



# NOTICE OF LAND USE DECISION

**You may have received this because you are an adjacent property owner, and this notice is required to be provided pursuant to ORS 215.416. The proposal is identified in this decision and will be located on the subject property.**

Coos County Planning  
60 E. Second  
Coquille, OR 97423  
<http://www.co.coos.or.us/>  
Phone: 541-396-7770  
[planning@co.coos.or.us](mailto:planning@co.coos.or.us)

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. Please read all information carefully as this decision. (See attached vicinity map for the location of the subject property).

Date of Notice: **Friday, August 05, 2022**  
File No: ACU-22-015

Proposal: Request for Single Family Dwelling in the Beaches and Dunes Overlay Zone.

Applicant(s): Susan & Vahe Arakelian  
24775 SW Gage Rd  
Wilsonville, OR 97070

Staff Planner: Chris MacWhorter, Planning Staff

---

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, August 22, 2022**. Appeals are based on the applicable land use criteria. *Coos County Zoning and Land Development Ordinance (CCZLDO) General Compliance with Sections 1.1.300 Compliance with Comprehensive Plan and Ordinance Provisions and Article 6.1 Lawfully Created Lots or Parcels. The Dwelling Review is subject to Article 4.3.200.25 Zoning Tables for Urban and Rural Residential, Mixed Commercial-Residential, Industrial, Minor Estuary and South Slough; Section 4.3.220 Additional Conditional Use Review Standards criteria. Properties that are in a Special Development Consideration and/or overlays shall comply with the applicable review process identified by that Special Development Consideration and/or overlay located in Article 4.11. 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.*

---

### Subject Property Information

Account Number: 66310  
Map Number: 23S1334DD-02000  
  
Property Owner: ARAKELIAN FAMILY REVOCABLE TRUST  
  
Situs Address: 68975 CIRCLE LP NORTH BEND, OR 97459  
  
Acreage: 1.46 Acres  
  
Zoning: FOREST (F)  
RURAL RESIDENTIAL-2 (RR-2)  
  
Special Development Considerations and Overlays: BEACHES/DUNES - LIMITED (BDL)  
FOREST MIXED USE (MU)

---

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

This notice shall be posted from August 5, 2022 to August 22, 2022

are mailing any documents to the Coos County Planning Department the address is 225 N. Adams, 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. **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.**

The application, staff report and any conditions can be found at the following link:

<https://www.co.coos.or.us/planning/page/applications-2022> . 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 60 E. Second, 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 Chris MacWhorter, Planning Staff 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: *Chris MacWhorter* Date: **Friday, August 05, 2022** .  
Chris MacWhorter, Planning Staff

**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 evidenced associated as listed in the exhibits.**

#### EXHIBITS

Exhibit A: Conditions of Approval

Exhibit B: Vicinity Map & Template Map

The following exhibits are on file at the Coos County Planning Department and may be accessed by contacting the department. All noticeable decisions are posted on the website for viewing when possible.

Exhibit C: Staff Report -Findings of Fact and Conclusions

Exhibit D: Comments Received (none received)

Exhibit E: Application

## **EXHIBIT "A"**

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 applicant(s) and that the applicant(s) 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.

### **CONDITIONS OF APPROVAL**

1. All applicable federal, state, and local permits shall be obtained prior to the commencement of any development activity. If there were comments from any other agency were provided as part of this review, it is the responsibility of the property owner to comply.
2. Pursuant to CCZLDO § 5.9.100, a Zoning Compliance Letter shall be required prior to the commencement of construction of the proposed dwelling. This authorization is based on conditions of approval and the conditions that are required to be completed prior obtaining the ZCL are defined in this section. To show compliance with this section the applicant shall submit a letter with the following items to request that staff find the following conditions have been satisfied:
  - a. The property owner is responsible for ensuring compliance, and land use authorization shall remain recorded in the chain of title. The statement needs to include language that the purchaser of the property has been provided a copy of the land use approval containing all conditions or restrictions understands the obligation and agrees to fulfill the conditions unless a modification is approved as provided in this ordinance. The property owner is responsible for ensuring compliance, and land use authorization. The recorded deed convent shall be recorded with the County Clerk and copy provided to the Planning Department.
  - b. Section 4.11.132.4.4.a: Firebreak: a. This firebreak will be a primary safety zone around all structures. Vegetation within this primary safety zone 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. b. Sufficient Garden Hose to reach the perimeter of the primary safety zone (30 feet) shall be available at all times. c. The owners of the dwelling shall maintain a primary fuel-free break (30 feet) area surrounding all structures and clear and maintain a secondary fuel-free break on land surrounding all structures and clear and maintain a secondary fuel-free break on land surrounding the dwelling that is owned or controlled by the owner in accordance with the provisions in “Recommended Fire Siting Standards for Dwellings and Structures and Fire Safety Design Standards for Roads” dated March 1, 1991, and published by Oregon Department of Forestry and shall demonstrate compliance with Table 1. Table one is addressed in the staff report based on down slope. This can be shown on a plot plan.
  - c. All development must be placed at least 30 feet from all property lines.
  - d. An updated plot plan must be submitted indicating all development meets setback requirements.
  - e. Section 4.11.132.4.4.e: All new and replacement structures shall use non-combustible or fire-resistant roofing materials, as may be approved by the certified official responsible for the building permit. If they are not available yet then this will be a condition of approval on the ZCL.
  - f. Section 4.11.132.4.4.h: If the dwelling has a chimney or chimneys, each chimney shall have a spark arrester. A copy of the building plans shall be submitted. If they are not available, then this will be a condition of approval on the ZCL.
  - g. Minimizing Impacts: In order to minimize the impact of dwellings in forest lands, all applicants requesting a dwelling shall acknowledge and file in the deed record of Coos County, a Forest Management Covenant. The Forest Management Covenant shall be filed prior to any final County approval for a single-family dwelling.

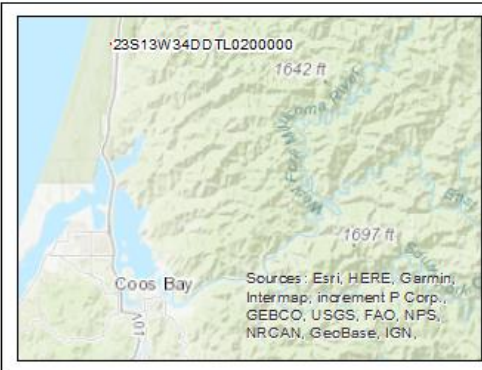
- h. All disturbed soils must be completely revegetated.
- i. No cut slopes greater than 30-degrees will be permitted.
- j. There shall not be any development allowed on any areas where non-engineered fill is placed.
- k. Development shall comply with the recommendations identified in Section 6 of the submitted geologic report.
- l. A post-construction report, from an Oregon Certified Engineering Geologist or an Oregon Professional Engineer with a Geotechnical Engineer certification, is required that states all recommendations of the Geologic Site Evaluation Report have been complied with.
  - The post-construction engineering report shall certify that the foundation of the mobile home is indeed designed and constructed suitable for the soil and subsurface conditions. This report must be signed and stamped by either a licensed Oregon Professional Engineer with a Geotechnical Engineer certification, or a Certified Engineering Geologist and state CEG qualifications to design a foundation.
  - The zoning compliance letter will only be conditionally approved. Failure to provide a post-construction report, with from an Oregon Certified Engineering Geologist or Oregon Professional Engineer with Geotechnical Engineer certification will invalid this conditional use approval.
- m. This conditional use approval shall expire on April 11, 2027 unless the conditional zoning compliance letter and post-construction engineering report is finalized.
- n. Access to new dwellings shall meet road and driveway standards in Chapter VII. Driveway/ Access Parking/Access permit application shall be signed off by the Coos County Road Department prior to issuance of a Zoning Compliance Letter.
- o. Section 5.2.700 Development Transferability - Unless otherwise provided in the approval, a land use approval that was obtained through a conditional use process shall be transferable provided the transferor files a statement with the Planning Director signed by the transferee. This document shall be recorded in the chain of title of the property, indicating that the transferee has been provided a copy of the land use approval containing all conditions or restrictions understands the obligation and agrees to fulfill the conditions, unless a modification is approved as provided in this ordinance. The property owner is responsible for ensuring compliance, and land use authorization shall remain recorded in the chain of title to alert a purchaser that development was approved subject to conditions and possible restrictions.

**EXHIBIT "B"**  
**Vicinity Map**

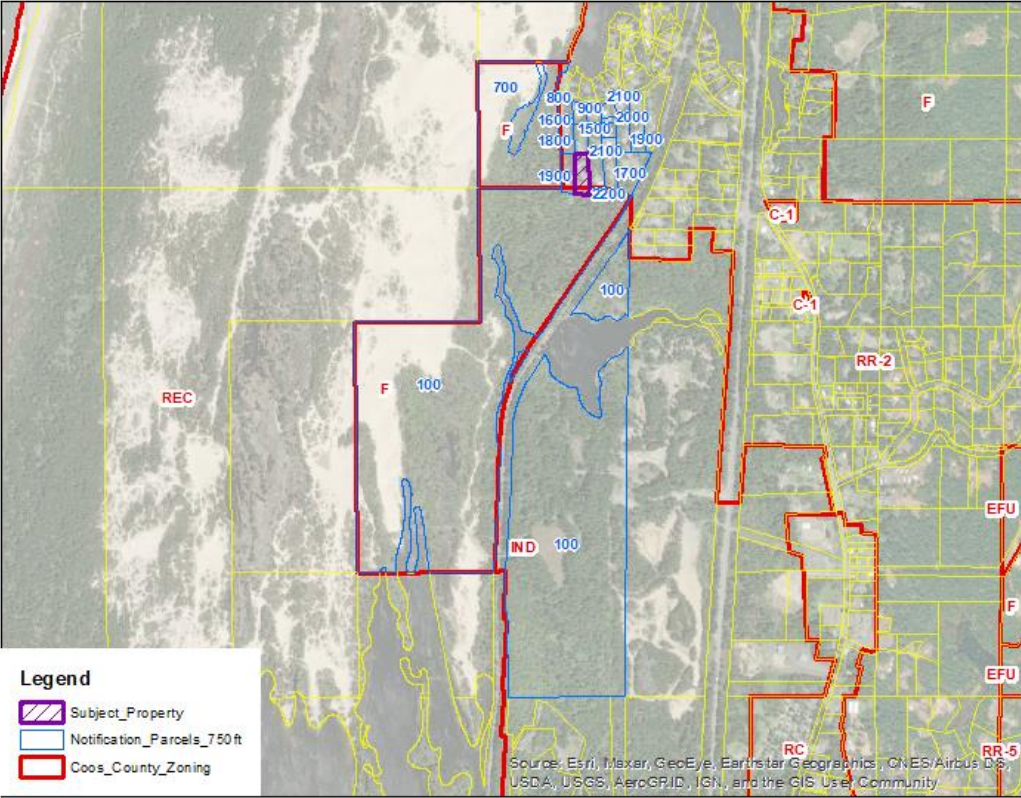


**COOS COUNTY PLANNING DEPARTMENT**

Mailing Address: 225 N. Adams, Coquille, Oregon 97423  
Physical Address: 60 E. Second, Coquille Oregon  
Phone: (541) 396-7770  
TDD (800) 735-2900



File: ACU-22-015  
Applicant/Owner: Vahe & Susan Arakelian  
Date: June 14, 2022  
Location: Township 23S Range 13W Section 34DD TL 2000  
Proposal: Administrative Conditional Use



**EXHIBIT “C”  
STAFF REPORT  
FINDINGS OF FACT AND CONCLUSIONS**

**I. PROPOSAL AND BACKGROUND/PROPERTY HISTORY INFORMATION AND PRIOR COMPLIANCE:**

**A. PROPOSAL:** According to the application the property owner is seeking approval for a replacement dwelling - manufactured single family

**B.**

**C.** in the Beaches & Dunes with Limited Development Suitability overlay zone. There is no indication that any other development is proposed at this time.

**D. BACKGROUND/PROPERTY HISTORY:**

On June 10, 1994, a zoning compliance letter (VL-94-319) was issued for siting a manufactured dwelling.

**E. LOCATION:** The subject property is located north of the rural community of Hauser.

**F. ZONING:** - This property is zoned Rural Residential-2 and Forest with Mixed Use Overlay.

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.*

*The “RR-5” district provides for the orderly development of rural land so as to encourage the continued existence of rural family life and to provide a transition of densities between urban development and exclusive agricultural or forestry uses.*

SECTION 4.2.500 RESOURCE ZONES

Forest (F)

*The intent of the Forest District is to include all inventoried "forestlands" not otherwise found to be needed (excepted) for other uses.*

*The purpose of the Forest zone is to conserve and protect forest land for forest uses. Some of the areas covered by the “F” zone are exclusive forest lands, while other areas include a combination of mixed farm and forest uses.*

*Forest Mixed Use (FMU)*

*The purpose of the Forest Mixed Farm-Forest Areas (“MU” areas) is to include land which is currently or potentially in farm-forest use. Typically, such lands are those with soil, aspect, topographic features and present ground cover that are best suited to a combination of forest and grazing uses. The areas generally occupy land on the periphery of large corporate and agency holdings and tend to form a buffer between more remote uplands and populated valleys. In addition, these “mixed use” areas contain ownership of smaller size than in prime forest areas. Some are generally marginal in terms of forest productivity, such as areas close to the ocean.*

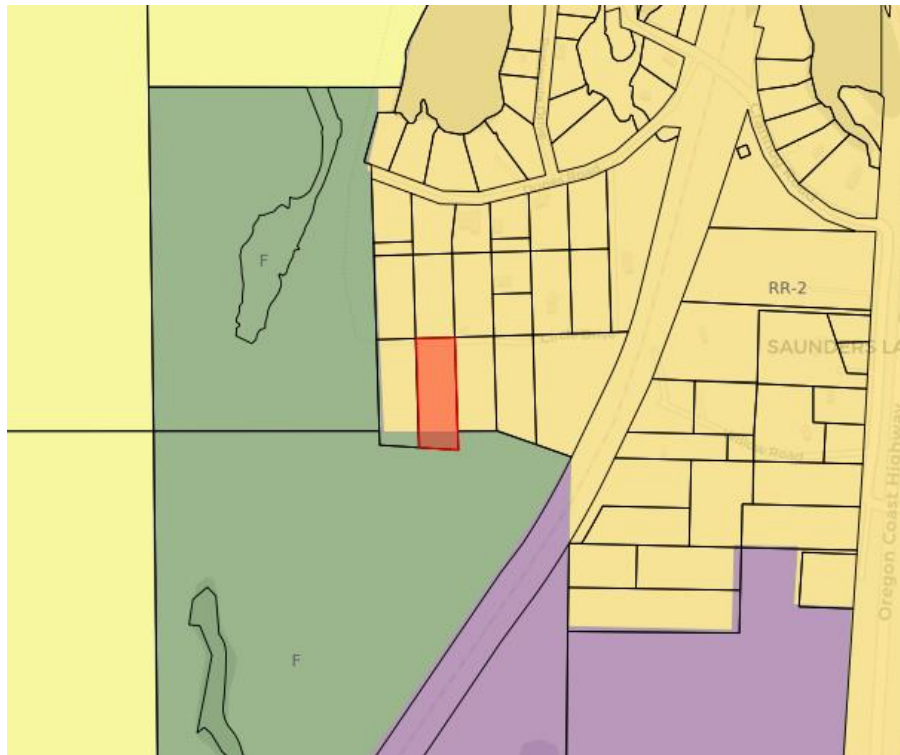
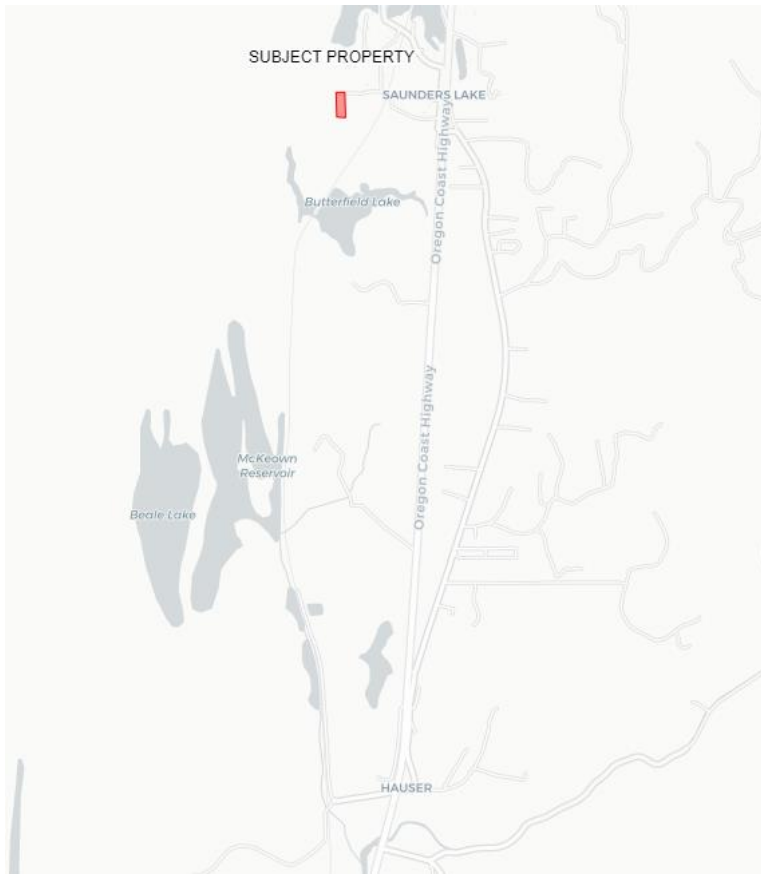
*If land is in a zone that allows both farm and forest uses, a dwelling may be sited based on the predominate use of the tract on January 1, 1993.*

*If a use is only allowed in the mixed use zone it will be explained in the text. Otherwise the uses listed are allowed in both the Forest and Forest Mixed Use zones.*

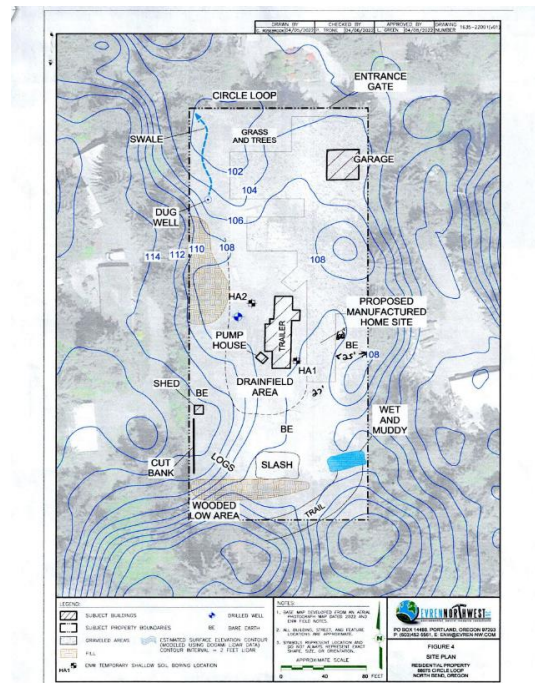
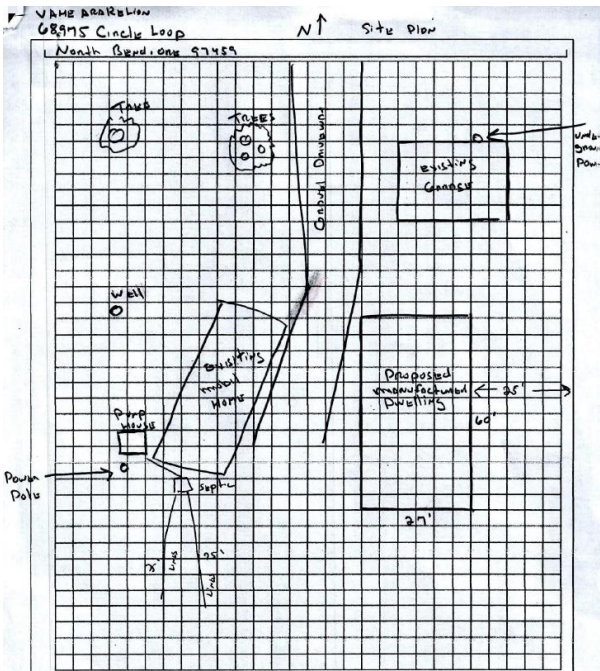
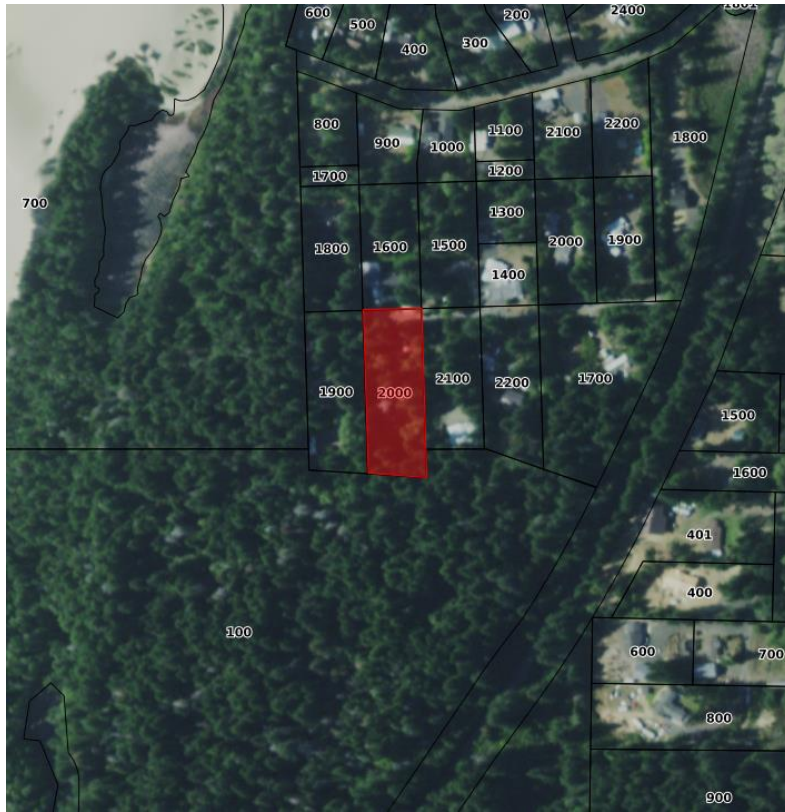
**G. SITE DESCRIPTION AND SURROUNDING USES:**

The subject property is located north of the rural community of Hauser, on the west side of Highway 101. The subject property is located in a Rural Residential-2 zoned neighborhood. This area is accessed by way of Crannog Road, which is on the west side of Hwy 101. Then proceed south onto Dunes Lane, which is a public dedicated right-of-way. The subject property is located south of Dunes Lane and accesses Circle Loop, which are private easements.

There are rural residentially development properties located west, north, and east of the subject property. There are Forest Service lands located south of the subject property. These Forest Service lands are covered in timber and forest vegetation.







Maps are not to scale

**H. COMMENTS:**

- a. **PUBLIC AGENCY:** This property did not require any request for comments prior to the release of the decision and none were received.
- b. **PUBLIC COMMENTS:** This property did not require any request for comments prior to the release of the decision and none were received.
- c. **LOCAL TRIBE COMMENTS:** This property did not require any request for comments prior to the release of the decision and none were received.

**II. GENERAL PROPERTY COMPLIANCE:**

**A. COMPLIANCE PURSUANT TO SECTION 1.1.300:**

*It shall be unlawful for any person, firm, or corporation to cause, develop, permit, erect, construct, alter or use any building, structure or parcel of land contrary to the provisions of the district in which it is located. No permit for construction or alteration of any structure shall be issued unless the plans, specifications, and intended use of any structure or land conform in all respects with the provisions of this Ordinance, unless approval has been granted by the Hearings Body.*

**FINDING:** Staff has reviewed the property history and the County determined at the time of this report this property is compliant. This does not mean that there is not additional information that was unavailable during this review that would make the properties non-complaint.

