NOTICE OF LAND USE DECISION

Coos County Planning
225 N. Adams St.
Coquille, OR 97423
http://www.co.coos.or.us/
Phone: 541-396-7770
Fax: 541-396-1022

This decision notice is required to be sent to the property owner(s), applicant(s), adjacent property owners (distance of notice is determined by zone area – Urban 100 feet, Rural 250 feet, and Resource 750 feet), special taxing districts, agencies with interest, or person that has requested notice. The development is contained within the identified property owners land. Notice is required to be provided pursuant to ORS 215.416. Please read all information carefully as this decision. (See attached vicinity map for the location of the subject property).

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER: ORS CHAPTER 215 (ORS 215.513) REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST PROMPTLY BE FORWARDED TO THE PURCHASER.

Date of Notice:	**Friday, May 29, 2020**
File No(s):	ACU-20-002 and ACU-20-003
Proposal:	Request for a land use authorization for development in a mapped geological hazards area.
Applicant(s):	Zyta Construction c/o Sherri McGrath
Owner(s):	Jeffery A. Urbach
Staff Planner:	Jill Rolfe, Planning Director

Decision: **Approved with Conditions.** All decisions are based on the record. This decision is final and effective at close of the appeal period unless a complete application with the fee is submitted by the Planning Department at 12 p.m. on **Monday, June 15, 2020** . Appeals are based on the applicable land use criteria. Geological Hazards reviews are subject to Coos County Zoning and Land Development Ordinance (CCZLDO) Sections 4.11.150 *Geological Hazards Special Development Review Standards*, and 4.11.155 *Geological Assessment Review*. **Civil matters including property disputes outside of the criteria listed in this notice will not be considered. For more information please contact the staff planner listed in this notice.**

Property Information

Account Numbers	7455200
Map Numbers	23S1335BB-01100
Property Owners	URBACH, JEFFREY A 35 BRIDGE ST FAIRVIEW, OR 97024-2671
Situs Addresses	74951 CRANNOG RD NORTH BEND, OR 97459
Acreages	0.91 Acres
Zonings	RURAL RESIDENTIAL-2 (RR-2)
Special Development Considerations and Overlays	BEACHES/DUNES - LIMITED (BDL) COASTAL SHORELAND BOUNDARY (CSB) NATURAL HAZARD - EARTHQUAKE - LIQUEFACTION (NHEQL)

This notice shall be posted from May 29, 2020 to June 15, 2020

The purpose of this notice is to inform you about the proposal and decision, where you may receive more information, and the requirements if you wish to appeal the decision by the Director to the Coos County Hearings Body. Any person who is adversely affected or aggrieved or who is entitled to written notice may appeal the decision by filing a written appeal in the manner and within the time period as provided below pursuant to Coos County Zoning and Land Development Ordinance (CCZLDO) Article 5.8. If you are mailing any documents to the Coos County Planning Department the address is 250 N. Baxter, Coquille OR 97423. Mailing of this notice to you precludes an appeal directly to the Land Use Board of Appeals.

Mailed notices to owners of real property required by ORS 215 shall be deemed given to those owners named in an affidavit of mailing executed by the person designated by the governing body of a county to mail the notices. The failure of the governing body of a county to cause a notice to be mailed to an owner of a lot or parcel of property created or that has changed ownership since the last complete tax assessment roll was prepared shall not invalidate an ordinance.

Staff tries to post all applications on the website at the following link:http://www.co.coos.or.us/Departments/Planning/PlanningDepartment-Applications2020.aspx.

The application and all documents and evidence contained in the record, including the staff report and the applicable criteria, are available for inspection, at no cost, in the Planning Department located at 225 North Adams Street, Coquille, Oregon. Copies may be purchased at a cost of 50 cents per page. The decision is based on the application submittal and information on record. The name of the Coos County Planning Department representative to contact is Crystal Orr, Planner I and the telephone number where more information can be obtained is **(541) 396-7770**.

Failure of an issue to be raised in a hearing, in person or in writing, or failure to provide statements of evidence sufficient to afford the Approval Authority an opportunity to respond to the issue precludes raising the issue in an appeal to the Land Use Board of Appeals.

Reviewed by: Jill Rolfe **Date:** **Friday, May 29, 2020** .
Jill Rolfe, Planning Director

This decision is authorized by the Coos County Planning Director, Jill Rolfe based on the staff's analysis of the Findings of Fact, Conclusions, Conditions of approval, Application and all evidence associated as listed in the exhibits.

EXHIBITS
Exhibit A: Conditions of Approval
Exhibit B: Vicinity Map

The Exhibits below are mailed to the Applicant. Emailed copies of the exhibits are provide to the Board of Commissioners, Planning Commission and Department of Land Conservation and Development. Copies are available upon request or at the following by contacting the Planning Department or by visiting the website: http://www.co.coos.or.us/Departments/Planning/PlanningDepartment-Applications2020.aspx ; however if not found on the webpage please contact staff for further instructions on viewing the official record in this matter as the website is not the official record. If you have any questions please contact staff at (541) 396-7770.

Exhibit C: Staff Report -**Findings of Fact and Conclusions**
Exhibit D: Application and Geotechnical Reports

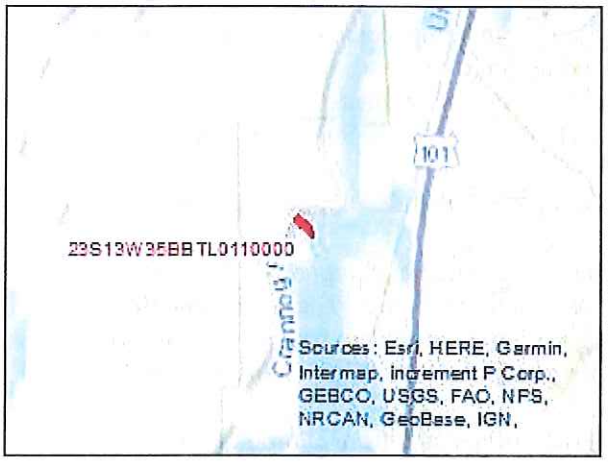
EXHIBIT "A"
CONDITIONS OF APPROVAL

The applicant shall comply with the following conditions of approval with the understanding that all costs associated with complying with the conditions are the responsibility of the applicants and that the applicants are not acting as an agent of the county. If the applicant fails to comply or maintain compliance with the conditions of approval the permit may be revoked as allowed by the Coos County Zoning and Land Development Ordinance. Please read the following conditions of approval and if you have any questions contact planning staff.

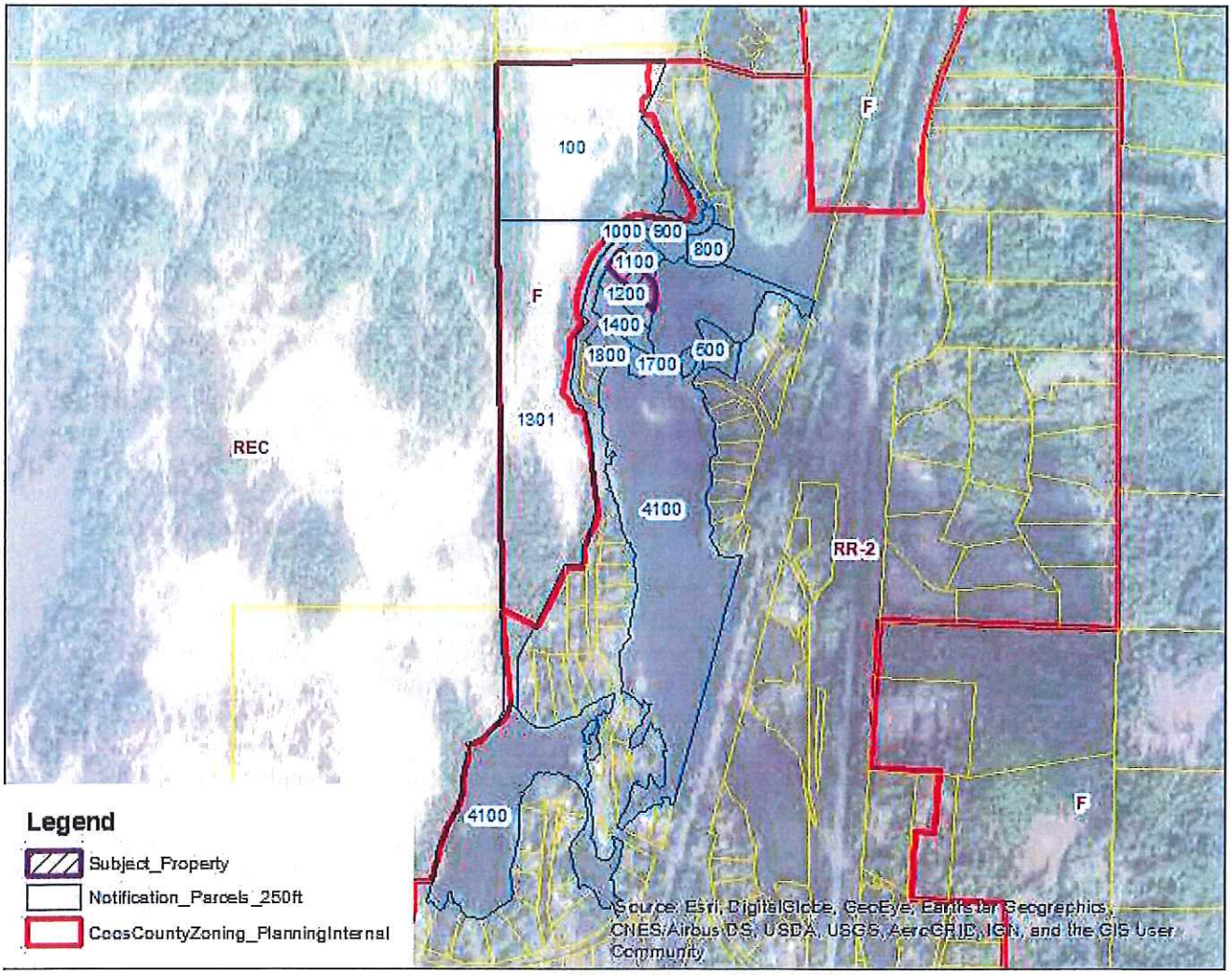
1. The applicant shall comply with all of the recommendation from both Geotechnical and Engineering reports to ensure that the project will not impact surrounding properties and the lake.
2. Hazard Disclosure Statement: All applications for new development or substantial improvements subject to Geologic Assessment Review shall provide a Hazard Disclosure Statement signed by the property owner that acknowledges:
    a. The property is subject to potential natural hazards and that development thereon is subject to risk of damage from such hazards;
    b. The property owner has commissioned an engineering geologic report for the subject property, a copy of which is on file with Coos County Planning Department, and that the property owner has reviewed the engineering geologic report and has thus been informed and is aware of the type and extent of hazards present and the risks associated with development on the subject property;
    c. The property owner accepts and assumes all risks of damage from natural hazards associated with the development of the subject property.
3. A driveway sign off shall be received prior to obtaining a conditional zoning compliance letter.
4. Because on-site structural mitigation measures are required as a condition of approval, the applicant shall, prior to the issuance of a zoning compliance letter, record on the title to the subject property a notification that includes a description of the measures or improvements and that also specifies the obligation of the property owners to refrain from interfering with such measures or improvements and to maintain them.
5. Certification of compliance: Permitted development shall comply with the recommendations in the required engineering geologic report. Certification of compliance shall be provided to the director by the applicant as follows:
    a. Plan Review Compliance: Building, construction or other development plans shall be accompanied by a written statement from a certified engineering geologist stating that the plans comply with the recommendations contained in the engineering geologic report for the approved Geological Assessment Review.
    b. Inspection Compliance: Upon the completion of any development activity for which the engineering geologic report recommends an inspection or observation by a certified engineering geologist, the applicant shall provide to the director a written statement from the certified engineering geologist indicating that the development activity has been completed in accordance with the applicable engineering geologic report recommendations.
    c. Final Compliance: Upon completion of development requiring an engineering geologic report, the applicant shall submit to the director:
        i. A written statement by a certified engineering geologist indicating that all performance, mitigation, and monitoring measures specified in the report have been satisfied; and,
        ii. If mitigation measures incorporate engineering solutions designed by a licensed professional engineer, a written statement of compliance by the design engineer.
        iii. This shall be completed prior to the final building inspections or occupancy permit. Once this is received a final compliance letter will be issued.

COOS COUNTY PLANNING DEPARTMENT

Mailing Address: 250 N. Baxter, Coos County Courthouse, Coquille, Oregon 97423
Physical Address: 225 N. Adams, Coquille Oregon
Phone: (541) 396-7770
Fax: (541) 396-1022/TDD (800) 735-2900



File:	ACU-20-002 / ACU-20-003
Applicant/ Owner:	Zyta Construction C/O Sheri McGrath/ Jeffrey Urbach
Date:	March 21, 2020
Location:	Township 23S Range 13W Section 35BB TL 1100
Proposal:	Administrative Conditional Use



A. ***ARTICLE 4.2 – ZONING PURPOSE AND INTENT***
Section 4.2.100 Residential

Rural Residential (RR) There are two RR zonings: Rural Residential-5 (RR-5) and Rural Residential-2 (RR-2). The intent of the Rural Residential Districts includes justified sites plus "committed" areas. The County's plan prescribes and allocates a finite number of rural dwelling/units/acreage. The zoning ordinance will specify permitted uses and minimum lot sizes.

The purpose of the "RR-2" and "RR-5" districts are to provide for small to medium acreage dwelling sites outside of Urban Growth Boundaries, where a moderate intensity of land development is appropriate, but where urban services and facilities may not be available or necessary.

The "RR-2" district provides for continued existence of rural family life and to provide a transition of densities between urban development and exclusive agricultural and forestry uses.

B. SPEICAL DEVELOPMENT CONSIDERATIONS AND OVERALYS:
SECTION 4.11.125 Special Development Considerations: The considerations are map overlays that show areas of concern such as hazards or protected sites. Each development consideration may further restrict a use. Development considerations play a very important role in determining where development should be allowed In the Balance of County zoning. The adopted plan maps and overlay maps have to be examined in order to determine how the inventory applies to the specific site

SECTION 4.11.200 Purpose: Overlay zones may be super-imposed over the primary zoning district and will either add further requirements or replace certain requirements of the underlying zoning district. The requirements of an overlay zone are fully described in the text of the overlay zone designations. An overlay zone is applicable to all Balance of County Zoning Districts and any zoning districts located within the Coos Bay Estuary Management Plans when the Estuary Policies directly reference this section.

This property is within the Coastal Shoreland Boundary, Beaches and Dunes with limited suitability for development, Very Hight Liquefaction Potential, and Wind Erosion.

C. SITE DESCRIPTION AND SURROUNDING USES:
The property is located in the Rural Residential-2 (RR-2) zone and is .91 acres in size. There are no improvements on the property. The property is accessed off of Crannog Road. Mr. Urbach also owns the adjoining parcel Tax Lot 1200. The subject property contains some vegetation, cleared sandy area and riparian area where the property abuts Saunders Lake to the southeast. The subject property contains grass, a mix of trees, and sand. Access to the properties is by a private driveway off of Crannog Road. The topography slopes from Crannog Road downward to Saunders Lake. According to the application the Department of Environmental Quality (DEQ) has issued a Site Evaluation for an onsite septic system.

The properties south to southeast of Crannog Road are residentially developed to the north and northwest are dues that are managed as part of the Siuslaw National Forest and used for recreational purposes.

D. COMMENTS:

a. **PUBLIC AGENCY:** There were no public comments received as of the date of this report.

b. **PUPLIC COMMENTS:** This application request did not require any request for comments prior to the release of the decision.

c. **LOCAL TRIBE COMMENTS:** This application request did not require any request for comments prior to the release of the decision.

E. LAWFULLY CREATED UNIT OF LAND: This property is lot of the Deal Park Subdivision which is a pre-existing subdivision; therefore, this is a lawfully created unit of land.

II. STAFF FINDINGS AND CONCLUSIONS:

a. SUMMARY OF PROPOSAL AND APPLICABLE REVIEW CRITERIA:

The proposal is for Planning Director Approval for a Single Family Dwelling within the Beaches and Dunes with Limited Development Suitability, Very High Liquefaction Potential, and Wind Erosion. This requires a geological hazard review.

b. Key definitions:

ACTIVITY: Any action taken either in conjunction with a use or to make a use possible. Activities do not in and of themselves result in a specific use. Several activities such as dredging, piling and fill may be undertaken for a single use such as a port facility. Most activities may take place in conjunction with a variety of uses.

DEVELOP: To bring about growth or availability; to construct or alter a structure, to conduct a mining operation, to make a physical change in the use or appearance of land, to divide land into parcels, or to create or terminate rights to access.

DEVELOPMENT: The act, process or result of developing.

USE: The end to which a land or water area is ultimately employed. A use often involves the placement of structures or facilities for industry, commerce, habitation, or recreation.

ZONING DISTRICT: A zoning designation in this Ordinance text and delineated on the zoning maps, in which requirements for the use of land or buildings and development standards are prescribed.

Dwelling: Any building that contains one or more dwelling units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes.

c. Criteria and standards for Property Line Adjustments

I. Single Family Dwelling

#	Use	Zones													Subject To
		UR-1	UR-2	UR-M	RR-2	RR-5	CD	RC	C-1	IND	AO	REC	SS	MES	
30	Dwelling- Single Family Conventional	CD	CD	CD	CD	CD	CD	CD	N	N	N	N	N	N	(27)(k)

(27) Dwelling - Any building that contains one or more dwelling units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes. A dwelling shall consist of a kitchen, bathroom(s) and living space. Dwellings do not including a RV, tent, teepee, yurt, hotels, motels, vacation rentals or boarding houses. Types of Dwellings are listed below. Long term rentals are not regulated by this ordinance.

(k) Single family dwelling- A single household unit. Construction is characterized by no common wall or ceiling with another unit, including a mobile home unless otherwise allowed by under this ordinance.

Section 4.3.225General Siting Standards

All new USES, activities and development are subject to the following siting standards:

(1) *Agricultural and Forest Covenant - Any applicant for a dwelling permit adjacent to a Forest or Exclusive Farm Zone shall sign a statement on the Compliance Determination or Zoning Clearance Letter acknowledging that: "the normal intensive management practices occurring on adjacent resource land will not conflict with the rural residential landowner's enjoyment of his or her property.*

(2) *Fences, Hedges, and Walls: No requirement, but vision clearance provisions of Section 7.1.525 apply.*

(3) *Limitation on uses of manufactured dwellings/structures for commercial purposes pursuant to ORS 466 et seq. Manufactured dwellings shall not be used for commercial purposes except:*

- *(a) Where use of the manufactured dwelling for commercial purposes is authorized by the Building Codes Agency.*
- *(b) Where used as a temporary sales office for manufactured structures; or*
- *(c) As part of an approved home occupation. [OR-92-07-012PL]*

(4) *New lots or parcels - Creation of lots or parcels, unless it meets the circumstances of § 5.6.130, shall meet the street frontage, lot width, lot depth and lot size. Minimum road frontage/lot width shall be met unless waived by the Planning Director in consultation with the County Surveyor and County Roadmaster due to creating an unsafe or irregular configuration:*

- *(a) Minimum Street frontage should be at least 30 feet; and*
- *(b) Minimum lot width and Minimum lot depth is 50 feet.*

Minimum parcel/lot size cannot be waived or varied unless otherwise provided by a specific zoning regulation. Tax lot creation and consolidations do not change the legally created status of a lot or parcel.

(5) *Parking - Off-street access, parking and loading requirements per Chapter VII apply.*

(6) *Riparian -*

- *(a) Riparian vegetation setback within 50 feet of a estuarine wetland, stream, lake or river, as identified on the Coastal Shoreland and Fish and Wildlife habitat inventory maps, shall be maintained except:*
  - *i. Trees certified as posing an erosion or safety hazard. Property owner is responsible for ensuring compliance with all local, state and federal agencies for the removal of the tree.*
  - *ii. Riparian vegetation may be removed to provide direct access for a water-dependent use if it is a listed permitted within the zoning district;*
  - *iii. Riparian vegetation may be removed in order to allow establishment of authorized structural shoreline stabilization measures;*
  - *iv. Riparian vegetation may be removed to facilitate stream or stream bank clearance projects under a port district, ODFW, BLM, Soil & Water Conservation District, or USFS stream enhancement plan;*
  - *v. Riparian vegetation may be removed in order to site or properly maintain public utilities and road right-of-ways;*
  - *vi. Riparian vegetation may be removed in conjunction with existing agricultural operations (e.g., to site or maintain irrigation pumps, to limit encroaching brush, to allow harvesting farm crops customarily grown within riparian corridors, etc.) provided that such vegetation removal does not encroach further into the vegetation buffer except as needed to provide an access to the water to site or maintain irrigation pumps; or*
  - *vii. The 50 foot riparian vegetation setback shall not apply in any instance where an existing structure was lawfully established and an addition or alteration to said structure is to be sited not closer to the estuarine wetland, stream, lake, or river than the existing structure and said addition or alteration is not more than 100% of the size of the existing structure's "footprint".*
- *(b) Riparian removal within the Coastal Shoreland Boundary requires an Administrative Conditional Use application and review. See Special Development Considerations Coastal Shoreland Boundary.*
- *(c) The 50' measurement shall be taken from the closest point of the ordinary high water mark to the structure using a right angle from the ordinary high water mark.*

(7) *Setbacks:*

(a) All buildings or structures with the exception of fences shall be set back a minimum of thirty-five (35) feet from any road right-of-way centerline, or five (5) feet from the right-of-way line, whichever is greater. This setback may be greater under specific zoning siting requirements.

(b) Firebreak Setback - New or replacement dwellings on lots, parcels or tracts abutting the "Forest" zone shall establish and maintain a firebreak, for a distance of at least 30 feet in all directions. Vegetation within this firebreak may include mowed grasses, low shrubs (less than ground floor window height), and trees that are spaced with more than 15 feet between the crowns and pruned to remove dead and low (less than 8 feet from the ground) branches. Accumulated needles, limbs and other dead vegetation should be removed from beneath trees.

