LAKE COUNTRY
Life. The Okanagan Way.

DISTRICT OF LAKE COUNTRY

REQUEST FOR COUNCIL DECISION

MEETING TYPE AND DATE:	REGULAR COUNCIL MEETING – AUGUST 24, 2021
AUTHOR:	TAMERA CAMERON, PLANNER
SUBJECT:	**DP2016-014-A (5532 OYAMA LAKE ROAD) – DEVELOPMENT PERMIT AMENDMENT (HILLSIDE, NATURAL ENVIRONMENT, STABILITY/EROSION/DRAINAGE HAZARD AND GHG REDUCTION AND RESOURCE CONSERVATION) TO ADD A HOUSE AND BARN TO THE DEVELOPMENT PERMIT**

ESSENTIAL QUESTION:

Does Council think that the proposal substantially complies with the Development Permit Area Guidelines?

OPTIONS:

A. **THAT** Development Permit Amendment DP2016-014-A, for property located at 5532 Oyama Lake Road, legally described as Lot 1 Section 6 Township 10 ODYD Plan KAP81360, Roll 1535404 to relocate the previously approved house and add a barn to the Development Permit, be approved.

   AND THAT prior to the issuance of Development Permit DP2016-014-A an additional Security Deposit of $425 be submitted to the District of Lake Country to ensure works described in the permit are completed.

B. **THAT** Development Permit DP2016-014-A, for property located at 5532 Oyama Lake Road, legally described as Lot 1 Section 6 Township 10 ODYD Plan KAP81360, Roll 1535404 1535404 to relocate the previously approved house and add a barn to the Development Permit, be denied.

C. **THAT** Development Permit DP2016-014-A, for property located at 5532 Oyama Lake Road, legally described as Lot 1 Section 6 Township 10 ODYD Plan KAP81360, Roll 1535404 1535404 to relocate the previously approved house and add a barn to the Development Permit be postponed pending receipt of additional information as identified by Council.

EXECUTIVE SUMMARY:

The proposal is for a two-storey house and a barn on a sloped property within the Hillside, Natural Environment, Stability/Erosion/Drainage Hazard and GHG Reduction and Resource Conservation Development Permit Areas. This application is an amendment to the previously approved Development Permit (DP2016-014-C), which was for a house, detached garage, driveway, septic system, utility service and waterline. The detached garage has already been built and the owners have applied to amend their Development Permit to move the location of the house 8m to the north and to add a barn. The house design remains the same.

It is staffs' opinion that the proposal substantially meets the applicable Development Permit Area guidelines. No unintended outcomes are anticipated.

BACKGROUND/HISTORY:

The application for a two-storey house with a detached garage, waterline from an existing well, driveway, septic system and utility service was originally approved on August 16, 2016. The detached garage was constructed in 2017 and includes an accessory suite. This building is currently considered the principal dwelling on the property but will be converted into an accessory suite when the house is constructed. Since the Development Permit was approved, the owners decided they want to build a barn and to move the location of the house 8m to the north so have applied for a Development Permit amendment.

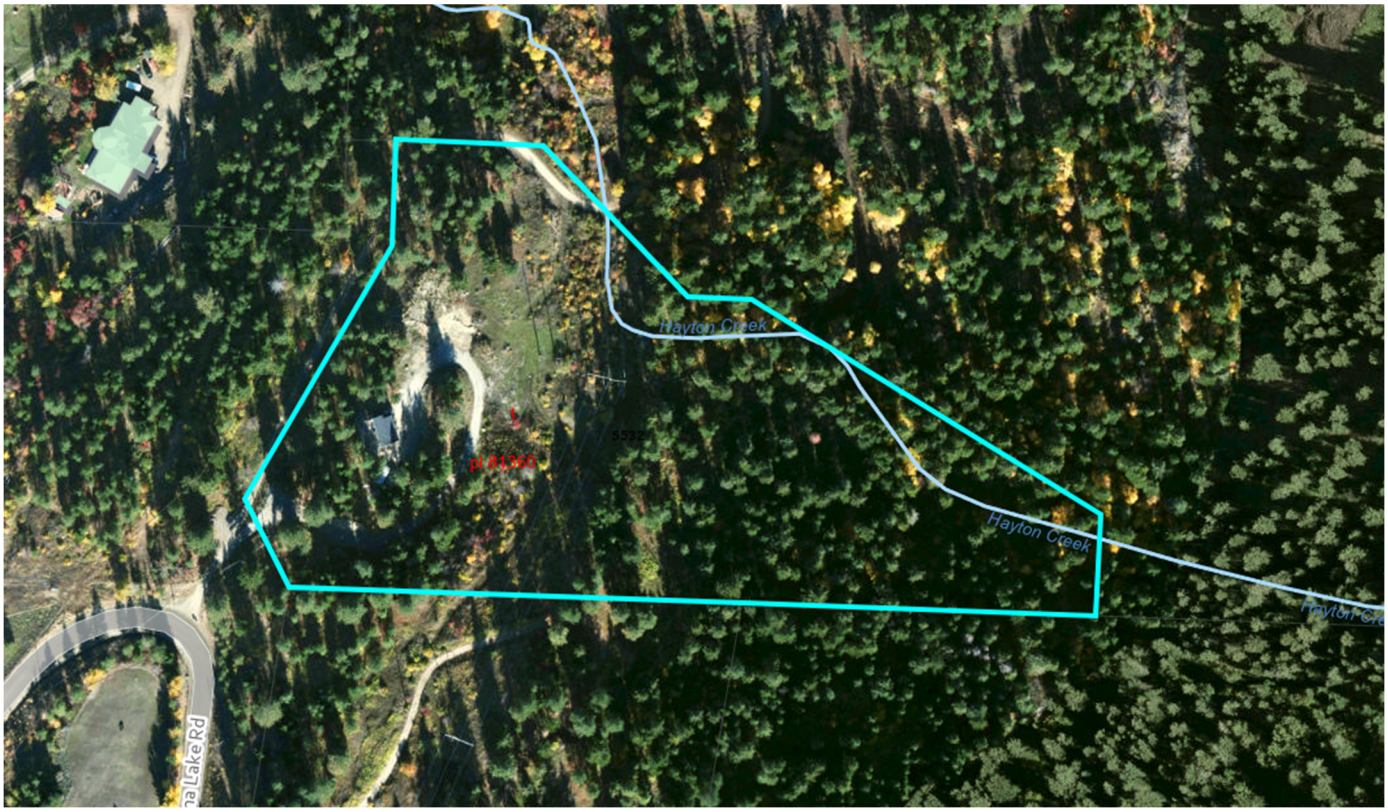
Application Type	Development Permit		
File Number:	DP2016-014		
Proponent:	Dean and Tanya Embleton	Owner(s):	Dean and Tanya Embleton
Legal Description:	Lot 1, Section 6, Township 10, ODYD, PLAN KAP81360		
PID	026-744-911		
Civic Address:	5532 Oyama Lake Road		
OCP Designation:	Rural		
Zoning Designation:	RLP – Rural Large Parcel 1		
Land Use Contract	No		
ALR:	No		
Parcel Size:	4.01 Hectares (9.909 acres)		
DP Area(s):	Hillside; Natural Environment; Greenhouse Gas Reduction and Resource Conservation; and Stability/Erosion/Drainage Hazard		
Water Supply:	Well		
Sewer:	Septic		
Site Summary:		Zoning:	Use:
	North:	RLPO – Rural Large Parcel Oyama Road	Residential/Rural
	East:	RLPO – Rural Large Parcel Oyama Road	Residential/Rural
	South:	RLP – Rural Large Parcel 1 RLPO – Rural Large Parcal Oyama Road	Residential/Rural
	West:	RLP – Rural Large Parcel 1	Residential/Rural

Site Context

The east and the southwest portions of the property are densely treed; however, the central portion of the site has been significantly disturbed because of a powerline easement running through the middle of the property. The property slopes down from the east to the west. The house and barn structure are proposed to be located on a flat section of the property that has been previously cleared. Hayton Creek is located approximately 60m to the north of the property.

Map 1: Location Map

Map 2: Orthophoto



Site Photos:


Existing garage with suite that was approved in the original Development Permit.


Location of proposed house.

Chronology:

Date:	*Event:*
2020-08-05	Application submission
2020-08-27	Proposal review complete and additional information requested
2020-12-17	Core Technical Team Meeting
2021-02-28	Additional information received
2021-05-25	Internal and external referrals sent and request for additional information sent
2021-06-09	Additional information received
2021-06-28	Additional information received
2021-07-05	Site Visit
2021-07-21	Updated site plan received.

DISCUSSION/ANAYLSIS:

Proposed Development

The proposed development is a two-storey house and a one-storey barn structure located on a flat portion of the western side of the property that has been previously disturbed. The house design has not changed since the original Development Permit; however, the location has shifted approximately 8m to the north. The barn was not included in the original Development Permit.

The detached garage location and design has not changed since the original Development Permit and is included in the Development Permit for administrative purposes only.

Development Permit Area (DPA) Guidelines

Hillside Development Permit Area

The house and barn are located on the flattest and most disturbed portion of the property. The barn is a one-storey post and beam design. Overall, the development fits within the hillside character of the neighbourhood.

Natural Environment Development Permit Area

The applicant submitted an Environmental Assessment Report and Environmental Monitoring Plan completed by a Qualified Environmental Professional (QEP). A 262m^2 restoration area will be replanted with native trees, shrubs and grass seed per the QEP's recommendation (See Figure 4 – Landscape Plan in the Environmental Assessment Report). The QEP states the following in the report: "The proposed development is not anticipated to have measurable effects on the habitat values within the Property so long as the recommended mitigation measures are incorporated into the design and construction" (p. 18).

As $1,275 security was already taken for the original Development Permit (DP2016-014), only $425 is required should this Development Permit amendment be approved.

Stability, Erosion and Drainage Hazard Development Permit Area

A Geotechnical Report was completed by a Geotechnical Engineer for the location of the barn. The Geotechnical Engineer did not cite any concerns with the proposed barn location.

Greenhouse Gas Reduction and Resource Conservation Development Permit Area

The proposed development achieves most of the applicable GHG Reduction and Resource Conservation DPA guidelines. The building footprint has been minimized to maximize green space, building materials are light in colour to minimize heat absorption, and all landscaping is low maintenance and planted with indigenous, drought tolerant species.

In summary, it is staffs' opinion that the proposal substantially meets the applicable Development Permit Area guidelines.

Legislation & Applicable Policies

Official Community Plan:
Each applicable Development Permit Area includes guidelines, which have been addressed through this Development Permit application.

Zoning Bylaw:
The proposed development meets all Zoning Bylaw regulations.

Subdivision and Development Servicing Bylaw:
The development is exempt from servicing requirements per Section B.6.2 of the Subdivision and Development Servicing Bylaw.

Highway and Driveway Access Bylaw: An Access Permit was granted in 2017.

Integrated Community Sustainability Plan:
The Plan speaks to preserving environmentally sensitive areas. The following is one of the ten identified Smart Growth principles: "Preserve open spaces, natural beauty, and environmentally sensitive areas. Development respects natural landscape features and has higher aesthetic, environmental, and financial value."

Technical Considerations:

- **Impact on Infrastructure and Other Municipal Services**
  A Building Permit will be required for the house and barn.

- **Impact on Staff Capacity and Financial Resources (Cost/Benefit Analysis)**
  Regular staff time has been used to process this application.

Comments from Other Government Agencies, Council Committees and Relevant Stakeholders:

- Interior Health: Interests are unaffected.
- BC Hydro: No concerns.
- Ministry of Forests, Lands, Natural Resource Operations and Rural Development: Interests are unaffected.

Consultation, Public Feedback, and Communication to and from the Public and the Applicant:

As this application is a Development Permit, there is no statutory requirement to provide notification to neighbouring property owners and tenants.

ANALYSIS OF OPTIONS FOR CONSIDERATION:

OPTION A: If Council approves the Development Permit application, the owners will be able to apply for their Building Permit.

OPTION B: If Council denies the Development Permit application, the applicants will need to revise their plans and resubmit a Development Permit application prior to being able to apply for a Building Permit.

OPTION C: If Council postpones the application, staff will work with the applicant to ensure the additional information is provided. The application will return for Council's consideration at the next possible meeting.

Respectfully Submitted,

Tamera Cameron
PLANNER
PLANNING AND DEVELOPMENT DEPARTMENT

This report has been prepared with the collaboration of the flowing individuals:

COLLABORATORS	
TITLE	**NAME**
Engineering Technician	Evan Smith

This report has been prepared in consultation with the following departments:

CONCURRENCES	
DEPARTMENT	**NAME**
Chief Administrative Officer	Tanya Garost
Director of Planning & Development	Jamie McEwan
Manager of Planning	Corine (Cory) Gain

ATTACHMENTS:

A: Draft Development Permit
B: Development Permit Area Checklists

Attachment A: Draft Development Permit

DEVELOPMENT PERMIT

District of Lake Country
10150 Bottom Wood Lake Road
Lake Country, BC V4V 2M1
t: 250-766-6674 f: 250-766-0200
lakecountry.bc.ca

APPROVED ISSUANCE OF ❑ DEVELOPMENT PERMIT *(pursuant to Sec. 490 & 491 of the Local Government Act)*

PERMIT #:	DP2016-014-A
FOLIO #:	1535404
ZONING DESIGNATION:	RLP – Rural Large Parcel 1
DEVELOPMENT PERMIT AREA:	Hillside, Stability/Erosion/Drainage Hazard, Natural Environment, GHG Reduction and Resource Conservation
ISSUED TO:	Dean and Tanya Embleton
SITE ADDRESS:	5532 Oyama Lake Road
LEGAL DESCRIPTION:	Lot 1 Section 6 Township 10 Osoyoos Division Yale District Plan KAP81360
PARCEL IDENTIFIER:	026-744-911

SCOPE OF APPROVAL

This Permit applies to and only to those lands within the Municipality as described above, and any and all buildings, structures and other development thereon.

This Permit is issued subject to compliance with all of the Bylaws of the Municipality applicable thereto, except as specifically varied or supplemented by this Permit, noted in the Terms and Conditions below.

Applicants for Development Permits should be aware that the issuance of a Permit limits the applicant to be in strict compliance with all District bylaws unless specific Variances have been authorized by the Permit. No implied Variances from bylaw provisions shall be granted by virtue of drawing notations which are inconsistent with bylaw provisions and which have not been identified as required Variances by the applicant or Municipal staff.

If any term or condition of this permit is for any reason held to be invalid by a decision of a Court of competent jurisdiction, such decision will not affect the validity of the remaining portions of this permit.

1. TERMS AND CONDITIONS

Development Permit DP2016-014-A for land located at 5532 Oyama Lake Road legally described as Lot 1 Section 6 Township 10 Osoyoos Division Yale District Plan KAP81360 for the development of a house, detached garage, barn, waterline, septic system and driveway, subject to the following conditions:

a) It shall be conducted in substantial accordance with the following documents attached to and forming part of this permit:

(i) **Schedule A**: The Site Plan prepared by AllTerra Land Surveying Ltd., dated received on July 26, 2021;
(ii) **Schedule B:** The House Elevations prepared by Jenish House Design Limited, dated September 2015;
(iii) **Schedule C:** The Garage Elevations prepared by Jenish House Design Limited, dated March 23, 2016;
(iv) **Schedule D:** The Barn Elevations prepared by Dean and Tanya Embleton, dated received March 22, 2021;

(v) **Schedule E:** The Environmental Assessment Report prepared by Ecoscape Environmental Consultants Ltd., dated received July 26, 2021;

(vi) **Schedule D:** The Geotechnical Report prepared by Horizon Geotechnical Ltd., dated March 16, 2021;

b) If any archeologically significant item is found during construction activities must cease and the Province of British Columbia notified in conformity with the *Heritage Conservation Act*;

c) Development and use of the subject property be in compliance with the provisions of the Municipality's various bylaws, except as explicitly varied or supplemented by the terms of this permit, subsequent permits, amendment(s) and/or development variance permits;

d) Development permit is only valid for the development that is described herein. If a change to development is considered, a new development permit or an amendment to this permit is required before starting any work.

e) The landowner shall obtain the services of an Environmental Monitor to ensure the recommendations of the Environmental Assessment Report (Schedule E) are implemented and are in accordance with the following conditions:

(i) A pre-construction meeting is required with the contractor and Environmental Monitor;

(ii) Submit monitoring reports to District of Lake Country (DLC) as indicated by the Environmental Monitor;

(iii) Prepare a substantial completion report and submit to DLC upon completion of construction and restoration works indicating substantial completion of the conditions and requirements of the Development Permit have been carried out; and

(iv) If greater disturbance occurs due to unforeseen circumstances, the Environmental Monitor will recommend further measures to protect/restore the natural integrity of the site and report on these measures to the DLC.

2. PERFORMANCE SECURITY

As a condition of the issuance of this Permit, a security deposit is required in the amount of $1,275 (125% of the Landscape Estimate and Environmental Monitoring Estimate).

a) Cash in the amount of $

b) A Certified Cheque in the amount of $

c) An irrevocable Letter of Credit in the amount of $

Upon completion of the works, the Permit Holder must provide a statement certified by a qualified professional(s) indicating that the works were completed in compliance with the conditions specified in the Development Permit. Upon acceptance of the works by municipal staff, 85% of the security shall be returned. The Municipality shall retain the remaining 15% for a period of 24 months from the date of acceptance of the works, during which time the Municipality may use the remaining security to replace the required works, if necessary. Upon the expiration of the 24 months warranty period, the Permit Holder must provide a statement certified by a qualified professional indicating that the works have met the requirements of the survival monitoring and reporting as identified in the Environmental Assessment Report along with the conditions specified in the Development Permit. The remaining security funds shall be refunded at the expiration of the 24 months warranty period, subject to a final inspection by Municipal staff to confirm the survival of the required works;

The PERMIT HOLDER is the current land owner. The Security shall be returned to the PERMIT HOLDER.

3. DEVELOPMENT

The development described herein shall be undertaken strictly in accordance with the terms, conditions and provisions of this Permit and any plans and specifications attached to shall form a part hereof.

The development shall commence within **TWO** YEARS of the date that this permit is issued.

If the Permit Holder does not substantially commence the development permitted by this Permit within **TWO** years of the date of issuance of this permit, this permit shall lapse.

The terms of the permit or any amendment to it are binding on all persons who acquire an interest in the land affected by the permit.

THIS IS NOT A BUILDING PERMIT OR A CERTIFICATE TO COMMENCE CONSTRUCTION

4. APPROVALS

Authorized passed by Council on the ___ day of _____, 2021.

Issued by the Corporate Officer of the District of Lake Country this ___ day of _____, 2021.

_____

Corporate Officer, Reyna Seabrook

BRITISH COLUMBIA LAND SURVEYOR'S SITE PLAN SHOWING PROPOSED GARAGE AND HOUSE LOCATION UPON LOT 1, SEC 6, TP 10, ODYD, PLAN KAP81360.

PID: 026-744-911
CIVIC ADDRESS: 5532 OYAMA LAKE ROAD
CLIENT: BUILT RITE HOMES/EMBLETON

This document was prepared for the exclusive use of the client named herein, for building permit purposes.

