



1510 - B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us

Building (503) 842-3407
Planning (503) 842-3408
On-Site Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1 (800) 488-8280

Land of Cheese, Trees and Ocean Breeze

NESKOWIN COASTAL HAZARD AREA PERMIT #851-21-000054-PLNG: ERICKSON

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

December 8, 2021

Dear Property Owner:

This is to confirm that the Tillamook County Department of Community Development **APPROVED WITH CONDITIONS** the above-cited Conditional Use Request on December 8, 2021. A copy of the application, along with a map of the request area and the applicable criteria for review are available for inspection on the Tillamook County Department of Community Development website:

<https://www.co.tillamook.or.us/commdev/landuseapps> and is also available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon 97141.

Appeal of this decision. This decision may be appealed to the Tillamook County Planning Commission, who will hold a public hearing. Forms and fees must be filed in the office of this Department before **4:00 PM on December 20, 2021.**

- Request:** A request for approval of a Neskowin Coastal Hazard Area Permit for the for a remodel project of an existing single-family dwelling (Exhibit B).
- Location:** Located within the Unincorporated Community Boundary of Neskowin and within the Neskowin Coastal Hazards Overlay (Nesk-CH) Zone, the subject property is addressed as 49670 Surf Road and designated as Tax Lot 1900 of Section 36BC in Township 5 South, Range 11 West of the Willamette Meridian, Tillamook County, Oregon.
- Zone:** Neskowin Low Density Residential (NeskR-1)
Neskowin Coastal Hazards Overlay (Nesk-CH) Zone
- Applicant:** Ben Kibler, 3780 Boone Road SE, Salem, OR 97317
- Property Owner:** Mike Erickson, 255 Stampher Road, Lake Oswego, OR 97034

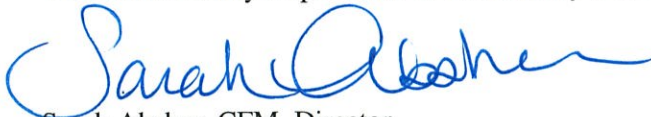
CONDITIONS OF APPROVAL

The Conditions of Approval are as follows. Failure to comply with the Conditions of Approval may result in both nullification of this permit approval and enforcement action.

1. The applicant shall obtain all required permits from Federal, State and local agencies prior to development.
2. Development of this property shall adhere to the development standards outlined in TCLUO Section 3.570: Neskowin Coastal Hazards Overlay (Nesk-CH) Zone.
3. Development of this property shall adhere to the development recommendations outlined in the Geologic Hazards and Geotechnical Investigation prepared by J. Douglas Gless, MSc, RG, CEG, LHG, H.G. Schlicker and Associates dated May 21, 2021, (Exhibit B) including the following recommendations for testing/inspections:
 - a. Structural fill shall be approved and periodically observed by HGSA and tested by a qualified testing firm. Test results shall be reviewed and approved by HGSA.
 - b. HGSA shall observe foundation excavations prior to a footings inspection to assure that suitable bearing materials have been reached.
 - c. Documentation of all inspections/observations shall be submitted by HGSA to the Tillamook County Building Official prior to a footing inspection.
4. The following supplemental information shall be provided to the Department of Community Development at the time of consolidated Zoning and Building Permit application submittal:
 - a. Original copy of the stamped and signed letter from HGSA certifying the submitted plans (including plans for foundation and retaining wall structures, site preparation, grading, erosion control during and after construction, a stormwater management plan and vegetation removal/revegetation plan) are in conformance with the development standards outlined in the GHR (Exhibit B).
 - i. Foundation improvements shall maintain a 40-foot setback from the top of the revetment. All other development shall adhere to the Oceanfront Setback Line (OSL) for the subject property.
 - b. Grading plan clearly identifying all cuts and fills.
 - c. Stormwater Management plan consistent with the recommendations outlined in the GHR and the standards outlined in TLCUO Section 5.100: Neskowin Erosion Control and Stormwater Management. The stormwater management plan shall demonstrate management of surface water runoff at or behind the riprap structure to reduce potential erosion and structure failure.
 - d. Erosion control plan consistent with the recommendations outlined in the GHR and the standards outlined in TLCUO Section 5.100: Neskowin Erosion Control and Stormwater Management that identifying temporary measures to control runoff and erosion of soils/sand during construction.
 - e. Vegetation removal and revegetation plan.
5. Development of this property shall adhere to the development standards outlined in TCLUO Section 3.322: Neskowin Low Density Residential (NeskR-1) Zone. The maximum building height shall be limited to 24-feet as measured from existing/pre-construction grade.
 - a. An updated sewer letter from the Neskowin Regional Sanitary Authority (NRSA) shall be submitted in conjunction with the consolidated Zoning and Building Permit application.

6. A written statement by the engineering geologist certifying that all performance, mitigation, and monitoring measures specific in the GHR shall be received by the Department prior to final inspection approval.
7. The Hazard Disclosure Statement included as “Exhibit D” shall be recorded in the Tillamook County Clerk’s Office and a recorded copy shall be provided to the Department at the time of consolidated Zoning and Building Permit application submittal.
8. This Neskowin Coastal Hazard Area Permit shall be valid for a period of two (2) years from the effective date of the decision (December 8, 2021). If development authorized by the permit is not initiated within this two (2) year time period, this Neskowin Coastal Hazard Area permit is expired.

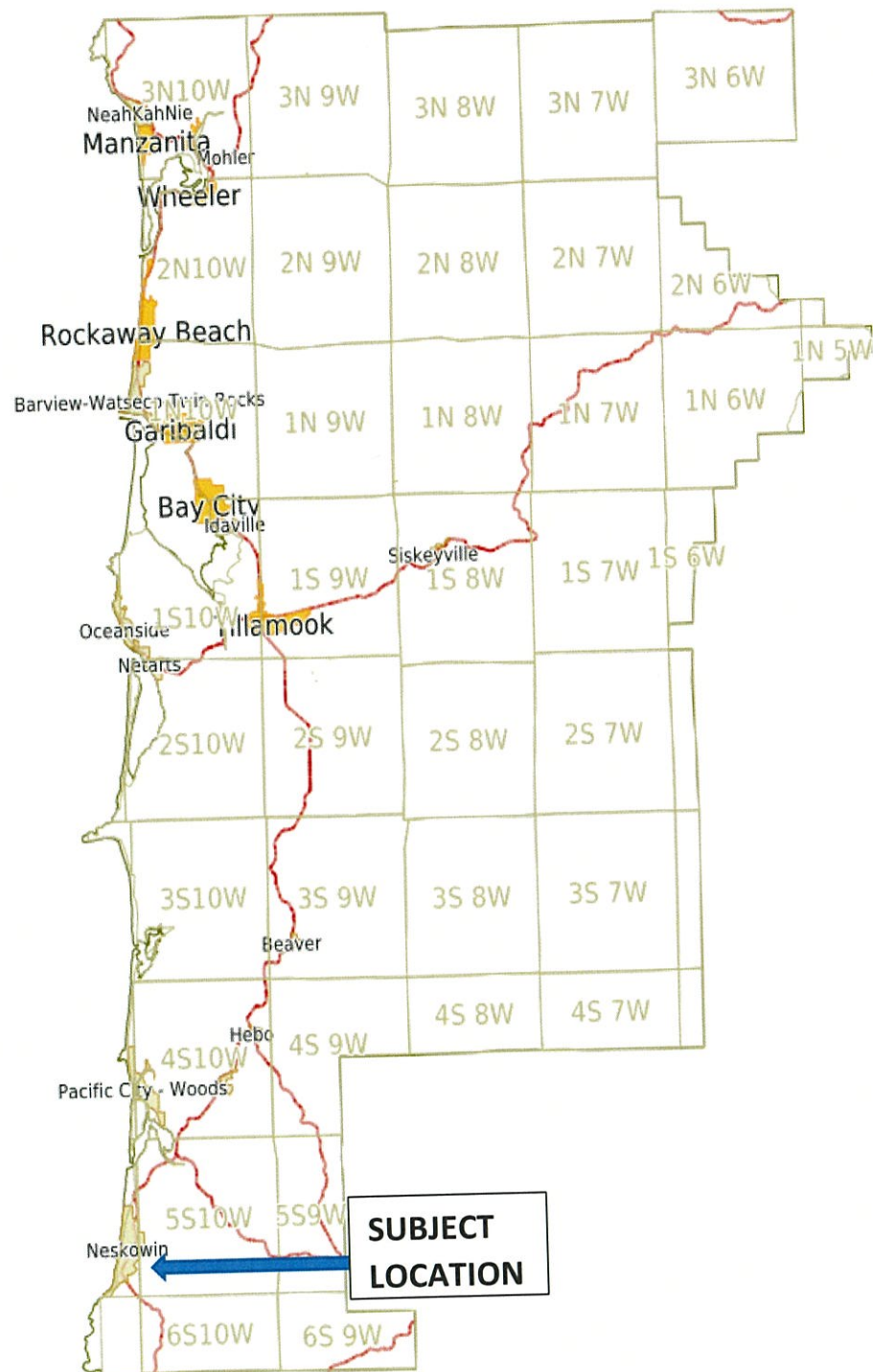
Sincerely,
Tillamook County Department of Community Development



Sarah Absher, CFM, Director

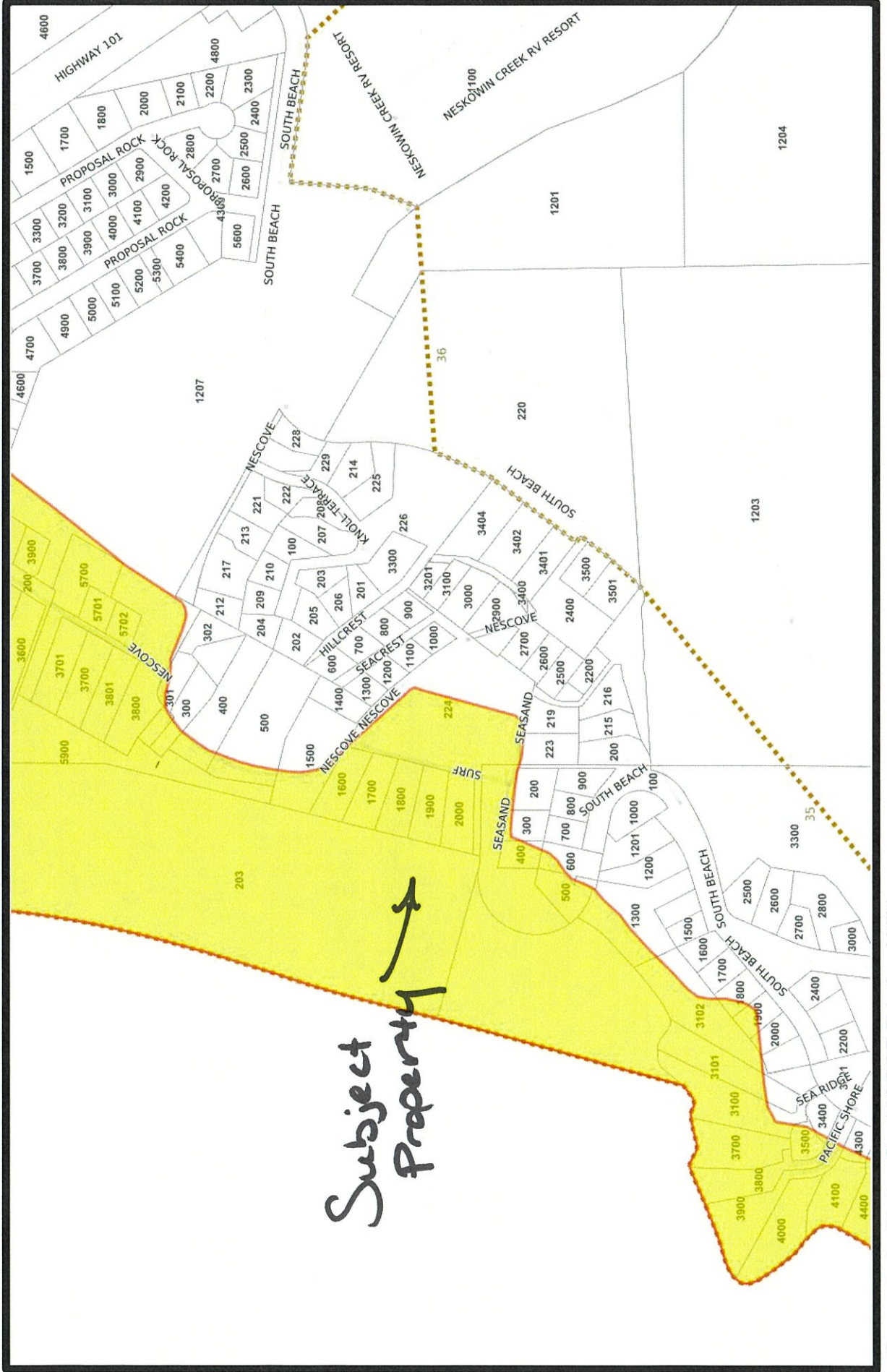
Enc.: Vicinity, Assessor & Zoning maps

VICINITY MAP



#851-21-000054-PLNG: ERICKSON

Map





Land of Cheese, Trees and Ocean Breeze

**NESKOWIN COASTAL HAZARD AREA PERMIT
#851-21-000054-PLNG: ERICKSON
ADMINISTRATIVE DECISION & STAFF REPORT**

Decision Date: December 8, 2021

**Decision: APPROVED WITH CONDITIONS
(This is not Building or Zoning Permit Approval)**

Report Prepared by: Sarah Absher, CFM, Director

A handwritten signature in blue ink, appearing to read 'SAN', is written over the name 'Director' in the previous block. The signature is enclosed in a blue circular scribble.

I. GENERAL INFORMATION

- Request:** A request for approval of a Neskowin Coastal Hazard Area Permit for the for a remodel project of an existing single-family dwelling (Exhibit B).
- Location:** Located within the Unincorporated Community Boundary of Neskowin and within the Neskowin Coastal Hazards Overlay (Nesk-CH) Zone, the subject property is addressed as 49670 Surf Road and designated as Tax Lot 1900 of Section 36BC in Township 5 South, Range 11 West of the Willamette Meridian, Tillamook County, Oregon.
- Zone:** Neskowin Low Density Residential (NeskR-1)
Neskowin Coastal Hazards Overlay (Nesk-CH) Zone
- Applicant:** Ben Kibler, 3780 Boone Road SE, Salem, OR 97317
- Property Owner:** Mike Erickson, 255 Stampher Road, Lake Oswego, OR 97034

Property Description: The subject property is located at 49670 Surf Road within the southern region of the Neskowin Unincorporated Community (Exhibit A). The subject property is an oceanfront rectangular lot, 0.38 acres in size, and is located on a younger stabilized dune with vegetative cover that consists primarily of lawn, shorepines and beach grasses (Exhibits A and B). Elevations at the site range from approximately 6 to 28 feet (NAVD 88) along the western portion of the property to approximately 23 feet (NAVD 88) along the eastern portion of the subject property. The developed area of the subject property is relatively flat. As a whole, the property slopes at an easterly direction with slopes at approximately 2 to 5 degrees (Exhibit B).

The subject property is improved with a single-family dwelling (Exhibits A and B). The subject property is bordered by residentially developed properties to the north and a vacant property also zoned NeskR-1 to the south (Exhibit A). West of the subject property is a rip rap revetment that runs several hundred feet to the north and south, Neskowin's beach and the Pacific Ocean (Exhibit B). The existing building footprint is located roughly 85-feet from the revetment (Exhibit B).

The Geologic Hazard Report identifies main engineering geologic concerns as undocumented fill, that the site lies in an area mapped as dune sands that are poorly consolidated and subject to settlement and liquefaction, and inherent regional risk of earthquakes along the Oregon Coast (Exhibit B).

II. APPLICABLE ORDINANCE AND COMPREHENSIVE PLAN PROVISIONS

A. TCLUO Section 3.570: Neskowin Coastal Hazards Overlay (Nesk-CH) Zone

III. ANALYSIS:

A. TCLUO Section 3.570: Neskowin Coastal Hazards Overlay (Nesk-CH) Zone

(1) PURPOSE: The purpose of the Neskowin Coastal Hazards Overlay Zone is to manage development in areas subject to chronic coastal hazards in a manner that reduces long term risks to life, property, and the community by:

- (a) Identifying areas that are subject to chronic coastal natural hazards including ocean flooding, beach and dune erosion, dune accretion, bluff recession, landslides, and inlet migration;*
- (b) Assessing the potential risks to life and property posed by chronic coastal natural hazards; and*
- (c) Applying standards to the site selection and design of new development which minimize public and private risks to life and property from these chronic hazards; such measures may include hazard avoidance and other development limitations consistent with Statewide Planning Goals 7 and 18 as well as the Hazards Element and Beaches and Dunes Element of the Tillamook County Comprehensive Plan.*

Section 3.570(4)(c)(D) Procedure requires notification of the request to be mailed to landowners within 250-feet of the subject property and agencies in accordance with Article 10 of the TCLUO, to allow 14 days for written comment, and requires staff to consider comments received in making the decision.

Findings: Notice was mailed to property owners and agencies on September 17, 2021. Public comments are included as "Exhibit C" of this report. Comments include concerns related to:

- Use of the dwelling as a short-term rental (STR) that is advertised as a hotel
- Nesk-R1 Zone allows for low-density residential development and ownership of multiple STRs owned by the property owner defies this requirement. Dwelling is a commercial development.
- Concerns raised about adequate parking for the expansion of the dwelling
- Generation of additional traffic on South Beach Road by use of the dwelling as a STR
- A new application for sewer service may be required by the Neskowin Regional Sanitary District (NRSA)
- DSL confirmed development is not subject to State of Oregon fill/removal laws and a permit is not required.

The criteria that determine the basis for this review and decision are limited to review of the geologic hazard report made part of a Neskowin Coastal Hazard Area Permit. Consideration of use of a dwelling as a short-term vacation rental is outside the area of focus of the geologic hazard report and the criteria that determine approval or denial of a Neskowin Coastal Hazards Area Permit. Comments related to sanitary sewer service will be addressed at the time of consolidated zoning and building permit application submittal.

B. TCLUO Section 3.570(4)(e): A decision to approve a Neskowin Coastal Hazard Area Permit shall be based upon findings of compliance with the following standards:

- (A) *The proposed development is not subject to the prohibition of development on beaches and certain dune forms as set forth in subsection (8) of this section;***

Findings: The subject property is within a Goal 18 Implementation 2 exception area where development is allowed. There is no prohibition of development on this property or surrounding residential properties in this vicinity as set forth in subsection 8 of TCLUO Section 3.570: Neskowin Coastal Hazards Overlay (Nesk-CH) Zone (Exhibit A). As mentioned previously, a riprap revetment armors the subject property and adjacent properties along their westerly boundaries abutting the Neskowin beach and Pacific Ocean to the north and south for protection from dune erosion- a development feature allowed under Goal 18 Implementation Measure 5.

- (B) *The proposed development complies with the applicable requirements and standards of subsections (6), (7), (8), and (10) of this section;***

Findings: The Geologic Hazard Report (GHR) is comprised of an Engineering Geologic and Dune/Shoreline Hazard Review prepared by Warren Krager, RG, CEG dated February 8, 2021, and Geologic Hazards and a Geotechnical Investigation prepared by J. Douglas Gless, MSc, RG, CEG, LHG, H.G. Schlicker and Associates dated May 21, 2021. The GHR was prepared for the remodel of the existing single-family dwelling that includes an addition of living space and building footprint expansion on the easterly side of the existing dwelling (Exhibit B). Review of the GHR (Exhibit B) in relation to the applicable requirements and standards of subsections (6), (7), (8) and (10), Staff finds the following:

- The remodel is of an existing single-family dwelling that includes an expansion of the structure on the easterly side. Findings in the GHR state the area proposed for the expansion is within the area with the least exposure to risk from coastal hazards to the site. Given the proposal is for a remodel and expansion of the building footprint, the potential to move the structure as a whole will be dependent upon the foundation design (Exhibit B).
- The GHR states that the existing riprap revetment will prevent significant dune erosion at the site however the revetment may be overtopped by severe wave wash during severe storm events. A 40-foot setback from the top of the revetment is recommended for all new foundation elements of the remodel project.
- There are no proposals to partition the subject property.
- The proposal is for the remodel of an existing single-family dwelling. No additional dwelling units are proposed.
- The proposed setbacks as shown on the submitted site plan meet the minimum setback requirements of the NeskR-1 zone and the Oceanfront Setback Line (OSL) as mentioned above.
- Staff finds that (7)(c) does not apply.
- Foredune breaching is not proposed and any foredune restoration would only entail vegetation restoration measures necessary after construction completion is proposed.
- This proposal does not include utilization of groundwater resources.
- Foredune grading is not proposed.
- The subject property is located within a Goal 18 Exception area.
- The property owner is not proposing a land division of the subject property.

- (C) *The geologic report conforms to the standards for such reports set forth in subsection (5) of this section;***

Findings: The Geologic Hazard Report (GHR) is comprised of an Engineering Geologic and Dune/Shoreline Hazard Review prepared by Warren Krager, RG, CEG dated February 8, 2021, and a Geologic Hazards and

Geotechnical Investigation prepared by J. Douglas Gless, MSc, RG, CEG, LHG, H.G. Schlicker and Associates dated May 21, 2021, for the remodel of the existing single-family dwelling (Exhibit B). The GHR addresses applicable standards outlined in subsection (5) and includes a description of the subject property, a description of the fronting beach, analyses of erosion and flooding potential, and an assessment of potential reactions to erosion episodes (Exhibit B).

(D) The development plans for the application conform, or can be made to conform, with all recommendations and specifications contained in the geologic report; and

Findings: The GHR includes development recommendations for site preparation, grading activities including permanent and temporary cuts as well as structural fill requirements for compaction and benching, vegetation removal and re-vegetation practices, foundation recommendations, retaining wall recommendations, drainage and stormwater management, erosion control, flooding considerations, and seismic considerations for the remodel project to the existing single-family dwelling (Exhibit B).

In review of FEMA Flood Insurance Rate Map (FIRM) Panel #41057C1005F dated September 28, 2021, confirms area east of the revetment is located in Flood Zone 'X' and is outside of an area of Special Flood Hazard (Exhibit A).

Conditions of Approval have been made to ensure development of the subject property and remodel project conform to the recommendations and specifications contained in the GHR, including requirements for geotechnical review of structural plans prior to submittal of a consolidated zoning and building permit application as well as Condition of Approval that reflects the requirement for specific site inspections by the geotechnical professional during construction as recommended in the GHR (Exhibit B).

(E) The geologic report provides a statement that, in the professional opinion of the engineering geologist, the proposed development will be within the acceptable level of risk established by the community, as defined in subsection (5)(c) of this section, considering site conditions and the recommended mitigation.

Findings: The GHR (Exhibit B) includes summary findings and conclusions that state:

- No adverse impacts are anticipated to occur on adjacent lots as a result of development of this site for which a Neskowin Coastal Hazard Area Permit is required, provided that the recommendations detailed in the GHR are adhered to. The proposed location of the addition, east of the existing dwelling footprint, is within an area with the least exposure to risk from coastal hazards at the site.
- Geologic hazards to life, property and the environment associated with the proposed remodel project include stormwater erosion, ocean wave erosion, seismic hazards and possibly landsliding. Recommendations for mitigation of erosion and seismic hazards are incorporated into the GHR.
- Adverse effects of this development on surrounding areas will be minimized when all the stormwater, foundation, vegetation, and erosion control recommendations detailed in the GHR are adhered to.
- Stabilization programs for this site include vegetation and erosion stabilization, surface water collection and maintenance of the riprap revetment.
- Adverse environmental effects will be minimized by following the recommendations detailed in this report during the design and construction of the proposed project.
- Assuming all recommendations contained within the GHR are adhered to, no additional investigation or analysis is required other than review of site development plans and observation of foundation excavations as outlined in the GHR.

IV. DECISION AND CONCLUSION

Staff concludes that the submitted Geologic Hazard Report (GHR) **complies with the standards outlined in TCLUO Section 3.570(4)(e)** and this project is therefore **Approved with Conditions**. All development activities

shall conform to the Conditions of Approval outlined in Section V of this report. No further development shall occur on the subject property without prior land use approval. This approval does not address any additional development of the subject property.

By accepting this approval, the applicant and property owner agrees to indemnify, defend, save and hold harmless Tillamook County, and its officers, agents, and employees from any claim, suit, action or activity undertaken under this approval, including construction under a Building Permit approved subject to this approval. The applicant /property owner shall obtain all of the necessary local, state, and federal permits and comply with all applicable regulations for the proposed construction.

Appeal of this decision. This decision may be appealed to the Tillamook County Planning Commission, who will hold a public hearing. The forms and fees must be filed in the office of this Department before 4:00 PM on **December 20, 2021.**

V. CONDITIONS OF APPROVAL

The Conditions of Approval are as follows. Failure to comply with the Conditions of Approval may result in both nullification of this permit approval and enforcement action.

1. The applicant shall obtain all required permits from Federal, State and local agencies prior to development.
2. Development of this property shall adhere to the development standards outlined in TCLUO Section 3.570: Neskowin Coastal Hazards Overlay (Nesk-CH) Zone.
3. Development of this property shall adhere to the development recommendations outlined in the Geologic Hazards and Geotechnical Investigation prepared by J. Douglas Gless, MSc, RG, CEG, LHG, H.G. Schlicker and Associates dated May 21, 2021, (Exhibit B) including the following recommendations for testing/inspections:
 - a. Structural fill shall be approved and periodically observed by HGSA and tested by a qualified testing firm. Test results shall be reviewed and approved by HGSA.
 - b. HGSA shall observe foundation excavations prior to a footings inspection to assure that suitable bearing materials have been reached.
 - c. Documentation of all inspections/observations shall be submitted by HGSA to the Tillamook County Building Official prior to a footing inspection.
4. The following supplemental information shall be provided to the Department of Community Development at the time of consolidated Zoning and Building Permit application submittal:
 - a. Original copy of the stamped and signed letter from HGSA certifying the submitted plans (including plans for foundation and retaining wall structures, site preparation, grading, erosion control during and after construction, a stormwater management plan and vegetation removal/revegetation plan) are in conformance with the development standards outlined in the GHR (Exhibit B).
 - i. Foundation improvements shall maintain a 40-foot setback from the top of the revetment. All other development shall adhere to the Oceanfront Setback Line (OSL) for the subject property.
 - b. Grading plan clearly identifying all cuts and fills.
 - c. Stormwater Management plan consistent with the recommendations outlined in the GHR and the standards outlined in TCLUO Section 5.100: Neskowin Erosion Control and Stormwater Management. The stormwater management plan shall demonstrate management of surface water runoff at or behind the riprap structure to reduce potential erosion and structure failure.
 - d. Erosion control plan consistent with the recommendations outlined in the GHR and the standards outlined in TCLUO Section 5.100: Neskowin Erosion Control and Stormwater Management that identifying temporary measures to control runoff and erosion of soils/sand during construction.
 - e. Vegetation removal and revegetation plan.