(8) *OUTDOOR STORAGE IN RESIDENTIAL ZONES (a) Boats and trailers, travel trailers, pick-up campers or coaches, motorized dwellings, and similar recreation equipment may be stored on a lot but not used as an accessory use; (b) Automotive vehicles or trailers of any kind or type without current license plates, where required, and which are not in mechanical working order, shall not be parked or stored on any residentially zoned property other than in completely enclosed buildings; (c) One operating truck may be stored on the lot of a truck driver provided it is accessory to the main use of the property. Additional trucks shall not be allowed.*

Section 4.3.230 ADDITIONAL SITING STANDARDS

This section has specific siting standards and criteria set by the zoning district for USES, activities and development:

(2) ***Rural Residential (RR)** – The following siting standards apply to all USES, activities and development in the RR zoning districts:*

- *a. Minimum Lot/Parcel Size:*
  - *i. 5 acres in the RR-5 district*
  - *ii. 2 acres in the RR-2 district*
  - *iii. Exception to minimum lot sizes in Rural Residential:*
    1. *Smaller parcels may be permitted in an approved residential planned unit development, provided the allowable density of the parent parcel is not exceeded.*
    2. *Any lawfully created parcel or lot created prior to January 1, 1986 that is equal to or greater than one acre. Multiple parcels or lots may be combined to equal one acre but then a restriction shall be placed on the deed and parcels and/or lots shall be combined into one tax lot.*
    3. *Any lawfully created parcel or lot created prior to January 1, 1986 that does not equal one acre and not served by a public sewer then Department of Environmental Quality, State Building Codes and Oregon Department of Water Resources should be consulted by the developer prior to seeking a land use authorization to construct a dwelling as there may be development limitations.*
    4. *Creation of parcels less than the minimum lot size of the zoning district shall be permitted provided the following circumstances exist:*
       - *a. The subject property is not zoned for resource use;*
       - *b. An existing dwelling (lawfully established, but not for temporary purposes) was sited prior to January 1, 1986, and will remain sited on each proposed parcel; and*
       - *c. A land division is submitted and approved by Coos County pursuant to the current standards with the exception on the minimum parcels size.*
- *b. Setbacks – No additional setback requirements.*
- *c. Building Height – No additional Requirements.*
- *d. Density or Size limits -*
  - *i. Dwelling density shall be no more than one dwelling per lawfully created parcel unless otherwise provided for by this ordinance.*
  - *ii. If lawfully created parcels are less than one acre in size and not served by a public sewer then Department of Environmental Quality, State Building Codes and Oregon*

Department of Water Resources should be consulted by the developer prior to seeking a land use authorization to construct a dwelling as there may be development limitations.

Staff Findings: Based on the site plan provided and findings to the criteria the dwelling will be located to comply with all setbacks and development criteria. The applicant has addressed all relevant criteria for a dwelling in the Rural Residential-2 Zone. *See* attached application. The property is subject to Special Development Considerations.

II. 4.11.129 Beaches and Dunes (Policy 5.10)

The Beaches and Dunes map has inventoried the following:

- *Beaches and Dunes*
  - *Suitable for most uses; few or no constraints (Does not require a review)*
  - *Limited Suitability; special measures required for most development*
  - *Not Suitable for Residential, commercial or Industrial Structures*

Purpose Statement:
Coos County shall base policy decisions for dunes on the boundaries for these areas as identified on the plan map titled "Development Potential within Ocean Shorelands and Dunes" and the boundaries delineates following specific areas "Suitable", "Limited Suitability" and "Not Suitable" areas of development potential.

a. Limited Suitability: "Beach and Dune Areas with Limited Development Suitability" includes all dune forms except older stabilized dunes, active foredunes, conditionally stable foredunes that are subject to ocean undercutting or wave overtopping, and interdune areas (deflation plains) subject to ocean flooding.

The measures prescribed in this policy are specifically required by Statewide Planning Goal #18 for the above-referenced dune forms; and that this strategy recognizes that designated mitigation sites must be protected from other uses.

Implementation shall occur through an Administrative Conditional Use process, which shall include submission of a site investigation report that addresses this subsection, by a qualified registered and licensed geologist or engineer.

i. Coos County shall permit development within areas designated as "Beach and Dune Areas with Limited Development Suitability" only upon the establishment of findings that consider at least:

a) The type of use proposed and the adverse effects it might have on the site and adjacent areas;
b) The need for temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation;
c) The need for methods for protecting the surrounding area from any adverse effects of the development; and
d) Hazards to life, public and private property, and the natural environment which may be caused by the proposed use.

ii. Further, Coos County shall cooperate with affected local, state and federal agencies to protect the groundwater from drawdown, which would lead to loss of stabilizing vegetation, loss of water quality, or intrusion of saltwater into water supplies. Coos County shall cooperate with state and federal agencies in regulating the following actions in the beach and dune areas with limited development potential:

a) Destruction of desirable vegetation (including inadvertent destruction by moisture loss or root damage);
b) The exposure of stable and conditionally stable areas to erosion;

c) *Construction of shore structures which modify current air wave patterns leading to beach erosion; and*
d) *Any other development actions with potential adverse impacts.*

Staff Findings: The applicant submitted two reports to address the Special Development Considerations (Beaches and Dunes and Hazard Review). One report was prepared by Lynn D. Green, C.E.G, Principal Engineering Geologist, and Paul M. Trone, R.G., Principal Geologist of Evren Northwest, Inc (ENW) and Karel M. Broada, P.E. GEO Environmental Engineering. According to ENW, the boundaries between the subject property and the two adjacent properties were not clearly marked during the visit on January 27, 2020 site visit, but could be approximately estimated by referring to a tax lot map and aerial photograph of the project area.

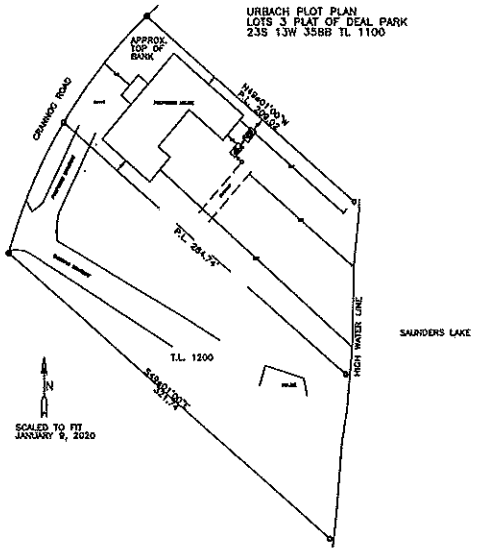
According to the application the development site lies within the Coast Range geological province where submarine basalt and rhythmically bedded sandstone and siltstone form the underlying geology.The bedrock is moderately, weathered sandstone bedrock - Ref.: Geologic Map of Douglas County, USGS (2002).

Geomorphologically, the site is located along a toe of a sand dune. The wind-blown deposits are composed of fine sand with small inclusion of silt. The deposits are poorly densified, and are highly permeably. The site is in a vicinity of an inland lake; hence the ground water is estimated at approximately 6 feet below the existing ground surface.

The building footprint has been located on the graded, leveled ground. The area is characterized by deep wind deposits of poorly graded, fine sand (SM/SP) that are approximately 15 feet deep. The deposits are largely uniform in texture and composition, characterized light brown fine sand, with high infiltration and permeability rates. (Ref. Soil Survey of Douglas County Area, Oregon, USDA, Natural Resources Conservation Service)

At the time of the investigation the building site had been modified prior to the site investigation by leveling and compaction. The depth of the sandy clay soil deposit is approximately 15 feet deep across the wider building development area.

The proposed Single Family Dwelling will be located on a leveled ground, at the toe of a sand dune. The top 18 inches of the soil is loose and poorly densified. The plot plan shows the location of the dwelling.



There were no structures on the property at the time of ENW's visit. The northwestern third of the site consists of the southeastern edge of large sand dune. The portion of the dune on the subject property is active, in that it has little to no vegetative cover. The top of the dune has been graded flat at approximately the same elevation as Crannog Road and forms an approximately 35-foot wide bench on the southeast side of the road. The dune face slopes to the southeast at an angle of approximately 35-degrees, and the toe of the dune is approximately 27-feet lower in elevation than the top. Sand excavated from the face of the dune has been used to cover the center third of the site with an estimated 3- to 5-feet of fill. The fill was reportedly placed and compacted in lifts after the vegetation and top few inches of surface soil had been removed. A sharp break in slope and drop in elevation of up to five feet marks the southeastern edge of the fill. Beyond the area of fill, the property appears to be generally in its native state and has an overall gentle southeasterly slope to the western edge of Saunders Lake. Other than several evergreen trees in the north corner of the site, there is very little vegetation on the dune and sand-fill portion of the property. The southeast portion of the site includes a significant grove of evergreen trees and low-growing ground cover along the edge of the lake (See site photographs in Attachment A).

The property owner proposes to build a C-shaped (open to the southeast) residence on the northwest end of the site. The first story of the structure will be a concrete walled, high ceilinged shop/garage, and the second story will be the residence. This plan would reportedly require excavating an additional 15-feet (horizontally) from the dune face and lowering the top of the

The property across Crannog Road on the west of the site is part of a major dune complex that makes up the Oregon Dunes National Recreation Area. Access to the site from Crannog Road is via a gated graveled driveway on the southwest-adjacent property.

Under the potential Geological Hazards mass wasting was identified to includes all forms of down slope movement of soil and rock material under the influence of gravity. It includes everything from barely perceptible soil creep to catastrophic mud flows and landslides. Steep slopes, weak soils and rock strength and the various effects of water on soil and rock are the primary controlling factors for mass wasting. Earthquakes often serve as triggers for mass wasting events. According to EWN One area of potentially unstable slope conditions is the southeast face of the dune feature at the northwest end of the property. The slope of the dune face appears to be at or near the angle of repose for unconsolidated sand. If the slope is steepened by removing sand from the toe of the dune, the over steepened slope will fail. A similar situation exists for the sand exposed at the toe, southeast side, of the sand fill in the center portion of the property. Except for these two areas, the remainder of the subject property is relatively flat to gently sloping and not prone to mass wasting hazards. Based on this information the dwelling but located out of the center and southeast side of the property.

According to the report the property is subject to Wind Erosion and Deposition as explained below:

Cohesionless dune sands are exposed at the surface over much of the northwestern portion of the site. These soils are highly subject to wind erosion. Dune encroachment is common on properties adjacent to active (no vegetation cover) sand dunes. Large active dunes are located less than 200-feet west of the subject property (Figure 2), but accurate prediction of the amount of future dune expansion in the project area is beyond the scope of this investigation.

The plans for the dwelling provided show that the dwelling is located outside of the areas that are subject to mass wasting. This would be considered the safest site. The single family dwelling will have little impacts to the site if the engineering recommendations are followed. Although some portions of the report are vague regarding the adverse impacts to the adjacent properties it appears as long as the recommendations are followed by the engineer and engineering geologist

any potential effects will be covered. There will be monitoring from the engineer and project manager to ensure that site remains stable and is not impacting adjacent property owners or Saunders Lake. The reports address protections to the soil, erosion, vegetation, water table and water run-off; therefore, addressing the applicable criteria. *See* full reports attached.

III. 4.11.130 NON-ESTUARINE SHORELAND BOUNDARY (BALANCE OF COUNTY POLICY 5.10)

The Coastal Shoreland Boundary map has inventoried the following:

- *Coastal Shoreland Boundary*
- *Beach Erosion*
- *Coastal Recreation Areas*
- *Area of Water-Dependent Uses*
- *Riparian Vegetation*
- *Fore Dunes*
- *Head of Tide*
- *Steep Bluffs over 50% Slope*
- *Significant wetland wildlife habitats*
- *Wetlands under agricultural use*
- *Areas of Exceptional Aesthetic or Scenic Quality and Coastal Headlands*
- *Headland Erosion*

Purpose Statement:

Protection of major marshes (wetlands), habitats, headlands, aesthetics, historical and archaeological sites: Coos County shall provide special protection to major marshes, significant wildlife habitat, coastal headlands, exceptional aesthetic resources, and historic and archaeological sites located within the Coastal Shorelands Boundary of the ocean, coastal lakes and minor estuaries. This strategy shall be implemented through plan designations and ordinance measures that limit uses in these special areas to those uses that are consistent with protection of natural values, such as propagation and selective harvesting of forest products, grazing, harvesting wild crops, and low intensity water-dependent recreation. This strategy recognizes that special protective consideration must be given to key resources in coastal shorelands over and above the protection afforded such resources elsewhere in this plan.

Coos County shall consider:

i. *"Major marshes" to include certain extensive marshes associated with dune lakes in the Oregon Dunes National Recreation Area and wetlands associated with New River as identified in the Inventory text and maps, and on the Special Considerations Map;*
ii. *"Significant wildlife habitat" to include "sensitive big-game range", Snowy Plover nesting areas, Bald Eagle, and Osprey nesting areas, Salmonid spawning and rearing areas, and wetlands;*
iii. *"Coastal headlands" to include Yoakum Point, Gregory Point, Shore Acres, Cape Arago south to Three-Mile Creek, Five Mile Point, and Coquille Point;*
iv. *"Exceptional resources Aesthetic or Scenic Quality" to include the coastal headlands identified above, and other areas identified in the Coastal Shorelands Inventory Map; and*
v. *"Historical, cultural and archaeological sites" to include those identified in the Historical, Cultural and Archaeological Sites Inventory and Assessment.*

a. *Uses allowed within the Coastal Shoreland Boundary: This strategy recognizes: (1) that Coos County's rural shorelands are a valuable resource and accordingly merit special consideration; and (2) that Statewide Planning Goal #17 places strict limitations on land divisions within coastal shorelands.*

i. *Uses within the Coastal Shoreland Boundary: Coos County shall manage its rural areas within the "Coastal Shorelands Boundary" of the ocean, coastal lakes and minor estuaries through implementing ordinance measures that allow the following uses:*

a) Farm uses as provided in ORS 215;

b) Propagation and harvesting of forest products consistent with the Oregon Forest Practices Act.

c) private and public water dependent recreation developments;

d) aquaculture;

e) water-dependent commercial and industrial uses and water-related uses are allowed only upon finding by the Board of Commissioners that such uses satisfy a need, which cannot otherwise be accommodated on shorelands in urban and urbanizable areas;

f) single family residences on existing lots, parcels, or units of land when compatible with the objectives and implementation standards of the Coastal Shorelands goal, and as otherwise permitted by the underlying zone; or

g) any other uses, provided that the Board of Commissioners determines that such uses:

a. Satisfy a need which cannot be accommodated at other upland locations or in urban or urbanizable areas;

b. Are compatible with the objectives of Statewide Planning Goal #17 to protect riparian vegetation and wildlife habitat;

c. The "other" use complies with the implementation standard of the underlying zone designation; and

d. In addition, the above uses shall only be permitted upon a finding that such uses do not otherwise conflict with the resource preservation and protection policies established elsewhere in this plan.

ii. *A site plan and design review is only necessary when required in Coos County Comprehensive Plan Volume I Part 3 § 3.5: Structures associated with the above uses, with the exception of farm and forest uses, shall only be permitted after an Administrative Conditional Use Review or higher review addressing the criteria and requirements of this subsection below and upon a finding that such uses do not otherwise conflict with the Special Development Considerations and Overlay Zones found in this Ordinance.*

a) Site Review and Approval Criteria.

Construction, site development and landscaping shall be carried out in substantial accord with the plans, drawings, sketches and other documents as approved.

Nothing in this subsection shall be construed to prevent ordinary repair, maintenance and replacement of any part of the building or landscaping which does not involve a substantial change from the purpose and objectives of this section. Proposed "substantial changes" shall be submitted to the Planning Director for approval.

All variances from the site development criteria which are deemed necessary by the applicant shall be requested pursuant to ARTICLE 5.3.

These standards are intended to provide a frame of reference for the applicant to the development of a site and building plans as well as a method of review. These standards shall not be regarded as inflexible requirements, nor do they advocate any particular architectural style, for they are intended to encourage creativity, invention and innovation. The following standards shall be utilized in reviewing the plans, drawings, sketches and other documents required under for this review:

1. *Landscaping*
    a. *The landscape shall be such to minimize soil erosion and lessen the visual impact;*
    b. *Any grade changes shall be in keeping with the general appearance of neighboring developed areas.*

2. *Structures*
    a. *Proposed structures shall be related harmoniously to the terrain and to existing buildings in the vicinity that have a visual relationship to the proposed buildings;*
    b. *The achievement of such relationship may include the enclosure of space in conjunction with other existing buildings or other proposed buildings and the creation of focal points with respect to avenues of approach, terrain features or other buildings.*
3. *Drives, Parking and Circulation*
    With respect to vehicular and pedestrian circulation, including walkways, interior drives and parking, special attention shall be given to the location and number of access points, general interior circulation, separation of pedestrian and vehicular traffic, and arrangement of parking areas that are safe and convenient and must comply with the standards found in Chapter VII. The Roadmaster is responsible for determining compliance with this subsection.
4. *Surface Water Drainage*
    Special attention shall be given to proper site surface drainage so that removal of surface waters will not adversely affect neighboring properties, the public storm drainage system, or create environmental problems.
5. *Utility Service*
    a. *Whenever feasible, electric, telephone and other utility lines shall be underground;*
    b. *Any utility installations remaining above ground shall be located so as to have an harmonious relation to neighboring properties and the site;*
    c. *The proposed method of sanitary sewage disposal from all buildings shall be indicated.*

b) *Application Submittal and Review Procedure.*

1. *Submission of Documents - A prospective applicant for a building or other permit who is subject to site design review shall submit the following to the County Planning Director:*
    a. *A site plan, drawn to scale, shows the proposed layout of all structures and other improvements;*
    b. *A landscape plan, drawn to scale, showing the location of existing trees proposed to be retained on the site, the location and design of landscaped areas, the varieties and sizes of trees and plant materials to be planted on the site, other pertinent landscape features, and irrigation systems required to maintain trees and plant materials;*
    c. *Architectural drawings or sketches, drawn to scale, including floor plans, in sufficient detail to permit computation of yard requirements and showing all elevations of the proposed structures and other improvements as they will appear on completion of construction;*
    d. *Specifications as to type, color and texture of exterior surfaces of proposed structures including reflective surfaces of solar collectors;*
    e. *An application request which shall include:*
        1) *Name and address of applicant;*
        2) *Statement of applicant's legal interest in the property (owner, contract purchaser, lessee, renter, etc.) and a description of that interest, and in case the applicant is not the owner, verification of the owner's consent;*
        3) *Address and legal description of the property;*
        4) *Statement explaining the intended request;*
        5) *The required fee; and*
        6) *Any other materials or information as may be deemed necessary to assist in evaluation of the request. The request will be made prior*

to deeming the application complete. However, if this review is before the hearings body they may request for additional information to ensure compliance.

2. *Threshold Standard. The Planning Director has the discretion to waive part or all of the site plan requirements if, in the Director's judgment, the proposed development is "de minimis" in extent to the existing development.****

c. *Coastal Lakes and Minor Estuary Coastal Shorelands: Coos County shall consider the following general priorities for the overall use of ocean, coastal lake or minor estuary coastal shorelands (from highest to lowest):*

i. *promote uses, which maintain the integrity of estuaries and coastal waters;*
ii. *provide for water-dependent uses;*
iii. *provide for water-related uses;*
iv. *provide for nondependent, nonrelated uses, which retain flexibility of future use and do not prematurely or inalterably commit shorelands to more intensive uses;*
v. *provide for development, including nondependent, nonrelated uses, in urban areas compatible with existing or committed uses;*
vi. *permit nondependent, nonrelated uses, which cause a permanent or long-term change in the features of coastal shorelands only upon a demonstration of public need.*

*In addition, priority uses for flood hazard and floodplain areas shall include agriculture, forestry, recreation and open space uses, which are water-dependent. This strategy shall serve as a guide when evaluating discretionary zoning and land development actions. This strategy recognizes Statewide Planning Goal #17 requirements.****

e. *Riparian vegetation in Coastal Shoreland Boundary: Maintain, restore or enhancing riparian vegetation as consistent with water dependent uses requires a conditional use. Coos County shall maintain riparian vegetation within the shorelands of the ocean, coastal lakes, and minor estuaries, and when appropriate, restore or enhance it, as consistent with water-dependent uses. Variances to riparian vegetation setback shall not be permitted within the CSB unless it is to allow for a water dependent use as permitted by the zoning. If a property owner would like to remove vegetation in the Coastal Shoreland Boundary then a conditional use is required. The Planning Department will request comments from ODFW and DEQ regarding water quality and fish habitat. An applicant may provide reports from a qualified biologist.*

Timber harvest, if permitted in the zoning ordinance, shall be regulated by the Oregon Forest Practices Act. Where the County's Comprehensive Plan identifies riparian vegetation on lands in the coastal shorelands subject to forest operations governed by the FPA, the Act and Forest Practices Rules administered by the Department of Forestry will be used in such a manner as to maintain, and where appropriate, restore and enhance riparian vegetation. This strategy shall be implemented by County review of and comment on state permit applications for waterfront development.

This strategy is based on the recognition that prohibiting excessive removal of vegetative cover is necessary to stabilize the shoreline and, for coastal lakes and minor estuaries, to maintain water quality and temperature necessary for the maintenance of fish habitat.

Staff Findings: The applicant did supply a site plan but did not supply a landscape plan; however, the geological reports do explain the necessary vegetation cover and building requirements to ensure the structure can be safely sited. A dwelling may be allowed as provided for development that is compatible with existing or committed uses. This area is in a Rural Residential exception area and was platted and mostly developed prior to land

use regulation making the site committed to continued residential use. Therefore, the applicant has complied with the criteria to site a single family dwelling in the Coastal Shoreland Boundary.

IV. *Coos County has inventoried the following hazards:*

- *Flood Hazard*
  - *Riverine flooding*
  - *Coastal flooding*
- *Landslides and Earthquakes*
  - *Landslide Susceptiblitiy*
  - *Liquefaction potential*
- *Tsunamis*
- *Erosion*
  - *Riverine streambank erosion*
  - *Coastal*
    - *Shoreline and headlands*
    - *Wind*
- *Wildfire*

Purpose Statements:
Coos County shall regulate development in known areas potentially subject to natural disasters and hazards, so as to minimize possible risks to life and property. Coos County considers natural disasters and hazards to include river and coastal flooding, landslides, liquefaction potential due to earthquakes, fault lines, tsunamis, river bank erosion, coastal erosion along shorelines and headlands, coastal erosion due to wind, and wildfires, including those areas affected by gorse.

*This strategy shall be implemented by enacting special protective measures through zoning and other implementing devices, designed to minimize risks to life and property associated with new development and substantial improvements. The determination of whether a property is located in one of the above referenced potentially hazardous areas shall be made by the reviewing body (Planning Director, Planning Commission, Board of Commissioners, or any designee based upon adopted inventory mapping). A specific site may not include the characteristics for which it is mapped. In these circumstances staff shall apply §4.11.132.ii.2.m. ****

b. Landslides and Earthquakes

Landslides: Coos County shall promote protection to life and property in areas potentially subject to landslides. New development or substantial improvements proposed in such areas shall be subject to geologic assessment review in accordance with section 4.11.150. Potential landslide areas subject to geologic assessment review shall include all lands partially or completely within "very high" landslide susceptibility areas as mapped in DOGAMI Open File Report O-16-02, "Landslide susceptibility map of Oregon."

Earthquakes: Coos County shall promote protection of life and property in areas potentially subject to earthquake hazards. New development or substantial improvements in mapped areas identified as potentially subject to earthquake induced liquefaction shall be subject to a geologic assessment review as set out in this section. Such areas shall include lands subject to "very high" and "high" liquefaction identified in DOGAMI Open File Report O-13-06, "Ground motion, ground deformation, tsunami inundation, co-seismic subsidence, and damage potential maps for the 2012 Oregon Resilience Plan for Cascadia Subduction Zone Earthquakes."

Coos County shall continue to support Oregon State Building Codes to enforce any structural requirements related to landslide and earthquakes. Staff will notify Oregon State Building Codes by providing a copy of the geologic assessment report with the Zoning Compliance Letter.

c. *Tsunamis: Coos County shall promote increased resilience to a potentially catastrophic Cascadia Subduction Zone (CSZ) tsunami through the establishment of a Tsunami Hazard Overlay Zone (THO) in the Balance of County Zoning. See Sections 4.11.260-4.11.270 for the requirements of this overlay zone.*

d. *Reserved.*

e. *Erosion: Coos County shall promote protection of property from risks associated with shoreline, headland, and wind erosion and deposition hazards.*

Coos County shall promote protection of property from risks associated with bank erosion along rivers and streams through necessary erosion-control and stabilization measures, preferring non-structural solutions when practical.

