream flows and the status of streamside vegetation, and typically is conducted using imagery and available data. These assessments generally result in larger, more conservative setbacks along streams.



Alternatively, the Detailed Assessment method allows a Qualified Environmental Professional (QEP) to evaluate specific stream and site conditions to determine an appropriate setback. These assessments are tailored to ensure the protection of specific stream features and functions, and generally result in more refined setbacks.

All RAPR assessments require the completion of an assessment report that must subsequently be filed under the Province's online RAPR notification system.

2.5 **WILDLIFE ACT [RSBC 1996]**

The *Wildlife Act* (1996) provides for the protection and management of wildlife in British Columbia. The *Wildlife Act* provides for wildlife management areas, critical wildlife areas, and wildlife sanctuaries and may designate a species as endangered or threatened. For fish species and habitat, the *Wildlife Act* pertains specifically to British Columbia's 83 freshwater fish species, and 368 saltwater fish species (that spend at least one part of their lifecycle in non-tidal waters). Note that, while the applicable provincial minister under the *Wildlife Act* holds power to designate protected areas, the *Act* does not currently require a permit for impacts related to wildlife habitat, even for threatened or endangered species. Some of the restrictions this *Act* covers that are relevant to this Project include:

- Ownership in all wildlife is vested in the BC government;
- Hunting, taking, trapping, wounding, killing or attempting to capture wildlife is prohibited unless authorized by regulation or falls under specific exemptions; and
- Section 34: The taking of, injury of, molesting or destroying a bird, its egg, an occupied nest, or any nest of an eagle, Peregrine Falcon, Osprey or heron is prohibited unless authorized by regulation. This would apply to vegetation clearing or other construction activities which may result in disturbance or loss of bird nests.

2.6 **MIGRATORY BIRDS CONVENTION ACT, 1994 (S.C. 1994, C. 22) & MIGRATORY BIRDS REGULATION (C.R.C., C. 1055)**

The *Migratory Birds Convention Act* (1994) is applicable to most species of birds in Canada. The regulations state that no person shall, except under authority of a permit:

- disturb, destroy or take a nest, egg, nest shelter or duck box of a migratory bird, or
- have in possession a live migratory bird or a carcass, skin, nest or egg of a migratory bird.

Migratory birds are defined by Article I of the Convention which names the protected families and subfamilies and provides some clarification of the species included. This *Act* is relevant for this Project, subject and subsequent to approval, during construction activities that may result in disturbance or removal of migratory birds and/or their nests or result in release of contaminants.



2.7 OTHER MUNICIPAL, PROVINCIAL AND FEDERAL REGULATIONS

Other municipal, provincial, and federal regulatory requirements include the following:

- *BC Fish Protection Act* Section 12
- *BC Waters Act* Section 9
- *Water Sustainability Act* and Regulations
- *Species at Risk Act*



3 METHODS AND APPROACH

A desktop review was compiled to collect environmental baseline information on the site and identify potential environmental concerns/issues associated with the proposed project. The following resources and search parameters were used:

1. FVRD Web Map (FVRD 2020);
2. BC Species and Ecosystem Explorer (BC CDC 2020) – BC Conservation Status: Red or Blue or SARA Schedule 1, Area of Interest: User Defined Polygon (~1.5 km radius from the site), and Habitat Subtypes: Mixed Forest (deciduous/coniferous mix);
3. Habitat Wizard (BC Government 2020);
4. Google Earth (Google Inc. 2020).

Focus was also given to describing observed and potential occurrences of species at risk. In the context of this EIS, species at risk include those species that are identified provincially as Red- and Blue-listed, and species listed under Schedule 1 of the federal *Species at Risk Act* (SARA). Only those species which have a moderate to high likelihood of occurrence within the project area (i.e., based on habitat, known element occurrences and/or professional judgement) are included in the Species at Risk lists provided for vegetation and wildlife. The survey did not necessarily cover appropriate timing for key life stages of all taxonomic groups.

The provincial list includes, but is not limited to the following (BC CDC 2020):

1. Red – includes any indigenous species or subspecies that have, or are candidates for, Extirpated (no longer exist in the wild in BC, but do occur elsewhere), Endangered (facing imminent extirpation or extinction) or Threatened (likely to become endangered if limiting factors are not reverse) status in British Columbia. Placing species or subspecies on these lists flags them as being at risk and requiring investigation;
2. Blue – includes any indigenous species or subspecies considered to be Special Concern (formerly Vulnerable) in BC. These species of Special Concern have characteristics that make them particularly vulnerable to human activities or natural events. Blue-listed taxa are at risk, but are not Extirpated, Endangered or Threatened.