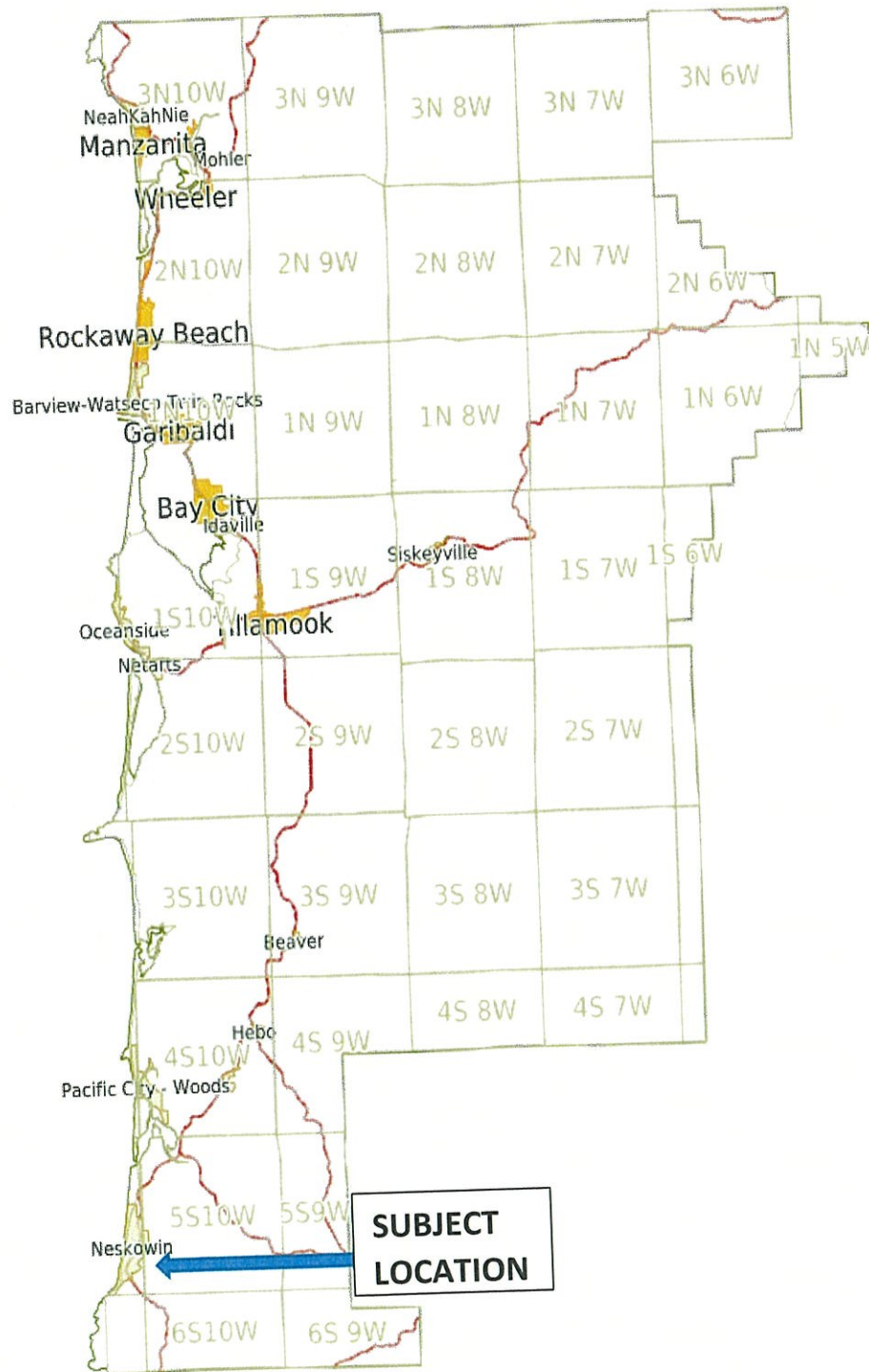
5. Development of this property shall adhere to the development standards outlined in TCLUO Section 3.322: Neskowin Low Density Residential (NeskR-1) Zone. The maximum building height shall be limited to 24-feet as measured from existing/pre-construction grade.
 - a. An updated sewer letter from the Neskowin Regional Sanitary Authority (NRSA) shall be submitted in conjunction with the consolidated Zoning and Building Permit application.
6. A written statement by the engineering geologist certifying that all performance, mitigation, and monitoring measures specific in the GHR shall be received by the Department prior to final inspection approval.
7. The Hazard Disclosure Statement included as “Exhibit D” shall be recorded in the Tillamook County Clerk’s Office and a recorded copy shall be provided to the Department at the time of consolidated Zoning and Building Permit application submittal.
8. This Neskowin Coastal Hazard Area Permit shall be valid for a period of two (2) years from the effective date of the decision (December 8, 2021). If development authorized by the permit is not initiated within this two (2) year time period, this Neskowin Coastal Hazard Area permit is expired.

VI. EXHIBITS

- A. Assessor’s Map, Zoning Map, FEMA FIRM
- B. Applicant submittal
- C. Written Commentary
- D. Hazard Disclosure Statement

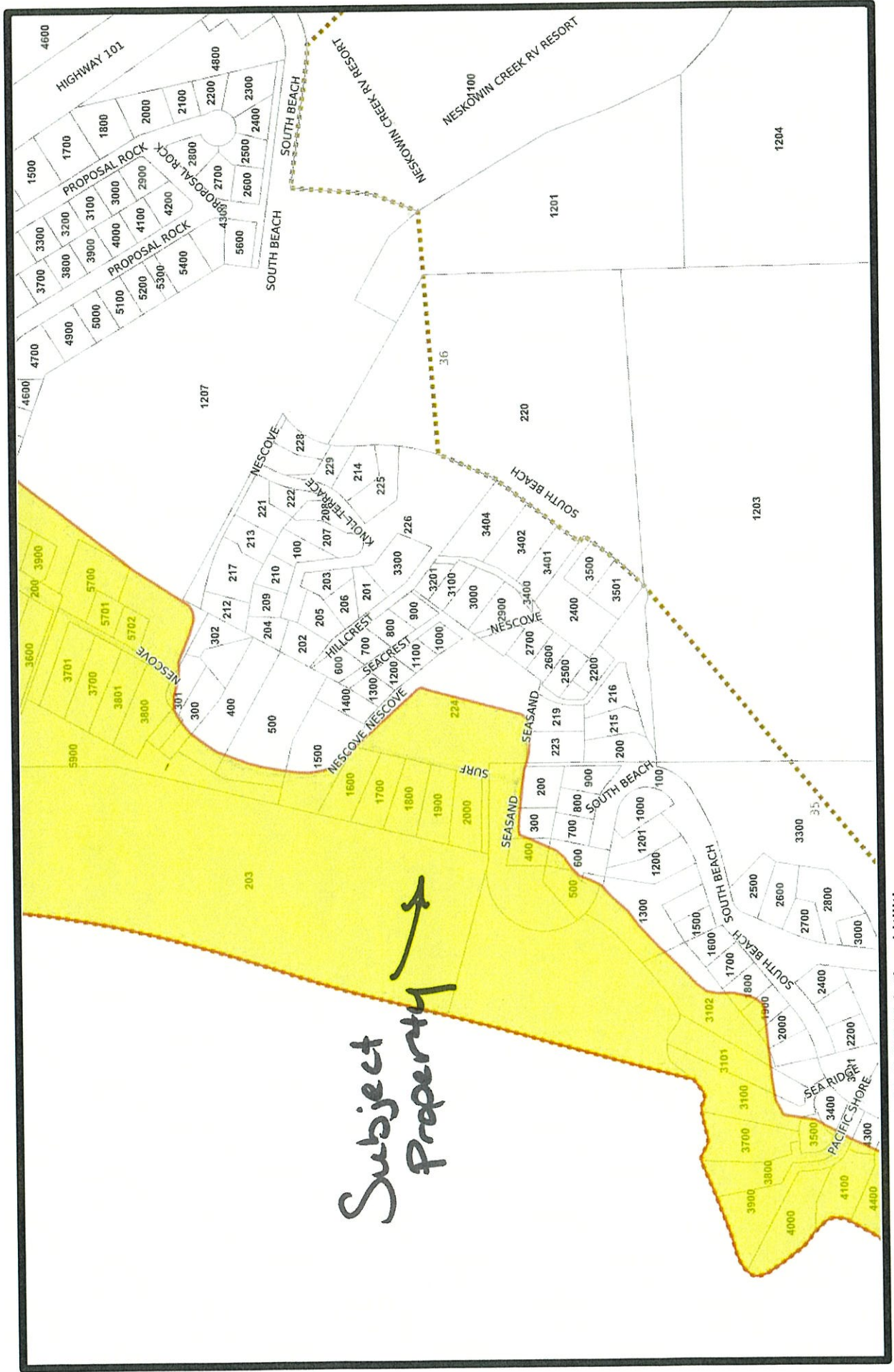
EXHIBIT A

VICINITY MAP

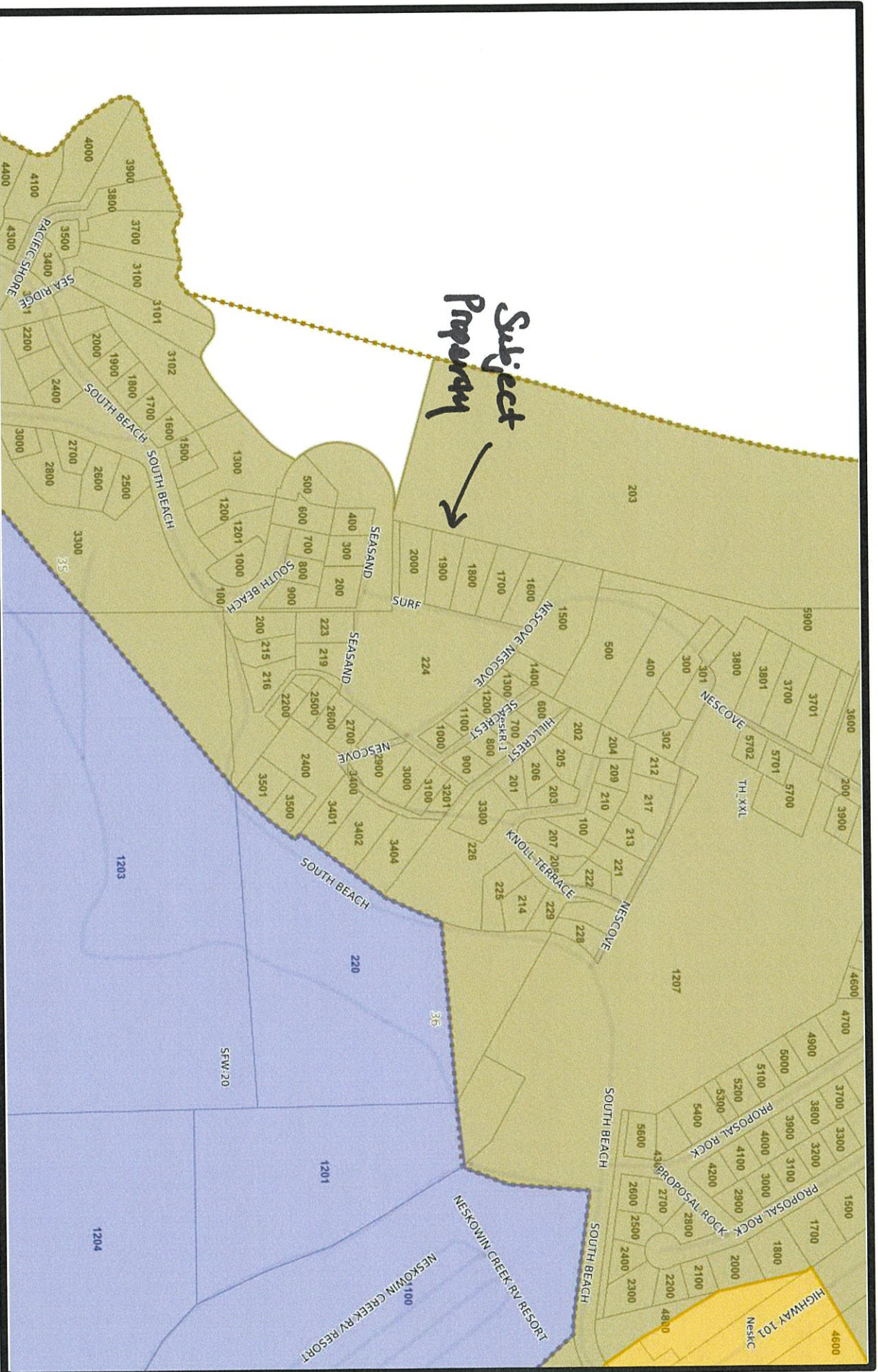


#851-21-000054-PLNG: ERICKSON

Map



Map



Map



National Flood Hazard Layer FIRMette

123°59'31"W 45°55'56"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LANOU

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, A99
- With BFE or Depth Zone AE, AO, AH, VE, AF
- Regulatory Floodway

0.2% Annual Chance Flood Hazard, A of 1% annual chance flood with average depth less than one foot or with drain areas of less than one square mile

Future Conditions 1% Annual Chance Flood Hazard Zone X

Area with Reduced Flood Risk due to Levee. See Notes. Zone X

Area with Flood Risk due to Levee Zone X

OTHER AREAS OF FLOOD HAZARD

- No SCREEN
- Area of Minimal Flood Hazard Zone X
- Effective LOMRS
- Area of Undetermined Flood Hazard Zone X

OTHER AREAS

- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

GENERAL STRUCTURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

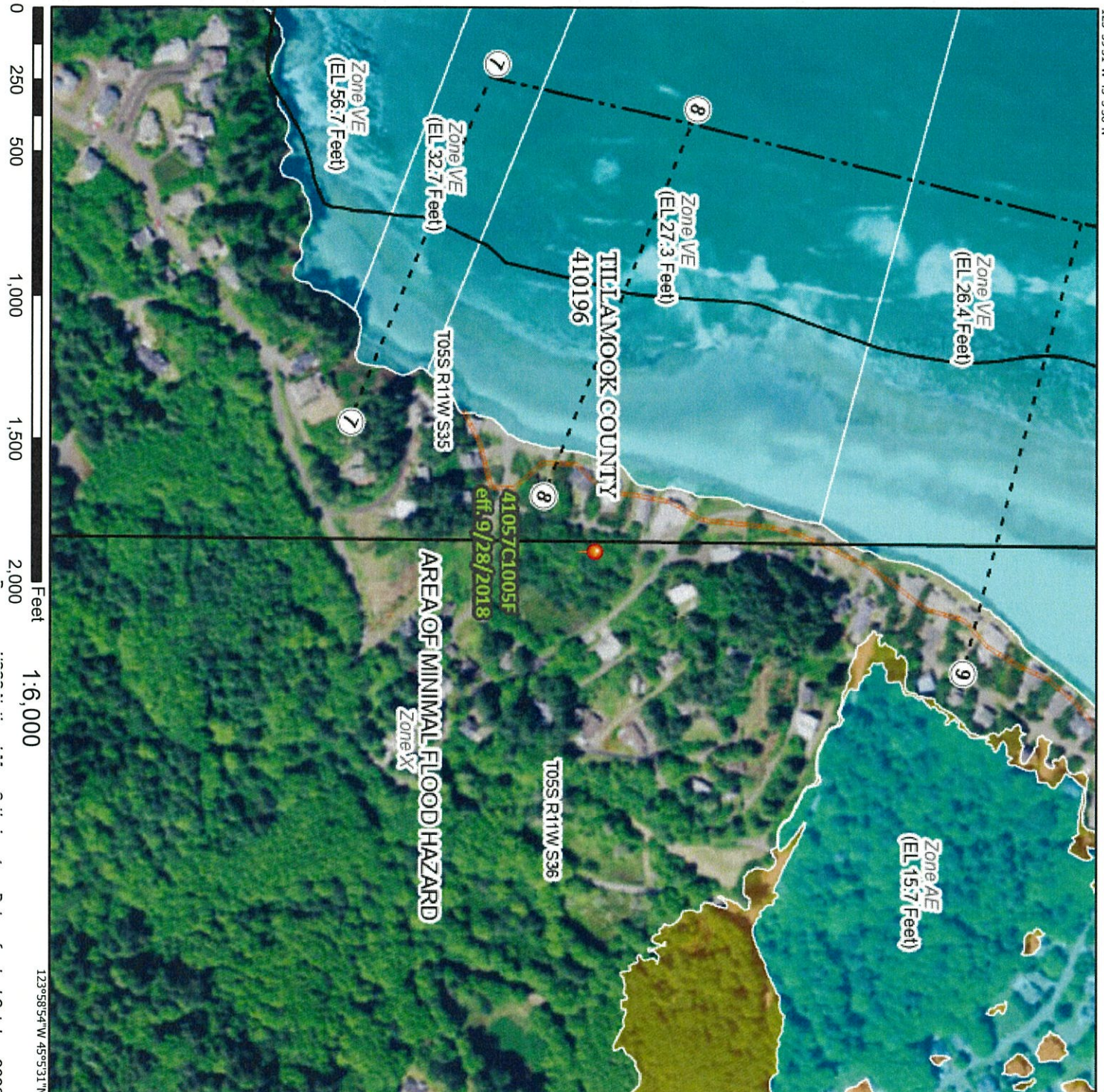
MAP PANELS

- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **12/8/2021 at 5:47 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRW panel number, and FIRW effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.



0 250 500 1,000 1,500 2,000 Feet

1:6,000

123°58'54\"/>

EXHIBIT B



PLANNING APPLICATION

OFFICE USE ONLY	
Date Stamp	
RECEIVED FEB 17 2011 BY Drop Box	
<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Received by: <i>SS</i>	
Receipt #:	
Fees: <i>615</i>	
Permit No: 851-21-00054-PLNG	

Applicant (Check Box if Same as Property Owner)

Name: *Ben Kibler* Phone: *503-559-3899*
 Address: *3786 Boone Rd SE.*
 City: *Salem* State: *OR* Zip: *97317*
 Email: *Bkibler@live.com*

Property Owner

Name: *Mike Erickson* Phone: *503-781-9082*
 Address: *255 Stampfer Rd*
 City: *Lake Oswego* State: *OR* Zip: *97034*
 Email: *Mike.Erickson@AFMS.com*

Request: *Home remodel*

Type II

- Farm/Forest Review
- Conditional Use Review
- Variance
- Exception to Resource or Riparian Setback
- Nonconforming Review (Major or Minor)
- Development Permit Review for Estuary Development
- Non-farm dwelling in Farm Zone
- Fore-dune Grading Permit Review
- Neskowin Coastal Hazards Area

Type III

- Appeal of Director's Decision
- Extension of Time
- Detailed Hazard Report
- Conditional Use (As deemed by Director)
- Ordinance Amendment
- Map Amendment
- Goal Exception

Type IV

- Appeal of Planning Commission Decision
- Ordinance Amendment
- Large-Scale Zoning Map Amendment
- Plan and/or Code Text Amendment

Location:

Site Address: *49670 Surf Rd Neskowin OR 97149*
 Map Number: *05S 11W 36BC 01900*
Township Range Section Tax Lot(s)

Clerk's Instrument #: _____

Authorization

This permit application does not assure permit approval. The applicant and/or property owner shall be responsible for obtaining any other necessary federal, state, and local permits. The applicant verifies that the information submitted is complete, accurate, and consistent with other information submitted with this application.

Property Owner Signature (Required) *[Signature]*

Date *2-15-21*

Applicant Signature _____

Date _____

August 11, 2021

Garrett H. Stephenson

Admitted in Oregon

T: 503-796-2893

C: 503-320-3715

gstephenson@schwabe.com

VIA E-MAIL

Ms. Sarah Absher, Director
Tillamook County Department of Community Development
1510-B Third Street
Tillamook, OR 97141

RE: Response to Incompleteness Determination for Erickson Vacation Homes (casefile 851-21-000054-PLNG)

Dear Ms. Absher:

This office represents Erickson Vacation Homes, LLC (the “Applicant”). Our client has submitted a land use application for an addition onto their home in Neskowin (Neskowin Coastal Hazards Area Permit #851-21-000054-PLNG) (the “Application”). This letter is in response to your email dated March 25, 2021, which deemed the Application incomplete. As explained below, the enclosed materials respond to your request for information. In light of limited time remaining within the 180-day completeness timeline and pursuant to ORS 215.427(4), Erickson hereby requests that the Application be deemed complete. The Applicant is happy to respond to additional information requests during the review period.

Your email requested the following additional information:

“Specifically, discussion and analysis of the following sections is missing in their entirety or in part:

“Section 3.570(4)(d)(A)-(E)

“Section 3.570(4)(e)(A)-(E)

“Section 3.570(5)(c)(A)-(E) *(A)(i), (iii) and (ix) are moderately addressed

“Section 3.570(5)(c)(B)-(E)”

“Starting on Page 91, a statement of the engineering geologist’s professional opinion as to whether the proposed development will be within the acceptable level of risk established by the community, considering site conditions and the recommended mitigation is missing from the geologic hazard report as well as statements regarding the highlighted sections on Page 92.

“Additionally, Section 3.570(7) is not addressed in the report and the Certification of compliance outlined in Section 3.570(11)(a) is also missing from the application.”

We respond to each of the above-identified items as follows:

- “Section 3.570(4)(d)(A)-(E)”

Exhibit 1 is a new site plan showing all of the items requested in subsection (A). In response to subsection (B), excavation for the project will be to native soil underneath the proposed addition, to a depth of approximately 2.5 feet, with approximately 180 sq. yds. of soil to be removed. **Exhibit 2**. In response to subsection (C), the County should be aware that the *entire* Property is within the Neskowin Coastal Hazard Overlay Zone, and therefore, the hazard zone lines cannot be shown on the site plan. There are no other hazard zones mapped on the Property. Site-specific hazards are described in **Exhibit 3**, the Applicant’s new Geologic Hazards and Geotechnical Investigation Report. Subsection (E) requires an engineering report provided by a registered civil engineer, geotechnical engineer, or engineering geologist. This is provided as **Exhibit 3**.

- “Section 3.570(4)(e)(A)-(E)”

TCLUO section 3.570(4)(e) includes the approval criteria for a Neskowin Coastal Hazards Area Permit. These criteria are addressed below:

(A) The proposed development is not subject to the prohibition of development on beaches and certain dune forms as set forth in subsection (8) of this section;

RESPONSE: Subsection (8) generally deals with foredune breaching and grading. The proposed addition will be located landward of the foredune face (which is protected by a riprap revetment) and landward of the existing house. Therefore, the Director can find that the project is not prohibited by subsection (8), and consequently, that this criterion is met.

(B) The proposed development complies with the applicable requirements and standards of subsections (6), (7), (8), and (10) of this section;

RESPONSE: The Application satisfies subsection (6) as follows:

- a) “Moveable structure design.” The proposed addition is to an existing home. As this is not a new structure, moveable structure design requirements do not (and as a practical matter, could not) apply because the house is already fixed to a foundation.
- b) “Safest site requirement.” The proposed addition is landward of the existing home. Section 5.2 of the Geologic Hazard Report explains that the proposed addition is well east of the minimum recommended setback from the top of the existing revetment. **Exhibit 3**. For this reason, the Director can find that this standard is met.

- c) Subsection (C) does not apply because the Application does not involve creation of a new lot or parcel.
- d) Residential density requirements do not apply because the Application will neither increase or no decrease existing residential density.

The Application satisfies subsection (7) (oceanfront setbacks) because the addition is landward of the existing home, and therefore behind any identified setback line. Subsection (8) is not applicable to the Application because the proposed addition will not impact the existing foredune or vegetation line. Subsection (10) is not applicable because a land division is not proposed.

For the above reasons, the Director can find that this criterion is met.

(C) The geologic report conforms to the standards for such reports set forth in subsection (5) of this section;

RESPONSE: **Exhibit 3**, the Geologic Hazard Report, includes all information required under TCLUO 3.570(5)(c). This criterion is met.

(D) The development plans for the application conform, or can be made to conform, with all recommendations and specifications contained in the geologic report; and

RESPONSE: The recommendations in the Geologic Hazard Report are set forth in Section 5 of the report. They include the following:

- Maintain a minimum 40-foot setback from the foredune.
- Remove disturbed topsoil and debris and place footings and foundations on native soil or engineered fill.
- Make no temporary cuts steeper than 1.5H:1V and no permanent cuts steeper than 2H:1V.
- Recommendations for structural fill, vegetation removal, drainage, and erosion control.

The site plan already exceeds the proposed 40-foot foredune/revetment setback. The addition will be constructed in an existing parking and lawn area, meaning that no slope issues can preclude or otherwise impact development. The addition is to be constructed on native soil similar to the original house, which will meet the recommendations of the Geologic Hazard Report. Therefore, the Director can find that all of the Geologic Hazard Report's recommendations can be implemented through construction, and therefore, find that this criterion is met.

(E) The geologic report provides a statement that, in the professional opinion of the engineering geologist, the proposed development will be within the acceptable level of risk established by the community, as defined in subsection (5)(c) of this section, considering site conditions and the recommended mitigation.

RESPONSE: This statement is set forth in Section 6 of the Geologic Hazard Report. This criterion is met.

- **“Section 3.570(5)(c)(A)-(E) *(A)(i), (iii) and (ix) are moderately addressed”**
- **“Section 3.570(5)(c)(B)-(E)”**

RESPONSE: The above sections describe the required contents and findings of a Geologic Hazard Report. **Exhibit 3**, the Applicant’s new Geologic Hazard Report, is organized according to those code sections and includes all elements required under TCLUO section 3.570(5)(c).

- **“Starting on Page 91, a statement of the engineering geologist’s professional opinion as to whether the proposed development will be within the acceptable level of risk established by the community, considering site conditions and the recommended mitigation is missing from the geologic hazard report as well as statements regarding the highlighted sections on Page 92.”**

RESPONSE: This statement is included in Section 6 “Summary Findings and Conclusions” of the new Geologic Hazard Report (**Exhibit 3**).

- **“Additionally, Section 3.570(7) is not addressed in the report and the Certification of compliance outlined in Section 3.570(11)(a) is also missing from the application.”**

RESPONSE: Subsection (7)(a)(A) allows an ocean setback to be specified in a required geologic report. The new Geologic Hazard Report at Section 5.2 concludes that a minimum setback of 40 feet from the existing riprap revetment should be required and observes that the addition is proposed to be at least 85 feet from the top of the revetment.

Section 3.570(11)(a) applies to plans submitted for building permit. The Applicant had submitted building permit plans, which were subsequently rejected for lack of approved Neskowin Hazard Area permit. The Applicant shall provide the required written statement confirming acceptance of those plans by the Applicant’s new Engineering Geologist with the re-submittal of its building permit plans. For the reason, the Director can find that this requirement can be met.

To any extent that the requirement for an engineering review of building plans must be conducted as part of this land use permit application, the Director can and should defer

Ms. Sarah Absher, Director
August 11, 2021
Page 5

satisfaction of this requirement to building permit review. In this instance, the Applicant requests, pursuant to ORS 197.522(3), that the Director impose the following condition of approval:

“The Applicant shall provide the certification of compliance required by TCLUO 3.570(11)(a) prior to issuance of a building permit application for the approved addition.”

CONCLUSION

For the above reasons, the Director can find that the all requested materials have been submitted and that the Application meets all applicable criteria and standards, as proposed or with the condition of approval recommended above.

Please contact me if you have any questions.

Best regards,



Garrett H. Stephenson

GST:jmhi
Attachments

cc: Melissa Jenk (via e-mail mjenck@co.tillamook.or.us)
Michael Robinson (via e-mail mrobinson@schwabe.com)
Katie Erickson (via e-mail highstylevacahomes@yahoo.com)

PDX\137715\262088\GST31484967.1

EXISTING CONDITIONS PLAN

THIS PLAN HAS BEEN PREPARED FOR ILLUSTRATIVE PURPOSES ONLY. SITE BACKGROUND INFORMATION AND FEATURES HAVE BEEN GENERATED FROM A COMBINATION OF TOPOGRAPHIC SURVEY INFORMATION, PUBLIC GIS DATA SOURCES, AERIAL PHOTOS, TAX ASSESSOR MAPS, AND PHYSICAL SITE OBSERVATIONS. PROPOSED SITE FEATURES ARE PRELIMINARY IN NATURE AND SUBJECT TO CHANGE. NO WARRANTY OR GUARANTEE IS EXPRESSED OR IMPLIED.