Any proposed structural development within a wind erosion/deposition area, within 100 feet of a designated bank erosion area, or on a parcel subject to wave attack, including all oceanfront lots, will be subject to a geologic assessment review as set out in Section 4.11.150. There is a setback of 100 feet from any rivers or streams that have been inventoried in the erosion layer. If a variance is requested, a geologic assessment will be required.

Staff Findings: The property is subject to the Natural Hazards and in response has submitted a conditional use to address the hazards. The Geological Assessment is addressed under the next section. The Applicant has complied by submitting the appropriate applications.

V. GEOLOGICAL HAZARDS SPECIAL DEVELOPMENT REVIEW STANDARDS

Section 4.11.150 Geological Hazards special development Review Standards

Applications for a geologic hazard review may be made concurrently with any other type of application required for the proposed use or activity. A review of the property must be conducted prior to any ground disturbance. All geologic hazard assessment reports shall include a description of the qualification of the licensed professional or professionals that prepared the assessment.

The applicant shall present a geologic hazard assessment report (geologic assessment) prepared by a qualified licensed professional competent in the practice of geosciences, at the applicant's expense, that identifies site specific geologic hazards, associated levels of risk, and the suitability of the site for the use and/or activity in view of such hazards. The geologic assessment shall include the required elements of this section and one of the following:

a. A statement that the use and/or activity can be accomplished without measures to mitigate or control the risk of geologic hazard to the subject property resulting from the proposed use and/or activity;
b. A statement that there is an elevated risk posed to the subject property by geologic hazards that requires mitigation measures in order for the use and/or activity to be undertaken safely sited on the property; or
c. A certification that there are no high or very high geological hazards present on site. If such is certified by a licensed profession then an application is not required. Coos County is not liable for any type of certification that a geological hazard is not present on site.

Section 4.11.155 Geological Assessment review

Geologic Assessment Review: The applicant(s) shall complete the following review to determine compliance with this section. This type of review requires a conditional use application and shall follow the administrative procedures for conditional uses found in Article 5 of the CCZLDO.

1. Except for activities identified in Subsection 2 of this section, as exempt, any new development or substantial improvement in an area subject to the provisions of this section shall require a Geologic Assessment Review.
2. The following development activities are exempt from the requirement for a Geologic Assessment Review:
    a. Maintenance, repair, or alterations to existing structures that do not alter the building footprint or foundation and do not constitute substantial improvement as defined in Chapter II.
    b. An excavation and/or fill which is less than two feet in depth, or which involves less than twenty-five cubic yards of volume;
    c. Exploratory excavations under the direction of a certified engineering geologist or registered geotechnical engineer;
    d. Construction of structures for which a building permit is not required;
    e. Yard area vegetation maintenance and other vegetation removal on slopes less than 25%;
    f. Forest operations subject to regulation under ORS 527 (the Oregon Forest Practices Act);
    g. Maintenance and reconstruction of public and private roads, streets, parking lots, driveways, and utility lines, provided the work does not extend outside of the previously disturbed area;
    h. Maintenance and repair of utility lines, and the installation of individual utility service connections;
    i. Emergency response activities intended to reduce or eliminate an immediate danger to life, property, or flood or fire hazard;
    j. Construction/erection of beachfront protective structures subject to regulation by the Oregon Parks and Recreation Department under OAR 736, Division 20; and
    k. Any development or activity to be conducted on a site for which a certified engineering geologist has determined that there are no high or very high geologic hazards present. Coos County is not liable for any type of certification that a geologic hazard is not present on site.
3. Application, review and appeals for a Geologic Assessment Review shall be in accordance with the requirements for administrative conditional use review as set forth in Article 5.2. Applications for a Geologic Assessment Review may be made prior to or concurrently with any other type of application required for the proposed use or activity. Geologic Assessment Review shall be completed prior to any ground disturbance.
4. All applications for Geologic Assessment Review shall be accompanied by an engineering geologic report prepared by a certified engineering geologist at the applicant's expense.

A. ENGINEERING GEOLOGIC REPORTS

1. Engineering geologic reports required pursuant to this section shall be prepared by a certified engineering geologist licensed in the State of Oregon. Such reports shall be prepared consistent with standard geologic practices and employing generally accepted scientific and engineering principles. The content of such reports shall be generally consistent with the applicable provisions of "Guideline for Preparing Engineering Geologic Reports," 2nd Edition, 5/30/2014, published by the Oregon Board of Geologist Examiners.

2. Properties abutting the ocean shore that are located in a mapped regulated hazard area shall include the following additional information :
    a. Site description:
        i. The geological history and stabilization measures of the site including any

previous riprap or dune grading, erosion events, or exposed trees on the beach.

ii. Topography, including elevations and slopes on the property itself.
iii. Vegetation cover.
iv. Subsurface materials – the nature of the rocks and soils.
v. Conditions of the seaward front of the property, particularly for sites having a sea cliff.
vi. Description of streams or other drainage that might influence erosion or locally reduce the level of the beach.
vii. If the site is located on or adjacent to a estuarine water body or Coastal Lake including the Coastal Shoreland Boundary the following additional information shall be included:
    1. Presence of drift logs or other flotsam on or within the property.
    2. Proximity of nearby headlands that might block the longshore movement of beach sediments, thereby affecting the level of the beach in front of the property.
    3. Description of any shore protection structures that may exist on the property or on nearby properties.
    4. Presence of pathways or stairs from the property to the beach.
    5. Existing development including modification of soil or vegetation on the site, particularly any which might alter the resistance to wave attack.
    6. Average widths of the beach during the summer and winter.
    7. Median grain size of beach sediment.
    8. Average beach slopes during the summer and winter.
    9. Elevations above mean sea level of the beach at the seaward edge of the property during summer and winter.
    10. Presence of rip currents and rip embayments that can locally reduce the elevation of the fronting beach.
    11. Presence of rock outcrops and sea stacks, either offshore or within the beach zone.
    12. Information regarding the depth of beach sand down to bedrock at the seaward edge of the property.

b. Analyses of Erosion and Flooding Potential on the site:
    i. Analysis of DOGAMI beach monitoring data for the site (if available,) all activities affecting shoreline erosion and possible mass wasting, including weathering processes, land sliding or slumping.
    ii. Calculation of wave run-up beyond mean water elevation that might result in erosion of the sea cliff or foredune (see Stockdon, 2006).[1]
    iii. Evaluation of frequency that erosion-inducing processes could occur, considering the most extreme potential conditions of unusually high water levels together with severe storm wave energy.
    iv. For areas subject to dune-backed shorelines, use an established geometric model to assess the potential distance of property erosion, and compare the results with direct evidence obtained during site visits, aerial photo analysis, or analysis of DOGAMI beach monitoring data.
    v. For bluff-backed shorelines, use a combination of published reports, such as DOGAMI bluff and dune hazard risk zone studies, aerial photo analysis, and fieldwork to assess the potential distance of property erosion.
    vi. Description of potential for sea level rise, estimated for local area by combining local tectonic subsidence or uplift with global rates of predicted sea level rise.

c. Determination of legal restrictions of shoreline protective structures (Goal 18 prohibition,

[1] Stockdon, H. F., Holman, R. A., Howd, P. A. and Sallenger, A. H., 2006, Empirical parameterization of setup, swash, and runup: Coastal Engineering, 53, p 573-588.

local conditional use requirements, priority for non-structural erosion control methods).

d. Assessment of potential reactions to erosion events, addressing the need for future erosion control measures, building relocation, or building foundation and utility repairs.

e. The assessment should include recommendations:
   i. Use results from the above analyses to establish setbacks (beyond any minimums set by this section or the underlying zone), building techniques, or other mitigation measures to ensure an acceptable level of safety and compliance with all local requirements.
   ii. Recommend a foundation design, or designs, that render the proposed structures readily moveable.
   iii. Recommend a plan for preservation of vegetation and existing grade within the setback area, if appropriate.
   iv. Include consideration of a local variance process to reduce the building setback on the side of the property opposite the ocean, if this reduction helps to lessen the risk of erosion, bluff failure or other hazard.
   v. Recommend methods to control and direct water drainage away from the ocean (e.g. to an approved storm water system); or, if not possible, to direct water in such a way so as to not cause erosion or visual impacts.

3. Engineering geologic reports required by this section shall include a statement from the preparer of the report that all of the applicable content requirements of this subsection have been addressed or are not applicable to the review.

4. Engineering geologic reports required by this section shall be valid for a period of five years from the date of preparation of such report. No extensions to this time line shall be granted.

B. DECISIONS ON GEOLOGICAL ASSESSMENT REVIEWS

A decision on a Geologic Assessment Review shall be based on the following standards:

1. The engineering geologic report shall meet the content standards set forth in within this Section.
2. In approving a Geologic Assessment Review, the decision maker may impose any conditions which are necessary to ensure compliance with the provisions of this section or with any other applicable provisions of the Coos County Zoning and Land Development Ordinance.
3. In the event the decision maker determines that additional review of the engineering geologic report by an appropriately licensed and/or certified professional is necessary to determine compliance with this section, Coos County may retain the services of such a professional for this purpose. The applicant shall be responsible for all costs associated with the additional review. The results of that evaluation shall be considered in making a decision on the Geologic Assessment Review.

C. DEVELOPMENT STANDARDS FOR USES SUBJECT TO GEOLOGIC ASSESSMENT REVIEW

In addition to the conditions, requirements and limitations imposed by a required engineering geologic report, all uses subject to a geologic assessment review shall conform to the following requirements:

1. Historical, Cultural, and Archaeological Resources: All activities and uses subject to Geologic Assessment Reviews proposed for areas of historical, cultural, or archaeologically sensitive areas, as identified on the Coos County Comprehensive Plan Map, shall require consultation with the appropriate local Tribe prior to the commencement of any and all ground disturbing activity. Proof of this consultation shall be provided as a part of application submission.
2. Hazard Disclosure Statement: All applications for new development or substantial improvements subject to Geologic Assessment Review shall provide a Hazard Disclosure Statement signed by the property owner that acknowledges:
   d. The property is subject to potential natural hazards and that development thereon is subject to risk of damage from such hazards;
   e. The property owner has commissioned an engineering geologic report for the subject

property, a copy of which is on file with Coos County Planning Department, and that the property owner has reviewed the engineering geologic report and has thus been informed and is aware of the type and extent of hazards present and the risks associated with development on the subject property;

f. The property owner accepts and assumes all risks of damage from natural hazards associated with the development of the subject property.

3. Mitigation measures: If on-site structural mitigation measures are required as a condition of approval, the applicant shall, prior to the issuance of a zoning compliance letter, record on the title to the subject property a notification that includes a description of the measures or improvements and that also specifies the obligation of the property owners to refrain from interfering with such measures or improvements and to maintain them.
4. Safest site requirement: All new structures shall be located within the area most suitable for development based on the least exposure to risk from hazards as determined by an engineering geologist as part of an engineering geologic report prepared in accordance with Section 4.11.150 through 4.11.155. Notwithstanding the provisions of the underlying zone, as necessary to comply with this requirement, any required yard or setback may be reduced by up to 50% without a variance.
5. Certification of compliance: Permitted development shall comply with the recommendations in the required engineering geologic report. Certification of compliance shall be provided to the director by the applicant as follows:
    d. Plan Review Compliance: Building, construction or other development plans shall be accompanied by a written statement from a certified engineering geologist stating that the plans comply with the recommendations contained in the engineering geologic report for the approved Geological Assessment Review.
    e. Inspection Compliance: Upon the completion of any development activity for which the engineering geologic report recommends an inspection or observation by a certified engineering geologist, the applicant shall provide to the director a written statement from the certified engineering geologist indicating that the development activity has been completed in accordance with the applicable engineering geologic report recommendations.
    f. Final Compliance: Upon completion of development requiring an engineering geologic report, the applicant shall submit to the director:
        iv. A written statement by a certified engineering geologist indicating that all performance, mitigation, and monitoring measures specified in the report have been satisfied; and,
        v. If mitigation measures incorporate engineering solutions designed by a licensed professional engineer, a written statement of compliance by the design engineer.

Staff Findings: The applicant submitted two reports to address the Special Development Considerations Geotechnical Report Requirements. One report was prepared by Lynn D. Green, C.E.G, Principal Engineering Geologist, and Paul M. Trone, R.G., Principal Geologist of Evren Northwest, Inc (ENW) and Karel M. Broada, P.E. GEO Environmental Engineering.

The report from ENW addresses in depth each of the applicable hazards that have been inventoried for this property. The report provides the necessary requirements under Section 4.11.150 and Section 4.11.155. The report explains that safest area to site the dwelling and after reviewing the development plans that appears to be the area in which the dwelling will be located.

The site does not contain any identified historical or archaeological site that requires protections. On-site structural mitigation measures were explained in both reports and they will become required conditions of approval, the applicant shall, prior to the issuance of a zoning compliance letter, record on the title to the subject property a notification that includes a description of the measures or improvements and that also specifies the obligation of the property owners to refrain from interfering with such measures or improvements and to maintain them. Most of the

conditions are during construction but adequate drainage provisions should be taken to divert surface and subsurface water from behind the retaining structure. The subsurface drain should consist of a 4" dia., perforated, corrugated ADS pipe.

All new structures shall be located within the area most suitable for development based on the least exposure to risk from hazards as determined by an engineering geologist as part of an engineering geologic report prepared in accordance with Section 4.11.150 through 4.11.155. The report completed by ENW provided the areas not to site the dwelling due to soil instability. The applicant has provided a plot plan showing the structure will be in the safest area. Therefore, this has been addressed.

The applicant will received a conditional zoning compliance and will be required to submit a follow up report from the engineer and engineering geologist that all recommendations have been complied with. This shall be completed prior to receiving final building inspection or occupancy permit.

With the conditions of approval and recommendations found in the both reports in Exhibit D the application has met the criteria.

III. DECISION:

The proposed Single Family Dwelling within the Rural Residential Zone meets the requirements of the Coos County Zoning and Land Development Ordinance Special Development Considerations for development within the Beaches and Dunes with Limited Suitability and Natural Hazards, with conditions listed in Exhibit "A" of this report.

IV. EXPIRATION:

The conditional use will not expire; however, geological hazard reports are only valid for five years. If the development is not constructed within five years a new geological review will be required.

V. NOTICE REQUIREMENTS:

A notice of decision will be provided to property owners within 250 feet of the subject properties and the following agencies, special districts, or parties

A Notice of Decision and Staff Report will be provided to the following:
Applicants/Owners, Department of Land Conservation and Development, Planning Commission and Board of Commissioners.

Adjacent property owners will receive a Notice of Decision and maps but all other attachments can be found by contacting the Planning Department or visiting the website. If not found on the website the public may contact the department to view the official record.

LAND USE PERMIT APPLICATION – BALANCE OF COUNTY
COOS COUNTY PLANNING DEPARTMENT

COMPLETED BY STAFF

Received By: A. Dibble

Date Submitted: 1/17/20

Application No.: ACU-20-002/ ACU-20-003

Fee: $1922.70

Fee Paid: $1922.70

Receipt No.: 214490

- ☐ COMP PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ TEXT AMENDMENT

CONDITIONAL USE REVIEW
- ☐ HEARINGS BODY
- ☒ ADMINISTRATIVE
- ☐ VARIANCE
- ☐ LAND DIVISION *
- ☐ HAZARD REVIEW *
- ☐ FARM OR FOREST REVIEW *
- ☐ FAMILY/MEDICAL HARDSHIP*
- ☐ HOME OCCUPATION/COTTAGE INDUSTRY

*Supplemental Application required

STAFF NOTES: Beaches/Dunes & Liquefaction

Please type or clearly print all of the requested information below. Please be sure to include any supplemental application for if required.

I. APPLICANT
Name: Zyta Construction c/o Sheri McGrath

Mailing Address: P.O. Box 1548

City Bandon, State OR Zip 97411

Daytime Phone 541-982-9531

Email: cooscurry@gmail.com

II. OWNER(S)
Name: Jeffrey A Urbach

Mailing Address: 35 Bridge Street

City Fairview State OR Zip 97024

Daytime Phone

Email:

III. PROPERTY - If multiple properties are part of this review please check here ☐ and attached a separate sheet with property information.

Location or Address: Subdivision Deal Park, Lot 3

No. Acreage .91 acres

Tax Acct. 7455200

Township: 23 Range: 13 Section: 35¼ Section: B 1/16 Section: B Tax lot: 1100

Zone: RR-2

Water Service Type: Private Well

Sewage Disposal Type: On site septic system

School District: North Bend

Fire District: Hauser Rural Fire

IV. REQUEST SUMMARY (Example: "To establish a template dwelling in the Forest Zoning District.") Findings and summary are attached for a proposed single family dwelling, on site septic system and well.

V. ATTACHED WRITTEN STATEMENT. With all land use applications, the "burden of proof" is on the applicant. It is important that you provide information that clearly describes the nature of the request and indicates how the proposal complies with all of the applicable criteria within the Coos County Zoning and Land Development Ordinance (CCZLDO). You must address each of the Ordinance criteria on a point-by-point basis in order for this application to be deemed complete. A planner will explain which sections of the Ordinance pertain to your specific request. The information described below is required at the time you submit your application. The processing of your application does not begin until the application is determined to be complete. An incomplete application will postpone the decision, or may result in denial of the request. Please mark the items below to ensure your submittal is complete.

Application Check List: Please make off all steps as you complete them.

A. ☑ A written statement of intent, attached to this application, with necessary supporting evidence which fully and factually describes the following:
   1. ☑ A complete explanation of how the request complies with the applicable provisions and criteria in the Zoning Ordinance. A planner will explain which sections of the Ordinance pertain to your specific request. You must address each of the Ordinance criteria on a point-by-point basis in order for this application to be deemed complete.
   2. ☑ A description of the property in question, including, but not limited to the following: size, vegetation, crops grown, access, existing buildings, topography, etc.
   3. ☑ A complete description of the request, including any new structures proposed.
   4. ☑ If applicable, documentation from sewer and water district showing availability for connection.

B. ☑ A plot plan (map) of the property. Please indicate the following on your plot plan:
   1. ☑ Location of all existing and proposed buildings and structures
   2. ☑ Existing County Road, public right-of-way or other means of legal access
   3. ☑ Location of any existing septic systems and designated repair areas
   4. ☑ Limits of 100-year floodplain elevation (if applicable)
   5. ☑ Vegetation on the property
   6. ☑ Location of any outstanding physical features
   7. ☑ Location and description (paved, gravel, etc.) of vehicular access to the dwelling location

C. ☑ A copy of the current deed, including the legal description, of the subject property. Copies may be obtained at the Coos County Clerk's Office.

I certify that this application and its related documents are accurate to the best of my knowledge. I am aware that there is an appeal period following the date of the Planning Director's decision on this land use action. I understand that the signature on this application authorizes representatives of the Coos County Planning Department to enter upon the subject property to gather information pertinent to this request. If the application is signed by an agent, the owner's written authorization must be attached.

If this application is refereed directly to a hearings officer or hearings body I understand that I am obligated to pay the additional fees incurred as part of the conditions of approval. I understand that I/we are not acting on the county's behalf and any fee that is a result of complying with any conditions of approval is the applicants/property owner responsibility. I understand that conditions of approval are required to be complied with at all time and an violation of such conditions may result in a revocation of this permit.

Sheri McGrath on behalf of Zyta Construction

Applicant/Owner Signature

Applicant/Owner Signature

January 9, 2020
Exhibit "D" Application
APPLICATION FOR A SINGLE FAMILY DWELLING AT
Deal Park, Lot 3
23-13-35BB TL 1100
Tax Account 7455200

PROPERTY OWNER
Jeffrey A Urbach
35 Bridge St
Fairview, OR 97024

APPLICANT
Zyta Construction Company
93921 Earl Lane
Coos Bay, OR 97420
541-267-6084
CCB #79991

Office Contact:
Sheri McGrath
P.O. Box 1548
Bandon, OR 97411
cooscurry@gmail.com
541-982-9531

EXISTING PROPERTY CONDITIONS
The Urbach property is located in Coos County, Oregon. The property is known as Tax Lot 1100 on the Coos County Tax Assessor's Map 23-13-35BB. The property is located in the RR-2 district and is .91 acres in size. There are no improvements on the property. The Department of Environmental Quality has issued a Site Evaluation for an on site septic system.

Mr. Urbach also owns the adjoining parcel known as Tax Lot 1200 with a situs address of 74949 Crannog Road, North Bend, Oregon 97459. There is a single family dwelling, septic system and water on this property.

The properties contain a mix of riparian vegetation due to Saunders Lake. The lots contain grass, a mix of trees, and sand. Access to the properties is by a shared driveway off of Crannog Road. The topography slopes from Crannog Road downward to Saunders Lake. A topographic survey is attached to this application.

PROPOSED PROPERTY CONDITIONS
TheUrbach family would like to construct a single family dwelling on the subject property. The dwelling is located in two overlay zones. An administrative conditional use is required for both the Beach and Dunes overlay and the Natural Hazard overlay.

The applicant is requesting clearance for a single family dwelling with attached garage and shop, a shared driveway access and new utilities including a septic system and well.

Enclosed is a Land Use Permit Application and the associated fees of $1479.00 and $443.70 for two conditional uses. Below are findings to support the request.