**B. SECTION 6.1.125 LAWFULLY CREATED LOTS OR PARCELS:**

**C. "Lawfully established unit of land" means:**

- 1. The unit of land was created:
  - a. Through an approved or pre-ordinance plat;
  - b. Through a prior land use decision including a final decision from a higher court. A higher court includes the Land Use Board of Appeals;
  - c. In compliance with all applicable planning, zoning and subdivision or partition ordinances and regulations at the time it was created.
  - d. By a public dedicated road that was held in fee simple creating an interviewing ownership prior to January 1, 1986;
  - e. By deed or land sales contract, if there were no applicable planning, zoning or subdivision or partition ordinances or regulations that prohibited the creation.
  - f. By the claim of intervening state or federal ownership of navigable streams, meandered lakes or tidewaters. "Navigable-for-title" or "title-navigable" means that ownership of the waterway, including its bed, was passed from the federal government to the state at statehood. If a waterway is navigable-for-title, then it also is generally open to public use for navigation, commerce, recreation, and fisheries.

**FINDING:** The unit of land was created pursuant to 6.1.125.1.e, by deed or land sales contract, if there were no applicable planning, zoning and subdivision or partition ordinances or regulations that prohibited the creation. This property was found to be lawfully created. Therefore, at the time of this report the units of land are lawfully created.

**III. STAFF FINDINGS AND CONCLUSIONS:**

**A. SUMMARY OF PROPOSAL AND APPLICABLE REVIEW CRITERIA:**

**The proposal is for Planning Director Approval of a replacement of dwelling – manufactured single family in Rural Residential-2 zoning district and within the Beaches & Dunes Area with Limited Development Suitability overlay zones.**

**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.*

*COASTAL SHORELAND AREA: The lands lying between the Coastal Shorelands Boundary set forth elsewhere in this Plan and the line of nonaquatic vegetation, which is also known as the Section 404 Line.*

*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.*

*DUNES, YOUNGER STABILIZED: A wind stable dune with weakly developed soils and vegetation.*

*LOT, PARCEL, OR TRACT FRONT LOT LINE: In the case of an interior lot, parcel, or tract, a line separating the lot, parcel or tract from the street; in the case of a corner lot, parcel or tract, a line separating a lot, parcel or tract from the street on which the improvement or contemplated improvement will face.*

*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.*

**ZONING TABLES FOR URBAN AND RURAL RESIDENTIAL, MIXED COMMERCIAL-RESIDENTIAL, COMMERCIAL, INDUSTRIAL, MINOR ESTUARY AND SOUTH SLOUGH**

**SECTION 4.3.200 Residential Uses – This category is for uses and structure for human occupancy as living quarters**

	<i>RR-2</i>	<i>Subject To</i>
25. Dwelling –Manufactured Single Family (ORS 446.003)	<i>CD</i>	<i>(27)(f)</i>

**SECTION 4.3.210 – CATEGORIES AND REVIEW STANDARDS**

*(27)(f) Manufactured Homes- structure constructed for movement on the public highways that has sleeping, cooking and plumbing facilities, that is intended for human occupancy, that is being used for residential purposes and that was constructed in accordance with federal manufactured housing construction and safety standards and regulations in effect at the time of construction. In the urban zones this type of dwelling shall meet the requirements of ORS 197.307.*

**Finding:** According to the application the property owner is seeking approval to replace a manufactured home with a new manufactured home on parcel in the Rural Residential-2 zoning district. The dwelling–manufactured single family is typically permitted in RR-2 zoning district as a compliance determination subject to condition 27 (f) in Section 4.3.210. A Conditional Use Application was required to be submitted because this proposal includes development within the Beaches & Dunes Area with Limited Development Suitability overlay zone. There is no indication that any other development is proposed at this time.

The applicant’s plot indicated they plan on a 25-foot setback from the eastern property line. The applicant will need to submit an updated plot plan indicating that all development is at least 30 feet from all property lines. According to both the written application and plot plan, the proposed dwelling meets the definition of dwelling – manufactured single family. Therefore, these criteria have been addressed.

- **SECTION 4.3.220 ADDITIONAL CONDITIONAL USE REVIEW STANDARDS FOR USES, DEVELOPMENT AND ACTIVITIES LISTED IN TABLE 4.3.200. THIS SECTION HAS SPECIFIC CRITERIA SET BY THE ZONING DISTRICT FOR USES, ACTIVITIES AND DEVELOPMENT:**

**FINDING:** While this property requires a discretionary review for the Special Development Consideration the use proposed is permit and not subject to any special conditional use review. Therefore, this section is not applicable.

- **SECTION 4.3.225 GENERAL 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 Development 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.*

**FINDING: The application had a driveway and parking form included. This shall be signed off by the Road Access Manager prior to receiving a Zoning Compliance Letter. There are no riparian areas that require setbacks. The applicant shall comply with the outdoor storage regulations in residential zones. The applicant is not proposing any creation of new parcels. The proposal meets the applicable requirements with conditions of approval. The applicant shall be required to record an Agricultural and Forest Covenant on the subject property. This shall be a condition of approval.**

**All development shall be at least 30 feet from all property lines. An updated plot plan must be submitted. This shall be a condition of approval.**

- **SECTION 4.3.220 ADDITIONAL CONDITIONAL USE REVIEW STANDARDS FOR USES, DEVELOPMENT AND ACTIVITIES LISTED IN TABLE 4.3.200**

**THIS SECTION HAS SPECIFIC CRITERIA SET BY THE ZONING DISTRICT FOR USES, ACTIVITIES AND DEVELOPMENT:**

- (1) ***Rural Residential (RR)*** – The following conditional use review standards apply to all USES, ACTIVITIES and DEVELOPMENT in the RR zoning districts:

- (a) Conditional Use Review Criteria - The following criteria only apply to conditional uses in the RR zoning districts:

- i. **COMPATIBILITY:** The proposed USE, ACTIVITY OR DEVELOPMENT is required to demonstrate compatibility with the surrounding properties or compatibility may be made through the imposition of conditions. Compatibility means that the proposed use is capable of existing together with the surrounding uses without discord or disharmony. The test is where the proposed use is compatible with the existing surrounding uses and not potential or future uses in the surround area.
- ii. All parks (Recreational or Residential) shall comply with the following design criteria:
  - a. The landscape shall minimize soil erosion. The exterior portion of the property shall provide an ornamental, sight-obscuring fence, wall, evergreen or other suitable screening/planting along all boundaries of the site abutting public roads or property lines that are common to other owners of property that are zoned for residential, except for points of ingress and egress;
  - b. **Lighting:** Any lights provided to illuminate any public or private parking area shall be so arranged as to reflect the light away from any abutting or adjacent residential district or use.
  - c. Exposed storage areas, service areas, utility buildings and structures and similar accessory areas and structures shall be subject to the setbacks of the this zoning designation, screen plantings or other screening methods;
  - d. Trash service shall be provided to the facility and the area for trash receptacle or receptacles shall be identified on the plot plan; and

- e. Hours of operation may be required in areas predominantly surrounded by residential zones.

**FINDING: Based on aerial imagery, the adjacent Rural Residential-2 parcels are already residentially developed.**

- **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.*

**FINDING:** There is only one replacement dwelling – manufactured single family proposed. No new lot creation is proposed. The applicant’s plot indicated the proposed dwelling is approximately 25 feet from eastern property line. The applicant will need to submit a new plot plan indicating the development is at 30 feet from all property lines. Using GIS mapping tools, Staff estimated the proposed replacement dwelling is located 225 ft from the northern property line. The plot plan also indicated they intend to utilize Circle Loop their driveway access. Staff further estimated that the proposed dwelling is located 200 ft from Circle Loop. Therefore, this has been addressed.

***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.*

**BEACH AND DUNES AREAS WITH LIMITED DEVELOPMENT SUITABILITY CRITERIA**

***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 the 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.*

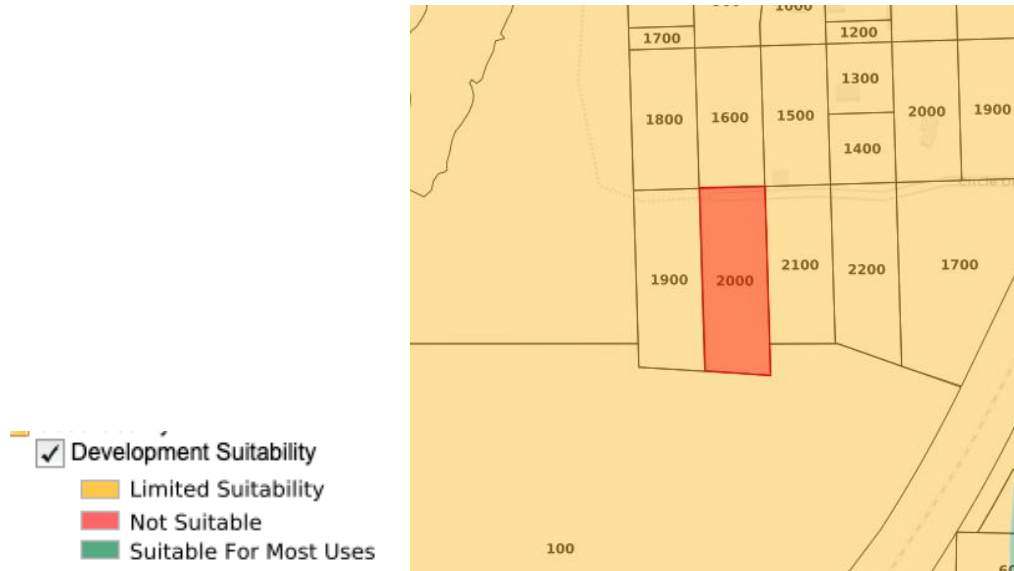
*The measures prescribed in this policy are specifically required by Statewide Planning Goal #18 for the above-referenced dune forms; and that this strategy recognizes that designated mitigation sites must be protected from other uses.*



*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.**

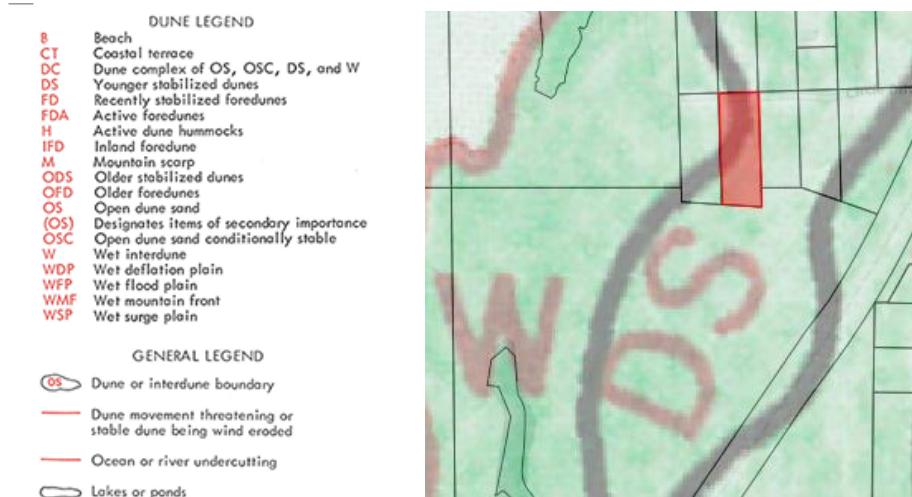
**Finding: The applicant submitted a site investigation report for the proposed dwelling as it is located within the limited suitability for Beaches & Dunes overlay zone.**



The site investigation report was performed by EVREN Northwest Inc. and is written and stamped by Lynn D. Green, Certified Engineering Geologist #2332. The engineering geologist acknowledged the applicant’s proposal is to install a new manufactured single family, as a replacement dwelling, and the site investigation report is based on this proposed use. According to the geological report, a preliminary site visit by EVREN Northwest Inc. was conducted on March 22, 2022.

The site investigation report noted that the subsurface as follows: *“the sand dunes on the site are classified as Younger, Stabilized Dunes, in accordance with USDA findings. This agrees with our site evaluation. Coos County has inventoried the site and surrounding area and has classified the site as having “limited suitability” for development.”*

The dune formation on the subject property is classified as both a DUNES, YOUNGER STABILIZED: A wind stable dune with weakly developed soils and vegetation and an INTERDUNE AREA: Low-lying areas between higher sand landforms which are generally under water during part of the year (See also "Deflation Plain"). This type of dune formation is classified as a limited suitability for development since it does not fit the definition of ‘beaches and dunes area unsuitable for development’ per Coos County Comprehensive Plan 5.10.3.iv.a.3.



Based on the applicant's proposal, the engineering geologist noted that *"a portion of the site is underlain by stabilized dune sand. As such, care will be required during the placement of the mobile home structure"*. Neither the applicant, nor the engineering geologist, provided any information on how the proposed dwelling will not adversely affect adjacent lands. Staff did not speculate how the proposal will not negatively affect adjacent lands. Staff may, or may not, be correctly assuming the proposed dwelling location is within the "stabilized dune sand". The site investigation report was not entirely clear.

The engineering geologist also furthered noted that the *"The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in the report"*. Staff is uncertain why the design requirements for foundation were not included in the report. As a condition of approval, the applicant/landowner shall provide a post-construction engineering report that the foundation of the mobile home is indeed suitably designed and constructed for the soil and subsurface conditions. This report must be signed and stamped by either a licensed Oregon Professional Engineer with a Geotechnical Engineer certification, or a Certified Engineering Geologist and state CEG qualifications to design a foundation. Therefore, (a)(i)(a) criteria has been addressed.

The engineering geologist also stated in their report that *"the foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report. Other areas of exposed soil should be stabilized with vegetation or other means"*. The applicants did not include the proposed 'other means' that they would be proposing for stabilized any disturbed areas. As a condition of approval, Staff finds it reasonable to require all disturbed soils to be completely revegetated using the methodology identified under Section 6-Recommendations. Therefore, (a)(i)(b) criteria has been addressed.

The geologic report stated that *"within the existing site constraints (the current placement of the gravel pad and buried utilizes for the manufactured home), the maximum setback possible should be maintained between the manufactured home and the eastern boundary of the subject property. The elevation difference between the subject property and T.L. 2100 is approximately eight vertical feet over a lateral distance of 40 feet (from property line to low point on T.L. 2100. Assuming an angle of repose for loose sand (conservative) of 34 degrees and a potential 8-foot-high cut bank at the property line, a setback of 15 feet from the east side of the manufactured home site to the property line is recommended"*. There will be a setback required of 15 feet from the eastern property line to comply with the assumptions of the geologic report. The applicant/landowner will need to place all structures 30 feet from all the property lines because of wildfire regulations. Therefore, (a)(i)(c) criteria has been addressed.

The engineering geologist stated the following responses in regards to hazards to life, public and private property, and the natural environment which may be caused by the proposed use:

- *"Cut slopes steeper than 30-degrees should be stabilized with retaining walls or similar engineered structures to prevent sloughing."*
- *"Areas of the site where placement of non-engineered fill has occurred should not be used as building sites or for other purposes requiring stable soil conditions."*
- *"The sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations."*
- *"Stormwater run-off from impermeable surfaces should be managed in accordance with Coos County stormwater management regulations, and in such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drainfields, and excessive erosion or sedimentation. Excessive stormwater 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.”*

The engineering geologist included these as bullet points. However, Staff is now assuming that the engineering geologist has identified that creating any slopes will create a hazard without an engineered retain wall. The applicant did not request, or indicate, that any retaining walls will be constructed. Therefore, as a condition of approval no cut slopes greater than 30-degrees will be permitted.

Based on the site investigation report, Staff interprets the engineering geologist is recommending that no development shall occur on any areas where non-structural fill is placed. Staff is assuming that the area marked as fill on figure 4 – site plan is existing non-structural fill. As a condition of approval, there shall not be any development allowed on any areas where non-engineered fill is placed.

The engineering geologist also noted that in order to not create additional hazards to life, public and private property, that *“the sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations”*. Septic design standards are outside the scope of the Coos County Zoning and Land Development Ordinance. The engineering geologist also noted that *“Stormwater run-off from impermeable surfaces should be managed in accordance with Coos County stormwater management regulations”*. Staff could not ascertain what stormwater management regulations the engineering geologist is referring to. Staff did verify the Comprehensive Plan and the zoning ordinance does not include a stormwater management plan or regulations. Therefore, (a)(i)(d) criteria has been addressed.

The site investigation report noted that in order to protect existing vegetation and prevent intrusion of saltwater drawdown, that *“the shallow cistern/well should be properly decommissioned”*. However, the ordinance directs to Coos County to cooperate with local, state, and federal agencies to ensure adverse effects are not cause by proposed development.

Coos County coordinates planning applications with various local, state, and federal agencies/entities. Coos County did not receive any responses in regards to this application. Therefore, (a)(ii)(a)-(d) criterion has been addressed.

The engineering geologist also include approximately two and half page of recommendations identified under section 6 of the attached geologic report.

The landowner shall comply with the following recommendations as well:

## 6.0 RECOMENDATIONS

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

- The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report.
- Within the existing site constraints (the current placement of the gravel pad and buried utilities for the manufactured home), the maximum setback possible should be maintained between the manufactured home and the eastern boundary of the subject property. In the event the owner of T.L. 2100 should steepen the existing slope on the western portion of his/her property, the potential for mass wasting to affect the subject property could increase. The elevation difference between the subject property and T.L. 2100 is approximately eight vertical feet over a lateral distance of 40 feet (from property line to low point on T.L. 2100. Assuming an angle of repose for loose sand (conservative) of 34 degrees and a potential 8-foot-high cut bank at the property line, a setback of 15 feet from the east side of the manufactured home site to the property line is recommended.
- The sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations.
- The lid covering the cistern/well can be easily removed, and a deep uncovered hole would pose a significant risk of injury or death. Additionally, withdraw of shallow ground water could destabilized vegetation and lead to saltwater intrusion. The cistern/well should be properly decommissioned by a licensed well driller.
- The cap and sanitary seal covering the drilled water well have been off for an undetermined amount of time, leaving the well accessible to rodents, insects, other animals, and vandals. The well should be redeveloped, and the water quality should be assessed before the well is returned to service, and a new cap/sanitary surface seal should be installed.

- Areas of the site where placement of non-engineered fill has occurred should not be used as building sites or for other purposes requiring stable soil conditions.
- Cut slopes steeper than 30-degrees should be stabilized with retaining walls or similar engineered structures to prevent sloughing.
  - One option is to buttress the existing cut back (see Figure 4) with imported dune sand that is placed moist and lightly compacted with a slope no greater than 34-degrees from horizontal.
- Areas of exposed soil should be stabilized with vegetation or other means.
  - If a sand soil buttress is placed in the area of the cut bank shown on Figure 4, this place sand would be immediately vegetated as following USDA guidance<sup>7</sup>, summarized below:
    - Obtain commercial beachgrass stock from local nursery.
    - Beachgrasses need to be planted to a depth of 12-inches and the sand compacted by had around the planting to removed air around the roots and stem nodes with the top of the plan upright and extending at least a foot above the ground.
    - Spacing should be 18-inches on center for each beachgrass plant.
    - Planted area should be fertilized with coarse-particle ammonium sulfate commercial fertilizer (N-P-K 21-0-0). This formulation should be applied at a rate of 0.5 pounds per 100 square feet during light wind and irrigation. Irrigation is needed to thoroughly dissolve the fertilizer and can be stopped once the granular of fertilizer have dissolved.
    - Follow-up fertilization should be applied annual between March 1 and April 1, with 0.5 pounds per 100 square feet of ammonium sulfate commercial fertilizer (N-P-K 21-0-0) and should be applied during light wind and irrigation. Irrigation is needed to thoroughly dissolve the fertilizer and can be stopped once the granular of fertilizer have dissolved.
    - Some maintenance may be necessary. Prompt replanting of any plant that did not survive should be done during the winter.
- Stormwater run-off from impermeable surfaces should be managed in such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drainfields, and excessive erosion or sedimentation. Excessive stormwater run-off, blocked or broken drain lines, culverts or ditches, and saturated soils are frequently the

---

<sup>7</sup> USDA. August 1991. Stabilized Coastal Sand Dunes in the Pacific Northwest. Soil Conservation Service Agriculture Handbook 687

most significant contributing factors to severe erosion, localized flooding, and foundation settlement.

- Drainage from the mobile home roof should be collected in gutters with downspouts with discharge directed away from the structure towards a shallow roof drainage planter (garden) area consisting of cobbles (4-6" diameter, for energy dissipation) and native plants throughout (consult local nursery for plants suitable for this purpose). The area of each roof drain drainage garden should be 10% of the roof area that it receives discharge from. The location of the roof drain garden(s) should be on the north, south or west sides of the future mobile home, and avoid the east side of the future mobile home.
- 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.

#### **IV. DECISION**

In conclusion Staff finds that the applicant has address most of the relevant criteria and the ones that have not been address or cannot be completed until after the approval is obtained have been made conditions of approval. Therefore, the proposed dwelling in Beaches & Dunes meets the requirements of the Coos County Zoning and Land Development Ordinance, with conditions listed in Exhibit "A" of this report.

#### **V. EXPIRATION:**

*This application type does not have an expiration date however, Geological Reports are only valid for five (5) years.*

This conditional use is for a residential development within the Beaches and Dunes Areas with Limited Development Suitability and is valid for five years for the date of the EVREN Northwest site investigation report, which is Sunday, April 11, 2027.

#### **VII. 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: Hauser Rural Fire Protection District.

A Notice of Decision and Staff Report will be provided to the following:

Applicants/Owners, Department of Land Conservation and Development, Coos County Assessor's Office and the 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.

**EXHIBIT "D"**  
**Comments Received**

**None Received**



**EXHIBIT "E"**  
**Application & Supplemental Submittals**



**Coos County Land Use Permit Application**  
 SUBMIT TO COOS COUNTY PLANNING DEPT. AT 60 E. SECOND STREET OR MAIL  
 TO: COOS COUNTY PLANNING 250 N. BAXTER, COQUILLE OR 97423. EMAIL  
[PLANNING@CO.COOS.OR.US](mailto:PLANNING@CO.COOS.OR.US) PHONE: 541-396-7770

Date Received: 4/20/22 Receipt #: 231921 FILE NUMBER: DR-22-047 ACU-22-015  
 Received by: MB

This application shall be filled out electronically. If you need assistance please contact staff.  
 If the fee is not included the application will not be processed.  
 (If payment is received on line a file number is required prior to submittal)

**LAND INFORMATION**

**A. Land Owner(s)** Susan & Vahe Arakelian  
 Mailing address: 24775 SW Gage Rd., Wilsonville, OR 97070  
 Phone: 503-638-1006 Email: bahaautobody@live.com

Township:	Range:	Section:	¼ Section:	1/16 Section:	Tax lots:
<u>23S</u>	<u>13W</u>	<u>34</u>	<u>D</u>	<u>D</u>	<u>2000</u>
Select	Select	Select	Select	Select	

Tax Account Number(s): 66310 Zone: Select Zone Rural Residential-2 (RR-2)  
 Tax Account Number(s) \_\_\_\_\_ Please Select \_\_\_\_\_

**B. Applicant(s)** same as above  
 Mailing address: \_\_\_\_\_  
 Phone: \_\_\_\_\_

**C. Consultant or Agent:** N/A  
 Mailing Address: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ Email: \_\_\_\_\_

**Type of Application Requested**

<input type="checkbox"/> Comp Plan Amendment	<input checked="" type="checkbox"/> Administrative Conditional Use Review - ACU	<input type="checkbox"/> Land Division - P, SUB or PUD
<input type="checkbox"/> Text Amendment	<input type="checkbox"/> Hearings Body Conditional Use Review - HBCU	<input type="checkbox"/> Family/Medical Hardship Dwelling
<input type="checkbox"/> Map - Rezone	<input type="checkbox"/> Variance - V	<input type="checkbox"/> Home Occupation/Cottage Industry

**Special Districts and Services**

Water Service Type: On-Site (Well or Spring) Sewage Disposal Type: On-Site Septic  
 School District: North Bend Fire District: Select Fire District

Please include the supplement application with request. If you need assistance with the application or supplemental application please contact staff. Staff is not able to provide legal advice. If you need help with findings please contact a land use attorney or consultant.