FLOOD HAZARD NOTE

THE SITE IS LOCATED WITHIN ZONE X (SH-4488B) PER FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY-PANEL NUMBER 49670-0000.

FEMA'S DEFINITION OF ZONE X (SH-4488B) IS AN AREA OF MINIMAL FLOOD HAZARD, USUALLY DEPICTED ON FIRMS AS ABOVE THE 100-YEAR FLOOD LEVEL. ZONE X IS THE AREA DETERMINED TO BE OUTSIDE THE 100-YEAR FLOOD AND PROTECTED BY ELEVATION ABOVE THE 100-YEAR FLOOD. NO COMMITMENTS THAT PARTICIPATE IN THE FLOOD INSURANCE IS AVAILABLE TO ALL PROPERTY OWNERS AND RESIDENTS IN THESE ZONES.

BASIS OF BEARING

THE LINE BETWEEN FOUND MONUMENTS 202 AND 201 BEARS SOUTH 14°09'00" WEST. THE RECORD VALUE FROM MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.

MONUMENT / BOUNDARY NOTES

- 201 FOUND 1/2" REBAR WITH PLASTIC CAP STAMPED 'LOGMES PLS 1" HP' 1/2" B.S. SPACING. BE CALCULATED POSITION. SEE MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.
 - 202 FOUND 1" IRON PIPE FLUSH IN GROUND. HELD FOR CONTROL. AS PER MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.
 - 203 FOUND 1" IRON PIPE 1' ABOVE GROUND. HELD FOR CONTROL. AS PER MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.
 - 204 FOUND 1/2" REBAR WITH PLASTIC CAP STAMPED 'LOGMES PLS 1" HP' 1/2" B.S. SPACING. BE CALCULATED POSITION. SEE MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.
- () INDICATES RECORD VALUE FROM MAP S-1838, TILLAMOOK COUNTY SURVEY RECORDS.
 NO. 1 INDICATES MEASURED VALUE.

DEMOLITION KEY NOTES

- 1 REMOVE EXISTING GRAVEL DRIVEWAY TO EXTENTS OF PROPOSED SCOPE.
- 2 REMOVE EXISTING GAME COURT AND CONCRETE WALLS TO FULL EXTENT.

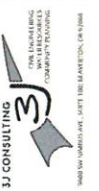
LEGEND

- PROJECT BOUNDARY
- EXISTING RIGHT OF WAY
- EXISTING EASEMENT
- EXISTING TOE OF 80' RAP
- EXISTING EDGE OF VEGETATION
- EXISTING BUILDING
- EXISTING DECK
- EXISTING CONCRETE
- EXISTING EDGE OF GRAVEL
- EXISTING SURVEY MONUMENT

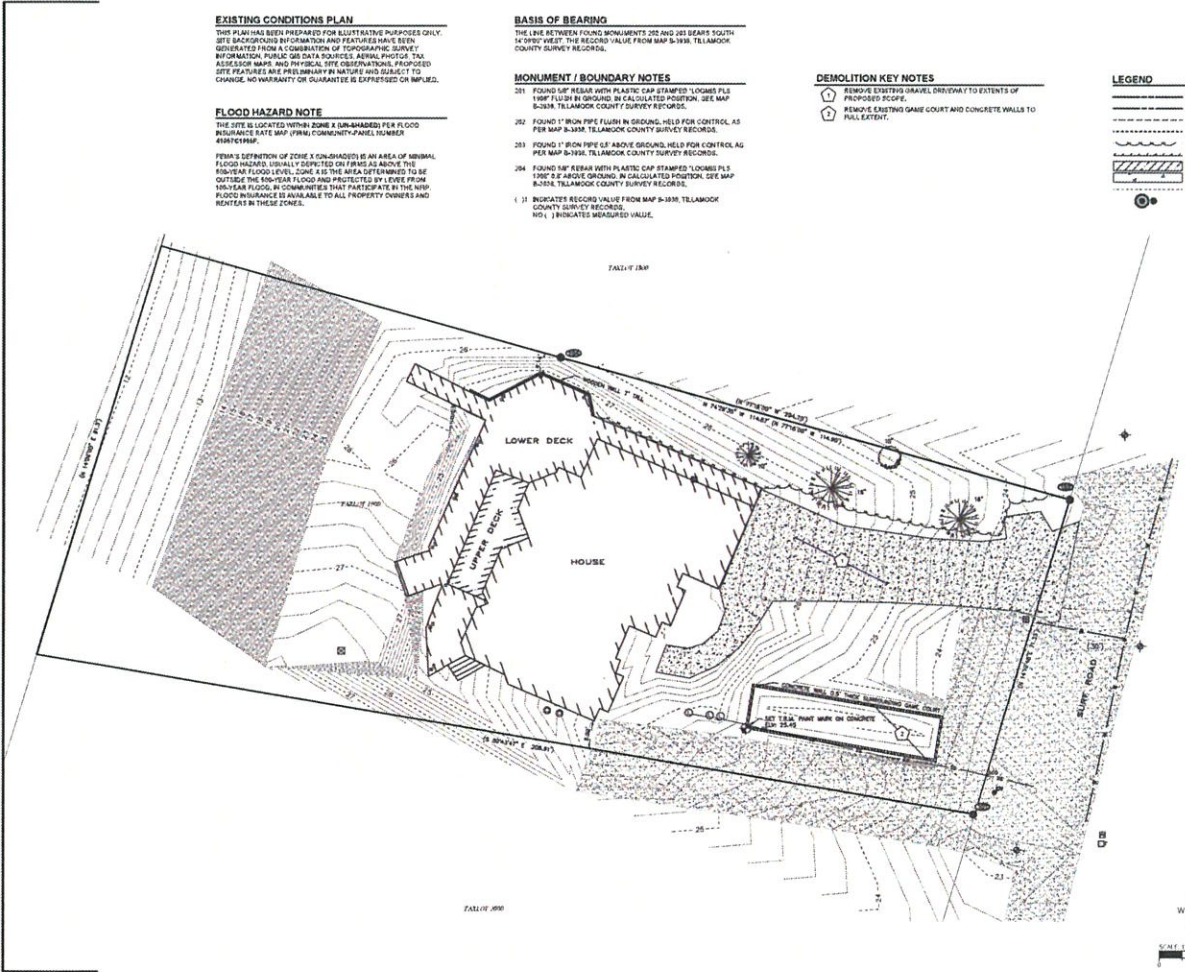


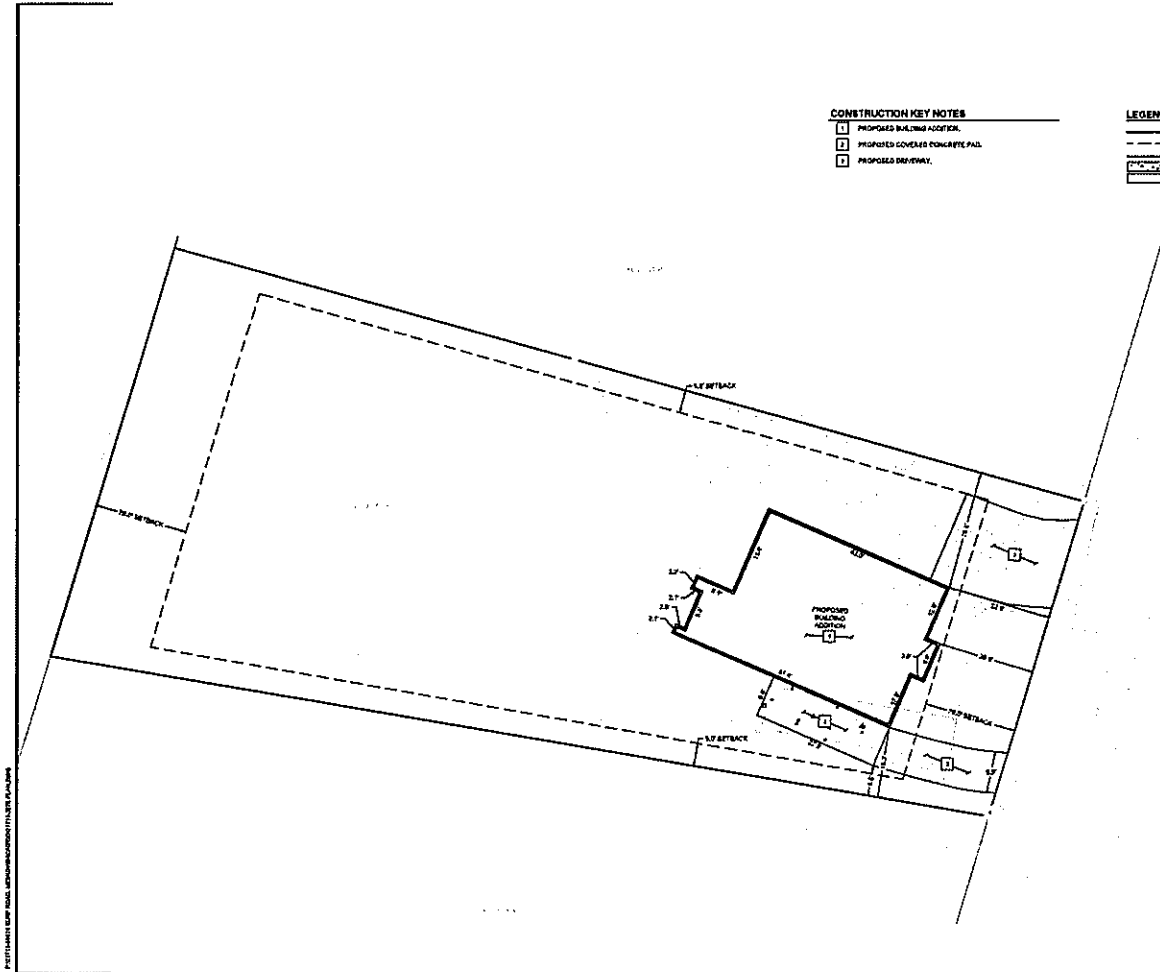
PROJ. NO. 22-001
 DATE: 07/21/2023
 DRAWN BY: JJJ
 LAND USE: RESIDENTIAL
 REVISIONS:

EXISTING CONDITIONS & DEMOLITION PLAN
49670 SURF ROAD
NESKOWIN, OREGON
 TILLAMOOK COUNTY
 NESKOWIN, OREGON



PROJECT: PRELIMINARY
 DATE: 07/21/2023
 DRAWN BY: JJJ
 CHECKED BY: JJJ
 APPROVED BY: JJJ
 SHEET NUMBER: **C100**





CONSTRUCTION KEY NOTES

- 1 PROPOSED BUILDING ADDITION
- 2 PROPOSED CONCRETE FLOOR PAUL
- 3 PROPOSED DRIVEWAY

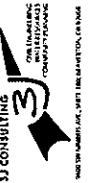
LEGEND

- PROJECT BOUNDARY
- PROPOSED SETBACK LINE
- PROPOSED BUILDING
- PROJECT CONCRETE
- PROPOSED DRIVEWAY



PROJEN DATE
07/21/2021
DRAWN FOR
LAND USE
12-14-2021

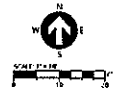
SITE PLAN
49670 SURF ROAD
NESKOWIN, OREGON
TILLAMOOK COUNTY
NESKOWIN, OREGON



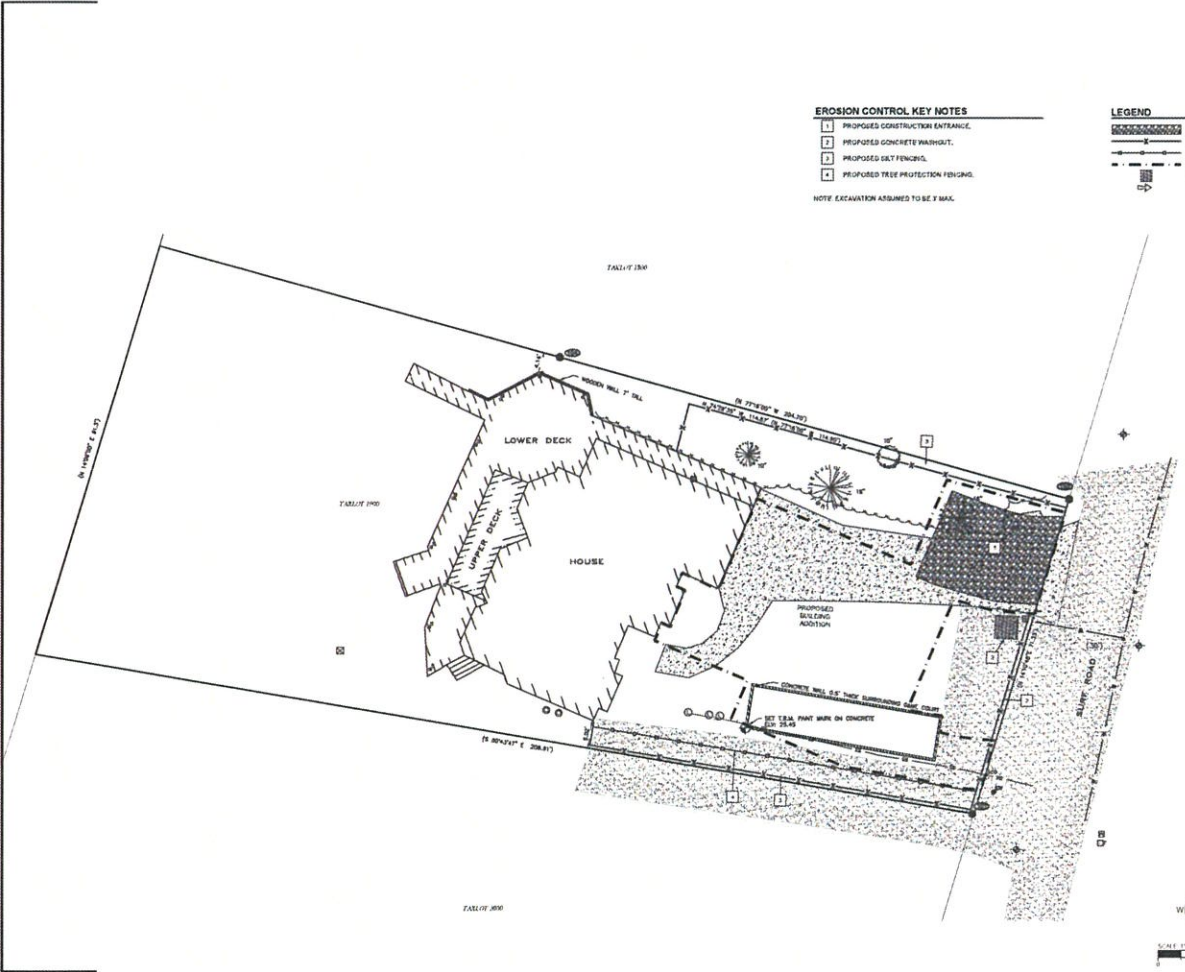
PROJECT PREPARATION
DATE: 07/21/2021
PROJECT: 12345
DRAWN BY: J. SMITH
CHECKED BY: J. SMITH
DATE: 07/21/2021



C200



49670 SURF ROAD, NESKOWIN, OREGON 97148



EROSION CONTROL KEY NOTES

- 1 PROPOSED CONSTRUCTION ENTRANCE.
- 2 PROPOSED CONCRETE WASHOUT.
- 3 PROPOSED SILT FENCING.
- 4 PROPOSED TREE PROTECTION FENCING.

NOTE: EXCAVATION ASSUMED TO BE 3' MAX.

LEGEND

- PROPOSED CONSTRUCTION ENTRANCE
- PROPOSED SILT FENCING
- PROPOSED TREE PROTECTION FENCING
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED CONCRETE WASHOUT
- SURFACE RUNOFF FLOW ARROW



PROJECT DATE: 07/21/2021
 COUNTY OR LAND USE: TILLAMOOK COUNTY
 REVISIONS:

EROSION AND SEDIMENT CONTROL PLAN
49670 SURF ROAD
NESKOWIN, OREGON
 TILLAMOOK COUNTY
 NESKOWIN, OREGON



PROJECT INFORMATION
 PROJECT # 2021-01
 DATE: 07/21/2021
 DRAWN BY: JMS
 CHECKED BY: JMS
 APPROVED BY: JMS

SHEET NUMBER
C300



Stephenson, Garrett H.

From: Troy Farnsworth <troyfarnsworth1@gmail.com>
Sent: Tuesday, August 10, 2021 11:29 AM
To: Stephenson, Garrett H.
Subject: Re: FW: (Y214510 Erickson) Report

Garrett,

Based on my calculations, the area of the proposed addition affected by excavation equals approximately 1,927 square feet.

Considering the finish floor at the entry level the house is between 24"-30" above the adjacent exterior grade and the existing crawl space is approximately 42"-48" below the lowest structural member of the main floor one could use a conservative number of 2.5 (excavation depth) x 1,927 (total square footage of the area) = 4,817 divided by 27 (sq. yard) = 178.42 square yards of soil to be removed.

Does this help?

Thank you.

Sincerely,

Troy Farnsworth

Direct: (971) 219-1405

www.troyfarnsworth.com



On Mon, Aug 9, 2021 at 3:57 PM Stephenson, Garrett H. <GStephenson@schwabe.com> wrote:

[Garrett H. Stephenson](#)

**Geologic Hazards and Geotechnical Investigation
Tax Lot 1900, Map 5S-11W-36BC
49670 Surf Road,
Neskowin, Tillamook County, Oregon**

**Prepared for:
Katie and Mike Erickson
P.O. Box 803
Lake Oswego, Oregon 97034**

Project #Y214510

May 21, 2021

Project #Y214510

May 21, 2021

**To: Katie and Mike Erickson
P.O. Box 803
Lake Oswego, Oregon 97034**

**Subject: Geologic Hazards and Geotechnical Investigation
Tax Lot 1900, Map 5S-11W-36BC
49670 Surf Road
Neskowin, Tillamook County, Oregon**

Dear Katie and Mike Erickson:

The accompanying report presents the results of our geologic hazards and geotechnical investigation for the above subject site.

After you have reviewed our report, we would be pleased to discuss it and to answer any questions you might have.

This opportunity to be of service is sincerely appreciated. If we can be of any further assistance, please contact us.

H.G. SCHLICKER & ASSOCIATES, INC.



J. Douglas Gless, MSc, RG, CEG, LHG
President/Principal Engineering Geologist

JDG:mgb

TABLE OF CONTENTS

	<u>Page</u>
1.0 Introduction.....	1
2.0 Site Description	1
2.1 The history of the site and surrounding areas	2
2.2 Topography, including elevations and slopes on the property itself.....	3
2.3 Vegetation cover.....	3
2.4 Subsurface materials	3
2.5 Conditions of the seaward front of the property	3
2.6 Presence of drift logs or other flotsam	3
2.7 Description of streams or other drainage	4
2.8 Proximity of nearby headlands.....	4
2.9 Description of any shore protection structures	4
2.10 Presence of pathways or stairs from the property to the beach.	4
2.11 Existing human impacts on the site.....	4
3.0 Description of the Fronting Beach.....	4
3.1 Average widths of the beach during the summer and winter.....	5
3.2 Median grain size of beach sediment.	5
3.3 Average beach slopes during the summer and winter.....	5
3.4 Elevations above mean sea level of the beach at the seaward edge of the property	5
3.5 Presence of rip currents and rip embayments	5
3.6 Presence of rock outcrops and sea stacks, both offshore and within the beach zone.....	5

TABLE OF CONTENTS (continued)

	<u>Page</u>
3.7 Information regarding the depth of beach sand down to bedrock.....	6
4.0 Geologic Hazards Analysis.....	6
4.1 Subsurface Materials.....	6
4.2 Structure.....	7
4.3 Slopes.....	8
4.4 Orientation of Bedding Planes in Relation to the Dip of the Surface Slope.....	8
4.5 Site Surface Water Drainage Patterns.....	8
4.6 Dune Stability and Erosion.....	8
4.7 Regional Seismic Hazards.....	9
4.8 Flooding Hazards.....	11
4.9 Climate Change.....	11
4.10 Analyses of Erosion and Flooding Potential.....	12
4.11 Assessment of Potential Reactions to Erosion episodes.....	13
5.0 Development Standards and Recommendations.....	14
5.1 Development Density.....	15
5.2 Setback.....	15
5.3 Grading Practices.....	15
5.4 Vegetation Removal and Re-Vegetation Practices.....	17
5.5 Foundation Recommendations.....	17
5.6 Retaining Wall Recommendations.....	19
5.7 Drainage and Storm Water Management.....	20

TABLE OF CONTENTS (continued)

	<u>Page</u>
5.8 Erosion Control.....	20
5.9 Flooding Considerations.....	21
5.10 Seismic Considerations.....	21
5.11 Plan Review and Construction Observations.....	22
5.12 Worker Safety	22
6.0 Summary Findings and Conclusions.....	22
6.1 Proposed Use	22
6.2 Hazards to Life, Property, and the Environment.....	22
6.3 Off-Site Protection	23
6.4 Stabilization Programs	23
6.5 Conclusions Regarding Hazards and Adverse Environmental Effects	23
6.6 Recommendations for Further Work	23
7.0 Additional Services	23
8.0 Limitations.....	24
9.0 Disclosure.....	24
10.0 References Cited.....	25

TABLE OF CONTENTS (continued)

FIGURES

- Figure 1 – Location Map**
- Figure 2 – Plat Map**
- Figure 3 – Site Topographic Map**
- Figure 4 – Slope Profile A-A'**
- Figure 5 – Over-Excavation and Replacement Detail**
- Figure 6 - Sediment Fence Detail**

APPENDICES

- Appendix A – Site Photographs**
- Appendix B – Checklist of Recommended Additional Work,
Plan Review, and Site Observations**

Project #Y214510

May 21, 2021

**To: Katie and Mike Erickson
P.O. Box 803
Lake Oswego, Oregon 97034**

**Subject: Geologic Hazards and Geotechnical Investigation
Tax Lot 1900, Map 5S-11W-36BC
49670 Surf Road
Neskowin, Tillamook County, Oregon**

Dear Katie and Mike Erickson:

1.0 Introduction

At your request and authorization, representatives of H.G. Schlicker and Associates, Inc. (HGSA) visited the subject site on April 19, 2021, to complete a geologic hazards and geotechnical investigation of Tax Lot 1900, Map 5S-11-36BC, located in Neskowin, Tillamook County, Oregon (Figures 1 and 2; Appendix A). It is our understanding that you would like to construct an addition on the eastern portion of the existing home.

This report addresses the engineering geology and geologic hazards at the site with respect to the proposed construction of an addition. The scope of our work consisted of a site visit, site observations and measurements, subsurface exploration with hand augered borings, a slope profile, limited review of the geologic literature, interpretation of topographic maps, lidar and aerial photography, and preparation of this report of our findings, conclusions and geotechnical recommendations for an addition to the east side of the existing house.

2.0 Site Description

The subject site is an oceanfront lot located on a younger stabilized dune in the community of Neskowin, Oregon (Figure 1). The property consists of Tax Lot 1900, Map 5S-11-36BC, 49670 Surf Road, a 0.38-acre lot with an existing two-story house. The lot is approximately 71 to 92 feet wide north to south and 204 to 206 feet deep east to west. An oceanfront protective structure (riprap revetment) is located on the dune slope on the western portion of the site; this revetment is contiguous with other revetments to the north and south (Figure 3; Appendix A).

The site is bounded to its north by a developed lot, to its south by an undeveloped lot, to its east by Surf Road, and to its west by the beach and the Pacific Ocean. Access to the site is via Surf Road to the east.

The site east of the riprap revetment gently slopes down to the east at approximately 2 to 5 degrees at elevations between approximately 26 to 28 feet (NAVD 88) (Figures 3 and 4). The riprap revetment slopes down to the beach at approximately 30 degrees.

At the time of our site visit, the site was vegetated with lawn grass, European beachgrass, ornamental plants, and young shore pine trees (Appendix A).

2.1 The history of the site and surrounding areas, such as previous riprap or dune grading permits, erosion events, exposed trees on the beach, or other relevant local knowledge of the site.

According to Tillamook County records, the existing two-story home at the site was built in 1991. The west side of the existing house is approximately 40 feet east of the top of the revetment. An approximately 2-foot diameter culvert daylight through the riprap revetment near the northwest corner of the site.

Based on our review of historical aerial imagery, prior to the residential development, the area of the site was occupied by a dune complex. Reportedly, the area of the site was subject to past grading and fill placement.

The site is located on loose dune sand that is easily eroded by ocean wave activity and wind when devoid of vegetation. During the winters of 1998, 1999, 2000, and 2001 severe storms resulted in substantial ocean wave erosion, which removed active dunes present west of the subject lot and eroded the western part of the dune on which the property lies. As reported by local residents, up to 10 feet of erosion has been observed during a single storm event. Ocean wave erosion has also resulted in the lowering of the beach elevation by several feet, allowing higher energy waves to impact the dune. The increase in ocean wave erosion observed along much of the Oregon Coast in the recent past is a consequence of the mid- to late 1990s El Niño/La Niña events, which altered ocean currents and transported much of the beach sand offshore. There has been some rebuilding of the beach in the last few years, but this has been a slow process. As a result, nearly all of Neskowin's oceanfront residences have had oceanfront protection installed. In the area of this site, the oceanfront has been protected with riprap revetments for hundreds of feet to the north and south.

Severe storms in the winter of 2007–2008 partly undermined many of the revetments in the Neskowin area. However, the riprap revetments significantly reduce the potential for erosion when maintained and repaired as necessary.

At the time of our site visit, numerous tree stumps were exposed on the beach (Appendix A). Locally referred to as the “Neskowin Ghost Forest,” the tree stumps are the remnants of an approximately 2000-year-old Sitka Spruce forest (Hart and Peterson, 1997).

2.2 Topography, including elevations and slopes on the property itself.

The site is located on a younger stabilized dune that has been modified by past development and construction of a revetment. Elevations on the site range from approximately 6 to 28 feet (NAVD 88) along the western portion of the property to approximately 23 feet (NAVD 88) along the eastern portion of the property. The site slopes gently to the east at approximately 2 to 5 degrees (Figures 3 and 4; Appendix A).

The riprap revetment west of the site generally slopes down to the beach at approximately 30 degrees (Figures 3 and 4; Appendix A).

2.3 Vegetation cover.

At the time of our site visit, the site was vegetated with lawn grass, ornamental plants, European beachgrass, salal, ferns, and young shore pine trees (Appendix A).

2.4 Subsurface materials – the nature of the rocks and soils.

Subsurface exploration was completed by advancing four hand-augered borings to depths up to approximately 1.25 feet below the ground surface (bgs) in the area for the proposed addition. The borings generally encountered refusal on gravel fill. Subsurface materials are discussed in detail in Section 4.1.

2.5 Conditions of the seaward front of the property, particularly for sites having a sea cliff.

The seaward front of the property is located at the crest of a younger vegetated dune. The dune crest was densely vegetated with European beachgrass and beach pea, and the seaward slope is protected by a riprap revetment. The riprap revetment appeared to be in generally good condition. The quality of the single armor stone layer used for the construction of the revetment was variable and consisted of a mixture of highly fractured basalt breccia, occasional sandstone, and relatively unfractured basalt (Appendix A). Additional observations are addressed and illustrated in Section 3.0 and Appendix A.

2.6 Presence of drift logs or other flotsam on or within the property.

At the time of our site visit, we did not observe any drift logs or flotsam on or within the property or on the beach to the west of the property.

2.7 Description of streams or other drainage that might influence erosion or locally reduce the level of the beach.

Neskowin Creek discharges onto the beach approximately 1,700 feet north of the site (Figure 1). Historical satellite imagery from Google Earth indicates that although Neskowin Creek's stream channel meanders approximately 500 feet north and south on the beach, the stream generally enters the ocean near the east side of Proposal Rock and does not typically appear to influence the level of the beach fronting the site.