SARA establishes Schedule 1 as the official list of wildlife species at risk in Canada. It classifies species based on the Committee on the Status of Endangered Wildlife in Canada (COSEWIC), an advisory body which assesses wildlife species using the best available scientific and Aboriginal Traditional Knowledge. Status categories are as follows:

1. Extinct (XX) – species no longer exists;
2. Extirpated (XT) – species no longer exists in the wild in Canada, but exists elsewhere;
3. Endangered (E) – species facing imminent extirpation or extinction;
4. Threatened (T) – species likely to become endangered if nothing is done to reverse leading to its extirpation or extinction;



5. Special Concern (SC) – species may become threatened or endangered because of a combination of biological characteristics and identified threats;
6. Not at Risk (NAR) – species evaluated and found to not be at risk of extinction given the current circumstances;
7. Candidate (C) – species that is on the short-list for upcoming assessment; and
8. Data Deficient (DD) – applicable when the available information is insufficient to resolve a wildlife species' eligibility for assessment or to permit an assessment of the wildlife species' risk of extinction.



4 EXISTING ENVIRONMENTAL CONDITIONS

4.1 ANTHROPOMORPHIC FOOTPRINT

Currently there is a single-family residential home and shop on the west central side of the 5.3 ha (hectare) lot. Access to the residence is from the northwest on a gravel road, via Bayview Road. Bayview Road ends at the residential area on the lot.

4.2 TOPOGRAPHY

The site is located on a north facing aspect sloped towards Harrison River. A gradient change of approximately 80 m from the south edge of the site to the north perimeter was estimated using Google Earth. A gradient change of approximately 120 m, from the south edge of the site to Harrison River was measured on Google Earth. A geotechnical assessment of the site would be needed for accurate slope measurements, development recommendations and suggested mitigation.

4.3 VEGETATION

The overall Site is located in the Coastal Western Hemlock dry maritime (CWHdm) biogeoclimatic zone as identified by the Ministry of Forests Biogeoclimatic (BGC) Ecosystem Classification Subzone/Variant Map for the Vancouver Forest Region (MFLNRO 2014). It occurs at low elevations from sea level to approximately 650 metres (Green and Klinka 1994).

The site is primarily forested with mixed tree species. During their site visit, Arbourtec described the forest as having a closed canopy composed primarily of bigleaf maple (*Acer macrophyllum*) with western redcedar (*Thuja plicata*), paper birch (*Betula papyrifera*), red alder (*Alnus rubra*), Douglas fir (*Pseudotsuga menziesii*), and cascara (*Rhamnus purshiana*). They describe the primary canopy as 30 m tall with the tallest conifers at 40 m tall.

4.4 WILDLIFE

Wildlife species at risk with a moderate to high likelihood of occurrence on the Site (i.e., based on habitat, known element occurrences and/or professional judgement) are listed in Table 1.

Table 1. BC Species and Ecosystem Explorer search results for potential wildlife species at risk and habitat attributes.

English Name	Scientific Name	BC List	SARA
Amphibians and Reptiles			
Western Toad	<i>Anaxyrus boreas</i>	Yellow	1-SC (Jan 2005)
Northern Red-legged Frog	<i>Rana aurora</i>	Blue	1-SC (Jan 2005)
Northern Rubber Boa	<i>Charina bottae</i>	Yellow	1-SC (Jan 2005)
Birds			



English Name	Scientific Name	BC List	SARA
Band-tailed Pigeon	<i>Patagioenas fasciata</i>	Blue	1-SC (Feb 2011)
Western Screech-owl, <i>kennicottii</i> subspecies	<i>Megascops kennicottii kennicottii</i>	Blue	1-SC (Jan 2005)
Olive-sided Flycatcher	<i>Contopus cooperi</i>	Blue	1-T (Feb 2010)
Barn Swallow	<i>Hirundo rustica</i>	Blue	-
Great Blue Heron, <i>fannini</i> subspecies	<i>Ardea Herodias fannini</i>	Blue	1-SC (Feb 2010)
Mammals			
Keen's Myotis	<i>Myotis keenii</i>	Blue	3 (Mar 2005)
Little Brown Myotis	<i>Myotis lucifugus</i>	-	-
Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>	Blue	-
Snowshoe Hare, <i>washingtonii</i> subspecies	<i>Lepus americanus washingtonii</i>	Red	--
Long-tailed Weasel, <i>altifrontalis</i> subspecies	<i>Mustela frenata altifrontalis</i>	Red	
Pacific Water Shrew	<i>Sorex bendirii</i>	Red	1-E (June 2003)
Trowbridge's Shrew	<i>Sorex trowbridgii</i>	Blue	-
Invertebrates – Butterflies & Dragonflies			
Autumn Meadowhawk	<i>Sympetrum vicinum</i>	Blue	-
Invertebrates - Molluscs			
Oregon Forestsnail	<i>Allogona townsendiana</i>	Red	1-E (Jan 2005)
Western Thorn	<i>Carychium occidentale</i>	Blue	-

4.5 AQUATIC RESOURCES

Harrison River is approximately 32 m north of the property line at its closest point and the Canadian Pacific Railway runs between the site and the river (Drawing 1). Harrison River provides habitat for many fish species, including the red-listed Lower Fraser River Population White Sturgeon (*Acipenser transmontanus* pop.4) (BC Government 2019).

