



VARIANCE REQUEST #851-22-000267-PLNG: McGLYNN

*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: October 20, 2022

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

#851-22-000267-PLNG: A Variance request to reduce the required 20-foot front yard setback to 11-feet and to exceed the 35-foot height maximum by 6-feet for a maximum building height of 41-feet as measured from existing, pre-construction grade. Located in the Unincorporated Community of Neskowin, the subject property is Lot 57 of Sahhali Shores, is accessed via Haystack Drive, a private road, is zoned Neskowin Rural Residential (NeskRR) and designated as Tax Lot 2900 of Section 13DB, Township 5 South, Range 11 West, W.M., Tillamook County, Oregon. The applicant is Stephen Weeks. The property owner is Rob McGlynn.

Written comments received by the Department of Community Development prior to 4:00 p.m. on November 3, 2022, 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 the next business day, November 4, 2022. 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 an application has been made and other appropriate agencies at least 14 days prior to this Department rendering a decision on the request.

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

If you have any questions about this application, please contact the Department of Community Development at (503) 842-3408 ext. 3412 or by contacting Lynn Tone, DCD Office Specialist, at ltone@co.tillamook.or.us.

Sincerely,

A handwritten signature in blue ink that reads "Sarah Absher". The signature is fluid and cursive, with the first letter of each name being capitalized and prominent.

Sarah Absher, CFM, Director

Enc. Maps and applicable ordinance criteria

REVIEW CRITERIA

ARTICLE VIII - VARIANCE PROCEDURES AND CRITERIA

SECTION 8.030: REVIEW CRITERIA: A VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

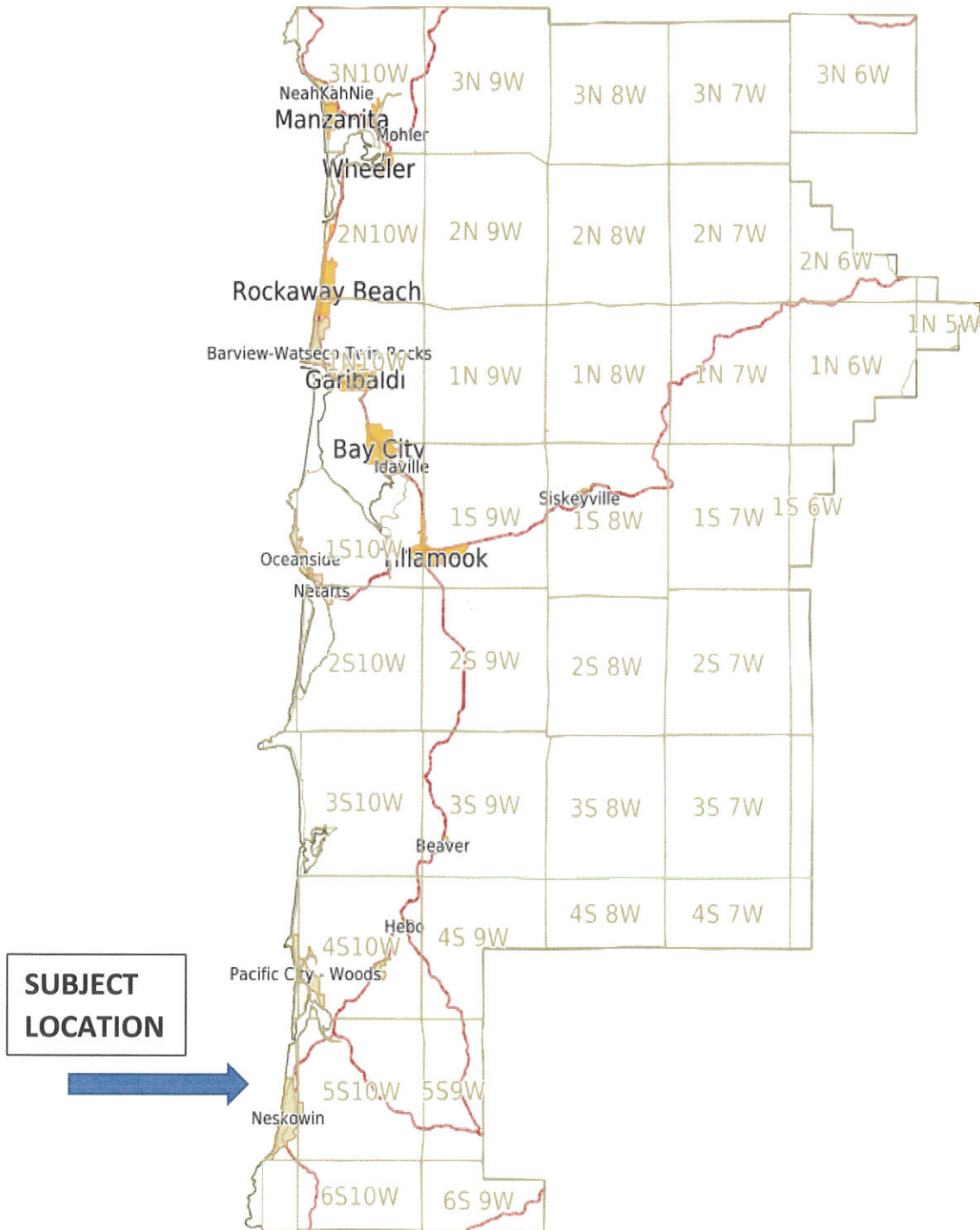
- (1) Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self-created.
- (2) A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.
- (3) The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.
- (4) There are no reasonable alternatives requiring either a lesser or no VARIANCE.

SECTION 4.005: RESIDENTIAL AND COMMERCIAL ZONE STANDARDS

In all RESIDENTIAL AND COMMERCIAL ZONES, the purpose of land use standards is the following:

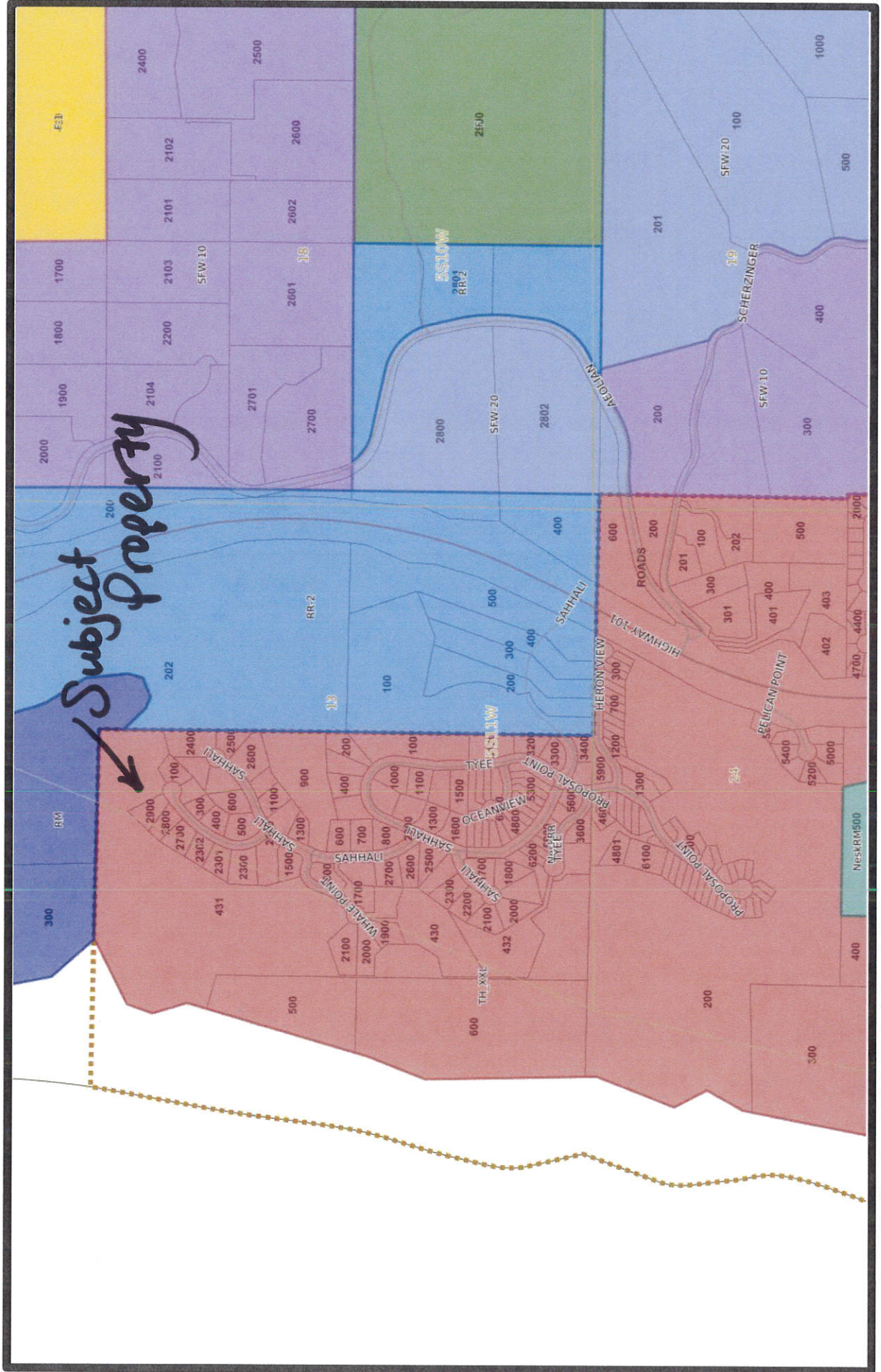
- (1) To ensure the availability of private open space;
- (2) To ensure that adequate light and air are available to residential and commercial structures;
- (3) To adequately separate structures for emergency access;
- (4) To enhance privacy for occupants of residences;
- (5) To ensure that all private land uses that can be reasonably expected to occur on private land can be entirely accommodated on private land, including but not limited to dwellings, shops, garages, driveways, parking, areas for maneuvering vehicles for safe access to common roads, alternative energy facilities, and private open spaces;
- (6) To ensure that driver visibility on adjacent roads will not be obstructed;
- (7) To ensure safe access to and from common roads;
- (8) To ensure that pleasing views are neither unreasonably obstructed nor obtained;
- (9) To separate potentially incompatible land uses;
- (10) To ensure access to solar radiation for the purpose of alternative energy production.