2.8 Proximity of nearby headlands that might block the long shore movement of beach sediments, thereby affecting the level of the beach in front of the property.

The site is located approximately 600 feet north of the Cascade Head headlands and approximately 8.4 miles south of Cape Kiwanda. Ocean current interaction with the northern extent of the Cascade Head headland generally removes sand along the beach fronting the site and reduces the level of the beach.

Proposal Rock is located approximately 1,500 feet north of the site and does not appear to affect the subject site substantially.

2.9 Description of any shore protection structures that may exist on the property or on nearby properties.

An existing riprap revetment is present on the western portion of the subject site and is connected to other oceanfront revetments, which extend for hundreds of feet to the north and south along Neskowin Beach.

2.10 Presence of pathways or stairs from the property to the beach.

An improved pathway or stairs is not present from the eastern portion of the site to the beach. However, the properties to the north and south have stairs integrated into their revetments.

2.11 Existing human impacts on the site, particularly any that might alter the resistance to wave attack.

Human impacts are not contributing to the alteration of the resistance of the riprap revetment to wave attack at this site.

3.0 Description of the Fronting Beach

Neskowin Beach fronts the site to the west. Detailed descriptions of the characteristics of the beach are provided below.

3.1 Average widths of the beach during the summer and winter.

The beach at the site has a highly variable width, which is primarily dependent upon tide levels, and it tends to be narrower in the winter than in the summer. Although the beach can be more than 300 feet wide, at high tide, there is often no walkable beach. The beach here is very dynamic and changes morphology frequently, primarily due to rip current formation.

3.2 Median grain size of beach sediment.

During our site visit, we observed fine-grained to medium-grained beach sand.

3.3 Average beach slopes during the summer and winter.

Beach slopes vary from approximately 2 to 5 degrees depending upon recent accretion or erosion. The beaches tend to be flatter in the summer.

3.4 Elevations above mean sea level of the beach at the seaward edge of the property during summer and winter.

Lidar data from 2016 shows the junction between the beach and the revetment was at an elevation of approximately 8 feet (NAVD 88) (Figures 3 and 4). Allan and Hart (2005) surveyed the elevation of the beach/dune junction in 1997, 1998, and 2002 at approximately 20 feet, 14 feet, and 16 feet, respectively. Winter elevations primarily depend on beach profiles formed by storm conditions.

3.5 Presence of rip currents and rip embayments that can locally reduce the elevation of the fronting beach.

Rip currents and rip current embayments commonly contribute to erosion along the oceanfront in Neskowin. Narrow beaches and near-shore relatively deep water conditions contribute to rip current and rip current embayment formation.

During our site visit, we did not observe any rip current embayments in the area of the site; however, rip currents and rip current embayments have developed immediately west of the site, as seen in historical satellite imagery.

3.6 Presence of rock outcrops and sea stacks, both offshore and within the beach zone.

Proposal Rock is located approximately 1,500 feet north of the site.

3.7 Information regarding the depth of beach sand down to bedrock at the seaward edge of the property.

Based on our experience with Neskowin sites in the vicinity, we estimate that bedrock lies more than 20 feet below the beach level.

4.0 Geologic Hazards Analysis

Our geologic hazards analysis is presented below.

4.1 Subsurface Materials

The site lies in an area that has been mapped as Pleistocene beach sand (Schlicker et al., 1972). Neskowin lies on a large dune complex, which is approximately 4 miles long, north to south, and extends from the coastline east to the base of the hills. This dune complex consists of numerous individual dunes, which vary in age and stability. The area of the site has been mapped as a younger stabilized dune (open dune sand conditionally stable), which is a dune that has become conditionally stable regarding wind erosion (USDA et al., 1975). The dune consists of tan, loose, fine-grained sand with a very thin, poorly developed topsoil. Based on our review of stereo pairs of aerial photographs, prior to 1953, active dunes had been present in the area of the site but have become increasingly vegetated as development in the area progressed. Schlicker et al. (1972) also mapped the area of the site as an area of high groundwater. Snively et al. (1996) mapped the area of the site as Quaternary alluvial deposits with Quaternary beach sand west of the site.

At the time of our April 19, 2021 site visit, we completed subsurface exploration with four hand-augered borings logged by a geologist from our office who visually classified the soils encountered according to the Unified Soil Classification System (USCS) as follows:

B-1	<u>Depth (ft.)</u>	<u>USCS</u>	<u>Description</u>
	0 – 0.33	ML (FILL)	Sandy SILT FILL; brown, dry, loose.
	0.33 – 0.75	SP (FILL)	Silty SAND FILL; light brown, dry, loose.
	0.75 – 1.25	GP (FILL)	GRAVEL FILL; dark grey, dry, dense, compacted basalt fragments up to 2” diameter. Refusal on rock fragments at approximately 1.25 feet. Free groundwater was not encountered.

B-2	<u>Depth (ft.)</u>	<u>USCS</u>	<u>Description</u>
	0 – 0.33	ML (FILL)	Sandy SILT FILL; brown, dry, loose.
	0.33 – 1.0	SP (FILL)	Silty SAND FILL; light brown, dry, loose. Refusal on rock fragments at approximately 1.0 feet. Free groundwater was not encountered.
B-3	<u>Depth (ft.)</u>	<u>USCS</u>	<u>Description</u>
	0 – 0.33	ML (FILL)	Sandy SILT FILL; brown, dry, loose.
	0.33 – 1.0	SP (FILL)	Silty SAND FILL; light brown, dry, loose.
	1.0 – 1.33	GP (FILL)	GRAVEL FILL; dark grey, dry, dense, compacted basalt fragments up to 4” diameter. Refusal on rock fragments at approximately 1.25 feet. Free groundwater was not encountered.
B-4	<u>Depth (ft.)</u>	<u>USCS</u>	<u>Description</u>
	0 – 0.25	PT (FILL)	Bark Chips (Landscaping)
	0.33 – 1.0	SP (FILL)	Silty SAND FILL; light brown, dry, loose. Refusal on rock fragments at approximately 1.0 feet. Free groundwater was not encountered.

The borings generally encountered approximately 1 foot of tan, loose, fill dune sand before meeting refusal in gravel fill. During our site visit, we observed excavations in the crawlspace that exposed 4 to 5 feet of dry, loose, dune sand below the existing grade.

4.2 Structure

Structural deformation and faulting along the Oregon Coast is dominated by the Cascadia Subduction Zone (CSZ), which is a convergent plate boundary extending for approximately 680 miles from northern Vancouver Island to northern California. This convergent plate boundary is defined by the subduction of the Juan de Fuca plate beneath the North America Plate and forms an offshore north-south trench approximately 60 miles west of the Oregon coast shoreline. A resulting deformation front consisting of north-south oriented reverse faults is present along the western edge of an accretionary wedge east of the trench, and a zone of margin-oblique folding and faulting extends from the trench to the Oregon Coast (Geomatrix, 1995).

A northwest-trending strike-slip fault is mapped near the site, extending from Proposal Rock to the southeast approximately 4 miles (Snively et al., 1996). Based on mapping, the fault appears to offset middle Tertiary geologic units.

An unnamed offshore fault is mapped approximately 10 miles west of the site (Personius et al., 2003). The fault is part of a mapped group of left- and right-lateral strike-slip, normal, and reverse faults which offset accretionary wedge sediments underlying the continental shelf and slope in the forearc of the Cascadia Subduction Zone; some of the faults in this group also offset the overlying sedimentary section and underlying oceanic basalts of the subducting Juan de Fuca Plate (Personius et al., 2003). Most of the offshore faults in this group have strikes oblique to the Cascadia deformation front, suggesting a strong lateral component of slip. No detailed information on the ages of faulted deposits has been published, but similar offshore structures offset late Pleistocene and Holocene sediments (Personius et al., 2003). An offshore thrust fault is also mapped approximately 3 miles west of the site (Personius et al., 2003).

The nearest mapped potentially active faults are located in the Tillamook Bay fault zone approximately 30 miles north of the site, which are northwest-striking faults that offset the Eocene Tillamook Volcanics on the west flank of the Coast Range. No displacements in Quaternary deposits have been documented, but the fault zone parallels the mountain front that controls the northeastern margin of Tillamook Bay and thus has geomorphic expression consistent with Quaternary displacement (Personius et al., 2003).

4.3 Slopes

Slopes are discussed in detail in Section 2.2 above.

4.4 Orientation of Bedding Planes in Relation to the Dip of the Surface Slope

The site lies in an area mapped as dune sands and Quaternary alluvium, which have beds of varying dip related to the surface slope. The underlying Basalt of Cascade Head has been mapped as dipping down to the north-northwest from 30 to 45 degrees (Snively et al., 1996). Grades at the subject site are primarily related to past grading and fill activities rather than the orientation of underlying units.

4.5 Site Surface Water Drainage Patterns

Stormwater at the site generally infiltrates into the sandy soils and flows to the west. At the time of our site visit, we observed no streams at or in the immediate vicinity of the site. The nearest stream is a small tributary of Neskowin Creek, located approximately 700 feet east of the site. Neskowin creek discharges onto the beach approximately 1,700 feet north of the site (Figure 1).

4.6 Dune Stability and Erosion

The site is located in an area of loose dune sand, which is easily eroded by ocean wave activity, and wind when devoid of vegetation. During the winters of 1998, 1999, 2000, and 2001 severe storms resulted in substantial ocean wave erosion, which removed active dunes present west of the subject lot and eroded the western part of the dune on which the

property lies. As reported by local residents, up to 10 feet of erosion has been observed during a single storm event. Ocean wave erosion has also resulted in the lowering of the beach elevation by several feet, allowing higher energy waves to impact the western dune edge. The increase in ocean wave erosion observed along much of the Oregon Coast in the recent past is a consequence of the mid- to late 1990s El Niño/La Niña events, which altered ocean currents and transported much of the beach sand offshore. There has been some rebuilding of the beach in the last few years, but this has been a slow process. As a result, nearly all of Neskowin's oceanfront residences have had oceanfront protection installed. In the area of this site, the oceanfront has been protected with riprap revetments for hundreds of feet to the north and south.

The existing revetment located on the western portion of the subject site slopes down to the beach at approximately 30 degrees and consists of angular basalt boulders approximately 4 to 6 feet diameter on its lower portion and approximately 3 to 5 feet diameter on the upper portion (Figure 3; Appendix A). Severe storms in the winter of 2007–2008 partly undermined the revetments in areas located along Neskowin Beach. The riprap revetment greatly reduces the potential for erosion when maintained and repaired as necessary.

The eastern portion of the subject site, including the existing house and area of the proposed addition, is mapped in a zone of high coastal erosion hazard, with the beach and revetment area on the western portion of the site mapped in the very high (active) coastal erosion hazard zone (Allan and Priest, 2001). The very high (active) coastal erosion hazard zone is defined as an area that is being actively eroded by ocean waves and the mass movements directly caused by wave action. The high coastal erosion hazard zone is defined as an area having a high probability that it could be affected by active erosion in the next ~ 60 to 100 years (Allan and Priest, 2001). It should be noted that mapping done for the 2001 study was intended for regional planning use, not for site-specific hazard identification.

The site is also mapped in an area of low to high landslide hazard susceptibility based on the DOGAMI methodology (Burns, Mickelson, and Madin, 2016). Based on our field observations, the risk of landsliding at the site is low under static conditions.

4.7 Regional Seismic Hazards

Abundant evidence indicates that a series of geologically recent large earthquakes related to the Cascadia Subduction Zone have occurred along the coastline of the Pacific Northwest. Evidence suggests that more than 40 great earthquakes of magnitude 8 and larger have struck western Oregon during the last 10,000 years. The calculated odds that a Cascadia earthquake will occur in the next 50 years range from 7–15 percent for a great earthquake affecting the entire Pacific Northwest, to about a 37 percent chance that the southern end of the Cascadia Subduction Zone will produce a major earthquake in the

next 50 years (OSSPAC, 2013; OSU News and Research Communications, 2010; Goldfinger et al., 2012). Evidence suggests the last major earthquake occurred on January 26, 1700, and may have been of magnitude 8.9 to 9.0 (Clague et al., 2000).

There is now increasing recognition that great earthquakes do not necessarily result in a complete rupture along the full 1,200 km fault length of the Cascadia subduction zone. Evidence in the paleorecords indicates that partial ruptures of the plate boundary have occurred due to smaller earthquakes with moment magnitudes (M_w) < 9 (Witter et al., 2003; Kelsey et al., 2005). These partial segment ruptures appear to occur more frequently on the southern Oregon coast, as determined from paleotsunami studies. Furthermore, the records have documented that local tsunamis from Cascadia earthquakes recur in clusters (~250–400 years) followed by gaps of 700–1,300 years, with the higher tsunamis associated with earthquakes occurring at the beginning and end of a cluster (Allan et al., 2015).

These major earthquake events were accompanied by widespread subsidence of a few centimeters to 1–2 meters (Leonard et al., 2004). Tsunamis appear to have been associated with many of these earthquakes. In addition, settlement, liquefaction, and landsliding of some earth materials are believed to have been commonly associated with these seismic events.

Other earthquakes related to shallow crustal movements or earthquakes related to the Juan de Fuca plate have the potential to generate magnitude 6.0 to 7.5 earthquakes. The recurrence interval for these types of earthquakes is difficult to determine from present data, but estimates of 100 to 200 years have been given in the literature (Rogers et al., 1996).

Liquefaction and Settlement

Liquefaction occurs when saturated, cohesionless soils are subjected to ground vibrations, resulting in a decrease in the volume of the soil. If drainage is unable to occur, the tendency to decrease in volume results in an increase in pore water pressure, and if the pore water pressure builds up to the point at which it is equal to the overburden pressure, the effective stress becomes zero, and the soil loses its strength and develops a liquefied state. Liquefaction is most common in saturated, loose, granular soils, sand or silty sand materials. Cohesive soils, such as clayey silt and clay, will generally not liquefy during earthquakes. Older sediments are also more resistant to liquefaction than recently deposited sediments (Idris and Boulanger, 2008).

DOGAMI's HazVu website (<https://gis.dogami.oregon.gov/maps/hazvu/>) has mapped the area of the site as having a moderate susceptibility to liquefaction. DOGAMI states: "Buildings and infrastructure sitting on these [liquefiable] soils are likely to be severely damaged in an earthquake."

Settlement can be the result of liquefaction of saturated soils or simply a result of dry soil densifying under vibration (volumetric compression). Volumetric compression during an earthquake results from vibrations of the soil, which causes soil particles to settle into a denser state, decreasing the volume of the soil. The degree of settlement is primarily dependent upon the initial density of the soil and the magnitude and duration of ground vibration (shaking). The settlement caused by liquefaction is commonly differential, and the magnitude of settlement typically varies throughout a site, whereas settlement caused by volumetric compression tends to be more uniform.

4.8 Flooding Hazards

Based on the 2018 Flood Insurance Rate Map (FIRM, Panel #41057C1005F), the site east of the riprap revetment lies in an area rated as Zone X, which is defined as an area of minimal flood hazard. The riprap revetment and beach west of the site lies in an area rated as Zone VE (EL 27.3 Feet), which is defined as a coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

Although the area east of the site lies in an area rated Zone X, the top of the riprap revetment and eastern portion of the site lies at elevations of approximately 25 to 28 feet. The revetment may be subject to wave overtopping during severe storm events.

Based on the Oregon Department of Geology and Mineral Industries mapping (DOGAMI, 2012), the subject site lies within the tsunami inundation zone resulting from an approximately 8.7 and greater magnitude Cascadia Subduction Zone (CSZ) earthquake. The 2012 DOGAMI mapping is based upon five computer-modeled scenarios for shoreline tsunami inundation caused by potential CSZ earthquake events ranging in magnitude from approximately 8.7 to 9.1. The January 1700 earthquake event (discussed in Section 4.7 above) has been rated as an approximate 8.9 magnitude in DOGAMI's methodology. More distant earthquake source zones can also generate tsunamis.

4.9 Climate Change

According to most recent scientific studies, the Earth's climate is changing due to human activities, which are altering the chemical composition of the atmosphere through the buildup of greenhouse gases, primarily carbon dioxide, methane, nitrous oxide, and chlorofluorocarbons (EPA, 1998). Although there are uncertainties about exactly how the Earth's climate will respond to enhanced concentrations of greenhouse gases, scientific observations indicate that detectable changes are underway (EPA, 1998; Church and White, 2006). Global sea level rise, caused by melting polar ice caps and ocean thermal expansion, could lead to flooding of low-lying coastal property, loss of coastal wetlands, erosion of beaches and bluffs, and saltwater contamination of drinking water. Global climate change and the resultant sea level rise will likely impact the subject site through accelerated coastal erosion and more frequent and severe flooding. It

can also lead to increased rainfall, which can result in an increase in landslide occurrence in the area.

4.10 Analyses of Erosion and Flooding Potential

4.10.1 Analysis of DOGAMI beach monitoring data available for the site (if available).

DOGAMI beach monitoring data has been collected for Neskowin beach, approximately 3000 feet north of the site, regularly since 1997. Following the winter storms of 1998-99 and construction of the revetments along the beach, beach elevations have varied by several feet from minimum to maximum over the monitored period of 1997 to 2021; however, the riprap revetments have prevented any shoreline change at the 6 meter (~20 ft) elevation contour (Allan and Hart, 2005; Allan and Hart, 2007; Allan and Hart, 2008; Allan et al., 2015; NANOOS, accessed May 2021).

4.10.2 Analysis of human activities affecting shoreline erosion.

We did not observe any human activities along the dune that are affecting the shoreline erosion. See Section 2.11 above.

4.10.3 Analysis of possible mass wasting, including weathering processes, landsliding, or slumping.

The erosive processes affecting the site are discussed in detail in Section 4.6 (above).

4.10.4 Calculation of wave run-up beyond mean water elevation that might result in erosion of the sea cliff or foredune.

Coastal erosion rates and hazard zones (as referenced in Allan and Priest, 2001) were presented in Section 4.6 Dune Stability and Erosion (above). In the dune-backed shoreline recession methodology applicable to the subject site, the total water level produced by the combined effect of wave runup plus the tidal elevation must exceed some critical elevation of the fronting beach, typically the elevation of the beach-dune junction. Wave runup elevation can change with many variables such as changing beach elevations, presence of transient dunes, etc. The dune is protected by the riprap revetment at the subject site, and this shoreline recession methodology is not appropriate for the site.

4.10.5 Evaluation of frequency that erosion-inducing processes could occur, considering the most extreme potential conditions of unusually high-water levels together with severe storm wave energy.

On this stretch of dune-backed shoreline, erosion-inducing processes are daily in the form of constant wave attack. High water levels and severe storms can cause rip currents, which have the potential to undermine the revetment at the site.

4.10.6 For dune-backed shoreline, use an established geometric model to assess the potential distance of property erosion, and compare the results with direct evidence obtained during site visit, aerial photo analysis, or analysis of DOGAMI beach monitoring data.

Not applicable to the subject site or nearby area, which is a dune-backed shoreline that has been extensively riprapped; see Sections 4.10.1 and 4.10.4 (above).

4.10.7 For bluff-backed shoreline, use a combination of published reports, such as DOGAMI bluff and dune hazard risk zone studies, aerial photo analysis, and fieldwork, to assess the potential distance of property erosion.

Not applicable to the subject site, which lies in a riprap revetment protected dune-backed shoreline area.

4.10.8 Description of potential for sea level rise, estimated for local area by combining local tectonic subsidence or uplift with global rates of predicted sea level rise.

Based on data from NOAA monitoring stations at South Beach and Garibaldi collected from 1970 to 2020, this general area of Oregon's coastline has a sea level rise of approximately 2.13 mm/year, which includes the combined effects of global rates of sea level rise and landmass elevation changes (NOAA Tides & Currents Sea Level Trends <http://tidesandcurrents.noaa.gov/sltrends/>). Additional observations are addressed in Section 4.9 of this report.

4.11 Assessment of Potential Reactions to Erosion episodes.

4.11.1 Determination of legal restrictions of shoreline protective structures (Goal 18 prohibition, local conditional use requirements, priority for non-structural erosion control methods).

As previously noted, riprap revetments are present at the western portion of the subject site and for hundreds of feet to the north and south in this oceanfront area of

Neskowin. Lots were generally ‘developed’ on January 1, 1977; however, this is a legal issue that can have varying interpretations. Most lots in this area, including the subject site, generally meet Oregon’s Goal 18 exception requirements to obtain protection when a structure is threatened by erosion.

According to the Ocean Shores Viewer (<http://www.coastalatlantlas.net/oceanshores/>, Accessed May 2021), the subject site appears to be Goal 18 eligible due to an exception for an oceanfront protective structure.

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

Residential development recommendations for the proposed addition, including erosion control and foundation design recommendations, are presented in Section 5. The potential to move the house and the proposed attached addition will be dependent upon design.

5.0 Development Standards and Recommendations

The main engineering geologic concerns at the site are:

1. Undocumented fill several feet thick, or more, is present throughout the site.
2. The site lies in an area mapped as dune sands, which are poorly consolidated and subject to settlement and liquefaction, and ongoing coastal erosion if the revetment is damaged. Inherent risks of seismic hazards, coastal erosion, and future sand movement, including accretion at this site, must be accepted by the owner, future owners, developers, and residents.
3. There is an inherent regional risk of earthquakes along the Oregon Coast, which could cause harm and damage structures. Ground shaking during an earthquake can cause soil consolidation resulting in settlement of the structures, and can cause soils to liquefy, resulting in the loss of bearing capacity and structural damage. The site also lies in a mapped tsunami hazard zone. A tsunami impacting the Neskowin area could cause harm, loss of life, and damage to structures. The hazards associated with tsunami flooding resulting from a significant seismic event cannot be economically mitigated. These risks must be accepted by the owner, future owners, developers, and residents of the site.

Recommendations

During construction, disturbed, dry sands may be blown by winds, resulting in the transport and deposition of sands off-site. Therefore, periodic watering or covering of exposed areas may be required to control blowing sands during windy conditions. Vegetation should be removed only as necessary, and exposed areas should be replanted following construction.

Provided the recommendations presented in this report are incorporated into the design and construction, we believe that the proposed structure will be reasonably protected from the described hazards for the life of the structure except for catastrophic hazards presented by large earthquakes and associated tsunamis.

5.1 Development Density

It is our understanding that an addition to the east side of the existing house is proposed.

5.2 Setback

Based on our site observations, with proper maintenance, the existing riprap revetment will prevent significant dune erosion at the site. However, during severe storm events, the revetment may be overtopped by severe wave swash. We recommend all foundation elements for the new addition be setback a minimum of 40 feet from the top of the revetment. It is our understanding that the addition is proposed to be approximately 85 feet from the top of the revetment, well east of this minimum setback.

5.3 Grading Practices

We recommend the following grading practices:

5.3.1 Site Preparation

All existing loose disturbed soil, fills, and debris should be stripped and removed from building, slab, and driveway areas prior to construction so that new foundations and structural fill materials can rest on dense native sand soils, recompacted fill sands, or imported granular fills. Fills need to be properly moisture conditioned when compacting.

Stripping depths may vary depending on the variable thickness of fill and loose disturbed soil at the site.

5.3.2 Cut and Fill Slopes

Temporary unsupported cut and fill slopes less than 9 feet high should be no steeper than 1.5 horizontal to 1 vertical (1.5H:1V). If temporary slopes greater than 9 feet

high are desired, or if water seepage is encountered in cuts, our firm shall be contacted to provide additional recommendations. Temporary cuts in excess of 4 feet high and steeper than 1.5H:1V will likely require appropriate shoring to provide worker safety. Temporary cuts shall be protected from inclement weather by the use of plastic sheeting to help prevent erosion and/or failure.

Permanent unsupported cut and fill slopes shall be constructed no steeper than 2 horizontal to 1 vertical (2H:1V). Cut slopes steeper than 2H:1V shall be retained with an engineered retaining wall. Fill slopes steeper than 2H:1V shall be retained or be mechanically reinforced using geogrids, or other suitable products as approved by HGSA. Areas that slope steeper than 5H:1V and are to receive fill shall be benched. Benches shall be cut into native, non-organic, dense soil. The lowest bench shall be keyed a minimum of 2 feet into native, firm soil and be a minimum of 6 feet wide.

TEMPORARY AND PERMANENT CUTS	
Temporary Cuts	1.5H:1V (maximum) ^a
Permanent Cuts	2H:1V (maximum) ^a
^a All cuts greater than 9 feet high, or cuts where water seepage is encountered, should be approved by a representative of H.G. Schlicker & Associates, Inc.	

If the cut and fill slope recommendations provided herein cannot be achieved due to construction and/or property line constraints, temporary or permanent retention of cut slopes may be required, as determined by a representative of our firm.

5.3.3 Structural Fill

Structural fills supporting building loads should consist of granular material, free of organics and deleterious materials, and contain no particles greater than 1½ inches in diameter so that nuclear methods (ASTM D2922 & ASTM D3017) can be easily used for field density testing. All areas to receive fill should be stripped of all loose soils, organic soils, organic debris, existing fill, disturbed soils, and construction debris.

Proper test frequency and earthwork documentation usually require daily observation during stripping, rough grading, and placement of structural fill. Field density testing should generally conform to ASTM D2922 and D3017, or D1556. To minimize the number of field and laboratory tests, fill materials should be from a single source and of a consistent character. Structural fill should be approved and periodically observed by HGSA and tested by a qualified testing firm. Test results

will need to be reviewed and approved by HGSA. We recommend that one density test be performed for at least every 18 inches of fill placed and every 200 cubic yards, whichever requires more testing. Because testing is performed on an on-call basis, we recommend that the earthwork contractor schedule the testing. Relatively more testing is typically necessary on smaller projects.

STRUCTURAL FILL	
Compaction Requirements	95% ASTM D1557, compacted in 8-inch lifts maximum, at or near the optimum moisture content.
Benching Requirements ^a	Slopes steeper than 5H:1V that are to receive fill should be benched. Fills should not be placed along slopes steeper than 3H:1V, unless approved by H.G. Schlicker & Associates, Inc.
^a Benches should be cut into native, non-organic, firm soils. Benches should be a minimum of 6 feet wide with side cuts no steeper than 1H:1V and no higher than 6 feet. The lowest bench should be keyed in a minimum of 2 feet into native, non-organic, firm soils.	

5.4 Vegetation Removal and Re-Vegetation Practices

Vegetation should be removed only as necessary, and exposed areas should be replanted following construction. Disturbed ground surfaces exposed during the wet season (November 1 through April 30) should be temporarily planted with grasses or protected with erosion control blankets or hydromulch. Existing vegetation should be left undisturbed as much as possible.

Temporary sediment fences should be installed downslope of any disturbed areas of the site until permanent vegetation cover can be established (Figure 5).

Exposed sloping areas steeper than 3 horizontal to 1 vertical (3H:1V) should be mulched, seeded, and fertilized to provide erosion protection until permanent vegetation can be established. Erosion control blankets should be installed as per the manufacturer’s recommendations.

5.5 Foundation Recommendations

Building loads may be supported on individual and/or continuous spread footings bearing on undisturbed, native, non-organic, firm soils or properly designed and compacted structural fill placed on these soils. All footing areas should be stripped of all organic and loose soils, organic debris, and any existing fills. We anticipate that non-organic, native sandy soils underlying unsuitable fill will be encountered throughout the excavation.