COOS COUNTY ZONING AND LAND DEVELOPMENT ORDINANCE (CCZLDO) FINDINGS OF FACT

2.1.200 Single Family Dwelling is defined as, "a single household unit of which construction is characterized by no common wall or ceiling with another unit, including a mobile home unless otherwise prohibited." *The proposed dwelling will meet this definition.*

Conditional Use is "applied to a use which may be permitted by the issuance of a conditional use permit." *The proposed dwelling may be permitted as an Administrative Conditional Use.*

Zoning District is defined as, "a zoning designation in this Ordinance text and delineated on the zoning maps, in which requirements for the use of land or buildings and development standards are prescribed." *The property has a zoning designation of RR-2.*

4.2.100 The "RR-2" district provides for continued existence of rural family life.

4.3.200 A single family dwelling is permitted outright in the RR-2 district. *The outcome of the application process will be a Zoning Compliance Letter for development.*

4.3.225(6,a) There is a 50' setback to all riparian areas and vegetation is controlled by this section. *The proposed structure meets this criteria. No vegetation is proposed to be removed at this time.*

4.3.225(6,b) Removal of vegetation within the Coastal Shoreland Boundary requires an Administrative Conditional Use application. *No vegetation is proposed to be removed at this time.*

4.3.225(6,c) The 50' measurement is from the closest point of the ordinary high water mark to the structure using a right angle for measurement. *The proposed structure meets this setback requirement.*

4.3.225(7) Structures must be setback a minimum of 35' from the centerline of any road, or 5' to the property line, whichever is greater. *The proposed structure exceeds this setback requirement.*

4.3.225(8) Outdoor storage of boats, trailers and other recreational equipment may be stored on site, but not used as an accessory use. *The applicant understands this criteria.*

4.3.230(2,a,ii) The minimum lot size in the RR-2 district is 2 acres. *The subject property is less than two acres.*

4.3.230(2,d,i) Only one dwelling per property is allowed. *Only one dwelling is proposed.*

4.3.230(2,d,ii) Parcels less than 1 acre in size require approval for sanitation by the Department of Environmental Quality. *The Department of Environmental Quality has issued a Site Evaluation report for an on site septic system.*

4.11.129 This section addresses the criteria for development within the Beach and Dunes overlay. *The subject property is located in an overlay designated as "limited suitability" for development.*

Urbach Findings 23-13-35BB TL 1100

4.11.129(a) Limited suitability requires an Administrative Conditional Use permit and a site evaluation by a licensed geologist. *A geology report is attached which addresses the criteria of this section.*

4.11.130 Development within a shoreland boundary must comply with this section. *The proposed development is outside of the shoreland boundary as shown on the attached site plan.*

4.11.132(b) Natural hazards subject to landslides and earthquakes are subject to review by a geologist and subject to section 4.11.150. *A geology report is attached which addresses the criteria of this section.*

4.11.150 An application for geologic hazard review must be submitted with other applications for development. *The applicant has provided a geological report.*

4.11.155(1) All new development is subject to a Geologic Assessment Review and must contain one of the statements listed. *A geology report is attached which addresses the criteria of this section.*

5.0.400 Applications for more than one land use decision can be submitted for concurrent review. *The applicant has applied for multiple conditional use permits, compliance determination and driveway approval.*

5.2.100(2) An Administrative Conditional use is a use or activity with similar compatibility or special conservation problems. An application for an administrative conditional use requires review by the planning director. *The applicant has submitted the necessary forms for this review process.*

5.6.130 General exceptions to the minimum lot size requirements are made in this section. Nothing in the ordinance shall be deemed to prevent development on non conforming lots. *The applicant has proven that development on the lot is feasible.*

5.10.100 Compliance Determination is required for the siting of a single family dwelling. The review process is listed in this section. *Compliance Determination is not required since a Land Use Application is being applied for. Applicant is requesting a Zoning Compliance Letter at the conclusion of the approval*

5.11.200 An application for geologic hazards must be submitted with other development applications. *The applicant has provided a report and application for this review.*

5.11.300 This section lists the criteria for a Conditional Use for geologic hazards.

5.11.300(1) All geologic assessments are valid for 5 years.
The attached report is valid.

5.11.300(2) A geologic report shall contain the following:

a. A topographic map
A topographic map by licensed surveyor Troy Rambo is included with this application.

b. A technical analysis and narrative describing the following:
i. The geologic features or conditions of the property as well as those features or conditions which gave rise to the hazard from the use and/or activity
Geologic setting and soils are found on pages 3-4

ii. All features related to earth movement or geologic instability on adjacent touching parcels or lots to the site

The adjoining properties have similar conditions including geologic setting and soils

iii. The results of all geologic and/or engineering tests performed on soils, material, and rock type subsurface data from drill holes, or other data obtained from the site investigation with data points clearly identified on a map

Investigation methodology and findings are found on pages 3-4

iv. Whether the proposed development activity can be sited in a manner to mitigate the substantial risk to the subject property in view of the geological hazards and risks that have been identified in the geologic assessment

Recommendations for development are found on pages 5-7

v. All features related to earth movement or geologic instability on, adjacent to, upslope or downslope from the subject property

The topographic map shows the slope of the sand dune as well as the high water line. Those are the two main features.

vi. A clear statement of all requirements or conditions on the use and/or activity that the geologist has determined are necessary to mitigate the geologic hazards that require mitigation

Recommendations and development requirements are found on pages 5-10.

vii. A schedule of inspections to be completed by the geologist or engineer to assure compliance with recommendations

Project implementation details are located on page 8.

6.1.125 This section outlines how parcels are created. *The parcel is considered lawfully created.*

7.1.425 The road access points and driveway are required to be inspected and permitting by the Coos County Road Department. *A Driveway Application has been submitted for concurrent review.*

ADDITIONAL SUPPORTING DOCUMENTS

Coos County Tax Assessor's Map 23-13-35BB TL 1100
Coos County Tax Assessor's Summary Report for TL 1100
Coos County Tax Assessor's Summary Report for TL 1200
Plot Plan
Surveyor's map showing High Water Line and Topographic Data
Geology Report
Consent Form
Warranty Deed

ZYTA CONSTRUCTION

CCB #79991
93921 Earl Lane* Coos Bay, Oregon 97420
541-267-6084

CONSENT FOR REPRESENTATION

I, Jeffrey Urbach of 35 Bridge Street in Fairview, Oregon give permission to Zyta Construction to represent me on all design, permit and consulting matters concerning the property located at Map 23-13-35BB Tax Lot 1100 and 1200 if applicable. The tax account for TL 1100 property is 7455200.

Sheri McGrath is the direct contact for all permit application questions, plan review comments, concerns or questions, and any other information related to the above property.

Contact information for Sheri McGrath is:

Cell:	541-982-9531
E-mail:	cooscurry@gmail.com
Mailing address:	P.O. Box 1548, Bandon, OR 97411

This consent automatically expires twelve months from the date below, without requirement of notice.

DATED: 7-2-19, 2019

ZYTA CONSTRUCTION

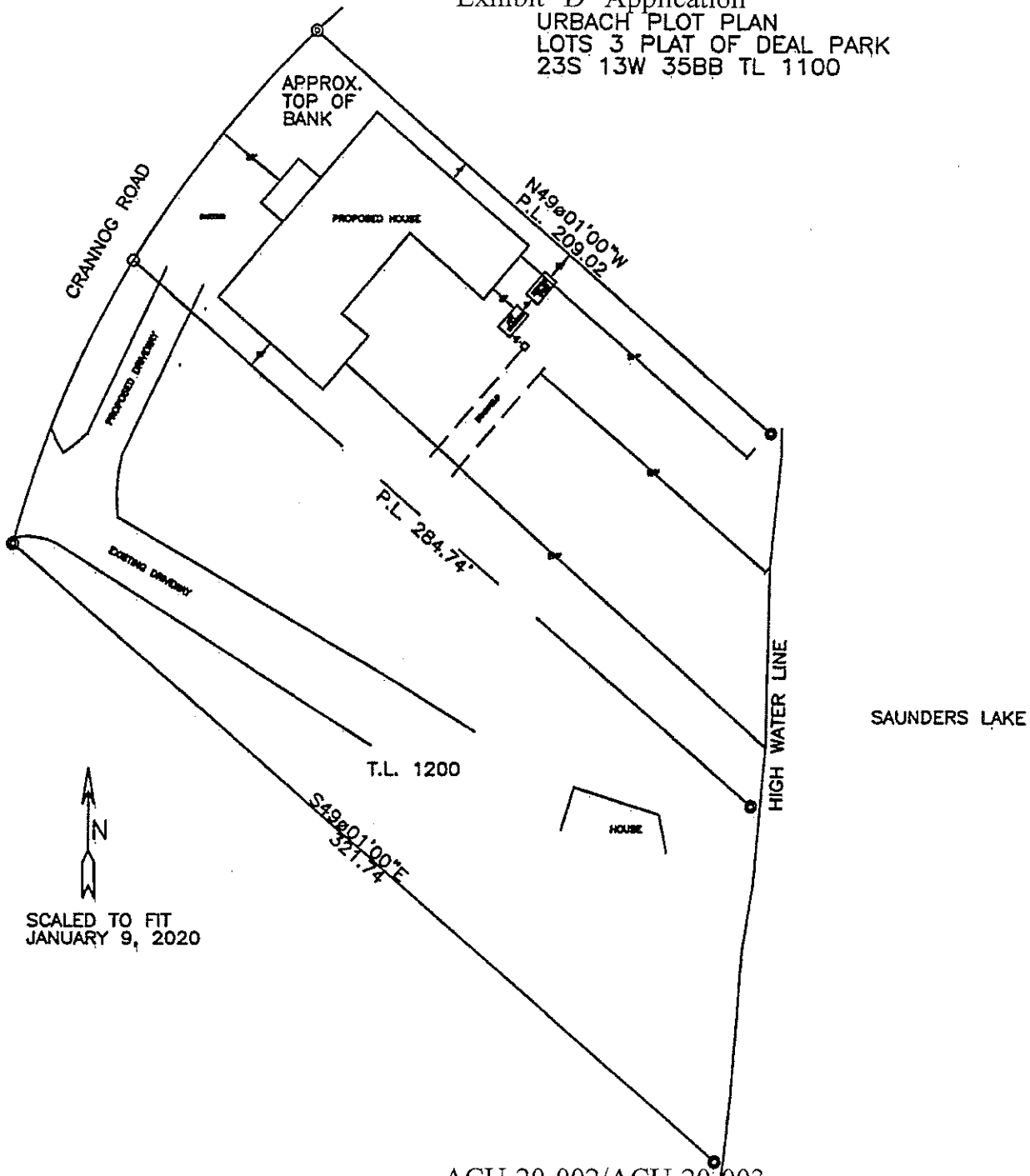
By: DAVID ZYTA

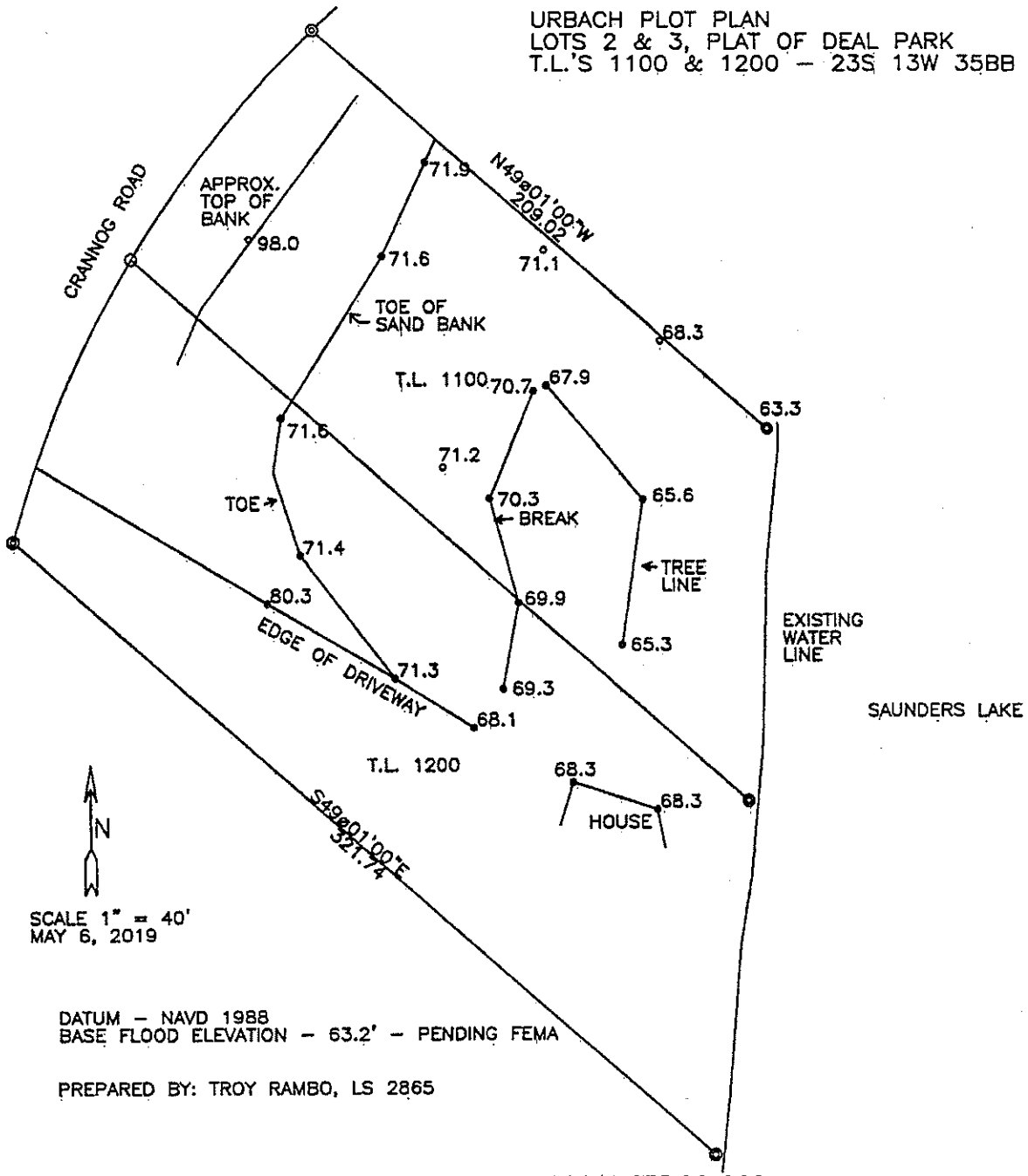
CLIENT

By: Property Owner

Exhibit "D" Application

URBACH PLOT PLAN
LOTS 3 PLAT OF DEAL PARK
23S 13W 35BB TL 1100




URBACH PLOT PLAN
LOTS 2 & 3, PLAT OF DEAL PARK
T.L.'S 1100 & 1200 – 23S 13W 35BB
CRANNOG ROAD
APPROX. TOP OF BANK
98.0
71.9
N49°01'00"W
208.02
71.6
71.1
TOE OF SAND BANK
68.3
T.L. 1100
70.7
67.9
63.3
71.6
71.2
TOE
70.3
BREAK
65.6
71.4
TREE LINE
80.3
69.9
EDGE OF DRIVEWAY
65.3
EXISTING WATER LINE
71.3
69.3
68.1
SAUNDERS LAKE
T.L. 1200
68.3
68.3
HOUSE
N
S49°01'00"E
321.74
SCALE 1" = 40'
MAY 6, 2019
DATUM – NAVD 1988
BASE FLOOD ELEVATION – 63.2' – PENDING FEMA
PREPARED BY: TROY RAMBO, LS 2865

COOS County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2019

NOT OFFICIAL VALUE

June 13, 2019 4:40:11 pm

Account #	7455100	**Tax Status**	ASSESSABLE
Map #	23S1335BB01200	**Acct Status**	ACTIVE
Code - Tax #	1317-7455100	**Subtype**	NORMAL
Legal Descr	See Record		
Mailing Name	URBACH, JEFFREY A	**Deed Reference #**	2018-4681
Agent		**Sales Date/Price**	05-18-2018 / $547,000.00
In Care Of		**Appraiser**	ADAM E COLBY
Mailing Address	35 BRIDGE ST FAIRVIEW, OR 97024-2671		

Prop Class	101	**MA**	**SA**	**NH**	**Unit**
RMV Class	101	01	07	RRL	42451-1

Situs Address(s)	Situs City
ID# 10 74949 CRANNOG RD	NORTH BEND

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
1317	Land	110,450			Land 0	
	Impr.	276,550			Impr. 0	
Code Area Total		387,000	264,440	264,440	0	
Grand Total		387,000	264,440	264,440	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	LUC	Trended RMV
1317	10	☑		RR-2	Market	100	A	1.24	HS	002	
					Grand Total			1.24			

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
1317	1	2005	151	One story-Class 5	100	1,521			276,550
				Grand Total		1,521			276,550

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
1317							
	FIRE PATROL:						
	■ FIRE PATROL SURCHARGE	Amount	47.50			Year	2019
	■ FIRE PATROL TIMBER	Amount	18.75	Acres	0.24	Year	2019

PP Account(s): 1317-99918989

Comments: DEAL PARK
LOT 2
432 NORTHWOOD
CE#391 2006-07; PART OF STRUC ASS'D AS GARAGE & WAS IN FACT STRUC.

COOS County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2019

NOT OFFICIAL VALUE

June 13, 2019 4:39:25 pm

Account #	7455200	**Tax Status**	ASSESSABLE
Map #	23S1335BB01100	**Acct Status**	ACTIVE
Code - Tax #	1315-7455200	**Subtype**	NORMAL
Legal Descr	See Record		
Mailing Name	URBACH, JEFFREY A	**Deed Reference #**	2018-4681
Agent		**Sales Date/Price**	05-18-2018 / $547,000.00
In Care Of		**Appraiser**	
Mailing Address	35 BRIDGE ST FAIRVIEW, OR 97024-2671		

Prop Class	100	**MA**	**SA**	**NH**	**Unit**
RMV Class	100	01	05	DAA	42452-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
1315	Land	70,140			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		70,140	31,950	31,950	0	
Grand Total		70,140	31,950	31,950	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	LUC	Trended RMV
1315	10	☑		RR-2	Market	100	A	0.91	MV	001	
						Grand Total		0.91			

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Exemptions/Special Assessments/Potential Liability

Code Area	Type							
1315								
	FIRE PATROL:							
	■ FIRE PATROL TIMBER	**Amount**	18.75	**Acres**	0.91	**Year**	2019	

Comments: DEAL PARK
LOT 3
FIRE PAT ACRES .58

AFTER RECORDING RETURN TO:
Order No.: 360618023067-DM
Jeffrey A. Urbach, as tenants by the entirety
35 Bridge Street
Fairview, OR 97024

SEND TAX STATEMENTS TO:
Jeffrey A. Urbach
35 Bridge Street
Fairview, OR 97024

COOS COUNTY, OREGON 2018-04681
$51.00 05/21/2018 09:24:00 AM
DEBBIE HELLER, CEA, COOS COUNTY CLERK Pgs=2

AFTER RECORDING
RETURN TO
Ticor Title Company
300 West Anderson Ave. - Box 1075
Coos Bay, OR 97420-0233
SPACE ABOVE THIS LINE FOR RECORDER'S USE

STATUTORY WARRANTY DEED

Richard K. Empens and Joanne Empens, Grantor, conveys and warrants to **Jeffrey A. Urbach, as tenants by the entirety,** Grantee, the following described real property, free and clear of encumbrances except as specifically set forth below, situated in the County of Coos, State of Oregon:

Lot 2 and 3, Deal Park, Coos County, Oregon.

THE TRUE AND ACTUAL CONSIDERATION FOR THIS CONVEYANCE IS FIVE HUNDRED FORTY-SEVEN THOUSAND AND NO/100 DOLLARS **($547,000.00).** (See ORS 93.030).

Subject to:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

IN WITNESS WHEREOF, the undersigned have executed this document on the date(s) set forth below.

Dated: May 4, 2018

Richard K. Empens

Joanne Empens

State of OR
County of Coos

This instrument was acknowledged before me on 5-18-18 by Richard K. Empens and Joanne Empens.

Notary Public - State of Oregon

My Commission Expires: 9-29-18

OFFICIAL STAMP
DENISE ALTHEA MATESKI
NOTARY PUBLIC-OREGON
COMMISSION NO. 932623
MY COMMISSION EXPIRES SEPTEMBER 29, 2018

EXHIBIT "A"
Exceptions

Subject to:

Rights of the public to any portion of the Land lying within the area commonly known as

streets. roads, alleys and highway.

Any adverse claim based upon the assertion that:

a) Said Land or any part thereof is now or at any time has been below the highest of the high watermarks of Saunders Lake, in the event the boundary of said Saunders Lake has been artificially raised or is now or at any time hasbeen below the high watermark, if said Saunders Lake is in its natural state.

b) Some portion of said Land has been created by artificial means or has accreted to such portion so created.

c) Some portion of said Land has been brought within the boundaries thereof by an avulsive movement of Saunders Lake, or has been formed by accretion to any such portion.

The rights of the public and governmental bodies for fishing, navigation and commerce in and to any portion of the Land herein described, lying below the high water line of the Saunders Lake.

The right, title and interest of the State of Oregon in and to any portion lying below the high water line of Saunders Lake.

Rights and easements for navigation and fishery which may exist over that portion of said Land lying beneath the waters of Saunders Lake.

Any adverse claim based upon the assertion that:

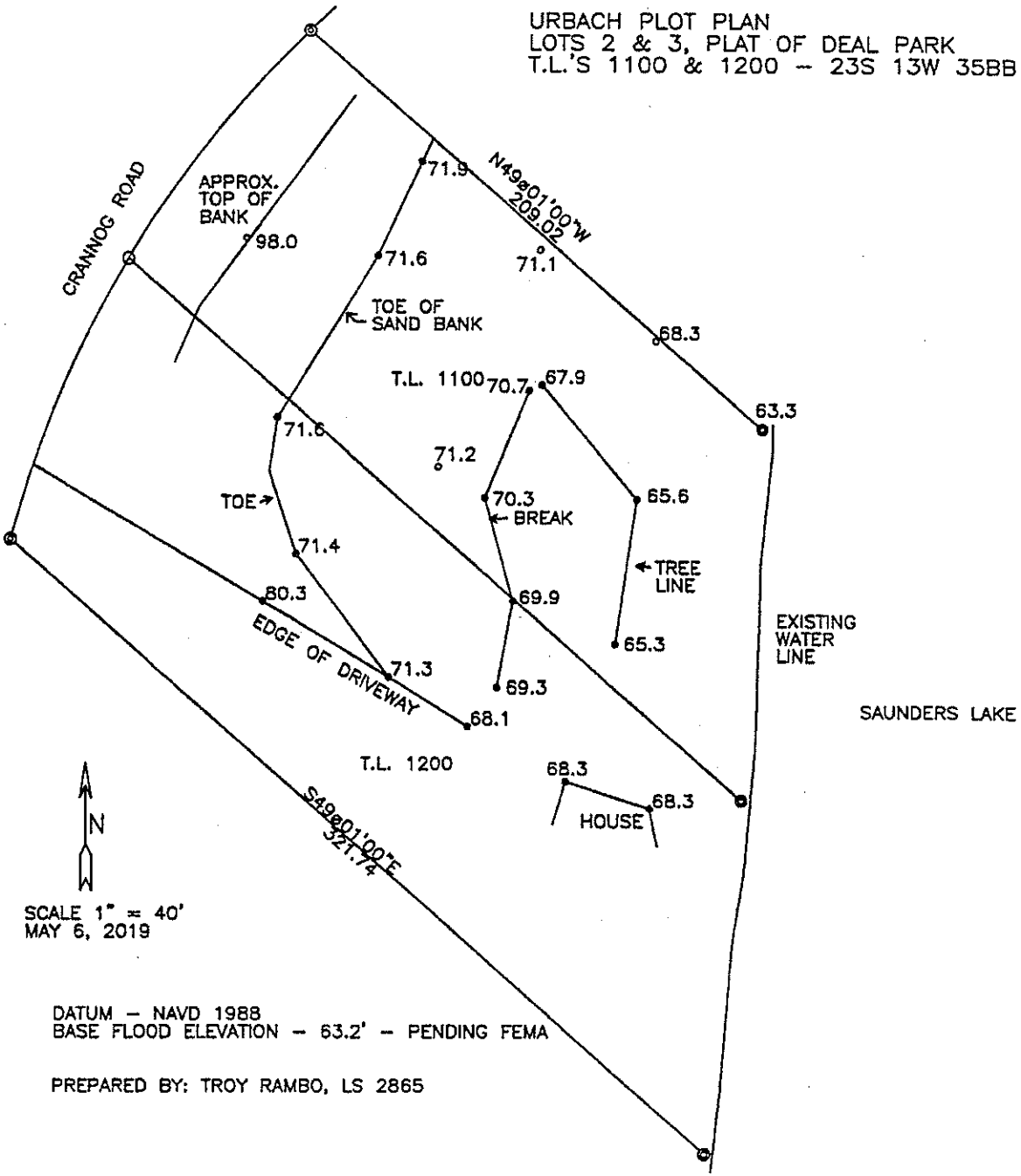
a) Some portion of said Land has been created by artificial means, or has accreted to such portion so created.