An unnamed stream is located in the eastern end of the lot and flows south to north through the site. This stream flows under the Canadian Pacific Railway and into Harrison River. No fish records were found for the stream during the desktop review and no disturbance within the SPEA was noted during the desktop assessment or in the Tree Management Report (Arbourtec 2020). The Tree Management Plan estimates 10 danger trees in the SPEA that require treatment (felling or cutting to wildlife tree function) but this will need be confirmed by the project arborist (Appendix A).



5 POTENTIAL PROJECT EFFECTS

The proposed development consists of demolishing an existing residence and shop, building a film studio, paving the existing gravel driveway, and clearing forested areas on the 5.3 ha site. The proposed development footprint is approximately 2.05 ha. Within the footprint, the following changes are proposed:

- 1.7 ha of forest to be cleared,
- 0.15 ha of existing gravel driveway to be paved, and
- 0.2 ha film studio building.

Please note: all areas listed in this EIS are estimates and were based on digital measurements of site plans.

The proposed site plan includes a 20 m landscape buffer where no vegetation will be disturbed (Drawing 1). This buffer has the potential to provide wildlife habitat and protection for the forested areas adjacent to the site. In addition, all buildings, structures or on-site facilities for Film Production Facility Use, Accessory Film Production Conference Facility Use or Accessory Film Production Accommodation Use shall be sited not less than 25 metres from any property boundary.

5.1 VEGETATION

The largest environmental impact to the site posed by the development is anticipated to be tree removal. Arbortec estimated 418 trees would be removed within the proposed clearing areas (Appendix A). A review of any FVRD tree replacement requirements will be required to make sure the appropriate compensation is fulfilled. Arbortec notes in their tree management plan that specifications for replacement trees can be provide once the replacement requirements are specified by the FVRD.

Clearing forested portions of the site will result in new forest edges that would be susceptible to wind damage. The task of wind firming new forest edges should be completed by the project arborist to make sure the integrity of the remaining forest is intact.

5.2 WILDLIFE

An environmental assessment of the site is required to investigate the potential for wildlife, wildlife habitat, and any unmapped environmentally sensitive areas. Based on the desktop review of recorded and potential wildlife in the area, Qualified Environmental Professionals with experience assessing mammal and bird habitat would be best suited for the assessment. If any work that may disturb birds and their nests is planned within the bird nesting window a pre-clearing bird nest survey should be completed. The bird nesting season is generally recognized from March 15 to August 15 in the Lower Mainland.



5.3 AQUATIC RESOURCES

Any applicable riparian setbacks for Harrison River and the unnamed stream located on the east side of the site should be added into the site plan at the development stage and marked in the field before construction. Prior to any construction starting at the site, an Erosion and Sediment Control (ESC) Plan should be completed and implemented. A strategy to contain construction contact water is important for this sloped site so that sediment laden water does not reach a watercourse.

5.3.1 HARRISON RIVER

Based on the current site plan, no work is expected take place within 50 m of Harrison River, so no impacts are anticipated to the riparian vegetation or water quality (Drawing 1). According to measurements on FVRD Web Maps, Harrison River is not within the 30 m RAA measured from the site boundary which would result in it not requiring consideration during the RAPR assessment; however, this should be reviewed by the QEP undertaking the assessment. Any updated site plans should be reviewed to confirm that the distance from the proposed development remains out of any applicable setbacks for Harrison River.

5.3.2 UNNAMED STREAM

No fish records were found for the unnamed stream during the desktop review; however, the stream is connected by surface flow to the fish bearing Harrison River, so it is covered under the RAPR. The RAPR assessment may deem the stream potentially fish bearing or identify potential fish barriers.

The unnamed stream has been given a Streamside Protection and Enhancement Area (SPEA) of 30 m (Drawing 1). A RAPR assessment will be required during the development permitting stage to determine the site-specific setbacks and prescribe enhancement measures for the SPEA. In addition to the 30 m setback, Arbortec has recommended a 3 m root protection zone for vegetation in the SPEA.



6 CONCLUSION

This EIS summarizes the environmental considerations for the proposed development at 44390 Bayview Road, Lake Errock. The largest environmental impact is anticipated to be 1.7 ha of tree removal; however, a 20 m perimeter landscape buffer, where no vegetation clearing is planned, will be left around the perimeter of the site. According to the current plans, appropriate watercourse setbacks will be observed for Harrison River and the unnamed stream.

Further environmental details should be provided for the site as the development application progresses. An Environmental Assessment and Riparian Areas Protection Regulation assessment are recommended to provide wildlife and watercourse protection recommendations and any necessary mitigation. The project should also have management plans (e.g. Construction Environmental Management Plan (CEMP), Storm water Management Plan, and Erosion and Sediment Control Plan) prepared and implemented prior to construction to facilitate protection of environmentally sensitive features.