The thickness of fill soils at the site is variable, and the depth to suitable non-organic, native sandy soils is unknown will likely require over-excavation. We recommend that foundation areas be overexcavated and replaced with free draining, ¾ inch minus crushed rock compacted in 8-inch lifts to a minimum density of 95 percent of the Modified Proctor maximum dry density (ASTM D1557), with the exception of the first lift, which can be 12 inches thick and consist of clean, free-draining, pit-run rock compacted to a dense state. Crushed rock fills underlying footings should extend to depths of 2 times the footing width below the footings or a minimum of 4 feet, whichever is greater, and have a width of 2 times the footing width (Figure 5).

Although not required, we recommend mitigation of possible liquefaction hazards during a major earthquake by tying the foundation together and reinforcing foundation elements as per OSSC 2019 1809.13 Footing Seismic Ties.

Footings bearing in undisturbed, native, non-organic, firm soils or properly compacted structural fill placed on these soils may be designed for the following:

ALLOWABLE SOIL BEARING CAPACITIES	
Allowable Dead Plus Live Load Bearing Capacity ^a	1,500 psf
Passive Resistance	150 psf/ft embedment depth
Lateral Sliding Coefficient	0.35
^a Allowable bearing capacity may be increased by one-third for short term wind or seismic loads.	

We recommend that the house be constructed with an elevated floor and crawlspace design. Recommended foundation footing widths and embedment depths are as follows:

MINIMUM FOOTING WIDTHS & EMBEDMENT DEPTHS			
Number of Stories	One	Two	Three
Minimum Footing Width	15 inches	18 inches	20 inches
Minimum Exterior Footing Embedment Depth	18 inches	18 inches	18 inches
Minimum Interior Footing Embedment Depth ^a	6 inches	6 inches	6 inches
^a Interior footings should be embedded a minimum of 6 inches below the lowest adjacent finished grade, or as otherwise recommended by our firm. In general, interior footings placed on sloping or benched ground should be embedded or set back in such a manner as to provide a minimum horizontal distance between the foundation component and face of the slope of one foot per every foot of elevation change.			

5.6 Retaining Wall Recommendations

For static conditions, freestanding retaining walls should be designed for a lateral active earth pressure expressed as an equivalent fluid weight (EFW) of 35 pounds per cubic foot, assuming level backfill behind the wall equal to a distance of at least half the height of the wall. An EFW of 45 pounds per cubic foot should be used, assuming sloping backfill of 2H:1V. At-rest retaining walls should be designed for a lateral at-rest pressure expressed as an EFW of 60 pounds per cubic foot, assuming level backfill behind the wall equal to a distance of at least half of the height of the wall. Walls need to be fully drained to prevent the build-up of hydrostatic pressures.

The EFWs provided herein assume static conditions and no surcharge loads from vehicles or structures. If surcharge loads will be applied to the retaining walls, forces on the walls resulting from these loads will need to be added to the pressures provided herein.

For seismic loading, a unit pseudostatic force equal to 13.5 pcf (H)², where H is the height of the wall in feet, should be added to the static lateral earth pressure. The location of the pseudostatic force can be assumed to act at a distance of 0.6H above the base of the wall.

RETAINING WALL EARTH PRESSURE PARAMETERS	
Static Case, Active Wall (level backfill/grades)	35 psf/linear foot ^a
Static Case, Active Wall (2H:1V backfill/grades)	45 psf/linear foot ^a
Static Case, At-Rest Wall (level backfill/grades)	60 psf/linear foot ^a
Seismic Loading (level backfill/grades)	13.5 pcf (H) ² ^b
^a Earth pressure expressed as an equivalent fluid weight (EFW). The location of the earth pressure can be assumed to act at a distance of 0.33H above the base of the wall. ^b Seismic loading expressed as a pseudostatic force, where H is the height of the wall in feet. The location of the pseudostatic force can be assumed to act at a distance of 0.6H above the base of the wall.	

Backfill for walls should be placed in 8-inch horizontal lifts and machine compacted to 92 percent of the maximum dry density as determined by ASTM D1557. Compaction within 2 feet of the wall should be accomplished with lightweight hand-operated compaction equipment to avoid applying additional lateral pressure on the walls. Drainage of the retaining wall should consist of slotted drains placed at the base of the wall on the backfilled side and backfilled with free-draining crushed rock (less than 5% passing the 200 mesh sieve using a washed sieve method) protected by non-woven filter fabric (Mirafi 140N or equivalent) placed between the native soil and the backfill.

Filter fabric protected free-draining crushed rock should extend to within 2 feet of the ground surface behind the wall, and the filter fabric should be overlapped at the top per the manufacturer's recommendations. All walls should be fully drained to prevent the build-up of hydrostatic pressures. All retaining walls should have a minimum of 2 feet of embedment at the toe or be designed without passive resistance.

5.7 Drainage and Storm Water Management

Surface water should be diverted from building foundations and walls to approved disposal points by grading the ground surface to slope away a minimum of 2 percent for at least 6 feet towards a suitable gravity outlet to prevent ponding near the structures. Permanent subsurface drainage of the building perimeter using footing drains is recommended.

Footing drains should be installed adjacent to the perimeter footings and sloped a minimum of 2 percent to a gravity outlet. A suitable perimeter footing drain system would consist of a 4-inch diameter, perforated PVC pipe (typical) embedded adjacent to the bottom of footings, and backfilled with approved drain rock. The type of pipe to be utilized may depend on building agency requirements and should be verified prior to construction. HGSA also recommends lining the drainage trench excavation with a non-woven geotextile filter such as Mirafi® 140N or equivalent to increase the life of the footing drain and prevent the drain from being clogged by soil. The perimeter drain excavation should be constructed in a manner that prevents undermining of foundation or slab components or any disturbance to supporting soils.

In addition to the perimeter foundation drain system, drainage of any crawlspace areas is required. Each crawlspace should be graded to a low point for installation of a crawlspace drain that is tied into the perimeter footing drain and tightlined to an approved disposal point.

All roof drains should be collected and tightlined in a separate system independent of the footing drains, or an approved backflow prevention device shall be used. All roof and footing drains should be discharged to an approved disposal point. If water will be discharged to the ground surface, we recommend that energy dissipaters, such as splash blocks or a rock apron, be utilized at all pipe outfall locations. Water collected on the site should not be concentrated and discharged to adjacent properties. We recommend that all collected water be tightlined and discharged to the local stormwater system, splash blocks, or the riprap revetment.

5.8 Erosion Control

As detailed above (Section 5.4), vegetation should be removed only as necessary, and exposed areas should be replanted following construction. Disturbed ground surfaces

exposed during the wet season (November 1 through April 30) should be temporarily planted with grasses or protected with erosion control blankets.

A temporary sediment fence should be installed downslope of any disturbed areas of the site until permanent vegetation cover can be established (Figure 6).

As recommended above, exposed sloping areas steeper than 3 horizontal to 1 vertical (3H:1V) should be protected by hydroseeding or the use of rolled erosion control products (RECP's), aka "erosion control blankets," to provide erosion protection until permanent vegetation can be established. Erosion control blankets should be installed as per the manufacturer's recommendations.

Periodic watering of exposed areas may be required during construction to control blowing sands during windy conditions and prevent transport and deposition of disturbed or dry sands off-site.

The riprap revetment should be maintained and repaired as necessary to ensure its continued performance in reducing the potential for erosion at the site.

5.9 Flooding Considerations

Provided that all drainage recommendations detailed in this report are adhered to during design and construction, we do not anticipate localized flooding hazards at the site.

5.10 Seismic Considerations

The structure and all structural elements should be designed to meet current Oregon Residential Specialty Code (ORSC) seismic requirements. Based on our knowledge of subsurface conditions at the site and our analysis using the guidelines recommended in the ORSC, the structure should be designed to meet the following seismic parameters:

SEISMIC DESIGN PARAMETERS	
Site Class	D
Seismic Design Category	D ₂
Mapped Spectral Response Acceleration for Short Periods	S _S = 1.298 g
Site Coefficients	F _a = 1.200 F _v = 1.700
Design Spectral Response Acceleration at Short Periods	S _{DS} = 1.038 g

5.11 Plan Review and Construction Observations

Prior to construction, we should be provided the opportunity to review all site development, foundation, drainage, erosion control, and grading plans to assure conformance with the intent of our recommendations (Appendix B). All site plans, details, and specifications should clearly show that the above recommendations have been implemented into the design.

A representative of HGSA should observe all footing and slab excavations prior to placing structural fill, and/or forming and pouring concrete to assure that suitable bearing materials have been reached (Appendix B). Please provide us with at least 5 (five) days' notice prior to any needed site observations. There will be additional costs for these services.

5.12 Worker Safety

All construction activities should be completed in accordance with OSHA standards and all State and local laws, rules, regulations, and codes.

6.0 Summary Findings and Conclusions

HGSA certifies that all applicable content requirements of Tillamook County Land Use Ordinance Section 3.570(5) have been addressed above, and it is the undersigned engineering geologist's professional opinion that the proposed development will be within the acceptable level of risk established by the community, considering the site conditions and the above recommendations.

Our summary findings and conclusions are presented below:

6.1 Proposed Use

The proposed project consists of constructing an addition to the existing home on the eastern portion of the site. No adverse impacts are anticipated to occur on adjacent lots as a result of the development of this site, provided that the recommendations detailed in this report are adhered to. The proposed location of the addition, east of the existing house, is within the area with the least exposure to risk from coastal hazards at the site.

6.2 Hazards to Life, Property, and the Environment

Geologic hazards to life, property, and the environment associated with this proposed use include stormwater erosion, ocean wave erosion, seismic hazards, and possibly landsliding. Recommendations for mitigation of erosion and seismic hazards have been incorporated into this report. Please note that the risk of these hazards is inherent with development and construction in this part of Neskowin and must be assumed by the owner, future owners, developers, and residents.

6.3 Off-Site Protection

Adverse effects of this development on surrounding areas will be minimized when all the stormwater, foundation, vegetation, and erosion control recommendations detailed in this report are adhered to.

6.4 Stabilization Programs

Stabilization programs for this site include vegetation and erosion stabilization as addressed in Sections 5.4 and 5.8 of this report, surface water collection as addressed in Section 5.7 of this report, and maintenance of the riprap revetment as addressed in Section 5.8 of this report.

6.5 Conclusions Regarding Hazards and Adverse Environmental Effects

Adverse environmental effects will be minimized by following the recommendations detailed in this report during the design and construction of the proposed project.

6.6 Recommendations for Further Work

Assuming all the recommendations above are adhered to, no additional investigation or analysis is required by our firm other than review of site development plans, and observation of foundation excavations as detailed in Section 5.11 and Appendix B of this report.

7.0 Additional Services

Design Review

This report pertains to a specific site and development. It is not applicable to adjacent sites, nor is it valid for types of development other than that to which it refers. Any variation from the site or development plans necessitates a geotechnical review in order to determine the validity of the design concepts evolved herein.

HGSA's review of final plans and specifications is necessary to determine whether the recommendations detailed in this report for the site have been properly interpreted and incorporated in the design and construction documents. At the completion of our review, we will issue a letter of conformance to the client for the plans and specifications.

Construction Monitoring

Because of the judgmental character of geotechnics, as well as the potential for adverse circumstances arising from construction activity, observations during site preparation, excavation, and construction will need to be carried out by a representative of HGSA or our

designate. These observations may then serve as a basis for confirmation and/or alteration of geotechnical recommendations or design guidelines presented herein to the benefit of the project. Field observations become increasingly important should earthwork proceed during adverse weather conditions.

8.0 Limitations

The Oregon Coast is a dynamic environment with inherent unavoidable risks to development. Landsliding, erosion, tsunamis, storms, earthquakes, and other natural events can cause severe impacts to structures built within this environment and can be detrimental to the health and welfare of those who choose to place themselves within this environment. The client is warned that, although this report is intended to identify the geologic hazards causing these risks, the scientific and engineering communities' knowledge and understanding of geologic hazards processes are not complete.

Our investigation was based on engineering geological reconnaissance, limited review of published information, and our subsurface exploration and analyses. The data presented in this report are believed to be representative of the site. The conclusions herein are professional opinions derived in accordance with current standards of professional practice and budget constraints. No warranty is expressed or implied. The performance of the site during a seismic event has not been evaluated. If you would like us to do so, please contact us.

The boring logs and related information depict generalized subsurface conditions only at these specific locations, and at the particular time the subsurface exploration was completed. Soil, rock, and groundwater conditions at other locations may differ from the conditions at these boring locations. Also, the passage of time may result in a change in the soil and groundwater conditions at the site.

This report pertains to the subject site only and is not applicable to adjacent sites, nor is it valid for types of development other than that to which it refers. Geologic conditions, including materials, processes, and rates, can change with time, and therefore, a review of the site and/or this report may be necessary as time passes to assure its accuracy and adequacy. This report may only be copied in its entirety.

9.0 Disclosure

H.G. Schlicker & Associates, Inc. and the undersigned Certified Engineering Geologist have no financial interest in the subject site, the project, or the Client's organization.

10.0 References Cited

- Allan, J. C. and Hart, R., 2005, A geographical information system (GIS) data set of beach morphodynamics derived from 1997, 1998, and 2002 LIDAR data for the central to northern Oregon coast: Technical Report to the Oregon Department of Land Conservation and Development: Oregon Department of Geology and Mineral Industries, Open-File Report O-05-09, 16 pages.
- Allan, J. C., and Hart, R., 2007, Assessing the temporal and spatial variability of coastal change in the Neskowin littoral cell: developing a comprehensive monitoring program for Oregon beaches: Technical Report to the Oregon Department of Land Conservation and Development: Oregon Department of Geology and Mineral Industries, Open-File Report O-07-01, 27 pages.
- Allan, J.C., and Hart, R., 2008, Oregon beach and shoreline mapping and analysis program: 2007-2008 beach monitoring report: Oregon Department of Geology and Mineral Industries Open file report O-08-15, 60 p.
- Allan, J.C., Ruggiero, P., Garcia, G., O'Brien, F. E., Stimely, L. L., and Roberts, J. T., 2015, Coastal Flood Hazard Study, Tillamook County, Oregon: Oregon Department of Geology and Mineral Industries Special Paper 47, 274 p.
- Allan, J. C., and Priest, G. R., 2001, Evaluation of coastal erosion hazard zones along dune and bluff backed shorelines in Tillamook County, Oregon: Cascade Head to Cape Falcon: Oregon Department of Geology and Mineral Industries, Open-File Report O-01-03, 126p., maps.
- Burns, W. J., Mickelson, K. A., and Madin, I. P., 2016, Landslide susceptibility overview map of Oregon: Oregon Department of Geology and Mineral Industries, Open-File Report O-16-02, 48 p., 1 plate.
- Church, J. A., and White, N. J., 2006, A 20th century acceleration in global sea-level rise; Geophysical Research Letters, v. 22, LO1601, 4 p.
- Clague, J. J., Atwater, B. F., Wang, K., Wang, Y., and Wong, I., 2000, Penrose Conference 2000 - Great Cascadia Earthquake Tricentennial, Programs Summary and Abstracts: Oregon Department of Geology and Mineral Industries, Special Paper 33, 156 p.
- DOGAMI, 2012, Tsunami inundation maps for Neskowin, Tillamook County, Oregon: Oregon Department of Geology and Mineral Industries, TIM-Till-14, maps.
- EPA, 1998, Climate Change and Oregon: Environmental Protection Agency, EPA 236-98-007u, 4 p.
- Geomatrix Consultants, 1995, Seismic design mapping, State of Oregon, final report: Prepared for the Oregon Department of Transportation, Project No. 2442.

- Goldfinger, C., Nelson, C. H., Morey, A. E., Johnson, J. E., Patton, J. R., Karabanov, E., Gutiérrez-Pastor, J., Eriksson, A. T., Gràcia, E., Dunhill, G., Enkin, R. J., Dallimore, A., and Vallier, T., 2012, Turbidite event history—Methods and implications for Holocene paleoseismicity of the Cascadia subduction zone: U.S. Geological Survey Professional Paper 1661–F, 170 p.
- Hart, R., and Peterson, C., 1978, Episodically Buried Forests in the Oregon Surf Zone; *Oregon Geology*, v. 59, number 6, November/December 1997.
- Idris, I. M., and Boulanger, R. W., 2008, Soil Liquefaction During Earthquakes: Earthquake Engineering Research Institute, 243 p.
- Kelsey, H. M., Nelson, A. R., Hemphill-Haley, E., and Witter, R. C., 2005, Tsunami history of an Oregon coastal lake reveals a 4600 yr record of great earthquakes on the Cascadia subduction zone: *Geological Society of America Bulletin*, v. 117, no. 7/8, p. 1009-1032.
- Leonard, L. J., Hyndman, R. D., and Mazzotti, S., 2004, Coseismic subsidence in the 1700 great Cascadia earthquake: Coastal estimates versus elastic dislocation models: *Geological Society of America Bulletin*, May/June 2004, v. 116, no. 5/6, pp. 655–670.
- NANOOS, Beach Monitoring Data, <http://nvs.nanoos.org/BeachMapping>, Oct 1997 to April 2021
- Oregon Seismic Safety Policy Advisory Commission (OSSPAC), February 2013, The Oregon Resilience Plan: Reducing Risk and Improving Recovery for the Next Cascadia Earthquake and Tsunami—Report to the 77th Legislative Assembly: State of Oregon Office of Emergency Management, 341 p.
- OSU News and Research Communications, May 24, 2010, Odds are 1-in-3 that a huge quake will hit Northwest in next 50 years: Oregon State University, Corvallis <http://oregonstate.edu/ua/ncs/archives/2010/may/odds-huge-quake-Northwest-next-50-years>
- Personius, S. F., Dart, R. L., Bradley, L-A, Haller, K. M., 2003, Map and data for Quaternary faults and folds in Oregon: U.S. Geological Survey, Open-File Report 03-095, 556 p., map.
- Rogers, A. M., Walsh, T. J., Kockelman, J., and Priest, G. R., 1996, Earthquake hazards in the Pacific Northwest - an overview: U.S. Geological Survey, Professional Paper 1560, p. 1- 54.
- Schlicker, H. G., Deacon, R. J., Beaulieu, J. D., and Olcott, G. W., 1972, Environmental geology of the coastal region of Tillamook and Clatsop Counties, Oregon: Oregon Department of Geology and Mineral Industries, Bulletin 74, 164 p., maps.
- Snavely, P. D., Niem, A., Wang, F. L., MacLeod, N. S., and Calhoun, T. K., 1996, Geologic map of the Cascade Head Area, Northwestern Oregon Coast Range (Neskowin, Nestucca Bay, Hebo, and Dolph 7.5 minute Quadrangles): U.S. Geological Survey, Open-File Report 96-0534, 16 p., maps.

USDA Soil Conservation Service, and Oregon Coastal Conservation and Development Commission, 1975, Beaches and dunes of the Oregon Coast: 161 p.

Witter, R. C., Kelsey, H. M., and Hemphill-Haley, E., 2003, Great Cascadia earthquakes and tsunamis of the past 6700 years, Coquille River estuary, southern coastal Oregon: Geological Society of America Bulletin, v. 115, p. 1289-1306.

It has been our pleasure to serve you. If you have any questions concerning this report or the site, please contact us.

Respectfully submitted,

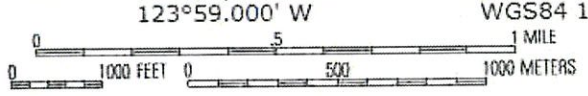
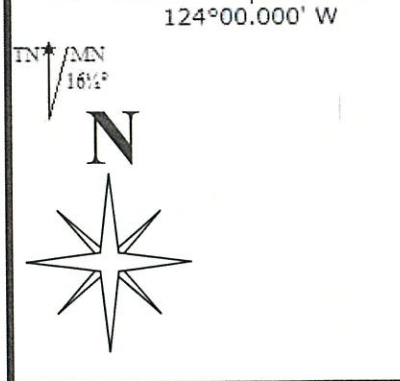
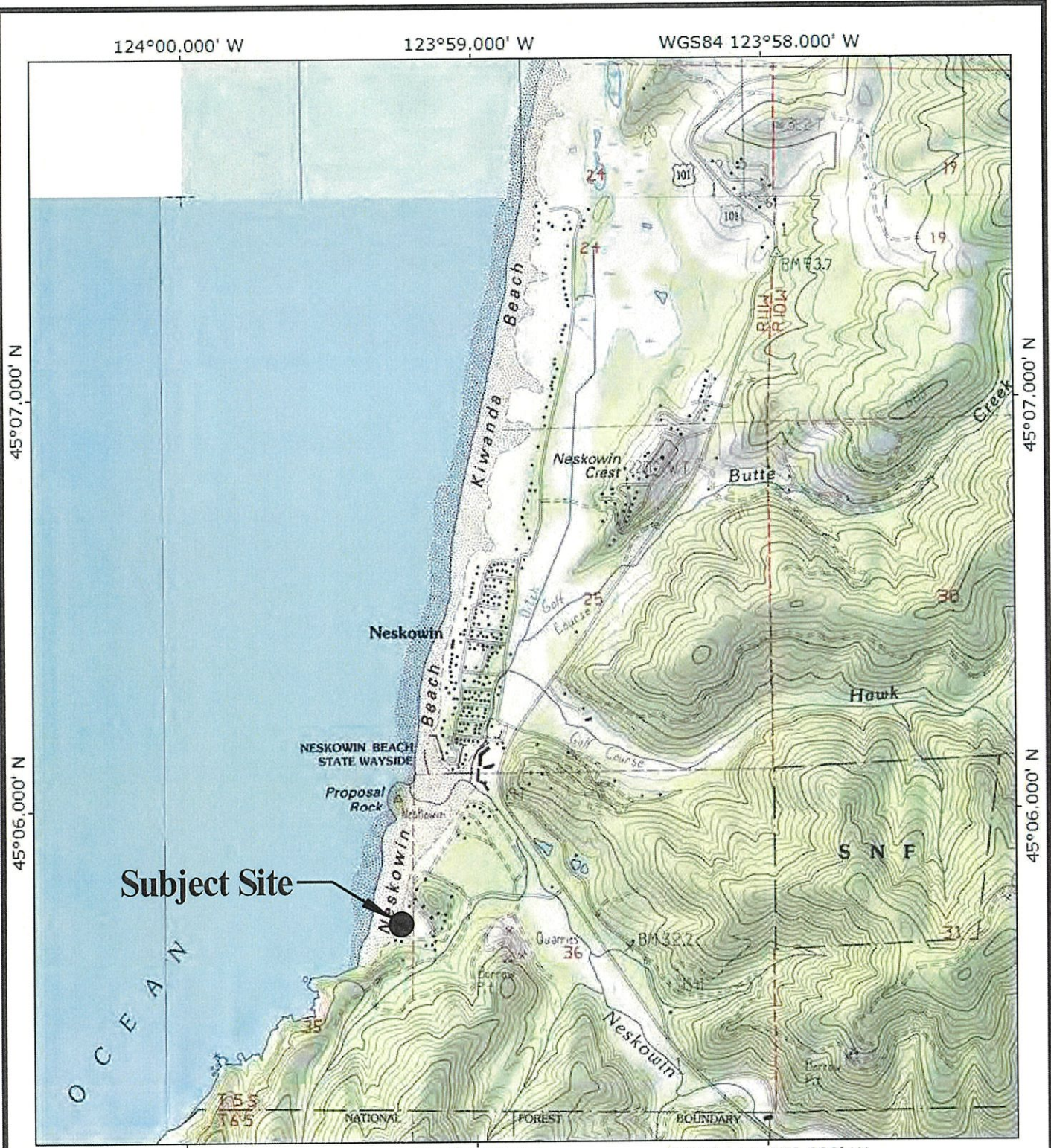
H.G. SCHLICHER AND ASSOCIATES, INC.




EXPIRES: 10/31/2021

J. Douglas Gless, MSc, RG, CEG, LHG
President/Principal Engineering Geologist

JDG:mgb



Date: 05/21/2021	Project #Y214510	Prepared by: AML
Scale: 1" = 2,000'		Approved by: JDG
Location Map Tax Lot 1900, Map 5S-11W-36BC 49670 Surf Road, Neskowin, Tillamook County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 1

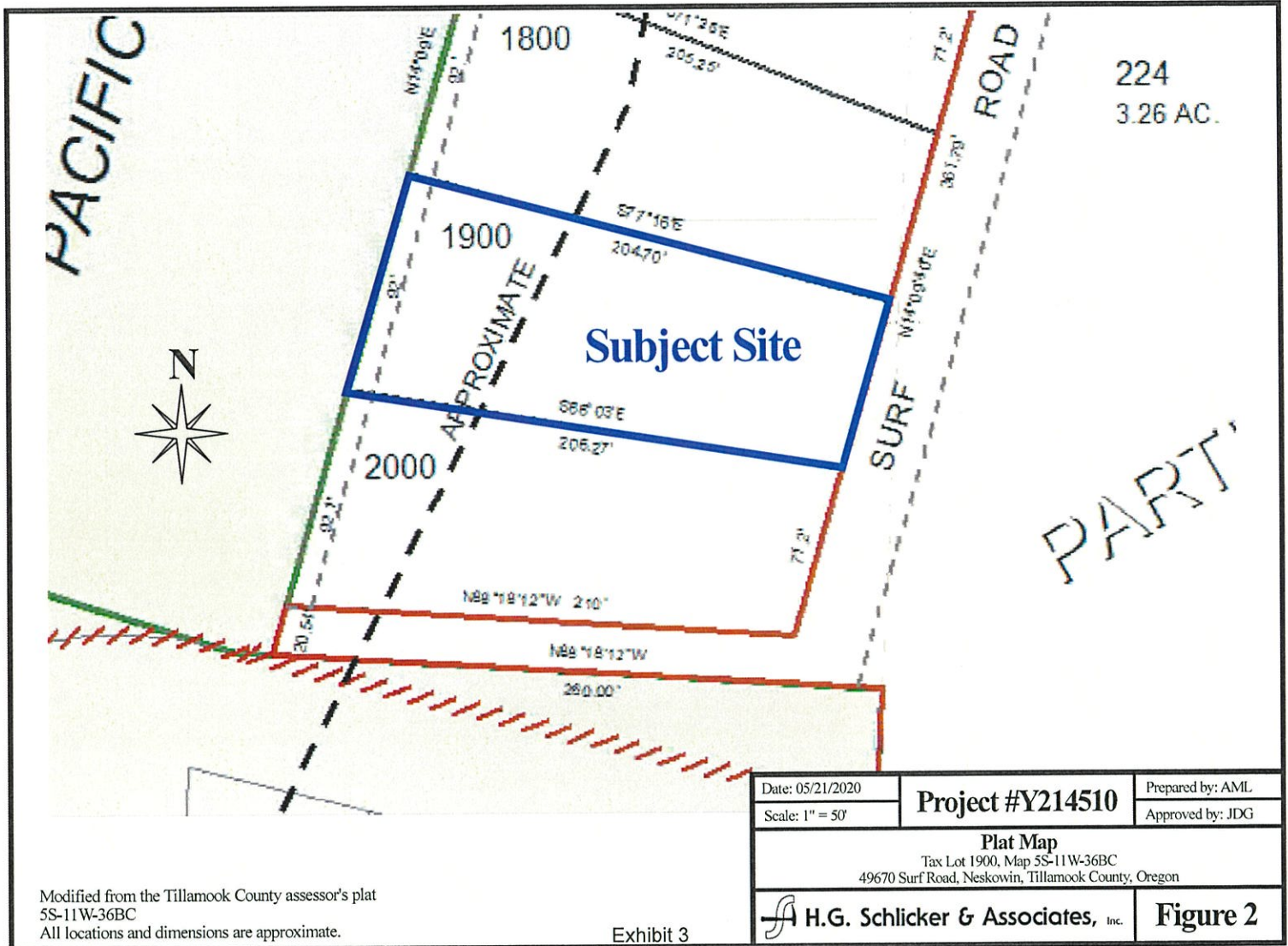
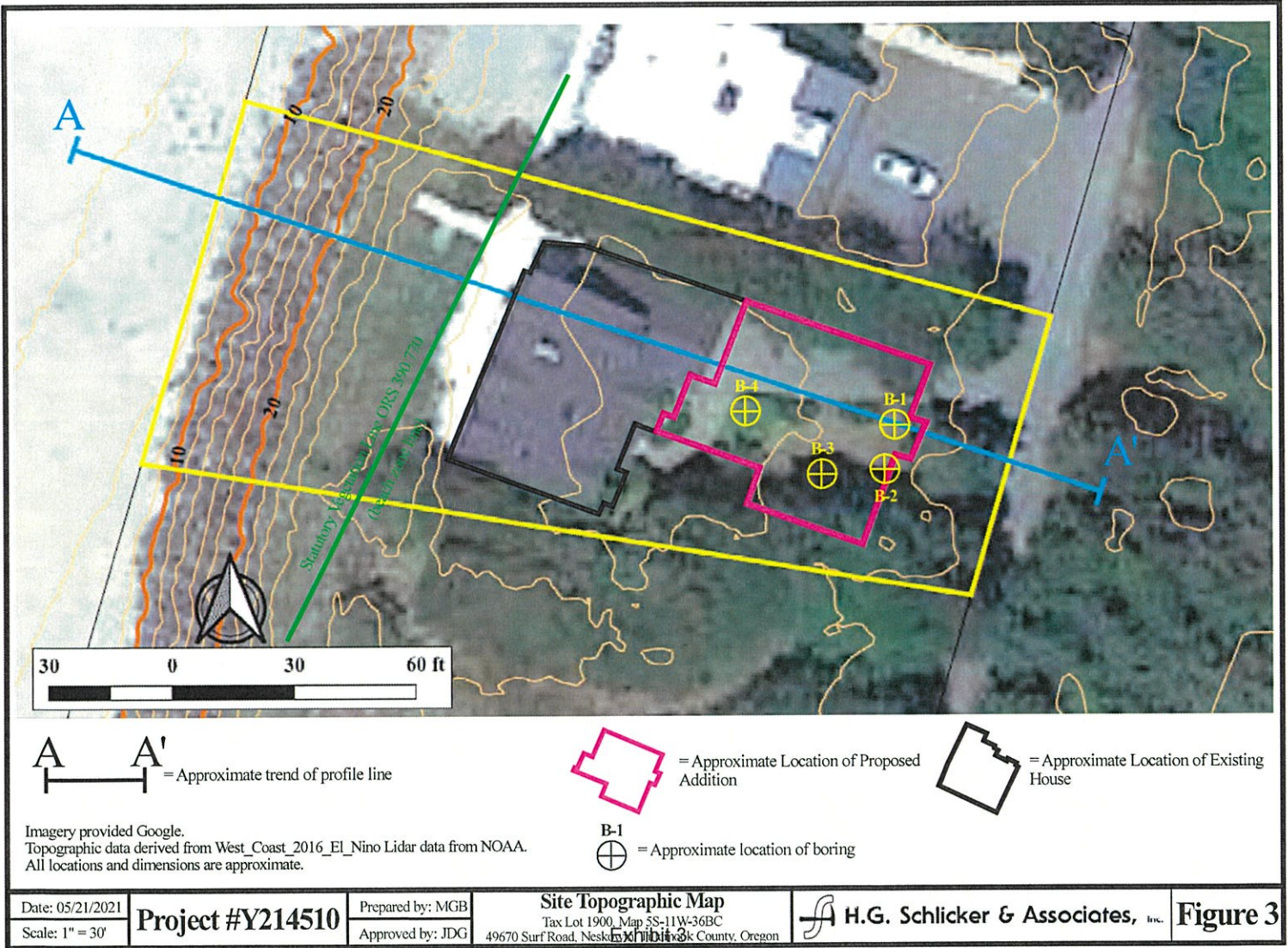