VICINITY MAP



#851-22-000267-PLNG: McGLYNN

Map





PLANNING APPLICATION

OFFICE USE ONLY	
Date Stamp	
RECEIVED	
JUL 1 1 2022	
BY: <u>mail</u>	
<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Received by: <u>MJ</u>	
Receipt #:	
Fees: <u>1,300</u>	
Permit No: 851- <u>22</u> - <u>00207</u> -PLNG	

Applicant (Check Box if Same as Property Owner) 503-867-3105

Name: Stephen Weeks Phone: ~~503-226-1575~~

Address: 720 SW Washington St #800

City: Portland State: OR Zip: 97205

Email: ~~weeks@bora.co~~ Stephenweeks architect@gmail.com

Property Owner

Name: Rob McGlynn Phone: 203.906.8320

Address: 1322 SW Upland Dr

City: Portland State: OR Zip: 97221

Email: robert.mcglynn@gmail.com

Request: Front yard setback and height variance for single family residential lot in Sahhali Shores, Neskowin.

- | Type II | Type III | Type IV |
|--|--|---|
| <input type="checkbox"/> Farm/Forest Review | <input type="checkbox"/> Appeal of Director's Decision | |
| <input type="checkbox"/> Conditional Use Review | <input type="checkbox"/> Extension of Time | <input type="checkbox"/> Appeal of Planning Commission Decision |
| <input checked="" type="checkbox"/> Variance | <input type="checkbox"/> Detailed Hazard Report | <input type="checkbox"/> Ordinance Amendment |
| <input type="checkbox"/> Exception to Resource or Riparian Setback | <input type="checkbox"/> Conditional Use (As deemed by Director) | <input type="checkbox"/> Large-Scale Zoning Map Amendment |
| <input type="checkbox"/> Nonconforming Review (Major or Minor) | <input type="checkbox"/> Ordinance Amendment | <input type="checkbox"/> Plan and/or Code Text Amendment |
| <input type="checkbox"/> Development Permit Review for Estuary Development | <input type="checkbox"/> Map Amendment | |
| <input type="checkbox"/> Non-farm dwelling in Farm Zone | <input type="checkbox"/> Goal Exception | |
| <input type="checkbox"/> Foredune Grading Permit Review | | |
| <input type="checkbox"/> Neskowin Coastal Hazards Area | | |

Location:

Site Address: Sahhali Shores Unit 2, Lot 57, Haystack Drive

Map Number: 5S 11W 13DB 2900
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.

[Signature]
 Property Owner Signature (Required)

7/7/22
 Date

[Signature]
 Applicant Signature

July 7, 2022
 Date

BORA



July 8, 2022

Melissa Jenck

Tillamook County
Community Development
1510-B Third Street
Tillamook, OR 97141

RE: McGlynn Residence Variance Request

Dear Ms. Jenck:

Enclosed please find an application for a variance from the minimum front yard setback and maximum height on behalf of our clients Rob and Sarah McGlynn. The topographic and dimensional constraints of their property on Haystack Drive in Neskowin create a hardship for the development of the property as a residence for their family.

This application includes the following documents:

1. Tillamook County Type II Planning Application
2. Memorandum in response to the applicable criteria
3. Drawing set documenting site conditions and proposed design
4. Topographic survey by Kellow Land Surveying
5. Geologic Hazard Report by R. Warren Krager and Morgan Civil Engineering

Thank you for your consideration of this application. If additional information is required, please let me know.

Sincerely,

Bora Architects

Stephen Weeks, AIA, Principal

BORA

A VARIANCE shall be granted, according to the procedures set forth in Section 8.020, if the applicant adequately demonstrates that the proposed VARIANCE satisfies all of the following criteria:

- 1. Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, if all applicable standards were to be met. Such circumstances may not be self-created.***

The property is the legally existing Lot 57 within Unit Two of the Sahhali Shores development in Neskowin. It is Tax Lot 2900 at the north end of Haystack Drive. Please refer to the Vicinity Plan shown on page 2 of the enclosed graphics. Article III of the Tillamook County land use ordinance establishes the property belongs to the Neskowin Rural Residential Zone (NeskRR). Section 3.320 confirms this land is suitable for homesites while maintaining the rural character of the community. The proposed development of a single-family house is permitted outright by 3.322(a).

The property is trapezoidal in shape with the narrowest dimension, approximately 60 feet, along the road frontage. This is an unusually narrow lot, legally platted but quite a bit smaller in width than the 100-foot minimum established by 3.324(d). The parcel extends down the hill to the northwest for roughly 200 feet reaching a maximum width of about 155 feet. The total area of the lot is approximately 20,800 square feet. Refer to the enclosed Site Survey by Kellow Land Surveying. Water service is available at the street and wastewater will be discharged to the community STEP system as required by the Sahhali Shores Consolidated Owners Association (COA).

The slope averages 50% as it falls nearly 100' down from the road, but the steepest slopes, about 75%, occur at the top of the slope immediately adjacent to Haystack Drive. Setbacks, as established by 3.324(h-j) are 20 feet at the front and rear yards and 5 feet at the east side yard adjacent to protected open space. Sahhali Shores COA regulations establish a more restrictive setback of 15 feet on the west side yard adjacent to tax lot 2800, further restricting the narrow lot. Per Section 4.117, roof overhangs may extend into the required setback two feet if the eaves are part of an energy efficiency measure providing shading to the windows and the walls below. As energy efficiency is an important goal of the owner, the proposed roof includes large projecting eaves as part of a holistic sustainable design solution.

This lot is the steepest in all of Sahhali Shores and has the least street frontage of any lot on Haystack Drive. See the Neighborhood Topo Plan on page 3. These dimensional and topographic conditions create significant challenges to the development of the property as a single-family residence. From the outset of design, the primary goal is to create a house that harmonizes with the beautiful landscape, preserving as many trees as possible, limiting the disturbance of the environment that comes from grading and construction, and minimizing the impact of the house on views from neighboring properties.

The maximum building height per Section 3.324(l) is 35 feet from the existing natural grade to any point of the structure. The property is not an ocean-front lot per Tillamook County zoning map. The Vicinity Plan on page 2 depicts this condition. Sahhali Covenants, Conditions and Restrictions (CCR) 9.3.2(e) establishes a different limit on building

height. The maximum allowable height is 30 feet, measured from the average existing contour on the uphill side of the house. While more restrictive on the uphill side of the house, this regulation is actually more accommodating of the impacts of steep sites on building geometry.

Due to its location, orientation and downward slope, the lot is well secluded from neighboring properties. The two houses across the street are positioned on much higher ground, with grade at the base of the house on tax lot 100 approximately 38 feet above and lot 200 about 54 feet above the highest grade at the house location on the subject property. Views of the coastline from these houses will remain. Furthermore, the design of both of these houses places the primary living spaces on the second floors where site lines are even more advantageous. See the Neighborhood Site Plan on page 4 and the Neighborhood Section Diagram on page 5 for illustrations of this relationship.

The orientation of these houses has also been considered in our design proposal. The house on lot 100 is oriented to enjoy primary views due north over the protected open space. Photographs on page 6 show the large windows on the north façade. It also enjoys views to the west, although this vantage is over lot 2800 and nearly unaffected by the subject property. Mindful that this site line crosses the southwest corner of the McGlynn lot, we have positioned the house as far northeast as possible and stepped the plan of the house to minimize any possible encroachment on this view. See the Neighborhood Site Plan on page 4.

The house on lot 200 is oriented to face northwest and positioned as far to the rear of the lot as possible to gain the most height possible. As described above this allows views of the coastline over the roofs of the houses across the street. The primary view from this house to the coastline extends northwest over lot 2800 and the McGlynn lot. Due to the relatively flatter grade however the base elevation of any future house developed on lot 2800 is about 8 feet higher than the McGlynn lot. Again, the strategy of positioning the proposed house as far northeast as possible and stepping the plan minimizes the presence of the McGlynn house in the views from lot 200.

Any house developed on lot 2800 will enjoy unimpeded views up and down the coastline, unaffected by the proposed house on lot 2900. The topography transitions around a subtle ridge from a west-northwest slope on lot 2800 to the more northerly slope of the McGlynn lot. This serves to further remove the proposed McGlynn house from any possible field of view from lot 2800.

The Beach Vegetation Line is about 1000 feet to the northwest of the proposed house and about 120 vertical feet below. The intervening land is a spruce-dominant coastal forest, including alders and an understory of ferns and salal, sloping down to the wetlands at the south end of Daley Lake and the property occupied by Winema Camp. The impact to these adjacent properties from development of the proposed house is negligible. This includes the beach itself, from which the proposed McGlynn house will be barely visible due to distance and forest density.