Any property information may be obtained from a tax statement or can be found on the County Assessor's webpage at the following links: [Map Information](#) Or [Account Information](#)

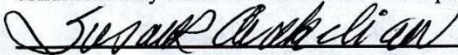
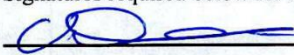
D. ATTACHED WRITTEN STATEMENT. With all land use applications, the “burden of proof” is on the applicant. It is important that you provide information that clearly describes the nature of the request and indicates how the proposal complies with all of the applicable criteria within the Coos County Zoning 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.

- I.  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.
- II.  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
- III.  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. Signatures required below for application processing.

 \_\_\_\_\_  \_\_\_\_\_

**ACCESS INFORMATION**

The Coos County Road Department will be reviewing your proposal for safe access, driveway, road, and parking standards. There is a fee for this service. If you have questions about these services please contact the Road Department at 541-396-7660.

Property Address: 68975 Circle Loop, North Bend, OR 97459

Type of Access: Public Road Name of Access: Circle Loop

Is this property in the Urban Growth Boundary? No

Is a new road created as part of this request? No

Required parking spaces are based on the use of the property. If this is for a residential use two spaces are required. Any other use will require a separate parking plan submitted that is required to have the following items:

- Current utilities and proposed utilities;
- Roadmaster may require drawings and specs from the Oregon Standards Specification Manual (OSSC) (current edition).
- The location and design of bicycle and pedestrian facilities shall be indicated on the site plan if this is a parking plan;
- Location of existing and proposed access point(s) on both sides of the road where applicable;
- Pedestrian access and circulation will be required if applicable. Internal pedestrian circulation shall be provided in new commercial, office, and multi-family residential developments through the clustering of buildings, construction of walkways, landscaping, accessways, or similar techniques;
- All plans (industrial and commercial) shall clearly show how the internal pedestrian and bicycle facilities of the site connect with external existing or planned facilities or systems;
- Distances to neighboring constructed access points, median openings (where applicable), traffic signals (where applicable), intersections, and other transportation features on both sides of the property;
- Number and direction of lanes to be constructed on the road plus striping plans;
- All planned transportation features (such as sidewalks, bikeways, auxiliary lanes, signals, etc.); and
- Parking and internal circulation plans including walkways and bikeways, in UGB's and UUC's.

Additional requirements that may apply depending on size of proposed development.

- a. Traffic Study completed by a registered traffic engineer.
- b. Access Analysis completed by a registered traffic engineer
- c. Sight Distance Certification from a registered traffic engineer.

Regulations regarding roads, driveways, access and parking standards can be found in Coos County Zoning and Land Development Ordinance (CCZLDO) Article 7.

By signing the application I am authorizing Coos County Roadmaster or designee to enter the property to determine compliance with Access, Parking, driveway and Road Standards. Inspections should be made by calling the Road Department at 541-396-7660

**Coos County Road Department Use Only**

Roadmaster or designee: \_\_\_\_\_

Driveway     Parking     Access     Bonded    Date: \_\_\_\_\_    Receipt # \_\_\_\_\_

File Number: DR-21-

ADDRESS OF DRIVEWAY #1 CLOSEST TO YOUR NEW DRIVEWAY: \_\_\_\_\_

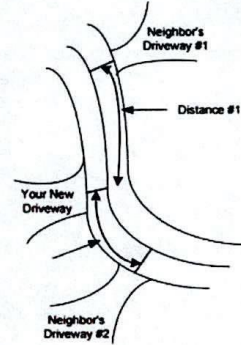
DISTANCE FROM DRIVEWAY #1 TO YOUR NEW DRIVEWAY: \_\_\_\_\_

Is this driveway on the same side of the road as your Driveway: Select

ADDRESS OF DRIVEWAY #2 CLOSEST TO YOUR NEW DRIVEWAY: \_\_\_\_\_

DISTANCE FROM DRIVEWAY #2 TO YOUR NEW DRIVEWAY: \_\_\_\_\_

Is this driveway on the same side of the road as your Driveway: Select



The distance information is important from your new driveway to the closest driveways on either side of you (doesn't matter which side of the road) and what the addresses are to those two driveways. This information is important to include in the formula used to calculate the correct address.

Staff from the County Road Department will place the stake and once the driveway stake has been placed, it must not be moved. If your stake is removed or damaged you may purchase replacements.

Additional Notes or directions:

This application is not required.

**SANITATION INFORMATION**

If this is a request for a recreational, commercial, industrial, vacation rental, manufactured home park, mass or small gathering Coos Health and Wellness, Environmental Health Staff will be reviewing the proposal to ensure the use meets environmental health standards for sanitation and water requirements to serve the facility. If the proposal indicates that you are using a community water system a review may be required. A fee is charged for this service and shall be submitted with the application \$83.00. If you have questions about regulations regarding environmental health services please call 541-266-6720. This form is required to be signed off for any type of subdivision, recreational, commercial, industrial, vacation rental, manufactured home park, mass or small gathering.

Water Service Type: On-site Well

Sewage Disposal Type: On-site septic

Please check  if this request is for industrial, commercial, recreational or home base business use and complete the following questions:

- How many employees/vendors/patrons, total, will be on site?
- Will food be offered as part of the an on-site business?
- Will overnight accommodations be offered as part of an on-site business?
- What will be the hours of operation of the business?

Please check  if the request is for a land division.

**Coos County Environmental Health Use Only:**

Staff Reviewing Application: \_\_\_\_\_

Staff Signature: \_\_\_\_\_

- This application is found to be in compliance and will require no additional inspections
- This application is found to be in compliance but will require future inspections
- This application will require inspection prior to determining initial compliance. The applicant shall contact Coos Health and Wellness, Environmental Health Division to make an appointment.

Additional Comments:

**Vahe & Susan Arakelian**  
24775 SW Gage Rd  
Wilsonville Oregon, 97070  
Work: 503-638-1006, Cell: 503-490-1160  
bahaautobody@live.com

**Coos County Planning**  
60 E Second Street  
Coquille Oregon, 97423  
541-396-7770

**Attn:** Planning Department

**Subject:** Letter of Intent

Dear Coos County,  
We are writing this Letter of Intent in regard to permitting a new manufactured home on our property at 68975 Circle Loop, North Bend , Oregon 97459.

We bought the property in October 2020, since our purchase we have worked extremely hard at cleaning the property and preparing it for our new 2022 manufactured home that is up to code and energy efficient. We love the area, neighborhood, the new neighbors we have met over the time of owning and working on our new property, plus we have family on Saunders Lake.  
We want to make North Bend our permanent residence, we retire this year and plan to enjoy life on the coast.

Our Circle Loop property has been an earlier home stead for many families over the last sixty plus years and we are wanting to make it now our home.  
The property currently has an old single wide mobile home that is three bedroom and one bathroom, it is not livable. We will be removing this home as soon as our new home arrives. The new home is a 2-bedroom, two bath doublewide.

We have had the property correctly prepared with the gravel pad, and setbacks. The property does have existing electricity, well and septic that we have had serviced and ready for new home.

Attached to this letter please find the following:

- Land use permit application
- Statutory Warranty Deed
- Reconnaissance-Level Geologic Hazzard Assessment
- Property Taxes
- Site Map

We are a very honest, diligent family and will be a great part of the community, and we are excited to make North Bend our home.

Please except this Letter of Intent and know we are responsible family and will do whatever is needed to receive the permit for our new home.

Sincerely,



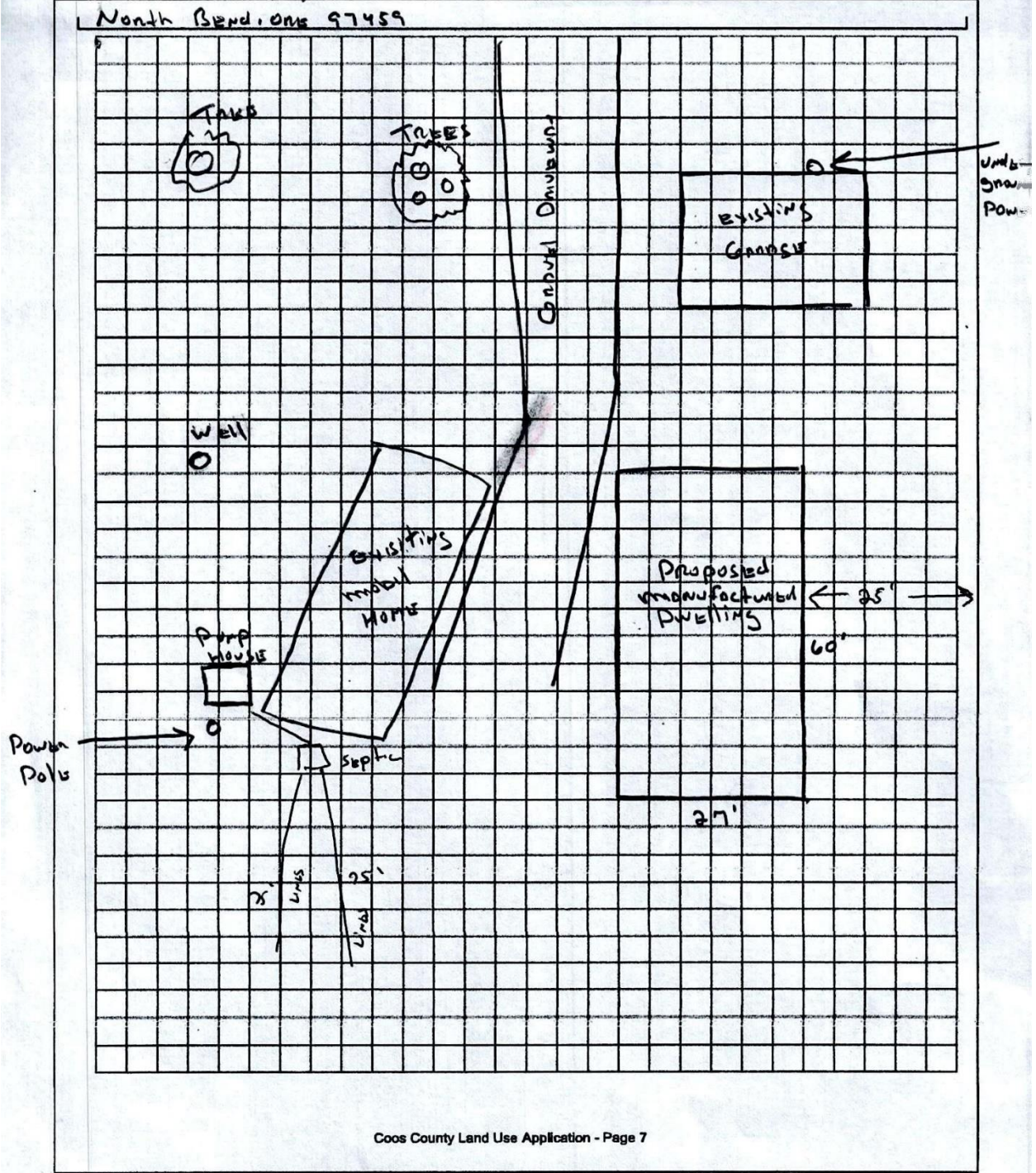
Vahe & Susan Arakelian

VAME PARCELION  
68975 Circle Loop

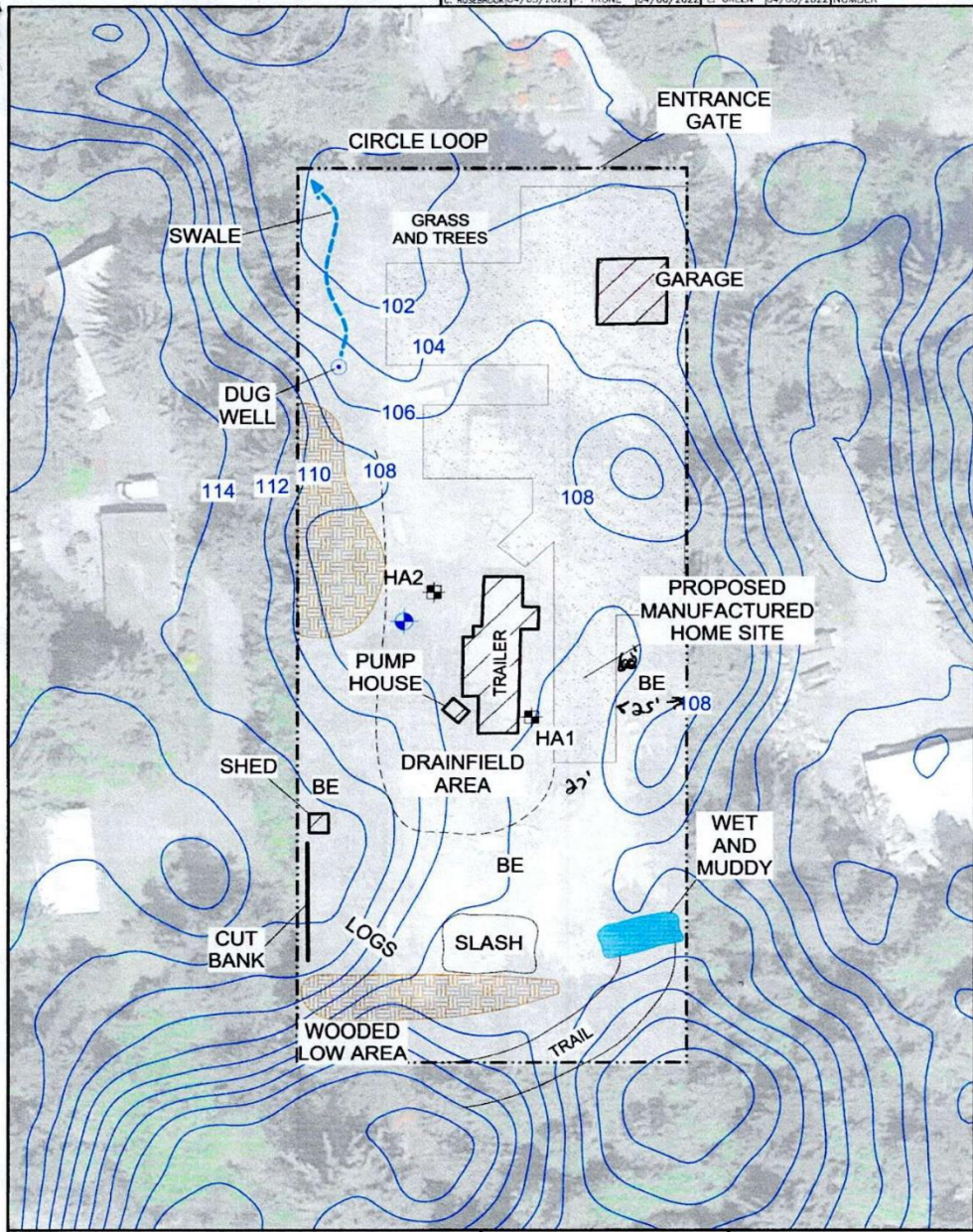


Site Plan

North Bend, Ohio 97459



DRAWN BY C. ROSEBROCK 04/05/2022	CHECKED BY R. TRONE 04/06/2022	APPROVED BY L. GREEN 04/05/2022	DRAWING NUMBER 1635-22001(v01)
-------------------------------------	-----------------------------------	------------------------------------	-----------------------------------



LEGEND:	
	SUBJECT BUILDINGS
	SUBJECT PROPERTY BOUNDARIES
	GRAVELLED AREAS
	FILL
	DRILLED WELL
	BE BARE EARTH
	ESTIMATED SURFACE ELEVATION CONTOUR (MODELED USING DOGAMI LIDAR DATA) CONTOUR INTERVAL = 2 FEET LIDAR
	ENW TEMPORARY SHALLOW SOIL BORING LOCATION

**NOTES:**

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022 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

EVREN NORTHWEST  
ENVIRONMENTAL. SOCIAL. FINANCIAL. GOVERNANCE.

PO BOX 14488, PORTLAND, OREGON 97263  
P. (503)452-5561, E. ENW@EVREN-NW.COM

**FIGURE 4**  
**SITE PLAN**  
RESIDENTIAL PROPERTY  
8807'S CIRCLE LOOP  
NORTH BEND, OREGON



RECORDING REQUESTED BY:



300 Anderson Ave  
Coos Bay, OR 97420

Coos County, Oregon	<b>2020-09961</b>	
<b>\$96.00</b>	<b>Pgs=3</b>	<b>10/06/2020 02:39 PM</b>
eRecorded by: TICOR TITLE COOS BAY		
Debbie Heller, CCC, Coos County Clerk		

**GRANTOR'S NAME:**

**GRANTEE'S NAME:**

The Arakelian Family Revocable Trust dated September 30, 2003

**AFTER RECORDING RETURN TO:**

Order No.: 360620032322-LS  
Vahe Arakelian and Susan Arakelian, Trustees of The Arakelian  
Family Revocable Trust dated September 30, 2003  
24775 SW Gage Road  
Wilsonville, OR 97070

**SEND TAX STATEMENTS TO:**

The Arakelian Family Revocable Trust dated September 30, 2003  
24775 SW Gage Road  
Wilsonville, OR 97070

APN: 66310  
Map: 23S 13W 34DD 02000 00  
68975 Circle Loop, North Bend, OR 97459

SPACE ABOVE THIS LINE FOR RECORDER'S USE

**STATUTORY WARRANTY DEED**

David L. Hudson, Jr., Grantor, conveys and warrants to Vahe Arakelian and Susan Arakelian, Trustees of The Arakelian Family Revocable Trust dated September 30, 2003, 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:

A parcel of land in the SE 1/4 of the SE 1/4 of Section 34, Township 23 South, Range 13 West of the Willamette Meridian, Coos County, Oregon; described as follows:

Beginning at the Southwest corner of Lot 21, Plat of Southwood, running thence Southerly and parallel with the Westerly line of Lot 21, Plat of Southwood, a distance of 370 feet to the true point of beginning of the Tract to be described; thence East parallel to and 370 feet South of the South line of the Plat of Southwood a distance of 150 feet; thence Southerly and parallel with the Easterly line of Lot 21, Plat of Southwood, a distance of 428.91 feet, to the South line of Township 23 South, Range 13 West of the Willamette Meridian, Coos County, Oregon; thence Westerly along said Township line and North 86° 42' 20" West, 150.25 feet; thence Northerly parallel with the Westerly line of Lot 21, Plat of Southwood, a distance of 420.27 feet, to the place of beginning.

THE TRUE AND ACTUAL CONSIDERATION FOR THIS CONVEYANCE IS THREE HUNDRED TWENTY-FIVE THOUSAND AND NO/100 DOLLARS (\$325,000.00). (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.

**RECORDING REQUESTED BY:**



300 Anderson Ave  
Coos Bay, OR 97420

**GRANTOR'S NAME:**

**GRANTEE'S NAME:**

The Arakelian Family Revocable Trust dated September 30, 2003

**AFTER RECORDING RETURN TO:**

Order No.: 360620032322-LS  
Vahe Arakelian and Susan Arakelian, Trustees of The Arakelian  
Family Revocable Trust dated September 30, 2003  
24775 SW Gage Road  
Wilsonville, OR 97070

**SEND TAX STATEMENTS TO:**

The Arakelian Family Revocable Trust dated September 30, 2003  
24775 SW Gage Road  
Wilsonville, OR 97070

APN: 66310  
Map: 23S 13W 34DD 02000 00  
68975 Circle Loop, North Bend, OR 97459

SPACE ABOVE THIS LINE FOR RECORDER'S USE

**STATUTORY WARRANTY DEED**

David L. Hudson, Jr., Grantor, conveys and warrants to Vahe Arakelian and Susan Arakelian, Trustees of The Arakelian Family Revocable Trust dated September 30, 2003, 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:

A parcel of land in the SE 1/4 of the SE 1/4 of Section 34, Township 23 South, Range 13 West of the Willamette Meridian, Coos County, Oregon; described as follows:

Beginning at the Southwest corner of Lot 21, Plat of Southwood, running thence Southerly and parallel with the Westerly line of Lot 21, Plat of Southwood, a distance of 370 feet to the true point of beginning of the Tract to be described; thence East parallel to and 370 feet South of the South line of the Plat of Southwood a distance of 150 feet; thence Southerly and parallel with the Easterly line of Lot 21, Plat of Southwood, a distance of 428.91 feet, to the South line of Township 23 South, Range 13 West of the Willamette Meridian, Coos County, Oregon; thence Westerly along said Township line and North 86° 42' 20" West, 150.25 feet; thence Northerly parallel with the Westerly line of Lot 21, Plat of Southwood, a distance of 420.27 feet, to the place of beginning.

THE TRUE AND ACTUAL CONSIDERATION FOR THIS CONVEYANCE IS THREE HUNDRED TWENTY-FIVE THOUSAND AND NO/100 DOLLARS (\$325,000.00). (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.

(continued)

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

Dated: 9/30/2020

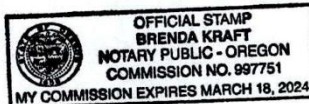
[Signature]  
David L. Hudson, Jr.  
Hudson

State of OREGON  
County of COOS

This instrument was acknowledged before me on September 30, 2020 by David L. Hudson, Jr.

[Signature]  
Notary Public - State of Oregon

My Commission Expires: 3-18-2024



**EXHIBIT "A"**  
**Exceptions**

**Subject to:**

1. Property taxes in an undetermined amount, which are a lien but not yet payable, including any assessments collected with taxes to be levied for the fiscal year 2020-2021.
2. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document:  
  
Reserved by: Lois M. Aungier and Robert B. Aungier and Dorothy Jarvis and Hugh S. Jarvis  
Recording Date: July 3, 1967  
Recording No: 67-7-19452
3. Easement(s) for the purpose(s) shown below and rights incidental thereto as set forth in a document:  
  
Entitled: Bargain and Sale Deed  
In favor of: Thomas E. Deal  
Recording Date: July 21, 1967  
Recording No: 67-07-20008
4. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:  
  
Granted to: General Telephone Company of the Northwest, Inc.  
Recording Date: September 29, 1969  
Recording No: 69-9-42469
5. Agreement Easement Agreement, including the terms and provisions thereof  
  
Executed by: Richard S. Randall  
Recording Date: May 8, 1970  
Recording No.: 70-5-48290
6. Agreement Easement for road purposes, including the terms and provisions thereof  
  
Executed by: Davis L. Hudson and Richmond G. Chaney and Winnie Ruth Chaney, husband and wife  
Recording Date: September 8, 1989  
Recording No.: 89-09-0409
7. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:  
  
Granted to: Sue M. Joy-Sturgeon  
Recording Date: October 12, 1995  
Recording No: 95-10-0421
8. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:  
  
Granted to: Central Lincoln People's Utility District  
Recording Date: December 20, 1974  
Recording No: 74-12-108058



**Technical Memorandum**  
**Reconnaissance-Level  
Geologic Hazard Assessment**

68975 Circle Loop  
North Bend, Oregon 97459

April 11, 2022

*Prepared for:*

**Vahe Arakelian**  
Baja Auto Body  
24775 SW Gage Rd  
Wilsonville, Oregon 97070

*Prepared by:*



PO Box 14488  
Portland, Oregon 97293  
T. 503-452-5561 E. ENW@EVREN-NW.com

Project No. 1635-22001-01

---

**Technical Memorandum**  
**Reconnaissance-Level Geologic Hazard Assessment**

68975 Circle Loop  
North Bend, Oregon 97459

Prepared for:

**Vahe Arakelian**  
Baja Auto Body  
24775 SW Gage Rd  
Wilsonville, Oregon 97070



EXP. 2/1/2023



By:

A handwritten signature in blue ink, appearing to read "LDG".