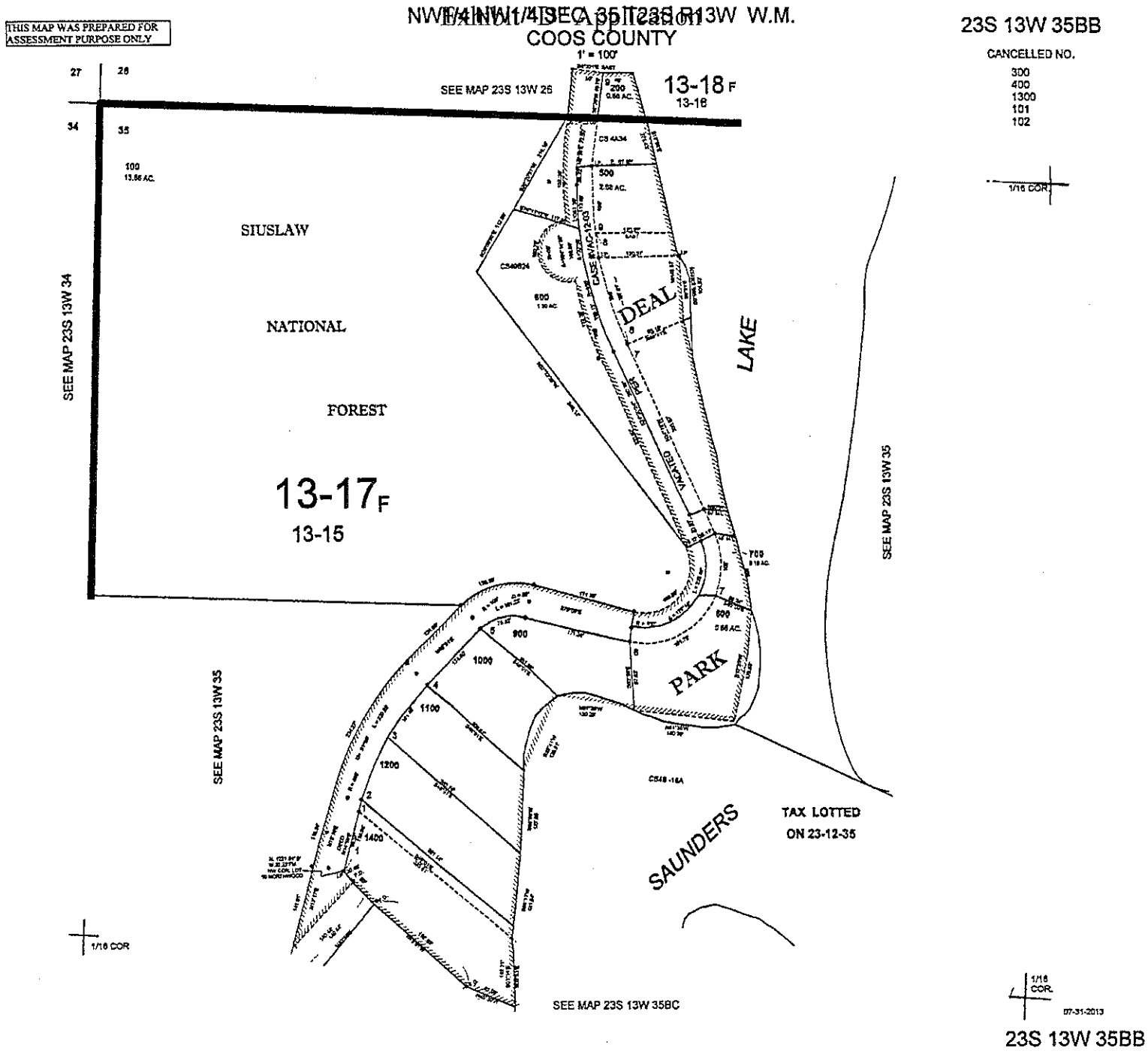
b) Some portion of said Land has been brought within the boundaries thereof by an avulsive movement of Saunders Lake or has been formed by accretion to any such portion.

Any rights in favor of the public which may exist on said Land if said Land or portions thereof are or were at any time used by the public.

Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: William and Marlyn Grannell, husband and wife and James Brewer Mills and Sulen Nicholy Mills, husband and wife
Recording Date: November 20, 1979
Recording No: 79-5-3893


URBACH PLOT PLAN
LOTS 2 & 3, PLAT OF DEAL PARK
T.L.'S 1100 & 1200 – 23S 13W 35BB
CRANNOG ROAD
APPROX. TOP OF BANK
98.0
71.9
N49°01'00"W
209.02
71.6
71.1
TOE OF SAND BANK
68.3
T.L. 1100
70.7
67.9
63.3
71.6
71.2
TOE
70.3
BREAK
65.6
71.4
TREE LINE
80.3
69.9
EDGE OF DRIVEWAY
65.3
EXISTING WATER LINE
71.3
69.3
68.1
SAUNDERS LAKE
T.L. 1200
68.3
68.3
HOUSE
S49°01'00"E
321.74
N
SCALE 1" = 40'
MAY 6, 2019
DATUM – NAVD 1988
BASE FLOOD ELEVATION – 63.2' – PENDING FEMA
PREPARED BY: TROY RAMBO, LS 2865


THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY
NW1/4NW1/4SEC 35 T23S R13W W.M.
COOS COUNTY
1" = 100'
23S 13W 35BB
CANCELLED NO.
300
400
1300
101
102
1/16 COR.
SEE MAP 23S 13W 26
13-18 F
13-16
27
26
34
35
100
13.86 AC.
SIUSLAW
NATIONAL
FOREST
13-17 F
13-15
SEE MAP 23S 13W 34
SEE MAP 23S 13W 35
DEAL
LAKE
PARK
SAUNDERS
TAX LOTTED
ON 23-12-35
SEE MAP 23S 13W 35BC
1/16 COR
1/16 COR.
07-31-2013
23S 13W 35BB

ENGINEERING REPORT

Geotechnical Engineering Assessment & Design of Foundations

for

Building Development

74949 Carnnog Rd.
North Bend, Oregon

Prepared for: **Mr. David Zyta, Prime Contractor**
93921 Earl Lane
Coos Bay, Oregon 97420

Prepared by: **Karel M. Broda, P.E.**
GEO Environmental Engineering
Roseburg, Oregon

Date: **September 16, 2019**

Exp. 12/2019

CONTENTS

Introduction 3

Purpose & Scope 3

Geologic Setting & Soils 3

Investigation & Findings 4

Geotechnical Design & Recommendations

- **A. Site Grading & Modifications** 5
- **B. Building Foundations** 6
- **C. Subgrade Wall** 7

Project Implementation 8

Limitation in Use and Interpretation of the Report 9

Contact Information 10

INTRODUCTION

The GEO Environmental Engineering has completed site investigation, geotechnical analyses, and prepared design recommendations related to foundations and retaining structure for the proposed shop building located at 74949 Carnnog Rd. in North Bend, Oregon.

The proposed shop building is approximately 70 ft wide and 100 ft long. It will be constructed on a leveled ground, adjacent to a sand dune. The building foundations will consist of structurally connected perimeter footings with integrated concrete slab-on-grade under the structure. A reinforced concrete wall will form a wall along the west side of the building.

The Prime Contractor marked the location of the building perimeter on the ground.

PURPOSE & SCOPE

The **purpose** of this geotechnical report is to convey the results the subsurface investigation at the site, and to communicate design information related to the design and construction of the foundations, structural fills and retaining structure.

The **scope** of the report is limited to assessment of the subsurface conditions at the site of the building, evaluation of the foundation materials, analysis of safe soil/rock bearing capacity for the proposed building, evaluating geologic hazards at the site, and site drainage.

GEOLOGIC SETTING & SOILS

Geology & Geomorphology

The development site lies within the Coast Range geological province where submarine basalt and rhythmically bedded sandstone and siltstone form the underlying geology. The bedrock is moderately, weathered sandstone bedrock - Ref.: Geologic Map of Douglas County, USGS (2002).

Geomorphologically, the site is located along a toe of a sand dune. The wind-blown deposits are composed of fine sand with small inclusion of silt. The deposits are poorly densified, and are highly permeably. The site is in a vicinity of an inland lake; hence the ground water is estimated at approximately 6 feet below the existing ground surface.

Soils

The building footprint has been located on the graded, leveled ground. The area is characterized by deep wind deposits of poorly graded, fine sand (SM/SP) that are approximately 15 feet deep. The deposits are largely uniform in texture and composition, characterized light brown fine sand, with high infiltration and permeability rates. (Ref. Soil Survey of Douglas County Area, Oregon, USDA, Natural Resources Conservation Service).

INVESTIGATION & FINDINGS

Investigation Methodology

The objective of investigation was to determine: (1) the nature of the geologic deposits; (2) the aerial extent, depth and thickness of the soil/rock strata; (3) the location of groundwater, if any; and (4) the in-situ engineering properties of soils and rocks that would determine the performance of the building foundations.

Subsurface exploration consisted of evaluation of surficial soil and bedrock deposits, field-classifying the recovered material and performing in-situ soil tests – modified penetration testing of the underlying material at 8 specific sites (test pits), up to 5 feet deep below the natural ground surface within and outside the perimeter of the proposed building.

Findings

The building site has been modified prior to the site investigation by leveling and compaction. The depth of the sandy clay soil deposit is approximately 15 feet deep across the wider building development area.

In general, the soils at the development site were derived from the underlying submarine basalt bedrock by physical and chemical weathering. Description of the soil and bedrock units is as follows:

- Soil Unit 10 (SU-10) natural, alluvial soil –light brown, soft soil – high permeability, low plasticity clay (USCS: SM/SP) – derived from river deposits during high flood events; displays low shrink/swell behavior; average reported LL = 5%, PI = NP%.

- Rock Unit 10 (RU-10): layered deposits of moderately hard sand- and silt-stone bedrock – light brown, moderately hard, fractured, fine-grained, well cemented. Weathering and fracturing decreases with depth. The depth of the bedrock was assessed at 15 feet below the natural ground surface based on projections to the Umpqua River. The weathering decreases with depth; the density/hardness increases with depth.

A typical subsurface profile along the western portion of the property was as follows:

Depth Below Native Surface (ft)	Soil Classification	Shear Strength, s_u (psf)	SPT (bpf)
0.0 – 15.0	Loose density, light brown silty sand (SM/SP) SU-10	400 to 500	2 to 10
>15.0	Decomposed and partially decomposed, fractured, light brown, soft to moderately hard rock – RU-10	not measured	Not measured

Standard Penetration Test (SPT) results were derived from modified penetration testing of the subsurface soil deposits. Shear strength values were derived from Hand Shear Vane tester.

No ground water table was encountered during the subsurface exploration. Soil permeability was not measured.

GEOTECHNICAL DESIGN & RECOMMENDATIONS

A. Site Grading & Modifications

The shop structure will be located on a leveled ground, at the toe of a sand dune. The top 18 inches of the soil is loose and poorly densified.

The substructure of the building will be integrated, perimeter concrete footings with integrated grade beams under the structure.

Recommendations

1. The top 1.5 feet of the soft surficial soil should be excavated, and a lift of 2.0 ft of compacted structural fill placed on top of the sandy subgrade.

2. The excavation for the foundations should extend a minimum 5 feet beyond the footprint of the residential building.

3. Prior to placement of the structural fill should be compacted with a vibratory compactor (minimum wt. 12,000 GW) by 6 passes over each spot of the subgrade.

4. The foundation excavation and the soil strength along the bottom of the excavation must be tested and approved in writing by a registered Geotechnical Engineer, prior to construction of the structural fill. The minimum density/strength properties of the foundation soils should be dense soil, meeting minimum SPT = 10 bpf or shear strength, s_u = 500 psf. Areas not meeting this requirement should be excavated and backfilled with compacted aggregate fill.

5. Prior to placement of the structural fill material, the entire excavated ground surface, including the sides of the excavation, should be covered with construction geofabric (non-woven, min. Grab Tensile Strength = 150 lb as determined by ASTM D1682). The minimum overlaps should be 24" between adjacent strips of geofabric.

6. The total depth of the structural fill should be 2.0 ft minimum, below all footings. The structural fill material should consist of durable, crushed aggregate, up to 3" minus size, or preferably 1" clean crushed rock. The material should be placed in layers not more than 9" in loose depth, and compacted to 90% of max. dry density, as determined by the Modified Proctor Test (ASTM D 1557), or relative density, Dr = 70%, min, or SPT = 25 bpf.

7. The top 6 inches of the structural fill should consist of durable, crushed aggregate, up to 1.5" minus size. The material should be compacted to 90% of max dry density,

as determined by the Modified Proctor Test (ASTM D 1557), or relative density, Dr = 70%, min, or SPT = 25 bpf.

8. The compaction of the structural fill must be tested and approved in writing by a registered Geotechnical Engineer prior to construction of the concrete footings.

B. Building Foundations

The substructure of the building will be integrated, perimeter concrete footings with integrated concrete slab-on-grade foundation, i.e., raft foundation. The western side of the building will be reinforced concrete walls, with a wooden, structure set on top.

The following design criteria, parameters and assumptions were made in the analysis and design:

- Footing settlement limits: total settlement is less than 1 in, differential settlement less than ½ in corresponding to angular distortion of less than 1/300.
- Assumed foundation loads:
  - Continuous, strip footings = 1,500 plf, max.
  - Point loads = 10,000 lb, max.
  - Slab-on-grade loads = 100 psf, max.

The geotechnical analysis of the foundations included:

- bearing capacity of the underlying geologic material;
- total and differential settlement;

Engineering analysis shows that the allowable, design soil/rock bearing capacities, q_a = 750 psf.

Assuming the following:

- The footings will be placed onto min. 2.0 ft deep structural fill.
- The minimum density/strength properties of the foundation soils should be silty sand with min. shear strength, s_u = 500 psf, or SPT = 10 bpf.
- The compacted structural, aggregate fill will have compactness of SPT = 25 bpf.

Recommendations

1. The building foundations should be placed onto a compacter structural fill – see A. Site Grading & Excavation above.
2. The minimum width of the concrete footing should be 24 inches.
3. The subgrade soil strength and the compactness of the structural fill must be tested and approved in writing by a registered Geotechnical Engineer. The

minimum density/strength properties of the foundation soils should be dense soil, meeting.

C. Subgrade Wall

The existing excavated slope on the west side will be additionally excavated to the location of the proposed retaining structure. The structure will become a side wall for the building on western side of the building.

Subsurface testing of the existing ground along the proposed wall location indicates that the foundation material will be poorly consolidated, fine sand. The wall foundation will be underlain by 2 ft lift of compacted structural fill - see A. Site Grading & Excavation above.

The following recommendations should be implemented in the slope excavation, foundation preparation and drainage for the wall:

Recommendations

1. The temporary excavation of the back slope should be:

   In sand = ¾ H : 1 V

2. Foundation type: continuous, reinforced spread concrete footings.

3. Allowable, design soil bearing capacities, q_a = **750 psf.**

4. The minimum density/strength properties of the foundation soils should be silty sand with min. shear strength, s_u = 500 psf, or SPT = 10 bpf.

5. The compacted structural, aggregate back fill below the wall will be 2 ft deep, and have compactness of SPT = 25 bpf.

6. The "At-Rest" lateral pressure, "k_0", should be used in the structural design of the wall:

   EFP = 75 pcf – with horizontal backfill

   EFP = 125 pcf – with sloped backfill less than 50%

   Notes:

   - Horizontal backfill extends wall height (H) behind the wall face.

7. In the design of concrete retaining structures, the passive resistance pressures to lateral movement ("passive condition") should be:

   a. EFP = 250 pcf

   b. Assumptions: minimum footing depth is 24 inches below the finished surface.

8. The coefficient of friction for lateral sliding is 0.40.

9. Adequate drainage provisions should be taken to divert surface and subsurface water from behind the retaining structure. The subsurface drain should consist of a 4" dia., perforated, corrugated ADS pipe.

10. A registered structural engineer must design the subgrade concrete retaining wall.

PROJECT IMPLEMENTATION

Evaluation

During the design and construction of a project, some adjustments need to be made in the design and construction as new questions and facts come to light. For this reason, the owner, design professionals and contractors should communicate in a timely manner, in order to successfully complete this project. Following are recommendations related to the ground works and developments.

Recommendations

In addition to the pertinent design recommendations presented in the report above, the following recommendations should be considered in preparation of design and contract documents (drawings and specifications) and for construction of the ground works:

1. A meeting should be held between the owner, design engineer and the contractor prior to commencing the construction to discuss the project, special requirements, contingency plans and to ask and answer questions.

2. The grading and excavation operations at the building site should be conducted during the dry season of the year, May through October.

3. The foundation materials under the building foundations and retaining structures, and the compaction of the structural fill material must be evaluated and approved in writing by a professional engineer who is registered in Oregon as a Geotechnical Engineer prior to construction of the super structures.

4. Stability of the temporary excavation is affected negatively by a prolonged rain. The stable slope "at repose" during rain is 50%.

5. The designated project principal is responsible for overall project management and for implementation of all recommendations contained in this report. The project manager will take full responsibility for the performance of the developments, if the recommendations contained in this report, and any written amendments are not carried out.

6. Any modifications and alterations in the design or construction methodology that occur due to desired or required changes in the design or layout of the project, or due "changed" ground or design condition(s) related to the geotechnical engineering aspects of the project must be communicated timely to a qualified Geotechnical Engineer. The changes and modifications must be made in writing, and approved prior to the changes being carried out.

Limitations in the Use and Interpretation of This Report

Our services were performed in accordance with generally accepted engineering principles and practices. This warranty is in lieu of all other warranties, either expressed or implied.

Please consider the following:

1. The engineering report was prepared for the use of the Owner in the design of the subject facilities and should be made available to the Contractor for information on factual data only. This report should not be used for contractual purposes as a warranty of interpreted subsurface conditions such as those indicated by the interpretative boring and test pit logs, cross sections, or discussions of subsurface conditions contained herein.

2. Sound engineering judgment was exercised in preparing the subsurface information presented here on. This information was prepared and is intended for Client's design and estimate purposes. Its interpretation on the plans or elsewhere is for the purpose of providing intended users with access to the same information available to the client. This subsurface information interpretation was prepared in good faith and is not intended as a substitute for personal investigation, independent interpretations or judgment of the contractor.

3. The analyses, conclusions and recommendations contained in this report are based on site conditions as they existed at the time of the investigation and assume that the exploratory borings, test pits, and/or probes are representative of the subsurface conditions at the site. If, during construction, subsurface conditions are found to be significantly different from those observed in the exploratory borings, test pits and probes, or assumed to exist in the excavations, we should be advised at once so that we can review these conditions and reconsider our recommendations where necessary. If there is a substantial lapse of time between the submission of this report and the start of work at the site, or if conditions have changed due to natural causes or construction operations at or adjacent to the site, this report should be reviewed to determine the applicability of the conclusions and recommendations considering the changed conditions and time lapse.

4. The boring logs and tests are our opinion of the subsurface conditions revealed by periodic sampling of the ground as the boring progressed. The soil descriptions and interfaces between strata are interpretative and actual changes may be gradual.

5. The ground exploration and related information depicts subsurface conditions only at these specific locations and at the particular time. Soil conditions at other locations may be different from conditions occurring at these test locations. Also, the passage of time may result in a change in the soil conditions at these locations.

6. The observed groundwater levels and/or conditions indicated on the subsurface profiles are as recorded at the time of exploration. These water levels and/or conditions may vary considerably, with time, according to the prevailing climate, rainfall, or other factors and are otherwise dependent on the timing, duration of and methods used in the exploration program.

7. Unanticipated soil conditions are commonly encountered on construction sites and cannot be fully anticipated by merely taking soil samples, making borings or test pits, also known as "changed site conditions". Such unexpected conditions frequently require that design changes be made to attain a properly constructed and functioning project. It is therefore strongly recommended that the Client consider providing a contingency fund to accommodate potential extra costs resulting from the proposed changes.

8. This firm, GEO Environmental Engineering, cannot be responsible for any deviations from the intent of this report, but not restricted to, any changes to the scheduled time of construction, the nature of the project or the specific construction methods or means indicated in this report; nor can our firm be responsible for any construction activity on sites other than the specific site referred in this report.

CONTACT INFORMATION

For information or inquiries related to the above report please contact:

Karel M. Broda, P.E.

GEO Environmental Engineering

1131 Westview Dr., Roseburg, OR 97471

Phone: **(541) 672-1236** Cell: **(541) 580-1844**

E-mail: **geoengineering.broda@gmail.com**

The End

Technical Memorandum

Reconnaissance-Level Geologic Hazard Assessment

Deal Park, Lot 3
T23S-R13W-35BB
Tax Lot 1100

74951 Crannog Road North Bend

Coos County, Oregon

February 6, 2020

Prepared for:

Jeffrey A Urbach

C/O Sheri McGrath
Coos Curry Consulting
PO Box 1548
Bandon, Oregon 97411

Prepared by:

EVREN NORTHWEST INC.
environmental natural resource consultants
Offices in Portland and Bend, Oregon / San Rafael, California
P.O. Box 14488, Portland, Oregon 97293
T. 503-452-5561 / E. ENW@EVREN-NW.COM

Project No. 959-20001-01

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EVREN NORTHWEST INC.
environmental natural resource consultants

CERTIFIED
OREGON
LYNN DELAVAN GREEN
E2332
ENGINEERING GEOLOGIST

EXP. 2/1/2020

Lynn D. Green, C.E.G., Principal Engineering Geologist

REGISTERED PROFESSIONAL
OREGON
PAUL M. TRONE
No. G1178
GEOLOGIST
Exp 1-1-2021

Paul M. Trone, R.G., Principal Geologist

Contents

1.0 INTRODUCTION 1
1.1 Purpose 1
1.2 Scope 1
1.3 Site Description 2
2.0 SITE SETTING 3
2.1 Topography/Geomorphology 3
2.2 Hydrology 3
2.3 Geology 3
2.4 Hydrogeology/Ground Water 4
3.0 POTENTIAL GEOLOGIC HAZARDS 4
3.1 Aseismic Hazards 4
3.1.1 Mass Wasting 4
3.1.2 Compressible Soils 5
3.1.3 Storm Water 5
3.1.4 Flooding 5
3.1.5 High Ground Water Table 5
3.1.6 Sea Level Rise 6
3.1.6 Wind Erosion and Deposition 6
3.2 Seismic Hazards 6
3.2.1 Earthquakes 6
3.2.1 Liquefaction 6
3.2.1 Slope Failure or Lateral Spread 7
3.2.2 Amplification of Ground Shaking 7
3.3 Tsunamis 7
4.0 WETLANDS 7
5.0 RECOMENDATIONS 7
6.0 LIMITATIONS 8

Figures (after text)

1 Site Vicinity Map
2 Aerial Photo Map
3 Site Plan
4 Tax Lot Map
5a Historically Active Landslide Map
5b LIDAR Map
5c Landslide Susceptibility Map
5d Liquefaction Susceptibility Map
6 Flood Insurance Rate Map
7 Tsunami Inundation Zone Map
8 Wetland Inventory Map

Attachments

A Site Photographs
B Client-Provided Documents
C Boring Log and Well Logs (Oregon Water Resources Database)

Technical Memorandum
Reconnaissance-Level Geologic Hazard Assessment

Tax Lot 1100
T23S-R13W-35BB
Coos County, Oregon

1.0 INTRODUCTION

This report presents the results of a reconnaissance-level geologic hazard assessment conducted by EVREN Northwest, Inc. (ENW) for a proposed residential property in Coos County, Oregon. The property is located on the west shore of Saunders Lake, approximately one mile east of the Pacific Ocean and eight miles north of the City of North Bend, Oregon. The County designation for the property is Tax Lot 1100, T23S R13W 35BB, and the address is 74951 Crannog Road, North Bend, OR 97459 (see Figures 1 and 2). Findings and recommendations contained in this report are specific to the subject property.