Exhibit 3
Page 35 of 46



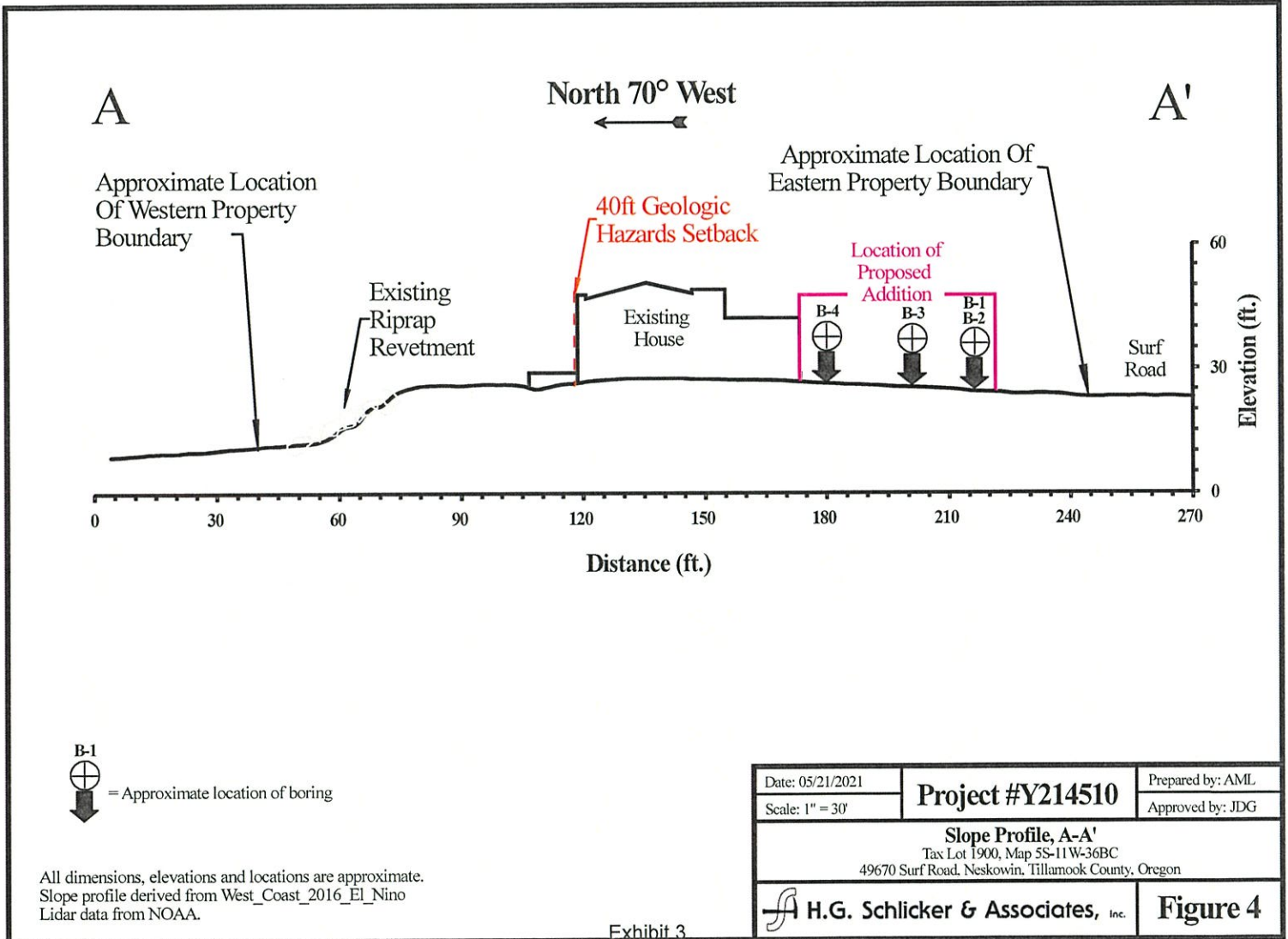
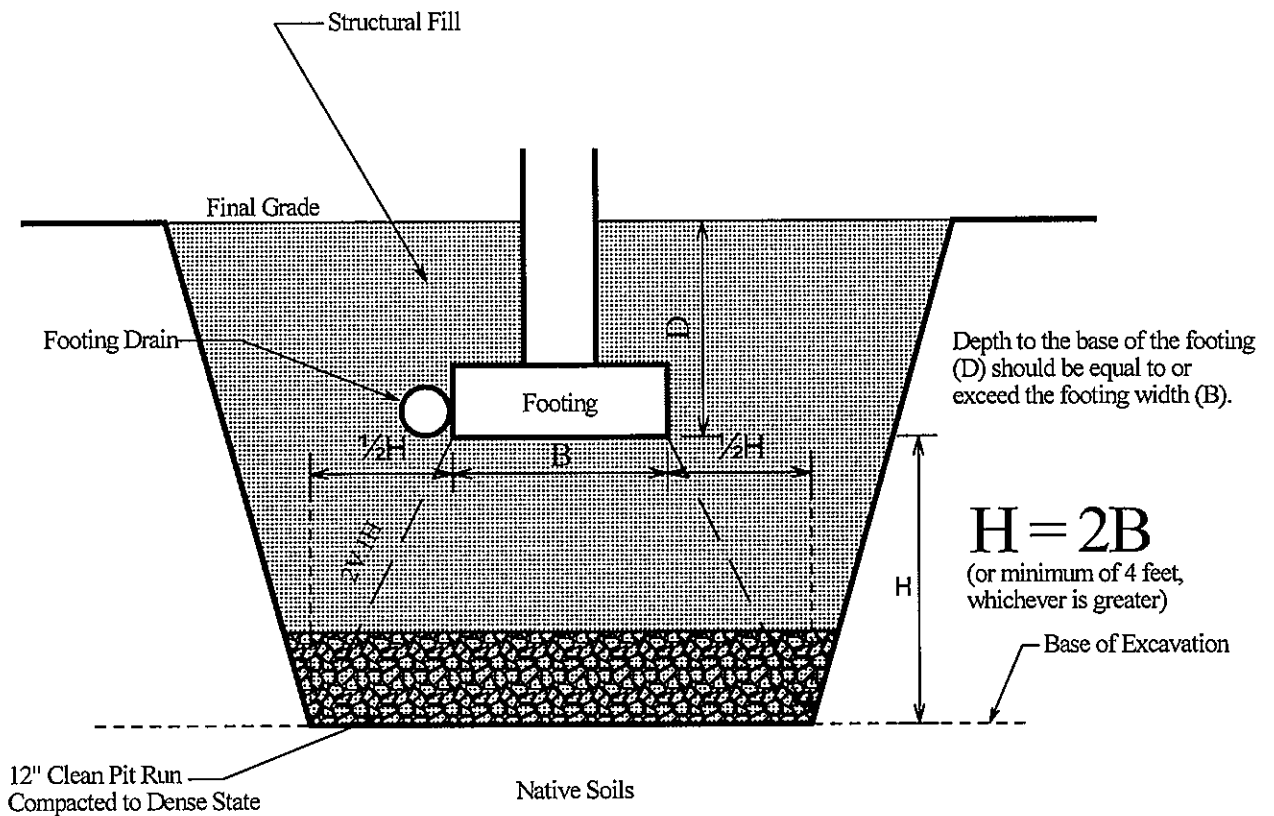



Exhibit 3



The base of the excavation should be constructed to a width governed by the intersection of a horizontal line and a 2V:1H line projected from the outer edges of the footing.

Date: 05/21/2021	Project #Y214510	Prepared by: AML
Scale: Not to Scale		Approved by: JDG
Over-Excavation and Replacement Detail Tax Lot 1900, Map 5S-11W-36BC 49670 Surf Road, Neskowin, Tillamook County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 5

FILE: 3047303/STRUCTURES GRAPHICS DRAWING PLAT 14

EROSION CONTROL MANUAL

TEMPORARY SEDIMENT FENCE
Detail Drawing 4.3-A

DRAWING NOT TO SCALE

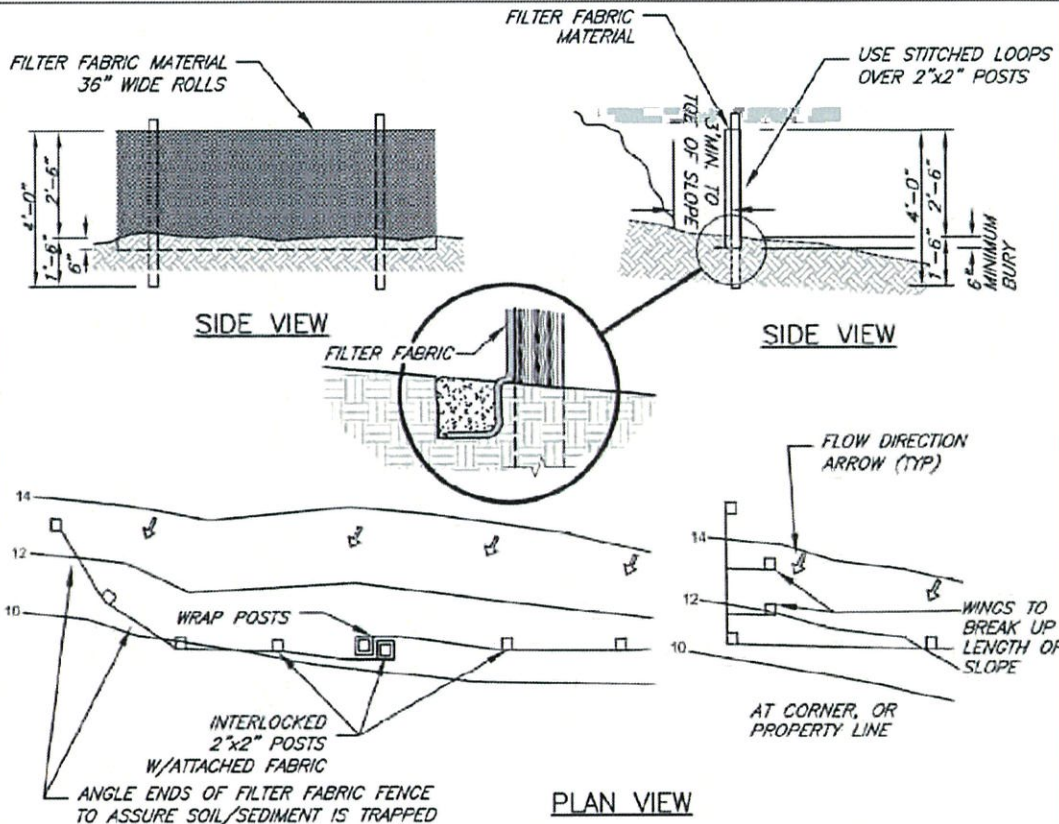



Figure 4.3-A Temporary Sediment Control (Silt) Fence

Date: 05/21/2021	Project #Y214510	Prepared by: AML
Scale: As Shown		Approved by: JDG
Sediment Fence Detail Tax Lot 1900, Map 5S-11W-36BC 49670 Surf Road, Neskowin, Tillamook County, Oregon		
 H.G. Schlicker & Associates, Inc.		Figure 6

Drawing modified from Erosion and Sediment Control Manual, City of Portland Bureau of Environmental Services, 2008.

Refer to Original Source for Design Criteria/ Specifications

Project #Y214510

Appendix A
- Site Photographs -



Photo 1 – Westerly view of the eastern portion of the site from Surf Road.



Photo 2 – Northwesterly view of the area of the proposed addition.



Photo 3 – View of the western side of the existing home and deck.



Photo 4 – Easterly view of the site and existing revetment.



Photo 5 – Southerly view of the beach and exposed tree stumps near the site.



Photo 6 – View of the sandy fill soils encountered in our hand borings.



Photo 7 – View of the sand exposed in the crawlspace excavation.

Project #Y214510

Appendix B
- Checklist of Recommended Additional Work, Plan Reviews and Site Observations -

APPENDIX B

Checklist of Recommended Additional Work, Plan Reviews and Site Observations
To Be Completed by a Representative of H.G. Schlicker & Associates, Inc.

Item No.	Date Done	Procedure	Timing
1*		Review site development, foundation, drainage, grading, and erosion control plans.	Prior to permitting and construction.
2*		Observe foundation excavations and setbacks.	Following excavation of foundations, and prior to placing fill, and forming and pouring concrete.**
3*		Review Proctor (ASTM D1557) and density test results for all fills placed at the site.	Following compaction, and prior to forming and pouring.

* There will be additional charges for these services.

** Please provide us with at least 5 days' notice prior to all site observations.

**R. Warren Krager, R.G., C.E.G.
Consulting Engineering Geologist
Oregon CEG #E957**

February 8, 2021

Michael K. Erickson
P.O. 803
Lake Oswego, Oregon 97034

**Re: Engineering Geologic and Dune/ Shoreline Hazard Review
Proposed Home Addition, 49670 Surf Road, Neskowin
Map 05S 11W 36BC, Tax Lot 01900, Tillamook County, Oregon**

Dear Mr. Erickson,

As you requested, I am pleased to submit my engineering geologic hazard review and dune hazard report for the above referenced property.

Introduction

The existing home pre-dates the Tillamook County Neskowin Coastal Hazards (Nesk-CH) Overlay, Section 3.570. This geologic hazard report has been prepared in general accordance with the requirements of Tillamook County Nesk-CH Overlay for application to construction of an addition on the southeast side of the home.

It should be noted that this shoreline erosion and geologic hazard review did not include a site reconnaissance and project specific subsurface exploration, or geotechnical engineering foundation design. The engineering geologic conclusions and recommendations of this report are based on background review of available design plans, background literature review, and general familiarity with engineering geologic and residential construction conditions from prior work in the area. In preparing this report, the following geologic reports, maps, aerial photos, client provided photos and other background information were reviewed:

- Site plan for Erickson Properties LLC 5 S 11W 36 BC Tax Lot 1900 prepared by Onion Peak Design, Erick M. White, Oregon PLS#78572, dated December 28, 2020.
- Various remodel design plans prepared by Troy Farnsworth, dated December 18, 2020.
- Structural Engineering design calculations prepared by Lewis and Van Vleet, Inc. Consulting Engineers, dated December 8, 2020.
- Tillamook County Land use Ordinance TCLUO Section 3.570. and Tillamook County Assessors website.
- Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon, Oregon Department of Geology and Mineral Industries (DOGAMI), Bulletin 74, 1972.
- Geologic Map of the Tillamook Highlands, Northwest Oregon Coast Range USGS Open File Report 94-21, 1994.
- Evaluation of Coastal Erosion Hazards Zones Along the Dune and Bluff Backed Shorelines in Tillamook County, Oregon, DOGAMI Open-File Report O-01-03, by Jonathan C. Allan and George R. Priest, 2001.

- DOGAMI Open-File Report O-07-01, Assessing the Temporal and Spatial Variability in the Neskowin Littoral Cell, Oregon. Jonathan C. Allan and Roger Hart, 2007.
- National Assessment of Shoreline Change: Historical Shoreline Change Along the Pacific Northwest Coast, USGS Open File Report 2012-1007, by Peter Ruggiero, Meredith G. Kratzmann, Emily A. Himmelstoss, David Reid, Jonathan Allan, and George Kaminsky.
- Oregon Beach and Shoreline Mapping and Analysis Program (OBSMAP), Northwest Association of Networked Ocean Observing Systems (NANOOS). This program documents the spatial variability of beach change at various time scales (i.e. seasonal, multi-year and long-term changes) for Pacific Northwest estuaries and shores.
- Beaches and Dunes of the Oregon Coast, USDA Soil Conservation Service and Oregon Coastal Conservation and Development Commission, 1975.
- Google Earth aerial photographs of the Proposal Rock - Cascade Head, Oregon area, photo dates: May 5, 1994, August 15, 2000, June 15, 2003, June 9, 2005, August 1, 2011, July 6, 2012, July 30, 2014, August 23, 2016, June 22, 2017, and July 24, 2019.
- DOGAMI LIDAR Viewer, accessed online February 02, 2021.
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/> accessed online February 2, 2020.

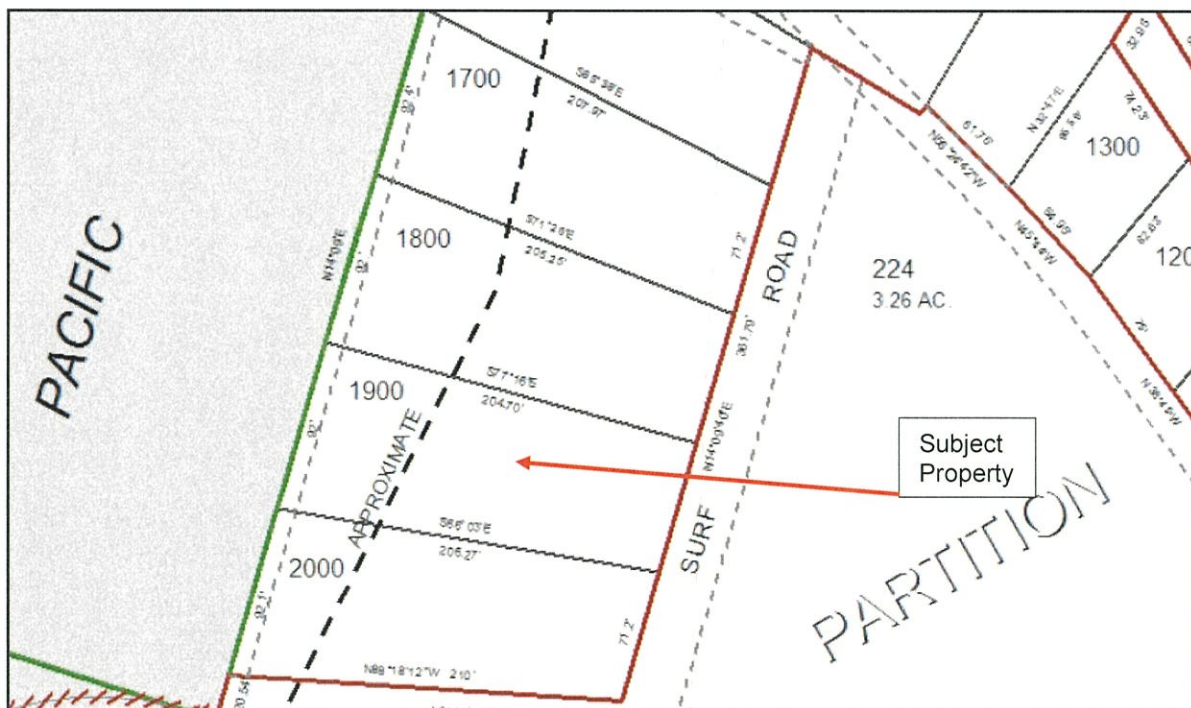


Figure 1- Portion of Tillamook County Tax Lot Map 5S11 36BC.

Site and Project Description

The subject property is identified as Tax Lot 01900, 5S1136BC in Tillamook County, Oregon. The site location is shown on Figure 1. Tax Lot 1900 is developed with an existing home and driveway, and is vegetated with low grasses, pine trees and other landscape plantings. I understand the proposed home addition will be on the east side of the existing home in a building footprint currently occupied by driveway, lawn, and a few trees. Conventional, prescriptively designed shallow spread foundation with minor backfill grading is proposed in sand soil expected in the area. No deep excavations or shoring are planned. Figure 2 shows the site plan with existing improvements and proposed building addition.

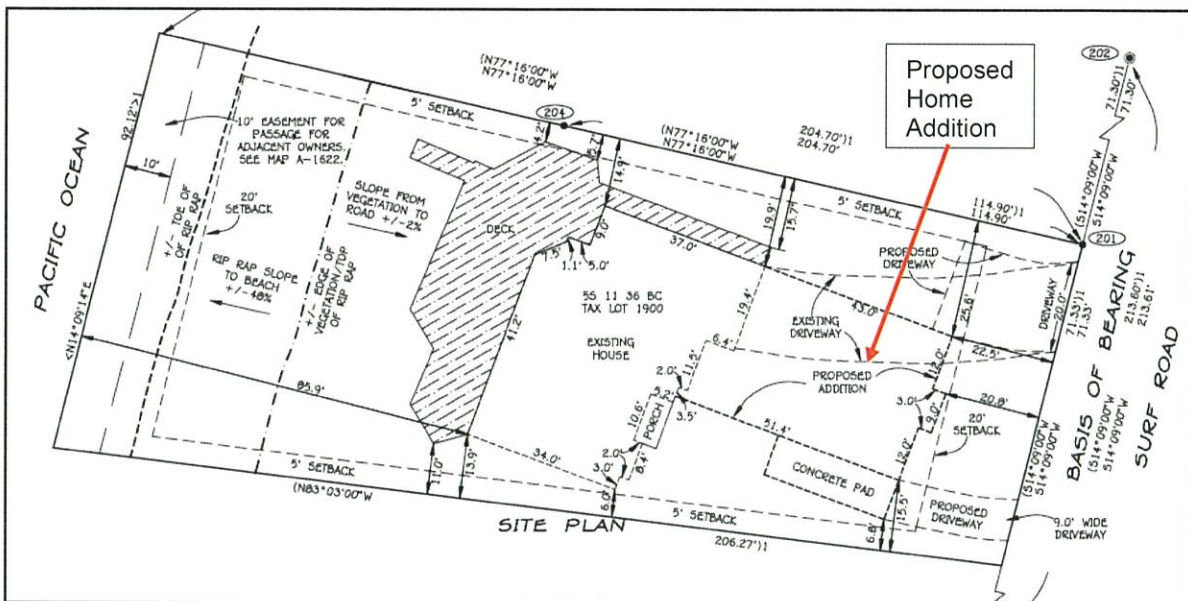


Figure 2 – Portion of Onion Peak Design Site plan.

No detailed project topography was available. Based on the Google Earth website elevation tool, the building area of Tax Lot 1900 is generally level at about 24 feet to 26 feet above mean sea level. An erosion protection revetment on the western part of the lot borders the Pacific Ocean shoreline, with its exposed toe elevation at about 17 feet above mean sea level. It is understood high tides and storm waves surge into the revetment boulders. I did not review finished floor elevations of the existing home or proposed addition.

Historical Ocean Shoreline Erosion Conditions

Aerial photos of the project area from 1953 to 1955 were used in the 1964 edition of the USDA Soil Survey of Tillamook Area, Oregon. Figure 3 shows the approximate area of Tax Lot 1900 as open sand beach embayment and active dune sand, (soil map unit **Ad**), in the mid-1950s photo. The 1982 USGS topographic map in Figure 4 shows some homes on the northern and southern upland margins of the shoreline embayment, and likely first home, on Tax Lot 1600, on the northern edge of the infilled embayment. The existing home on Tax Lot 1900 and two others to the north are visible in the May 5, 1994 Google earth aerial image. In the 1994 photo, 10655 S.W. Park Street • Tigard, Oregon 97223 • Phone 360-903-4861 • Email warrenkrager@gmail.com

the area of Tax Lot 1900 is interpreted as a dune grass and shrub stabilized shoreline beach berm and foredune that had infilled across the embayment. The western edge of the vegetated foredune was then about 45 feet from the west side of the home visible in the 1994 air photo.