---

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

A handwritten signature in blue ink, appearing to read "Paul M. Trone".

---

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



---

## Contents

1.0	INTRODUCTION .....	1
1.1	Purpose .....	1
1.2	Scope.....	1
1.3	Site Description.....	1
2.0	SITE SETTING .....	2
2.1	Geomorphology/Topography.....	2
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
7.0	LIMITATIONS .....	9

## **Figures (after text)**

- 1 Site Vicinity Map**
- 2 Aerial Photo Map (2022)**
- 3 Tax Lot Map**
- 4 Site Plan**
- 5a Historically Active Landslides – Shaded Relief Topographic Map**
- 5b LIDAR Map**
- 5c Landslide Hazard Map**
- 6 Flood Insurance Rate Map**
- 7 Amplification of Ground Shaking**
- 8 Tsunami Inundation Zone**
- 9 Wetland Inventory Map**

## **Appendices**

- A Site Photographs**
- B Ground Water Well Logs and Geotechnical Hole Reports**



---

**Technical Memorandum  
Reconnaissance-Level Geologic Hazard Assessment**

**68975 Circle Loop  
North Bend, Oregon**

**1.0 INTRODUCTION**

This report presents the results of a reconnaissance-level geologic hazard assessment conducted by EVREN Northwest, Inc. (ENW) for a residential property in Coos County, Oregon. The property is located at 68975 Circle Loop, approximately seven miles north of the City of North Bend, Oregon. The County designation for the property is Tax Lot 2000, T23S R13W 34DD (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 locate a manufactured, single-family home on the east central portion of the property. The County zone designation for the property is Rural Residential-2 (RR-2). 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 recommendations. 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 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 manufactured home. Information sources are cited in the report and referenced at the end of the 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 two hand auger borings completed on the subject property.

**1.3 Site Description**

The subject property consists of a 1.46-acre trapezoidal shaped lot that is approximately 150-foot wide and 425-foot long. It is in the southeast-quarter of the southeast-quarter of Section 34, Township 23 south, Range 13 west of the Willamette Meridian in Coos County, Oregon (Figure 3). The lot is bordered on the east, west, and north (across Circle Loop) by similar size residential

lots and on the south by forest land. Access to the site from Circle Loop is via a gated graveled driveway. The boundaries between the subject property and the adjacent properties to the east, west, and south were not clearly marked during ENW's March 22, 2022, site visit; however, were estimated based on County tax lot maps and aerial photograph of the project area (Figures 2 and 3). There are four structures on the property (Figure 4), including a 30' by 30' garage in the in the northeast corner of the lot, a mobile home with an attached (wood frame) room near the center of the lot, and a small pump house and empty storage shed southwest of the trailer. Much of the natural vegetation has been cleared from the subject property; however, the extreme southern portion of the lot is still forested, and several large evergreen trees remain in the northern portion of the lot and one near the southwest corner of the trailer. A large area south of the garage and east of the trailer has been cleared, graded, and covered with compacted gravel. The manufactured home will be located on the portion of the gravel pad east of the trailer. Domestic water for the property will be obtained from an 86-foot-deep well that was drilled in 2015 and is located west of the trailer. Domestic waste will be treated and disposed of on site by a septic tank and drainfield system located south of the trailer (See Figure 4 and site photographs in Appendix A). Electricity is provided to the property by Pacific Power.

## 2.0 SITE SETTING

### 2.1 Geomorphology/Topography

The project area is located along the boundary between two major coastal landforms. To the west is an aerially extensive, north-northeast to south-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).<sup>1</sup>

Most of the subject property is flat to gently sloping. There is a natural break in slope along a generally east to west line approximately 50- to 75-feet north of the southern property boundary, with the southern end of the site being 5- to 10-feet lower in elevation than the remainder of the property. The area east of the subject property is slightly lower in elevation and the property to the west is slightly higher as shown by the estimated elevation contours on the site plan in Figure 4.<sup>2</sup> It appears that the natural topography of at least portions of the site have been modified by development activity. There is evidence of soil removal (cut slopes) along the southwestern and east-central property boundaries, and placement of soil and slash debris fill along the slope break mentioned above and along the west-central property boundary. No detailed survey of the site was available; however, based on the U.S. Geological Survey 7.5' topographic quadrangle map of the project area (Lakeside, OR Quadrangle) and contours derived from a LIDAR map<sup>2</sup> (Figure 4), the elevation of the site is between 100- and 114-feet above mean sea level (amsl).

---

<sup>1</sup> Beaulieu, J.D., and Hughes, P.W., 1975, Environmental geology of western Coos and Douglas Counties, Oregon: Oregon Dept. of Geology and Mineral Industries, Bulletin 87, 148 p.

<sup>2</sup> Surface contours were modeled using State DOGAMI LIDAR data and should be treated as estimated. Topographic surveying was not performed as part of this scope of work.

## 2.2 Hydrology

The Pacific Ocean is located on the western edge of the dune complex, approximately 6,100-feet west of the subject property. The southern end of Maud Lake, a freshwater lake, is approximately 500 feet to the north. Saunders Lake, a larger freshwater lake, is located east of Maud Lake and northeast of the site. A small unnamed lake is located approximately 600-feet to the northwest, and Butterfield Lake is approximately 1,400 feet to the south. No perennial surface water features were observed on or adjacent to the subject property. However, large puddles and very wet surface soils were observed on the northern portion of a trail leading to the southern portion of the property. It appeared that heavy equipment had recently been working in that area. A dry, northerly draining, stormwater swale was observed along the northern portion of the western property boundary (See Figure 4 and photographs in Appendix A).

## 2.3 Geology

**Regional:** Beaulieu and Hughes (1975) map the western portion of the coastal strip in the project area as being underlain by geologically Recent active (unstable dune sand [su]), stabilized dune sands (ss), and deflation plain and beach sand (sdpb). The eastern portion of the coastal strip is shown as being underlain by elevated Quaternary marine terrace deposits (Qmt). 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 50 feet. Bedrock geologic units of Tertiary Age typically underlie these surficial units. The bedrock unit in the project area is identified by Beaulieu and Hughes as undifferentiated Coaledo Formation, which they describe as being primarily sandstone.

**Site:** The surface geology of the subject property is mapped by Beaulieu and Hughes as Qmt. However, in their geologic map explanation the authors state that areas mapped as Qmt that are situated near the coastline can be covered by stable dune sand. Soil observed in recent excavation cuts on the property and soil samples collected from two hand auger borings completed by ENW (HA1 and HA2 on Figure 4) ranged from loose to somewhat dense, fine-sandy silt near the surface to very loose fine to medium sand at three to four feet below the surface (See Appendix B). This information suggests that stabilized dune sands (ss) with a well-developed soil horizon underly at least a portion of the property.

Well construction reports (well logs) for the site-well (COOS 56101; Tax Lot [TL] 2000) and three wells reported to be located on adjacent or nearby properties to the northeast (COOS 52212; TL 1500), north (COOS 54415; TL 1600), and west (COOS 466; TL 1900) are included in Appendix B. These are copies of logs on file in the Oregon Water Resources Department (OWRD) well log data base (GRID database). These wells range in depth from 86- to 118-feet. The logs for the three wells located on adjacent or nearby properties report encountering brown sandy clay (to depths ranging between 25- and 56-feet below ground surface [bgs]) that is underlain by brown sand. Two of these wells report encountering blue clay (likely weathered bedrock) at 116-feet (COOS 54415; TL 1600) and 118-feet (COOS 52212; TL 1500) bgs. The log for the site well COOS 56101 has a much more detailed lithologic log. The log reports that fine brown sand is the dominant type of sediment encountered throughout the 86-foot depth of the well. However, the log also reports encountering a layer of clay with peat from 2- to 5-feet bgs (see comment in

Section 3.1.2), a layer of orange-brown cemented sand from 23- to 26-feet bgs, and multiple 3- to 7-foot-thick layers of sandy clay between 26-feet bgs and the bottom of the well (86' bgs).

Based on field observations and well log information the subject property is underlain by approximately 120-feet of Quaternary alluvium, i.e., stabilized dune sand (ss) and Qmt. Unconsolidated fine to medium sand typical of dune or beach sand (ss), is the dominant sediment type; however, layers or lenses of finer textured (silt and clay dominated) sediment and cemented sand are likely present. These layers may be former surface soils that were buried by shifting dune sand or elevated marine terrace deposits (Qmt) that have been buried by the development of the dune complex.

#### **2.4 Hydrogeology/Ground Water**

The unconsolidated to semi-consolidated sand that makes up the dune complex soils allows for the infiltration and storage of a significant percentage of the more than sixty inches of precipitation that falls in the project area annually. As a result, the dunes contain significant volumes of ground water. The ground water 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 located in the project area indicate that ground water is present locally, and that it is used for domestic purposes. A copy of well log COOS 56101 for the subject property well and copies of well logs for three wells (COOS 466, COOS 52212, and COOS 54415) reported to be on properties adjacent to or near the subject property are in Appendix B. The static water levels reported in these four wells at the times of their construction range between 43- and 56-feet bgs. ENW measured the static water level in the site well at 52.7-feet bgs on March 22, 2022.

A dug-well or cistern (well/cistern) that is approximately 4-feet in diameter and 22.5-feet deep is located approximately 90-feet south of the northwest corner of the subject property. The purpose of this feature was not determined; however, it is situated in a shallow swale or ditch that appears to drain toward the north. ENW measured the water level in the well/cistern at 11-feet bgs on March 22, 2022, suggesting the presence of a shallow perched ground water table beneath at least a portion of the property. It should be noted that no ground water or soil profile characteristics indicative of seasonally high water-table conditions were observed in the six-foot deep hand auger borings HA1 and HA2 completed by ENW. Additionally, the 22.5-foot depth of the well/cistern is similar to the depth of 23-feet reported for the cemented sand zone (a possible perching horizon) described on the log for the site well (see well and auger boring logs in Appendix B).

### **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.

Elevated marine terrace deposits (Qmt) and dune sands (ss) with vegetative cover and a well-developed organic soil horizon are generally not subject to significant mass wasting unless they are in an area of steep slopes or are subject to shoreline or streambank erosion. Most of the subject property is relatively flat to gently sloping and not prone to mass wasting. Sloughing of the steep cut-bank along the middle portion of the west property boundary was observed, and bowed tree trunks (possibly indicative of soil creep) were noted on naturally sloping ground on the undeveloped southern end of the site and on the slope between the subject property and the lower lot to the east (Tax Lot 2100). No historically active landslides were mapped within the immediate area (within ½ mile) of the subject site (Figures 5a and 5b). The State has indicated that the landslide hazard in the area of the site is low to moderate (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 two auger borings. It should be noted that HA2 was completed a few feet northeast of the on-site water well and did not encounter the clay-with-peat layer reported as being present at 2- to 5-foot bgs on well log COOS 56101 for that well. 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

The four-foot-thick organic soil horizon with a sandy-silt surface layer that is present beneath the subject property limits the potential for the rapid infiltration of incident precipitation into the subsurface. This, combined with the relatively flat nature of the site and seasonally heavy rainfall, increases the potential for surface water ponding and stormwater run-off. As mentioned in Section 2.2, ENW observed what appeared to be a stormwater swale along the northern portion of the site's western boundary. In addition, standing water and saturated surface soil were observed along the upper (northern) section of the trail leading to the south end of the property. Standing water was also observed in other areas of the site where recent heavy equipment use had disturbed and compacted surface soils. The approximate locations of the swale and areas of standing water / muddy soils observed during the site visit are shown on Figure 4.

### 3.1.4 Flooding

Given the elevation and topographic setting of the subject property, the potential for aerially extensive flooding appears to be minimal. 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 (1% annual chance flood). 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 well log information the regional water table is more than 40-feet bgs beneath the subject property. Based on the results of hand auger borings HA1 and HA2 completed by ENW, the seasonally high perched water table is expected to be greater than 5-feet bgs.

### **3.1.6 Sea Level Rise**

According to National Research Council projections<sup>3</sup>, 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 80-feet amsl, even a rise in sea level that was significantly higher than those predicted will not adversely affect the subject property.

### **3.1.6 Wind Erosion and Deposition**

The potential for significant wind erosion on the subject property is limited to areas where excavation or other development related activities have or could expose the unconsolidated fine to medium sands present at depth. Dune encroachment is common on properties adjacent to active (no vegetation cover) sand dunes. Large active dunes are located approximately 1,000-feet west of the subject property, 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) 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 immensely powerful (magnitude 9+ on the Richter Scale) subduction zone earthquakes on the offshore Cascadia Subduction Zone (CSZ) fault system<sup>4</sup>. 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 believed to underlie the project area, and these types of soils are subject to the effects of liquefaction triggered by earthquake activity.

---

<sup>3</sup> 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>

<sup>4</sup> 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 (Figures 5a and 5b), and the State has indicated that the landslide susceptibility of the subject property is low to moderate (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<sup>5</sup>. Amplification of ground shaking induced by a CSZ earthquake is anticipated to be severe along the southern Oregon Coast and at the subject site and surrounding area (Figure 7).

### **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 CSZ, located just offshore 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<sup>6</sup> (Figure 8) 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 9).

## **5.0 RECOMENDATIONS**

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

- The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report.
- Within the existing site constraints (the current placement of the gravel pad and buried utilities for the manufactured home), the maximum setback possible should be maintained

<sup>5</sup> 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.

<sup>6</sup> DOGAMI, 2012. Local Source (Cascadia Subduction Zone) Tsunami Inundation Map. Tsunami Inundation Map Coos-16.

between the manufactured home and the eastern boundary of the subject property. In the event the owner of T.L. 2100 should steepen the existing slope on the western portion of his/her property, the potential for mass wasting to affect the subject property could increase. The elevation difference between the subject property and T.L. 2100 is approximately eight vertical feet over a lateral distance of 40 feet (from property line to low point on T.L. 2100). Assuming an angle of repose for loose sand (conservative) of 34 degrees and a potential 8-foot-high cut bank at the property line, a setback of 15 feet from the east side of the manufactured home site to the property line is recommended.

- The sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations.
- The lid covering the cistern/well can be easily removed, and a deep uncovered hole would pose a significant risk of injury or death. The cistern/well should be properly decommissioned if not in use, or a more secure and lockable covering should be installed.
- The cap and sanitary seal covering the drilled water well have been off for an undetermined amount of time, leaving the well accessible to rodents, insects, other animals, and vandals. The well should be redeveloped, and the water quality should be assessed before the well is returned to service, and a new cap/sanitary surface seal should be installed.
- Areas of the site where placement of non-engineered fill has occurred should not be used as building sites or for other purposes requiring stable soil conditions.
- Cut slopes steeper than 30-degrees should be stabilized with retaining walls or similar engineered structures to prevent sloughing.
- Areas of exposed soil should be stabilized with vegetation or other means.
- Stormwater run-off from impermeable surfaces should be managed in accordance with Coos County stormwater management regulations, and in such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drainfields, and excessive erosion or sedimentation. Excessive stormwater 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.

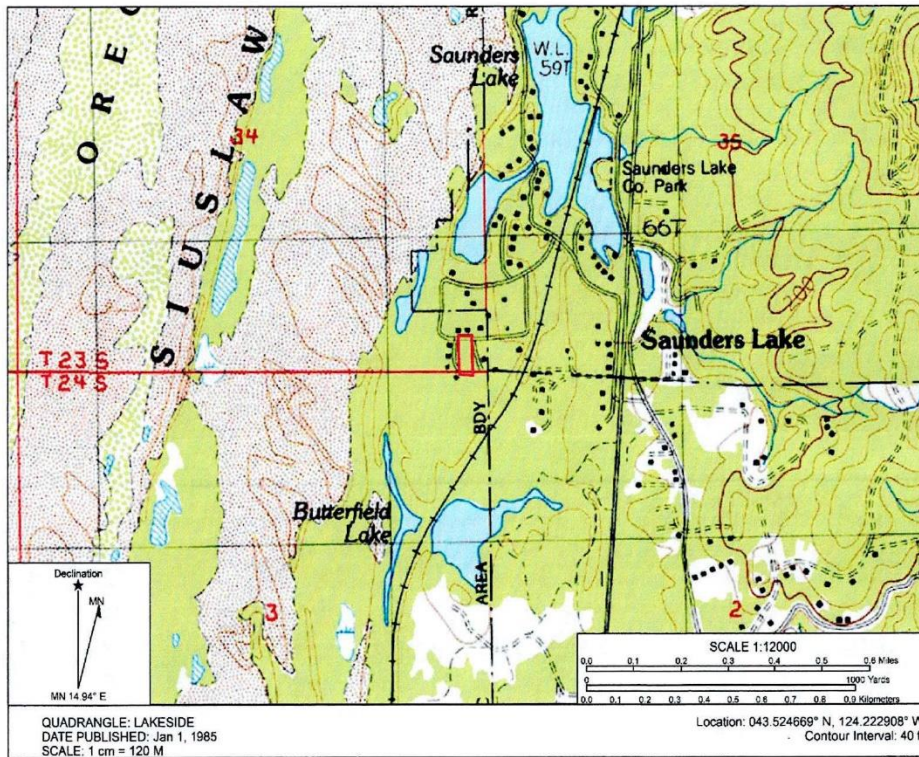



## **7.0 LIMITATIONS**

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.

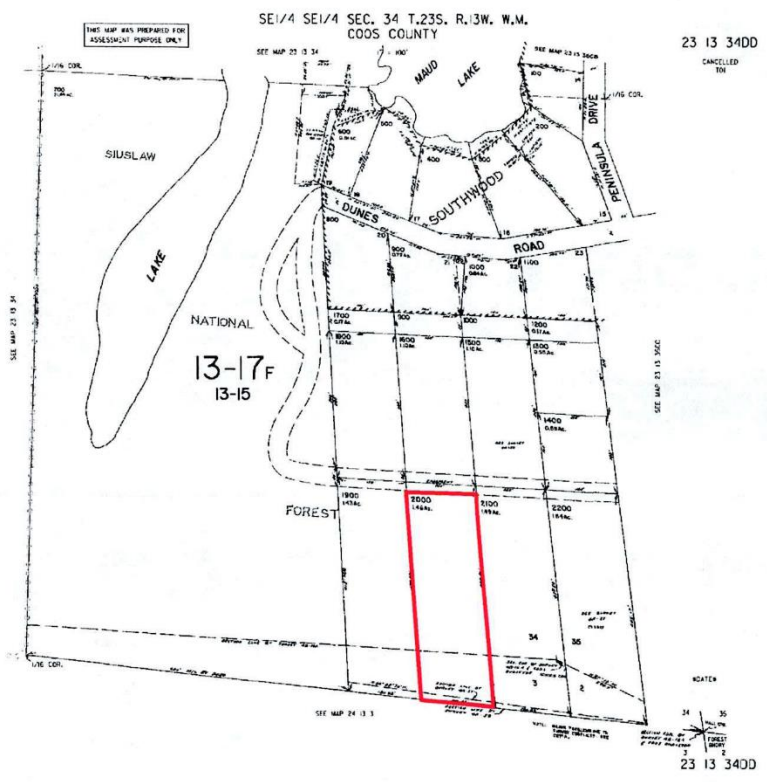
We have performed our services for this project in accordance with our agreement and understanding with the Client. This document and the information contained herein have been prepared solely for the use of the Client. We have performed this study under a limited scope of services per our agreement. 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.



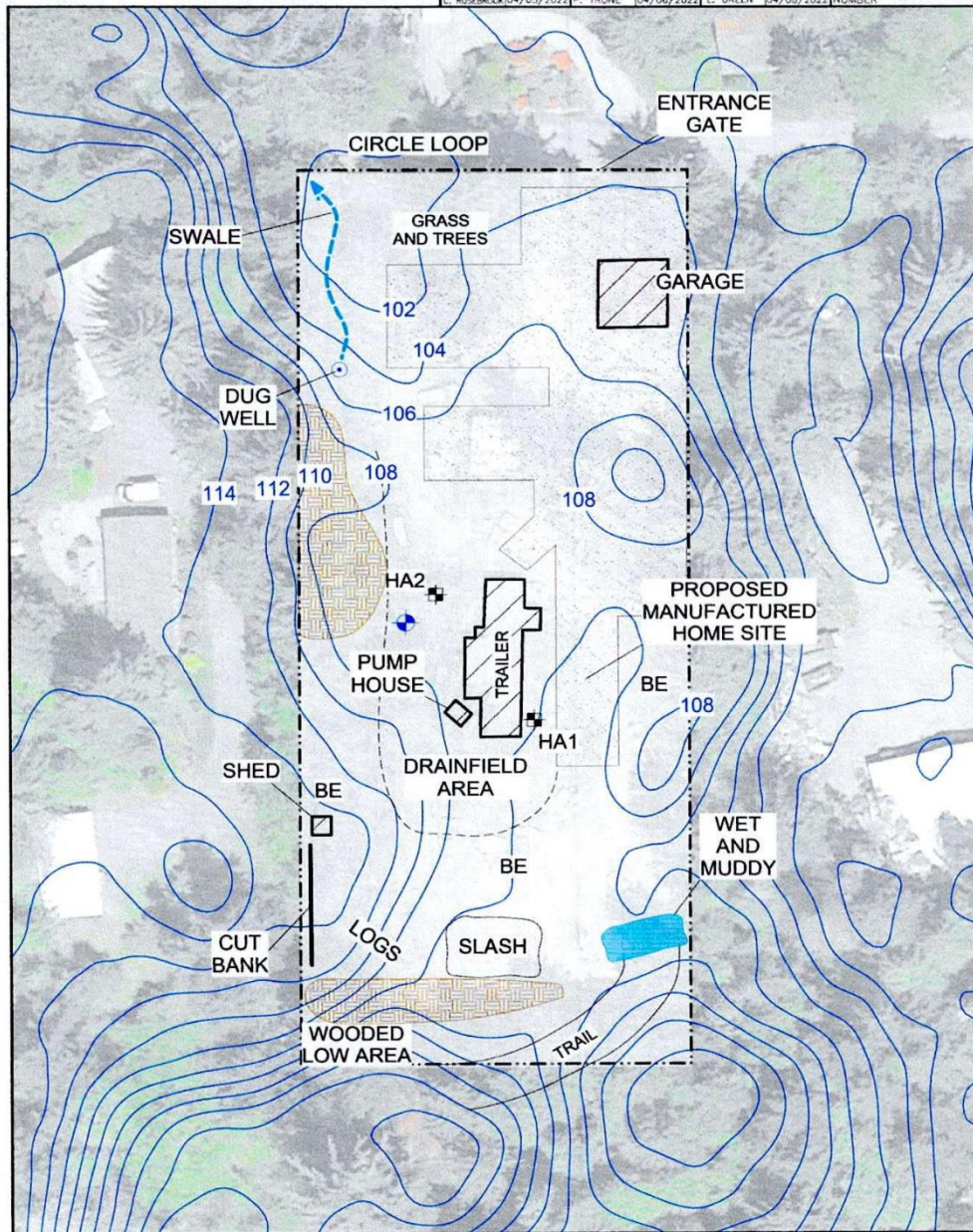
	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_sdvac.mxd Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Site Vicinity Map</b>	Project No. 1635-22001
				Figure No. 1



	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_ig2aerial Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Aerial Photo Map          2022</b>	Project No. 1635-22001
				Figure No. 2



	<p>Date Drawn: 3/24/2022          CAD File Name: 1635-22001-01_fig4taxlot          Drawn By: CLR          Approved By: LDG</p>	<p>Residential Property          68975 Circle Loop,          North Bend, Oregon</p>	<p><b>Tax Lot Map</b></p>	<p>Project No.          1635-22001          Figure No.  <b>3</b></p>
--	--	---	---------------------------	--



LEGEND:	
	SUBJECT BUILDINGS
	SUBJECT PROPERTY BOUNDARIES
	GRAVELED AREAS
	FILL
	ENW TEMPORARY SHALLOW SOIL BORING LOCATION
	DRILLED WELL
	BE BARE EARTH
	ESTIMATED SURFACE ELEVATION CONTOUR (MODELED USING DOGAMI LIDAR DATA) CONTOUR INTERVAL = 2 FEET LIDAR

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022 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.