7 REFERENCES

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APPENDICES



APPENDIX A TREE MANAGEMENT PLAN

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TREE MANAGEMENT REPORT FOR DEVELOPMENT APPLICATION PURPOSES

Initial Issuance: **November 16, 2020**

ACL File: **20170**

Revision # **0**

Prepared for: **Sean O'Reilly**
Harrison Productions Inc
 44390 Bayview Rd
 Agassiz, BC V0M 1N0

Prepared by: **Norman Hol**
 Principal and Senior Consultant

Project: **Proposed Arcana Film Studio**
44390 Bayview Road Agassiz BC

BACKGROUND

Our site investigations were performed on October 8 and October 21, 2020. This report is intended to meet municipal tree bylaw and/or other regulations for tree preservation relative to a development application. If the project requires advance works or site activities such as demolition, site preparation, fill placement, excavation/shoring or other works that may impact trees, then a separate tree management report and drawing specific to those works may be required by the city.

Reference documents provided by the client include; *Topographic Survey* and the current *Conceptual Site Plan* with the proposed Landscape Buffer and SPEA setbacks. We understand that the remainder of the property, outside of those buffer and SPEA setback areas are proposed to be cleared.

We have undertaken an assessment of existing forests within the site using stand assessment methods to determine tree density, species composition, age class, structural class and general health condition. Our site assessment also includes consideration of topography, anticipated site changes, soil and drainage conditions, history of past tree failures, and other relevant factors.

The reader is advised to review appendix A (photos from site visit) and appendix B (tree management drawing) for additional details.

TREE ASSESSMENT FINDINGS

The site is on a north facing slope partially protected from southerly winds by the rising topography to the south of the property, but exposed to northerly outflows by a large wind fetch across Harrison Bay and Harrison River. Historical clearing for a residential and shop area within the west-central area of the site has created a large opening in the stand that appears to be well acclimated to the prevailing winds, and forest stand edges appear mostly windfirm in their present condition. Exceptions are in small zones to the eastern side of the clearing area where some recent pockets of tree removals have been undertaken and new forest edges are apparent. These new forest edges also appear windfirm considering the full crowns and well tapered trunks of the primary canopy trees.

The forested portion of the site contains a closed canopy forest of predominantly bigleaf maple, along with minor components of other native species. The primary canopy is generally 30m tall, with cedar extending up to 35m tall and fir extending up to 40m tall.

We undertook stand plot sampling at 4 locations, including 1 20m by 20m plot (400m²) and 3 plots of 10m radius (314m² each).

The total area of the proposed clearing, excluding the previously cleared lands, the landscape buffers and the proposed SPEA, is estimated to be 16,500m². Via a count of trees within the plot sample areas, we have determined the following:

Table 1. Tree Stand Composition and Quantity of Proposed Removal Trees

Species	Stand Composition	Trees to be Removed
Bigleaf maple (<i>Acer macrophyllum</i>)	63.2%	264
Western redcedar (<i>Thuja plicata</i>)	11.8%	49
Paper birch (<i>Betula papyrifera</i>)	8.8%	37
Red alder (<i>Alnus rubra</i>)	8.8%	37
Douglas-fir (<i>Pseudotsuga menziesii</i>)	5.9%	25
Cascara (<i>Rhamnus purshiana</i>)	1.5%	6
TOTALS	100%	418

These quantities are estimates only, limited by the stand plot sampling methods. Due to variabilities in the stand the actual quantities will vary.

BUFFER AND SPEA ASSESSMENT FINDINGS

NORTH AND WEST LANDSCAPE BUFFERS

The proposed 20m buffer along the northern and western perimeters of the site has a sparse stand of trees, remnant from the native forest stand, and many of which have been previously topped. There is significant exposure to northerly winds, however both of these zones appear to have been exposed to these winds for many decades, and the trees have generally acclimated and growth to have developed superior structural form characterized by increased trunk taper, crowns to near ground level and shorter stouter general form. The site changes from clearing is expected to have negligible impacts to the wind exposure to these trees, however these zones should be inspected thoroughly by the project arborist during the land clearing using Tree Risk Assessor Qualification (TRAQ) methods to identify any high risk trees that may require treatment to mitigate risks to the site.

Some growing site changes such as to overland drainage, soil hydrology and sun exposure may occur. Long term health impacts to these trees may result. Proactive mitigation measures such as using wood chip waste from land clearing as a soil amender to be placed within the buffer along the clearing interface may assist with reducing soil desiccation. This work should be directed by the project arborist at the time of land clearing. Reactive measures such as reinspection of the trees by the project arborist on an annual schedule over a five year acclimation period will also enable the tree health to be monitored as well as provide an opportunity to check for risk trees as a site safety protocol.

SOUTH LANDSCAPE BUFFER

The approximate alignment of the proposed clearing interface was estimated through range finder reviewed to the extent possible, with access limited by topographic obstacles in certain locations and with the limitation that the actual alignment of the buffer and the property line were not surveyed in the field. The buffer in this section of the site will form a continuous stand with the adjacent crown lands to the south. The interface appears to contain some trees that have overt defective form issues such as dieback and/or decay from natural causes, and selective removal of vulnerable trees will be necessary. In order to manage the risks associated with those defective trees, this buffer should be inspected thoroughly by the project arborist during the land clearing using TRAQ methods to identify any high risk trees that may require treatment to mitigate risks to the site.