The overall layout of the house is organized as two rectangular volumes placed nearly perpendicular to the fall line of the slope to minimize grading impacts and maximize preservation of the natural conditions of the site. The two zones of the house each contain two levels of living space and are offset in plan to minimize impact to view corridors for the two houses located across Haystack Drive as described above. Page 7 of the enclosed graphics shows the overall Site Plan. The site design strategy achieves favorable views to the north from the primary rooms of the house while it expands the southern exposure, allowing more sunlight to penetrate the house, a precious resource in the dreary climate of the Oregon coast. This is an important part of the holistic energy efficiency strategy as the solar exposure provides a passive boost in the heating dominant climate.

The stepped plan reduces the bulk of the house in general and achieves compliance with the lot coverage standard established by NeskRR 3.324(k)(2). The two volumes are also stepped in section in response to the hillside with the

northern portion of the house one story below the southern. The total area of living space is approximately 2,800 square feet, exclusive of the garage, in compliance with the 1,800 sf minimum established by CCR 9.3.2(c). Article 9.7 requires a two-car garage.

The Geologic Hazard Report (enclosed for reference) states: "Due to the steep slope, the garage should be set as close to the roadway as possible in order to reduce grading." Our design analysis confirms the wisdom of this recommendation. The grade along the buildable frontage at the front yard setback line ranges from 13 feet to 23 feet below the elevation of the road with slopes in excess of 75%. This requires the driveway to be built on an elevated concrete structure supported on walls and columns. The proposed design slopes the driveway down from the road at 25% slope, the maximum recommended by consulting civil engineer Jason Morgan, with allowances for flatter transition zones to avoid cars bottoming out. This very steep driveway sets the floor level of the garage at elevation 147'. With a square footprint approximately 21 feet on a side to accommodate the required two vehicle parking spaces, the base of the rear wall of the garage is 28 feet above grade. With a 9 feet clear space inside the garage to reasonably accommodate the family's vehicles with rooftop equipment racks plus an 18" thick roof construction the height reaches 38'-6" above grade before even factoring in an allowance for a sloped roof. The simple realization that the land slopes down much more steeply than the driveway can (75% versus 25%), supports the positioning of the garage as close to the road as possible. The further the garage is placed from the road the taller the structure must be. In simple terms, the 50% delta in slopes means that for every foot of horizontal distance from the road, the vertical height of the garage above grade grows by 6". Page 12 includes a Cross Section through the driveway and the garage.

Due to the narrowness of the lot, the buildable space adjacent to the garage is not sufficient to accommodate the primary living spaces of the house. This is the logical arrangement of the house found on lot 2700, two properties to the south, a design made possible by a lot that is 75% wider. The necessary solution proposed for the McGlynns is to place the primary living spaces behind and below the garage, taking advantage of the widening dimensions of the lot and the space created by the topography, which is falling away at approximately 50% slope in this region. Adjacent to the garage, the upper level of the proposed design accommodates only the entrance, a coat closet, a small mudroom and the stair to get down into the main part of the house. This keeps the footprint of the upper volume, the only level of the house visible from the street, as small as possible with only 327 square feet of living space adjacent to the garage. See pages 8-10 for the proposed floor plans and page 13 for an elevation of the street-facing facade.

If all development standards were met, this property cannot be developed as a single-family house with a garage due to the dimensional and topographic conditions. Therefore, the request is for consideration of two variances: a reduction of the minimum 20 feet front yard setback and an increase to the 35 feet maximum allowable height. The two are interrelated since the position of the house on the site determines the height of the structure above the slope. The height variance is only necessary on the downhill side of the house because the proposed design complies on the uphill, street-facing side, and even meets the more restrictive Sakhali CCR limit of 30 feet.

The request is to reduce the setback by two feet, to a minimum of 18 feet from the property line. To minimize the perceived impact of the house positioned slightly closer to the road, the plan is carefully stepped to respect the angular geometry of the setback line. The resulting design only encroaches into the setback zone at two locations that total about 40% of the width of the street-facing facade. The remaining portion exceeds the 20 feet setback minimum. See the Site Plan on page 7 for the proposed layout.

The design of the house incorporates generous eaves that protect the walls and windows of the house with roof overhangs that range from 2 feet to 7 feet. The roof not only improves the durability of the walls, it also increases energy performance of the house by shading the windows and the walls from summer solar heat gain. The largest overhangs create covered outdoor spaces that offer protection from the rain. One of these forms a covered entry for

both the front door to the house and the garage door. It is similar to a porch, although the floor surface is necessarily flush with the driveway and the roof is cantilevered, and creates a weather-protected entrance, a necessity in this climate and a feature of all houses in the neighborhood.

To accommodate this roof overhang, we request an adjustment to the allowable eave encroachment standard from two feet to nine feet. Again, due to the geometry of the plan, only the southeast corner of the roof would encroach into this zone. Without this adjustment, the garage and the house would have to be positioned further from the road resulting in a structure that is approximately 3'-6" taller than proposed, as described above.

To construct a single-family house on this unique site, based on the proposed setback variance, we request an adjustment of six feet to the maximum allowable height. This would only apply to the walls on the downhill side of the house accommodating the ridge of the sloped roof that reaches a maximum of 41 feet above grade. The proposed design remains below the Sahhali CCR limit of 30 feet on the uphill, street-facing side of the house. The drawing on page 11 depicts the proposed Roof Heights Above Grade while Elevation Diagrams are shown on page 14 and 15.

2. A VARIANCE is necessary to accommodate a use or accessory use on the parcel which can be reasonably expected to occur within the zone or vicinity.

The proposed single-family dwelling is an expected use of the property explicitly allowed under Section 3.322 of the Land Use Ordinance. To reasonably accommodate this use on this unique property, variances are necessary. As described above, the modest footprint of the upper level, only containing the required garage and the house entry space placed as low as possible with the steepest recommended driveway exceeds the standard for allowable height in Section 3.324(l). A height variance is necessary. The proposal includes a front setback variance request in order to minimize the amount of the necessary height variance. The design solution proposed is thoughtfully considered to minimize the overall presence and impact of the house on this site and from the neighboring houses. If all setback standards were met, the house would be approximately 3.5 feet taller due to the fact that the ground is sloping down at a much steeper rate than the driveway. The taller house set further from the road would have greater impact on neighboring properties, a larger carbon footprint, an increased risk from wind and seismic forces not to mention an ungainly bulk, out of proportion for a single-family house. It would also require the removal of one of the largest Sitka spruce trees on the property.

3. The proposed VARIANCE will comply with the purposes of relevant development standards as enumerated in Section 4.005 and will preserve the right of adjoining property owners to use and enjoy their land for legal purposes.

Granting the requested variances to construct a single-family residence will comply with the development standards as enumerated in 4.005 as described below.

4.005 (1) To ensure the availability of private open space;

Approval of the requested variances is essential to create private open space on this land for enjoyment of the surrounding natural environment. Granting the variances does not infringe on the right of neighboring property owners to enjoy private open space on their land.

4.005 (2) To ensure that adequate light and air are available to residential and commercial structures;

Adequate light and air to residential structures will be preserved even by the granting of the requested variances. The design proposal for the dwelling is specifically arranged to capture sunlight from the southern side of the house. Since the property is a north-facing slope without adjacent private properties on the shadowed side of the house, the proposed design will cause no loss of sunlight to structures, including any likely to be built in the future. The nearest existing house is approximately 115 feet away, so the proposal has no impact on access to air. The proposed house remains 15 feet at the nearest point and 26 feet on average from the only adjacent common property line. This exceeds the 5 feet side setback standard and results in adequate air and light for any future structure developed on that lot.

4.005 (3) To adequately separate structures for emergency access;

As described in the previous response, the proposed dwelling maintains ample distance between structures. Granting of the requested variances will not constrain emergency access and, in fact the positioning of the house closer to the street, if approved, would improve emergency access to this property. The structure would be more accessible to emergency vehicles on Haystack Drive and more easily reached by emergency personnel, via the shorter driveway or by traversing the slope around the perimeter of the house.

4.005 (4) To enhance privacy for occupants of residences;

The proposed house has been designed to maximize privacy for all property owners. The primary living spaces are arranged to take advantage of the landscape views through ample windows to the west, north and east. The property has the favorable condition at the end of the buildable lots on Haystack Drive with protected open space bordering the property on two sides (northwest and northeast). The windows facing south, toward the neighboring houses, are protected by the steep topography. Aside from a modest street facing window associated with the entrance, the south windows in the proposed design are located at the middle level of the house, one level below the entrance, and therefore look into the steep hillside preserving privacy for all.

4.005 (5) To ensure that all private land uses that can be reasonably expected to occur on private land can be entirely accommodated on private land, including but not limited to dwellings, shops, garages, driveways, parking, areas for maneuvering vehicles for safe access to common roads, alternative energy facilities, and private open spaces;

The proposed house will be constructed entirely on private land. This includes the two-car garage, the driveway which connects safely to Haystack Drive and the outdoor private decks and porches.

4.005 (6) To ensure that driver visibility on adjacent roads will not be obstructed;

Approval of the requested variance to allow construction of the proposed design will not alter driver visibility on Haystack Drive. The property abuts a cul-de-sac that terminates the common road, the safety and visibility of which is unaffected by the proposed variances. No obstructions for drivers are created by this proposal.

4.005 (7) To ensure safe access to and from common roads;

The proposed dwelling includes a short, sloping driveway built on a concrete structure above the very steep terrain including safety guardrails engineered to withstand vehicle loads. The granting of the requested variance to reduce the front setback will reduce the length and vertical distance it descends to the garage, increasing safety of the access to Haystack Drive by making it easier to maneuver a vehicle in and out of the property. Pedestrians will also use the sloping driveway though a series of shallow steps are planned to ease movement.