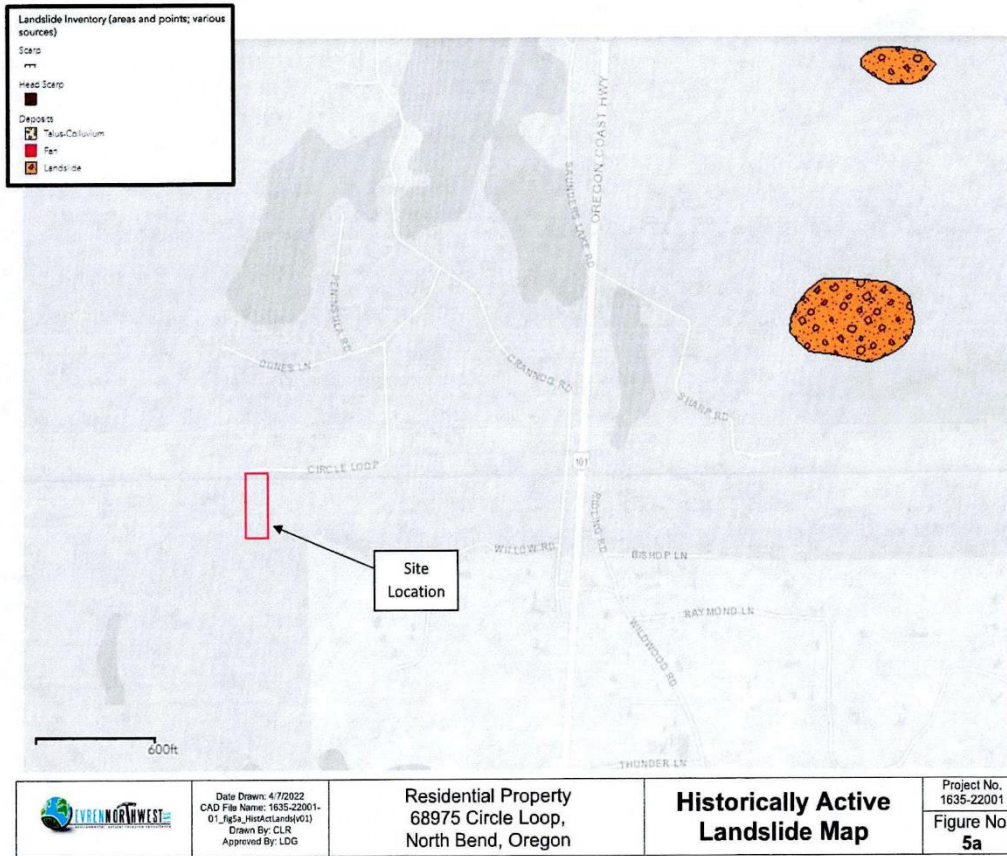
APPROXIMATE SCALE

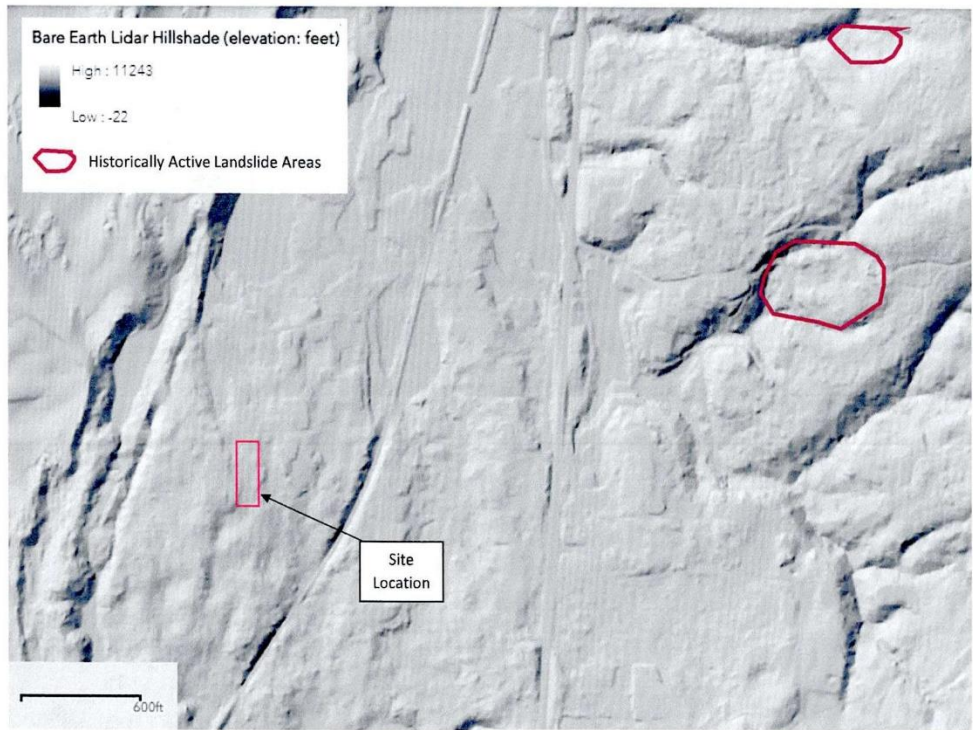
0 40 80 FEET


EVREN NORTHWEST  
ENVIRONMENTAL SCIENCE TECHNOLOGY CONSULTANTS

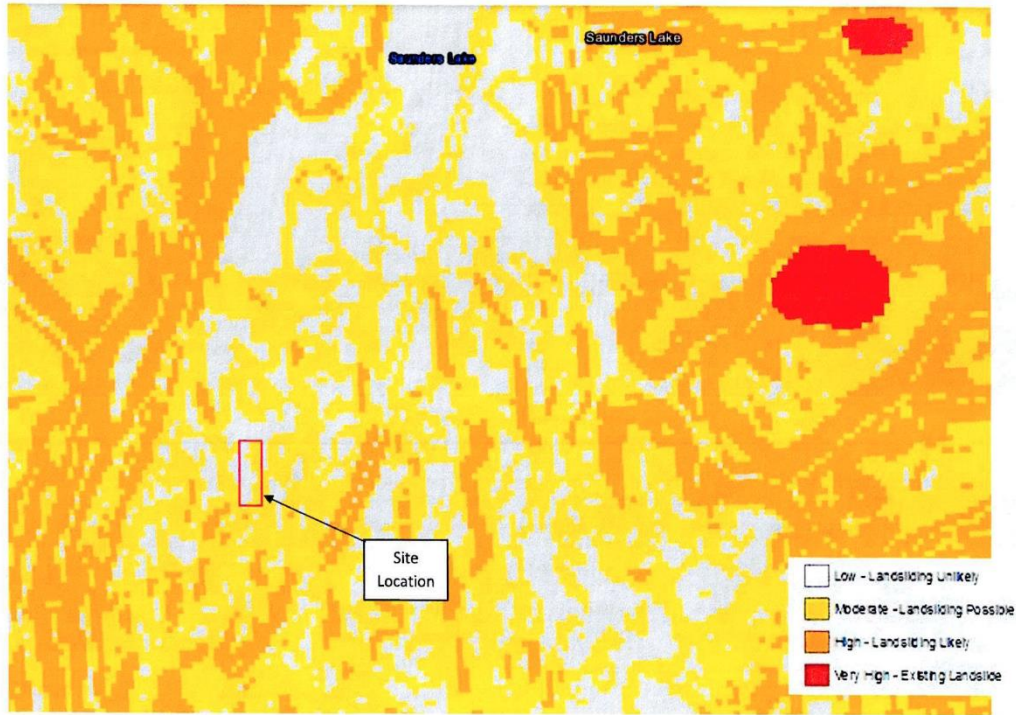
PO BOX 14488, PORTLAND, OREGON 97203  
P. (503)452-5561, E. ENW@EVREN-NW.COM


**FIGURE 4**  
**SITE PLAN**  
RESIDENTIAL PROPERTY  
6807% CIRCLE LOOP  
NORTH BEND, OREGON



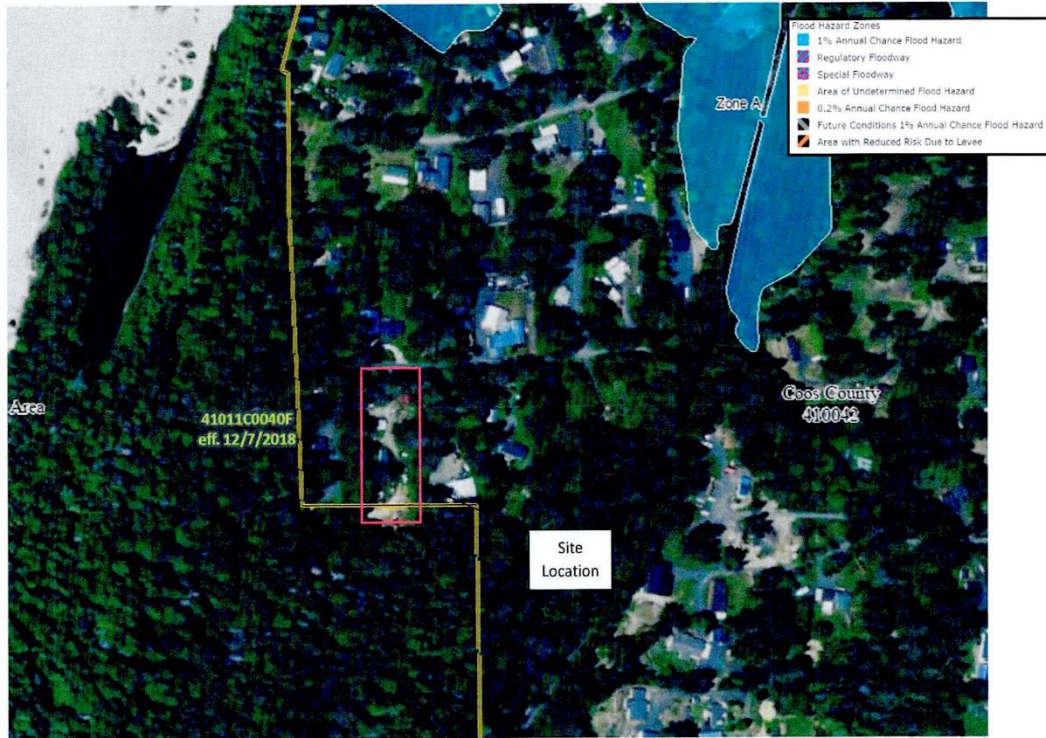



	Date Drawn: 4/6/2022 CAD File Name: 1635-22001-01_fig5b_lidar(v01) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>LiDAR Map</b>	Project No. 1635-22001
				Figure No. <b>5b</b>

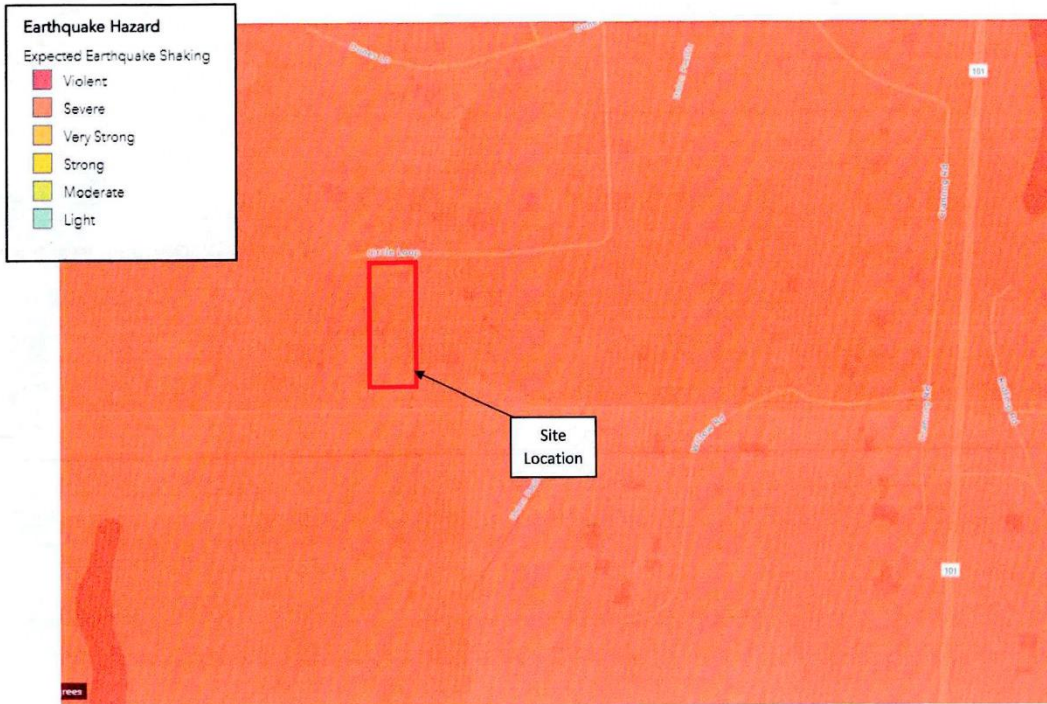



	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_fig5c_Landsus(v1) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Landslide          Susceptibility Map</b>	Project No. 1635-22001
				Figure No. <b>5c</b>

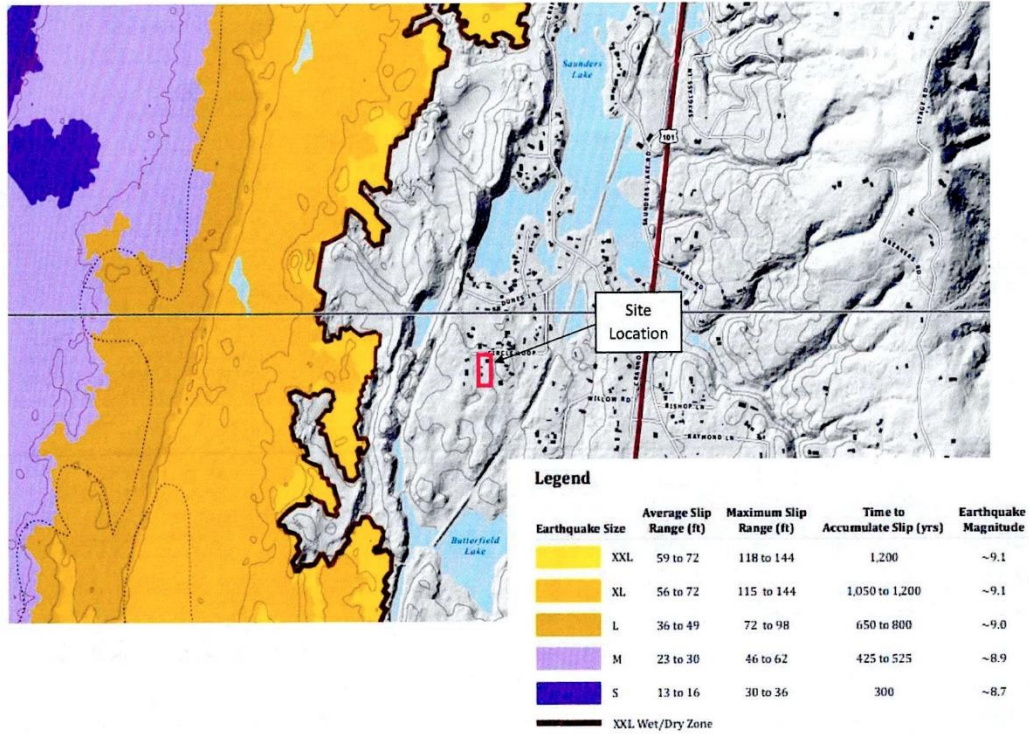





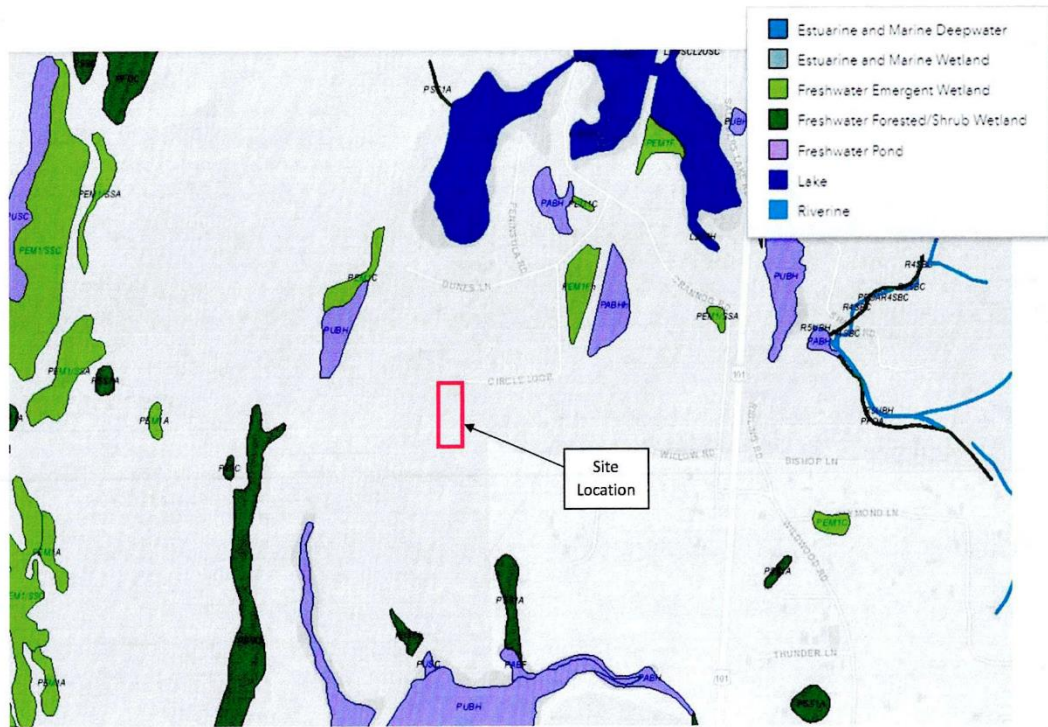
	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_fig6_Flood InsuranceMap(v01) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Flood Insurance          Rate Map</b>	Project No. 1635-22001
				Figure No. 6




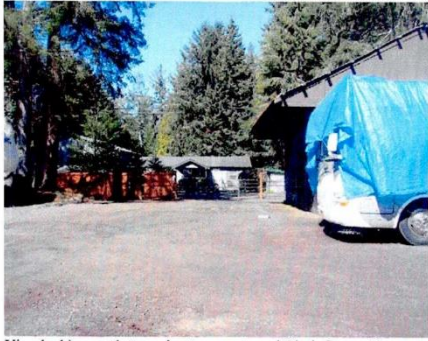
	Date Drawn: 3/24/2022 CAD File Name: 1635-22001- 01_fig7b_Earthquake ShakingMap(01) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Amplification of          Ground Shaking</b>	Project No. 1635-22001
				Figure No. 7



	Data Drawn: 3/24/2022 CAD File Name: 1635-22001-01_fig8_TsunamiZoneMap(v01) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Tsunami Inundation          Zone Map</b>	Project No. 1635-22001
				Figure No. 8



	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_fig9_WetlandMap(V01) Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Wetland Inventory          Map</b>	Project No. 1635-22001
				Figure No. 9



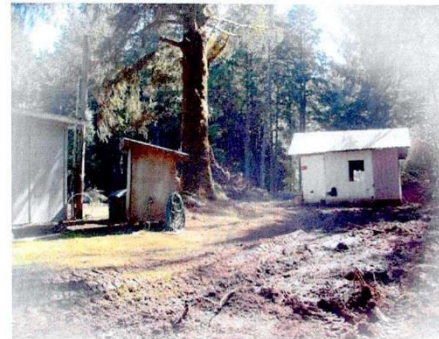
View looking north toward entrance gate and Circle Loop. Garage and parked RV (right middle).



View looking south toward existing trailer and gravel pad for manufactured home.



Proposed manufactured home site east of existing trailer.



Pumphouse (left) and shed (right) – looking south.



Residential Property  
68975 Circle Loop  
North Bend, Oregon

**Site Photographs**

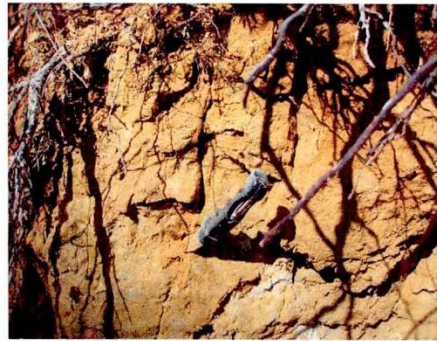
Project No.  
1635-22001-01  
Appendix  
**A**



Shed, cut bank (behind blue tarp covering log pile), and slash pile (middle left) – looking west




Close-up of cut bank.



Close-up view of stabilized dune sand comprising the cut bank.



Trail at south end of property – looking south-southwest. Note muddy ground and standing water in center of photo.

	Residential Property 68975 Circle Loop North Bend, Oregon	<b>Site Photographs</b>	Project No. 1635-22001-01
			Appendix <b>A</b>



Trail in southern portion of site – looking east-northeast onto the subject property.



Soil and slash fill at south end of cleared portion of the site – looking north.



Soil and slash fill area along the western property boundary – looking north.



Brush-covered site of hand-dug well (or cistern) near the western edge of the subject site – looking southwest.



Residential Property  
68975 Circle Loop  
North Bend, Oregon

**Site Photographs**

Project No.  
1635-22001-01  
Appendix  
**A**



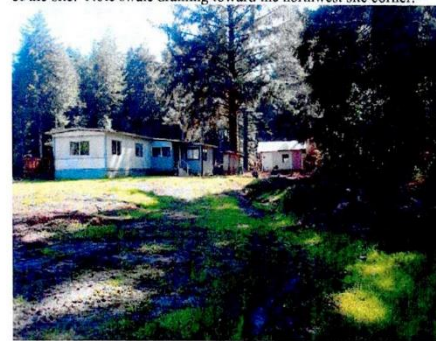
Close-up view of hand-dug well or cistern.



Down-well view.



View looking north from dug well or cistern along the western edge of the site. Note swale draining toward the northwest site corner.



Looking south-southeast from the dug well or cistern. Note wet soil in foreground and soil and slash fill (center right).



Residential Property  
68975 Circle Loop  
North Bend, Oregon

**Site Photographs**

Project No.  
1635-22001-01  
Appendix  
**A**





Drilled well with six-inch steel casing west of existing trailer.



Hand auger boring HA1 located on the east side near south end of the existing trailer.



HA1 soil cuttings, which were loose to somewhat dense, fine-sandy silt at the surface to very loose fine to medium sand at 3-4 feet bgs.



HA2 advanced near drilled well (background) – view southwest.



Residential Property  
68975 Circle Loop  
North Bend, Oregon

**Site Photographs**

Project No.  
1635-22001-01  
Appendix  
**A**



HA2 soil cuttings, were similar to the materials encountered at HA1.