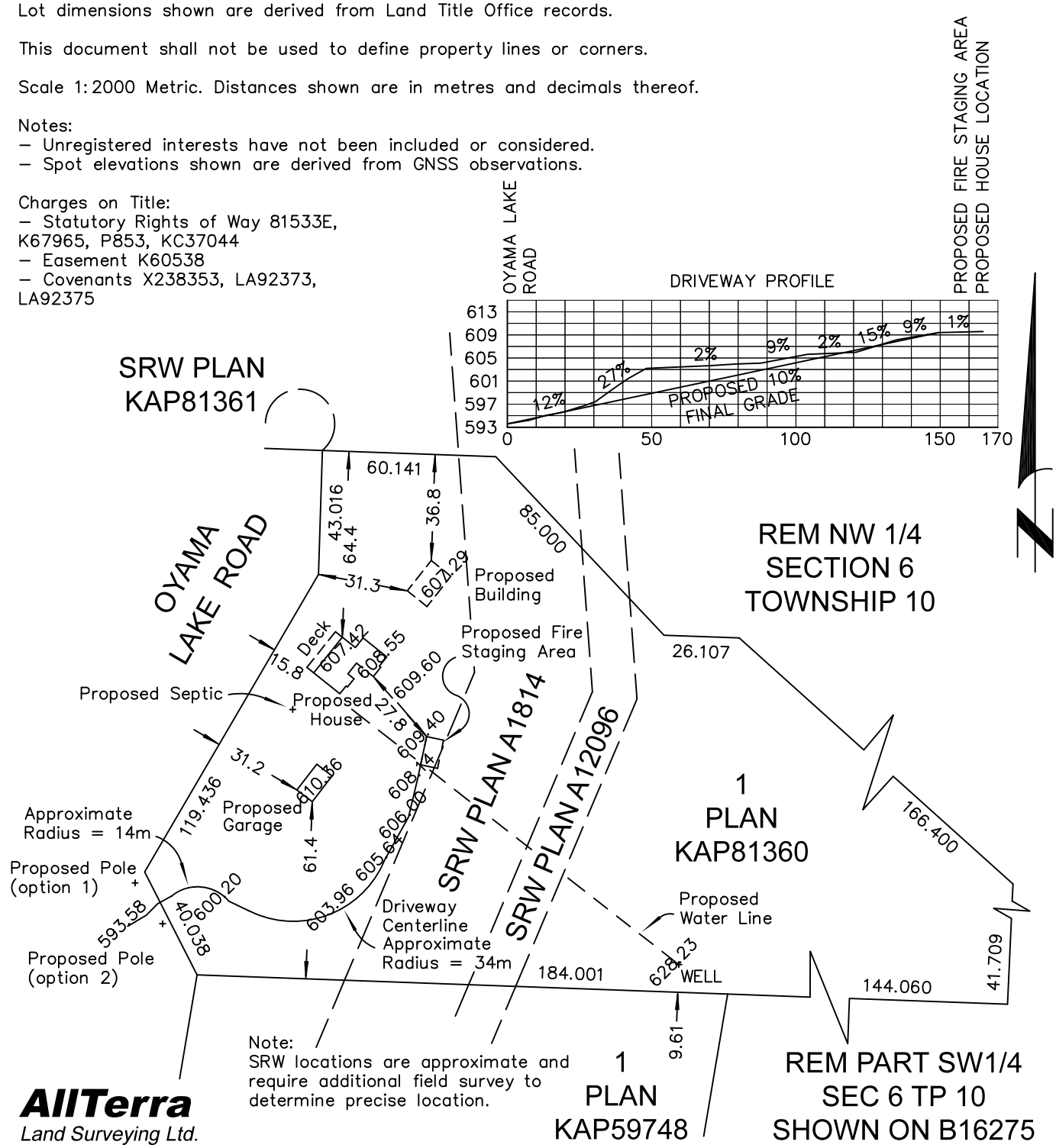
Lot dimensions shown are derived from Land Title Office records.

This document shall not be used to define property lines or corners.

Scale 1: 2000 Metric. Distances shown are in metres and decimals thereof.

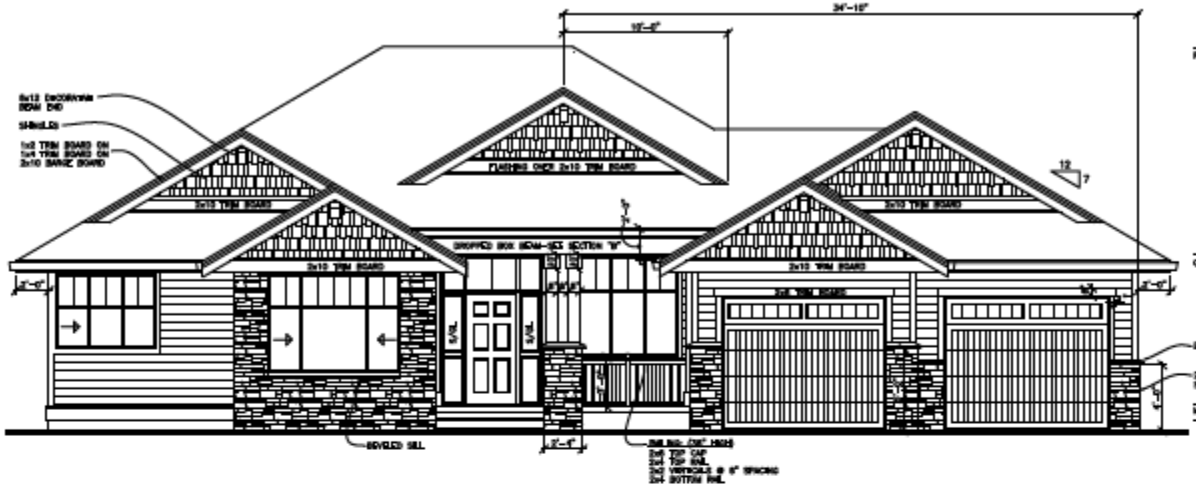
Notes:
- Unregistered interests have not been included or considered.
- Spot elevations shown are derived from GNSS observations.

Charges on Title:
- Statutory Rights of Way 81533E, K67965, P853, KC37044
- Easement K60538
- Covenants X238353, LA92373, LA92375



Note:
SRW locations are approximate and require additional field survey to determine precise location.

AllTerra
Land Surveying Ltd.
www.AllTerraSurvey.ca
Ph: 250.762.0122 File: 316011 July 19, 2021



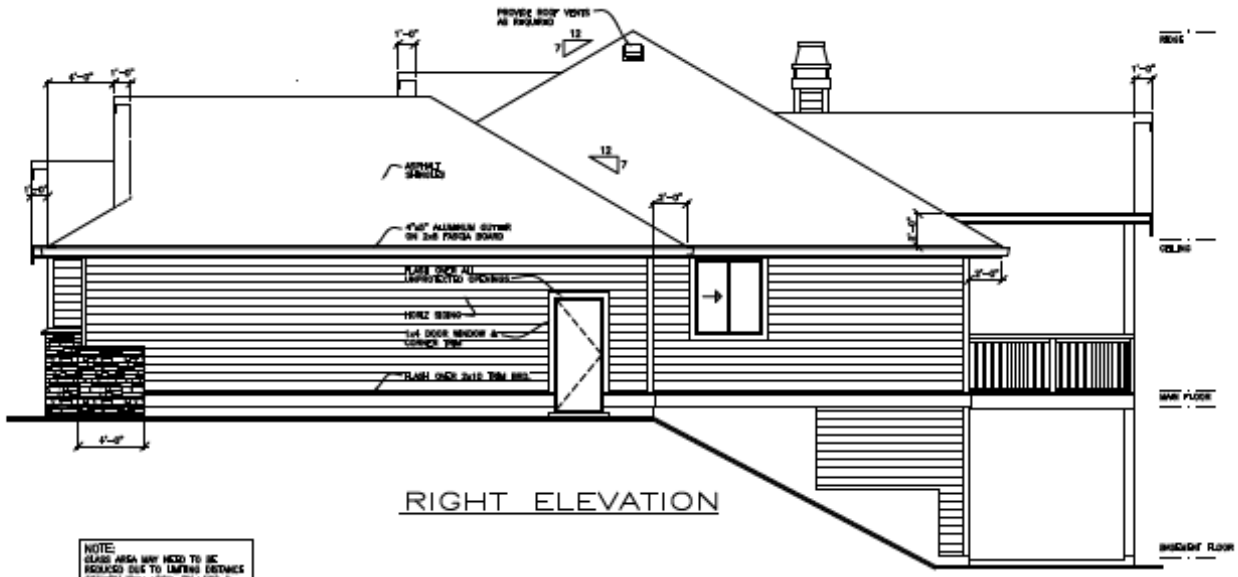
FRONT ELEVATION

REAR ELEVATION

JENISH PDF AGREEMENT #82155

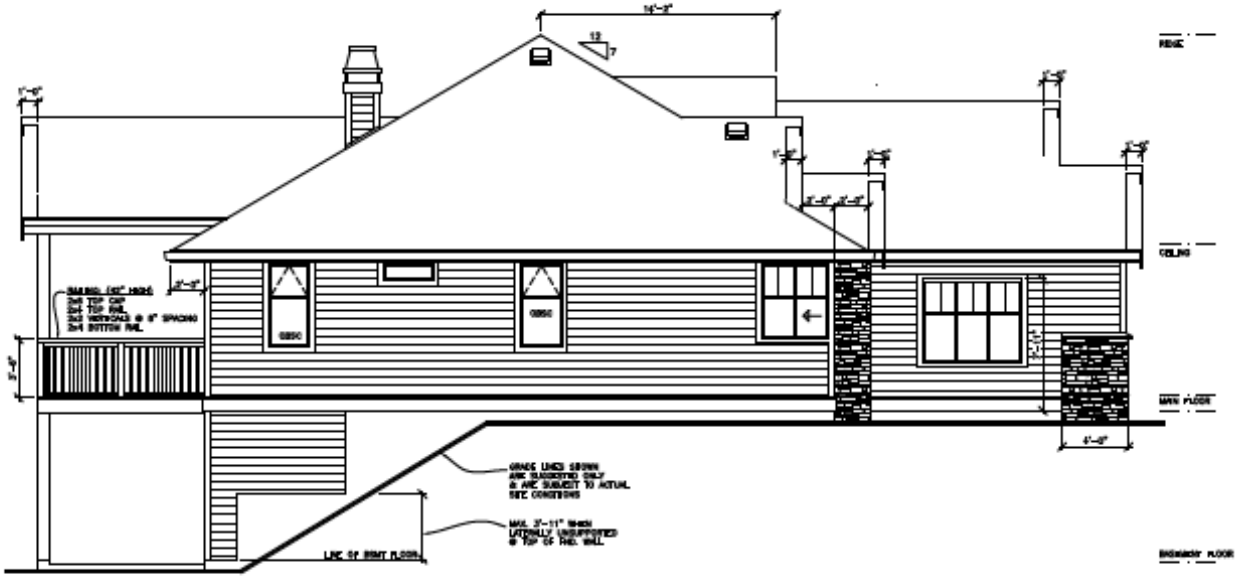
FOR THE CONSTRUCTION OF 1 DWELLING
LOT 1, OYAMA RD.
LAKE COUNTRY, BC.

JENISH HOUSE DESIGN LIMITED



RIGHT ELEVATION

NOTE:
GLASS AREA MAY NEED TO BE REDUCED DUE TO LIMITING DISTANCES CONFORM WITH LOCAL BY LAWS & BUILDING CODE.



LEFT ELEVATION

JENISH PDF AGREEMENT #82155
FOR THE CONSTRUCTION OF 1 DWELLING
LOT 1, OYAMA RD.
LAKE COUNTRY, BC.
REMOVAL OF JHDL LOGO OR TITLE BLOCK IS AGAINST COPYRIGHT LAWS

NOTE:
ENGINEER'S ADDENDUMS, STRUCTURAL DETAILS, AND NOTES SUPERSEDE THOSE NOTED ON THIS GENERAL NOTE SHEET DEPENDING ON LOCAL CONDITIONS.

GENERAL NOTES

STANDARD NOTES

- THE FOLLOWING NOTES ARE TO BE INCLUDED WITH AND FORM PART OF THE ATTACHED PLANS.
- BY COMMENCING CONSTRUCTION OF A BUILDING FROM THESE PLANS, THE OWNER AND/OR BUILDER AGREES THESE PLANS AS DRAWN AND THE NOTES AND SPECIFICATIONS ON THE GENERAL NOTES AS FOLLOWS.
- THESE DRAWINGS WERE PREPARED IN ACCORDANCE WITH THE CURRENT EDITION OF THE BC BUILDING CODE. IF IN THE OPINION OF THE OWNER/BUILDER IT IS NECESSARY TO MAKE ANY SUBSEQUENT CHANGES TO THE CODE ARE COMPLIED WITH AND INCORPORATED IN THE CONSTRUCTION OF SAID PLAN. ALL WORK SHALL CONFORM TO THE CURRENT BC BUILDING CODE AND/OR LOCAL BUILDING CODES AND BYLAWS THAT MAY TAKE PRECEDENCE.
- ALL WORK SHALL BE DONE IN ALL RESPECTS TO GOOD BUILDING PRACTICE.
- WHICH DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- JENISH HOUSE DESIGN LIMITED SHALL NOT BE RESPONSIBLE FOR ANY VARIANCES FROM THE STRUCTURAL DRAWINGS AND SPECIFICATIONS, OR ADJUSTMENTS REQUIRED RESULTING FROM CONCEALED DIMENSIONS AT THE JOB SITE AND IS THE SOLE RESPONSIBILITY OF THE OWNER OR CONTRACTOR.
- CONSTRUCTION LOADS ON THE STRUCTURE DURING BY WOOD STRUCTURE BY WORKMEN OR USE OF EQUIPMENT SHALL NOT BE ALLOWED TO EXCEED THE DESIGN LOAD.
- THE BUILDER SHALL BE RESPONSIBLE FOR MAINTAINING A SAFE AND ORDERLY CONSTRUCTION SITE AT ALL TIMES.
- AT END OF CONSTRUCTION THE BUILDER SHALL BE RESPONSIBLE FOR CLEANING THE JOB SITE AND BUILDING(S) OF ANY REFUSE AND MARKS AREA AND DAMAGE TO BUILDINGS DURING CONSTRUCTION.
- REFER TO CONSTRUCTION SCHEDULE SHEET. THE BUILDER SHALL BE RESPONSIBLE FOR ENSURING THE LIGHTING OF AND CLEARLY MARKED EXISTING SERVICES AND IMMEDIATELY REPORTING POSSIBLE ALTERATIONS OF ANY DISCREPANCIES.
- TOPSOIL AND EXCAVATED MATERIAL TO BE DISCHARGED SATISFACTORILY ON SITE.

ERRORS AND OMISSIONS

- JENISH HOUSE DESIGN LIMITED MAKES EVERY EFFORT TO PROVIDE COMPLETE AND ACCURATE WORK PLANS. HOWEVER, WE ASSUME NO LIABILITY FOR ANY ERRORS OR OMISSIONS THAT MAY EXIST ON CONSTRUCTION. IT IS THE RESPONSIBILITY OF THE BUILDER TO CHECK AND VERIFY ALL DIMENSIONS AND DETAILS BEFORE PROCEEDING WITH CONSTRUCTION.
- SHOULD ANY DISCREPANCIES BE FOUND ON THESE PLANS PLEASE NOTIFY OUR OFFICE AT YOUR EARLIEST CONVENIENCE, SO WORK CAN BE HALTED AND CHANGES TO THE DRAWINGS AND REVISED AND PLANS PURCHASED IF NECESSARY. IN THIS WAY NO CAN BOTHER BROWN YOU AND PREVENT DELAYS FROM HAPPENING.

STRUCTURAL DESIGN AND ENGINEERING

- IT'S PROVIDED OUR CLIENTS THAT DISTINCTIVE AND ATTRACTIVE DESIGNS IF AND WHEN NECESSARY IN SOME INSTANCES TO USE BEAM SIZES AND FRAMING METHODS NOT SPECIFIED IN PART XXIII OF THE B.C. BUILDING CODE. THE CITY OR MUNICIPAL BUILDING DEPARTMENT MAY REQUIRE SUCH DESIGNS BY A CERTIFIED ENGINEER. ENGINEER FEES TO BE THE RESPONSIBILITY OF OWNER OR BUILDER TO PROVIDE.

STRUCTURAL DESIGN CRITERIA

- ASSUMED SOIL BEARING CAPACITY – 3,000 P.S.F. (150 KPA)
- CONCRETE FOUNDATIONS AND SLABS ON GRADE TO HAVE A MINIMUM COMPRESSIVE STRENGTH OF 20 MPA AT 28 DAYS.
- FRAMING LUMBER TO BE #2 S.P.F. AND BETTER UNLESS OTHERWISE NOTED.
  GRADE TO BE #2 S.P.F. AND BETTER.
  NOTE:
  IF SOIL CONDITIONS ARE LESS OR FLOOR AND ROOF LOADS ARE GREATER THAN THOSE USED IN DESIGNING THIS, YOUR BUILDING DEPARTMENT MAY REQUIRE ADJUSTMENTS TO THE PLANS OR ASK THAT THE PLANS BE ENGINEERED BY A CERTIFIED STRUCTURAL ENGINEER. IT IS SAME WAY AS REQUIRED FROM YOUR LOCAL CONDITIONS (BC CONDITIONS).

SITE PLAN NOTES

- IF A SITE PLAN IS ANY PROVIDED BY JENISH HOUSE DESIGN LIMITED, THE OWNER OR BUILDER SHALL BE RESPONSIBLE FOR THE CORRECT SETTING OF THE HOME ON THE PROPERTY. JENISH HOUSE DESIGN LIMITED ASSUMES NO LIABILITY FOR PLANS COMPLETED WITH ZONING REGULATIONS OR LOT CONTOURS.
- OWNER SHALL SUPPLY ANY MISSING INFORMATION ON SITE PLAN, I.E. DIMENSIONS, ELEVATIONS OF LOT, LEGAL DESCRIPTION, SIDE ADDRESS, NORTH DIRECTION, AND LOCATION OF WITNESS, EASEMENTS AND POINT OF SERVICE. ALL SITE REQUIREMENTS ON SITE PLAN TO BE SYSTEMS AND APPROVED BY AUTHORITIES HAVING JURISDICTION BEFORE STARTING CONSTRUCTION.
- ALL SEPTIC AND WATER SYSTEMS DESIGNS TO BE LOCATED AND CONSTRUCTED IN ACCORDANCE WITH HEALTH AUTHORITIES HAVING JURISDICTION.

ELECTRICAL

- INSTALLATION OF ELECTRICAL SYSTEMS MUST COMPLY WITH THE BC ELECTRICAL CODE AND REGULATIONS AND WITH THE LOCAL ELECTRIC POWER SUPPLIER'S REGULATIONS IN ALL RESPECTS.
- ELECTRICAL OUTLET LOCATIONS SHOWN ON PLANS COMPLY WITH OR EXCEED MINIMUM BUILDING CODE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. ADJUST ACCORDING TO OWNER'S REQUIREMENTS.

FOUNDATIONS

- FOUNDATIONS SHALL BE CONSTRUCTED ON SOLID UNDISTURBED GROUND AND BELOW FROST LINE.
- FOUNDATION WALLS SHALL NOT BE BACK FILLED UNTIL CONCRETE HAS REACHED ITS SPECIFIED 28-DAY STRENGTH AND THE FLOOR SYSTEM INCLUDING REINFORCING HAS BEEN INSTALLED OR UNTIL ADEQUATELY BRACED SUBJECT TO APPROVAL OF AUTHORITY HAVING JURISDICTION.
- WOOD SHOWN ON PLANS ARE APPROXIMATE. FOUNDATION WALL HEIGHTS MAY REQUIRE ADJUSTMENT TO SUIT SITE CONDITIONS.
- ALL CONCRETE AND MASONRY FOUNDATION WALLS SHOWN ARE LOCATED ACCORDING TO CURTAIN BUILDING CODE AND LOCAL REGULATIONS.
- FOUNDATION DRAINAGE SHALL BE INSTALLED WHERE REQUIRED TO THE APPROVAL OF LOCAL AUTHORITIES.
- IT IS RECOMMENDED THAT ALL FOUNDATION WALLS 24" (600 MM) AND HIGHER SHALL HAVE ONE 15 MM (1/2" DIAMETER) REINFORCING BAR CENTERED 3" FROM TOP. CORNER REINFORCING TO BE LAPPED MINIMUM 24".

WOOD FRAMING

- DIMENSIONS ARE FROM OUTSIDE FACE OF REFERENCE WALLS TO CENTER OF PARTITION WALLS UNLESS OTHERWISE NOTED. FACE OF REFERENCE STUD WALL AND FOUNDATION WALL TO BE FLUSH.
- JOISTS SHALL BE DOUBLED UNDER PARTITIONS. PARTITIONS OVER 8'-0" LONG, JOISTS TO BE PLACED TO ACCOMMODATE PIPING, PLUMBING, ETC.
  ALL LINTELS SHALL BE 2 – 2 X 10'S UNLESS OTHERWISE NOTED.
- WOOD IN CONTACT WITH CONCRETE TO BE SHOT-PRIMED NOT TO EXCEED 19% MOISTURE CONTENT. PLATES TO BE ANCHORED TO CONCRETE WITH 1/2" DIAMETER ANCHOR BOLTS AT MAXIMUM 6'-0" O/C OR OTHER APPROVED METHOD. DIVISION PARTITIONS SHALL BE PLACED TO BE LOCAL AND CONVENIENCE HOLES.
- FLOOR JOISTS AND ROOF JOISTS NOT SHOWN MORE THAN 16" O/C SHALL BE CONSTRUCTED OF NOT LESS THAN 2" X 6" O/C MINIMUM SPACING DEPENDING ON SPANNING WITH 2 SIDE WITH WOOD. BRIDGING SHALL BE 1 X 3 DIAGONAL TYPE MAXIMUM SPACING.
- ROOF TRUSSES DESIGNS SUPERVISED. FOR PREFABRICATED TRUSSES SHOWN CONFORMS FROM MANUFACTURER.