1.1 Purpose

The purpose of the investigation was to identify the potential geologic hazards and related issues, if any, associated with the subject property. Specifically, the investigation is designed to comply with those County zoning and land use permit requirements pertinent to the property owners' request to construct a single-family residence and shop (one structure) on the northwest portion of the property. The County zoning designation for the subject property is Rural Residential 2 (RR-2).

> "The purpose of the RR-2 district is to provide for small acreage dwelling sites outside of Urban Growth Boundaries, where a moderate intensity of land development is appropriate, but where urban services and facilities may not be available."

The investigation was initiated at the request of the property owner.

1.2 Scope

The scope of this investigation consisted of a background review, field investigation, analysis of findings, and development of conclusions. The background review included resources in the office library including maps and publications on regional topography, general geology, engineering geology, geologic hazards and soils. Relevant on-line information reviewed included historical aerial and satellite photography, Oregon Department of Geology and Mineral Industries (DOGAMI) Statewide Landslide Information Database for Oregon (SLIDO) and published geologic reports and maps of the project area. Background information provided by the client consisted of a plot plan showing the footprint of the proposed structure, surveyed elevation information (NAVD 1988 Datum) for the undeveloped property, a tax lot map for the ¼, ¼ -section (40 acre area) that includes the subject property, and a copy of a geotechnical report prepared

by others[1]. This Geologic Hazard Assessment does not rely on the information in the aforementioned geotechnical report.

The field investigation consisted of visual observation of landforms and surface features on and adjacent to the subject property and the examination of subsurface materials exposed in outcrops on and near the property and collected from one test pit and one hand auger boring (TP1/HA1) completed near the center of the subject property.

1.3 Site Description

The subject property consists of a 0.59-acre trapezoidal shaped lot that is approximately 101-feet wide, and 209-feet long along its northern boundary and 284-feet long along its southern boundary. It is in the northwest-quarter of the northwest-quarter of Section 35, Township 23 south, Range 13 west of the Willamette Meridian in Coos County, Oregon (Figures 1 and 2). The lot is bordered on the northeast and southwest by similar size lots that have been developed as single family residences, on the southeast by Saunders Lake, and on the northwest by Crannog Road (Figure 3). The property across Crannog Road to the west of the site is part of the major dune complex that makes up the Oregon Dunes National Recreation Area. Access to the site from Crannog Road is via a gated graveled driveway on the southwest-adjacent property. The boundaries between the subject property and the two adjacent properties were not clearly marked during ENW's January 27, 2020 site visit but could be approximately estimated by referring to a tax lot map and aerial photograph of the project area.

There were no structures on the property at the time of ENW's visit. The northwestern third of the site consists of the southeastern edge of large sand dune. The portion of the dune on the subject property is active, in that it has little to no vegetative cover. The top of the dune has been graded flat at approximately the same elevation as Crannog Road and forms an approximately 35-foot wide bench on the southeast side of the road. The dune face slopes to the southeast at an angle of approximately 35-degrees, and the toe of the dune is approximately 27-feet lower in elevation than the top. Sand excavated from the face of the dune has been used to cover the center third of the site with an estimated 3- to 5-feet of fill. The fill was reportedly placed and compacted in lifts after the vegetation and top few inches of surface soil had been removed. A sharp break in slope and drop in elevation of up to five feet marks the southeastern edge of the fill. Beyond the area of fill, the property appears to be generally in its native state and has an overall gentle southeasterly slope to the western edge of Saunders Lake. Other than several evergreen trees in the north corner of the site, there is very little vegetation on the dune and sand-fill portion of the property. The southeast portion of the site includes a significant grove of evergreen trees and low-growing ground cover along the edge of the lake (See site photographs in Attachment A).

The property owner proposes to build a C-shaped (open to the southeast) residence on the northwest end of the site. The first story of the structure will be a concrete walled, high ceilinged shop/garage, and the second story will be the residence. This plan would reportedly require excavating an additional 15-feet (horizontally) from the dune face and lowering the top of the

[1] GEO Environmental Engineering, September 16, 2019, Geotechnical Engineering Assessment & Design of Foundations for Building Development, 74949 Carnnog Rd., North Bend, Oregon.

remaining dune to a point approximately 8-feet below road grade. A plot plan showing the proposed building location is included in Attachment B. The proposed residence would reportedly utilize an on-site sewage treatment system, with the drain field for that system being in native soil just southeast of the fill area. Treated lake water will reportedly be used for the domestic water supply. Electricity is provided to the property by Pacific Power.

2.0 SITE SETTING

2.1 Topography/Geomorphology

The project area is located along the boundary between two major coastal landforms. To the west is an aerially extensive, northeast-southwest trending, sand dune complex that includes areas of active and stabilized sand dunes. The eastern edge of this dune complex abuts, and is encroaching on, the western margin of an elevated, marine terrace landform (Beaulieu and Hughes, 1975)[2].

As described in the previous section, an approximately 27-foot tall sand dune is present on the northwest end of the subject property, the central portion is generally flat, and the southeastern portion is slightly undulating with a gentle overall slope toward Saunders Lake. According to survey information provided by the client (Attachment B), the elevation of the northwest (highest) end of the property is 98-feet above mean sea level (amsl), the generally flat-lying central portion is approximately 71-feet amsl, and the southeast portion slopes southeasterly from approximately elevation 65-feet to 60-feet amsl.

2.2 Hydrology

The Pacific Ocean is located on the western edge of the dune complex, approximately 6,000-feet west of the subject property. Saunders Lake, a freshwater lake, forms the southeastern boundary of the subject property. The U.S. Geological Survey 7.5' topographic quadrangle map of the project area (Lakeside, OR Quadrangle) shows one small unnamed stream flowing into Saunders Lake from the east, and no outlet streams. No perennial surface water features were observed on the subject property. However, stormwater runoff from Crannog Road was observed running onto the subject property (See photographs in Attachment A).

2.3 Geology

Regional: Beaulieu and Hughes (1975)[2] map the western portion of the coastal strip in the project area as being underlain by geologically Recent active and stabilized dune sands. The eastern portion of the coastal strip is shown as being underlain by Quaternary marine terrace deposits. The dune deposits consist of "unconsolidated fine- to medium-grained sand..." and are reportedly up to 200-feet thick. The terrace deposits are described as consisting of "unconsolidated to semi-consolidated flat-lying and elevated marine deposits of sand, silt, clay and gravel ...", and reportedly range in thickness from a few feet to over fifty feet. Both of these surficial units are typically underlain by bedrock geologic units of Tertiary Age. The bedrock unit in the project area is identified by Beaulieu and Hughes (1975) as undifferentiated Eocene Coaledo Formation,

[2] Beaulieu, J.D. and Hughes, P.W., 1975, Environmental Geology of Western Coos and Douglas Counties, Oregon: Oregon Department of Geology and Mineral Industries Bulletin 87, 173 p.

which they describe as being primarily sandstone.

Site: The surface geology in the area of the subject property is mapped by Beaulieu and Hughes (1975)[2] as dune sand (active and stabilized), with minor Quaternary alluvium deposits (lake sediment) near the edge of Saunders Lake. The soil exposed on the dune face and on the downslope end of the fill consists primarily of cohesionless, fine to medium, quartzo-feldspathic sand (dune sand). Subsurface soils observed in samples collected from one test pit (previously excavated by others) and one hand augur boring completed by ENW (HA1) ranged from very loose sand to medium-stiff fine-sandy silt, and are described in more detail on the boring log in Attachment C. The total thickness of these eolian and possibly lacustrine deposits was not determined. However, well construction reports (well logs) for two water-wells reportedly completed in the same ¼, ¼-section (40-acre area) and on file in the Oregon Water Resources Department (OWRD) well log data base (GRID database) show similar deposits extending to a depth of at least 95-feet (Attachment C).

2.4 Hydrogeology/Ground Water

The unconsolidated sand that makes up the dune complex allows for the efficient infiltration and storage of a major percentage of the more than sixty inches of incident precipitation that falls in the project area annually. As a result, the dunes contain significant volumes of ground water. The ground water in this dunal aquifer is recharged primarily by incident precipitation, and discharges to surface water features (lakes, streams, and the Pacific Ocean) on and adjacent to the dune complex. Well logs for water supply wells (Coos 505 and Coos 52165) located in the project area (Attachment C) indicate that ground water is present locally, and that it is used for domestic purposes. No well log was identified for the subject property or for either of the two adjoining residential properties.

Ground water that is discharged from the adjacent sand dune complex is most likely the primary source of the water in Saunders Lake, and the water table beneath the subject property can be expected to be approximately the same elevation as the water level in the lake. Ground water was encountered at a depth of approximately six feet in HA1.

3.0 POTENTIAL GEOLOGIC HAZARDS

3.1 Aseismic Hazards

3.1.1 Mass Wasting

Mass wasting includes all forms of down slope movement of soil and rock material under the influence of gravity. It includes everything from barely perceptible soil creep to catastrophic mud flows and landslides. Steep slopes, weak soil and rock strength, and the various effects of water on soil and rock are the primary controlling factors for mass wasting. Also, earthquakes often serve as triggers for mass wasting events.

One area of potentially unstable slope conditions is the southeast face of the dune feature at the northwest end of the property (See photographs in Attachment A and Figure 5b - Lidar Map). The slope of the dune face appears to be at or near the angle of repose for unconsolidated sand (30-

to 35-degrees). If the slope is steepened by removing sand from the toe of the dune, the over steepened slope will fail. A similar situation exists for the sand exposed at the toe (southeast side) of the sand fill in the center portion of the property. Except for these two areas, the remainder of the subject property is relatively flat to gently sloping and not prone to mass wasting hazards. No historically active landslides were mapped within the immediate area (within ½ mile) of the subject site (Figure 5a), and the State has indicated that the landslide hazard is low to high (Figure 5c).

3.1.2 Compressible Soils

No highly compressible soils (peat or bog deposits) were observed by ENW in site outcrops or in samples collected from the test pit or augur boring. Definitive determination of the presence or absence of compressible soils at depth beneath the proposed building site would require subsurface testing beyond the scope of this investigation.

3.1.3 Storm Water

Given the unconsolidated and sandy nature of the surface and shallow subsurface soils at the site, significant storm-water run-off from natural surfaces is not anticipated. However, significant storm-water run-on from Crannog Road was observed during ENW's site visit. This run-on resulted in ponding and minor soil erosion on northwest portion (dune area) of the site. It is anticipated that additional storm-water run-off will be generated by the impermeable surfaces associated with the proposed development (driveway, parking area, roof, etc.).

3.1.4 Flooding

Given the elevation and topographic setting of the subject property, the potential for flooding appears to be limited to the portion of the site adjacent to Saunders Lake. No information was obtained on the amount of seasonal fluctuation in lake water level typically experienced. However, based on shoreline vegetation patterns, it appears that sustained lake water levels more than a few feet higher than the level observed during ENW's site visit are not common. The survey information provided by the client indicates a base flood elevation of 63.2'. A Flood Insurance Rate Map from Federal Emergency Management Agency is attached (Figure 6) showing the entire subject property is outside of the 100-year flood plain. The predicted elevations of more frequent flood events (annual, 10-year, etc.) in the project area were not established as part of this assessment.

3.1.5 High Ground Water Table

Based on the results of the hand augur boring completed by ENW and the assumption that the water level in Saunders Lake (and subsequently the water table level) does not rise significantly during the wet season, the uppermost regional ground-water table beneath the portion of the subject property to be used for the construction of the residence is expected to be more than 5-feet below ground surface (bgs). Any sewage treatment and disposal system constructed onsite must comply with all State and County ground water protection rules and regulations.

3.1.6 Sea Level Rise

According to National Research Council projections[3], a change in sea level ranging from -4 cm (-2 in) to +23 cm (9 in) is projected by the year 2030 along the northern coast of California (north of Cape Mendocino), Oregon, and Washington. Similar projections along the same section of coastline range from -3 cm (-1 in) to +48 cm (19 in) by the year 2050, and +10 cm (4 in) to +143 cm (56 in) by the year 2100. Because the subject property is more than 50-feet amsl, even a rise in sea level that was higher than those predicted will not likely adversely affect the subject property.

3.1.6 Wind Erosion and Deposition

Cohesionless dune sands are exposed at the surface over much of the northwestern portion of the site. These soils are highly subject to wind erosion. Dune encroachment is common on properties adjacent to active (no vegetation cover) sand dunes. Large active dunes are located less than 200-feet west of the subject property (Figure 2), but accurate prediction of the amount of future dune expansion in the project area is beyond the scope of this investigation.

3.2 Seismic Hazards

3.2.1 Earthquakes

Beaulieu and Hughes (1975)[2] state that geologic evidence for earthquake activity in western Coos and Douglas Counties is ambiguous and historical data are limited; however, the possibility of future faulting of undefined magnitude remains. In the past three decades, geologists have determined that the Northwest is subject to infrequent, but very powerful (magnitude 9+ on the Richter Scale) subduction zone earthquakes on the offshore Cascadia Subduction Zone (CSZ) fault system[4]. Geologists believe that the most recent subduction zone earthquake in the Northwest occurred in January of 1700, and that very CSZ earthquakes can be expected to occur on a 300- to 500-year recurring basis. Smaller, but still significant, subduction related earthquakes are likely to occur on a much more frequent basis.

3.2.1 Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid loading. No deep soil exploration or testing was completed by ENW for this project. However, deposits of saturated loose sandy to silty soils are known to underlie the project area, and these types of soils are subject to the effects of liquefaction triggered by earthquake activity. The site is mapped in an area having high risk of liquefaction susceptibility (Figure 5d).

---

[3] National Academy of Sciences, National Academy of Engineering, Institute of Medicine, and National Research Council, 2012, Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future, Report in Brief, http://dels.nas.edu/resources/static-assets/materials-based-on-reports/reports-in-brief/sea-level-rise-brief-final.pdf

[4] Priest, G.A., 1995, Explanation of Mapping Methods and Use of the Tsunami Hazard Maps of the Oregon Coast: State of Oregon Department of Geology and Mineral Industries Open-File Report O-95-67, 20 p, figures, tables, and appendices.

3.2.1 Slope Failure or Lateral Spread

The effect of a major subduction zone earthquake on slope stability in the project area is difficult to predict. No historically active landslides were mapped within the immediate area (within ½ mile) of the subject site (Figure 5a), and the State has indicated that the landslide susceptibility of the subject property is low to high (Figure 5c).

3.2.2 Amplification of Ground Shaking

The subject site is within the area of the state where peak ground accelerations of 55% of gravity can inflict considerable damage in specially designed structures and great damage in ordinary structures during an earthquake occurring once in every 1,000 years (with a 5% chance of occurrence in any 50-year period)[5].

3.3 Tsunamis

Tsunamis are seismically generated sea waves that typically cause catastrophic flooding when they strike coastal areas. Major earthquakes that occur anywhere in the Pacific Basin have the potential to generate a tsunami that could impact the project area. However, the greatest threat is from an earthquake occurring along the Cascadian Subduction Zone (CSZ), located just off-shore of the Pacific Northwest coastline. The magnitude of the earthquake and its resultant tsunami are primarily driven by the amount and geometry of the slip that takes place when the North American Plate snaps westward over the Juan de Fuca Plate during a CSZ event.

DOGAMI's tsunami inundation map[6] (Figure 7) displays the output of its computer models representing five (5) selected tsunami scenarios (S, M, L, XL and XXL), all of which include the earthquake-produced subsidence and the tsunami-amplifying effects of the splay fault, which roughly parallels the CSZ. These models predict that the subject area is just outside the projected area of tsunami hazard.

4.0 WETLANDS

Based on information provided by Coos County and the US Fish and Wildlife Service, there are no inventoried wetlands on or near the subject property (Figure 8).

5.0 RECOMENDATIONS

Based on the work completed for this assessment and the findings discussed above, ENW makes the following recommendations:

- The placement of any structure on the property should be preceded by a detailed geotechnical investigation of the proposed development site.
- Cut slopes steeper than 30-degrees that result from the proposed excavation of additional dune sand on the northwest end of the property will need to be stabilized with retaining walls or similar engineered structures.

[5] Madin, I. P. and Mabey, M. A., 1996, Earthquake Hazard Maps for Oregon: Geological Map Series GMS-100, issued by the State of Oregon Department of Geology and Mineral Industries.
[6] DOGAMI. 2012. Local Source (Cascadia Subduction Zone) Tsunami Inundation Map. Tsunami Inundation Map Coos-16.

- Stripping of vegetation should be avoided, and areas of exposed dune sand should be stabilized with vegetation or by other means to reduce the potential for wind erosion.
- Stormwater run-on from Crannog Road and run-off from the proposed development (driveways, parking areas, roof gutter down spouts, etc.) must be managed in accordance with Coos County storm water management regulations, and in such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drain fields, and excessive erosion or sedimentation. Excessive storm water run-off, blocked or broken drain lines, culverts or ditches, and saturated soils are frequently the most significant contributing factors to severe erosion, localized flooding, and foundation settlement.
- We recommend quantifying the severity of ground motions at the site and/or designing any structures to prevent collapse during a worst-case scenario to minimize injury and/or loss of life to the structure's occupants.
- Client is encouraged to share these findings with a geotechnical engineer, who can then incorporate these findings into their geotechnical analysis.

6.0 LIMITATIONS

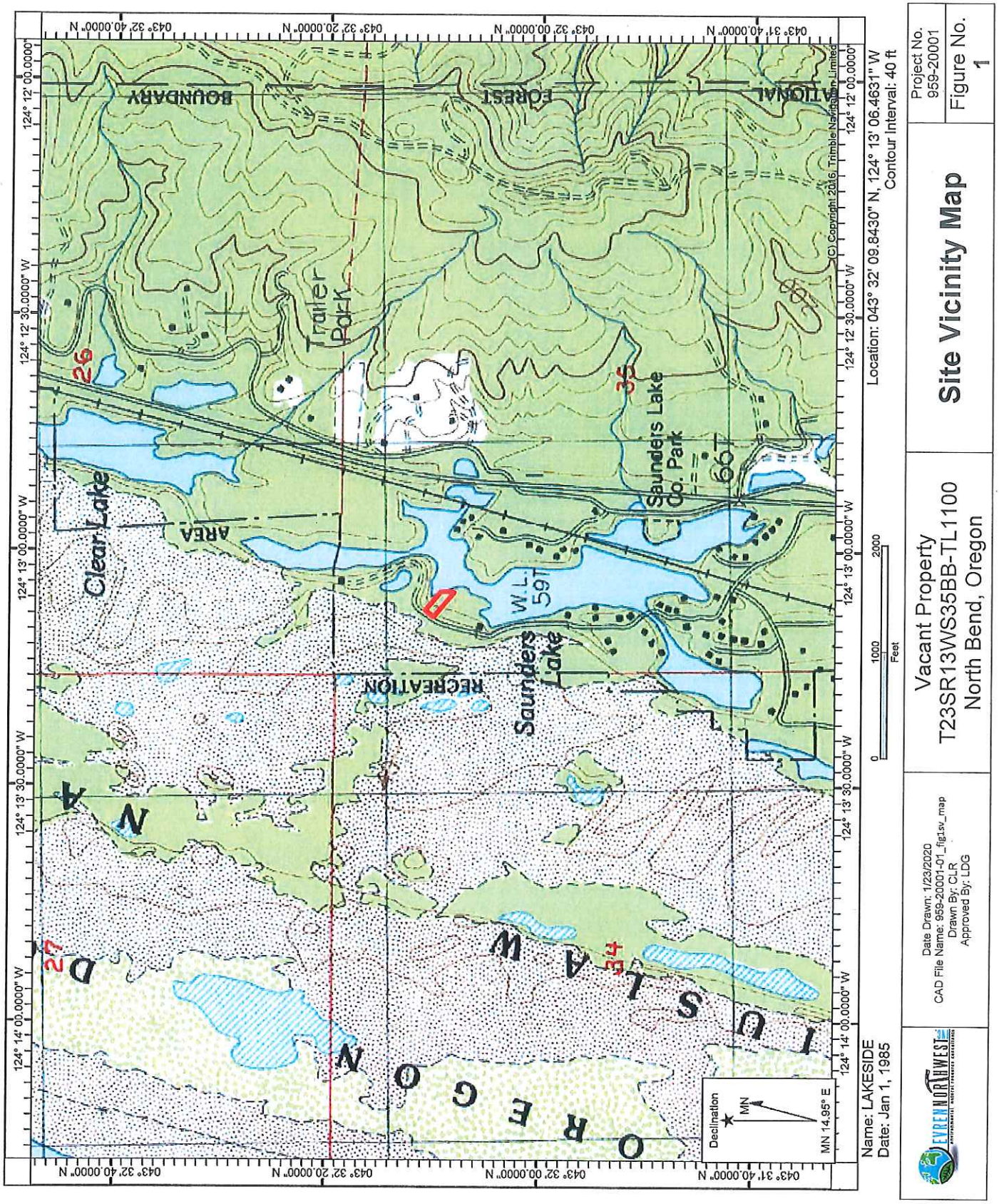
The scope of this Technical Memorandum is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

Limited subsurface exploration has been performed in conjunction with this assessment, and detailed mapping has not been completed. Figures and findings presented herein are based on limited site reconnaissance. Conclusion and recommendation presented in this assessment were prepared in accordance with generally accepted professional geologic engineering principals and practice. We make no warranty, either express or implied.

We have performed our services for this project in accordance with our agreement and understanding with the Client. This document and the information contained herein have been prepared solely for the use of the Client. We have performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation that we may have failed to identify the presence of geological hazards other than those specifically mentioned in this assessment. We assume no responsibility for conditions that we did not specifically evaluate, or conditions that were not generally recognized at the time this report was prepared.