Looking north from the trail in the southern portion of the site at the proposed manufactured home site (center).



Looking southeast from the proposed manufactured home site toward Tax Lot 2100 (east-adjacent property).



Looking north along the west property boundary – pumphouse is center right.

	Residential Property 68975 Circle Loop North Bend, Oregon	<b>Site Photographs</b>	Project No. 1635-22001-01
			Appendix <b>A</b>

**APPENDIX B**  
**GROUND WATER WELL LOGS AND GEOTECHNICAL**  
**HOLE REPORTS**

**EVREN Northwest, Inc.**

<b>DRILL LOG</b>		PROJECT		PROJECT NO.		BORING NO. <b>HA1</b>	
SITE		BEGUN 3/22/22	COMPLETED 3/22/22		HOLE SIZE 2"		ANGLE FROM HORIZ.
COORDINATES		DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER NA	GROUND ELEVATION	
DRILLER Kent Mathiot		CORE RECOVERY (%) 100		# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK	
DRILL RIG Stainless-Steel Hand Auger		LOGGED BY: Kent Mathiot				DEPTH BOTTOM OF HOLE 6	

DEPTH	STRATA ELEVATION/DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const/Completion		
0			Brown SANDY SILT (MH/SM), loose to med. dense, dry to moist, fine roots						
2.5			Dark brown SANDY SILT / SILTY SAND (SM), loose, moist, occasional orange/red mottles and burned wood Light brown to tan SILTY SAND (SM), loose, moist - with occasional orange mottles and cemented (iron oxide) nodules (<1/4" dia.)						
5			Tan SAND with SILT (SM/MH), loose, moist (dune sand) - occasional orange mottles.						
7.5			End of borehole						
10									
12.5									
15									
17.5									

EVREN Northwest, Inc.

<b>DRILL LOG</b>		PROJECT		PROJECT NO.		BORING NO. <b>HA2</b>	
SITE		BEGUN 2/28/22		COMPLETED 2/28/22		HOLE SIZE 2"	
COORDINATES		DEPTH GROUND WATER		DATE SL		FIRST WATER NA	
DRILLER Kent Mathiot		CORE RECOVERY (%) 100		# SAMPLES		# CORE BOXES	
DRILL RIG Stainless-steel hand auger		LOGGED BY: Kent Mathiot				DEPTH TOP OF ROCK	
						DEPTH BOTTOM OF HOLE 6	

DEPTH	STRATA ELEVATION/DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const./Completion		
0			Dark brown SANDY SILT (MH/SM), loose to med. dense, dry to moist, contains roots and rotted wood						
2.5			Orange SILTY FINE SAND (SM), med. dense (slightly cemented) to loose, dry to moist Light brown SILTY SAND (SM), loose, dry to moist - localized bright orange mottles, which are very distinct and crunches in auger bit						
5			Tan FINE to MEDIUM SAND (SP) loose, moist						
7.5			End of borehole						
10									
12.5									
15									
17.5									

**(1) LAND OWNER** Owner Well I.D. \_\_\_\_\_  
 First Name DONALD Last Name HEANEY  
 Company \_\_\_\_\_  
 Address 68976 CIRCLE LOOP  
 City NORTH BEND State OR Zip 97459

**(2) TYPE OF WORK**  New Well  Deepening  Conversion  
 Alteration (repair/recondition)  Abandonment

**(3) DRILL METHOD**  
 Rotary Air  Rotary Mud  Cable  Auger  Cable Mud  
 Reverse Rotary  Other \_\_\_\_\_

**(4) PROPOSED USE**  Domestic  Irrigation  Community  
 Industrial/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

**(5) BORE HOLE CONSTRUCTION** Special Standard  Attach copy)  
 Depth of Completed Well 116.00 ft.  
**BORE HOLE**

Dia	From	To	Material	SEAL From	To	Amt	sacks/ lbs
10	0	116	Bentonite Chips	0	45	32	S

How was seal placed: Method  A  B  C  D  E  
 Other POURED  
 Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Filter pack from 45 ft. to 116 ft. Material SAND Size 10/20  
 Explosives used:  Yes Type \_\_\_\_\_ Amount \_\_\_\_\_

**(6) CASING/LINER**

Casing	Liner	Dia	+	From	To	Gauge	Std	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5		2	91	sdr26	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	5		91	111	sdr21	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	6		2	4	.250	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shoe  Inside  Outside  Other \_\_\_\_\_ Location of shoe(s) \_\_\_\_\_  
 Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

**(7) PERFORATIONS/SCREENS**  
 Perforations Method \_\_\_\_\_  
 Screens Type JOHNSON Material SS

Perf/S	Casing/	Screen	Scr/slot	Slot	# of	Tele/
screen	Liner	Dia	width	length	slots	pipe size
Screen		5	111	116	012	5

**(8) WELL TESTS: Minimum testing time is 1 hour**  
 Pump  Bailor  Air  Flowing Artesian  
 Yield gal/min \_\_\_\_\_ Drawdown \_\_\_\_\_ Drill stem/Pump depth \_\_\_\_\_ Duration (hr) \_\_\_\_\_

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
15		116	1

Temperature 52 °F Lab analysis  Yes By \_\_\_\_\_  
 Water quality concerns?  Yes (describe below)  

From	To	Description	Amount	Units

**(9) LOCATION OF WELL (legal description)**  
 County Coos Twp 23.00 S N/S Range 13.00 W E/W WM  
 Sec 34 SE 1/4 of the SE 1/4 Tax Lot 1600  
 Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
 Lat \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Long \_\_\_\_\_ " or \_\_\_\_\_ DMS or DD  
 Street address of well  Nearest address  
68976 CIRCLE LOOP NORTH BEND, OR 97459

**(10) STATIC WATER LEVEL**

Existing Well / Predeepening	Date	SWL(psi)	+	SWL(ft)
Completed Well	<u>04-03-2009</u>			<u>48</u>

Flowing Artesian?  Dry Hole?   
 WATER BEARING ZONES Depth water was first found 48

SWL Date	From	To	Est Flow	SWL(psi)	+	SWL(ft)
<u>04-03-2009</u>	<u>48</u>	<u>116</u>	<u>15</u>			<u>48</u>

**(11) WELL LOG** Ground Elevation \_\_\_\_\_

Material	From	To
TOP SOIL	0	2
BROWN SANDY CLAY	2	25
BROWN SAND	25	116
BLUE CLAY	116	116

Date Started 04-01-2009 Completed 04-03-2009

**(unbonded) Water Well Constructor Certification**  
 I certify that the work I performed on the construction, deepening, 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.  
 License Number \_\_\_\_\_ Date \_\_\_\_\_  
 Electronically Filed \_\_\_\_\_  
 Signed \_\_\_\_\_

**(bonded) Water Well Constructor Certification**  
 I accept responsibility for the construction, deepening, 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.  
 License Number 1381 Date 04-15-2009  
 Electronically Filed \_\_\_\_\_  
 Signed RONALD I. BARRINGTON (E-filed)  
 Contact Info (optional) BARRINGTON WELL DRILLING LLC 541-269-7221

STATE OF OREGON  
**WATER SUPPLY WELL REPORT**  
 (as required by ORS 537.765 & OAR 690-205-0210)

**COOS 56101**  
 2/25/2015

WELL I.D. LABEL# 116507  
 START CARD # 1025650  
 ORIGINAL LOG # \_\_\_\_\_

(1) **LAND OWNER** Owner Well I.D. 1521  
 First Name DAVID Last Name HUDSON  
 Company \_\_\_\_\_

Address 70173 LAKEWOOD ROAD  
 City NORTH BEND State OR Zip 97459

(2) **TYPE OF WORK**  New Well  Deepening  Conversion  
 Alteration (complete 2a & 10)  Abandonment (complete 5a)

(2a) **PRE-ALTERATION**  
 Dia + From To Gauge Stl Plstc Wld Thrd  
 Casing: \_\_\_\_\_  
 Material From To Amt sucks/lbs  
 Seal: \_\_\_\_\_

(3) **DRILL METHOD**  
 Rotary Air  Rotary Mud  Cable  Auger  Cable Mud  
 Reverse Rotary  Other \_\_\_\_\_

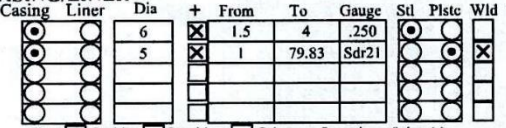
(4) **PROPOSED USE**  Domestic  Irrigation  Community  
 Industrial/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other \_\_\_\_\_

(5) **BORE HOLE CONSTRUCTION** Special Standard  (Attach copy)  
 Depth of Completed Well 84.83 ft.

BORE HOLE			SEAL			Amt	sacks/
Dia	From	To	Material	From	To		lbs
10	0	86	Bentonite	0	63	34	S
						Calculated	29.92
						Calculated	

How was seal placed: Method  A  B  C  D  E  
 Other POUR FROM SURFACE  
 Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
 Filter pack from 63 ft. to 86 ft. Material SAND Size 20/40  
 Explosives used:  Yes Type: \_\_\_\_\_ Amount \_\_\_\_\_

(5a) **ABANDONMENT USING UNHYDRATED BENTONITE**  
 Proposed Amount \_\_\_\_\_ Actual Amount \_\_\_\_\_

(6) **CASING/LINER**  
 Casing Liner Dia + From To Gauge Stl Plstc Wld Thrd  
  
 Shoe  Inside  Outside  Other Location of shoe(s) \_\_\_\_\_  
 Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

(7) **PERFORATIONS/SCREENS**  
 Perforations Method \_\_\_\_\_  
 Screens Type Johnson V-Wire Material Stainless Steel  

Perf/	Casing/	Screen	From	To	Slot	# of	Tele/	
Screen	Casing	Dia	From	To	width	length	slots	pipe size
		5	79.83	84.83	.012		5	

(8) **WELL TESTS: Minimum testing time is 1 hour**  
 Pump  Bailor  Air  Flowing Artesian  

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
7.5	33	80	1
8.8	37	80	1

 Temperature 54 °F Lab analysis  Yes By Bandon Well & Pump Co.  
 Water quality concerns?  Yes (describe below) TDS amount 53.8 ppm  

From	To	Description	Amount	Units

(9) **LOCATION OF WELL (legal description)**  
 County COOS Twp 23.00 S N/S Range 13.00 W E/W WM  
 Sec 34 SE 1/4 of the SE 1/4 Tax Lot 2000  
 Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
 Lat \_\_\_\_\_ " or 43.52464900 DMS or DD  
 Long \_\_\_\_\_ " or -124.22306300 DMS or DD  
 Street address of well  Nearest address  
68975 CIRCLE LOOP, HAUSER (NORTH BEND)

(10) **STATIC WATER LEVEL**  

Existing Well / Pre-Alteration	Date	SWL (psi)	+ SWL (ft)
Completed Well	2/25/2015		43

 Flowing Artesian?  Dry Hole?   
 WATER BEARING ZONES Depth water was first found 45.00  

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
2/25/2015	45	83	9		43

(11) **WELL LOG** Ground Elevation 102.00

Material	From	To
Topsoil	0	2
Clay w/peat	2	5
Sand f brown orange	5	8
Sand f brown	8	11
Wood w/sand f brown	11	13
Sand f brown orange	13	23
Cemented sand orange brown	23	26
Sandy clay tan	26	30
Sand f brown	30	33
Sandy clay orange brown	33	36
Sand f orange brown	36	38
Sandy clay tan	38	45
Sand f w/sandy clay lenses brown	45	48
Sand f brown	48	52
Sandy clay tan w/sand f brown	52	55
Sand f brown	55	83
Sandy clay tan	83	86

Date Started 2/23/2015 Completed 2/25/2015

(unbonded) **Water Well Constructor Certification**  
 I certify that the work I performed on the construction, deepening, 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.

License Number \_\_\_\_\_ Date \_\_\_\_\_  
 Signed \_\_\_\_\_

(bonded) **Water Well Constructor Certification**  
 I accept responsibility for the construction, deepening, 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.

License Number 1493 Date 2/25/2015  
 Signed JAMES A MACK SR (E-filed)  
 Contact Info (optional) BANDON WELL & PUMP COMPANY (541) 347-7867



**Technical Memorandum**  
**Reconnaissance-Level  
Geologic Hazard Assessment**

**68975 Circle Loop  
North Bend, Oregon 97459**

June 8, 2022

*Prepared for:*

**Vahe Arakelian**  
Baja Auto Body  
24775 SW Gage Rd  
Wilsonville, Oregon 97070

*Prepared by:*



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](mailto:ENW@EVREN-NW.COM)

Project No. 1635-22001-01

---



---

**Technical Memorandum**  
**Reconnaissance-Level Geologic Hazard Assessment**

**68975 Circle Loop  
North Bend, Oregon 97459**

*Prepared for:*

**Vahe Arakelian  
Baja Auto Body  
24775 SW Gage Rd  
Wilsonville, Oregon 97070**

*By:*



EXP. 2/1/2023



1021

---

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

1021

(for)

---

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

---

## Contents

1.0	INTRODUCTION.....	1
1.1	Purpose .....	1
1.2	Scope.....	1
1.3	Site Description.....	1
2.0	SITE SETTING.....	2
2.1	Geomorphology/Topography.....	2
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	DISCUSSION REGARDING COUNTY BEACHES & DUNES CRITERIA .....	8
6.0	RECOMENDATIONS .....	9
8.0	LIMITATIONS .....	12

## **Figures (after text)**

- 1 Site Vicinity Map
- 2 Aerial Photo Map (2022)
- 3 Tax Lot Map
- 4 Site Plan
- 5a Historically Active Landslides – Shaded Relief Topographic Map
- 5b LIDAR Map
- 5c Landslide Hazard Map
- 6 Flood Insurance Rate Map
- 7 Amplification of Ground Shaking
- 8 Tsunami Inundation Zone
- 9 Wetland Inventory Map

## **Appendices**

- A Site Photographs
- B Ground Water Well Logs and Geotechnical Hole Reports

---

**Technical Memorandum**  
**Reconnaissance-Level Geologic Hazard Assessment**

**68975 Circle Loop**  
**North Bend, Oregon**

**1.0 INTRODUCTION**

This report presents the results of a reconnaissance-level geologic hazard assessment conducted by EVREN Northwest, Inc. (ENW) for a residential property in Coos County, Oregon. The property is located at 68975 Circle Loop, approximately seven miles north of the City of North Bend, Oregon. The County designation for the property is Tax Lot 2000, T23S R13W 34DD (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 locate a manufactured, single-family home on the east central portion of the property. The County zone designation for the property is Rural Residential-2 (RR-2). 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 recommendations. 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 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 manufactured home. Information sources are cited in the report and referenced at the end of the 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 two hand auger borings completed on the subject property.

**1.3 Site Description**

The subject property consists of a 1.46-acre trapezoidal shaped lot that is approximately 150-feet wide and 425-feet long. It is in the southeast-quarter of the southeast-quarter of Section 34, Township 23 south, Range 13 west of the Willamette Meridian in Coos County, Oregon (Figure 3). The lot is bordered on the east, west, and north (across Circle Loop) by similar size residential

lots and on the south by forest land. Access to the site from Circle Loop is via a gated gravel driveway. The boundaries between the subject property and the adjacent properties to the east, west, and south were not clearly marked during ENW's March 22, 2022, site visit; however, were estimated based on County tax lot maps and aerial photograph of the project area (Figures 2 and 3). There are four structures on the property (Figure 4), including a 30' by 30' garage in the northeast corner of the lot, a mobile home with an attached (wood frame) room near the center of the lot, and a small pump house and empty storage shed southwest of the trailer. Much of the natural vegetation has been cleared from the subject property; however, the extreme southern portion of the lot is still forested, and several large evergreen trees remain in the northern portion of the lot and one near the southwest corner of the trailer. A large area south of the garage and east of the trailer has been cleared, graded, and covered with compacted gravel. The manufactured home will be located on the portion of the gravel pad east of the trailer. Domestic water for the property will be obtained from an 86-foot-deep well that was drilled in 2015 and is located west of the trailer. Domestic waste will be treated and disposed of on site by a septic tank and drainfield system located south of the trailer (See Figure 4 and site photographs in Appendix A). Electricity is provided to the property by Pacific Power.

## **2.0 SITE SETTING**

### **2.1 Geomorphology/Topography**

The project area is located along the boundary between two major coastal landforms. To the west is an aerially extensive, north-northeast to south-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).<sup>1</sup>

Most of the subject property is flat to gently sloping. There is a natural break in slope along a generally east to west line approximately 50- to 75-feet north of the southern property boundary, with the southern end of the site being 5- to 10-feet lower in elevation than the remainder of the property. The area east of the subject property is slightly lower in elevation and the property to the west is slightly higher as shown by the estimated elevation contours on the site plan in Figure 4.<sup>2</sup> It appears that the natural topography of at least portions of the site have been modified by development activity. There is evidence of soil removal (cut slopes) along the southwestern and east-central property boundaries, and placement of soil and slash debris fill along the slope break mentioned above and along the west-central property boundary. No detailed survey of the site was available; however, based on the U.S. Geological Survey 7.5' topographic quadrangle map of the project area (Lakeside, OR Quadrangle) and contours derived from a LIDAR map<sup>2</sup> (Figure 4), the elevation of the site is between 100- and 114-feet above mean sea level (amsl).

---

<sup>1</sup> Beaulieu, J.D., and Hughes, P.W., 1975, Environmental geology of western Coos and Douglas Counties, Oregon: Oregon Dept. of Geology and Mineral Industries, Bulletin 87, 148 p.

<sup>2</sup> Surface contours were modeled using State DOGAMI LIDAR data and should be treated as estimated. Topographic surveying was not performed as part of this scope of work.

## 2.2 Hydrology

The Pacific Ocean is located on the western edge of the dune complex, approximately 6,100-feet west of the subject property. The southern end of Maud Lake, a freshwater lake, is approximately 500 feet to the north. Saunders Lake, a larger freshwater lake, is located east of Maud Lake and northeast of the site. A small unnamed lake is located approximately 600-feet to the northwest, and Butterfield Lake is approximately 1,400 feet to the south. No perennial surface water features were observed on or adjacent to the subject property. However, large puddles and very wet surface soils were observed on the northern portion of a trail leading to the southern portion of the property. It appeared that heavy equipment had recently been working in that area. A dry, northerly draining, stormwater swale was observed along the northern portion of the western property boundary (See Figure 4 and photographs in Appendix A).

## 2.3 Geology

**Regional:** Beaulieu and Hughes (1975) map the western portion of the coastal strip in the project area as being underlain by geologically Recent active (unstable dune sand [su]), stabilized dune sands (ss), and deflation plain and beach sand (sdpb). The eastern portion of the coastal strip is shown as being underlain by elevated Quaternary marine terrace deposits (Qmt). 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 50 feet. Bedrock geologic units of Tertiary Age typically underlie these surficial units. The bedrock unit in the project area is identified by Beaulieu and Hughes as undifferentiated Coaledo Formation, which they describe as being primarily sandstone.

**Site:** The surface geology of the subject property is mapped by Beaulieu and Hughes as Qmt. However, in their geologic map explanation the authors state that areas mapped as Qmt that are situated near the coastline can be covered by stable dune sand. Soil observed in recent excavation cuts on the property and soil samples collected from two hand auger borings completed by ENW (HA1 and HA2 on Figure 4) ranged from loose to somewhat dense, fine-sandy silt near the surface to very loose fine to medium sand at three to four feet below the surface (See Appendix B). This information suggests that stabilized dune sands (ss) with a well-developed soil horizon underly at least a portion of the property.

Well construction reports (well logs) for the site-well (COOS 56101; Tax Lot [TL] 2000) and three wells reported to be located on adjacent or nearby properties to the northeast (COOS 52212; TL 1500), north (COOS 54415; TL 1600), and west (COOS 466; TL 1900) are included in Appendix B. These are copies of logs on file in the Oregon Water Resources Department (OWRD) well log data base (GRID database). These wells range in depth from 86- to 118-feet. The logs for the three wells located on adjacent or nearby properties report encountering brown sandy clay (to depths ranging between 25- and 56-feet below ground surface [bgs]) that is underlain by brown sand. Two of these wells report encountering blue clay (likely weathered bedrock) at 116-feet (COOS 54415; TL 1600) and 118-feet (COOS 52212; TL 1500) bgs. The log for the site well COOS 56101 has a much more detailed lithologic log. The log reports that fine brown sand is the dominant type of sediment encountered throughout the 86-foot depth of the well. However, the log also reports encountering a layer of clay with peat from 2- to 5-feet bgs (see comment in

Section 3.1.2), a layer of orange-brown cemented sand from 23- to 26-feet bgs, and multiple 3- to 7-foot-thick layers of sandy clay between 26-feet bgs and the bottom of the well (86' bgs).

Based on field observations and well log information the subject property is underlain by approximately 120-feet of Quaternary alluvium, i.e., stabilized dune sand (ss) and Qmt. Unconsolidated fine to medium sand typical of dune or beach sand (ss), is the dominant sediment type; however, layers or lenses of finer textured (silt and clay dominated) sediment and cemented sand are likely present. These layers may be former surface soils that were buried by shifting dune sand or elevated marine terrace deposits (Qmt) that have been buried by the development of the dune complex.

#### **2.4 Hydrogeology/Ground Water**

The unconsolidated to semi-consolidated sand that makes up the dune complex soils allows for the infiltration and storage of a significant percentage of the more than sixty inches of precipitation that falls in the project area annually. As a result, the dunes contain significant volumes of ground water. The ground water 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 located in the project area indicate that ground water is present locally, and that it is used for domestic purposes. A copy of well log COOS 56101 for the subject property well and copies of well logs for three wells (COOS 466, COOS 52212, and COOS 54415) reported to be on properties adjacent to or near the subject property are in Appendix B. The static water levels reported in these four wells at the times of their construction range between 43- and 56-feet bgs. ENW measured the static water level in the site well at 52.7-feet bgs on March 22, 2022.

A dug-well or cistern (well/cistern) that is approximately 4-feet in diameter and 22.5-feet deep is located approximately 90-feet south of the northwest corner of the subject property. The purpose of this feature was not determined; however, it is situated in a shallow swale or ditch that appears to drain toward the north. ENW measured the water level in the well/cistern at 11-feet bgs on March 22, 2022, suggesting the presence of a shallow perched ground water table beneath at least a portion of the property. It should be noted that no ground water or soil profile characteristics indicative of seasonally high water-table conditions were observed in the six-foot deep hand auger borings HA1 and HA2 completed by ENW. Additionally, the 22.5-foot depth of the well/cistern is similar to the depth of 23-feet reported for the cemented sand zone (a possible perching horizon) described on the log for the site well (see well and auger boring logs in Appendix B).

### **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.

Elevated marine terrace deposits (Qmt) and dune sands (ss) with vegetative cover and a well-developed organic soil horizon are generally not subject to significant mass wasting unless they are in an area of steep slopes or are subject to shoreline or streambank erosion. Most of the subject property is relatively flat to gently sloping and not prone to mass wasting. Sloughing of the steep cut-bank along the middle portion of the west property boundary was observed, and bowed tree trunks (possibly indicative of soil creep) were noted on naturally sloping ground on the undeveloped southern end of the site and on the slope between the subject property and the lower lot to the east (Tax Lot 2100). No historically active landslides were mapped within the immediate area (within ½ mile) of the subject site (Figures 5a and 5b). The State has indicated that the landslide hazard in the area of the site is low to moderate (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 two auger borings. It should be noted that HA2 was completed a few feet northeast of the on-site water well and did not encounter the clay-with-peat layer reported as being present at 2- to 5-foot bgs on well log COOS 56101 for that well. 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**

The four-foot-thick organic soil horizon with a sandy-silt surface layer that is present beneath the subject property limits the potential for the rapid infiltration of incident precipitation into the subsurface. This, combined with the relatively flat nature of the site and seasonally heavy rainfall, increases the potential for surface water ponding and stormwater run-off. As mentioned in Section 2.2, ENW observed what appeared to be a stormwater swale along the northern portion of the site's western boundary. In addition, standing water and saturated surface soil were observed along the upper (northern) section of the trail leading to the south end of the property. Standing water was also observed in other areas of the site where recent heavy equipment use had disturbed and compacted surface soils. The approximate locations of the swale and areas of standing water / muddy soils observed during the site visit are shown on Figure 4.