INSULATION AND VENTILATION

- MINIMUM INSULATION REQUIREMENTS

ROOF (WITH VENTILATION)	R-40	(RSI 7 – 9.87)
	R-50	(RSI 8 – 8.80)
	R-60	(RSI 10 – 10.56)
WALLS	R-22	(RSI 3 – 3.87)
INSULATION REQUIREMENTS ABOVE GRADE WHEN ON BASEMENT	R-20	(RSI 3 – 10.56)
	R-24	(RSI 4 – 4.23)

- 6 MIL ELASTOMERIC POLYETHYLENE VAPOUR BARRIER SHALL BE INSTALLED ON THE WARM SIDE OF INSULATION.
- ALL ROOF SPACES SHALL BE VENTILATED WITH ATTIC VENTS, OR SOFFIT VENTS, OR A COMBINATION OF THESE EQUALLY DISTRIBUTED BETWEEN TOP OF ATTIC SPACE AND OVERHANG SOFFIT.
- PROVIDE BAFFLE FOR AIR SPACE EQUAL TO INSTALLED INSULATION AND ROOF OVERHANG AT EXTERIOR WALL LINE.
- ATTICS OR ROOF SPACES TO BE VENTED MINIMUM 1/300 OF AREA. UNHEATED CRAWLSPACES TO BE VENTED MINIMUM 1/500 OF AREA WITH ALUMINUM VENTS.

FINISHING

- OWNER SHALL SPECIFY ALL INTERIOR AND EXTERIOR FINISHING. WHICH SHALL CONFORM ANY FINISHING SHOWN ON PLANS.
- EXTERIOR DOORS SHALL BE SOLID CORE/INSULATED AND WEATHER-STRIPPED. GARAGE DOORS TO OVERLAP 75 MM AS ABOVE AND SIDE-CLOSURE.
  PLANS AT ALL RESIDENTIAL CHANGES IN INTERIOR FINISHING ARE SHALL AROUND ALL EXTERIOR OPENINGS. PLANS SHOW ALL APPROXIMATE DIMENSIONS.
- WINDOW SIZES ARE SHOWN IN TOP AND WIDTH. I.E. 4'-0" = 4'-0" WIDE BY 3'-0" HIGH. DOOR SIZES ARE WIDTH SHOWN BY 6'-0" BY 6'-8". I.E. 3'-0" = 6'-0" WIDE BY 6'-8" HIGH.
- OPENINGS IN PARTITIONS SHOWN WITHOUT DOORS ARE FULL HEIGHT UNLESS SHOWN AS AN ARCH. ARCHED ARE APPROX 7'-0" HIGH UNLESS OTHERWISE NOTED.
- COAT AND CLOTHES CLOSETS SHALL HAVE ONE ROD AND SHELF. LINEN CLOSETS SHALL HAVE 5 ADJUSTABLE SHELVES EQUALLY POSSIBLE. BROOM CLOSETS SHALL HAVE ONE SHELF.
- ALL BATHROOMS SHALL HAVE A WALL MEDICINE CABINET OR ONE LINEN/MIRROR.

HEATING

- INSTALLATION OF HEATING SYSTEMS MUST COMPLY WITH MANUFACTURERS SPECIFICATIONS (INCLUDING) AND REGULATIONS WITH LOCAL CODES AND REGULATIONS IN ALL RESPECTS.
- GAS CONVERSION WILL REQUIRE SEPARATE PERMIT AND INSPECTION.
- FUEL BURNING APPLIANCES, INCLUDING FURNACES, FIREPLACES AND STOVES, TO BE PROVIDED WITH COMBUSTION AIR SUPPLY FROM OUTSIDE.

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ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
CEILING OUTLET					

STANDARD SYMBOLS

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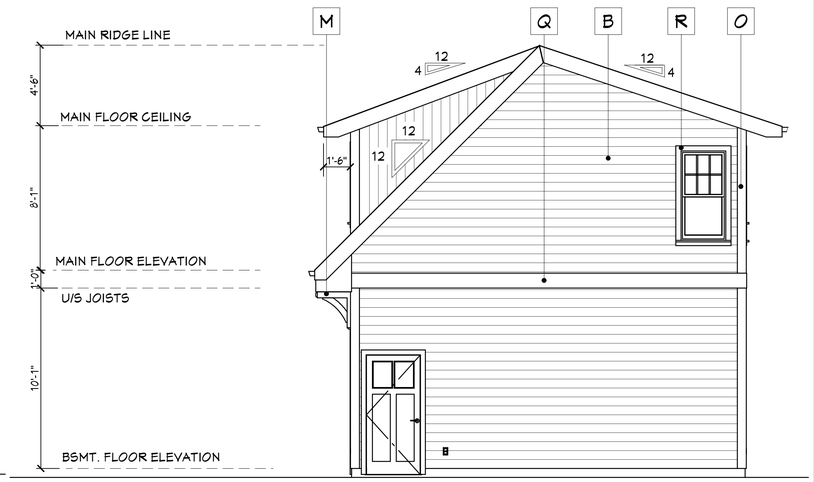
REFERENCE: 1-3-007 REVERSE
DRAWN: LW
CHECKED: TKD
DATE: SEPT '15
SCALE: 1/4" = 1'-0"
SHEET: 5 OF 9
PLAN NUMBER: M1-3-1506

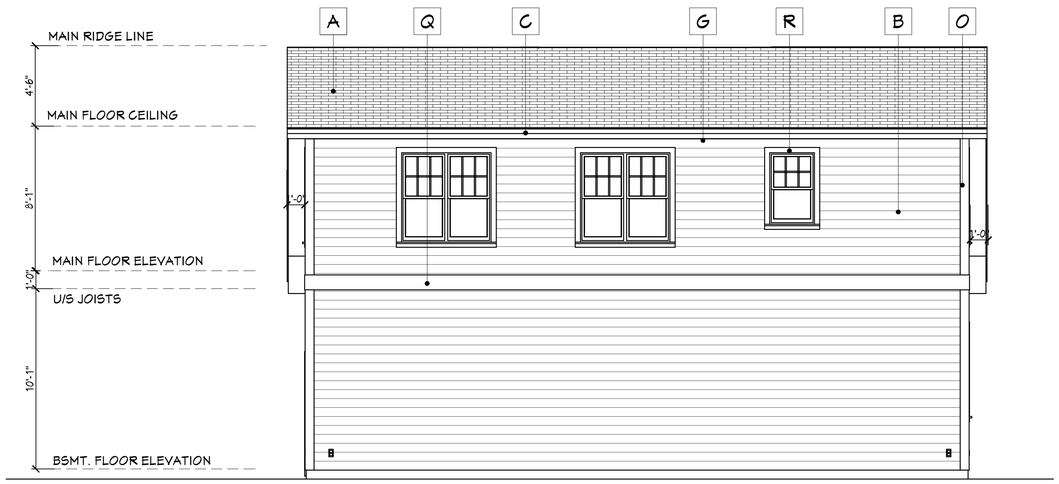
ISSUED FOR CONSTRUCTION - 2016/3/23
PROJECT # A1070 - BUILTRITE

Schedule C: Garage Elevations

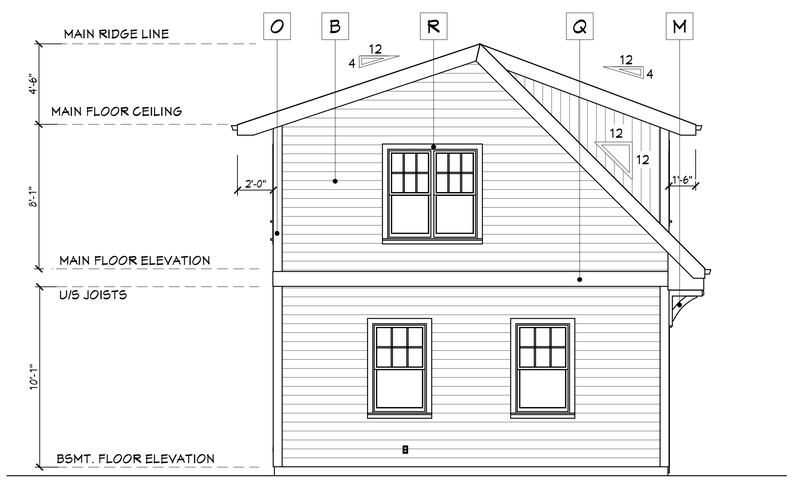
FRONT ELEVATION



RIGHT ELEVATION



REAR ELEVATION



LEFT ELEVATION

MATERIAL & EXTERIOR FINISH LEGEND:

- A ROOF - LAMINATED ASPHALT SHINGLES
- B EXT. WALLS - HARDIE PLANK SIDING
- B1 EXT. WALLS - HARDIE PLANK SIDING (VERT)
- C PRE FIN. ALUM. GUTTER & DOWNSPOUTS
- D 42" HIGH PREFIN. ALUM & GLASS DECK RAILING (AS PER LOCAL CODE REQUIREMENTS)
- E STONE OR BRICK VENEER
- F HARDIE-SHAKE GABLE END FINISH
- G PREFIN. ALUM. SOFFIT
- H FRONT ELEV. WINDOW & DOOR TRIM
  6" HORIZ. HARDIE TRIM
  3" WRAP AT SIDES
  4" VERT. HARDIE TRIM
- I FRONT ELEVATION COLUMNS
  DECOR. WOOD CAPITALS
  18" SQ. FRAMED OUT COLUMN w/
  WOOD BASE SURROUND ON
  MASONRY VENEER BASE w/
  PREFINISHED SILL
- J DECORATIVE BRACKETS
- K GARAGE DOOR
- L 10" HARDIE HORIZ. GABLE BAND
- M GABLE END TIMBER FRAME
- N 4" ON 10" HARDIE GABLE FASCIA
- O 6" HARDIE WALL CORNER BOARDS
- P FRONT ELEVATION PICKET RAILING
- Q 2" x 10" HARDIE BELLY BAND
- R 4" HARDIE WINDOW & DOOR TRIMS
- S ARCHITECTURAL TOOTHING
- T GARAGE DOOR TRIM
  6" HORIZ. HARDIE-BOARD
  4" VERT. HARDIE-BOARD
- U PREFIN. ALUM. FACED EXTERIOR ITEMS
- V REAR COLUMNS SPECIFICATION
  DECORATIVE ACRYLIC STUCCO
  BUILTOUT CAPITALS ON
  18" SQ. FRAMED OUT COLUMNS w/
  MASONRY OR ACRYLIC STUCCO BASE

It is the builders responsibility to verify all dimensions on site prior to commencement of work. Written dimensions take precedence. Do not scale drawing.

rev.	date
1	2016/3/23
.	

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Stock Plan #: A1070 - E1672-11 - BUI

Lot___ Plan_____
Subdivision

Client:
Mr. & Mrs.

DRAWING TITLE:
EXTERIOR ELEVATIONS

PAGE:
A4

DATE	2016/3/23
JOB	-
SCALE	1/4" = 1'-0"
DRAWN BY	GES WS JS
CHECKED	GES

Stock Plan #: A1070 - E1672-11 - BUI

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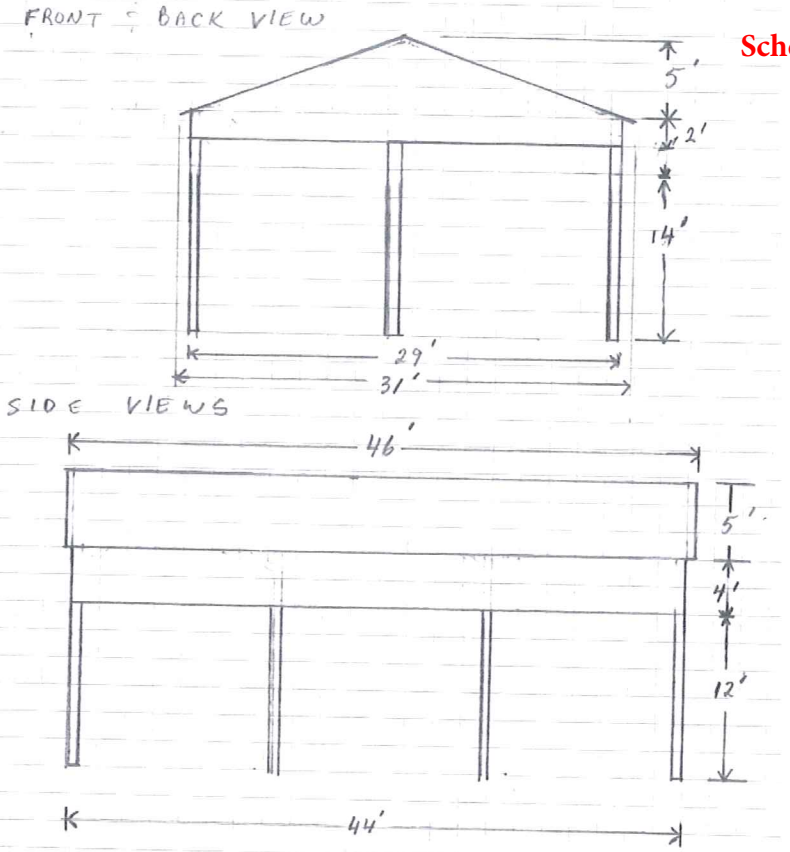
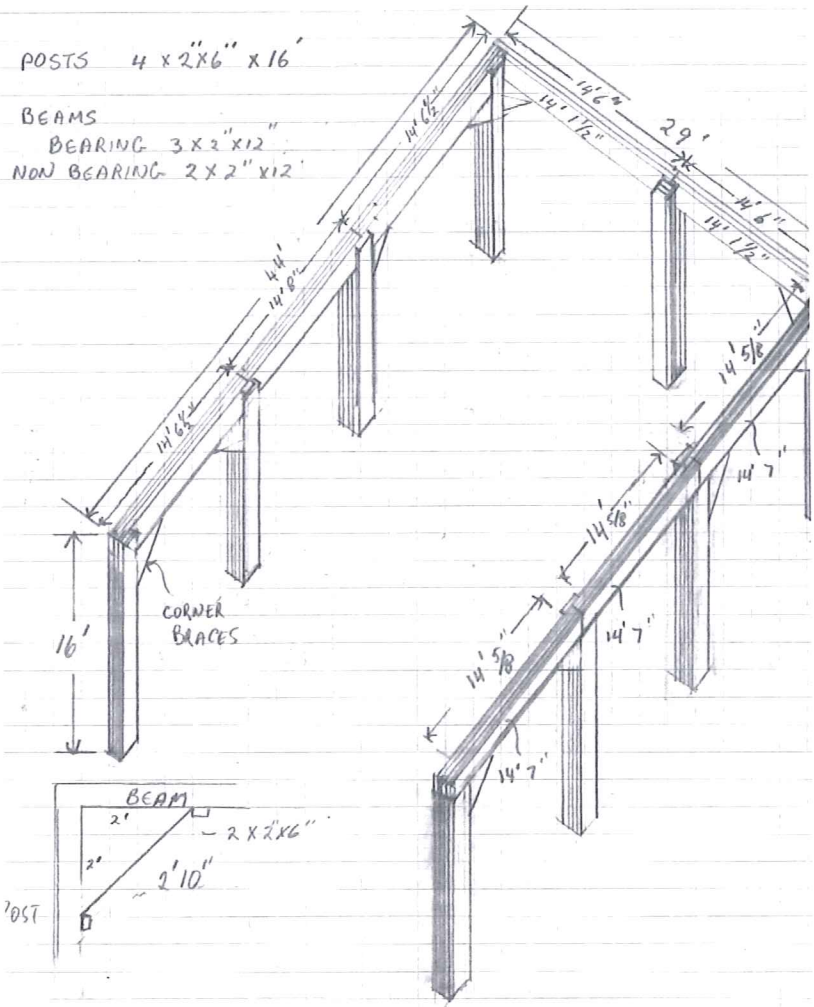
Schedule D: Barn Elevations

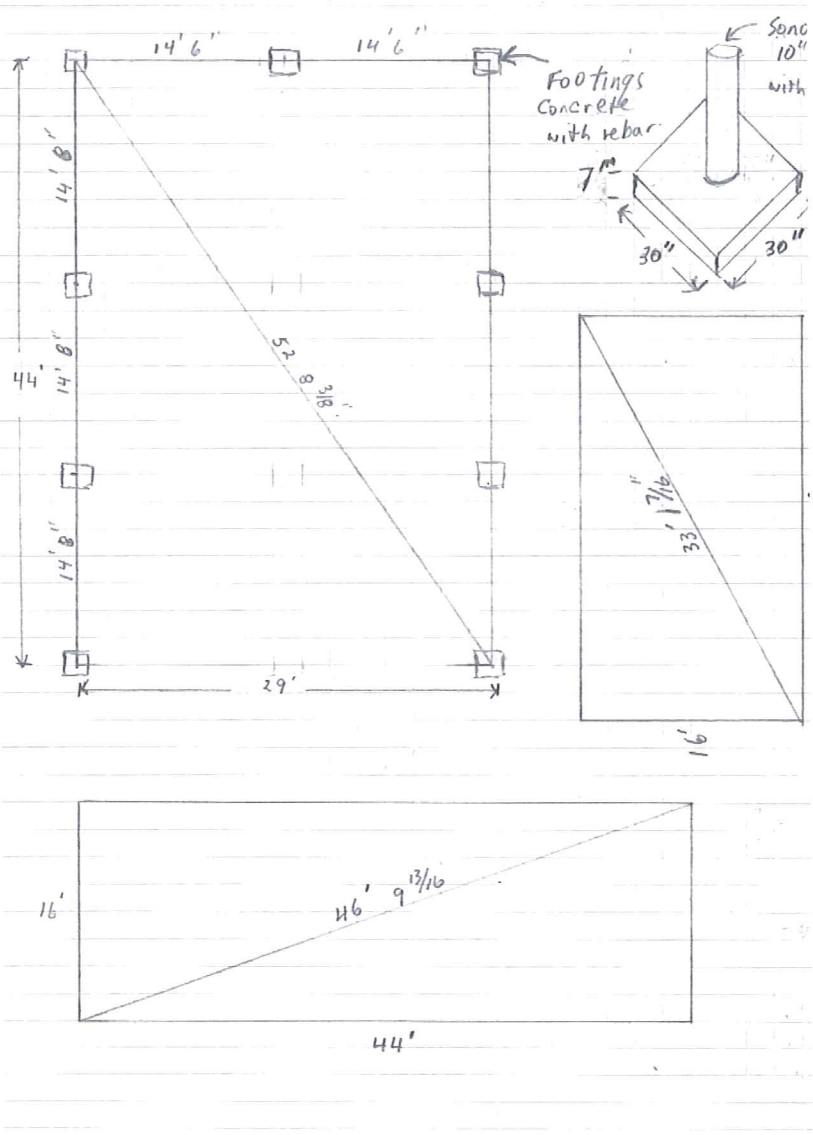


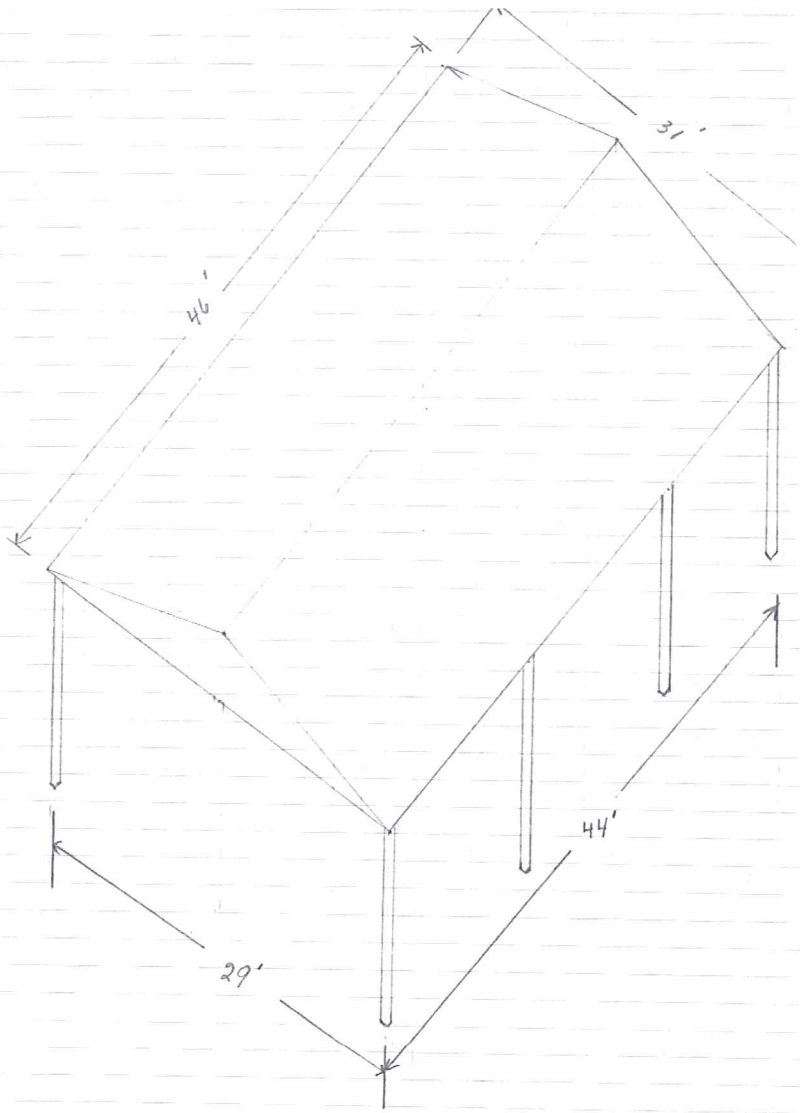
STRUCTURE

POSTS 4 x 2"x6" x 16'