4.005 (8) To ensure that pleasing views are neither unreasonably obstructed nor obtained;

The views from the adjacent properties on the west side of Haystack Drive are not obstructed by the proposed design with requested variances. In fact, the granting of a setback variance improves the sightline to favorable views from the adjacent undeveloped lot south of the subject property. Views from the houses across the street will be preserved in

such a way that does not preclude the project site from rightfully enjoying similar views. Care has been taken with the proposed design to minimize its presence in the views from the two houses across Haystack Drive. The house at 5310 (lot 100) is oriented and designed to capture views due north and due west. These primary viewsheds have minimal engagement with the subject property and the proposed house is positioned as far northeast on the lot as practicable and stepped in plan and in height to maintain the favorable view corridors from this house. See Site Plan on page 4.

The house at 5320 (lot 200) is oriented toward views of the coastline to the northwest. The primary viewshed lies to the southwest of the subject property, passing over lot 2800. Again, with consideration of this view corridor, the positioning of the proposed house to the northeast, the stepping of the plan, and the stepping down of the heights of the house volumes all benefit the views from lot 200 and minimize the presence of the proposed house.

The design of the roof slopes of the house has also been developed with sensitivity to the view corridors from both of these neighboring houses. Since these view corridors intersect with the subject property at glancing angles on the east and west sides of the proposed design, the roof is intentionally sloped down toward these locations. The resulting arrangement of gable rooflines positions the lowest eaves on the east and west ends where the mass of the house approaches the neighbor's viewsheds minimizing obstruction of views in all instances. The high points of the roof, along the ridges, are located near the center of the proposed house where they create the least possible impact on views. To further minimize the height of the ridges, the roof slope is proposed at 2.5:12, the lowest pitch we can recommend in this climate and on this forested property. Additionally, the proposed roof design minimizes the presence of the house from the street. The average height of the roof above grade on the uphill, street-facing side is about 20 feet, substantially lower than the county-permitted standard of 35 feet and even the more restrictive Sahhali Shores limit of 30 feet. See page 13 for an illustration of the street façade.

It should also be noted that the two houses across the street sit on substantially higher ground, 38 feet and 54 feet above the base elevation of the proposed house, as detailed above. Page 5 shows this relationship for Lot 200. From these advantageous positions, favorable views of the ocean, the trees and the horizon will remain unobstructed over the top of the proposed house.

4.005 (9) To separate potentially incompatible land uses;

The proposed development of the property as a single-family house is permitted outright within the NeskRR zone. No incompatible land uses are proposed.

4.005 (10) To ensure access to solar radiation for the purpose of alternative energy production.

As the northernmost property within the Sahhali Shores community, this lot has no impact on the availability of solar radiation on any of the neighboring buildable parcels. The property to the north, the direction of potential solar shading, is protected open space and not suitable for energy production.

4. *There are no reasonable alternatives requiring either a lesser or no VARIANCE.*

Due to the extreme slope, the property cannot be developed as a single-family residence without approval of the requested variances. There are no reasonable alternatives. Denial would deprive the property owners of their substantial right to enjoy the same pleasures of living in the beautiful Oregon coastal environment as their neighbors, including favorable views from their developed land. This property is unique among the lots in the Sahhali Shores. It is the steepest lot with the shortest frontage and requires favorable consideration of the requested variances to construct a single-family house. Denial of the requested variances would substantially harm the property owners, who have a

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significant financial investment in this legally platted property valued as a buildable lot within the Sahhali Shores neighborhood, a planned community approved for single-family houses by Tillamook County.

To understand the impact of the steep slope, it is helpful to compare it to the adjacent, undeveloped lot (TL 2800). If the same design as proposed for the McGlynn's property were placed on the adjacent lot, the height would be 24 feet less on the downhill side because the slope is not nearly as steep. The height of the house on the uphill, street-facing side would be the same. The variance requests are not aimed to fulfill a desire for a tall house or to achieve more favorable views. They are just the geometric reality of building *any* house on such a steep site.

As detailed above, the location of the house significantly determines the resulting height above grade. The design optimizes this relationship by balancing a reasonably closer position to the road with a reasonable increase in height on the downhill side. If the setback variance were denied or a lesser variance were approved, the magnitude of the necessary height variance would increase. With careful consideration of all the variables and with particular attention to minimizing any potential impact on the views from neighboring properties, the proposed design resolves the complex challenge of developing a single-family house on this site in compliance with all other development standards.

Alternatives were explored as a normal part of a thorough design process, but different arrangements of the plan on the property and different roof configurations produced downsides to solar access, energy efficiency, grading impacts, tree preservation, and most significantly, the presence of the mass of the house within the view corridors of neighboring properties. The proposed design, with the requested variances to front setbacks and downhill building heights, is the optimal solution grounded in the Tillamook County Development Standards and the Sahhali Shores CCRs.

October 5, 2021

Robert McGlynn
In care of Jason Morgan, P.E.
Morgan Civil Engineering, Inc.

**Re: Engineering Geologic Site Reconnaissance
 and Geologic Hazard Report
 Proposed McGlynn Home, Lot 57, Haystack Drive,
 Sahhali Shores Subdivision, Map 5S 11W 13DB, Tax Lot 2900
 Tillamook County, Oregon**

Dear Mr. McGlynn and Mr. Morgan,

As requested, I am pleased to submit my engineering geologic reconnaissance and geologic hazard report for the above referenced property and proposed residential development.

Introduction

This geologic hazard report has been prepared in general accordance with the Tillamook County Land Use Ordinance (TCLUO) Section 4.130, Development Requirements for Geologic Hazard Areas. The subject lot is mapped by the Oregon Department of Geology and Mineral Industries in a zone of 10 to 24 percent slopes. Actual slope on the subject lot exceeds 85 percent.

R. Warren Krager, R.G., C.E.G. (Oregon Licensed Engineering Geologist E-957) conducted the surficial reconnaissance of Tax Lot 2900 on Monday May 17, 2021, with Mr. Jason Morgan, P.E. of Morgan Civil Engineering, Inc. Approximately one hour was spent on site and in the vicinity of the property. We observed existing site conditions including vegetation, natural slopes and graded topography, drainage conditions, exposed surface soils and bedrock in the area. We also noted and discussed the general age and condition of mature trees, roadway, utilities, existing nearby homes, and the occurrences of hard sandstone bedrock in outcrops and excavations in the project area.

The conclusions and recommendations of this report are based on observation of surface soil and slope conditions, limited subsurface exploration using a hand auger, observation of local surrounding area for soils, geologic exposures and obvious evidence of earth movement, a background geologic literature and mapping review, and general familiarity with engineering geologic conditions of the area.

In preparing this report, available geologic hazard maps and reports, various site plans, design sketches and available topographic data were reviewed for detailed information pertinent to the subject site and local vicinity. The following information were reviewed and used in preparation this report:

- Environmental Geology of the Coastal Region of Tillamook and Clatsop Counties, Oregon, Oregon Department of Geology and Mineral Industries (DOGAMI), Bulletin 74, 1972.
- Preliminary Geologic Map of the Nestucca Bay Quadrangle, Tillamook County, Oregon, United States Geological Survey, Open File Report 90-202, 1990.
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/>.accessed June 10, 2019.
- Google Earth website aerial photographs of the Sahhali Shores area, photo dates: May 5, 1994, August 15, 2000, June 28, 2005, April 22, 2011, July 30, 2014, August 23, 2016, and June 22, 2017.
- Lidar Topographic tax lot map of Tax Lot 2900 and vicinity, prepared by Morgan Civil Engineering, Inc.
- Plan and section design architectural concepts sketches for McGlynn House, prepared by Bora Architects.
- Tillamook County Land Use Ordinance (TCLUO) Section 4.130, Development Requirements for Geologic Hazard Areas.
- The Oregon Map GIS Viewer, <http://www.ormap.net/flexviewer/index.html>.
- DOGAMI Lidar Viewer, Oregon Lidar Consortium <http://www.oregongeology.org/lidar/dataviewer/>.