### **3.1.4 Flooding**

Given the elevation and topographic setting of the subject property, the potential for aerially extensive flooding appears to be minimal. 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 (1% annual chance flood). 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 well log information the regional water table is more than 40-feet bgs beneath the subject property. Based on the results of hand auger borings HA1 and HA2 completed by ENW, the seasonally high perched water table is expected to be greater than 5-feet bgs.



### **3.1.6 Sea Level Rise**

According to National Research Council projections<sup>3</sup>, 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 80-feet amsl, even a rise in sea level that was significantly higher than those predicted will not adversely affect the subject property.

### **3.1.6 Wind Erosion and Deposition**

The potential for significant wind erosion on the subject property is limited to areas where excavation or other development related activities have or could expose the unconsolidated fine to medium sands present at depth. Dune encroachment is common on properties adjacent to active (no vegetation cover) sand dunes. Large active dunes are located approximately 1,000-feet west of the subject property, 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) 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 immensely powerful (magnitude 9+ on the Richter Scale) subduction zone earthquakes on the offshore Cascadia Subduction Zone (CSZ) fault system<sup>4</sup>. 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 believed to underlie the project area, and these types of soils are subject to the effects of liquefaction triggered by earthquake activity.

---

<sup>3</sup> 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>

<sup>4</sup> 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 (Figures 5a and 5b), and the State has indicated that the landslide susceptibility of the subject property is low to moderate (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<sup>5</sup>. Amplification of ground shaking induced by a CSZ earthquake is anticipated to be severe along the southern Oregon Coast and at the subject site and surrounding area (Figure 7).

### **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 CSZ, located just offshore 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<sup>6</sup> (Figure 8) 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 9).

---

<sup>5</sup> 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.

<sup>6</sup> DOGAMI. 2012. Local Source (Cascadia Subduction Zone) Tsunami Inundation Map. Tsunami Inundation Map Coos-16.

## **5.0 DISCUSSION REGARDING COUNTY BEACHES & DUNES CRITERIA**

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

- The type of use proposed and the adverse effects it might have on the site and adjacent areas.
  - RESPONSE: A portion of the site is underlain by stabilized dune sand. As such, care will be required during placement of the mobile home structure:
    - The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report.
- The need for temporary and permanent stabilization programs and the planned maintenance of new and existing vegetation.
  - RESPONSE: The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report. Other areas of exposed soil should be stabilized with vegetation or other means.
- The need for methods for protecting the surrounding area from any adverse effects of the development.
  - RESPONSE: Within the existing site constraints (the current placement of the gravel pad and buried utilities for the manufactured home), the maximum setback possible should be maintained between the manufactured home and the eastern boundary of the subject property. The elevation difference between the subject property and T.L. 2100 is approximately eight vertical feet over a lateral distance of 40 feet (from property line to low point on T.L. 2100. Assuming an angle of repose for loose sand (conservative) of 34 degrees and a potential 8-foot-high cut bank at the property line, a setback of 15 feet from the east side of the manufactured home site to the property line is recommended.
- Hazards to life, public and private property, and the natural environment which may be caused by the proposed use.
  - RESPONSE:
    - Cut slopes steeper than 30-degrees should be stabilized with retaining walls or similar engineered structures to prevent sloughing.
    - Areas of the site where placement of non-engineered fill has occurred should not be used as building sites or for other purposes requiring stable soil conditions.
    - The sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations.
    - Stormwater run-off from impermeable surfaces should be managed in accordance with Coos County stormwater management regulations, and in

such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drainfields, and excessive erosion or sedimentation. Excessive stormwater 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.

- 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:
  - The shallow cistern/well should be properly decommissioned.

## **6.0 RECOMENDATIONS**

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

- The foundation for the manufactured home should be designed and constructed in a manner suitable for the soil and subsurface conditions described in this report.
- Within the existing site constraints (the current placement of the gravel pad and buried utilities for the manufactured home), the maximum setback possible should be maintained between the manufactured home and the eastern boundary of the subject property. In the event the owner of T.L. 2100 should steepen the existing slope on the western portion of his/her property, the potential for mass wasting to affect the subject property could increase. The elevation difference between the subject property and T.L. 2100 is approximately eight vertical feet over a lateral distance of 40 feet (from property line to low point on T.L. 2100. Assuming an angle of repose for loose sand (conservative) of 34 degrees and a potential 8-foot-high cut bank at the property line, a setback of 15 feet from the east side of the manufactured home site to the property line is recommended.
- The sewage treatment and disposal system constructed onsite should comply with all appropriate State and County rules and regulations.
- The lid covering the cistern/well can be easily removed, and a deep uncovered hole would pose a significant risk of injury or death. Additionally, withdraw of shallow ground water could destabilized vegetation and lead to saltwater intrusion. The cistern/well should be properly decommissioned by a licensed well driller.
- The cap and sanitary seal covering the drilled water well have been off for an undetermined amount of time, leaving the well accessible to rodents, insects, other animals, and vandals. The well should be redeveloped, and the water quality should be assessed before the well is returned to service, and a new cap/sanitary surface seal should be installed.

- Areas of the site where placement of non-engineered fill has occurred should not be used as building sites or for other purposes requiring stable soil conditions.
- Cut slopes steeper than 30-degrees should be stabilized with retaining walls or similar engineered structures to prevent sloughing.
  - One option is to buttress the existing cut back (see Figure 4) with imported dune sand that is placed moist and lightly compacted with a slope no greater than 34-degrees from horizontal.
- Areas of exposed soil should be stabilized with vegetation or other means.
  - If a sand soil buttress is placed in the area of the cut bank shown on Figure 4, this place sand would be immediately vegetated as following USDA guidance<sup>7</sup>, summarized below:
    - Obtain commercial beachgrass stock from local nursery.
    - Beachgrasses need to be planted to a depth of 12-inches and the sand compacted by had around the planting to removed air around the roots and stem nodes with the top of the plan upright and extending at least a foot above the ground.
    - Spacing should be 18-inches on center for each beachgrass plant.
    - Planted area should be fertilized with coarse-particle ammonium sulfate commercial fertilizer (N-P-K 21-0-0). This formulation should be applied at a rate of 0.5 pounds per 100 square feet during light wind and irrigation. Irrigation is needed to thoroughly dissolve the fertilizer and can be stopped once the granular of fertilizer have dissolved.
    - Follow-up fertilization should be applied annual between March 1 and April 1, with 0.5 pounds per 100 square feet of ammonium sulfate commercial fertilizer (N-P-K 21-0-0) and should be applied during light wind and irrigation. Irrigation is needed to thoroughly dissolve the fertilizer and can be stopped once the granular of fertilizer have dissolved.
    - Some maintenance may be necessary. Prompt replanting of any plant that did not survive should be done during the winter.
- Stormwater run-off from impermeable surfaces should be managed in such a way as to prevent surface ponding, flooding of crawl spaces, inundation of effluent disposal drainfields, and excessive erosion or sedimentation. Excessive stormwater run-off, blocked or broken drain lines, culverts or ditches, and saturated soils are frequently the

---

<sup>7</sup> USDA. August 1991. Stabilized Coastal Sand Dunes in the Pacific Northwest. Soil Conservation Service Agriculture Handbook 687

most significant contributing factors to severe erosion, localized flooding, and foundation settlement.

- Drainage from the mobile home roof should be collected in gutters with downspouts with discharge directed away from the structure towards a shallow roof drainage planter (garden) area consisting of cobbles (4-6" diameter, for energy dissipation) and native plants throughout (consult local nursery for plants suitable for this purpose). The area of each roof drain drainage garden should be 10% of the roof area that it receives discharge from. The location of the roof drain garden(s) should be on the north, south or west sides of the future mobile home, and avoid the east side of the future mobile home.
- 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.

## **8.0 LIMITATIONS**

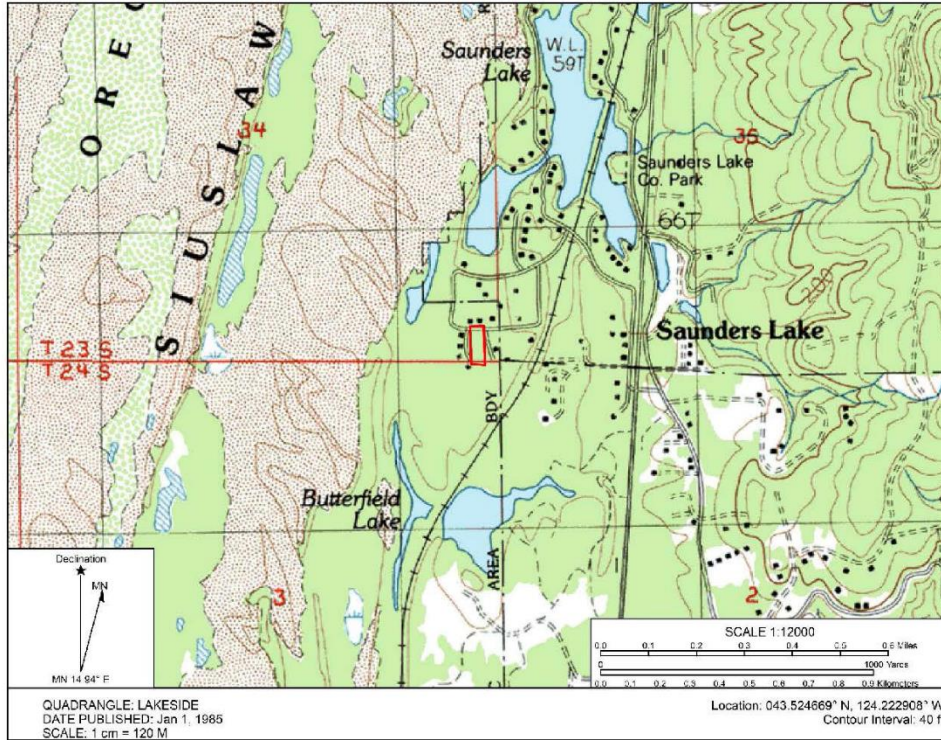
The scope of this Technical Memorandum is limited to observations made during on-site work; interviews with knowledgeable sources; and review of readily available published and unpublished reports and literature. As a result, these conclusions are based on information supplied by others as well as interpretations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


## FIGURES

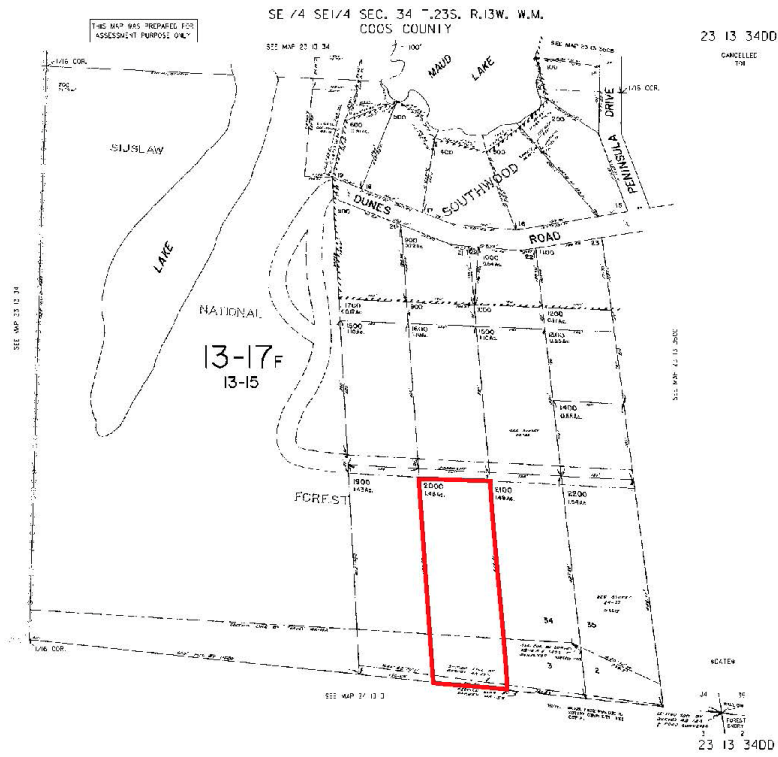





	<p>Date Drawn: 3/24/2022  CAD File Name: 1635-22001-01_fig1rv_map  Drawn By: CLR  Approved By: LDG</p>	<p>Residential Property  68975 Circle Loop,  North Bend, Oregon</p>	<p><b>Site Vicinity Map</b></p>	<p>Project No.  1635-22001  Figure No.  <b>1</b></p>
---	--	---	---------------------------------	--

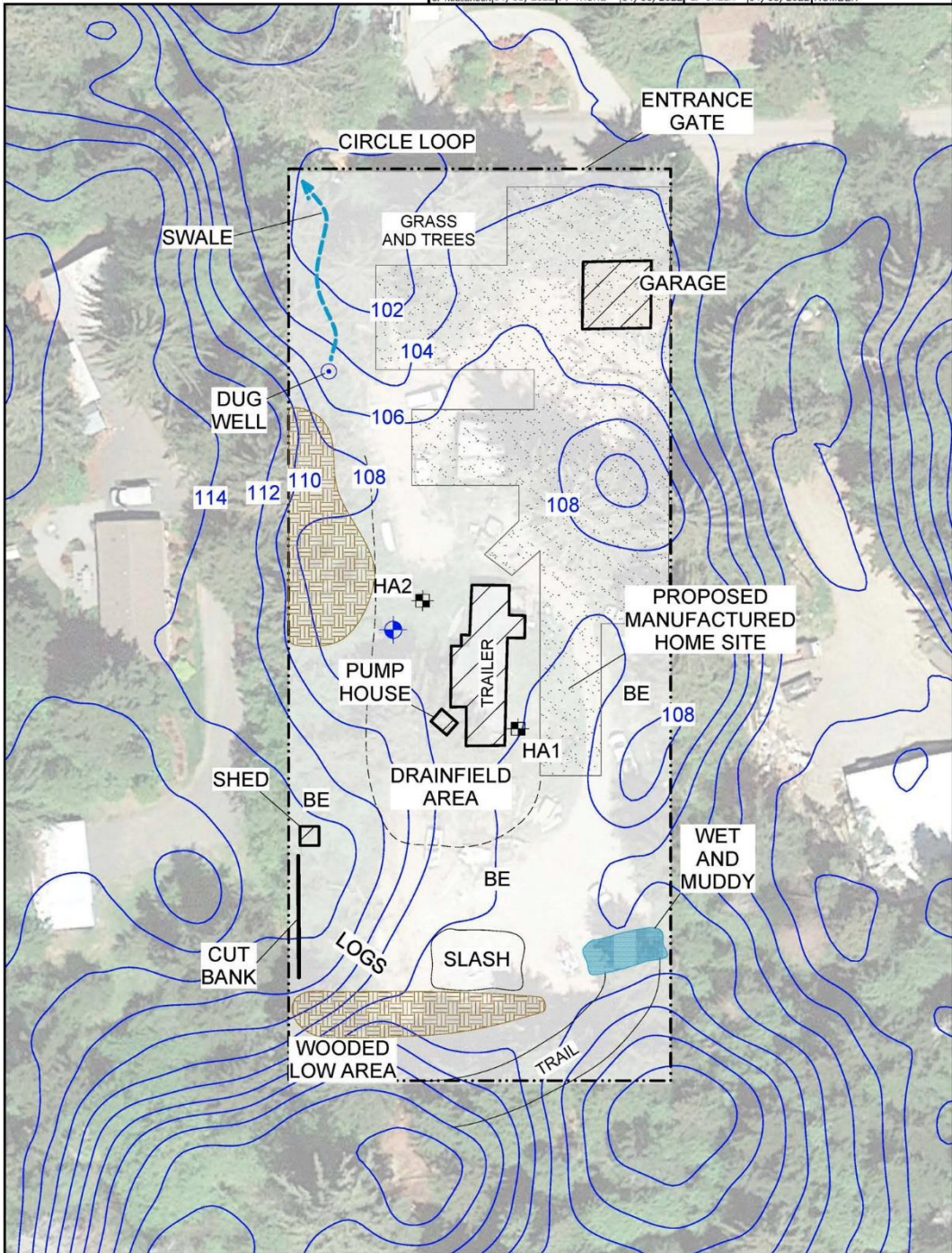


	<p>Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_RptAerial Drawn By: CLR Approved By: LDG</p>	<p>Residential Property 68975 Circle Loop, North Bend, Oregon</p>	<p><b>Aerial Photo Map 2022</b></p>	<p>Project No. 1635-22001 Figure No. 2</p>
---	--	---	---	--



	<p>Date Drawn: 3/24/2022          CAD File Name: 1635-22001-01_Fig3TaxLot          Drawn By: CLR          Approved By: LDG</p>	<p>Residential Property          68975 Circle Loop,          North Bend, Oregon</p>	<p><b>Tax Lot Map</b></p>	<p>Project No.          1635-22001          Figure No.  <b>3</b></p>
---	--	---	---------------------------	--

DRAWN BY C. ROSEBROOK 04/05/2022	CHECKED BY P. TRONE 04/06/2022	APPROVED BY L. GREEN 04/08/2022	DRAWING NUMBER 1635-22001 (v01)
-------------------------------------	-----------------------------------	------------------------------------	------------------------------------



LEGEND:	
	SUBJECT BUILDINGS
	SUBJECT PROPERTY BOUNDARIES
	GRAVELED AREAS
	FILL
	ENW TEMPORARY SHALLOW SOIL BORING LOCATION
	DRILLED WELL
	ESTIMATED SURFACE ELEVATION CONTOUR (MODELED USING DOGAMI LIDAR DATA) CONTOUR INTERVAL = 2 FEET LIDAR
	BE BARE EARTH

**NOTES:**

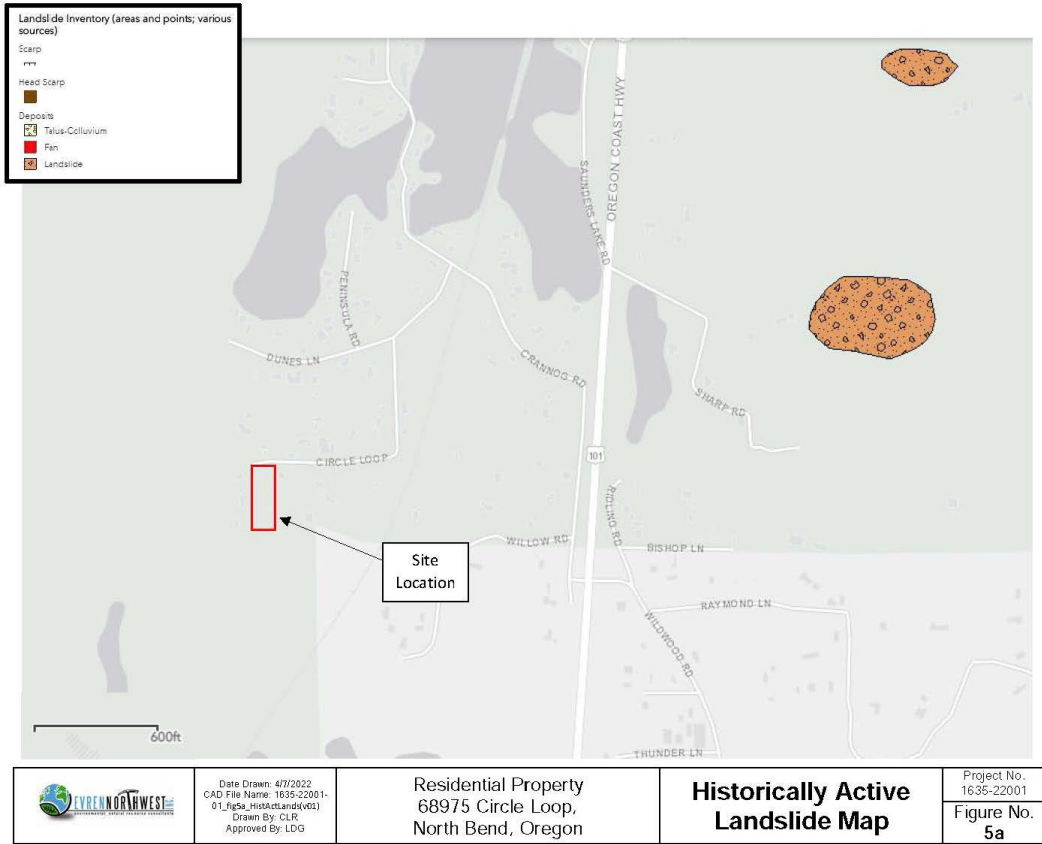
1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2022 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION.