BEAMS
BEARING 3 x 2"x12"
NON BEARING 2 x 2" x12'







Schedule E: Environmental Assessment Report

5532 OYAMA LAKE ROAD, LAKE COUNTRY, BC

Updated Environmental Assessment

LOT 1 PLAN KAP 81360, SEC 6, TWP 10
Version 3.0

Prepared For:

DEAN EMBLETON
c/o Rob Anderson
Built-Rite Homes
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Kelowna V1Y 2T3

Prepared By:

ECOSCAPE ENVIRONMENTAL CONSULTANTS LTD.
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V1V 2M2

July 2021

Ecoscape File No.: 20-3506

Previously Ecoscape File No: 15-1542.01 dated July 21 2016

TABLE OF CONTENTS

REFERENCES

PHOTOS

FIGURES

APPENDICES

1.0 INTRODUCTION

Ecoscape Environmental Consultants Ltd. (Ecoscape) was retained by Dean Embleton to complete an Environmental Assessment (EA) of the proposed development 5532 Oyama Lake Road, within the District of Lake Country, BC (Property). Previously, Ecoscape prepared an EA for the proposed house development on the Property in July 2015. The Property is legally described as Lot 1, Plan KAP81360, Sec 16, TP 10 (**Figure 1**). Ecoscape understands that an EA of the Property is required to obtain a District of Lake Country (DLC) Natural Environment Development Permit (DP), to ensure environmental protection of sensitive habitat features and ecosystems and to address other permit area considerations, including Greenhouse Gas Emissions, and Erosion Hazard. Portions of the Property also fall under the Hillside and Stability DP areas, however, the requirements for these areas is beyond the scope of this assessment.

The purpose of this report is to provide an updated assessment of existing terrestrial resource values, assess the potential for rare and/or endangered species, and provide recommendations to guide future planning for the Property that maintains the natural integrity of ecological communities. This report has been prepared as an update to the Environmental Assessment completed in 2015 to amend the DP application to include the additional proposed works.

1.1 Background and Proposed Works

The Property encompasses approximately 4.01 ha (9.91 acres) adjacent to Oyama Lake Road. The property owner intends to build a single-family dwelling, garage, barn, waterline (from an existing well), driveway, septic system and utility service (refer to Site Plan attached as **Appendix A** and **Figure 2**) (**Photos 1, 2 and 3**). Following the report completed in 2015, clearing activities have been conducted and the garage has been constructed. Ecoscape has not been provided with detailed designs for the buildings or the exact alignment for services or engineering details for driveway access, but has been provided with a summary of the approximate locations (**Figure 2**). The building footprint has shifted north by approximately 15 m from the original site plan provided in 2015. Should these locations change slightly as more detailed information becomes available, it is possible to address this through environmental monitoring, since small location shifts will not dramatically affect the environmental assessment.

The development footprint of the house, garage, barn is estimated to be 474 m^2 with the total disturbance area (and proposed driveway) is estimated to be 3,121 m^2 (which includes the house, garage, barn, driveway and service lines). There is evidence of existing disturbance within this footprint including a roughed in dirt roadway access to the building site as well as cleared land. The proposed location for the house/garage is located on a relatively flat section of the Property that has previously been cleared (**Photos 1, 2 and 3**). The proposed driveway will largely follow the alignment of the

existing dirt roadway (**Photo 4**) with the exception of where the proposed driveway enters the Property along the western boundary (**Photo 5**). The Property also contains a powerline easement which has resulted in significant disturbance of the site through the middle of the Property (**Photos 6 and 7**). The proposed location of the development footprint is largely within areas that have been previously disturbed at the site. This limits the number of trees that are required to be removed. A total of 15 trees are within the development footprint and will be required to be removed (see Section 4.7). The majority of the Property to the east of the powerline easement will not be disturbed by the proposed development.

2.0 ENVIRONMENTAL ASSESSMENT

Ecoscape initially conducted a site assessment on May 25, 2015, by Jason Schleppe, R.P.Bio., Senior Natural Resource Biologist with Ecoscape. A subsequent assessment of the Property was completed on March 8, 2016 by Katrina Black, B.I.T., Natural Resource Biologist with Ecoscape. During the assessment significant natural features were recorded using a handheld GPS device. Other sources of information queried for the assessment include:

- BC Conservation Data Centre (CDC) Species and Ecosystems Explorer;
- CDC At Risk species occurrence records;
- Habitat Wizard;
- Sensitive Ecosystem Inventory (SEI) and Terrestrial Ecosystem Mapping (TEM); and
- Provincial Best Management Practices (BMP).

The Property occurs in a rural area and is generally bounded by undeveloped and rural properties on all sides. The Property occurs within the Okanagan Very Dry Hot Interior Douglas-fir Variant (IDFxh1), which is described by the Biogeoclimatic Ecosystem Classification (BEC) program (Lloyd et al. 1990). Areas of the IDF zone are generally warm and dry, with long growing seasons and periodic droughts.

2.1 Ecosystem Communities

As part of this assessment, Terrestrial Ecosystem Mapping (TEM) and resultant Sensitive Ecosystem Inventory (SEI) polygons were reviewed for the property (Iverson and Uunila, 2005). Ecoscape adjusted the existing TEM polygon extents and made classification changes as necessary to more accurately describe the polygons at a finer spatial scale based upon our field inventory and professional judgment.

Ecoscape divided the Property into polygons representing distinct habitat types based on vegetation cover and adapting the nomenclature and site series used by TEM (**Figure 2**). The Property was divided into three polygons, representing six different ecosystem communities, refer to Table 1.

Table 1. Ecosystem communities occurring within the Property (Figure 2)

Ecosystem Code	Site Series	Site Series Name	Provincial Status[1]
DS	07	Douglas-fir/Ponderosa pine – Snowberry - Spirea	Red
FW	91	Idaho fescue – Bluebunch wheatgrass	Red
RF	97	Prairie Rose – Idaho fescue	Red
RZ	NA	Road surface	NA
SD	08	Hybrid white spruce/Douglas-fir – Douglas Maple - Dogwood	-
SP	04	Douglas-fir/Ponderosa pine – Snowbrush - Pinegrass	Blue

1 Source: http://www.env.gov.bc.ca/cdc/
Blue: Of special concern. **Red:** Endangered or threatened.

The majority of the development will occur within the Blue listed, SP community within the western extent of the Property (**Figure 2, Polygon 1**). The SP community is an earlier structural stage and is characterized by invasive species and previous disturbance. The Red listed DS communities within the western portion of the Property (**Figure 2, Polygons 2 and 3**) are in a more natural state with increased density of mature trees and this area will remain largely undeveloped.

2.2 Vegetation

The Property is a west-facing coniferous woodland slope. Overall, the Property is generally characterized by open pine/fir woodland with increased disturbance within the centre of the Property associated with the existing powerline easement (**Photo 1**).

Vegetation observed within Polygon 1 (**Figure 2**) (and the estimated development footprint) included young Ponderosa pine (*Pinus ponderosa*) and Interior Douglas-fir (*Pseudotsuga menziesii var. glauca),* common snowberry (*Symphoricarpos albus*), tall Oregon-grape (*Mahonia aquifolium*), Saskatoon (*Amelanchier alnifolia*), native rose species (*Rosa sp.*) and snowbrush (*Ceanothus velutinus*). Ground cover and herbaceous vegetation could not be effectively determined due to the early season timing, but grasses observed include pinegrass (*Calamagrostis rubescens*), fescue species (*Festuca sp*.) and Kentucky bluegrass (*Poa pratensis*). It is probable that many different herbaceous species common to the IDF zone are present.

Invasive species were prevalent throughout the western portion of the Property and included but were not limited to sulphur cinquefoil (*Potentialla recta*), great mullein (*Verbascum thapsus*), knapweed (*Centaurea sp*.) and St. Johns Wort (*Hypericum perforatum*).

Polygons 2 and 3 (**Figure 2**) are mainly outside the development footprint and were not reviewed in detail. However, a small portion Polygon 3 occurs within the proposed waterline area (**Photo 8**). According to field observations and existing terrestrial ecosystem mapping this area is likely classified as the Red-listed ecosystem of Douglas-fir/Ponderosa pine – Snowberry - Spirea. The vegetation in the eastern portion of the property (outside of the development footprint) included common snowberry (*Symphoricarpos albus*), Douglas maple (*Acer glabrum*), birch-leaved spirea (*Spiraea betulifolia*) and Red-oiser dogwood (*Cornus serica*), signifying a higher moisture regime.

2.3 Aquatic Resources

Surface watercourses were not observed within the Property during the assessment. However, Hayton Creek is located approximately 60 m to the north of the Property (**Figure 1**), the presence of which was not confirmed since it did not occur on the property. Hayton Creek is a 2nd order stream approximately 3.57 km in length and is documented as containing no fish. The provincial *Riparian Areas Protection Regulation* (RAPR) does not apply to the proposed development as Hayton Creek is greater than 30 m away. The area where an existing water well is present, is very damp, likely due to the artesian nature of the well.

2.4 Wildlife

Detailed wildlife surveys were not conducted during the site assessment. The rural and undeveloped nature of the area and connectivity to adjacent natural habitats suggest high potential for wildlife presence and use for a variety of species and life stages. The open coniferous woodland, mature trees, and adjacent creek provide a movement corridor and cover for a variety of wildlife species. The District of Lake Country's primary Wildlife Corridor runs north-south through to the east of the proposed development footprint through the property. The proposed development is not anticipated to negatively affect migrating ungulates through this Corridor. No critical wildlife features were observed within the development footprint. Large woody debris is scattered throughout the Property, providing habitat for various small mammals, amphibians, and other wildlife.

2.5 Species at Risk

Species at risk are identified in the context of provincial and national ranking systems. The provincial ranking system applies to species that have been assessed by the BC Conservation Data Centre (CDC). The national ranking system applies to species that have been assessed by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The CDC was queried for potential occurrences of at-risk wildlife with the potential to occur within the Property. There were no site-specific records found, although the regionally identified badger potential was indicated for the area. Critical habitat for federally listed at-risk Western rattlesnake (*Crotalus oreganus*), Great Basin

gophersnake (*Pituophis catenifer deserticola*) and Desert nightsnake (*Hypsiglena torquata*) was found to overlap the property. Other at-risk species with potential to occur within the Property are summarized in Table 2.

Table 2. Summary of species at risk with the potential to occur within the Property.

Species Group	Common Name	Scientific Name	Provincial Status[1]	COSEWIC Listing[2]
Amphibians	western toad	*Anaxyrus boreas*	Blue	Special Concern
Birds	barn swallow	*Hirundo rustica*	Blue	Threatened
	flammulated owl	*Otus flammeolus*	Blue	Special Concern
	Lewis's woodpecker	*Melanerpes lewis*	Red	Threatened
	olive-sided flycatcher	*Contopus cooperi*	Blue	Threatened
	Swainson's hawk	*Buteo swainsoni*	Red	-
	western screech-owl	*Megascops kennicottii macfarlanei*	Red	Endangered
	Williamson's sapsucker	*Sphyrapicus thyroideus*	Red	Endangered
Mammals	American badger	*Taxidea taxus*	Red	Endangered
	bighorn sheep	*Ovis canadensis*	Blue	-
	fringed myotis	*Myotis thysanodes*	Blue	Data Deficient
	spotted bat	*Euderma maculatum*	Blue	Special Concern
	Townsend's big-eared bat	*Corynorhinus townsendii*	Blue	-
	western harvest mouse	*Reithrodontomys megalotis*	Blue	Special Concern
	western small-footed myotis	*Myotis ciliolabrum*	Blue	-
Reptiles	Great Basin gopher snake	*Pituophis catenifer deserticola*	Blue	Threatened
	western rattlesnake	*Crotalus oreganus*	Blue	Threatened
	western skink	*Plestiodon skiltonianus*	Blue	Special Concern
	western yellow-bellied racer	*Coluber constrictor mormon*	Blue	Special Concern

1 Source: http://www.env.gov.bc.ca/cdc/
Yellow: Not considered at risk. **Blue:** Of special concern. **Red:** Endangered or threatened.
2 Source: http://www.cosewic.gc.ca/
Threatened: A wildlife species that is likely to become endangered if nothing is done to reverse the factors leading to its extirpation or extinction.
Special Concern: A wildlife species that may become threatened or endangered because of a combination of biological characteristics and identified threats.
Not at Risk: A wildlife species that has been evaluated and found to be not at risk of extinction given the current circumstances.
Endangered: A wildlife species facing imminent extirpation or extinction.
Data Deficient : A category that applies when the available information is insufficient (a) to resolve a wildlife species' eligibility for assessment or (b) to permit an assessment of the wildlife species' risk of extinction.

2.6 Environmentally Sensitive Areas

Professional judgment was used to evaluate ecosystem polygons based on criteria including: provincial CDC status (i.e., Red or Blue listed), rare and endangered species occurrence potential, landscape condition (i.e., connectivity, fragmentation), successional stage, regional rarity, relative biodiversity, and level of disturbance. These criteria were used to determine the sensitivity of each distinct ecosystem type within the property and each polygon was assigned a value rating, which reflects the relative habitat condition. Ecosystem polygons were ranked using the environmental sensitivity classes described below:

- Very High (ESA 1): These areas represent extremely high ecological value and typically contain rare or critical habitat areas for sensitive or at risk species,

undisturbed or pristine ecosystems and habitats, and biodiversity hotspots (e.g., wetlands, old growth forest). They substantially contribute to the regional habitat function and connectivity and are highest priority for conservation.

- High (ESA 2): These areas contribute to the regional biodiversity and connectivity of the surrounding landscape but lack critical habitats for at risk species (e.g., riparian areas, mature forest). Development should generally avoid these areas to conserve the important features or to allow potential progression to the Very High category (e.g., mature forest becoming old growth). Encroachment into these areas should be compensated for by restoration in other areas to work towards achieving a no net loss of High value habitats.

- Moderate (ESA 3): Ecosystems of moderate significance represent disturbed habitats or fragmented features with the potential to return to High value through natural succession (e.g., young or fragmented forest, degraded habitats). Moderate areas contribute to the diversity of the landscape; however, their condition and adjacency may limit significant function. These areas will benefit from restoration and enhancement activities which will facilitate succession to higher value habitats.

- Low (ESA 4): These areas contribute little to no value with regard to habitat diversity and have limited potential for supporting significant wildlife (e.g., heavily impacted or disturbed sites). Development is typically focused on these areas based on their limited contribution to regional biodiversity and limited capacity to return to high value through natural succession. These areas may be restored through intensive remediation and management practices.

The ESA composition of the Property is summarized in Table 3 and depicted on **Figure 3**.

Table 3. Percent composition of ESA within the Property.

ESA Value	ESA Area (m^2)	Percentage of Property (%)
Very High (ESA 1)	0	0
High (ESA 2)	18,753	46.8
Moderate (ESA 3)	21,300	53.2
Low (ESA 4)	0	0
Total	**40,053**	**100**

Environmental sensitivity analysis indicates that approximately 53% of the Property is represented by Moderate-value (ESA 3) communities, based upon the previous disturbance through the powerline easement and ad hoc trail use, encroachment of weedy invasive species, early forest stage, and adjacency to access roads. This area is represented by Polygon 1 on Figure 3, which includes the majority of the proposed development. The remainder of the Property (53%) is considered High value (ESA 2) based upon the natural and relatively undisturbed nature of the forest community,

adjacency to other natural lands (e.g., Hayton Creek to the north, natural land to the east), older seral stage, and presence of mature trees. There are no areas of Very High or Low value, noting that upland areas of the property only had limited inventory since no works were to occur in these areas which could affect the ESA rating in these areas.

3.0 IMPACT ASSESSMENT

Based upon the proposed locations of driveway alignment, residential dwelling, barn, garage, and waterline alignment provided by the Property owner, the development will occur largely within moderate value ESA. Based on the proposed development footprint, which represents approximately 14.7% of the total ESA 3 within the Property, the proposed development appears to be reasonable for the ecological conditions of the Property.

The following section summarizes the potential environmental impacts associated with the project. Potential environmental impacts include:

- Potential for the release of deleterious substances (e.g., fuel, oil, hydraulic fluid) to the environment during clearing, grubbing, and site servicing works or as a result of improper storage, equipment re-fueling, and/or poorly maintained equipment;

- Potential to directly or indirectly impact wildlife and wildlife habitat during earthworks, roadworks and tree clearing, including disruption of migration, breeding, or other behavior as a result of noise, impacts to air quality, and alterations to existing wildlife habitat and cover;

- Potential to introduce or facilitate the spread of non-native and invasive plant species resulting from ground disturbance; and,

- Disturbance beyond the proposed development footprint if the areas are not clearly delineated in the field by a land surveyor and contractors prior to initiating construction activities.

4.0 MITIGATION MEASURES

Ecoscape provides the following general mitigation strategies for the proposed works, based on the existing ecosystems and environmental sensitivity analysis. In addition to the recommendations provided herein, the proponent can find additional information on provincial Best Management Practices (BMPs) online at:

https://www2.gov.bc.ca/gov/content/environment/natural-resource-stewardship/laws-policies-standards-guidance/best-management-practices

- All works should generally conform to the Develop with Care 2014: Environmental Guidelines for Urban and Rural Land Development in BC and companion documents:

    - Guidelines for Raptor Conservation during Urban & Rural Land Development in BC (2013)

    - Guidelines for Reptile and Amphibian Conservation during Urban & Rural Land Development in BC (2014)

In general, development should be been planned for areas that have been previously disturbed (i.e., flat portion of Property adjacent to powerline easement) and connectivity with adjacent woodland communities must be maintained where possible. The current development footprint occurs largely within moderate ESA 3 within a previously disturbed area through clearing.

4.1 Clearing and Grubbing

- Clearing and grubbing limits must be clearly marked in the field prior to construction and minimized wherever possible. Unnecessary impacts to native vegetation and soils must be avoided at all times. Important wildlife habitat, including veteran trees, snags, and other features, will be identified by the environmental monitor (EM) prior to construction works (i.e., flagged or otherwise marked to prevent disturbance); and,

- Native vegetation, including trees, shrubs, and groundcover, should be retained as much as possible to mitigate the establishment of invasive plants and to maintain the existing ecological value within the Property.