The slope conditions and the northern exposure limits the potential for impacts from drainage changes and sub exposure, however reduced soil moisture is possible, and this can be mitigated by applying wood chip waste from site clearing as a soil amender. The project arborist can direct this work at the time of land clearing.

EAST SPEA

The proposed clearing interface with the SPEA is in a zone of forest stand that is more sparse than the main clearing area and, combined with the micro-topography (i.e. small ravine), these growing site conditions have exposed individual trees to greater wind stresses over time. The primary canopy trees within the SPEA have developed a stronger form as a result. There are some individual trees that have pre-existing defects such as but not limited to; understory or suppressed class trees with spindly and top heavy form, significant lean toward the development area of the site, overt decline or dead trees, trees with wounds and decay, etc.

For a comprehensive Wildlife and Danger Tree Assessor (WDTA) methods of assessment to identify the Danger Trees, the clearing interface along the SPEA alignment will need to be advanced. At present, I have estimated that 10 Danger Trees will require treatment (felling or conversion to wildlife stems), however this quantity may change depending on the actual location and proximity of the defective trees once the clearing alignment is known. A comprehensive assessment by the project arborist is required at that time.

TREE PROTECTION PRESCRIPTION

Our specified ***Tree Protection Zone (TPZ)*** consists of the following;

- ***Crown Protection Zone (CPZ)***: denotes the dripline; the furthest extent of branches and foliage projected to the ground below – a zone where aerial encroachment is not desirable. Buildings should be set back from the CPZ sufficiently to allow working space to; enable general construction of the structure, install the envelope/glazing, undertake future maintenance, and to accommodate future growth of the crown as the tree matures. Any encroachments within 1m of the CPZ or closer (i.e. construction of buildings, operation of machinery, cranes, lifts or other equipment, passage of pedestrian or vehicles, erection of scaffolding, etc) may affect viability for tree retention and will require an impact assessment by the project arborist to determine feasibility and to specify mitigation measures as necessary.

- **Root Protection Zone (RPZ):** a setback prescribed by the project arborist representing the closest proximities of soil and root disturbance (any soil disturbance including but not limited to toward a tree where manageable and tolerable impacts are feasible conditional to certain mitigation measures and compensatory treatments that the arborist may specify. Minor encroachments into the RPZ may be possible but such encroachments would require a detailed impact and mitigation analysis by the project arborist and may require detailed testing before confirming (i.e. root mapping).
- **Working Space Setback (WSS):** is a setback outside of the RPZ as specified by the project arborist where soil disturbances may occur (i.e. excavation or site preparation), conditional to the on-site supervision and direction by the project arborist, implementation of mitigation measures and undertaking of certain best management practices and treatments (i.e. root pruning).

LANDSCAPE BUFFER PROTECTION

The landscape buffers should be protected with a temporary tree protection barrier along the buffer alignment, and restrictions on access by machinery should be implemented and enforced within those zones.

SPEA PROTECTION

For the ESA, the root protection setback for trees to be retained within the SPEA is prescribed to be 3.0m from the SPEA line. This RPZ is expected to form the SPEA Protection Zone Boundary. A temporary tree protection barrier should be installed at this alignment to reduce risks of encroachment of clearing and construction activities.

This 3.0m setback will be a no grubbing zone where trees may be felled but stumps and ground cover will be left intact. Any grading work within 1.5m of this RPZ should be supervised by the project arborist in order to minimize root damage with the RPZ. Root pruning may be required along this interface.

It is important to include our report and appendices in the tendering and contract documents for the project. Prior to construction, the Issued for Construction (IFC) drawings should be forwarded to this office, and the client should schedule a pre-con meeting between the project arborist, the general contractor and certain subcontractors to review the tree protection specifications, restrictions, treatments and other measures.

TREE REMOVAL METHODS:

The methods of cutting, rigging and removal of trees should conform to ANSI A300 and ANSI Z133 standards and best management practices, as well as WorksafeBC regulations as applicable. In the case of commercial land clearing operations the felling/handling of removal trees is required to be in conformance with other applicable regulations. Recovery and transport of any timber from any site will require that the land owner obtain a Timber Mark from the local BC Forest office in advance of transportation from the site.

Removal of trees from within an Environmental Sensitive Area (ESA) will have specific details determined as a field measure prior to and in conjunction with the tree removal and/or land clearing operations. In general, removal trees will be left cut to a height and modified as specified by the project arborist in consultation with the Qualified Environmental Professional (QEP) so that it can function as habitat (wildlife tree). Coarse woody debris (CWD) available from the tree removal debris will be left within the ESA in lengths that enable the logs and sections to lie flat on the ground and in contact with the soil, and/or as directed by the project arborist and QEP.

TREE REPLACEMENT

Tree replacement requirements within the SPEA for the removal or conversion of Danger Trees within the SPEA will be designed and specified by the project environmental consultant (RP Bio QEP). The final quantity, sizes and species of Danger Trees will be determined by the Project Arborist (Specialist to the QEP) at the time of land clearing.