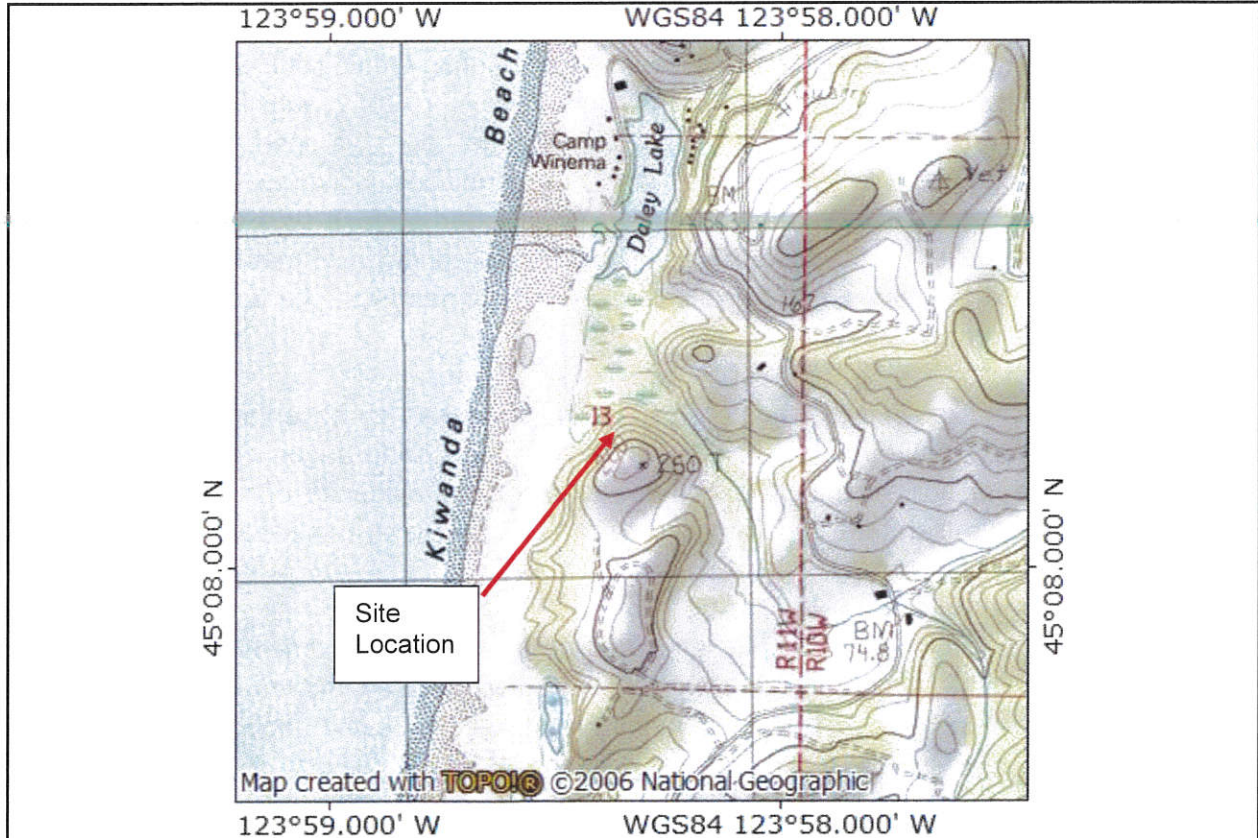


Figure 1- Site Location Plan

Site Location and Description

The general location of the Sahlali Shores Subdivision is about 1.8 miles south of the mouth of Nestucca Bay, and a similar distance north of the town of Neskowin, beside Kiwanda Beach in Tillamook County, Oregon, as shown in Figure 1. The subdivision is an isolated hill and summit upland area, generally surrounded by coastal lowlands, wetlands, dunes, and beach.

The subject property consists of Lot 57 of Sahlali Shores of Neskowin, Unit One Subdivision on Tillamook County Tax Map 5S 11W 13DB, and Tax Lot 2900, Figure 2. The vacant building lot is located on the north end of the Haystack Drive cul-de-sac at the far north end of the subdivision.

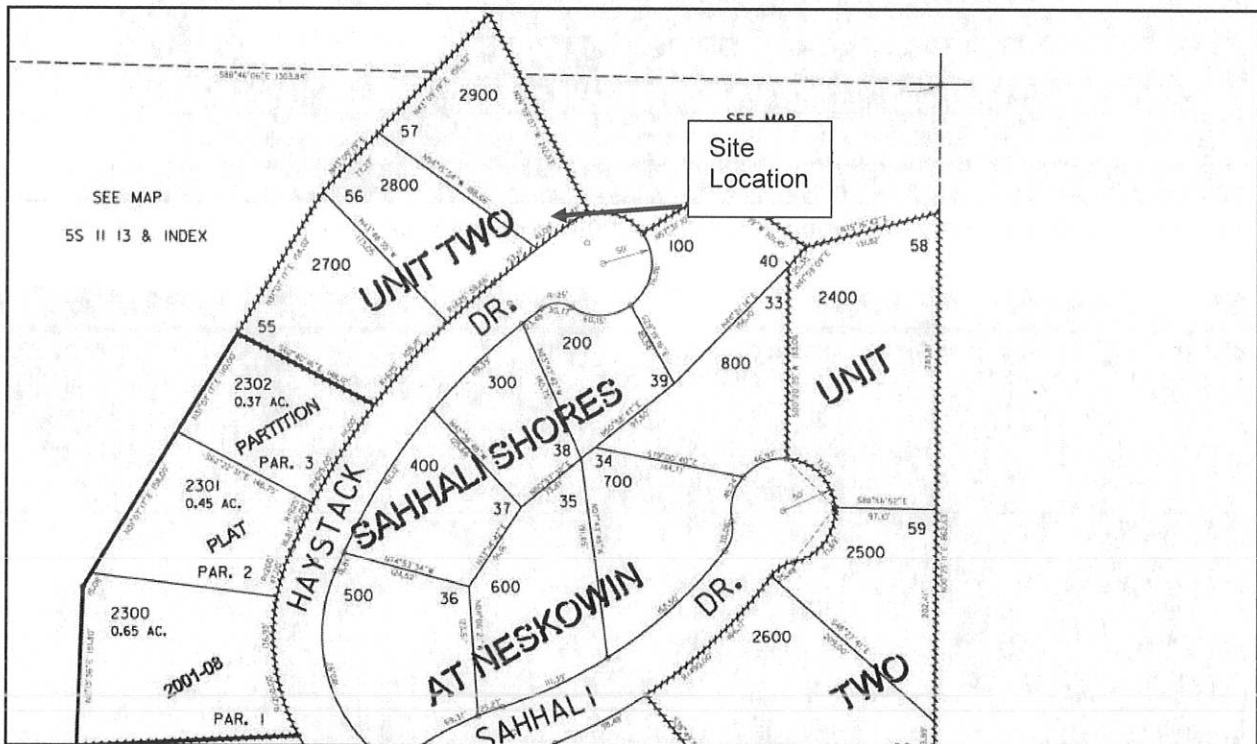


Figure 2- Portion of Tillamook County Tax Map 5S 11W 13DB.

The property is naturally vegetated with shore pine, Sitka spruce and native understory brush of salal, wild berry vines and other native shrubs. The lot does not appear to have been previously cleared or graded. In the upper 40 some feet of site elevation traversed on foot from the cul-de-sac, we did not observe signs of flowing surface drainages, wet areas or signs of groundwater seepage. Photo 1 shows an oblique south view of the slope aspect of Tax Lot 2900.



Photo 1- Oblique south view. Google Earth air photo date June 22, 2017.



Photo 2 – View to east at north edge of Haystack Drive cul-de-sac. Lot 2900 is off left side of photo.

Tax Lot 2900 slopes steeply downward to the northwest from the northern shoulder of the Haystack Drive cul-de-sac. Figure 3 shows detailed, slope topography prepared from Lidar aerial imaging obtained by a consortium of public and private stakeholders between 2008 and 2009. Based on these elevation contours, the property lies between elevations of about 245 feet to 145 feet above mean sea level. Slope exceeds 60 percent in the upper elevations of the lot where the proposed home site is planned off the north edge of the cul-de-sac. Lower elevation slopes on the property are no less than about 37 percent. Similar slopes to lower elevation extend several hundred feet to the west and north from Tax Lot 2900. The slope at this location is long, wide and generally uniform. I do not discern slide scarps, slope failure, or irregular topography on Tax Lot 2900. The obviously steeper slope below the north edge of the cul-de-sac is interpreted to have experienced soil creep or settlement that appear to have affected roadbed support at the pavement edge.