4.2 Avian Work Timing Windows

- Section 6 of the Federal *Migratory Birds Convention Regulation* protects both the nests and eggs of migratory birds. The project area falls within the Canadian Avian Nesting Zone A1 (MECCS, 2020). The general avian nesting period for migratory birds within this zone is **March 26th to August 9th**. Section 34 of the Provincial *Wildlife Act* protects all birds and their eggs, and Section 34(c) protects their nests while they are occupied by a bird or egg. The project area falls within the Northern Okanagan Basin ecodistrict. The avian nesting period for all birds within this ecodistrict is **February 18th to September 12th** (Birds Canada, 2020);

- If vegetation clearing activities are required during the identified avian nesting period, pre-clearing nesting surveys may be required by an Environmental Monitor (EM) to identify active nests;

- If active nests are found within the clearing limits, a buffer will be established around the nest until such time that the EM can determine that nest has become inactive. The size of the buffer will depend on the species and nature of the surrounding habitat. Buffer sizes will generally follow provincial BMP guidelines or other accepted protocol (e.g., Environment Canada). In general, a minimum 20 m buffer will be established around songbird nests or other non-sensitive (i.e., not at risk) species;
- Clearing and other construction activities must be conducted within 72 hours following the completion of the pre-clearing nesting surveys. If works are not conducted in that time, the nesting surveys are considered to have expired and a follow-up survey will be completed to ensure that no new nests have been constructed; and,
- The nests of Bald Eagle, Golden Eagle, Peregrine falcon, Gyrfalcon, Osprey and Burrowing Owl are protected year-round whether they are active or not as per Section 34(b) of the *Wildlife Act*. Best management practices relating to raptors and their nests can be found in Guidelines for Raptor Conservation during Urban and Rural Land Development in BC (2013).

4.3 Erosion and Sediment Control

- Erosion and sediment control should incorporate the measures described below to mitigate risks during construction works. The plan is generally based upon provincial BMPs and other specifications and includes the following principles:
    - Construction works should be conducted during periods of warm, dry weather with no forecasted precipitation;
    - Construction works should be scheduled to reduce the overall amount of time soils are exposed;
    - Natural drainage patterns should be maintained where possible;
    - Existing native vegetation should be retained where possible;
    - Stormwater and sediment-laden runoff should be directed away from exposed soils within the construction area;
    - Sediment-laden water should not be directed to any surface water feature, gully, or other drainage system;
    - Slopes should be stabilized as soon as possible following disturbance;

- Other erosion and sediment control measures should be implemented, inspected, maintained, and/or replaced as required to provide appropriate mitigation.

- Exposed soils along slopes must be stabilized and covered where appropriate using geotextile fabric, poly sheeting, tarps, or other suitable materials to reduce the potential for erosion resulting from rainfall, seepage, or other unexpected causes; and,

- If erosion becomes a problem during construction and there is a risk of siltation to local drainage systems or Hayton Creek to the north (i.e. during heavy rain events), silt fence should be installed immediately (adjacent to the development footprint) to mitigate for potential sediment transport and erosion downslope of the works. Silt fence should be staked into the ground and trenched to prevent flow underneath the fence.

4.4 Habitat Restoration

Table 4 details the trees proposed for removal for the proposed works on the Property.

Table 4. Trees Proposed for Removal

Species	Diameter at Breast Height (DBH) - mm	Location
ponderosa pine	152	House Site
ponderosa pine	100	Between house/shop
ponderosa pine	162	Between house/shop
interior Douglas fir	140	Between house/shop
ponderosa pine	246	Between house/shop
ponderosa pine	202	Between house/shop
ponderosa pine	220	House site (below)
ponderosa pine	200	House site (below)
ponderosa pine	180	Shop site
ponderosa pine	280	Shop site
interior Douglas fir	200	Driveway
interior Douglas fir	160	Driveway
interior Douglas fir	150	Driveway
interior Douglas fir	150	Barn
ponderosa pine	150	Barn

A total of 15 trees are proposed for removal in order to facilitate the proposed works and are all located within the Natural Environment Development Permit Area on the site. A tree-replacement criteria of 2:1 was proposed for 7 trees in the 2015 report. The 2:1 replacement was considered appropriate for this terrestrial site in lieu of the tree replacement criteria identified within the DOLC OCP, which is consistent with the Fisheries and Oceans Canada and Ministry of Environment Tree Replacement Criteria for riparian

areas. The subject property consists exclusively of a terrestrial, open woodland ecosystem with grassland communities; therefore, it is important to ensure that these ecosystems are maintained by not over-planting.

In the previous assessment report in 2015, only 7 of the trees were within the DP area and consequently a total of 14 replacement trees (2:1 replacement ratio) consisting of either ponderosa pine and/or interior Douglas-fir were recommended. These trees have since been planted and following conversations with the client, approximately only five of them have survived (less than 80% survival). The 14 trees previously prescribed for restoration are still a requirement of the bond and at least 80% survivorship is the expectation; therefore, it is anticipated that six replacement trees will be planted (80% of 14 trees is 11, and only five survived). Considering the success rate of planting trees at the subject property, it is recommended that shrubs be planted at a 4:1 replacement ratio for the vegetation removed for the barn. Only one tree is proposed to be removed to facilitate the barn construction, therefore eight shrubs are proposed. Native shrubs generally have a higher success rate than coniferous vegetation, especially considering the open woodland and grassland ecosystems associated with the subject property. Planting shrubs at 4:1 instead of trees at 2:1 will also contribute to the restoration of the understory with primary successional species, add complexity and three-dimensional habitat structure. We see 4:1 replacement plantings of shrubs as an equivalent offset ratio as 2:1 for trees. No plantings are proposed under the Hydro Powerline due to restrictions on planting in this area.

Field-fit recommendations for tree locations will be required. If changes to the landscape plan are proposed they should be reviewed by the environmental monitor prior to implementation, and where possible plantings should consist of species native to the Central Okanagan specifically, and suitable to the environmental conditions. Recommended plantings are provided in Table 5 and the restoration planting area is shown in **Figure 4**.

Table 5. Recommended Plantings

Species	Scientific Name	Min. Size	Quantity
Common snowberry	*Symphoricarpos albus*	1 gal	
Saskatoon	*Amelanchier alnifolia*	1 gal	
Snowbrush	*Ceanothus velutinus*	1 gal	
Tall Oregon-grape	*Mahonia aquifolium*	1 gal	
		Total	**8**

- A target of 80% plant survival is recommended after two years;
- Saskatoon should be planted every 3 m^2 on center and all other shrubs should be planted 1 m^2 on center;

- Plants should be installed in groups or clusters and make use of suitable micro-climates, such as moisture-receiving areas, coarse woody debris, and remnant patches of natural areas. This will help prevent plant mortality by limiting competition with invasive species. Planting should not be completed in an evenly distributed, grid-like pattern;

- The placement and distribution of plantings will be completed in a field-fit manner at the time of restoration through consultation with the Environmental Monitor (EM);

- Plantings should target depressions to capture local moisture from rain or runoff. Woody debris/wood fiber mulch spread around the base of plantings may help to deter establishment of and competition from invasive plant species;

- Flagging of native plants will be helpful for future monitoring purposes; flagging must not be tied around the main stem such that girdling of the plant will occur as it grows;

- Seed and plant material must be sourced from within the southern interior to avoid complications associated with transplanting coastal species or northern species into dry southern interior conditions;

- To promote germination and establishment of vegetation, temporary irrigation should be supplied for at least the first two growing seasons. If no irrigation is proposed for restoration areas, it is recommended that regular maintenance is conducted to improve planting survival. This may include: additional fertilizing, routine watering and/or replanting, and the removal of invasive species. Poor growth, elevated erosion problems, and/or animal intrusion should be mitigated to promote plant growth;

- The contractor completing the restoration works should inspect plants monthly during the growing season, replacing any dead or diseased plants;

- All disturbed soils must be restored with native Grade A grass seed free of invasive species to minimize establishment of invasive plant species, erosion, and to restore the area to early successional conditions;

- Grass seed mixes must be approved by the EM before purchase and use. Restoration grass mixes cannot include species considered invasive within BC;

- All seed mixes will be submitted to a certified seed testing laboratory for germination and purity analysis. Seed analysis certificates are to be provided prior to purchase;

- Grass seed should be broadcast and hand-raked into the soil. For steep slopes or large areas, hydroseed may be used; and,

- Grass seed mixes should be suitable for the environmental conditions (southeast aspect in an upland Okanagan habitat). These conditions may be given to a seed provider to determine the most appropriate species to provide.

Ongoing invasive species control through mechanical means (i.e., hand pulling and mowing) will be required within any areas with exposed/disturbed soils and/or existing grassland areas within the north and south side of the project site.

- Any contractor working within the property must ensure that all equipment and vehicles are washed and free of weed seeds prior to mobilization and de-mobilization. Vehicles and equipment should not be stored, parked, or staged within weed infested areas if possible. Contractor clothing should also be inspected daily for signs of weed seeds. If found, weed seeds should be disposed of in a contained refuse bin for offsite disposal;

- Care must be taken to ensure that invasive species removal does not impact existing or planted native tree and shrub species; and,

- Invasive plant species must be disposed of in a landfill; however, invasive species material must not be composted in the yard waste section of the landfill. Invasive plant species must not be transported to or deposited in other natural areas.

4.5 Emergency Spill/Response

Spills of deleterious substances can be prevented through awareness of the potential for negative impacts and with responsible housekeeping practices onsite. Maintenance of a clean site and the proper use, storage and disposal of deleterious liquids and their containers are important to mitigate the potentially harmful effects of spills and/or leaks. The following BMPs are adapted from Chilibeck et al. (1992) to provide guidance in the control of deleterious substances.

- Spills occurring on dry land will be contained, scraped and disposed of appropriately. Contaminated material will be stored on tarps and covered to prevent mobilization, and will be disposed of in accordance with the *Environmental Management Act*.

- Spills shall be contained, absorbed, and disposed of in accordance with the regulations outlined in the *Environmental Management Act* and using the following general steps:

    - Assess, monitor and prevent the hazard or threat;

    - Stabilize, contain, remove and clean up the hazard or threat;

    - Evacuate persons;

- Recover and rehabilitate wildlife;
- Restore wildlife habitat; and,
- Take other steps to address the long-term impacts resulting from the spill.

- Copies of contact phone numbers for notification of all of the required authorities in the event of a spill/emergency response should be posted and clearly visible at the site.

- Spill containment kits should be kept readily available onsite during construction in case of the accidental release of a deleterious substance to the environment. Any spills of a toxic substance should be immediately reported to the **Emergency Management BC 24-hour hotline at 1-800-663-3456** and Ecoscape at 50-491-7337.

4.6 Air Quality and Greenhouse Gas Reduction

Air quality standards must be met at all times during the project. Dust control can be achieved by reducing the spatial extents and amount of time that soils are exposed to construction activities. Reducing traffic speed and volume can also reduce dust concerns. Surface and air movement of smoke and dust during project activities can be mitigated through preventive measures and design criteria.

- Idle time of construction equipment and contractor vehicles should be kept to a minimum to reduce the release of greenhouse gases. The contractor should inform and educate employees and sub-contractors on the importance of minimizing idling time and develop guidelines to direct the practice of reducing unnecessary idling.

- The DLC requires proponents to address greenhouse gas reduction during construction and development. Greenhouse Gas Reduction (GHG) and Resource Conservation Development Permit Areas are discussed in Section 22.13 of the DLC Official Community Plan. Table 6 below summarizes the key GHG Reduction and Conservation factors to be addressed by the owner of the subject property during construction and development. Considering details of the proposed development have not been disclosed at this point, GHG factors that are not known whether they are addressed or not were given a N/A value.

Table 6. DLC GHG Reduction and Conservation Factors Checklist			
GHG Factor and Description	**Yes**	**No**	**N/A**
Has site density been maximized for subdivisions?			X
Has the building footprint been minimized in order to allow for maximum green space?	X		
Have lots been oriented to maximize solar orientation of building envelopes? Have buildings been oriented to maximize solar gain?			X
Is the subdivision laid out to minimize the length and amount of infrastructure (such as sewer & water lines and roads)?			X
Does the layout allow for alternative transportation options and transit?			X
Is the subdivision laid out to maximize site connectivity to nearby amenities and services?			X
Do the materials and colors used in building construction minimizer heat absorption? Is the roof not a dark color?			X
Are large windows sheltered by overhands which maximize solar input during winter months?			X
Do proposed buildings incorporate green roofs, living walls or other measures to reduce heat gains cause by hard surfaces?			X
Are alternative energy sources being proposed in large scale structures?			X
Do buildings have a south oriented roof to allow for future use of solar panels?			X
Are there opportunities for natural ventilation and airflow incorporated into the building?			X
Do building materials encourage thermal massing and seasonal thermal energy storage?			X
Are building envelopes well sealed and energy efficient?			X
Is vegetation low maintenance and require minimal irrigation?	X		
Is the enhanced landscaping located along the south and west facing parcel boundaries to create shade?		X	
Is rainwater recycling included in landscape designs?		X	
Have porous material been maximized throughout the landscaping?			X
Do water features use recirculation systems as opposed to once through systems?			X
Are opportunities for local food production and public food gardens incorporated into larger developments and subdivisions?			X

- If possible, alternate energy sources should be considered in future development at the site, such as solar panels and ground source heating and cooling. Other options for green building include rainwater recycling systems, landscaping with native species, and water efficient products. These items provide opportunities for GHG reduction and cost savings over the long term.

4.7 Site Cleanup

Site cleanup and restoration refers to activities used to return disturbed areas within the project site to a state resembling the original habitat characteristics. Protection of

existing ecosystems is generally much more efficient than ecosystem enhancement and restoration following construction.

- Silt fencing, snow fence and other temporary mitigation features should be removed upon substantial completion of works if the risk of surface erosion and sediment transport has been adequately mitigated with other permanent measures; and,

- All equipment, supplies, waste, and other non-biodegradable materials must be removed from the site following the substantial completion of construction activities.

4.8 Environmental Monitoring

An environmental monitor (EM) should be retained during construction activities at the discretion of DLC. If required, the EM will document compliance with BMPs, mitigation measures, and other recommendations and provide guidance for implementation of best practices (e.g., erosion and sediment control, restoration) during construction. In the event that greater disturbance occurs due to unforeseen circumstances, the EM will recommend measures to protect/restore the natural integrity of the site.

- A pre-construction meeting should be held between the EM and the contractor(s) undertaking the work onsite to ensure a common understanding of the mitigation measures and best practices required for the project. A copy of the development permit and this EA report must be kept readily available at the site for reference while the work is being conducted;

- The EM will be an appropriately qualified environmental professional authorized to halt construction activities should an incident arise that is causing undue harm (unforeseen or from lack of due care) to terrestrial, aquatic or riparian ecosystems;

- Construction activities should be monitored on a bi-monthly basis and more regularly during high risk activities (e.g. concrete pours, large material excavations) until the completion of the project; and,

- Regular monitoring reports will be submitted to the primary contractor, client, and District of Lake Country. Once construction and restoration are complete a substantial completion site visit and report will be undertaken by the EM.

4.9 Performance Bonding

Performance bonding is typically required by the DOLC to ensure that the recommended mitigation measures are adhered to and any restoration is completed as required. Bonding in the amount of 125% of the estimated value of restoration works and monitoring is generally required to ensure faithful performance and that all mitigation measures are completed and function as intended. Security deposits shall remain in

effect until the DOLC has been notified, in writing by the EM that the objectives have been met and substantial completion of the restoration works has been achieved.

A cost estimate has been prepared to address the DOLC performance bonding requirements. Ecoscape had estimated in 2015 that the total cost for planting and associated environmental monitoring of restoration (not inclusive of house construction) will be approximately $1,020 (not including GST), resulting in a total bonding estimate of $1,275. From our understanding this deposit has been provided by the client as part of their original DP application. Considering this assessment is an update report to account for the addition of the barn, the additional bonding amount required is then $425 (Table 7). The total bonding is estimated to be $1,700.

Table 7. Cost estimate for mitigation plantings, environmental monitoring of restoration, and bonding.

Item	Location	Quantity	Unit	Material Cost	Installed Cost*
Trees	Field fit as per Landscape Plan (Figure 4)	14	1 gal	$140 (based on $10/plant)	$420
Shrubs	Field fit as per Landscape Plan (Figure 4)	8	1 gal	$80 (based on $10/plant)	$240
Grass Seed	Disturbed areas beyond development footprint	1.7	kg	$100 (based on $60 a kg)	$100***
Environmental monitoring of enhancement plantings (including substantial completion report)**					$600
				Grand Total	**$1,360**
				125% Bond	**$1,700**

*Installed costs are based on an estimate of 3 times the cost of materials. A landscaping company and distributor of native plant stock may be able to provide a more accurate estimate to complete the prescribed works.
**The above estimate for environmental monitoring does not include monitoring of house construction or site clearing and grading.
***Assumes client with broad-cast the seed themselves.

5.0 CONCLUSION

This update environmental assessment report has been prepared to address the Natural Environment Development Permit guidelines as described in the DLC Official Community Plan, related to the proposed works at 5532 Oyama Lake Road in Lake Country, BC. The proposed works are limited to the construction of a residence, garage, barn, septic, waterline and driveway. Based on the site assessment and proposed site plan, the majority of the development will occur within moderate ESA value areas. The proposed development is not anticipated to have measurable effects on the habitat values within the Property so long as the recommended mitigation measures are incorporated into the design and construction.

Provincial regulations and best management practices will provide suitable guidance in the development of avoidance, mitigation and/or compensation strategies for the sensitive habitats described in this report. Appropriate mitigation and compensation planning should provide reasonable protection to maintain the ecological integrity of the Property. The proposed development footprint generally avoids the more natural habitat

to the east. Other potential negative impacts associated with construction can be appropriately mitigated by following the recommended mitigation measures, provincial best management practices, construction standards, and by adhering to the applicable District of Lake County Development Permit guidelines and government regulations.

6.0 CLOSURE

This letter has been prepared for the exclusive use of Dean Embleton and associated contractors for the proposed house construction at 5532 Oyama Lake Road, within the District of Lake Country, BC. Ecoscape has prepared this letter with the understanding that all available information on the past, present, and proposed conditions of the site have been disclosed. Mr. Embleton has acknowledged that in order for Ecoscape to properly provide the professional service, Ecoscape is relying upon full disclosure and accuracy of this information.

If you have any questions or comments, please contact the undersigned at your convenience.

Respectfully Submitted
ECOSCAPE ENVIRONMENTAL
CONSULTANTS LTD.

Originally Prepared By:

KBlack

Katrina Black*, B.Sc., B.I.T.
Natural Resource Biologist
*Former Ecoscape employee

Amended By:

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Natural Resource Biologist
Direct Line: (250) 491-7337 ext. 217

Reviewed By:

BRITISH COLUMBIA INSTITUTE OF AGROLOGISTS 3079 Theresa Loewen P.Ag.

Theresa Loewen, M.Sc., P.Ag.
Environmental Scientist/Agrologist
Direct Line: (250) 491-7337 ext. 214

Attachments: Photos
Figures
Appendices

References:

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Polster, D., J. Cullington, T. Douglas, and T. Hooper, 2014. Develop with Care: Environmental Guidelines for Urban and Rural Land Development in British Columbia. Prepared for the BC Ministry of Environment. Victoria (BC).

Photo 1: View looking west of the proposed house site. Powerline easement can be seen in the foreground (May 25, 2015).

Photo 2: View facing southwest of the proposed house and garage site. The development is proposed within an area that is largely clear of vegetation (March 8, 2016).

Photo 3: View facing south of the proposed garage site. Trees to be removed are flagged with orange flagging tape (March 8, 2016).

Photo 4: View facing northwest of the existing dirt roadway. The proposed driveway alignment will mostly follow the existing path (March 8, 2016).