EXHIBIT D

FIGURES



EVREN NORTHWEST

Date Drawn: 1/23/2020
CAD File Name: 959-20001-01_fig1sv_map
Drawn By: CLR
Approved By: LDG

Vacant Property
T23SR13WS35BB-TL1100
North Bend, Oregon

Site Vicinity Map

Project No. 959-20001

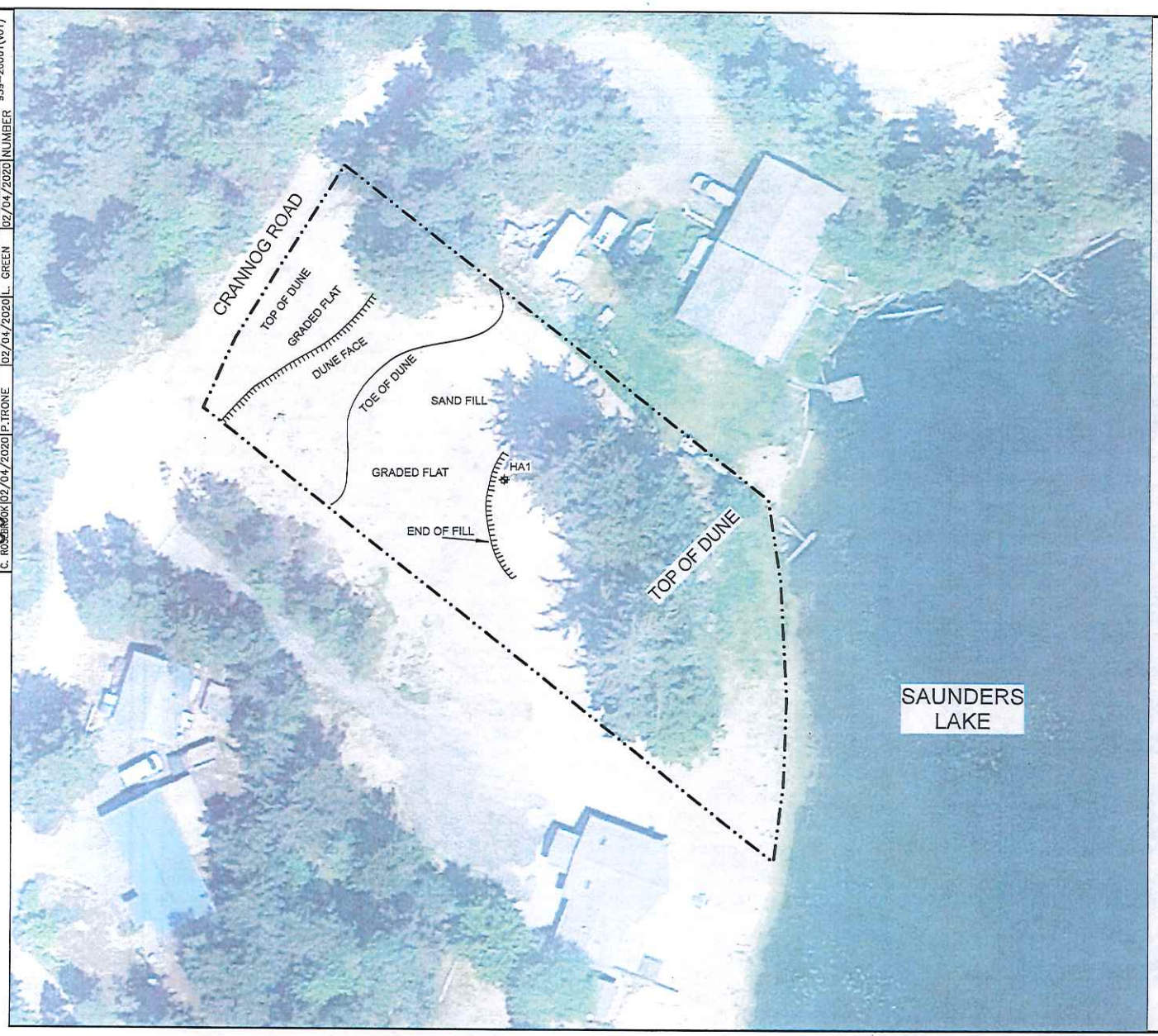
Figure No. 1

Name: Satellite Image
Date: Unknown

0 100 200 300 400 500
Feet

Location: 043° 32' 09.6826" N, 124° 13' 07.0252" W

EVREN NORTHWEST INC environmental natural resource consultants	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig2aerial Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Aerial Photo Map**	Project No. 959-20001 Figure No. **2**



LEGEND:

- SUBJECT BUILDINGS
- SUBJECT PROPERTY BOUNDARIES
- HA1 HA BORING

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2018 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

APPROXIMATE SCALE

0 40 80 FEET

N

EVREN NORTHWEST INC.
environmental, natural resource consultants
PO BOX 14488, PORTLAND, OREGON 97293
P: (503)452-5561, E: ENW@EVREN-NW.COM

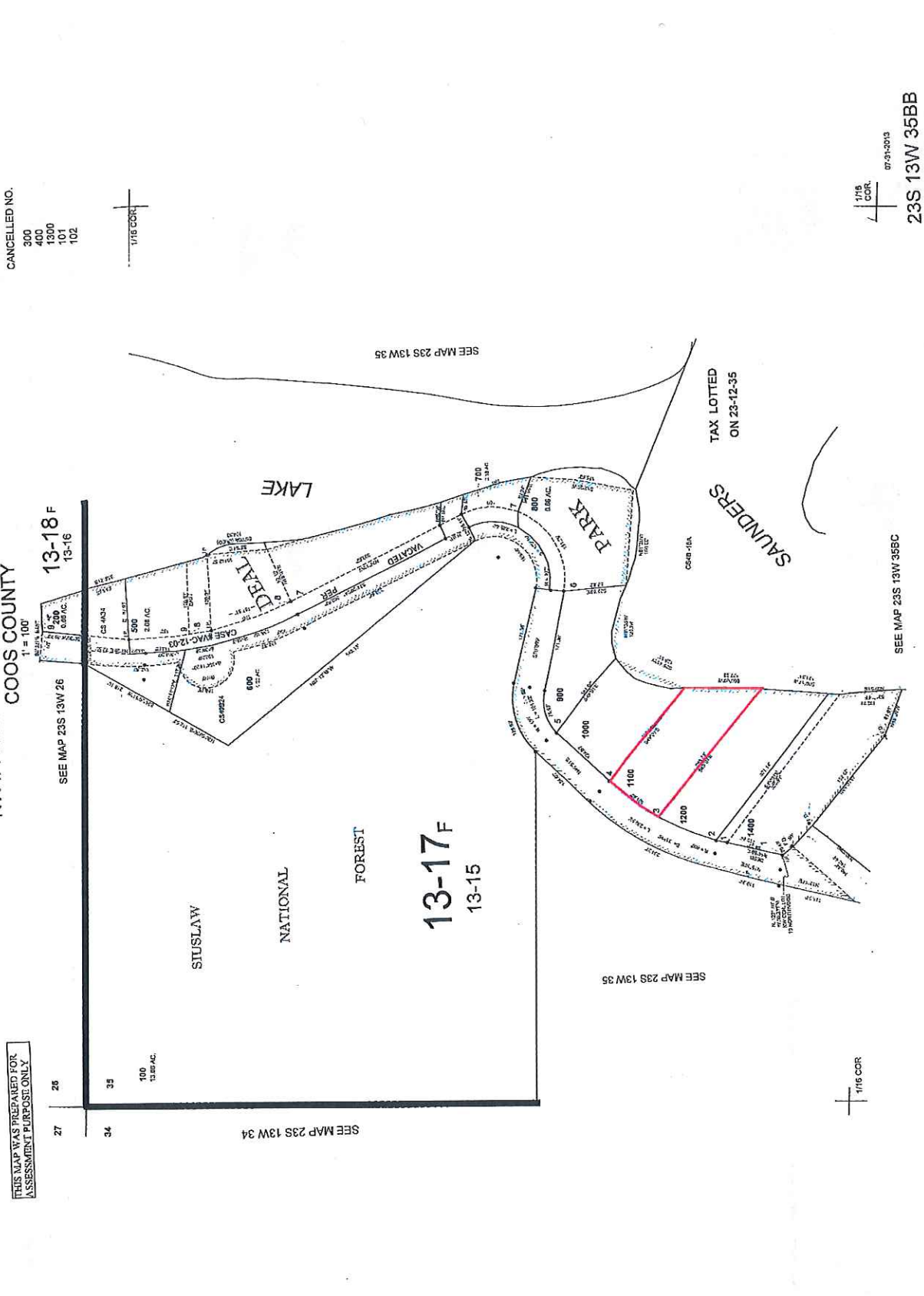
FIGURE 3

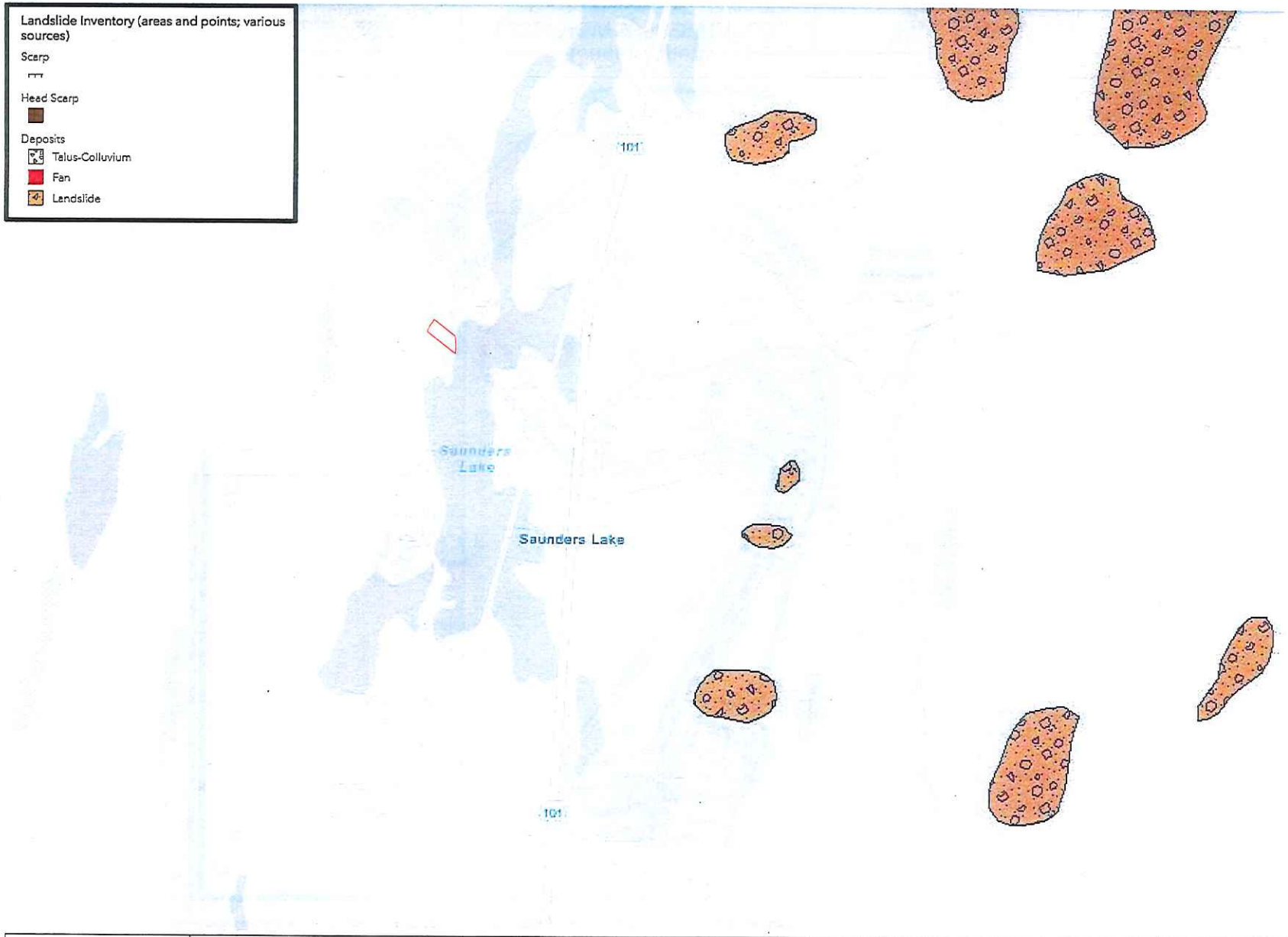
SITE PLAN

VACANT PROPERTY
T23SR13WS35BB-TL1100
NORTH BEND, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
C. ROSEBROOK 02/04/2020	P.TRONE 02/04/2020	L. GREEN 02/04/2020	959-20001(v01)

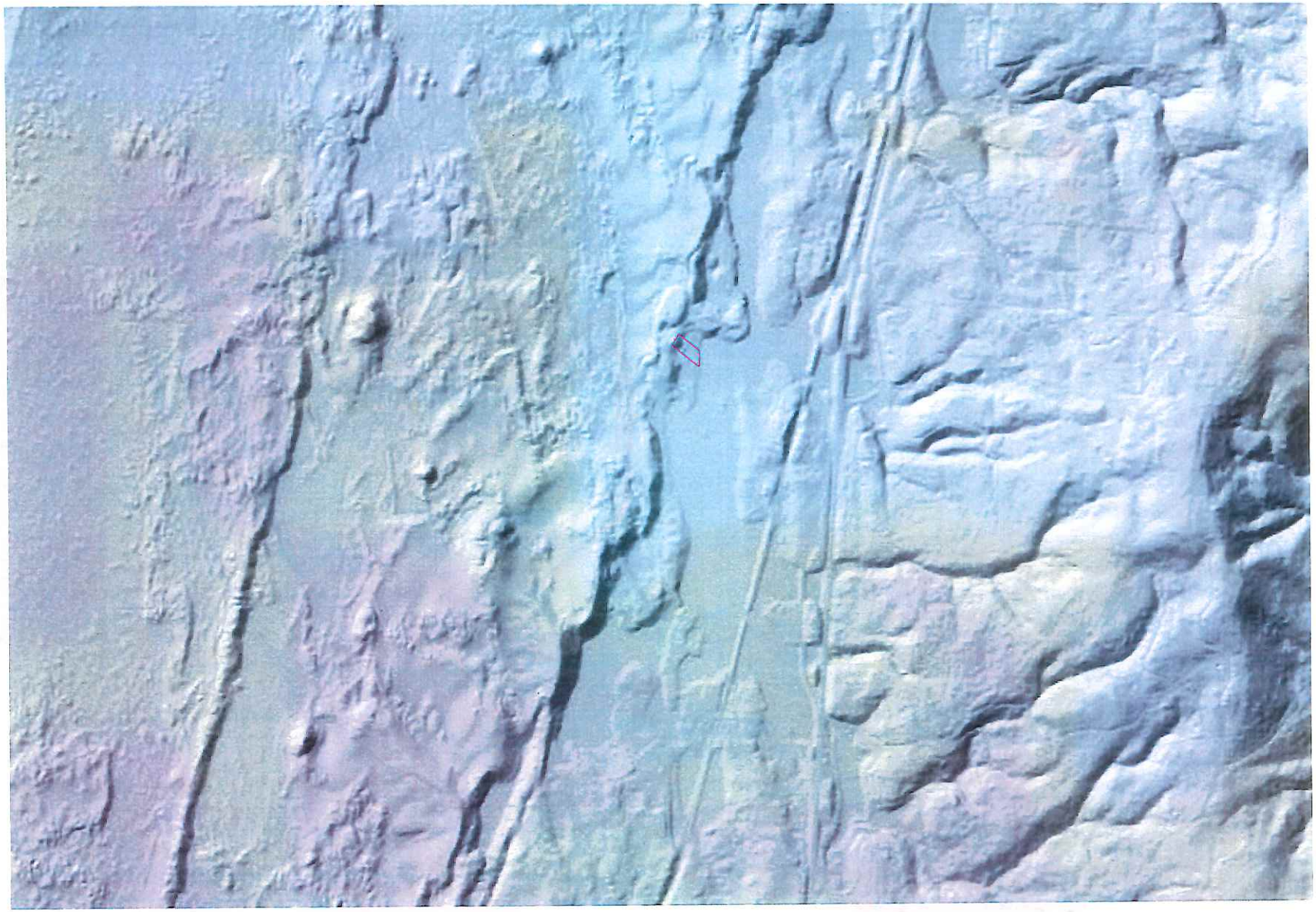
EXHIBIT D


23S 13W 35BB
CANCELLED NO.
300
400
1300
101
102
1/16 COR.
NW1/4 NW1/4 SEC. 35 T23S R13W W.M.
COOS COUNTY
1" = 100'
13-18 F
13-16
SEE MAP 23S 13W 26
SEE MAP 23S 13W 35
LAKE
DEAL
VACATED
PER
CASE MMC-12-03
PARK
SAUNDERS
TAX LOTTED
ON 23-12-35
SEE MAP 23S 13W 35BC
23S 13W 35BB
1/16 COR.
07-31-2013
SIUSLAW
NATIONAL
FOREST
13-17 F
13-15
SEE MAP 23S 13W 34
SEE MAP 23S 13W 35
1/16 COR.
THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY
Vacant Property
T23SR13WS35BB-TL1100
North Bend, Oregon
Tax Lot Map
Project No. 959-20001
Figure No. 4
Date Drawn: 1/23/2020
CAD File Name: 959-20001-01_fig4TaxLot
Drawn By: CLR
Approved By: LDG
EVREN NORTHWEST

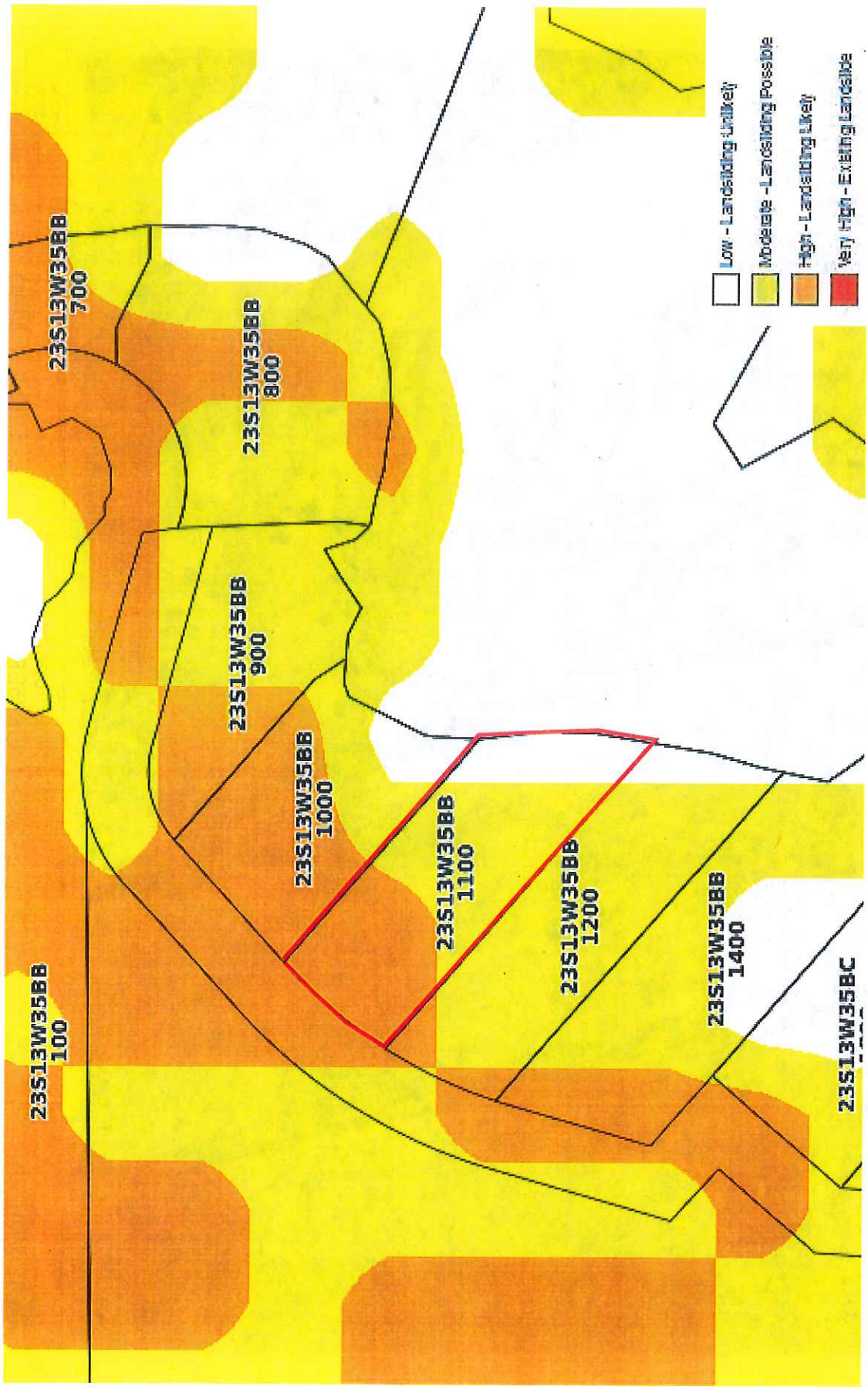


EVREN NORTHWEST	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig5ahist.act.lands(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Historically Active Landslide Map**	Project No. 959-20001 Figure No. **5a**

EXHIBIT D



EVREN NORTHWEST environmental, natural resource consultants	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig5b_Lidar(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**LiDAR Map**	Project No. 959-20001 Figure No. **5b**



EVREN NORTHWEST

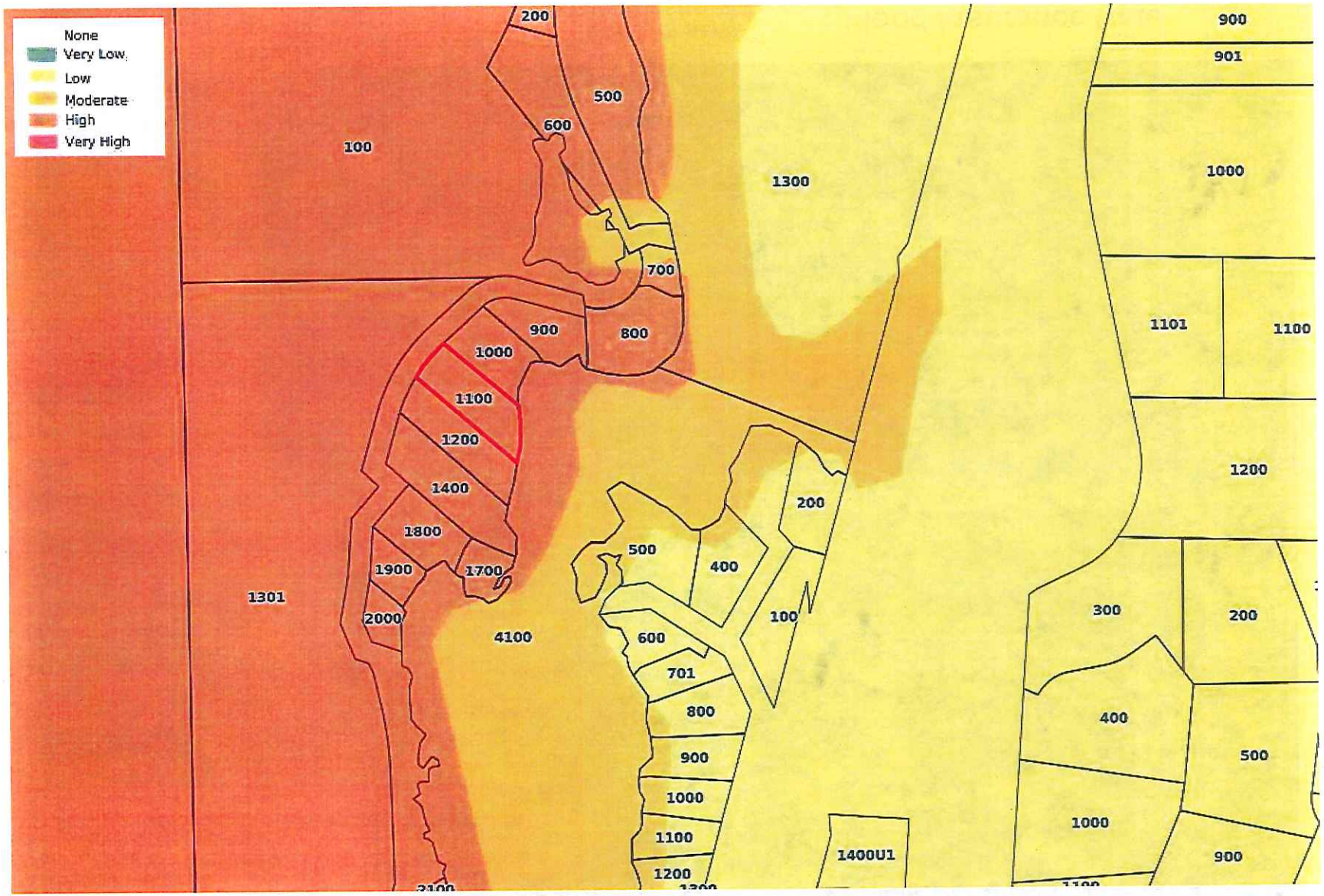
Date Drawn: 2/5/2020
CAD File Name: 959-20001-01_fig5c_LandsSus(v01)
Drawn By: CLR
Approved By: LDG