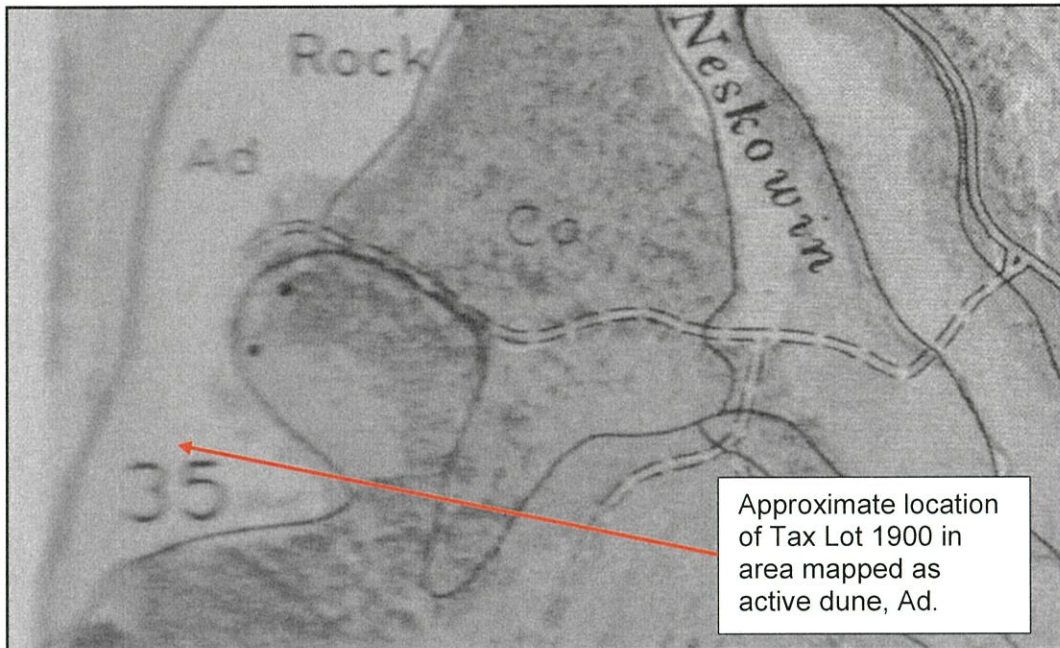


Figure 3 –USDA Soil Survey of Tillamook Area, Oregon, 1964. Soil map photo of project area from 1953, 1954, or 1955.

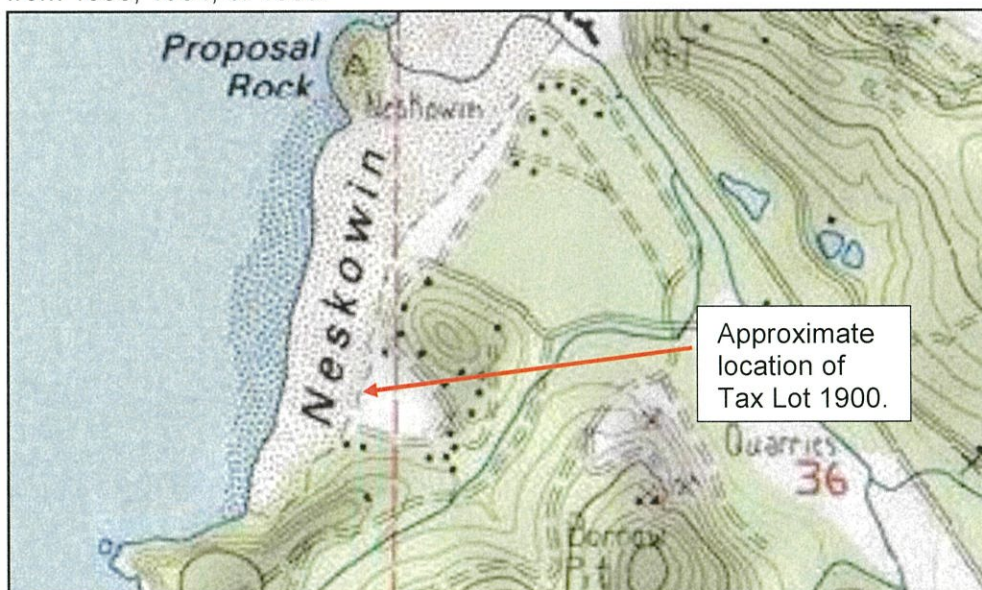


Figure 4 – Portion of USGS 7.5-Minute topographic map of Neskowin, 1982

In response to shoreline erosion in the late 1990s, boulder revetment shoreline protection was reportedly permitted with Oregon State Parks and constructed along this shoreline north of

Cascade Head in the late 1990s or early 2000's, to protect homes on the west side of Surf Road and elsewhere. I have not reviewed shoreline protection permit information but would be happy to do so if provided. I understand from our discussion that you and adjacent property owners occasionally hire a specialty contractor to repair storm damage to the boulder revetment. You indicated that no significant revetment repairs have been required on Tax Lot 1900 in recent years.

The Northwest Association of Networked Ocean Observing Systems (NANOOS) and DOGAMI have developed the Oregon Beach and Shoreline Mapping and Analysis Program (OBSMAP), that documents the spatial variability of beach changes at various monitoring stations along beaches of the Oregon coast. The closest NANOOS monitoring station, Neskowin, OR - Nesk01, is 0.63 miles north of the subject property, near the west end of Yamhill Avenue, in Neskowin. Figure 5 plots the trend of shoreline-change for this monitoring station from 1997 to present. The data plot suggests rapid shoreline erosion between 1997 and about 2003.

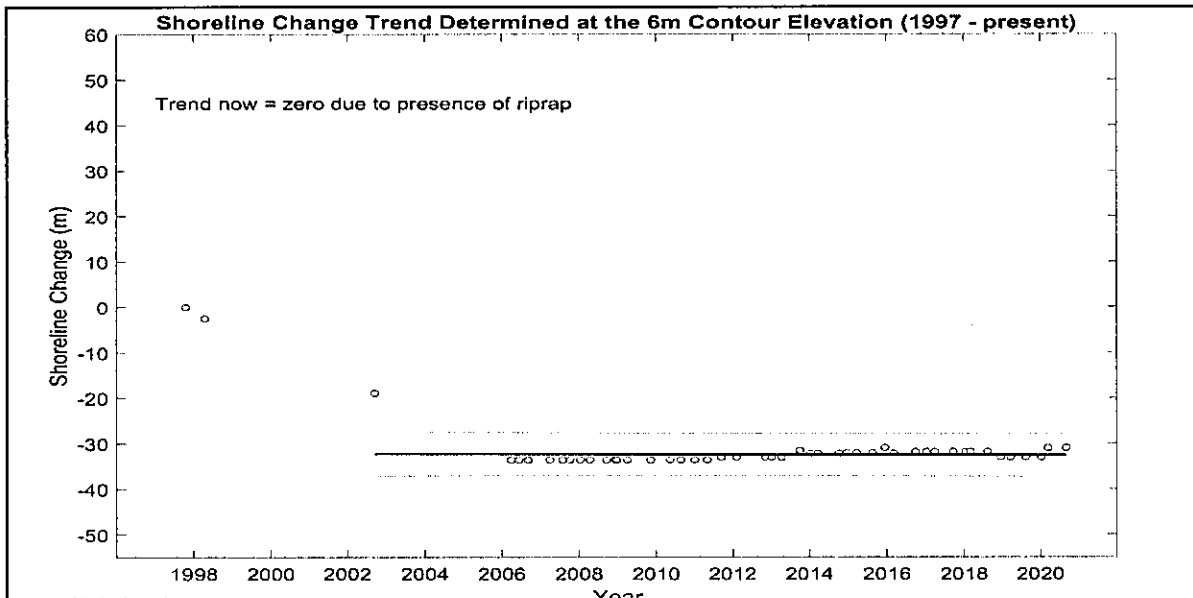


Figure 5 – NANOOS Shoreline profile station Neskowin, OR - Nesk01.

The gap in survey data from about 2003 to early 2006 suggests that construction of the shoreline protection boulder revetment may have occurred during this time. After shoreline erosion protection was completed, regular profile surveys resumed in 2006 and continue to present. The data illustrate the net erosion trend halted by installation of riprap. It should be considered that shoreline erosion conditions and timing of protective boulder revetment or riprap construction at Nesk01 survey station likely vary from the erosion protection of your beachfront property to the south. However, the observed trend of shoreline change, and result of erosion abatement following rip rap installation is expected to be similar for Tax Lot 1900. Review of Google Earth satellite images suggests initial rip rap installation on Tax Lot 1900 occurred sometime between 1994 and 2000. The eastern edge of the boulder revetment is visible in the 2003 and later Google Earth air photos about 40- to 42-feet from the existing home.



Photo 1 - Oblique east view, Google Earth aerial image dated July 24, 2019.

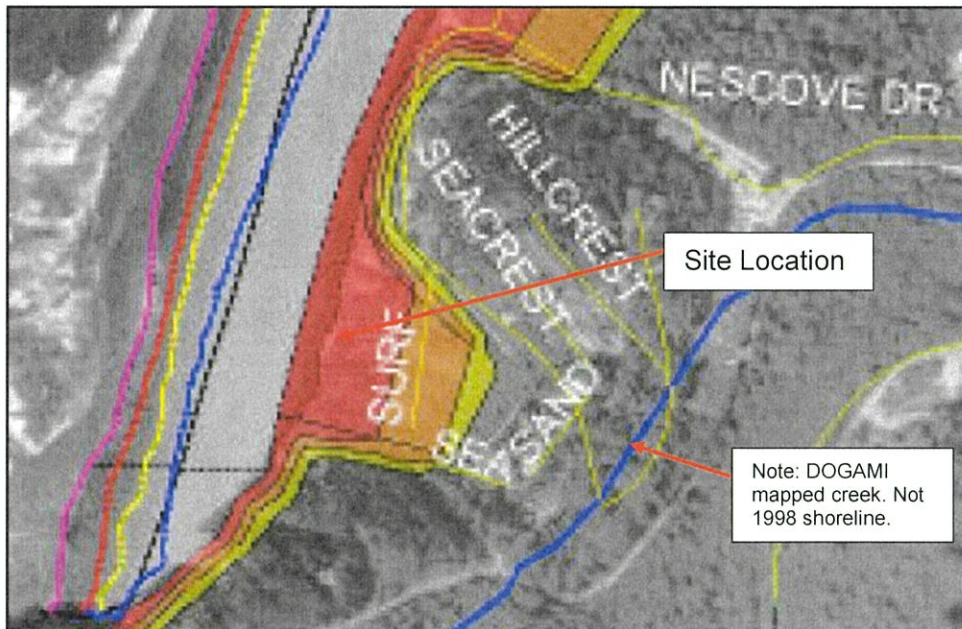


Figure 6 - Portion of DOGAMI Open-File Report O-01-03, 2001.

Tax Lot 1900 is mapped within the highest coastal erosion hazard zone as defined by DOGAMI Open-File Report O-01-03, 2001, Figure 6. Several worst-case scenario factors such as severe storms, higher than average tides, sea level rise, and other factors were considered in defining the erosion hazard zone categories. The report states that the likelihood of the occurrence of the combination of factors that define the high hazard zone is extremely low. This report was published before much of the shoreline protection revetment was constructed in the Neskowin

area. However, the protected shoreline is still considered in the highest erosion risk category, as evidenced by the continued repair and maintenance work necessary because of occasional storm damage to boulder revetment.

Offshore buoy data between the mid-1970s to 2007 suggest that average significant wave heights have been increasing during that period. Wave height increases have compounded by 1.5 to more than 6 times the average increase in height for waves recorded only during the winter months and the largest events per year. These changes in wave height increase are probably attributable in part to manmade influence on climate and sea level change. Need for repair or maintenance of boulder revetment will probably continue or increase as storm waves become more damaging in the future.

Seismic Hazard Considerations

The principal seismic geologic hazard concern for this property and throughout western Oregon is the Cascadia Subduction Zone (CSZ). This zone of tectonic plate convergence in the Pacific Ocean seafloor occurs about 50 to 60 miles off the northern Oregon coast. This compressive tectonic plate convergence zone is a global scale thrust-fault, capable of some of the strongest known earthquakes. This fault interface between the tectonic plates is held by friction and pressure while accumulating increasing pressure and strain. CSZ earthquakes shift or release the locked fault and simultaneously release the accumulated energy. The seafloor thrust fault displaces the sea water above it causing a seismic tsunami to move away from the earthquake focus.

A widespread rupture of the CSZ would produce massive global scale earthquakes that will cause strong ground shaking and region wide damage. Geologic and geophysical research over the past few decades has established that the CSZ has repeatedly produced large earthquakes on an approximately 250- to 650-year recurrence interval with some lesser or greater time intervals between past earthquakes. Historic Japanese tsunami records and modern tree ring dating techniques have been used to calculate that the most recent CSZ Zone earthquake occurred off the Oregon coast in January of 1,700 AD. This last CSZ earthquake, 321 years ago, represents a greater recurrence interval than some of the geologically recorded previous earthquakes on the CSZ fault zone.

In 2008, the United States Geologic Survey (USGS) released research results estimating 10% probability that a Cascadia Subduction Zone earthquake would occur within 30 years. Scientists and engineers generally agree that the intensity of the next CSZ earthquake could potentially exceed moment magnitude 8.5 to 9.5. The duration of strong ground shaking could exceed several minutes and may be followed by days or weeks of strong aftershocks.

During a CSZ earthquake, the subject property will likely experience a few minutes of very intense ground shaking. The undersea thrust fault displacement will cause an ocean tsunami that will arrive at the Oregon coast within about 20 to 30 minutes of the onset of strong earthquake shaking. The subject lot is within the expected tsunami inundation zone. Tsunami

evacuation route planning and preparation, and practice of emergency drills should be considered for any known tsunami inundation zone.

Shoreline Erosion and Geologic Hazard Conclusions

Tax Lot 1900 is mapped within or near previously active dune, shoreline erosion and geologic hazard zones. The existing home was constructed in about 1994 within about 45 feet of the western edge of the then vegetated, stabilized foredune. The western margin of the subject property experienced beach and shoreline erosion in the late 1990's. Shoreline erosion protection revetment was installed in about 2003 or earlier and has been maintained to present.

In plan position, I estimate that the eastern edge of the existing revetment corresponds closely with the position of the western margin of the stabilized foredune in the 1994 photo. The toe of the revetment contacts the active beach sand about 70 feet from the west side of the home as measured in Figure 2. From these approximate measurements, riprap protected shoreline appears now to extend about 25 feet further west of the estimated 1994 western margin of stabilized foredune when the home was constructed.

In my opinion, the existing home is necessarily, but adequately protected from ocean shoreline erosion by the existing boulder revetment, and commitment to its future upkeep. Under these ongoing conditions, I do not foresee dune and coastal erosion to significantly impact the remaining design life of the existing home. Accordingly, I would not expect the planned addition on the east side of the home to be significantly impacted by shoreline or dune erosion.

The subject property has relatively high seismic hazard risk. Severe ground shaking, potential for seismic liquefaction, ground subsidence, and almost certain tsunami inundation are all seismic risks for this and other beach front and low-lying coastal homes in the area. These risks cannot be completely mitigated but can be managed to an acceptable level of risk by engineered foundation and home design, as allowed by building code.

The proposed home addition as shown in Figure 2 is not expected to increase coastal erosion or influence geologic hazards to Tax Lot 1900 or adjacent properties.

Limitations

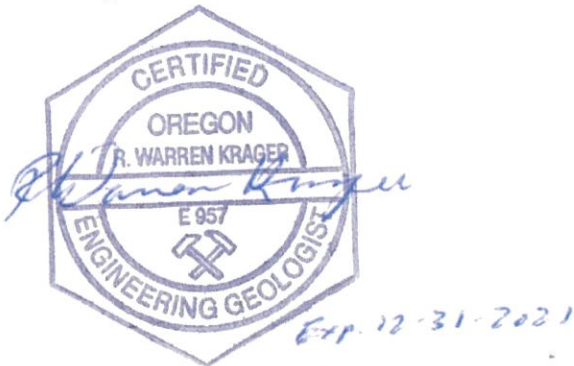
The engineering geologic services performed for this project have been conducted with that level of care and skill ordinarily exercised by members of the profession currently practicing in this discipline and area under similar budget and time constraints. No warranty, expressed or implied, is made regarding the interpretations and conclusions of this report. I would be happy to discuss any of the above information or other engineering geologic services that may be desired.

This report may be used only by the client and their authorized agents for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on- and off-site), or

other factors may change over time and could materially affect the findings. In my opinion this report should not be relied upon after 24 months from its date of issue. If the project is delayed by more than 24 months from the date of this report or other unanticipated site conditions are encountered, I would be happy to review site and design conditions and revise or update this report as appropriate.

If you have any questions regarding the information presented in this report, please do not hesitate to contact me at 360-903-4861 or warrenkrager@gmail.com.

Sincerely,



R. Warren Krager, R.G., C.E.G.
Oregon Licensed Engineering Geologist E-957

BASIS OF BEARING

THE LINE BETWEEN FOUND MONUMENTS (202) AND (203) BEARS SOUTH 14°09'00" WEST. THE RECORD VALUE FROM MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.

NOTES

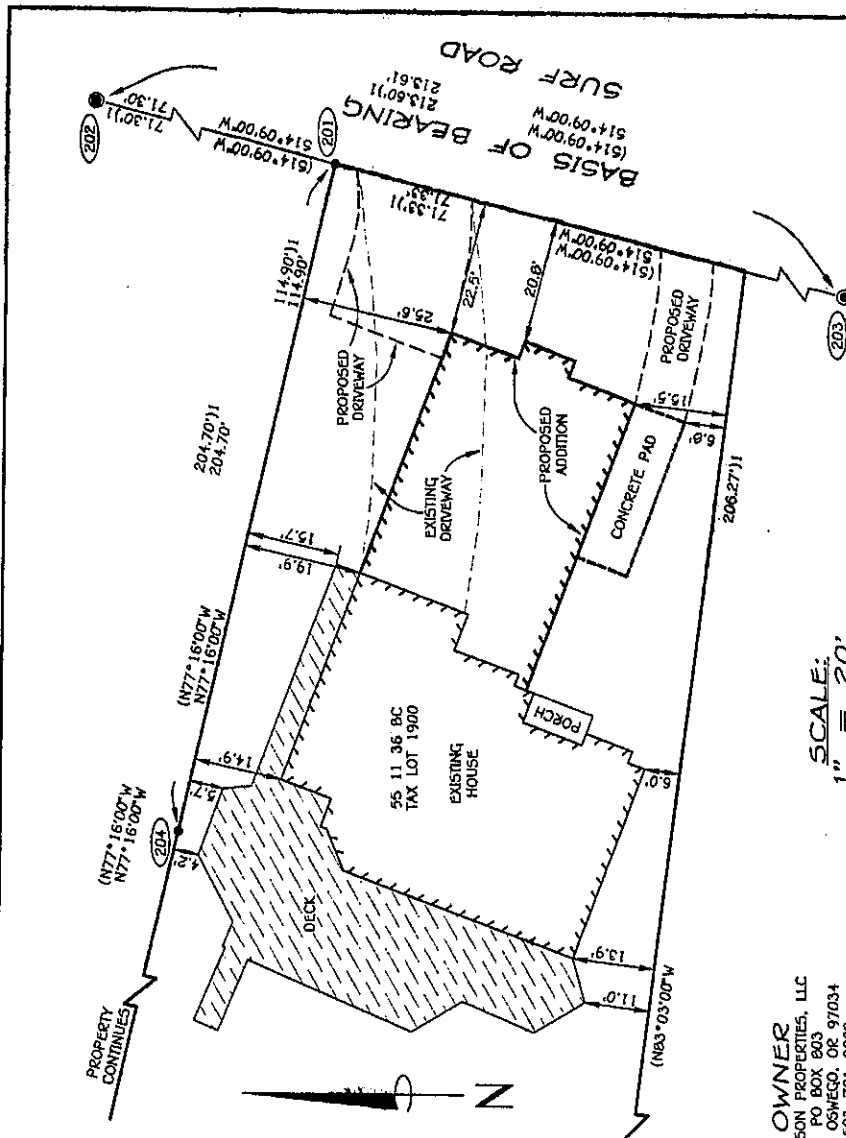
THIS MAP DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE SUBJECT PROPERTY. THE PURPOSE OF THIS MAP IS TO SHOW THE LOCATION OF THE EXISTING BUILDING AND PROPOSED ADDITION RELATIVE TO THE ADJACENT BOUNDARY LINES IN ACCORDANCE WITH THE TILLAMOOK COUNTY DEPARTMENT OF COMMUNITY DEVELOPMENT SITE PLAN REQUIREMENTS. THE BOUNDARIES WERE LAD OUT AT RECORDED VALUES FROM MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS. THE PROPOSED ADDITION SHOWN HEREON WAS LAD OUT PER DIMENSIONS PROVIDED BY TONY FARNSWORTH ON NOVEMBER 19, 2020.
SEWER AND WATER TO EXISTING HOUSE IS CURRENTLY SERVED BY MESKOWIN REGIONAL SEWER AND WATER. ON SITE SERVICES WILL BE ADJUSTED AS NEEDED TO FIT PROPOSED ADDITION.

MONUMENT NOTES

- (201) FOUND 5/8" REBAR WITH PLASTIC CAP STAMPED "LOOKIS PLS 1908" FLUSH IN GROUND, IN CALCULATED POSITION. SEE MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.
- (202) FOUND 1" IRON PIPE FLUSH IN GROUND. HELD FOR CONTROL AS PER MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.
- (203) FOUND 1" IRON PIPE 0.5' ABOVE GROUND. HELD FOR CONTROL AS PER MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.
- (204) FOUND 5/8" REBAR WITH PLASTIC CAP STAMPED "LOOKIS PLS 1908" 0.8' ABOVE GROUND, IN CALCULATED POSITION. SEE MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.

LEGEND

- INDICATES MONUMENT FOUND AS NOTED HEREON, HELD FOR CONTROL.
- INDICATES MONUMENT FOUND AS NOTED HEREON.
- () INDICATES RECORDED VALUE FROM MAP B-3938, TILLAMOOK COUNTY SURVEY RECORDS.
- NO () INDICATES MEASURED VALUE.



REGISTERED PROFESSIONAL LAND SURVEYOR
Ed M White
OREGON
APRIL 28, 2014
ERICK M. WHITE
78572
RENEWALS 07/30/2022

SITE PLAN FOR:
ERICKSON PROPERTIES, LLC
55 11 36 BC
TAX LOT 1900
SW 1/4, NW 1/4, SECTION 36, T5S, R11W, W.M.
TILLAMOOK COUNTY
DECEMBER 28, 2020

OWNER
ERICKSON PROPERTIES, LLC
PO BOX 903
LAKE OSWEGO, OR 97034
503-781-9082

ONION PEAK DESIGN
PO BOX 326
NEHALEM, OR 97131
(503) 368-6102
FAX (503) 368-6102

*SURF #A2020
ERICKSON2009-EX.DWG

Neskowin Coastal Hazard Zone Permit Affidavit

THIS RESTRICTIVE COVENANT, Made this 10th day of February, 2021, by and between Michael K Erickson (Erickson Properties LLC) and the County of Tillamook for property located in said County and further described as follows, to-wit:

PROPERTY LEGAL DESCRIPTION attached as Exhibit A hereto and incorporated by reference

Do hereby promise and covenant as follows:

The property herein described is located within the Neskowin Coastal Hazard Overlay (Nesk-CH) zone in Tillamook County, Oregon and is subject to potential chronic natural hazards. The owners/residents of this property understand that development thereon is subject to risk of damage from such hazards. The owners/residents of this property have obtained a geologic report for the subject property in preparation for development of said property, a copy of which is on file with Tillamook County.

I/We, being said property owner, have reviewed the geologic report and have thus been informed and are aware of the type and extent of hazards present and the risks associated with development on the subject property.

I/We do hereby accept the potential impacts and assume all risks of damage from natural hazards associated with the development of the subject property.

This affidavit shall run with the land and is intended to and hereby shall bind my/our heirs, assigns, lessees, and successors and it can not be deleted or altered without prior contact and approval by the Tillamook County Department of Community Development or its successor.

IN WITNESS WHEREOF, the said Party has executed this instrument this 10th day of February 2021,

ERICKSON PROPERTIES LLC

COUNTY OF TILLAMOOK

BY: [Signature]
Michael K. Erikson, Member

BY: _____
Department of Community Development

STATE OF OREGON

STATE OF OREGON

County of Washington

County of _____

February 10 2021

_____, 20____

Personally appeared the above named Michael K. Erikson
Member of Erickson Properties,
LLC.

Personally appeared the above named _____

and acknowledged the foregoing instrument to his voluntary act and deed.

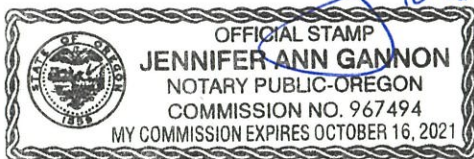
and acknowledged the foregoing instrument to _____ voluntary act and deed.

Before me: [Signature]

Before me: _____

Notary Public of Oregon
(My Commission Expires) 10-16-21

Notary Public of Oregon
(My Commission Expires)



Neskowin Coastal Hazard Zone Permit Affidavit

Exhibit A

Property Address:

Erickson Properties LLC

49670 Surf Road, Neskowin, OR

Map 05S 11W 36BC, Tax Lot 01900, Tillamook County, Oregon

Sarah Absher

From: Stephenson, Garrett H. <GStephenson@SCHWABE.com>
Sent: Wednesday, November 17, 2021 1:33 PM
To: Sarah Absher; Robinson, Michael C.; 'Mike Erickson'
Subject: EXTERNAL: RE: Public Testimony

[NOTICE: This message originated outside of Tillamook County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Sarah,

This email serves as the Applicant's response to the public testimony addressing the above-referenced application. Comments were received from three parties: the Neskowin Regional Sanitary Authority, James and Kimberly Marsh, and Candice and Gregory Miller. The Applicant's response to the comments is as follows:

1. Neskowin Regional Sanitary Authority.

The Neskowin Regional Sanitary Authority submitted comments identifying the Applicant's obligations to present to the Authority a copy of its building permit application so the Authority can determine whether a new application for sewer service will be required. These comments do not address applicable criteria nor do they argue that the Application should be denied. However, the Applicant intends to comply with its obligations under its STEP/STEG Easement and will transmit to the Authority a copy of its building permit application.

2. Marsh Comments.

The Marshes make several comments in opposition to the application. However, none of these address any applicable criteria. For these reasons, the County should find that these comments do not raise any issue upon which the Application should be denied. However, the Applicant takes seriously the Marshes' concerns, and responds to each one in turn, as follows:

- Concerns regarding increases in Short Term Rentals ("STRs").

RESPONSE: The local increase in STRs is not relevant to the approval criteria, which evaluate the geotechnical stability of the site.

- Concerns regarding parking.

RESPONSE: The Marshes have observed parking along local streets in the area. However, there is no evidence that such parking was by the Applicant's guests, nor is there any argument that such parking would violate any of the Coastal Hazard Permit Criteria.

- Concerns about wetlands and salmon.

RESEPNSE: To our knowledge, there are no delineated wetlands on the portion of the Applicant's property proposed for the expansion. There is no evidence that expanding the existing home will endanger salmon. Even if there were, the Applicant is unaware of any approval criteria for the Coastal Hazard Permit that address these issues.

- Concerns about the number of people on the beach.

RESPONSE: The beach belongs to the people of the State of Oregon. The TCLUO does not regulate the number of people permitted on the beach at any given time.

- Concerns about impacts to the road.

RESPONSE: As a general matter, there is no reason to believe that the proposed home expansion will increase traffic on the affected streets and granting the permit will not result in non-residential traffic in the area (such as large trucks that would be harder on the roads than a passenger vehicle). But even if there were, assertions of increased traffic on private streets is not relevant to the criteria, and instead is a matter for consideration by the residents who pay for road maintenance.

3. Miller Comments.

The Millers make several comments in opposition to the application. None of these address any applicable criteria. For these reasons, the County should find that these comments do not raise any issue upon which the Application should be denied. However, the Applicant takes seriously the Miller’s concerns, and responds to each one in turn, as follows:

- House is not “owner occupied.”

RESPONSE: There is nothing in the TCLUO that requires the Erickson’s home be “owner occupied.”

- The Ericksons own a large number of homes in Neskowin.