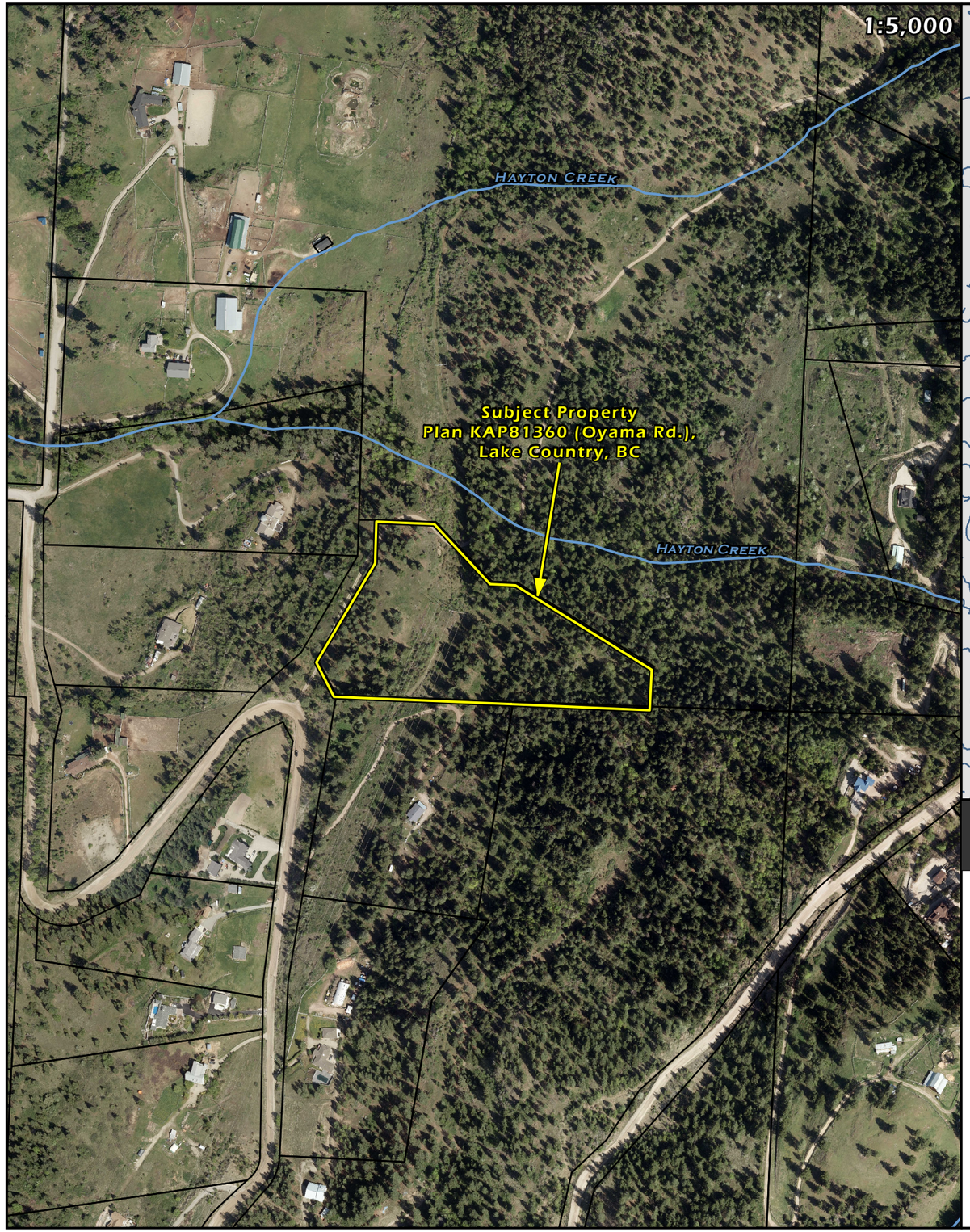
Photo 5: View facing east of the proposed driveway alignment along the western boundary of the Property which will join the existing dirt roadway (March 8, 2016).

Photo 6: View facing east of the powerline easement, taken from the proposed house site (March 8, 2016).

Photo 7: View facing north along the powerline easement (March 8, 2016).

Photo 8: View facing west along the proposed waterline alignment (March 8, 2016).

FIGURES



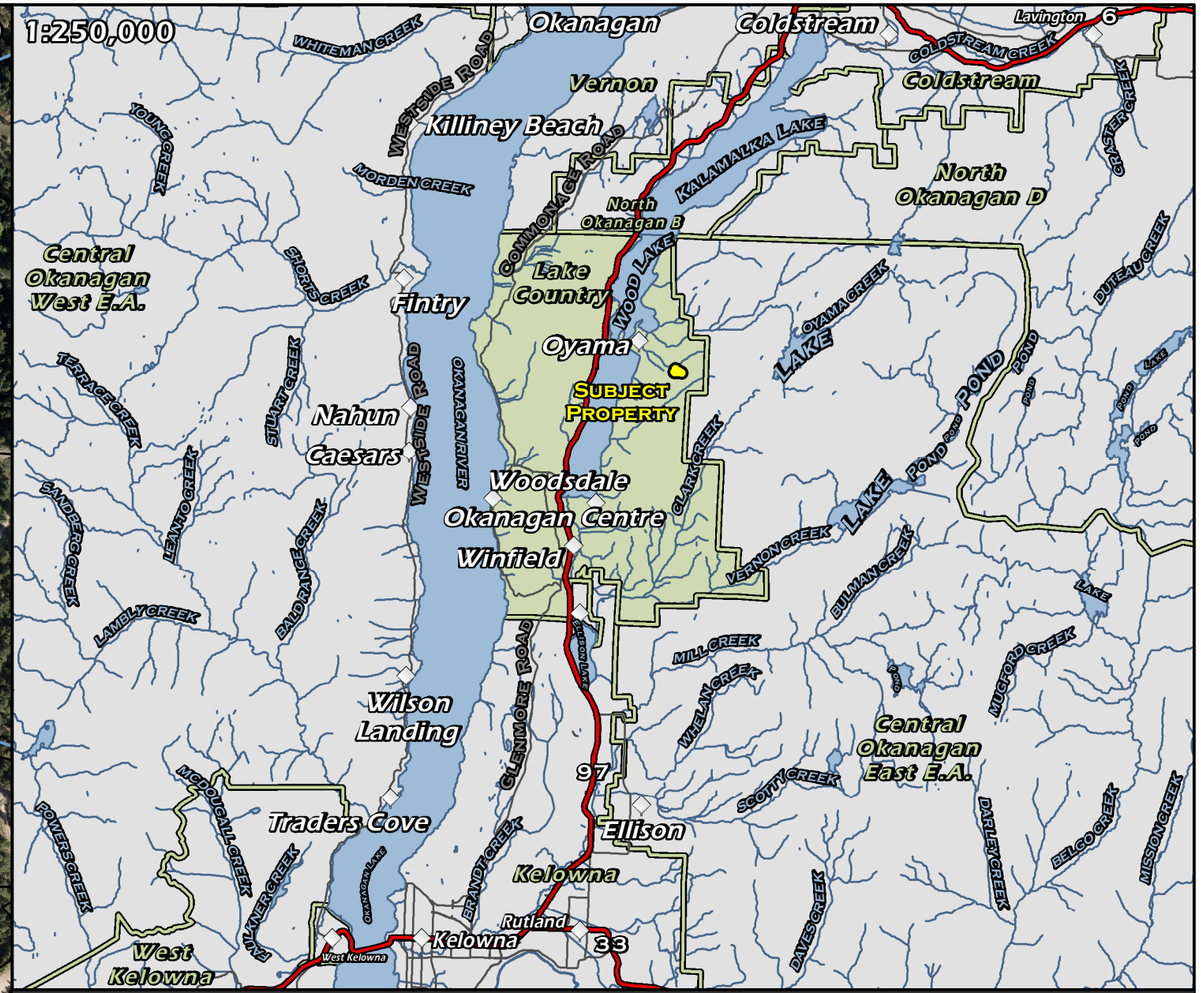


FIGURE 1

Site Location

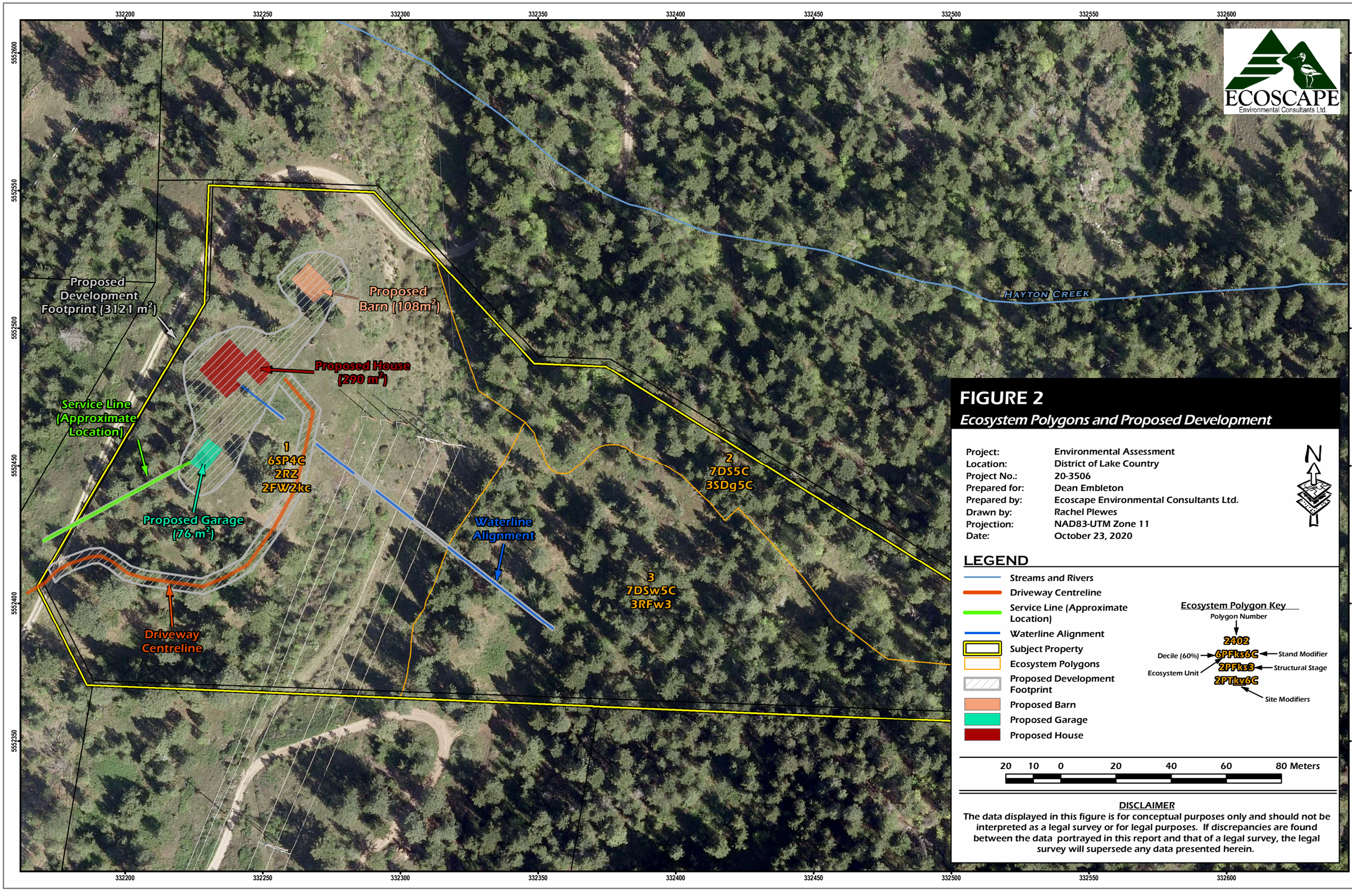
Project:	Environmental Assessment
Location:	District of Lake Country
Project No.:	20-3506
Prepared for:	Dean Embleton
Prepared by:	Ecoscape Environmental Consultants Ltd.
Drawn by:	Rachel Plewes
Projection:	NAD83-UTM Zone 11
Date:	October 27, 2020

N

ECOSCAPE
Environmental Consultants Ltd.

LEGEND

- Places
- Regional Location of Subject Property
- Major Highway
- Major Roads
- Streams and Rivers
- Subject Property
- Cadastre
- Municipal Boundary
- District of Lake Country
- Lake



ECOSCAPE
Environmental Consultants Ltd.

FIGURE 2

Ecosystem Polygons and Proposed Development

Project:	Environmental Assessment
Location:	District of Lake Country
Project No.:	20-3506
Prepared for:	Dean Embleton
Prepared by:	Ecoscape Environmental Consultants Ltd.
Drawn by:	Rachel Plewes
Projection:	NAD83-UTM Zone 11
Date:	October 23, 2020

N

LEGEND

- Streams and Rivers
- Driveway Centreline
- Service Line (Approximate Location)
- Waterline Alignment
- Subject Property
- Ecosystem Polygons
- Proposed Development Footprint
- Proposed Barn
- Proposed Garage
- Proposed House

Ecosystem Polygon Key

Polygon Number: 2402

Ecosystem Unit: 6PFks6C (Decile (60%)) / 2PFks3 / 2PTkv6C

Stand Modifier

Structural Stage

Site Modifiers

20 10 0 20 40 60 80 Meters

DISCLAIMER

The data displayed in this figure is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

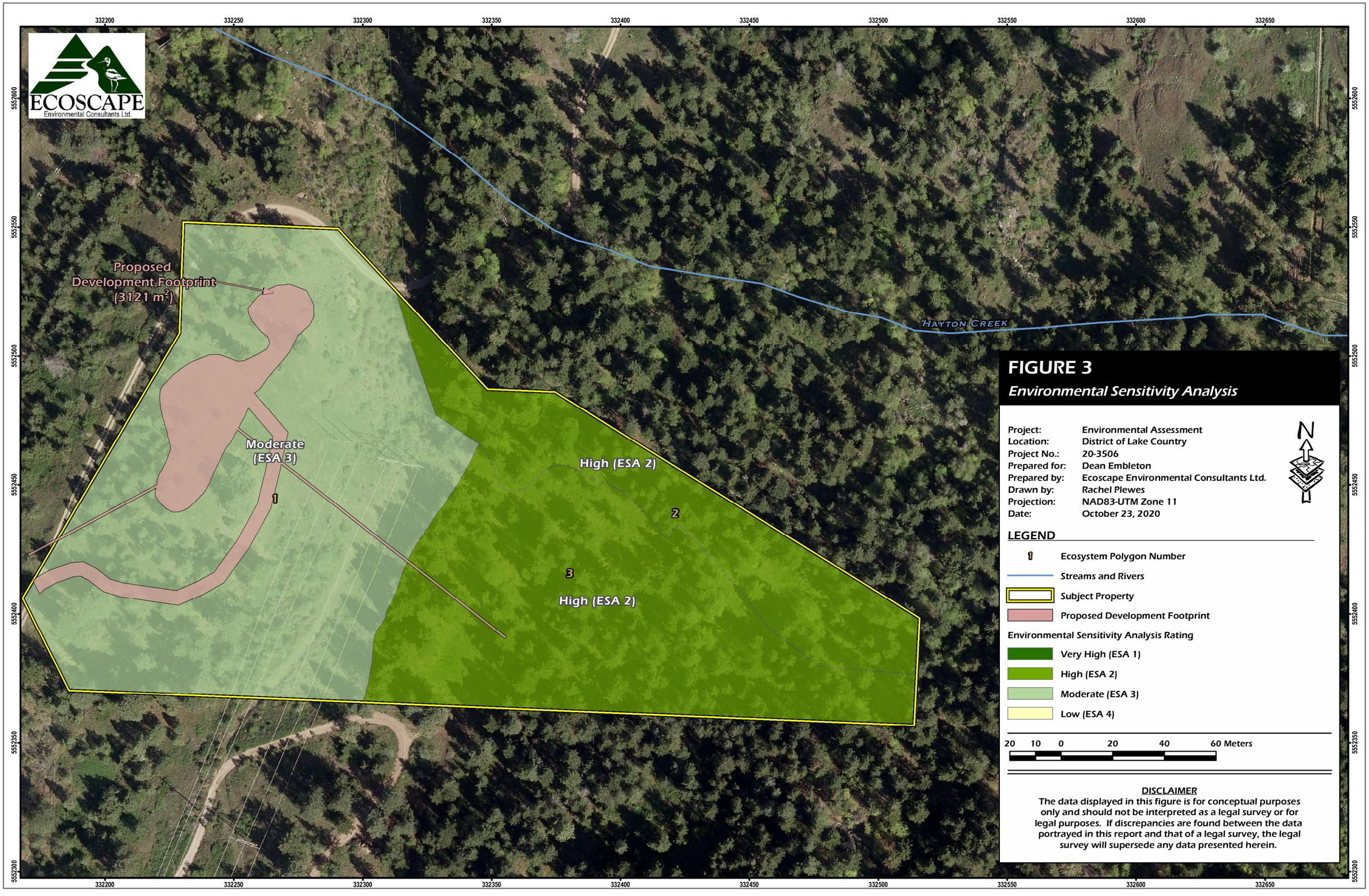


FIGURE 3

Environmental Sensitivity Analysis

Project:	Environmental Assessment
Location:	District of Lake Country
Project No.:	20-3506
Prepared for:	Dean Embleton
Prepared by:	Ecoscape Environmental Consultants Ltd.
Drawn by:	Rachel Plewes
Projection:	NAD83-UTM Zone 11
Date:	October 23, 2020

N

LEGEND

- 1 — Ecosystem Polygon Number
- Streams and Rivers
- Subject Property
- Proposed Development Footprint

Environmental Sensitivity Analysis Rating

- Very High (ESA 1)
- High (ESA 2)
- Moderate (ESA 3)
- Low (ESA 4)

20 10 0 20 40 60 Meters

DISCLAIMER

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ECOSCAPE
Environmental Consultants Ltd.

Restoration Area (262 m^2)

HAYTON CREEK

Development Footprint (3,121 m^2)

Existing Vegetated Area (36,945 m^2)

OYAMA LAKE RD

FIGURE 4

Landscape Plan

Project:	Environmental Assessment
Location:	District of Lake Country
Project No.:	20-3506
Prepared for:	Dean Embleton
Prepared by:	Ecoscape Environmental Consultants Ltd.
Drawn by:	Rachel Plewes
Projection:	NAD83-UTM Zone 11
Date:	October 23, 2020

N

LEGEND

- Streams and Rivers
- Restoration Area
- Existing Vegetated Area
- Approximate Development Footprint
- Subject Property

20 10 0 20 40 60 80 Meters

DISCLAIMER

The data displayed in this figure is for conceptual purposes only and should not be interpreted as a legal survey or for legal purposes. If discrepancies are found between the data portrayed in this report and that of a legal survey, the legal survey will supersede any data presented herein.

332150 332200 332250 332300 332350 332400 332450 332500 332550

5552550 5552500 5552450 5552400 5552350 5552300

APPENDIX A
Proposed Site Plan

BRITISH COLUMBIA LAND SURVEYOR'S SITE PLAN SHOWING PROPOSED GARAGE AND HOUSE LOCATION UPON LOT 1, SEC 6, TP 10, ODYD, PLAN KAP81360.

PID: 026–744–911
CIVIC ADDRESS: 5532 OYAMA LAKE ROAD
CLIENT: BUILT RITE HOMES/EMBLETON

This document was prepared for the exclusive use of the client named herein, for building permit purposes.

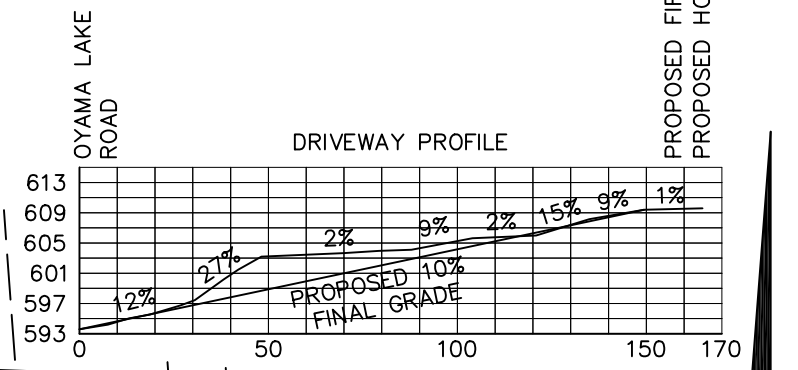
Lot dimensions shown are derived from Land Title Office records.