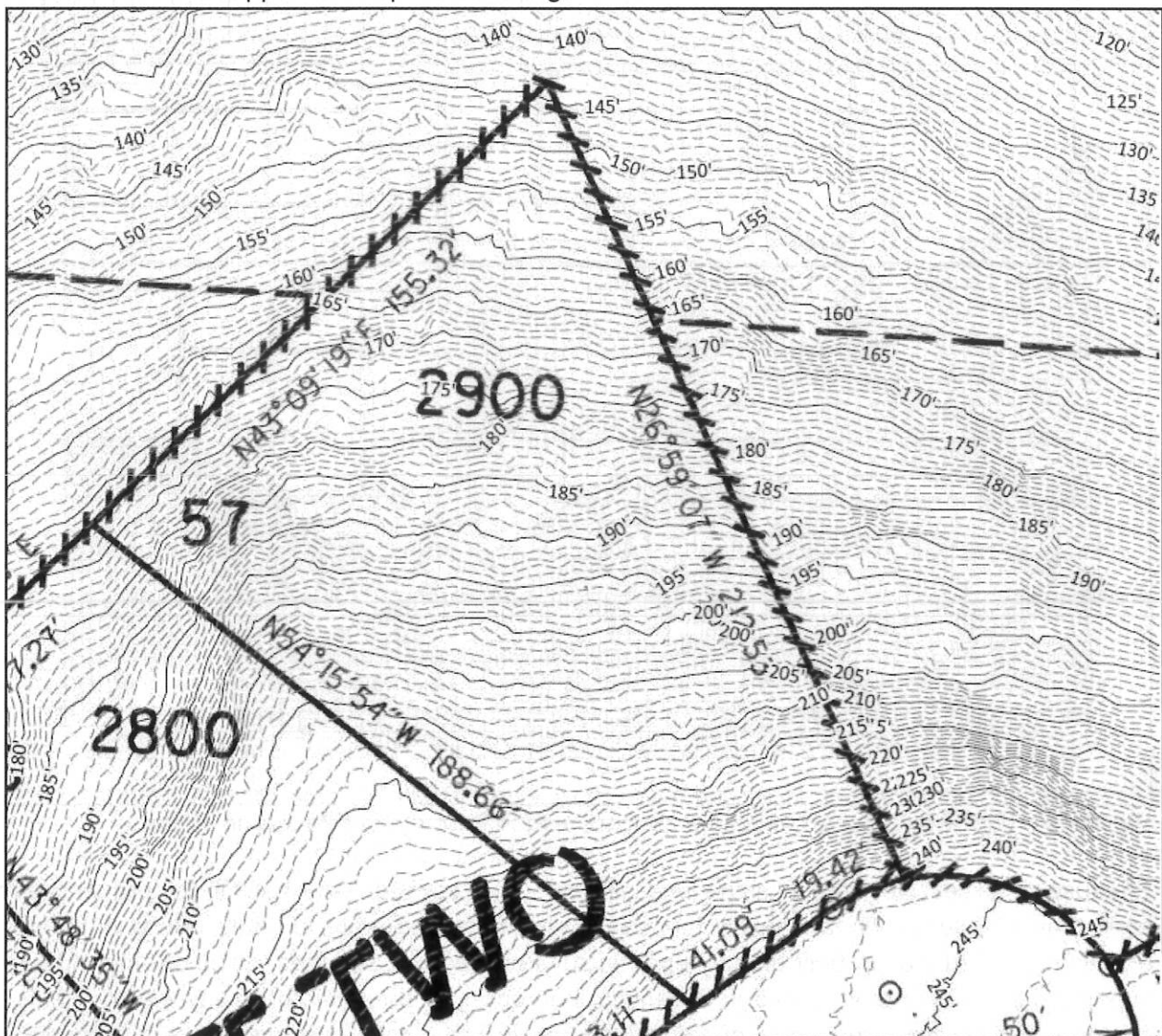


Figure 3 – Lidar based topography for Lot 57, Sahalli Shores Subdivision, Prepared by Morgan Civil Engineering, Inc.

Proposed Construction

Figure 4 shows the preliminary architectural design concept east-elevation sketch of the proposed home relative to the cul-de-sac and the descending slope through the upper elevations of TL 2900.

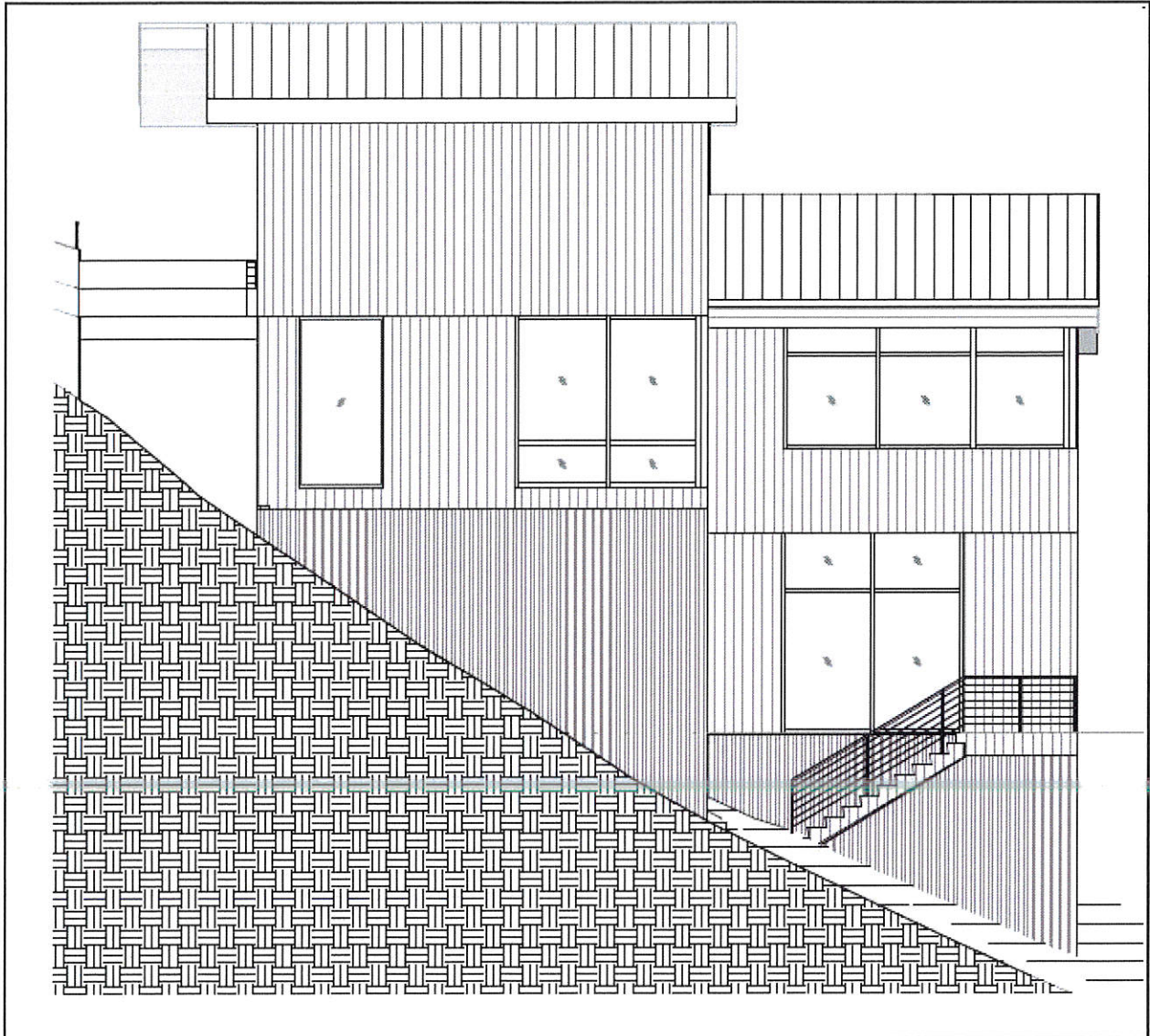


Figure 4 – East-Elevation architectural concept sketch for proposed McGlynn House.

Because of excessively steep slope and difficulty of excavation and backfill for proper slope embedment of conventional shallow foundation, it is expected that the home will be supported on reinforced foundation built directly upon excavated bedrock benches, or on structural beam supported by piles or piers drilled or driven into bedrock. The proposed driveway will be a bridge structure extend from the edge of the cul-de-sac to the upper-level garage. The driveway structure may also use pier or pile foundation embedded or bolted to bedrock. Retaining walls and possible additional filling and grading may be planned for the driveway at the north edge of the cul-de-sac. With a structural driveway bridge to the home, utilities may be supported within the bridge structure, and little additional site excavation or trenching would be needed. Septic

waste may be pumped to a sewer inlet in the street. Storm water runoff from roof and driveway is expected to be released on the slope below or beside the home in a diffuse manner.

Mapped Soils and Geology

Surface soils in the project area are mapped by the USDA NRCS Web Soil Survey of Tillamook County, Oregon as Neotsu-Salander medial loams, 5 to 30 percent slopes. These soils form on the upper mountain and hill slopes from colluvium and residuum derived from igneous rock. The USDA describes the typical medial loam soil profile transitioning to cobbly medial loam at depths of 20 inches to 32 inches, and weathered bedrock at 32 inches to 42 inches below the ground surface.

The presence of significant exposures of black sandstone bedrock in the lot vicinity within the subdivision, and on-site slope and topographic expression, suggest weathered volcanic sandstone bedrock may be present in the proposed building area on Tax Lot 2900. The hand auger boring in the approximate building area terminated at refusal to advance at less than 4 feet depth, on what is interpreted as the upper surface of dense sandstone bedrock.

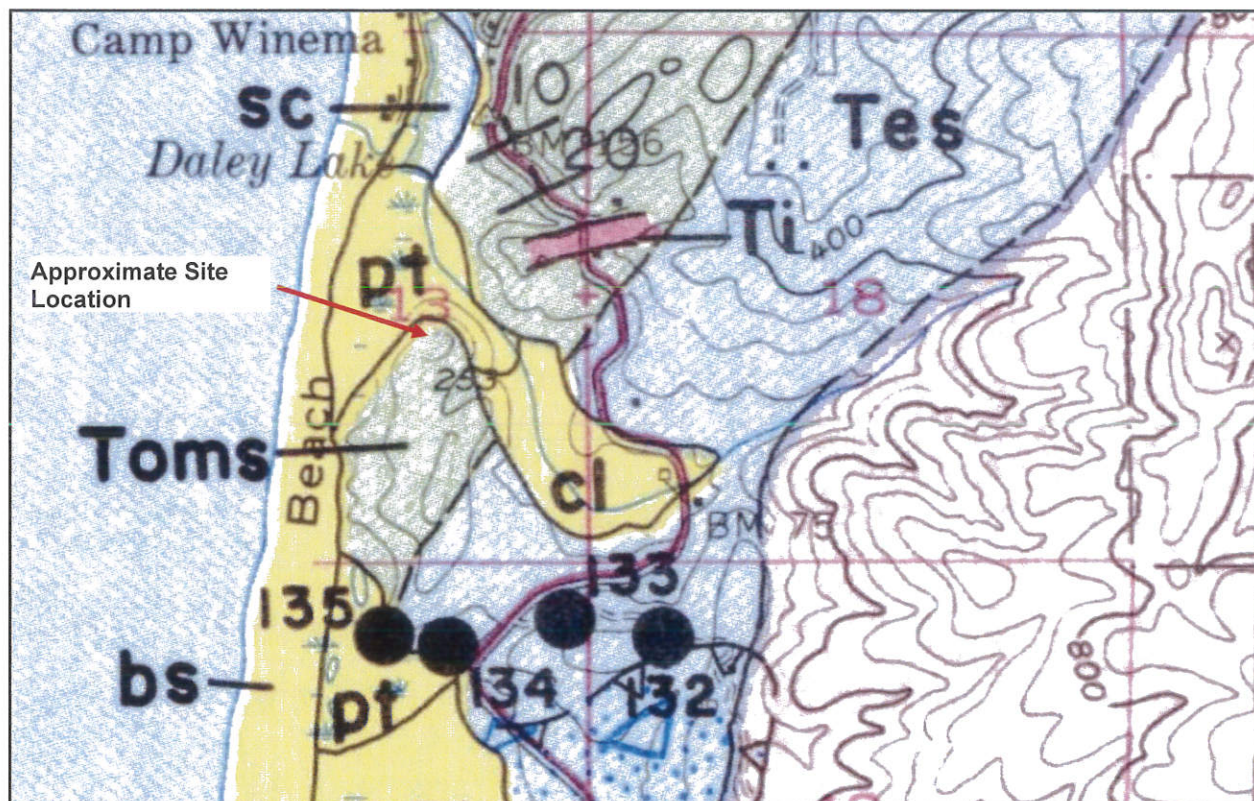


Figure 5- Portion of Geologic Map of Hebo Quadrangle, DOGAMI Bulletin 74 (1972)