Tree replacement requirements within the development areas, if any, are to be confirmed by the municipality in relation to their policies. The specifications for those replacement trees can be provide by this office upon request once the criteria is known.

Certified by;



Norman Hol, Company Principal and Senior Consultant

ISA Certified Arborist #PN-0730A
 ISA Qualified Tree Risk Assessor (TRAQ)
 PNWISA Certified Tree Risk Assessor #0076
 BC Certified Wildlife and Danger Tree Assessor #P2529
 ASCA Qualified Tree and Plant Appraiser (TPAQ)
 Land Surveying Technologist



Assumptions and Limiting Conditions:

This report was prepared for and on the behalf of the client as addressed herein. Upon receipt of payment of our account in full, this report will become the property of the client. This report is intended for the exclusive use of our client, but in its entirety. Arbortech Consulting shall not accept any liability derived from partial, unintended, unauthorized or improper use of this report.

This report is restricted only to the subject trees as detailed herein, and no other trees were inspected or assessed.

The inner tissue of the trunk, limbs and roots, as well as the majority of the root systems of trees are hidden within the tree and below ground and trees have adaptive growth strategies that can effectively mask defects. Our assessment is limited by relying on presence or absence of outward signs or symptoms of defect and non-destructive testing to identify the severity of defects that may be indicators of structural deficiencies. We use our training, experience and judgement in this regard, however not all defects can be diagnosed through available methods. It may not be feasible to identify certain defects, or to measure the severity, without causing mortal injury to the tree. Further, we must acknowledge that extreme weather and environmental influences are unpredictable, and that any tree has risk of failure in such events. We do not guarantee or warrant that a tree that we have assessed is free of defect or that it will not fail.

The ownership of trees is determined based on the location of the trunk where it emerges from the ground relative to the property line. This determination may require the advice from a duly qualified professional surveyor.

Third party information provided to the consultant may have been relied upon in the formation of the opinion of the consultant in the preparation of this report, and that information is assumed to be true and correct. We have not verified that information, and we do not warrant it as correct.

The use of maps, sketches, photographs and diagrams are intended only as a reference for the readers' use in understanding the contents and findings of this report, and are not intended as a representation of fact.

Approvals from a municipality and/or regulatory agency may be required prior to carrying out treatments that may be recommended in this report. The owner or client is responsible to make application for, pay related fees and costs, and meet all requirements and conditions for the issuance of such permits, approvals or authorizations.

APPENDIX A: TREE PHOTOS

Photo 1 West Buffer



Photo 2 Northwest Corner (West and North Buffers)