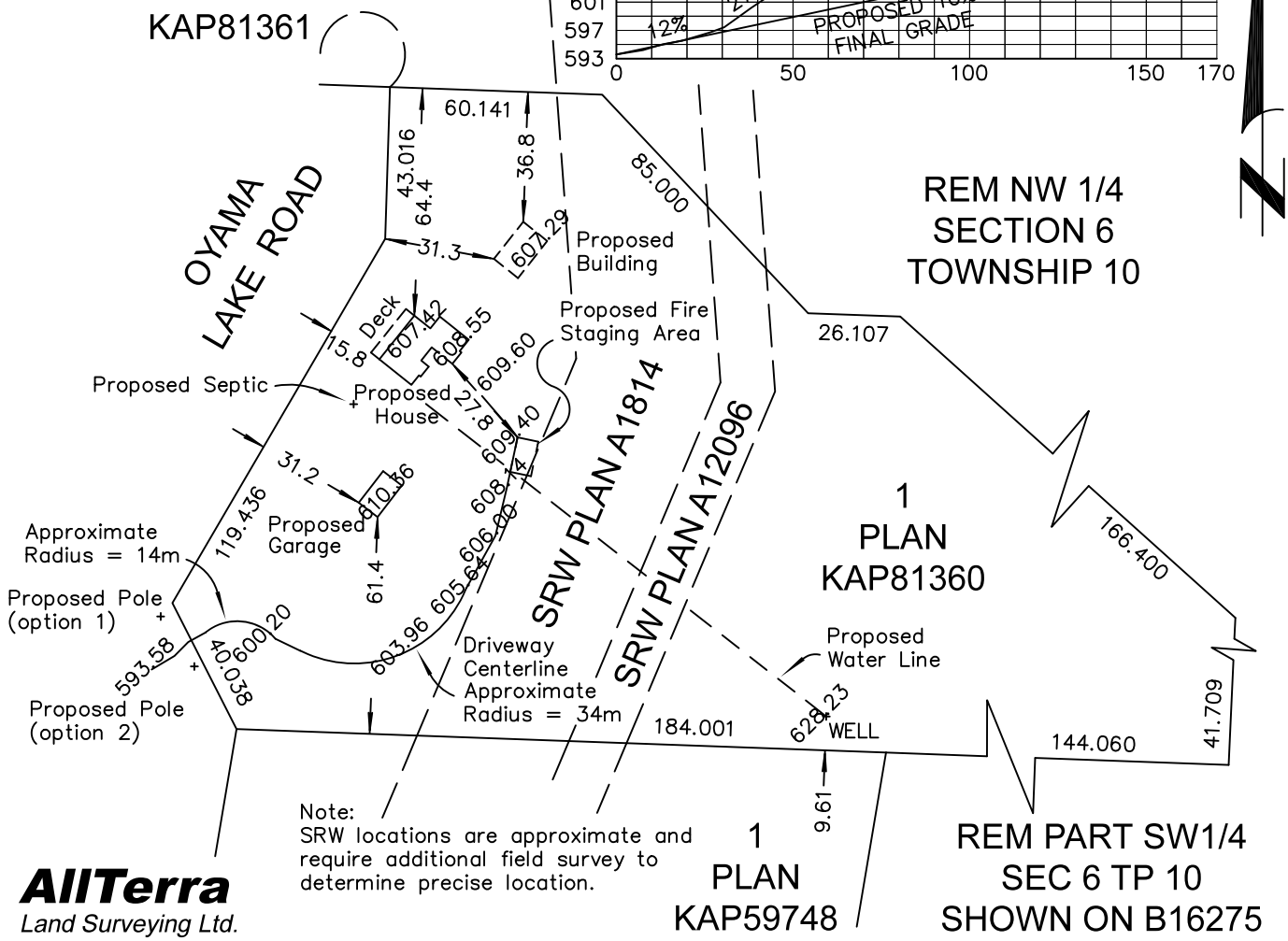
This document shall not be used to define property lines or corners.

Scale 1: 2000 Metric. Distances shown are in metres and decimals thereof.

Notes:
– Unregistered interests have not been included or considered.
– Spot elevations shown are derived from GNSS observations.

Charges on Title:
– Statutory Rights of Way 81533E, K67965, P853, KC37044
– Easement K60538
– Covenants X238353, LA92373, LA92375





AllTerra
Land Surveying Ltd.
www.AllTerraSurvey.ca
Ph: 250.762.0122 File: 316011 July 19, 2021

Schedule F: Geotechnical Report

HORIZON GEOTECHNICAL LTD.

14151 Oyama Road
Lake Country, BC V4V 2B8
Cell: 250-549-0224
Ph./Fax: 250-548-3250
geotech@paragonbc.com

Dean and Tanya Embleton
5532 Oyama Lake Road
Lake Country, BC V4V 2C9

March 16 , 2021

File : 21 - 6545

RE : Geotechnical Inspections - Pole Barn 29 x 44 ft
5532 Oyama Lake Road , Lake Country, BC

Dear Sir or Madam :

As requested, Horizon Geotechnical Ltd. conducted site inspections of the soil conditions in the excavations, for the construction of footing pads for the pole barn to be constructed at the above noted location. The site inspections were recently conducted by the undersigned geotechnical engineer.

The soil conditions at the base of the excavations at depths of 4 to 6 feet consists of native, (sand and gravel ; and silty sand with gravel) in a medium-dense state, and moist condition. In the base of the 3 sandy holes, local on-site dry gravel will be placed and compacted. The granular soil conditions will be compacted with the large-jumping-jack to provide good bearing capacity.

Nine footing pads 30 x 30 inches wide with a grid of 4 - 10mm rebar each way (will be) constructed for the pad foundations.

Schedules B for geotech considerations have been submitted to the District of Lake Country. Due the porous and permeable nature of the granular soils, a perimeter drain at footing level is not required. Roof drains can be directed to the ground surface.

A second report --will be provided prior to pouring the pads.

I trust the foregoing information will be of assistance to you on this project. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,
Horizon Geotechnical Ltd.

Jerry Lay, P.Eng.
Geotechnical Engineer

cc E-Mailed To :
Building Department
District of Lake Country

SCHEDULE B

Forming Part of Subsection 2.2.7., Division C of the British Columbia Building Code

Building Permit Number
(for *authority having jurisdiction's* use)

ASSURANCE OF PROFESSIONAL DESIGN AND COMMITMENT FOR FIELD REVIEW

Notes: (i) This letter must be submitted prior to the commencement of construction activities of the components identified below. A separate letter must be submitted by each *registered professional of record.*
(ii) This letter is endorsed by: Architectural Institute of BC, Association of Professional Engineers and Geoscientists of the Province of BC, Building Officials' Association of BC, and Union of BC Municipalities.
(iii) In this letter the words in italics have the same meaning as in the British Columbia Building Code.

To: The *authority having jurisdiction*

DISTRICT OF LAKE COUNTRY
Name of Jurisdiction (Print)

Re: POLE BARN 29 X 44 FT - (EMBLETON)
Name of Project (Print)

5532 OYAMA LAKE ROAD - LOT 1 , PLAN 81360
Address of Project (Print)

The undersigned hereby gives assurance that the design of the

(Initial those of the items listed below that apply to this *registered professional of record.* All the disciplines will not necessarily be employed on every project.)

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. R. LAY
19917

(Professional's Seal and Signature)

	ARCHITECTURAL
	STRUCTURAL
	MECHANICAL
J.L.	**PLUMBING**
	FIRE SUPPRESSION SYSTEMS
	ELECTRICAL
J.L.	**GEOTECHNICAL — temporary**
J.L.	**GEOTECHNICAL — permanent**

FEB. 10 , 2021
Date

components of the plans and supporting documents prepared by this *registered professional of record* in support of the application for the *building* permit as outlined below substantially comply with the British Columbia Building Code and other applicable enactments respecting safety except for construction safety aspects.

The undersigned hereby undertakes to be responsible for *field reviews* of the above referenced components during construction, as indicated on the "SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS" below.

Name of Signer (Print)

DISTRICT OF LAKE COUNTRY RECEIVED MAR 2 2 2021 PLANNING DIVISION

Schedule B - *Continued*

Building Permit Number
(for *authority having jurisdiction's* use)

5532 OYAMA LAKE ROAD - LOT 1 , PLAN 81360
Project Address

GEOTECHNICAL
Discipline

The undersigned also undertakes to notify the *authority having jurisdiction* in writing as soon as possible if the undersigned's contract for *field review* is terminated at any time during construction.

I certify that I am a *registered professional* as defined in the British Columbia Building Code.

JERRY LAY, P.ENG.
Registered Professional of Record's Name (Print)

14151 OYAMA ROAD
Address (Print)

LAKE COUNTRY, BC V4V 2B8
Address (Print) (continued)

(250) 548 - 3250
Phone Number

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. R. LAY
19917

(Professional's Seal and Signature)

FEB. 10, 2021
Date

(If the *Registered Professional of Record* is a member of a firm, complete the following.)

I am a member of the firm HORIZON GEOTECHNICAL LTD.
and I sign this letter on behalf of the firm. (Print name of firm)

Note: The above letter must be signed by a *registered professional of record,* who is a *registered professional.* The British Columbia Building Code defines a *registered professional* to mean

(a) a person who is registered or licensed to practise as an architect under the Architects Act, or
(b) a person who is registered or licensed to practise as a professional engineer under the Engineers and Geoscientists Act.

DISTRICT OF LAKE COUNTRY
RECEIVED
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Schedule B - *Continued*

Building Permit Number
(for *authority having jurisdiction's* use)

5532 OYAMA LAKE ROAD - LOT 1 , PLAN 81360
Project Address

GEOTECHNICAL
Discipline

SUMMARY OF DESIGN AND FIELD REVIEW REQUIREMENTS

(Initial applicable discipline below and cross out and initial only those items not applicable to the project.)

ARCHITECTURAL

1.1 Fire resisting assemblies
1.2 *Fire separations* and their continuity
1.3 *Closures*, including tightness and operation
1.4 Egress systems, including *access to exit* within *suites* and *floor areas*
1.5 Performance and physical safety features (guardrails, handrails, etc.)
1.6 Structural capacity of architectural components, including anchorage and seismic restraint
1.7 Sound control
1.8 Landscaping, screening and site grading
1.9 Provisions for firefighting access
1.10 *Access* requirements for *persons with disabilities*
1.11 Elevating devices
1.12 Functional testing of architecturally related fire emergency systems and devices
1.13 Development Permit and conditions therein
1.14 Interior signage, including acceptable materials, dimensions and locations
1.15 Review of all applicable shop drawings
1.16 Interior and exterior finishes
1.17 Dampproofing and/or waterproofing of walls and slabs below *grade*
1.18 Roofing and flashings
1.19 Wall cladding systems
1.20 Condensation control and cavity ventilation
1.21 Exterior glazing
1.22 Integration of building envelope components
1.23 Environmental separation requirements (Part 5)
1.24 Building envelope, Part 10 – ASHRAE, NECB or Energy Step Code requirements
1.25 Building envelope, testing, confirmation or both as per Part 10 requirements

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J.R. LAY
19917

(Professional's Seal and Signature)

FEB. 10, 20121
Date

STRUCTURAL

2.1 Structural capacity of structural components of the *building*, including anchorage and seismic restraint
2.2 Structural aspects of *deep foundations*
2.3 Review of all applicable shop drawings
2.4 Structural aspects of unbonded post-tensioned concrete design and construction

MECHANICAL

3.1 HVAC systems and devices, including high *building* requirements where applicable
3.2 *Fire dampers* at required *fire separations*
3.3 Continuity of *fire separations* at HVAC penetrations
3.4 Functional testing of mechanically related fire emergency systems and devices
3.5 Maintenance manuals for mechanical systems
3.6 Structural capacity of mechanical components, including anchorage and seismic restraint
3.7 Review of all applicable shop drawings
3.8 Mechanical systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
3.9 Mechanical systems, testing, confirmation or both as per Part 10 requirements

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MAR 22 2021
PLANNING DIVISION

CRP's Initials

Schedule B - *Continued*

Building Permit Number
(for *authority having jurisdiction's* use)

5532 OYAMA LAKE ROAD - LOT 1 , PLAN 81360
Project Address

GEOTECHNICAL
Discipline

PLUMBING

4.1 Roof *drainage systems*
4.2 Site and foundation *drainage systems*
4.3 *Plumbing systems* and devices
4.4 Continuity of *fire separations* at plumbing penetrations
4.5 Functional testing of plumbing related fire emergency systems and devices
4.6 Maintenance manuals for *plumbing systems*
4.7 Structural capacity of plumbing components, including anchorage and seismic restraint
4.8 Review of all applicable shop drawings
4.9 Plumbing systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
4.10 Plumbing systems, testing, confirmation or both as per Part 10 requirements

FIRE SUPPRESSION SYSTEMS

5.1 Suppression system classification for type of *occupancy*
5.2 Design coverage, including concealed or special areas
5.3 Compatibility and location of electrical supervision, ancillary alarm and control devices
5.4 Evaluation of the capacity of city (municipal) water supply versus system demands and domestic demand, including pumping devices where necessary
5.5 Qualification of welder, quality of welds and material
5.6 Review of all applicable shop drawings
5.7 Acceptance testing for "Contractor's Material and Test Certificate" as per NFPA Standards
5.8 Maintenance program and manual for suppression systems
5.9 Structural capacity of sprinkler components, including anchorage and seismic restraint
5.10 For partial systems — confirm sprinklers are installed in all areas where required
5.11 Fire Department connections and hydrant locations
5.12 Fire hose standpipes
5.13 Freeze protection measures for fire suppression systems
5.14 Functional testing of fire suppression systems and devices

ELECTRICAL

6.1 Electrical systems and devices, including high building requirements where applicable
6.2 Continuity of *fire separations* at electrical penetrations
6.3 Functional testing of electrical related fire emergency systems and devices
6.4 Electrical systems and devices maintenance manuals
6.5 Structural capacity of electrical components, including anchorage and seismic restraint
6.6 Clearances from *buildings* of all electrical utility equipment
6.7 Fire protection of wiring for emergency systems
6.8 Review of all applicable shop drawings
6.9 Electrical systems, Part 10 – ASHRAE, NECB or Energy Step Code requirements
6.10 Electrical systems, testing, confirmation or both as per Part 10 requirements

GEOTECHNICAL — Temporary

7.1 *Excavation*
7.2 Shoring
7.3 Underpinning
7.4 Temporary construction dewatering

GEOTECHNICAL — Permanent

8.1 Bearing capacity of the *soil*
8.2 Geotechnical aspects of deep *foundations*
8.3 Compaction of engineered fill
8.4 Structural considerations of *soil*, including slope stability and seismic loading
8.5 Backfill
8.6 Permanent dewatering
8.7 Permanent underpinning

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PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. R. LAY
19917

(Professional's Seal and Signature)

FEB. 10 , 2021
Date

CRP's Initials

LAKE COUNTRY
Life. The Okanagan Way.

Confirmation of Professional Liability Insurance

District of Lake Country
10150 Bottom Wood Lake Road
Lake Country, BC V4V 2M1
t: 250-766-6675 f: 250-766-0200
Inspection Request Line: 250-766-6676
lakecountry.bc.ca

PROPERTY INFORMATION

Building Permit No: Pole Barn 29 x 44 ft

Owner's Name: Dean & Tanya Embleton

Legal Description: ~~Lot 1 , Plan KAP 81360 , ODYD~~

Civic Address: ~~5532 Oyama Lake Road , Lake Country, BC~~

CONFIRMATION OF INSURANCE

The undersigned registered professional hereby gives assurance that:

a) The undersigned has fulfilled the obligation for insurance coverage as outlined in the District's Building Regulation Bylaw 1070, 2018;

b) The undersigned is insured personally, or by their firm, by a policy of insurance for the duration of the project covering liability to third parties for errors and omissions in respect to the above project, in the amount specified below:

Project Construction Value	Minimum Insurance
not exceeding $500,000 in value	$500,000
between $500,000 and $1 Million in Value	$1,000,000
exceeding $1 Million in Value	$2,000,000
The Maximum deductible in all categories shall be	$50,000

DISTRICT OF LAKE COUNTRY RECEIVED MAR 2 2021 PLANNING DIVISION

c) The undersigned has enclosed a copy of the certificate of insurance coverage indicating the particulars of such coverage;

d) The undersigned is a registered professional; and

e) If the undersigned is insured by their firm, an authorized signatory of the firm has signed this form on behalf of the firm.

The undersigned will notify the building official in writing immediately if the undersigned's insurance coverage is reduced or terminated at any time during construction.

REGISTERED PROFESSIONAL INFORMATION

Name (print)	Signature	Date
Jerry Lay, P.Eng.	Jerry Lay	Feb 10 , 2021

Address (print)	Email	Phone
14151 Oyama Road Lake Country, BC V4V 2B8	geotech@paragonbc.com	250-548-3250

If the registered professional is a member of a firm, complete the following

Name of Firm (print)	Address (print)
Horizon Geotechnical Ltd - 14151 Oyama Road, Lake Country, BC V4V 2B8	
Signature of authorized signatory, if applicable	Name (print)
Jerry Jay	Jerry Lay, P. Eng.

1. This Confirmation letter must be submitted along with each BC Building Code Schedule A and Schedule B before issuance of a building permit. A separate Confirmation Letter must be submitted for each registered professional.
2. This Confirmation Letter must be submitted with each BC Building Code Schedule C after completion of the building but before a final inspection is made by the building official. A separate Confirmation Letter must be submitted for each registered professional.
3. Only an original Confirmation Letter, printed by the District or an unaltered photocopy of this document is to be completed and submitted.
4. This Confirmation letter must be signed by a registered professional. The BC Building Code defines a registered professional as a person who is registered or licensed to practice:
    a. as an architect under the Architects Act, or
    b. as a professional engineer under the Engineers and Geoscientists Act.

CUSTOM INSURANCE SOLUTIONS

CapriCMW Insurance Services Ltd.
415 -2306 Highway 6, Vernon, BC V1T 7E3
T 250 545 9135 TF 1 877 272 2774 F 250 545 4464
capricmw.ca

CERTIFICATE OF INSURANCE

DATE:	June 2, 2020
INSURED:	Horizon Geotechnical Ltd. 14151 Oyama Road, Lake Country, BC V4V 2B8
POLICY TERM:	from: June 10, 2020 to: June 10, 2021 @ 12:01am
COVERAGES:	**$500,000 Professional Liability-per claim** **$1,000,000 Professional Liability-aggregate amount** **$20,000 Deductible**
INSURANCE COMPANY:	Certain Lloyd's Underwriters under contract MKL2020001 as arranged by Totten Insurance Group
POLICY NO.:	260320

COVER IS ON UNDERWRITERS STANDARD TERMS FOR CLASS OF COVER AND CEASES UPON ISSUANCE OF POLICY(IES) OR 60 DAYS AFTER THE EFFECTIVE DATE, WHICHEVER FIRST OCCURS. IMMEDIATE NOTICE MUST BE GIVEN IF ANY CHANGES ARE REQUIRED.
E. & O.E.

CAPRI INSURANCE SERVICES LTD.

per:
Gordon Baughen
Insurance Broker

THIS DOCUMENT CONTAINS A CLAUSE THAT MAY LIMIT THE AMOUNT PAYABLE
STANDARD MORTGAGE CLAUSE INCLUDED

/bp

Attachment B: Development Permit Area Checklists

LAKE COUNTRY
Life. The Okanagan Way.

DISTRICT OF LAKE COUNTRY

DEVELOPMENT PERMIT AREA GUIDELINES CHECKLISTS

RECEIVED
By Tamera Cameron at 1:51 pm, Jul 02, 2021

DEVELOPMENT PERMIT AREA (IN ALPHABETICAL ORDER)**:**

Applicants are encouraged to insert relevant comments in each section to describe the proposed development.