According to geologic mapping of DOGAMI Bulletin 74 (Figure 5), geologic bedrock of the project area consists mostly of Tertiary Oligocene to Miocene age sedimentary rocks of tuffaceous siltstone, sandstone and claystone (map unit **Toms**). The **Toms** bedrock is abutted on the west and north by younger Quaternary to Holocene age deposits that include areas of

peat and clay soils (map units **pt**, **cl**). The project area has several northeast trending inactive faults mapped with uncertain surface traces. Isolated Tertiary igneous or volcanic intrusions are mapped in the area. The project area is not subject to active faulting or vulcanism.

Detailed geologic mapping by the USGS in Figure 6 shows a body of Tertiary age basaltic sandstone of the Alsea Formation (map unit **Talbs**) in the project area. This unit is described as massive, to thick-bedded and trough cross-bedded basaltic grit to fine-grained concretionary sandstone with minor pebble conglomerate and siltstone. This unit is assigned to Lower Oligocene age of approximately 25 to 35 million years before present. This unit is considered age equivalent to the Tertiary Oligocene to Miocene age sedimentary rocks mapped by DOGAMI in the early 1970s.

Naturally outcropping cliffs or ledges of sandstone bedrock may be observed in parts of the subdivision. Deep excavation beyond the upper surface of bedrock is expected to be difficult and potentially costly based on the relative strength of the bedrock represented in outcrops and rock exposures in the subdivision.

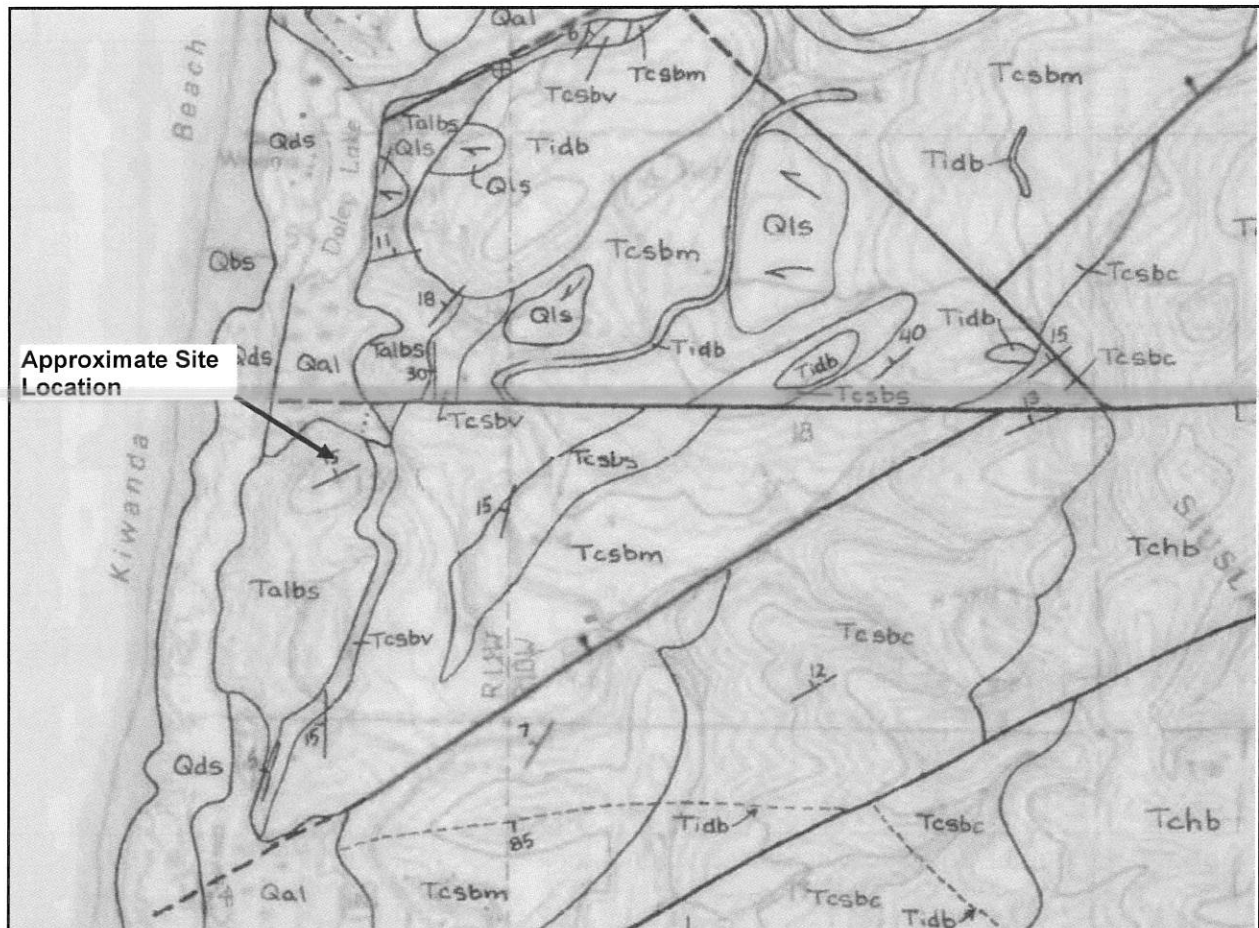


Figure 6- Portion of Preliminary Geologic Map of Nestucca Bay Quadrangle, Tillamook County Oregon, USGS Open File Report 90-202,1990.

Seismic Setting and Hazard Discussion

The principal seismic geologic hazard concern at the coast and throughout western Oregon is the Cascadia Subduction Zone, CSZ. This is an active thrust fault zone of tectonic plate convergence located in the sea floor about 50 to 60 miles off the northern Oregon coast. This fault interface between the tectonic plates is considered locked up and building increasing pressure and strain. A strong earthquake can result when this locked CSZ fault ruptures or shifts and simultaneously releases the accumulated energy.

The CSZ can produce massive, global-scale earthquakes that will cause violent ground shaking and destruction region wide. Geologic and geophysical research over the past few decades has established that the CSZ has repeatedly produced large earthquakes on an approximately 300-year to 700-year recurrence interval with some lesser or greater time intervals. Historic Japanese tsunami records and modern tree ring dating techniques have established that the most recent CSZ earthquake occurred in January of 1700 AD. The next CSZ earthquake is widely expected to occur within many of our lifetimes. Scientists and engineers generally agree that the potential intensity of the next CSZ earthquake could potentially exceed 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 about 15 to 20 minutes after the strong earthquake strikes. The proposed home site is higher than about 200 feet above mean sea level and above the maximum expected tsunami inundation zone. Tsunami inundation, scour and erosion may be expected in the unconsolidated Quaternary to Holocene age deposits at lower elevations. In my opinion Lot 2900 has no concern for tsunami induced scour and only minor concern for seismically induced slope instability.

The primary seismic concerns for the subject property and proposed home would be strong earthquake ground shaking. Structure foundations drilled, bolted or dowelled into sandstone bedrock would be expected to perform satisfactorily during a CSZ design earthquake. Manmade fills or thick surface soil on excessively steep slopes would be expected fail by slide or shallow debris flow during active seismic ground shaking. Seismically induced ground failure effects such as soil liquefaction, ground surface rupture, lateral spreading, and broad areas of coastal subsidence would not impact areas underlain by shallow bedrock.

Other earthquake sources occur in this region besides the CSZ. These include fault ruptures deep within the subducting oceanic plates and within the overlying continental crustal tectonic plate. However, the CSZ thrust fault earthquake is considered the greatest seismic hazard to the region and that which dictates design requirements for engineered structures. None of the faults shown on the geologic maps of the project area are considered active or capable of producing earthquakes. The mapped faults do not displace Quaternary or younger deposits.

Conclusions and Recommendations

There are no apparent landslide, slope instability or problematic soil issues with this lot other than physical challenges of foundation construction on the very steep slope. The building area is thought to be underlain by shallow basaltic sandstone bedrock based on limited hand auger exploration. The possible shallow bedrock is expected to benefit slope stability and secure foundation construction options to address slope. From an engineering geologic standpoint, it is my opinion that the subject property is generally suitable for residential construction as discussed herein. In my opinion, construction of the home and driveway directly on excavated or drilled bedrock is not expected to influence or increase geologic hazard risk to the subject property or adjacent properties.