Vacant Property
T23SR13WS35BB-TL1100
North Bend, Oregon

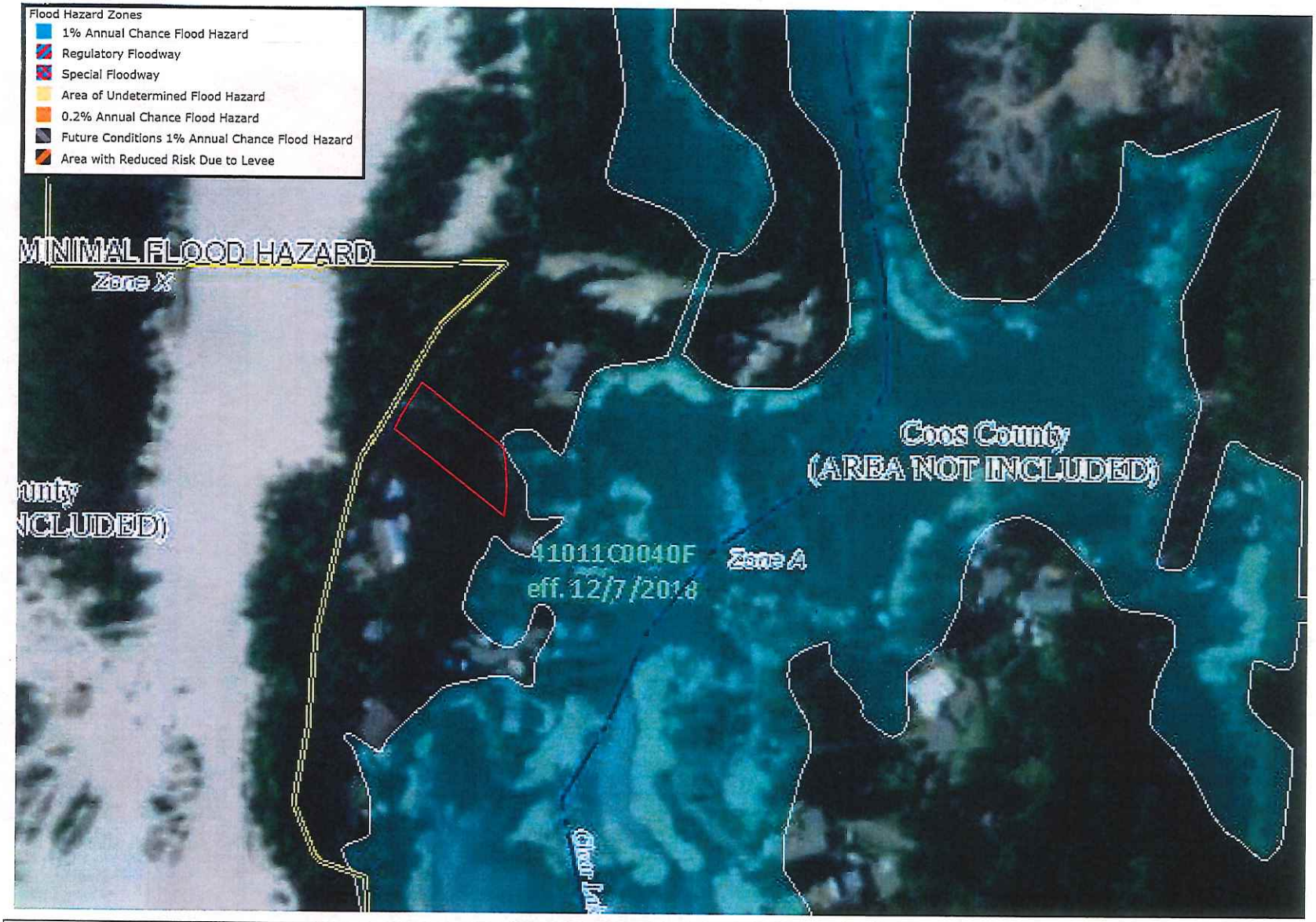
Landslide Susceptibility Map

Project No. 959-20001

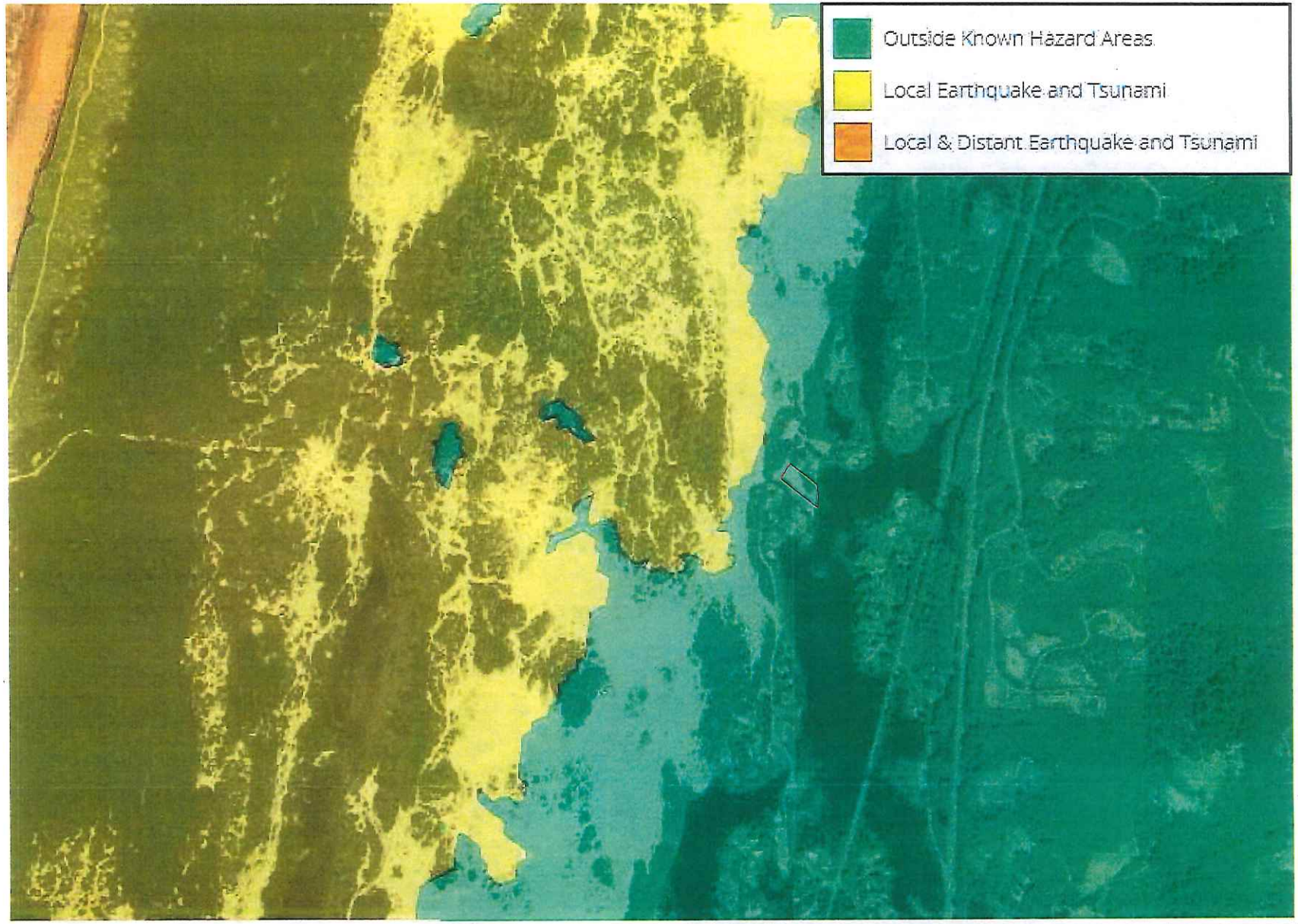
Figure No. 5c



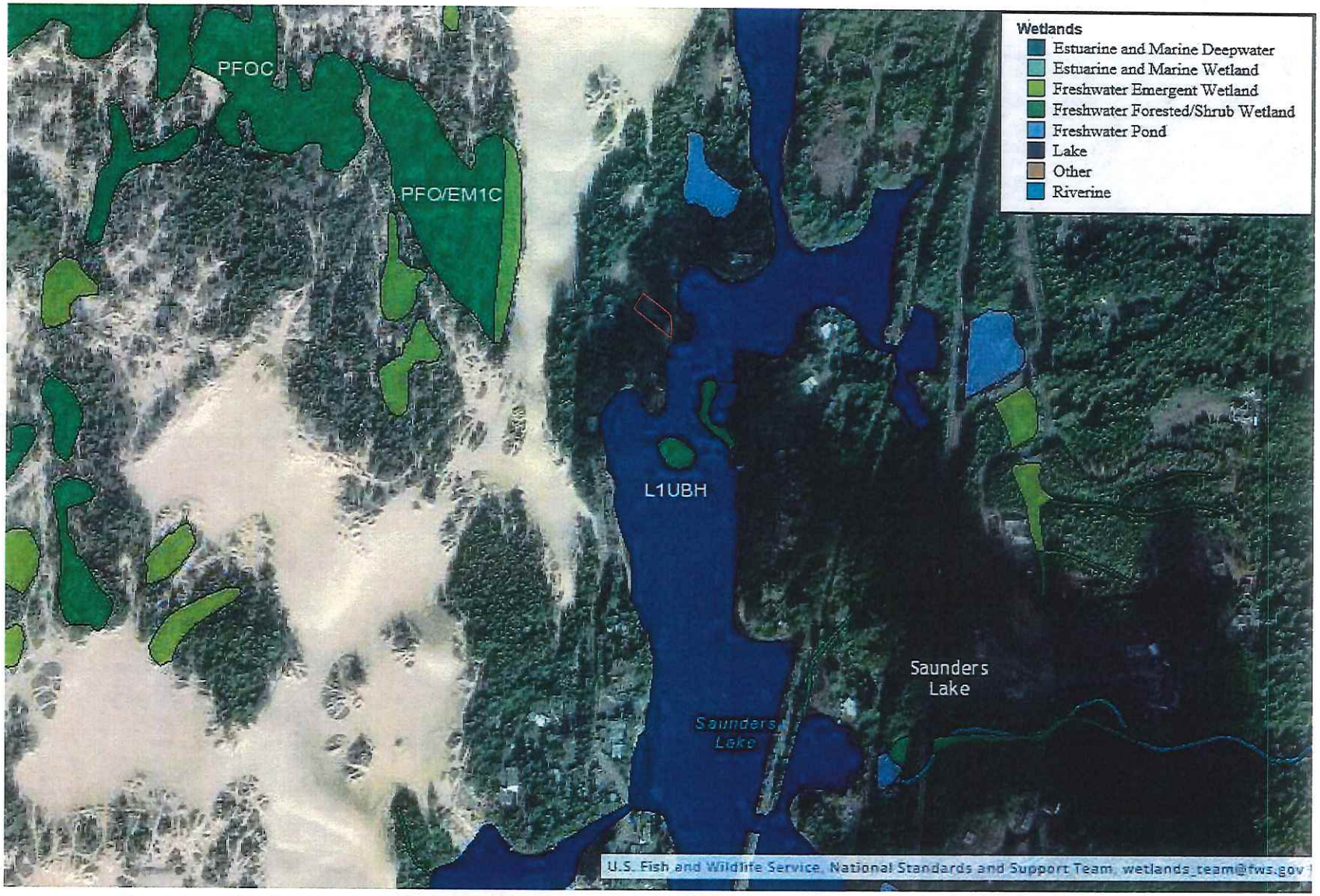
EVREN NORTHWEST	Date Drawn: 2/5/2020 CAD File Name: 959-20001-01_fig5d_Liquification(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Liquification Map**	Project No. 959-20001 Figure No. **5d**



EVREN NORTHWEST INC environmental natural resource consultants	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig6_Flood insuranceMap(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Flood Insurance Rate Map**	Project No. 959-20001 Figure No. 6



EVREN NORTHWEST	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig7_TsunamiZoneMap(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Tsunami Inundation Zone Map**	Project No. 959-20001 Figure No. **7**



EVREN NORTHWEST	Date Drawn: 1/23/2020 CAD File Name: 959-20001-01_fig8_WetlandInvMap(v01) Drawn By: CLR Approved By: LDG	Vacant Property T23SR13WS35BB-TL1100 North Bend, Oregon	**Wetland Inventory Map**	Project No. 959-20001 Figure No. **8**

ATTACHMENT A

SITE PHOTOGRAPHS

NW portion of Site at top of dune looking west. Crannog Road is visible upper-left to lower-right.

NW portion of Site looking south from top of dune.

Storm water run-off from Crannog Road ponded onto the NW part of Site.

Storm water run-off from Crannog Road flowing onto Site.

EVREN NORTHWEST INC. environmental natural resource consultants	Vacant Property T28S R15W S36 Lot 3306 Bandon, Oregon	**Site Photographs**	Project No. 959-17003-01 Appendix A

View of Site looking SE from top of sand dune.

View of Site looking northwest from a position near Saunders Lake.

Saunders Lake shoreline looking north (graveled area not on subject property).

On-site fir tree grove looking north from south-adjacent property.

EVREN NORTHWEST INC. environmental / natural resource consultants	Vacant Property T28S R15W S36 Lot 3306 Bandon, Oregon	**Site Photographs**	Project No. 959-17003-01 Appendix A

Test pit (dug by others) in sand fill area – view southeast.

Southeast end of sand fill area – view north.

Test pit (dug by others) and location of HA1.

View looking north from test pit and HA1 location at sand dune face.

EVREN NORTHWEST INC. environmental / natural resource consultants	Vacant Property T28S R15W S36 Lot 3306 Bandon, Oregon	**Site Photographs**	Project No. 959-17003-01 Appendix A

ATTACHMENT B

CLIENT-PROVIDED DOCUMENTS

EXHIBIT D

COOS County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2019

NOT OFFICIAL VALUE

June 13, 2019 4:39:25 pm

Account #	7455200	Tax Status	ASSESSABLE
Map #	23S1335BB01100	Acct Status	ACTIVE
Code - Tax #	1315-7455200	Subtype	NORMAL
Legal Descr	See Record		
Mailing Name	URBACH, JEFFREY A	Deed Reference #	2018-4681
Agent		Sales Date/Price	05-18-2018 / $547,000.00
In Care Of		Appraiser	
Mailing Address	35 BRIDGE ST FAIRVIEW, OR 97024-2671		

Prop Class	100	MA	SA	NH	Unit
RMV Class	100	01	05	DAA	42452-1

Situs Address(s)	Situs City

Value Summary

Code Area		RMV	MAV	AV	RMV Exception	CPR %
1315	Land	70,140			Land 0	
	Impr.	0			Impr. 0	
Code Area Total		70,140	31,950	31,950	0	
Grand Total		70,140	31,950	31,950	0	

Land Breakdown

Code Area	ID#	RFPD	Ex	Plan Zone	Value Source	TD%	LS	Size	Land Class	LUC	Trended RMV
1315	10	☑		RR-2	Market	100	A	0.91	MV	001	
					Grand Total			0.91			

Improvement Breakdown

Code Area	ID#	Yr Built	Stat Class	Description	TD%	Total Sq. Ft.	Ex%	MS Acct #	Trended RMV
				Grand Total		0			0

Exemptions/Special Assessments/Potential Liability

Code Area	Type						
1315							
FIRE PATROL:							
■ FIRE PATROL TIMBER	Amount	18.75	Acres	0.91	Year	2019	

Comments: DEAL PARK
LOT 3
FIRE PAT ACRES .58

ATTACHMENT C

BORING LOG AND WATER WELL REPORTS

EVREN Northwest, Inc.

DRILL LOG	PROJECT	PROJECT NO.	BORING NO.
	Deal Park, Lot 3, T23S-R13W-35BB, Tax Lot 1100	959-20001-01	HA1

SITE	BEGUN	COMPLETED	HOLE SIZE	ANGLE FROM HORIZ.
74949 Crannog Road, North Bend, Coos County, Oregon	1/27/2020	1/27/2020	2-inch	

COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION
		1/27/2020	5.8'	6.8'	71 feet msl

DRILLER	CORE RECOVERY (%)	# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Hand Auger	90	Continuou		NA

DRILL MAKE AND MODEL	LOGGED BY:	DEPTH BOTTOM OF HOLE
	Kent Mathiot	10.5

DEPTH	STRATA ELEVATION/ DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA: SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const./ Completion	PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
0			Dark grey/brown, loose, dry to moist SAND with abundant organic matter (Duff).			100			PPT = 0-0.5 tons/ft2
			Light brown, loose, dry SAND with some small (<1/8" diam.) roots, occasional orange mottles			100			PPT = 0-0.5 tons/ft2
			Tan, loose, dry to moist, SAND			100			
2			Root mass / mat (possible buried surface soil horizon)			100			PPT = 0-0.25 tons/ft2
			Dark red-brown, moist to wet, fine sandy SILT grading to silty fine SAND with depth, medium stiff / medium dense, occasional burned wood fragments.			100			PPT = 0.5-1.5 tons/ft2 Torvane = 0.3 0.35 Kg/ cm2
4									
6									
			Light red-brown, loose, wet, silty fine SAND.			100			
8									
			No sample recovery, but material augers like a compact, loose uniform SAND.			0			
10			End of Boring at 10.5 feet bgs						
12									
14									

EXHIBIT D WC 15

MAR 2 - 1992

WATER RESOURCES DEPT

Coos 505

23S/13W/35bd

STATE OF OREGON

WATER WELL REPORT

(as required by ORS 537.765)

(START CARD) # 37935

(1) OWNER:

Well Number:

Name Mary McKay

Address 1607 SE 141st Ave

City Vancouver State WA Zip 98684

(2) TYPE OF WORK:

☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD

☒ Rotary Air ☐ Rotary Mud ☐ Cable

☐ Other

(4) PROPOSED USE:

☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation

☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval Yes ☐ No ☒ Depth of Completed Well 87 ft.

Explosives used Yes ☐ No ☒ Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
9	0	20	Bent	20	0	2
6½	20	87				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E

☑ Other

Backfill placed from ft. to ft. Material

Gravel placed from 87 ft. to 20 ft. Size of gravel pea gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	4½	+2	60	SDR17	☐	☑	☑	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s)

(7) PERFORATIONS/SCREENS:

☐ Perforations Method

☑ Screens Type Hydraulic Material PVC

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
60	87	.010		4½	4½	☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour

☐ Pump ☐ Bailer ☑ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
10		87	1 hr.

Temperature of water 52° Depth Artesian Flow Found

Was a water analysis done? ☐ Yes By whom

Did any strata contain water not suitable for intended use? ☐ Too little

☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County Coos Latitude Longitude

Township 23 N or ☒ S Range 13 E or ☒ W WM.

Section 35 BC NW ¼ NW ¼

Tax Lot 300 Lot Block Subdivision

Street Address of Well (or nearest address) 229 Lakewood North Bend, OR

(10) STATIC WATER LEVEL:

32 ft. below land surface. Date 1-31-92

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 55

From	To	Estimated Flow Rate	SWL
55	87	10 gpm	32

(12) WELL LOG:

Ground elevation

Material	From	To	SWL
Brown Clay & Sand mix	0	30	
Lt Brown Sandy Clay mix	30	42	
Brown sandy clay mix	42	55	
Brown Sand	55	87	32

Date started 1-30-92 Completed 1-31-92

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.

WWC Number

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 1381

Signed Ron Ramsey Date 2-27-92

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C 3/88

EXH B 52 165

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)
Instructions for completing this report are on the last page of this form.

WELL I.D. # L 53157
START CARD # 140050

(1) LAND OWNER Well Number
Name Alice DeBolt-Knight
Address 226 Island Dr
City North Bend State OR Zip 97459

(2) TYPE OF WORK
☒ New Well ☐ Deepening ☐ Alteration (repair/recondition) ☐ Abandonment

(3) DRILL METHOD:
☐ Rotary Air ☒ Rotary Mud ☐ Cable ☐ Auger
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Livestock ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval ☐ Yes ☒ No Depth of Completed Well 95 ft.
Explosives used ☐ Yes ☒ No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10	0	95	Bent	20	0	75

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other Poured
Backfill placed from ft. to ft. Material
Gravel placed from 95 ft. to 20 ft. Size of gravel 10-20

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	5	12	90	SDR 26	☐	☒	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Drive Shoe used ☐ Inside ☐ Outside ☒ None
Final location of shoe(s)

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☒ Screens Type Cook Material S.S

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
95	90	#10		5	5	☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☐ Bailer ☒ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
15		95	1 hr.

Temperature of water 52° Depth Artesian Flow Found
Was a water analysis done? ☐ Yes By whom
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other
Depth of strata:

(9) LOCATION OF WELL by legal description:
County Coos Latitude Longitude
Township 23 N or S Range 13 E or W WM.
Section 35 NW 1/4 NW 1/4
Tax Lot 2200 Lot Block Subdivision
Street Address of Well (or nearest address) 92539 Cronin
N. Bend

(10) STATIC WATER LEVEL:
30 ft. below land surface. Date 10-3-01
Artesian pressure lb. per square inch Date

(11) WATER BEARING ZONES:
Depth at which water was first found 30

From	To	Estimated Flow Rate	SWL
30	95	15 gpm	30

(12) WELL LOG:
Ground Elevation

Material	From	To	SWL
Top soil	0	1	
Brown sand clay	1	12	
Brown Sand	12	95	30
Brown Clay	95		

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SALEM, OREGON

Date started 9-30-01 Completed 10-2-01

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.
WWC Number
Signed Date

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 1431
Signed Dan Gumaer Date 10-2-01

ORIGINAL – WATER RESOURCES DEPARTMENT FIRST COPY – CONSTRUCTOR SECOND COPY – CUSTOMER