Photo 3 North Buffer



Photo 4 South Tree Stand



Photo 5 Interior Stand Conditions



Photo 6 Interior Stand Conditions

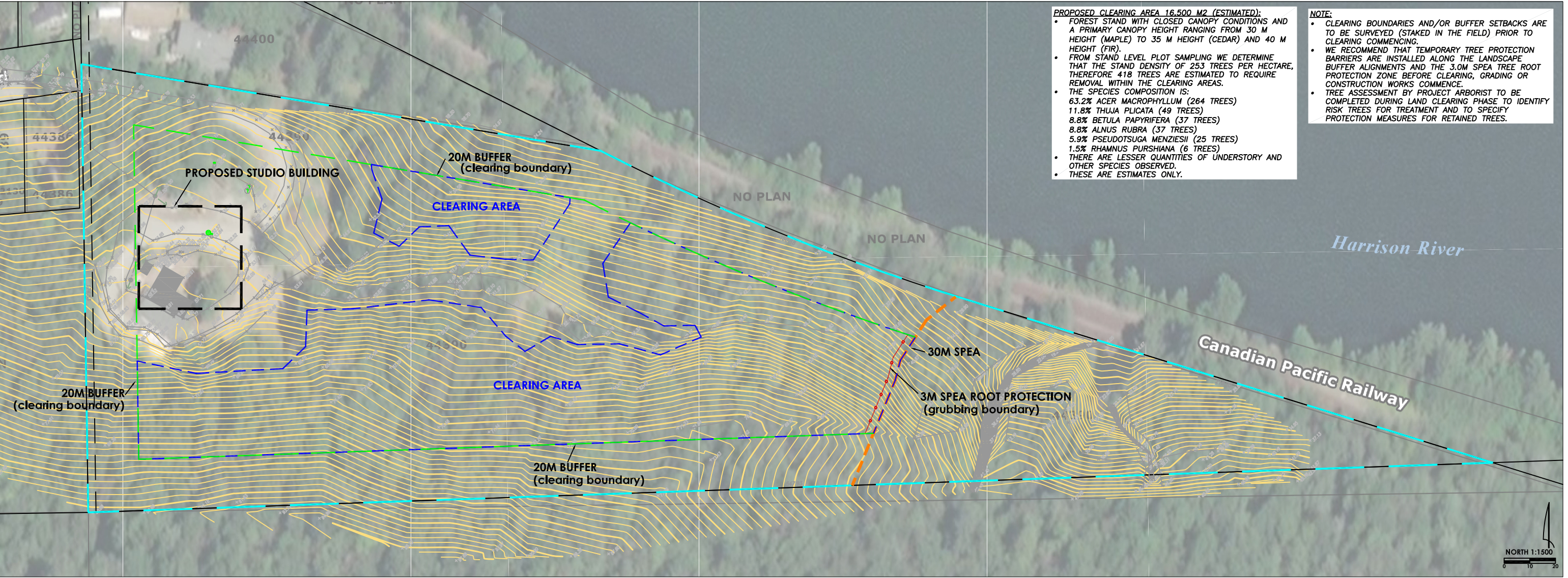


Photo 7 SPEA Interface



Photo 8 Northeast Corner of Clearing Area





LEGEND:
See arborist report and tree management drawing for further details.

- denotes **WATERCOURSE SETBACK** or **SPEA** as specified by **RPBIO QEP**
- denotes **MANAGED CLEARING BOUNDARY** at **20 METRE LANDSCAPE BUFFER**
(trees to be treated for danger tree mitigation as specified by project arborist **SPECIALIST**)
(trees to be protected as specified by project arborist **SPECIALIST**)
- denotes **ESA DANGER TREE** in non-viable condition to be **MODIFIED** for risk mitigation
(cutting to be completed as directed by Project Arborist **SPECIALIST** and **RPBIO QEP**)
(wildlife tree, stump and/or coarse woody debris to be left within **ESA**)
- denotes **ESA REMOVAL** tree to be **CUT** to accommodate **WSA** approved works
(low impact methods as directed by Project Arborist **SPECIALIST**, stump to be left intact where possible)
- denotes **ESA** tree to be **PRUNED**
(scope of pruning to be directed by Project Arborist **SPECIALIST**)

TO BE DETERMINED

FIGURE 1: TREE MANAGEMENT DRAWING

ARBORTECH
CONSULTING

aclgroup.ca

SUITE 145 - 12051 HORSESHOE WAY, RICHMOND, BC V7A 4V4 604 275 3484

PROJECT:	PROPOSED ARCANA FILM STUDIO		
ADDRESS:	44390 BAYVIEW RD AGASSIZ		
CLIENT:	HARRISON PRODUCTIONS INC - APLIN & MARTIN		
CITY REF:		ACL FILE:	20170
PLOT SIZE:	11"x17"	REV #:	0
		DATE:	NOV 16, 2020



APPENDIX B FVRD PRE-APPLICATION LETTER

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July 22, 2020

Folio: 775.06714.025

Aplin Martin Consultants
On behalf of Arcana Studio c/o Sean Patrick O'Reilly
1680-13450 102 Ave
Surrey, BC V3T 5X3

Dear Aplin Martin Consultants and Mr. O'Reilly,

RE: PROPOSAL FOR 44390 BAYVIEW ROAD, ELECTORAL AREA C

Thank you for sharing your proposal to develop a film studio and retreat at 44390 Bayview Road, Electoral Area C. This letter is intended as preliminary comments to assist you in preparing your application. It is not an exhaustive list of anticipated application requirements. As the process proceeds we can expect unforeseen issues, concerns, or new directions that add time, cost, and scope to the application process and technical reports.

Our understanding of your proposal is as follows:

- Rezone the property to facilitate development of a Film Production Facility;
- Amend the Official Community Plan designation of the property to facilitate development of a Film Production Facility;
- Develop a Film Production Facility per Zoning Bylaw 559 in the approximate location designated in your current site plan (44390 Bayview Road – Detailed Proposal – 2020-06-30).

Projects like this typically occur in two stages:

Stage 1: Bylaw Approvals

- Zoning Bylaw Amendment
- Official Community Plan (OCP) Amendment

Stage 2: Development Approvals

- Development Permit(s)
- Building Permit(s)

The two stages are inter-related can occur in tandem but Stage 2: Development Approvals cannot be finalized until Stage: 1 Bylaw Approvals is complete.

Application Requirements – Stage 1 – Bylaw Approvals

The following information must be submitted with your Zoning Bylaw Amendment Application and OCP Amendment Application:

- ☐ **Zoning Amendment Application Form:** Complete and submit the [Zoning Amendment Application Form](#) including the signatures of ALL registered property owners.
 - ☐ **Application Fee:** Submit the Zoning Amendment Application Fee of \$2,800.00.
- ☐ **Official Community Plan Amendment Application Form:** Complete and submit the [Official Community Plan Amendment Application Form](#) including the signatures of ALL registered property owners.
 - ☐ **Application Fee:** Submit the Official Community Plan Amendment Application Fee of \$4,000.00.
- ☐ **Conceptual Site Plan:** Submit the conceptual site plan for your proposal. We recommend this be prepared by a professional (i.e. Architect, Engineer, Land Surveyor, Planner, etc.). The conceptual site plan must illustrate the following:
 - ☐ Dimensions and location of structures and uses (proposed and existing)
 - ☐ Lot dimensions, lines, and area
 - ☐ Natural features (i.e. alluvial fan, floodplain, slopes, watercourses, waterbodies, etc.)
 - ☐ Services (i.e. road access, septic fields, service connections, water sources, etc.)
- ☐ **Conceptual Servicing Plan:** Submit the conceptual plan identifying how the proposed development will be provided with water and septic service. The plan must be prepared by a Professional Engineer. Please have your professional contact me for more information regarding their plan. Note that the property is serviced by the Lake Errock Water System.
- ☐ **Public Consultation:** We encourage you to engage with the local community early in the process. New development proposals can generate significant public interest. Early communication can help inform the community and provide useful input for your proposal. This could include a preliminary mailout or Public Information Meeting hosted by the applicant. An official Public Hearing will be scheduled in coordination with you by FVRD Staff, typically after First Reading of the Zoning Bylaw Amendment and Official Community Plan Amendment. We anticipate the following sources of public interest that should guide your consultation and application:
 - ☐ Type, timing, and intensity of traffic activity (could be addressed through a Traffic Access and Impact Assessment per below)
 - ☐ Environmental Impact including grading, surfacing, and land clearing (could be address through an Environmental Impact Statement per below)
 - ☐ Noise and light pollution due to film production and related activities on the property
- ☐ **Preliminary Hazard Assessment:** Submit the preliminary hazard assessment to determine feasibility and safety of the proposed development. The assessment should meet the Association of Professional Engineers and Geoscientists of British Columbia (APEGBC) [Professional Practice Guidelines](#), [FVRD Hazard Acceptability Thresholds for Development Approvals](#), and be supported by a complete [Geo-Hazard Assurance Statement](#) confirming the property is “safe for the use

intended.” Subsequent site-specific geotechnical assessment will be necessary to identify safe building sites and mitigation measures, though at the risk of the applicant these could be combined with the Preliminary Hazard Assessment. The assessment must be conducted by a Qualified Professional. Please provide this letter to your professional and have them contact me for more information prior to commencing assessment.

- ☐ **Traffic Access and Impact Assessment:** The property is accessed from the end of a residential street with a rail crossing and we anticipate that traffic impact will be of public concern. We recommend providing a comprehensive assessment of anticipated traffic levels, noise, access, and parking. Also detail potential traffic impact mitigation measures and consider the types of vehicle accessing the property and hours of activity. This assessment will strengthen your application and help address anticipated public questions and concern. We recommend contacting the railway company to determine if the existing rail crossing is adequate or if additional review is required.
- ☐ **Environmental Impact Statement:** Tree conservation and environmental values are important community values in Electoral Area C. We recommend providing a comprehensive statement that highlights the environmental considerations of your proposal. Consider elements such as the vegetated buffer per your conceptual site plan, size of the proposed development footprint, area of impermeable surfaces, number of trees to be cut and retained, and any other environmental features you deem relevant. This statement will strengthen your application and help address anticipated public questions and concern.
- ☐ **Wildfire Assessment:** The Manager of Electoral Area Emergency Services has recommended that a Wildfire Assessment be required to assess susceptibility to wildfire (from conditions on and off site) and detail potential mitigation measures. The assessment must be prepared by a Registered Professional Forester licensed in BC and specializing in forest wildfire assessment. Please have your professional contact me for more information regarding their assessment.

Application Requirements – Stage 2 – Development Approvals

The following will be required to complete the development approvals for your proposal:

- ☐ **Development Permit(s)**
 - ☐ **Geological Hazard:** This development permit is required to avoid, mitigate, or minimize geologic and/or stream hazards in accordance with professional evaluation. The permit requires a Geotechnical Hazards Assessment that must be completed by a Qualified Professional. Please have your professional contact me for more information regarding their assessment.
 - ☐ **Riparian Areas (if developing within 30 metres of a stream):** This development permit is required to protect the riparian environment and applies to subdivision, land alteration, and construction within 30 metres of a stream. The permit requires an Assessment Report that must be completed by a Qualified Environmental Professional (QEP). Please have your professional contact me for more information regarding their assessment.

- ❑ **Building Permit(s):** Building permits are required for buildings and structures. Please visit the [FVRD Building Department webpage](#), consult [FVRD Building Bylaw 1188](#), and contact the Building Department at building@fvrd.ca for more information on the building permit process and requirements.

This letter does not constitute approval of or support for any proposed land use or development. It is intended as preliminary advice to assist you in submitting your complete application. This letter is based on our review of the preliminary information you provided. We have not inspected the site nor have we assessed the feasibility of the proposal.

The information and requirements outlined in this letter are specific to this proposal and are valid only on the date issued. Many factors could affect the use and development of land beyond those addressed here. Additional information may be required upon review of a complete application, in response to public input, as a result or changes to your application or proposal, or if bylaws and legislation change.

If you have any questions, please contact me at dbennett@fvrd.ca 604-702-5052

We look forward to working with you.

Yours truly,

David Bennett, MCIP RPP

Cc: Wendy Bales, Director Electoral Area C
Graham Daneluz, Director of Planning and Development