RESPONSE: There is no restriction in the TCLUO on the number of homes an individual or entity may own. And, owning a number of STRs does not make each home a “multifamily project.” This is the expansion of a single existing home; it is not a “multifamily project” under the terms of TCLUO.

- Concerns about parking.

RESPONSE: The number of parking spaces is not evaluated by Coastal Hazard Permit. However, the County can find that parking will be adequate if the Application is approved. The proposed site plan includes a new driveway in excess of 20 feet long leading to a covered concrete pad approximately 27 feet long that can provide parking for at least two parking spaces. Additional space for parking is available near the northeast corner of the site, which dimensionally could accommodate up to two or more additional parking spaces. This is sufficient area to provide the minimum of two off-street parking spaces for a single-family dwelling. The proposed expansion will not make it impossible for the home to continue to meet minimum parking requirements.

4. Conclusion

For the above reasons, the County can find that the Application meets all applicable criteria notwithstanding the public comments to the contrary. For this reason, as well as the code compliance demonstrated in the Application, the County should approve the Application.

Please let me know if you have any questions.

Best regards,

Garrett H. Stephenson
Shareholder

EXHIBIT C

)
|

)
|

Sarah Absher

From: KIMBERLY MARSH <kim22756@aol.com>
Sent: Wednesday, September 29, 2021 12:38 PM
To: Sarah Absher
Subject: EXTERNAL: Fwd: Neskowin Coastal Hazard Area Permit # 851-21-000054-PLNG: ERICKSON
Attachments: Neskowin Short Term Rental Opposition Letter- MARSH.docx

[NOTICE: This message originated outside of Tillamook County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

Subject: Neskowin Coastal Hazard Area Permit # 851-21-000054-PLNG: ERICKSON

Dear Sarah,
Please find attached written comments regarding yet ANOTHER ST Rental in South Beach Neskowin.
Thank you,
Kimberly Marsh
503-551-2232

Neskowin Coastal Hazard Area Permit #851-21-000054-PLNG: ERICKSON

RE: Short Term Rental Issues and objections: ST rental Within Neskowin COASTAL Hazards Overlay, LOW Density Residential at 49670 Surf Road, Neskowin, OR; Tax Lot 1900

TO: Tillamook County Department of Community Development

This letter is in opposition to Tillamook County allowing ever increasing Short Term rental units in Neskowin, as well as continuing to grant zoning variance from single family to multi family construction in South Beach Neskowin.

The reasons behind the opposition are numerous, however will focus on a few major points to keep it brief. First off my family history is long within south county and we have seen what unbridled, unchecked development can do to an ecosystem as fragile as ours.

In regards to the enormous increase of STR's in South Beach, my family is very concerned about our road system. With the explosion of the Short term rental craze in South Beach Neskowin, our roads have paid dearly. There are a many rentals in particular, that the locals simply call the "Erickson Hotels" which are the largest offenders. Immense crowds that take up all of the available parking, and spill over in to neighboring driveways and we have seen, and photographed the renters parked in the wetlands. Our roads simply aren't designed for that level of traffic. With these numerous multi family construction projects, and the large remodel projects for these rentals, the level of heavy equipment over the fragile road increases significantly. Not only is it unsafe for pedestrians, elderly, and pets walking on the roads, to access the already over crowded beach, but that equipment puts tremendous strain on our bridge as well as the culvert system that is in very poor shape. We have salmon trying to get through these culverts to spawn. These renters also pay no attention for the most part to the 15 MPG POSTED speed limit on this narrow, partially graveled road, which is used by pedestrians. They also park illegally along the side of the small private road that is in front of our home (49605 Nescove Drive, Tax lot 1500). The renters sometimes also drive into and across our front yard, to avoid going over speed bumps!

The other issue of great concern is the impediment on current owners right to quiet enjoyment both in our houses and on the beach. South Beach itself is very small. The length is roughly ½ mile from Proposal Rock to the south cove rocks, and the width gets smaller and smaller each year with the erosion of the beach, creating an ever shrinking beach. With the multiple "Erickson Hotel" guests, as well as scores of other rental houses and Air B&B's, the beach is packed, broken glass from late night parties threatens to slash barefooted children's feet, the light pollution and noise pollution from the multi family construction impedes citizens ability to enjoy their own home or deck. Not to mention the views that a large multi family structure will block. Houses behind will no longer have a view of the ocean of any kind.

In conclusion, my family is strictly opposed to any new STR's in Neskowin. Enough is enough! We feel that the zoning laws were put in place by very smart and forward thinking women and men, for a reason. If variance after variance is granted, then what is the use of the zoning laws at all? Our road system is hanging on by a thread and this extreme influx of traffic on our narrow, private road causes major damage, and threatens safety of pedestrians and pets. And, because it is a private road system, in fact, an easement across our property, that money for upkeep comes out of our pockets...not the renters. Additionally, the Ericksons and other owners of the numerous rentals pay for one house road dues, but the traffic they put onto that road is exponentially higher than the non- rented homes. The

small beach is getting smaller, and the influx of tenants/hotel guests are impeding upon our right to quiet enjoyment.

P.S. If you google "Hotels" in Neskowin, Oregon, the Erickson's rental properties will appear. Since when are Hotels allowed in South Beach community?

Respectfully submitted,
The Marsh Family

James W Marsh
49605 Nescove Drive
Neskowin, Ore. 97149 (Tax lot 1500 on your Map)

Kimberly Marsh
8535 SW Woodside Dr
Portland, OR 97225

T. Patrick Marsh
L. Douglas Marsh
J. Michael Marsh
Daniel E Marsh
Kellee P Marsh

Sarah Absher

From: Candice & Gregory Miller <gandcm@charter.net>
Sent: Saturday, October 2, 2021 8:26 AM
To: Sarah Absher
Subject: EXTERNAL: 851-21-000054-PLNG COMMENTS

[NOTICE: This message originated outside of Tillamook County -- **DO NOT CLICK** on links or open attachments unless you are sure the content is safe.]

The application for the land use application/permit listed above should be denied for the following reasons:

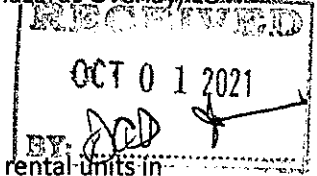
- This will not be owner-occupied housing. It is a year-round vacation rental for business profit.
- This is 1 of 6 properties Mr. Erickson owns and operates for his boutique vacation home rental business in Neskowin.
- The sole purpose to build and expand the square footage to this property is so Mr. Erickson can increase the occupancy and charge higher daily rental fees for higher income revenue.
- This property is located in the NeskR-1 zoned community, which is designated as an area for low-density single-family residential development. Mr. Erickson's ownership of multiple homes in South Beach blatantly defies this requirement. It is a commercial venture. His properties, collectively, are a mini-resort (highstylevacationhomes.com).
- It is unclear that there will be adequate space for parking. Will there be room to accommodate the additional vehicles? There is limited parking in South Beach.

We are full-time residents of South Beach and are horrified that Mr. Erickson would be allowed to build his McMansion so he can benefit from the higher rental fees. The County should stop this type of development by a commercial entity!

Respectfully,

Candice & Gregory Miller

Neskowin Coastal Hazard Area Permit #851-21-000054-PLNG: ERICKSON
RE: Short Term Rental Issues and objections: ST rental Within Neskowin COASTAL Hazards Overlay, LOW
Density Residential at 49670 Surf Road, Neskowin, OR; Tax Lot 1900



TO: Tillamook County Department of Community Development

This letter is in opposition to Tillamook County allowing ever increasing Short Term rental units in Neskowin, as well as continuing to grant zoning variance from single family to multi family construction in South Beach Neskowin.

The reasons behind the opposition are numerous, however will focus on a few major points to keep it brief. First off my family history is long within south county and we have seen what unbridled, unchecked development can do to an ecosystem as fragile as ours.

In regards to the enormous increase of STR's in South Beach, my family is very concerned about our road system. With the explosion of the Short term rental craze in South Beach Neskowin, our roads have paid dearly. There are a many rentals in particular, that the locals simply call the "Erickson Hotels" which are the largest offenders. Immense crowds that take up all of the available parking, and spill over in to neighboring driveways and we have seen, and photographed the renters parked in the wetlands. Our roads simply aren't designed for that level of traffic. With these numerous multi family construction projects, and the large remodel projects for these rentals, the level of heavy equipment over the fragile road increases significantly. Not only is it unsafe for pedestrians, elderly, and pets walking on the roads, to access the already over crowded beach, but that equipment puts tremendous strain on our bridge as well as the culvert system that is in very poor shape. We have salmon trying to get through these culverts to spawn. These renters also pay no attention for the most part to the 15 MPG POSTED speed limit on this narrow, partially graveled road, which is used by pedestrians. They also park illegally along the side of the small private road that is in front of our home (49605 Nescove Drive, Tax lot 1500). The renters sometimes also drive into and across our front yard, to avoid going over speed bumps!

The other issue of great concern is the impediment on current owners right to quiet enjoyment both in our houses and on the beach. South Beach itself is very small. The length is roughly ½ mile from Proposal Rock to the south cove rocks, and the width gets smaller and smaller each year with the erosion of the beach, creating an ever shrinking beach. With the multiple "Erickson Hotel" guests, as well as scores of other rental houses and Air B&B's, the beach is packed, broken glass from late night parties threatens to slash barefooted children's feet, the light pollution and noise pollution from the multi family construction impedes citizens ability to enjoy their own home or deck. Not to mention the views that a large multi family structure will block. Houses behind will no longer have a view of the ocean of any kind.

In conclusion, my family is strictly opposed to any new STR's in Neskowin. Enough is enough! We feel that the zoning laws were put in place by very smart and forward thinking women and men, for a reason. If variance after variance is granted, then what is the use of the zoning laws at all? Our road system is hanging on by a thread and this extreme influx of traffic on our narrow, private road causes major damage, and threatens safety of pedestrians and pets. And, because it is a private road system, in fact, an easement across our property, that money for upkeep comes out of our pockets...not the renters. Additionally, the Ericksons and other owners of the numerous rentals pay for one house road dues, but the traffic they put onto that road is exponentially higher than the non- rented homes. The

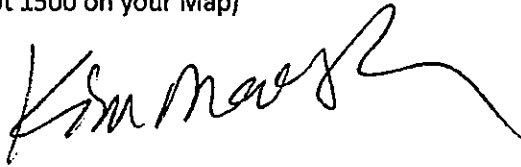
small beach is getting smaller, and the influx of tenants/hotel guests are impeding upon our right to quiet enjoyment.

P.S. If you google "Hotels" in Neskowin, Oregon, the Erickson's rental properties will appear. Since when are Hotels allowed in South Beach community?

Respectfully submitted,
The Marsh Family

James W Marsh
49605 Nescove Drive
Neskowin, Ore. 97149 (Tax lot 1500 on your Map)

Kimberly Marsh
8535 SW Woodside Dr
Portland, OR 97225

A handwritten signature in black ink, appearing to read "Kim Marsh", written over the printed name and address of Kimberly Marsh.

T. Patrick Marsh
L. Douglas Marsh
J. Michael Marsh
Daniel E Marsh
Kellee P Marsh



1510 – B Third Street
Tillamook, Oregon 97141
www.tillamook.or.us
Building (503) 842-3407
Planning (503) 842-3408
Sanitation (503) 842-3409
FAX (503) 842-1819
Toll Free 1(800) 488-8280

Land of Cheese, Trees and Ocean Breeze

Neskowin Coastal Hazard Area Permit #851-21-000054-PLNG: Erickson

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

NOTICE OF ADMINISTRATIVE REVIEW
Date of Notice: September 17, 2021

Notice is hereby given that the Tillamook County Department of Community Development is considering the following:

#851-21-000054-PLNG: A request for approval of a Neskowin Coastal Hazard Area Permit for a remodel project of an existing single-family dwelling on a property located within the Unincorporated Community Boundary of Neskowin, zoned Neskowin Low Density Residential (NeskR-1) and within the Neskowin Coastal Hazards Overlay (Nesk-CH) Zone. The subject property is addressed as 49670 Surf Road and designated as Tax Lot 1900 of Section 36BC in Township 5 South, Range 11 West of the Willamette Meridian, Tillamook County, Oregon.

Notice of the application, a map of the subject area, and the applicable criteria are being mailed to all property owners within 250 feet of the exterior boundaries of the subject parcel for which the application has been made and other appropriate agencies at least 14 days prior to this Department rendering a decision on the request.

Written comments received by the Department of Community Development prior to 4:00p.m. on October 1, 2021 will be considered in rendering a decision. Comments should address the criteria upon which the Department must base its decision. A decision will be rendered no sooner than October 4, 2021.

A copy of the application, along with a map of the request area and the applicable standards/criteria for review are available for inspection on the Tillamook County Department of Community Development website: <https://www.co.tillamook.or.us/commdev/landuseapps> and is also available for inspection at the Department of Community Development office located at 1510-B Third Street, Tillamook, Oregon, 97141.

If you have any questions about this application, please contact Sarah Absher, CFM, Director at 503-842-3408 x 3317 or by email: sabsher@co.tillamook.or.us.

Sincerely,

Sarah Absher, CFM, Director

Enc. Applicable Ordinance Standards/Criteria
 Maps

Sarah Absher

From: Derrick Shippee <nrsa02@centurylink.net>
Sent: Thursday, September 30, 2021 1:20 PM
To: Allison Hinderer; Sarah Absher
Subject: EXTERNAL: Re: FW: Tillamook County: Admin Review for Neskowin Coastal Hazard Area Permit (Erickson)
Attachments: NRSA Easement for 5S 11 36 BC TL#1900.pdf

[NOTICE: This message originated outside of Tillamook County -- DO NOT CLICK on links or open attachments unless you are sure the content is safe.]

In response to Neskowin Coastal Hazard Area Permit #851-21-000054-PLNG: Erickson

The current engineered STEP system was designed for a single family dwelling with no more than 3 bedrooms.

Per line 3 of the signed and recorded NRSA STEP system easement:

The undersigned shall provide NRSA with a copy of any future building permit requests for the property.

At its option, and according to the requirements of OAR 340-071-0205, NRSA may require that a new application for sewer service be approved for the property.

Derrick Shippee
Operations Manager
Neskowin Regional Sanitary Authority
Ph.# 503-392-3257

From: Neskowin <nrsa01@centurylink.net>
To: NRSA <nrsa02@centurylink.net>
Date: Friday, 17 September 2021 11:59 AM PDT
Subject: FW: Tillamook County: Admin Review for Neskowin Coastal Hazard Area Permit (Erickson)

FYI

From: Allison Hinderer <ahindere@co.tillamook.or.us>
Sent: Friday, September 17, 2021 9:58 AM
To: Sarah Absher <sabsher@co.tillamook.or.us>
Cc: Allison Hinderer <ahindere@co.tillamook.or.us>
Subject: Tillamook County: Admin Review for Neskowin Coastal Hazard Area Permit (Erickson)

Easement Between:

* Charles & Elizabeth Allgood
25139 SW Quarryview Dr.
Wilsonville, OR 97070

And:

Neskowin Regional Sanitary Authority
P.O. Box 383
Neskowin, Oregon 97149

AFTER RECORDING RETURN TO:
Neskowin Regional Sanitary Authority
P.O. Box 383
Neskowin, Oregon 97149

UNTIL A CHANGE IS REQUESTED
SEND TAX STATEMENTS TO: NO CHANGE

Tillamook County, Oregon
02/03/2012 02:34:06 PM
2012-000559

DEED-ESMAT
\$10.00 \$17.00 \$18.00 \$10.00 - Total = \$47.00



I hereby certify that the within
instrument was received for record and
recorded in the County of Tillamook,
State of Oregon.



Tassi O'Neill, Tillamook County Clerk

This space provided for recorder's use.

Neskowin Regional Sanitary Authority STEP/STEG System Easement

In consideration of the benefits to be derived from the location, construction and maintenance of a pressure sanitary sewer ("System") by the Neskowin Regional Sanitary Authority ("NRSA"), the undersigned* hereby grants to NRSA, a political subdivision of the State of Oregon, a permanent easement for the purpose of maintaining and inspecting pressure sewer service lines, gravity sewer lines, interceptor tanks, sump pumps, pump vaults and facilities incidental thereto ("Facilities") on the following described property ("Property") in Neskowin, Oregon;

Part of Township 5S, Range 11, Section 36BC, Tax Lot 01900, Willamette Meridian, as more particularly described in that instrument recorded at 2007-8826; Deed records, Tillamook County, Oregon.

The location of such easement is shown in Exhibit A, which is attached hereto and incorporated herein by reference. The easement shall be subject to the following terms and conditions:

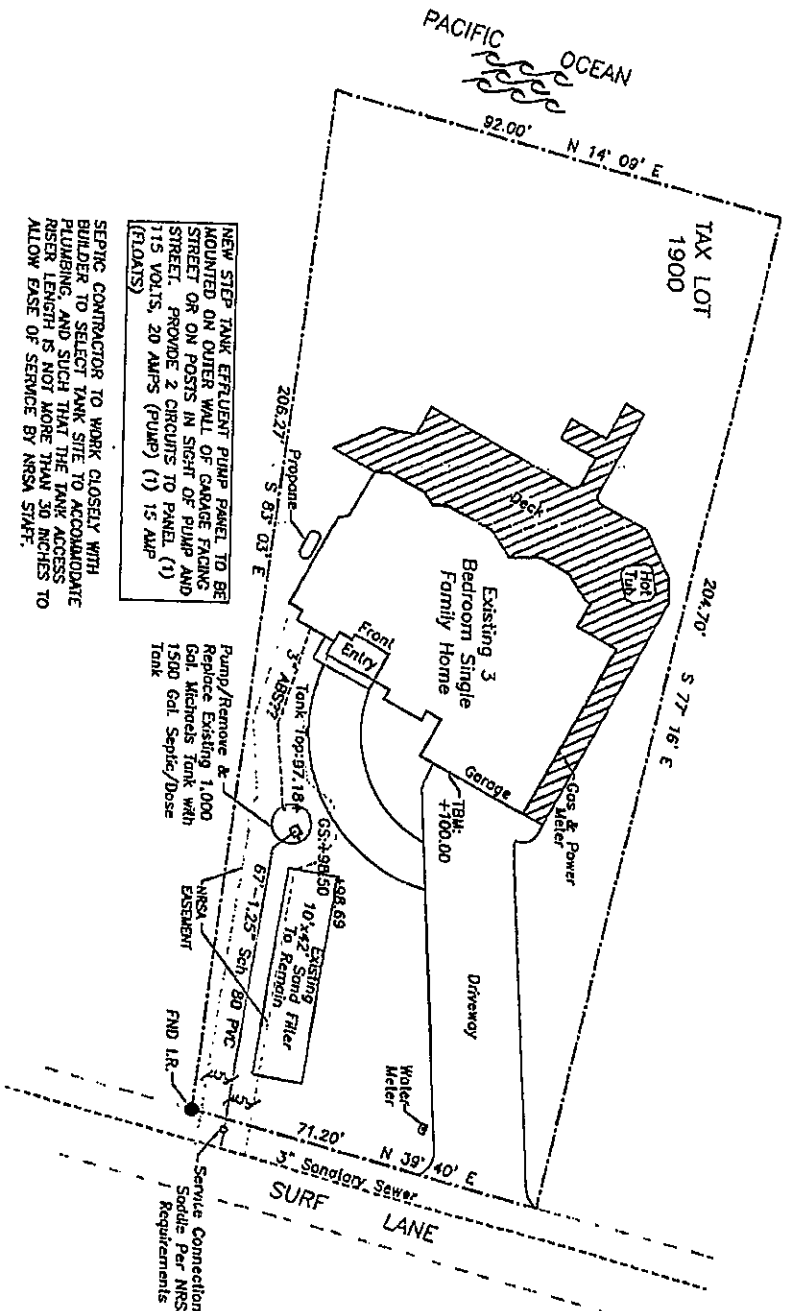
1. NRSA shall be responsible for routine inspection and maintenance of the Facilities, except that the undersigned shall be responsible for installation of the interceptor tank and for maintenance and repair of the sewer line between the interceptor tank and the structure being served.
2. The undersigned agrees to hold NRSA harmless from any and all claims arising from the installation, construction, maintenance, or inspection of the Facilities, and to hold harmless and indemnify NRSA against any and all claims arising from the undersigned's intentional or unintentional misuse of the Facilities or the System.
3. The undersigned shall provide NRSA with a copy of any future building permit requests for the Property. At its option, and according to the requirements of OAR 340-071-0205, NRSA may require that a new application for sewer service be approved for the Property.
4. For the duration of this easement, and for all purposes mentioned herein, the undersigned grants to NRSA a license to use roads upon the Property, if such roads exist.
5. The undersigned shall not erect any structure, excavate soil, or substantially modify the ground cover within 10 feet of any septic/interceptor tank or pump vault facility, or within 5 feet of any service line installed by NRSA, without NRSA's express permission.
6. This permanent easement shall run with the land, and the rights, conditions, and provisions of the easement shall inure to the benefit of, and be binding upon, the heirs, successors and assigns of the parties hereto.

DATED this 24 day of January, 2012*

Elizabeth H. Allgood
Signature GRANTEE (s)

STATE OF OREGON)
Clackamas) ss.
County of Tillamook)

This instrument was acknowledged before me on January 24, 2012



SEPIC CONTRACTOR TO WORK CLOSELY WITH BUILDER TO SELECT TANK SITE TO ACCOMMODATE PLUMBING, AND SUCH THAT THE TANK ACCESS RISER LENGTH IS NOT MORE THAN 30 INCHES TO ALLOW BASE OF SERVICE BY NRSA SWAF.

NEW STEP TANK EFFLUENT PUMP PANEL TO BE MOUNTED ON OUTER WALL OF GARAGE FACING STREET OR ON POSTS IN SIGHT OF PUMP AND STREET. PROVIDE 2 CIRCUITS TO PANEL. (1) 115 VOLTS, 20 AMPS (PUMP) (1) 15 AMP (FLOATS)

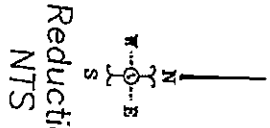
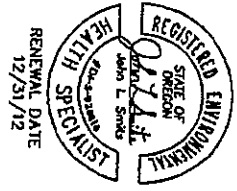
Pump/Remove & Replace Existing 1,000 Gal. Methods Tank with 1500 Gal. Septic/Dose Tank

EXISTING 10'x42' Sand Filter To Remain

NRSA EVIDENT

FND 1.R.

Service Connection By Sodie Per NRSA Requirements



SHEET San 1 of 1	OVERALL SITE PLAN	Smits & Associates, Inc. Environmental Consultants • Designers 16878 S. W. Gassner Lane Lake Oswego, OR 97035-4524 John L. Smits, REHS Ph. (503) 690-2898 Fax (503) 690-2876 Email: jlsmits@aol.com
	Elizabeth W. Allgood 49670 Surf Lane T.55.,R. 1 W.,Sec.36BC TL 1900 Tillamook County	
Oct. 25, 2011		



Wetland Land Use Notice Response

Response Page

Department of State Lands (DSL) WN#*
WN2021-1024

Responsible Jurisdiction

Staff Contact	Jurisdiction Type	Municipality
Sarah Absher	County	Tillamook
Local case file #	County	
851-21-000054-PLNG	Tillamook	

Activity Location

Township	Range	Section	QQ section	Tax Lot(s)
05S	11W	36	BC	1900

Street Address
49670 Surf Rd
Address Line 2
City
Postal / Zip Code

State / Province / Region
Country
Tillamook

Latitude
45.095375

Longitude
-123.987366

Wetland/Waterway/Other Water Features

- There are/may be wetlands, waterways or other water features on the property that are subject to the State Removal-Fill Law based upon a review of wetland maps, the county soil survey and other available information.
- The National Wetlands Inventory shows wetland, waterway or other water features on the property
- The county soil survey shows hydric (wet) soils on the property. Hydric soils indicate that there may be wetlands.

Your Activity

- A state permit will not be required for the proposed project because, based on the submitted site plan, the project avoids impacts to jurisdictional wetlands, waterways, or other waters.

Closing Information



Additional Comments

The project addition is being constructed in an already developed footprint and wetlands and waters do not appear present.

This is a preliminary jurisdictional determination and is advisory only.

This report is for the State Removal-Fill law only. City or County permits may be required for the proposed activity.

Contact Information

- For information on permitting, use of a state-owned water, wetland determination or delineation report requirements please contact the respective DSL Aquatic Resource, Proprietary or Jurisdiction Coordinator for the site county. The current list is found at: <http://www.oregon.gov/dsl/ww/pages/wwstaff.aspx>
- The current Removal-Fill permit and/or Wetland Delineation report fee schedule is found at: <https://www.oregon.gov/dsl/WW/Documents/Removal-FillFees.pdf>

Response Date

10/15/2021

Response by:

Daniel Evans

Response Phone:

503-986-5271

EXHIBIT D

INSTRUCTIONS FOR FILING AN AFFIDAVIT
FOR THE DEVELOPMENT OF A PROPERTY WITHIN THE NESKOWIN
COASTAL HAZARDS OVERLAY (Nesk-CH) ZONE

1. This acknowledgment is required for development on a property within the Neskowin Coastal Hazard Overlay (Nesk-CH) zone that is subject to a Neskowin Coastal Hazard Zone Permit.
2. The attached Affidavit must be filled out and signed before a Notary Public.
3. Names of ALL current property owners who appear on the property deed or contract shall be shown, typed in the appropriate space at the top of the document, and signed in the presence of a Notary Public. (Signatures must be IDENTICAL to those listed.)
4. Property description must be IDENTICAL to what has been recorded in the Tillamook County Deed Records. This is what is referred to as Exhibit A on the covenant.
5. The applicant shall record the Statement with the Tillamook County Clerk in the Tillamook County Courthouse. After recording with the Clerks, a copy shall be provided to Community Development confirming the filing has occurred.
6. Each property involved will require a separate Affidavit.
7. If you have any questions about the Affidavit, or the recording procedure, please contact the Department of Community Development at (503) 842-3408 x3410.

After Recording Return To:

Neskowin Coastal Hazard Zone Permit Affidavit

THIS RESTRICTIVE COVENANT, Made this _____ day of _____, 20____, by and between _____ and the County of Tillamook for property located in said County and further described as follows, to-wit:

PROPERTY LEGAL DESCRIPTION attached as Exhibit A hereto and incorporated by reference

Do hereby promise and covenant as follows:

The property herein described is located within the Neskowin Coastal Hazard Overlay (Nesk-CH) zone in Tillamook County, Oregon and is subject to potential chronic natural hazards. The owners/residents of this property understand that development thereon is subject to risk of damage from such hazards. The owners/residents of this property have obtained a geologic report for the subject property in preparation for development of said property, a copy of which is on file with Tillamook County.

I/We, being said property owner, have reviewed the geologic report and have thus been informed and are aware of the type and extent of hazards present and the risks associated with development on the subject property.

I/We do hereby accept the potential impacts and assume all risks of damage from natural hazards associated with the development of the subject property.

This affidavit shall run with the land and is intended to and hereby shall bind my/our heirs, assigns, lessees, and successors and it can not be deleted or altered without prior contact and approval by the Tillamook County Department of Community Development or its successor.

IN WITNESS WHEREOF, the said Party has executed this instrument this _____ day of _____ 20____, **COUNTY OF TILLAMOOK.**

BY: _____
Department of Community Development

BY: _____
Property Owner

STATE OF OREGON
County of _____
_____ 20____,

STATE OF OREGON
County of _____
_____ 20____,

Personally appeared the above named

Personally appeared the above named

and acknowledged the foregoing instrument to
_____ voluntary act and deed.

and acknowledged the foregoing instrument to
_____ voluntary act and deed.

Before me:

Notary Public of Oregon
(My Commission Expires)

Before me:

Notary Public of Oregon
(My Commission Expires)