GREENHOUSE GAS REDUCTION AND RESOURCE CONSERVATION

Consideration has been given to the following issues as identified in Section 21.13 of the Official Community Plan relating to the Greenhouse Gas Reduction and Resource Conservation Development Permit Areas:

Has site density been maximized for subdivisions?	Yes	☐	No	☐	N/A	x
Has the building footprint been minimized in order to allow for maximum green space?	Yes	x	No	☐	N/A	☐
Have lots been oriented to maximize solar orientation of building envelopes? Have buildings been oriented to maximize solar gain?	Yes	x	No	☐	N/A	
Is the subdivision laid out to minimize the length and amount of infrastructure (such as sewer & water lines and roads)?	Yes	☐	No	☐	N/A	x
Does the layout allow for alternative transportation options and transit?	Yes	☐	No	☐	N/A	x
Is the subdivision laid out to maximize site connectivity to nearby amenities and services?	Yes	☐	No	☐	N/A	x
Do the materials and colors used in building construction minimize heat absorption? Is the roof not a dark color?	Yes	x	No	☐	N/A	☐
Are large windows sheltered by overhangs which maximize solar input during winter months?	Yes	x	No	☐	N/A	
Do proposed buildings incorporate green roofs, living walls or other measures to reduce heat gains caused by hard surfaces?	Yes	☐	No	x	N/A	
Are alternative energy sources being proposed in large scale structures?	Yes	☐	No	☐	N/A	x
Do buildings have a south oriented roof to allow for future use of solar panels?	Yes	☐	No	☐	N/A	x
Are there opportunities for natural ventilation and airflow incorporated into the building?	Yes	x	No	☐	N/A	
Do building materials encourage thermal massing and seasonal thermal energy storage?	Yes	x	No	☐	N/A	x
Are building envelopes well sealed and energy efficient?	Yes	x	No	☐	N/A	
Is vegetation low maintenance and require minimal irrigation?	Yes	x	No	☐	N/A	
Is the enhanced landscaping located along the south and west facing parcel boundaries to create shade?	Yes	x	No	☐	N/A	
Is rainwater recycling included in landscape designs?	Yes	☐	No	x	N/A	
Have porous material been maximized throughout the landscaping?	Yes	x	No	☐	N/A	
Do water features use recirculation systems as opposed to once through systems?	Yes	☐	No	☐	N/A	x
Are opportunities for local food production and public food gardens incorporated into larger developments and subdivisions?	Yes	☐	No	☐	N/A	x

HILLSIDE

Consideration has been given to the following issues as identified in Section 21.10 of the Official Community Plan relating to Hillside Development Permit Areas:

Views and Ridgeline Guidelines						
Does the proposal avoid developing on or alteration of ridgelines?	Yes	x	No	☐	N/A	
Are the structures setback a minimum of 10m from ridgelines?	Yes	x	No	☐	N/A	
Is the structure designed so as not to impede the views from upland properties?	Yes	x	No	☐	N/A	
Are lots staggered in order to create offset building envelopes to protect views?	Yes	☐	No	☐	N/A	x
Does the natural character of the hillside remain, i.e. is the residences and structures not the dominant feature?	Yes	x	No	☐	N/A	☐
Site Guidelines						
Has the natural topography been incorporated into the project to minimize site disturbance and blasting?	Yes	☐	No	☐	N/A	x
Do the proposed contours and gradients resemble natural occurring terrain?	Yes	x	No	☐	N/A	
Does the proposal avoid major cut and fills intended to create a buildable lot or flat yards?	Yes	x	No	☐	N/A	
Do the driveway grades follow the natural terrain?	Yes	x	No	☐	N/A	
Are manufactured slopes placed behind buildings and are natural slopes mimicked?	Yes	x	No	☐	N/A	
Have rock cuts been used instead of retaining walls where necessary (i.e. for roads)? Has consideration been given for visual impact of the exposed rock faces?	Yes	☐	No	☐	N/A	x
Is lot grading provided on a consistent, comprehensive basis throughout the whole of the development?	Yes	x	No	☐	N/A	
Have the manufactured slopes been re-vegetated to reflect natural conditions?	Yes	x	No	☐	N/A	
Site Guidelines - Retaining Walls						
Are retaining walls minimized in order to decrease site disturbance?	Yes	x	No	☐	N/A	
Are the retaining walls designed to fit with the landscape and reduce the visual impact of the wall?	Yes	x	No	☐	N/A	
• Do the materials evoke a sense of permanence and reflect natural qualities in appearance through the use of context-sensitive materials (i.e. stone, masonry, brick, etc.), colours and textures?	Yes	x	No	☐	N/A	
• Have large concrete lock blocks been masked or screened (i.e. through use of landscaping)?	Yes	☐	No	☐	N/A	x
• Are they curvilinear and follow the natural contours of the land?	Yes	☐	No	☐	N/A	x
• Have they been terraced to break up apparent mass and to provide planting space for landscaping features?	Yes	☐	No	☐	N/A	x
• Have systems of smaller terraced walls been used instead of a single large wall?	Yes	☐	No	☐	N/A	x
• Has landscaping been provided to screen or supplement all retaining features?	Yes	☐	No	☐	N/A	x

Are retaining wall 1.5 metres or less in height or are retaining walls terraced?	Yes	☐	No	☐	N/A	x
Site Guidelines - Lot Configuration and Clustering						
Are subdivisions being clustered on a portion of the site in order to protect open space in steeper areas and the natural environment?	Yes	☐	No	☐	N/A	x
Are higher-density developments (e.g. small lot single detached residential, townhouses) being proposed in areas with less steep slopes that are most easily developable?	Yes	☐	No	☐	N/A	x
Is the majority of the development in areas with natural slopes of less than 30%? and preserve open space in areas with natural slopes of 30% or more.	Yes	x	No	☐	N/A	
Has the open space in areas with natural slopes of 30% or more been preserved?	Yes	x	No	☐	N/A	
Site Guidelines - Roads						
Have roads been aligned to follow natural site contours, conforming to topographic conditions rather than cutting across contours and reducing the impact on hillsides?	Yes	x	No	☐	N/A	
Has road connectivity been utilized in the road network over long cul-de-sacs and "dead-end" situations where topographic conditions permit? • Allow cul-de-sac length to be increased where connectivity in the road network is not possible due to topographic conditions, provided appropriate emergency access is constructed.	Yes	☐	No	☐	N/A	x
Have alternative approaches to turnarounds (e.g. hammerhead configurations) been utilized?	Yes	☐	No	☐	N/A	x
Have split roads and/or one-way roads been utilized to preserve significant natural features, to reduce the amount of slope disturbance or to improve accessibility to individual parcels?	Yes	☐	No	☐	N/A	x
Have reduced pavement widths and right-of-way widths been utilized where service levels (such as snow plowing) can be maintained, emergency vehicle access can be maintained, the reduced widths provide demonstrably less slope disturbance and the reduced widths contribute to the overall neighbourhood character?	Yes	☐	No	☐	N/A	x
Has reduced roadway cross sections in width been considered if parking is to be located on private lots or if special pull-out parking areas are established in strategic positions?	Yes	☐	No	☐	N/A	x
Have meandering sidewalks adjacent to the road been provided as a means of eliminating long, sustained grades, preserving natural features, or reducing grading requirements within the right-of-way? Varied offsets between the road and sidewalk will be considered for these purposes.	Yes	☐	No	☐	N/A	x
Landscaping Guidelines - Preserving Vegetation						
Has existing vegetation been retained?	Yes		N x	☐	N/A	
Have building envelopes been sited outside areas of established vegetation?	Yes	☐	No x	☐	N/A	
Landscaping Guidelines - Restoration of Vegetation						
Have native plant materials been used to the greatest extent possible?	Yes	x	No	☐	N/A	
Have dry slopes been replanted with drought and fire-resistant species?	Yes	x	No	☐	N/A	x

Have trees, shrubs and grasses been planted in masses and patterns characteristic of a natural setting and with the intent of encouraging biodiversity?	Yes	x	No		N/A	
Does the landscaping pay particular attention to areas adjacent to street frontages and areas adjacent to retaining features?	Yes	☐	No	☐	N/A	x
Have trees and vegetation been replaced in a manner that replicates the characteristics and performance of the natural setting, including the provision of a sufficient density of trees, sufficient ground cover and intensity of vegetation?	Yes	x	No	☐	N/A	
Have trees been planted in organic clusters rather than in lines or formal arrangements?	Yes	x	No	☐	N/A	
Do manufactured slopes blend in with existing slope conditions?	Yes	x	No	☐	N/A	
Have water-conserving principles and practices in the choice of plant material (xeriscaping) and in the irrigation design and watering been followed? (i.e. temporary drip irrigation systems, hand watering, and/or automatic shut-off valves).	Yes	x	No	☐	N/A	
Has landscaping been used to minimize the impact to viewscapes by screening building, landscape cuts and retaining walls?	Yes	x	No	☐	N/A	
Building and Structure Guidelines						
Are buildings located to minimize site grading?	Yes	x	No	☐	N/A	☐
Has the building foundation been stepped back to reduce site grading and retaining requirements? (i.e. buildings should be set into the hillside and integrated with the natural slope conditions).	Yes	x	No	☐	N/A	
Have stories been stepped back above second levels to avoid single vertical planes?	Yes	x	No	☐	N/A	
Have varying rooflines been provided?	Yes	x	No	☐	N/A	
Have buildings been articulated to reduce mass and vary rooflines?	Yes	x	No	☐	N/A	
Have unbroken expanses of wall been avoided?	Yes	x	No	☐	N/A	
Have buildings been designed in smaller components that appear to fit with the natural topography of the site?	Yes	x	No	☐	N/A	
Have roof pitches been designed to reflect the slope of the natural terrain? (i.e. angling roof pitches at slopes that are similar to those of the natural terrain).	Yes	x	No	☐	N/A	☐
Have natural color tones for housing, fences, retaining walls and outbuildings been used to help the development blend in to the setting?	Yes	x	No	☐	N/A	
Have natural building and retaining wall materials been used wherever possible?	Yes	x	No	☐	N/A	
Have buildings been articulated to reduce mass and vary rooflines?	Yes	x	No	☐	N/A	
Have retaining walls within the front yard been discouraged?	Yes	x	No	☐	N/A	
Building and Structure Guidelines- Siting and Orientation						
Have buildings been oriented so they run parallel with the natural site contours to reduce the need for site grading works and to avoid high wall façades on the downhill elevation.	Yes	x	No	☐	N/A	
Have buildings been sited to minimize interference with the views from nearby (uphill) buildings.	Yes	x	No	☐	N/A	x
Building and Structure Guidelines- Setbacks						
Have building setbacks been adjusted to allow greater flexibility locating a building and reduce the visual massing effect?	Yes	x	No	☐	N/A	

Do the setbacks enable off-street parking and utilize the road right-of-way behind the curb or sidewalk to accommodate parking?	Yes	☐	No	☐	N/A	x
Have side-facing or setback garages been utilized as a means to reduce excessive cut/fill, help to avoid hazardous slopes or sensitive areas and enhance the neighbourhood?	Yes	☐	No	☐	N/A	x

NATURAL ENVIRONMENT

Consideration has been given to the following issues as identified in Section 21.9 of the Official Community Plan relating to Natural Environment Development Permit Areas:

Site Guidelines						
Does the timing of the development avoid windows of critical fish and wildlife activities?	Yes	x	No	☐	N/A	
Have environmentally significant natural areas and features been identified and avoided?	Yes	x	No	☐	N/A	☐
Do subdivision plans preserve and protect environmental features?	Yes	☐	No	☐	N/A	x
Have environmentally sensitive features been identified and preserved?	Yes	x	No	☐	N/A	☐
Are environmentally sensitive areas identified and protected?	Yes	x	No	☐	N/A	☐
Has development been limited to those areas of the property which will minimize impacts on environmental features?	Yes	x	No	☐	N/A	☐
Will remaining natural areas and/or sensitive features be temporarily fenced or otherwise protected before commencing development?	Yes	☐	No	☐	N/A	x
Does subdivision design ensure that natural corridors are preserved?	Yes	☐	No	☐	N/A	x
Has indigenous vegetation within buffer strips been retained or restored if damaged?	Yes	☐	No	☐	N/A	x
Has access to the buffer strip been restricted?	Yes	☐	No	☐	N/A	x
Are permeable paving materials utilized to protect groundwater supply and minimize erosion from surface runoff?	Yes	x	No	☐	N/A	
Site Guidelines- Habitat Restoration						
Does the development proposal minimize the loss of features or functions relating to environmentally significant natural areas and features?	Yes	x	No	☐	N/A	
Does site development mitigate any impacts and propose to restore damaged areas/features to their former state?	Yes	☐	No	☐	N/A	x
Have all measures to avoid or mitigate impacts been exhausted prior to proposing restoration measures? When restoration is proposed is the following being considered: Is the proposed replacement area of the same type and value; Is there risk associated with compensation measures; Is the time lag before achieving functional habitat, feature or area of significance?	Yes	☐	No	☐	N/A	x
Has like-for-like restoration been proposed rather than replacement with a different feature or species?	Yes	x	No	☐	N/A	☐
Buildings and Structure Guidelines						
Are buildings and structures designed to minimize the developed footprint during and after construction?	Yes	x	No	☐	N/A	
Does the building and structure design incorporate existing terrain as much as possible in order to minimize impacts to the natural environment?	Yes	x	No	☐	N/A	
Landscaping Guidelines						
Do the buffer strips remain undeveloped? Does landscaping in those areas consist only of restoration which uses indigenous vegetation?	Yes	☐	No	☐	N/A	x
If the buffer strip is disturbed does the revegetation plan consist only of indigenous species and are the replacement ratios adhered to?	Yes	☐	No	☐	N/A	x
Does the landscaping plan include drought resistant and indigenous vegetation throughout all areas of the property?	Yes	x	No	☐	N/A	☐

Are invasive weeds eradicated within buffer strips and controlled throughout all areas of the property?	Yes	x	No	☐	N/A	
Do trails, landscaping or formal gardens avoid any buffer strips?	Yes	☐	No	☐	N/A	x
Have existing trees been retained and will the root system and drip lines be protected?	Yes	x	No	☐	N/A	☐
Will re-vegetation of exposed soils occur after land alteration in order to prevent erosion and noxious weed infestation?	Yes	x	No	☐	N/A	☐
Does any in-stream works (requiring bank or shore stabilization) utilize natural materials and avoid channelize the watercourse or impacting wildlife movement?	Yes	☐	No	☐	N/A	x
Riparian Area Guidelines						
Has an assessment report prepared by a Qualified Environmental Professional been received for any subdivision or development identified as Riparian Areas on Map 15?	Yes	☐	No	☐	N/A	x
• Does the report certify that the Qualified Environmental Professional is qualified to carry out the assessment?	Yes	☐	No	☐	N/A	x
• Does the report certify that the assessment methods have been followed?	Yes	☐	No	☐	N/A	x
• Does the report provide the professional opinion of the Qualified Environmental Professional that: i. if the development is implemented as proposed there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the riparian assessment area; or ii. if the width of the streamside protection and enhancement area identified in the report is protected from the development, and the measures identified in the report as necessary to protect the integrity of those areas from the effects of the development are implemented by the developer, there will be no harmful alteration, disruption or destruction of natural features, functions and conditions that support fish life processes in the Riparian Assessment Area.	Yes	☐	No	☐	N/A	x
Does the proposed development refer to the Sensitive Habitat Inventory Mapping and ensure development is sensitive to the features identified in this mapping?	Yes	x	No	☐	N/A	
Ecological Connectivity Corridor Guidelines						
Is the parcel in or adjacent to any Ecological Connectivity Corridors? • Is so, has a site-specific examination been completed for any potential impacts to wildlife?	Yes	x	No	☐	N/A	
Is the area located within the Ecological Connectivity Corridor as free as possible of buildings and structures, in order to ensure the free movement of wildlife?	Yes	x	No	☐	N/A	
If buildings or structures are absolutely unavoidable, have they been located as far as possible from the centre of the corridor while also considering and avoiding other priority sensitive areas on the parcel?	Yes	x	No	☐	N/A	
Has screening vegetation near buildings and at-grade wildlife crossings (indicated by signs and speed control) or wildlife crossing structures been provided where new roads bisect the Ecological Connectivity Corridor?	Yes	☐	No	☐	N/A	x
Does the length of the Ecological Connectivity Corridor remain connected? In rare exceptions, the width of un-fragmented (contiguous) natural vegetation in the corridor area and buffer could be reduced to a bare-	Yes	☐	No	☐	N/A	x

minimum width of 50m to 100m for a short distance (e.g. 100m maximum distance along the corridor in a 5km stretch).						
Do riparian areas remain connected to the Ecological Connectivity Corridor?	Yes	☐	No	☐	N/A	x
Have buildings and structures including fences that can act as obstructions or deterrents to the free movement of wildlife been minimized?	Yes	☐	No	☐	N/A	x
Have subdivisions within the Ecological Connectivity Corridor considered the movement of wildlife in the orientation of the parcels and the positioning of any future buildings and structures including fences, vineyard trellises and other structures that may impede the movement of wildlife?	Yes	☐	No	☐	N/A	x
Has any area developed within the corridor been offset by an equal contiguous area of similar or better habitat for local wildlife species to provide for wildlife movement, protected by restrictive covenant, adjacent to or near the corridor?	Yes	☐	No	☐	N/A	x
Does new fencing not pose any hazards to wildlife or impede access to wildlife habitat areas?	Yes	☐	No	☐	N/A	x
Has existing fencing that may be hazardous to wildlife (e.g. broken wires and rails) been updated or eliminated?	Yes	☐	No	☐	N/A	x

STABILITY, EROSION AND DRAINAGE HAZARD

Consideration has been given to the following issues as identified in Section 21.11 of the Official Community Plan relating to Stability, Erosion and Drainage Hazard Development Permit Areas:

General Guidelines - Stability, Erosion and Drainage						
Will all drainage be contained on site?	Yes	x	No	☐	N/A	☐
Will drainage originating from outside the property be able to pass through the property without blocking drainage channels?	Yes	x	No	☐	N/A	
Has a storm sewer system on the street been provided subject to geotechnical input?	Yes	☐	No	☐	N/A	x
Has as much existing natural vegetation been retained as possible?	Yes	x	No	☐	N/A	☐
Site Guidelines - Stability						
Have natural features such as landforms, rock outcroppings, mature trees and vegetation, drainage courses, hilltops and ridgelines been protected in the proposed site layout?	Yes	x	No	☐	N/A	☐
Has subsoil exposure been minimized?	Yes	x	No	☐	N/A	☐
Has the use of fill been minimized during site preparation?	Yes	x	No	☐	N/A	☐
Has existing terrain been incorporated into the project to minimize site alteration?	Yes	x	No	☐	N/A	
Landscaping Guidelines - Stability						
Has landscaping incorporated drought-resistant native plant species or xeriscaping to prevent future land slippage or other stability risks?	Yes	x	No	☐	N/A	
Has retaining wall usage been discouraged/minimized unless walls are necessary to preserve undisturbed areas of the site, address unstable slopes or continue existing wall features?	Yes	x	No	☐	N/A	
Will exposed soils be stabilized through revegetation (i.e. re-seeding, planting, mulching, sodding, or other ground cover)?	Yes	x	No	☐	N/A	☐
Guidelines - Erosion						
Has the project been phased to ensure that only areas actively being worked on are uncovered?	Yes	x	No	☐	N/A	
Will soil stock piles be appropriately located (i.e. away from significant landforms and/or adjacent properties)?	Yes	x	No	☐	N/A	
Will soil stock piles be covered when not in use?	Yes	☐	No x	☐	N/A	
Will cleared areas be stabilized (i.e. re-seeding, planting, mulching, sodding, or other ground cover)?	Yes	x	No	☐	N/A	
Does the proposed development adhere to the Best Management Practices for Erosion and Sediment Control?	Yes	x	No	☐	N/A	☐
Will construction vehicle access be limited to one route?	Yes	x	No	☐	N/A	
Guidelines – Drainage Corridors						
Will natural watercourses be preserved and managed as open streams?	Yes	☐	No	☐	N/A	x
Have unnatural obstructions and impediments to the flow of a watercourse, ditch or drainage course been avoided?	Yes	☐	No	☐	N/A	x
If obstructions or impediments are proposed has an engineered solution been considered based on the results of geotechnical studies?	Yes	☐	No	☐	N/A	x
Has new development incorporated rainwater best management practices to ensure post-development peak flows do not exceed pre-development peak flows?	Yes	☐	No	☐	N/A	x

Will runoff been directed to suitable locations (e.g. swales)	Yes x		No	☐	N/A	
Will wetlands and detention ponds be constructed to improve the quality of rainwater and runoff?	Yes	☐	No	☐	N/A	x