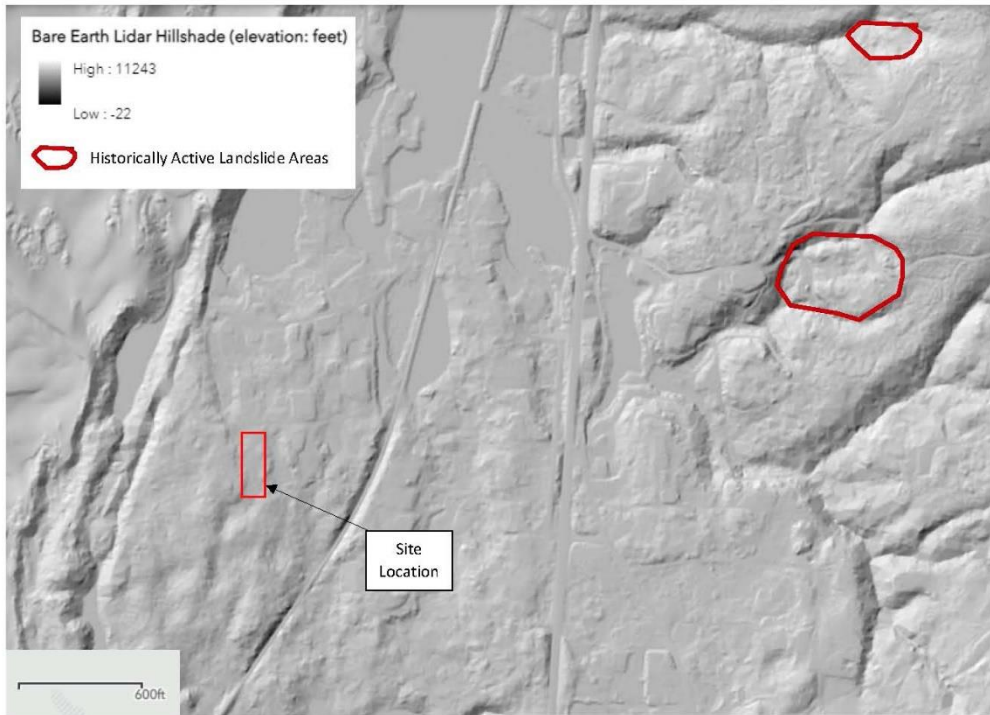
APPROXIMATE SCALE


EVREN NORTHWEST  
environmental, natural resource consultants

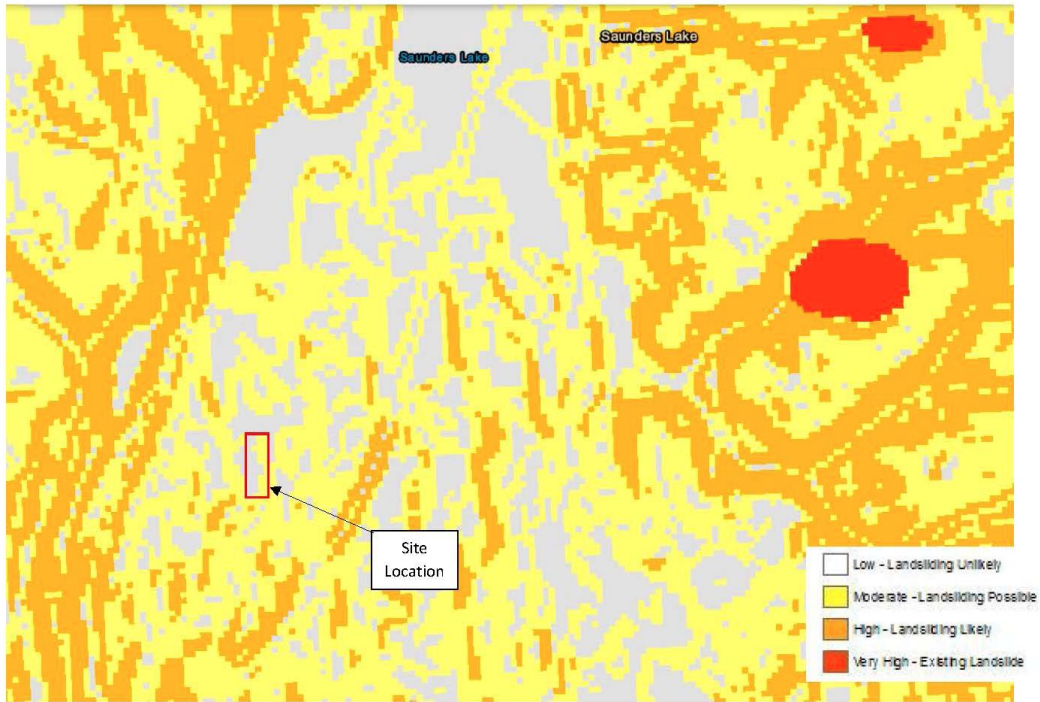
PO BOX 14488, PORTLAND, OREGON 97293  
P: (503)452-5561, E: ENW@EVREN-NW.COM


**FIGURE 4**  
**SITE PLAN**  
RESIDENTIAL PROPERTY  
8897S CIRCLE LOOP  
NORTH BEND, OREGON






	<p>Date Drawn: 4/9/2022          CAD File Name: 1635-22001-01_fig5b_Lidar(v01)          Drawn By: CLR          Approved By: LDG</p>	<p>Residential Property          68975 Circle Loop,          North Bend, Oregon</p>	<p><b>LiDAR Map</b></p>	<p>Project No.          1635-22001          Figure No.  <b>5b</b></p>
---	---	---	-------------------------	---



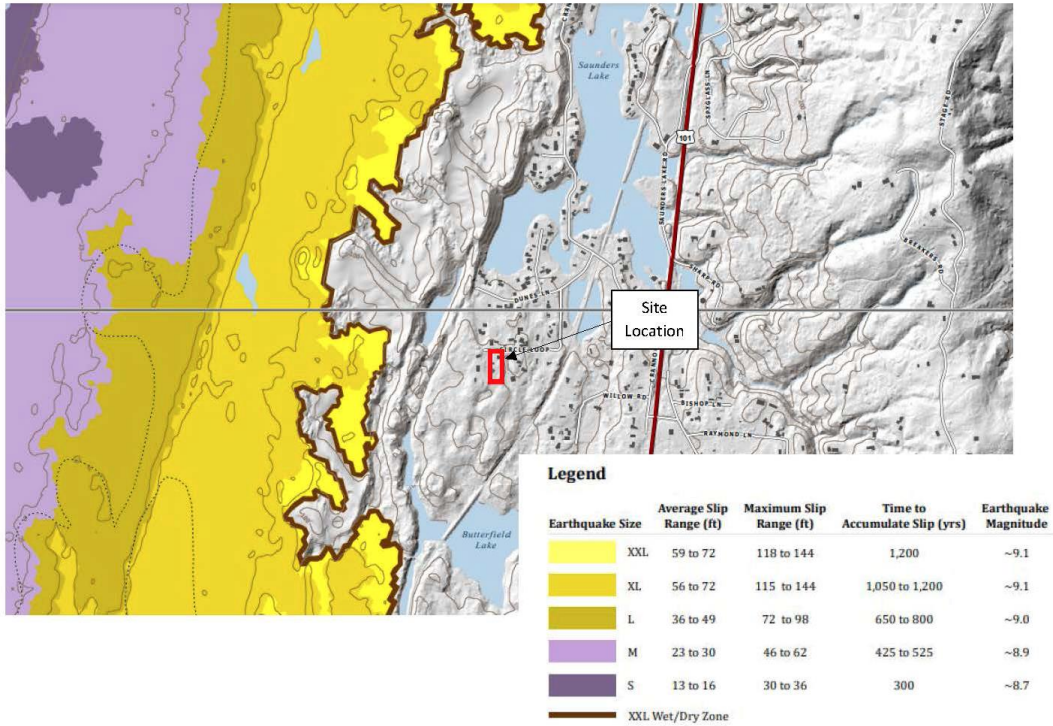
	Date Drawn: 3/24/2022 CAD File Name: 1635-22001-01_figs_Landsus.v11 Drawn By: CLR Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Landslide          Susceptibility Map</b>	Project No. 1635-22001 Figure No. 5c
---	---	--	--	---



	<p>Date Drawn: 3/24/2022          CAD File Name: 1635-22001-01_fig5_Flood InsuranceMap(404)          Drawn By: CLR          Approved By: LDG</p>	<p>Residential Property          68975 Circle Loop,          North Bend, Oregon</p>	<p><b>Flood Insurance          Rate Map</b></p>	<p>Project No.          1635-22001          Figure No.          6</p>
---	--	---	---	---








	Date Drawn: 3/24/2022 CAD File Name: 1636-22001-01_Hg8_TsunamiZoneMap(v01) Drawn By: CLP Approved By: LDG	Residential Property 68975 Circle Loop, North Bend, Oregon	<b>Tsunami Inundation          Zone Map</b>	Project No. 1636-22001
				Figure No. <b>8</b>



	<p>Date Drawn: 3/24/2022          CAD File Name: 1635-22001-01_fig9_WetlandInventoryMap(v01)          Drawn By: CLR          Approved By: LDG</p>	<p>Residential Property          68975 Circle Loop,          North Bend, Oregon</p>	<p><b>Wetland Inventory          Map</b></p>	<p>Project No.          1635-22001          Figure No.          9</p>
---	---	---	--	---

APPENDIX A  
SITE PHOTOGRAPHS



View looking north toward entrance gate and Circle Loop. Garage and parked RV (right middle).




View looking south toward existing trailer and gravel pad for manufactured home.



Proposed manufactured home site east of existing trailer.



Pumphouse (left) and shed (right) – looking south.

	<p>Residential Property 68975 Circle Loop North Bend, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1635-22001-01 Appendix <b>A</b></p>
---	--	--------------------------------	--



Shed, cut bank (behind blue tarp covering log pile), and slash pile (middle left) – looking west



Close-up of cut bank.



Close-up view of stabilized dune sand comprising the cut bank.



Trail at south end of property – looking south-southwest. Note muddy ground and standing water in center of photo.

	<p>Residential Property 68975 Circle Loop North Bend, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1635-22001-01 Appendix <b>A</b></p>
--	--	--------------------------------	--



Trail in southern portion of site – looking cast-northeast onto the subject property.




Soil and slash fill at south end of cleared portion of the site – looking north.



Soil and slash fill area along the western property boundary – looking north.



Brush-covered site of hand-dug well (or cistern) near the western edge of the subject site – looking southwest.

	<p>Residential Property 68975 Circle Loop North Bend, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1635-22001-01 Appendix <b>A</b></p>
---	--	--------------------------------	--



Close-up view of hand-dug well or cistern.




Down-well view.



View looking north from dug well or cistern along the western edge of the site. Note swale draining toward the northwest site corner.



Looking south-southeast from the dug well or cistern. Note wet soil in foreground and soil and slash fill (center right).

	Residential Property 68975 Circle Loop North Bend, Oregon	<b>Site Photographs</b>	Project No. 1635-22001-01
			Appendix <b>A</b>





Drilled well with six-inch steel casing west of existing trailer.




Hand auger boring HA1 located on the east side near south end of the existing trailer.



HA1 soil cuttings, which were loose to somewhat dense, fine-sandy silt at the surface to very loose fine to medium sand at 3-4 feet bgs.



HA2 advanced near drilled well (background) – view southwest.

	<p>Residential Property 68975 Circle Loop North Bend, Oregon</p>	<p><b>Site Photographs</b></p>	<p>Project No. 1635-22001-01 Appendix <b>A</b></p>
---	--	--------------------------------	--



HA2 soil cuttings, were similar to the materials encountered at HA1.




Looking north from the trail in the southern portion of the site at the proposed manufactured home site (center).



Looking southeast from the proposed manufactured home site toward Tax Lot 2100 (east-adjacent property).



Looking north along the west property boundary – pumphouse is center right.

	Residential Property 68975 Circle Loop North Bend, Oregon	<b>Site Photographs</b>	Project No. 1635-22001-01
			Appendix <b>A</b>

APPENDIX B  
GROUND WATER WELL LOGS AND GEOTECHNICAL  
HOLE REPORTS

EVREN Northwest, Inc.

<b>DRILL LOG</b>	PROJECT		PROJECT NO.		BORING NO.
					<b>HA1</b>
SITE	BEGUN	COMPLETED	HOLE SIZE		ANGLE FROM HORIZ.
	3/22/22	3/22/22	2"		
COORDINATES	DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER	GROUND ELEVATION
				NA	
DRILLER	CORE RECOVERY (%)		# SAMPLES	# CORE BOXES	DEPTH TOP OF ROCK
Kent Mathiot	100				
DRILL RIG	LOGGED BY:				DEPTH BOTTOM OF HOLE
Stainless-Steel Hand Auger	Kent Mathiot				6

DEPTH	STRATA ELEVATION/DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const./Completion		
0			Brown SANDY SILT (MH/SM), loose to med. dense, dry to moist, fine roots						
2.5			Dark brown SANDY SILT / SILTY SAND (SM), loose, moist, occasional orange/red mottles and burned wood Light brown to tan SILTY SAND (SM), loose, moist - with occasional orange mottles and cemented (iron oxide) nodules (<1/4" dia.)						
5			Tan SAND with SILT (SM/MH), loose, moist (dune sand) - occasional orange mottles.						
7.5			End of borehole						
10									
12.5									
15									
17.5									

EVREN Northwest, Inc.

<b>DRILL LOG</b>	PROJECT		PROJECT NO.		BORING NO.
					<b>HA2</b>
SITE		BEGUN	COMPLETED	HOLE SIZE	
		2/28/22	2/28/22	2"	
COORDINATES		DEPTH GROUND WATER	DATE SL	STATIC LEVEL	FIRST WATER
					NA
DRILLER		CORE RECOVERY (%)		# SAMPLES	# CORE BOXES
Kent Mathiot		100			
DRILL RIG		LOGGED BY:			DEPTH BOTTOM OF HOLE
Stainless-steel hand auger		Kent Mathiot			6

DEPTH	STRATA ELEVATION/DEPTH	GRAPHIC LOG	DESCRIPTION	SAMPLE DATA				PID/OVM	REMARKS: NOTES ON WATER LEVELS, LOSSES, CAVING, CASING, DEPTH & DRILLING CONDITIONS.
				SAMPLE NO.	SAMPLE TYPE	CORE RECOVERY	MW Const./Completion		
0			Dark brown SANDY SILT (MH/SM), loose to med. dense, dry to moist, contains roots and rotted wood						
2.5			Orange SILTY FINE SAND (SM), med. dense (slightly cemented) to loose, dry to moist Light brown SILTY SAND (SM), loose, dry to moist - localized bright orange mottles, which are very distinct and crunches in auger bit						
5			Tan FINE to MEDIUM SAND (SP) loose, moist						
7.5			End of borehole						
10									
12.5									
15									
17.5									

19

STATE OF OREGON  
WATER WELL REPORT  
(as required by ORS 537.765)

COOS  
466

NOV 12 1991

235/1300 3400  
33096

WATER RESOURCES DEPARTMENT (START CARD) #

(1) OWNER:  
Name Karry J. Jacobson Well Number: \_\_\_\_\_  
Address 2411 Circle Drive  
City North Bend State OR Zip 97459

(9) LOCATION OF WELL by legal description:  
County COOS Latitude \_\_\_\_\_ Longitude \_\_\_\_\_  
Township 23 North Range 13 East of W.M.  
Section 34 SW 1/4 SE 1/4  
Tax Lot 1900 Lot \_\_\_\_\_ Block \_\_\_\_\_ Subdivision \_\_\_\_\_  
Street Address of Well (or nearest address) SAME AS ABOVE

(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 \_\_\_\_\_

(10) STATIC WATER LEVEL:  
54 ft. below land surface. Date 10-16-91  
Artesian pressure \_\_\_\_\_ lb. per square inch. Date \_\_\_\_\_

(5) BORE HOLE CONSTRUCTION:  
Special Construction approval Yes No Depth of Completed Well 98 ft.  
Explosives used Yes No  Type \_\_\_\_\_ Amount \_\_\_\_\_

(11) WATER BEARING ZONES:  
Depth at which water was first found 56

HOLE		SEAL		Amount		
Diameter	From	To	Material	From	To	back or pounds
9	0	20	Bent	20	0	13 1/2
6 1/2	20	98				

From	To	Estimated Flow Rate	SWL
56	98	105 gpm	54

How seal placed: Method  A  B  C  D  E  
 Other \_\_\_\_\_  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Gravel placed from 98 ft. to 20 ft. Size of gravel per gravel

(12) WELL LOG: Ground elevation \_\_\_\_\_

(6) CASING/LINER:

Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing: <u>4 1/2</u>	<u>12</u>	<u>68</u>	<u>5MM</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Liner:				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Material	From	To	SWL
Brown Sandy Clay	0	56	
lt Brown sand	56	98	54

(7) PERFORATIONS/SCREENS:  
 Perforations Method \_\_\_\_\_  
 Screens Type Hydraulic Material PVC

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
68	98	0010		4 1/2	4 1/2	<input type="checkbox"/>	<input type="checkbox"/>

Date started 10-15-91 Completed 10-16-91

(8) WELL TESTS: Minimum testing time is 1 hour  
 Pump  Bailer  Air  Flowing Artesian  
Yield gal/min 10 Drawdown \_\_\_\_\_ Drill stem at 98 Time 1 hr.

(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.  
Signed \_\_\_\_\_ WWC Number \_\_\_\_\_  
Date \_\_\_\_\_

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: \_\_\_\_\_

(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.  
Signed [Signature] WWC Number 458  
Date 11-6-91



STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765 & OAR 690-205-0210)

04-15-2009

WELL LABEL # L 98242

START CARD # 1006500

(1) LAND OWNER
Owner Well I.D.
First Name DONALD Last Name HEANEY
Company
Address 68976 CIRCLE LOOP
City NORTH BEND State OR Zip 97459

(2) TYPE OF WORK
[X] New Well [ ] Deepening [ ] Conversion
[ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD
[ ] Rotary Air [X] Rotary Mud [ ] Cable [ ] Auger [ ] Cable Mud
[ ] Reverse Rotary [ ] Other

(4) PROPOSED USE
[X] Domestic [ ] Irrigation [ ] Community
[ ] Industrial/ Commercial [ ] Livestock [ ] Dewatering
[ ] Thermal [ ] Injection [ ] Other

(5) BORE HOLE CONSTRUCTION
Special Standard [ ] (Attach copy)
Depth of Completed Well 116.00 ft.
BORE HOLE
Dia From To Material SEAL From To Amt sacks/lbs

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E
[X] Other POURED
Backfill placed from ft. to ft. Material
Filter pack from 45 ft. to 116 ft. Material SAND Size 10/20
Explosives used: [ ] Yes Type Amount

(6) CASING/LINER
Casing Liner Dia + From To Gauge Stl Plstc Wld Thrld
[ ] [ ] 5 [X] 2 91 sdr26 [ ] [ ] [X] [ ]
[ ] [ ] 5 [ ] 91 111 sdr21 [ ] [ ] [ ] [ ]
[ ] [ ] 6 [X] 2 4 .250 [ ] [ ] [ ] [ ]
Shoe [ ] Inside [ ] Outside [ ] Other Location of shoe(s)
Temp casing [ ] Yes Dia From To

(7) PERFORATIONS/SCREENS
Perforations Method
Screens Type JOHNSON Material SS
Perf/S Casing/Screen
reen Liner Dia From To Scm/slot Slot # of Tele/
width length slots pipe size
Screen 5 111 116 .012 5

(8) WELL TESTS: Minimum testing time is 1 hour
[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian
Yield gal/min Drawdown Drill stem/Pump depth Duration (hr)
15 116 1
Temperature 52 °F Lab analysis [ ] Yes By
Water quality concerns? [ ] Yes (describe below)
From To Description Amount Units

(9) LOCATION OF WELL (legal description)
County Coos Twp 23.00 S N/S Range 13.00 W E/W WM
Sec 34 SE 1/4 of the SE 1/4 Tax Lot 1600
Tax Map Number Lot
Lat " or " DMS or DD
Long " or " DMS or DD
[ ] Street address of well [ ] Nearest address
68976 CIRCLE LOOP NORTH BEND, OR 97459

(10) STATIC WATER LEVEL
Date SWL(psi) + SWL(ft)
Existing Well / Predeepening
Completed Well 04-03-2009 48
Flowing Artesian? [ ] Dry Hole? [ ]

WATER BEARING ZONES
Depth water was first found 48
SWL Date From To Est Flow SWL(psi) + SWL(ft)
04-03-2009 48 116 15 48

(11) WELL LOG
Ground Elevation
Material From To
TOP SOIL 0 2
BROWN SANDY CLAY 2 25
BROWN SAND 25 116
BLUE CLAY 116 116
Date Started 04-01-2009 Completed 04-03-2009

(unbonded) Water Well Constructor Certification
I certify that the work I performed on the construction, deepening, 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.
License Number Date
Electronically Filed
Signed

(bonded) Water Well Constructor Certification
I accept responsibility for the construction, deepening, 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.
License Number 1381 Date 04-15-2009
Electronically Filed
Signed RONALD L BARRINGTON (E-filed)
Contact Info (optional) BARRINGTON WELL DRILLING LLC 541-269-7221



STATE OF OREGON  
WATER SUPPLY WELL REPORT  
(as required by ORS 537.765 & OAR 690-205-0210)

COOS 56101  
2/25/2015

WELL I.D. LABEL# L 116507  
START CARD # 1025650  
ORIGINAL LOG #

(1) LAND OWNER

Owner Well I.D. 1521  
First Name DAVID Last Name HUDSON  
Company  
Address 70173 LAKEWOOD ROAD  
City NORTH BEND State OR Zip 97459

(2) TYPE OF WORK

New Well  Deepening  Conversion  
 Alteration (complete 2a & 10)  Abandonment (complete 5a)

(2a) PRE-ALTERATION

Dia + From To Gauge Stl Plstc Wld Thrd  
Casing:          
Material From To Amt sacks/lbs  
Seal:

(3) DRILL METHOD

Rotary Air  Rotary Mud  Cable  Auger  Cable Mud  
 Reverse Rotary  Other

(4) PROPOSED USE

Domestic  Irrigation  Community  
 Industrial/ Commercial  Livestock  Dewatering  
 Thermal  Injection  Other

(5) BORE HOLE CONSTRUCTION

Depth of Completed Well 84.83 ft. Special Standard  (Attach copy)

BORE HOLE

Dia	From	To	Material	SEAL	From	To	Amt	sacks/ lbs
10	0	86	Bentonite	0	63	34	S	
							Calculated	29.92
							Calculated	

How was seal placed: Method  A  B  C  D  E  
 Other POUR FROM SURFACE  
Backfill placed from \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Material \_\_\_\_\_  
Filter pack from 63 ft. to 86 ft. Material SAND Size 20/40  
Explosives used:  Yes Type \_\_\_\_\_ Amount \_\_\_\_\_

(5a) ABANDONMENT USING UNHYDRATED BENTONITE

Proposed Amount Actual Amount

(6) CASING/LINER

Casing	Liner	Dia	+	From	To	Gauge	Stl	Plstc	Wld	Thrd
<input checked="" type="checkbox"/>	<input type="checkbox"/>	6	<input checked="" type="checkbox"/>	1.5	4	.250	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	5	<input checked="" type="checkbox"/>	1	79.83	Sdr21	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>						<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Shoe  Inside  Outside  Other Location of shoe(s) \_\_\_\_\_  
Temp casing  Yes Dia \_\_\_\_\_ From \_\_\_\_\_ To \_\_\_\_\_

(7) PERFORATIONS/SCREENS

Perforations Method \_\_\_\_\_  
Screens Type Johnson V-Wire Material Stainless Steel

Perf/ Screen	Casing/ Screen	Dia	From	To	Scm/slot width	Slot length	# of slots	Tele/ pipe size
Screen	Casing	5	79.83	84.83	.012			5

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

Pump  Bailer  Air  Flowing Artesian

Yield gal/min	Drawdown	Drill stem/Pump depth	Duration (hr)
7.5	33	80	1
8.8	37	80	1

Temperature 54 °F Lab analysis  Yes By Bandon Well & Pump Co.  
Water quality concerns?  Yes (describe below) TDS amount 53.8 ppm  
From \_\_\_\_\_ To \_\_\_\_\_ Description \_\_\_\_\_ Amount \_\_\_\_\_ Units \_\_\_\_\_

(9) LOCATION OF WELL (legal description)

County COOS Twp 23.00 S N/S Range 13.00 W E/W WM  
Sec 34 SE 1/4 of the SE 1/4 Tax Lot 2000  
Tax Map Number \_\_\_\_\_ Lot \_\_\_\_\_  
Lat \_\_\_\_\_ " or 43.52464900 DMS or DD  
Long \_\_\_\_\_ " or -124.22306300 DMS or DD  
 Street address of well  Nearest address  
68975 CIRCLE LOOP, HAUSER (NORTH BEND)

(10) STATIC WATER LEVEL

Existing Well / Pre-Alteration	Date	SWL (psi)	+ SWL (ft)
Completed Well	2/25/2015		43

Flowing Artesian?  Dry Hole?

WATER BEARING ZONES Depth water was first found 45.00

SWL Date	From	To	Est Flow	SWL (psi)	+ SWL (ft)
2/25/2015	45	83	9		43

(11) WELL LOG

Ground Elevation 102.00

Material	From	To
Topsoil	0	2
Clay w/peat	2	5
Sand f brown orange	5	8
Sand f brown	8	11
Wood w/sand f brown	11	13
Sand f brown orange	13	23
Cemented sand orange brown	23	26
Sandy clay tan	26	30
Sand f brown	30	33
Sandy clay orange brown	33	36
Sand f orange brown	36	38
Sandy clay tan	38	45
Sand f w/sandy clay lenses brown	45	48
Sand f brown	48	52
Sandy clay tan w/sand f brown	52	55
Sand f brown	55	83
Sandy clay tan	83	86

Date Started 2/23/2015 Completed 2/25/2015

(unbonded) Water Well Constructor Certification

I certify that the work I performed on the construction, deepening, 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.

License Number \_\_\_\_\_ Date \_\_\_\_\_  
Signed \_\_\_\_\_

(bonded) Water Well Constructor Certification

I accept responsibility for the construction, deepening, 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.

License Number 1493 Date 2/25/2015  
Signed JAMES A MACK SR (E-filed)  
Contact Info (optional) BANDON WELL & PUMP COMPANY (541) 347-7867