Geotechnical subsurface exploration of known foundation or building area was not conducted as part of this geologic hazards review. It is not possible to describe or accurately predict thickness of soil or depth and condition of bedrock. I recommend versatile foundation elements such as drilled pier shafts or grouted piles, or anchor bolts installed to refusal or minimum specified depth in expected underlying bedrock. I expect some foundation elements will need to be structurally grouted into bedrock to provide uplift resistance to wind and seismic forces. Some reinforced concrete foundation elements may be cast upon or affixed directly to excavated bedrock benches. It is advisable to engage a specialty geotechnical foundation contractor with drilled/grouted anchor and grouted pier foundation construction experience to evaluate site access and assist in considering foundation options.

It is recommended that an Engineer or Engineering Geologist be retained to review foundation plans and provide construction inspection and documentation of representative foundation installation or testing. This report may not present full geotechnical engineering information and foundation design recommendations. I would be happy to discuss site and foundation options with project design and construction team members.

Limitations

The engineering geologic reconnaissance and geologic hazard review 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, time, and work scope constraints. No warranty, expressed or implied, is made regarding the interpretations of subsurface conditions and conclusions of this report.

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 our findings. Therefore, 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, I would be happy to review site and design conditions and revise this report if 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



MORGAN CIVIL ENGINEERING, INC.

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October 20, 2021

Robert McGlynn
1322 SW Upland Drive
Portland, OR 97221

mcglynnr@ehnpc.com

**Re: *Engineering Portion of Geologic Hazard Report for Tax Lot 2900, Map 5S 11W 13DB,
Lot 57 of UNIT 2 OF SAHHALI SHORES, Neskowin, Tillamook County Oregon
(Haystack Drive)
Project #21-05-McG***

Dear Mr. McGlynn:

At your request, we have completed the site investigation of your property, referenced above. Available maps and previous reports of nearby properties were utilized in this investigation. This investigation also included a site inspection of the subject property with Warren Krager, Certified Engineering Geologist. Mr. Krager investigated the geologic conditions of the site and has addressed them in his report. Morgan Civil Engineering, Inc. (MCE) has then developed the engineering recommendations related to construction on the site. The two reports combined constitute the required Geologic Hazards Investigation required by Tillamook County. This engineering portion of the report is prepared for your use in the construction of a single-family home on the property. The standards set forth herein should be incorporated into the development plans for that project.

Site elevations noted in this report are based on topographic information obtained from the Oregon Department of Geology and Mineral Industries (DOGAMI) LiDAR project. The elevations are based on the NAVD88 datum, which is approximately sea level.

Preliminary plans from Bora Architects, Inc., received September 27, 2021, were provided for our use. The recommendations herein are based on those plans.

After the final development plans are prepared, a further addendum to this report should be completed in order to allow for a review of the final site plans and building design. This review is designed to ensure that the lot improvements and building have been designed in accordance with the requirements noted in this, and other applicable reports.

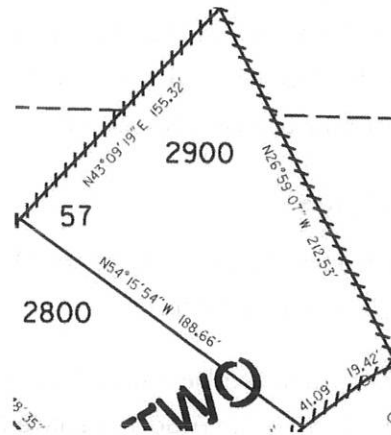
GHR for Lot 57

UNIT TWO OF SAHHALI SHORES

Neskowin, Tillamook County, OR

Site Conditions

The site and its geologic conditions are generally as described by the geologist in his report. Mr. Krager has investigated the geologic hazards on the site and included those hazards to you in his report. Mr. Krager's 11-page report, dated October 5, 2021, is attached for your use. The property is a roughly triangular lot that widens to the northwest. The lot fronts Haystack Drive to the southeast for about 60 feet and extends roughly 200 feet to the northwest. The property gradually widens to a width of about 155 feet. See the attached portion of the assessor's map for property orientation and dimensions.



The property is undeveloped, as are the nearby properties. To the north and west is undeveloped Open Space. Haystack Drive is a paved dead-end roadway. The property fronts on the cul-de-sac at the end of the road. Typical utilities are located in the right-of-way.

The property generally appears undisturbed. The front 30 feet of the lot is over-steepened. This is likely from fill placed for the roadway. The roadway in this area is cracked, which is likely from the fill shifting on the steep slope.

Elevations on the property vary from 240 feet at the roadway to 145 feet at the northern property corner. The property falls from Haystack Drive. This is an average of 50 percent slope. The front 30 feet falls to the northwest at roughly 65 percent, while the remainder falls to the north at about 40 percent.

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The property is densely vegetated with spruce trees, fir trees, salal, blackberries and other species common to coastal forests.

The geologist notes that hard sandstone bedrock is located about 3 to 4 feet below the surface.

The site is in a 135 miles per hour basic wind gust speed zone, unprotected from the ocean winds (Exposure 'D' as per the 2021 State of Oregon Residential Specialty Code (ORSC)); therefore, the building must be designed in order to withstand the minimum required lateral wind gust loads. In general, one- and two-story wood frame construction designed in order to withstand 135 miles per hour Exposure 'D' wind loading will also withstand even severe earthquake loads. According to the International Building Code (IBC) and ORSC, structures in Exposure 'D' are typically required to have an engineering analysis calculation of lateral wind loads. Such calculations must be submitted with the building permit application.

Findings and Hazards Analysis

The primary relevant geologic hazards on this site relate to: 1) steep slope; 2) hard shallow rock; 3) soft surface soil; and 4) regional seismic hazards.

Mitigation of these hazards is discussed in the Development Standards addressed herein and in the detailed recommendations set forth in the report prepared by the geologist.

The North Oregon Coast is defined by the 2017 ORSC as lying within a D₂ Seismic Design Category. As such, structures built in this area must, at a minimum, comply with the structural requirements for the D₂ Seismic Design Category. Strong seismic acceleration will likely result in widespread landsliding, and no slope can be considered immune from failure under these conditions.

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UNIT TWO OF SAHHALI SHORES

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Mandatory Development Standards

In addition to the required standards of Section 4.130 (2) of the Tillamook County Land Use Ordinance, the following site-specific standards should also be required:

A. Development Density – This property should be developed for uses consistent with current zoning (outright or conditional uses). All development should take place in conformance with all other requirements of the Tillamook County Land Use Ordinance, or approved variances, as applicable.

All development will also be required to meet the conditions of the subdivision CC&Rs. The property is located in the Neskowin Rural Residential (NeskR-R) Zone. See Section 3.320 of the Tillamook Land Use Ordinance for further information.

B. Structure Foundation and Road Location – No site-specific setbacks were recommended by the geologist in his report. Due to the steep slope, the garage should be set as close to the roadway as possible in order to reduce grading.

The building foundations should be designed in accordance with Development Standard "E", noted below. Site access should take place from Haystack Drive.

The house structure should be placed upon this lot in accordance with County setback standards, or approved variances. Footing design and the depth of all footings should be in accordance with Development Standard E, noted below.

C. Land Grading Practices – Grading on this site will be minimal. Hard rock was found approximately 4 feet below the surface. All excavations for driveway and house foundation construction should be done during reasonably dry weather (while it is not raining hard).

Exposed native soil should be protected from exposure to rainfall. Protect all cleared areas by covering them with crushed rock or straw according to use; cover driveway and foundation areas with crushed rock and cover landscaping areas with straw. This is not required for exposed bedrock.

No excavated material should be placed in any sidehill fill. All excavated material should be disposed of by hauling it off the site. Do not dispose of excavated soil downslope. Do not stockpile soil on the site.

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Any cuts into bedrock are exposed to be self-supporting. Grade the soil at the top of temporary cuts to 1.5V:1H in order to reduce sloughing. No grading of the remaining slope, beyond that required for construction, should take place.

The area around the house should be graded in order to direct surface drainage away from the building.

D. Vegetation Removal and Revegetation – Natural vegetation should remain on all areas of the property that are not required for construction. All areas that are disturbed by construction should be promptly revegetated in order to reduce the potential for erosion. The Oregon Fish and Wildlife Department’s recommended revegetation program for sites such as this is as follows:

Seed disturbed areas with the following grass mixture. Application rate is 12 to 14 pounds per acre.

<i>Species</i>	<i>Percentage of Mixture</i>
Annual Ryegrass	26%
Potomac Orchardgrass	25%
New Zealand White Clover	20%
Perennial Ryegrass	15%
Annual Crimson Clover	14%

Use a 16-20-0 fertilizer in order to speed the establishment of the cover material. In order to further contribute to the stability of the disturbed areas, jute matting, straw cover, or another stabilization product such as SoilGuard®, should be placed over the soil in order to help protect against erosion before the seeds are allowed to germinate. In addition, planting shrubs and trees, such as salal, red elderberry, barberry, beach pine, escallonia, cistus, ceanothus, etc., will further contribute to the long-term stability of the site.

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Prior to planting, I recommend spreading organic topsoil over the disturbed areas in order to improve the likelihood of long-term vegetation growth. Use topsoil from the site that was stockpiled before excavation, or import topsoil from a nearby site.

Vegetation on the slopes should be monitored and replaced, as necessary. Ground cover is important to stabilizing any disturbed slope and prevents future sloughing.

E. Foundations – The foundation should consist of a reinforced foundation building directly upon excavated benches in the bedrock or on structural beams supported by piers drilled into the bedrock. Regardless, minimize cuts into the sandstone bedrock described by the geologist.

The house should be supported on horizontal concrete beams set on the bedrock. The house can then consist of joists supported on concrete stem walls or cripple walls. If needed, sloped beams can be constructed on the bedrock to tie the horizontal beam together.

Interior footings should be integral with the continuous perimeter footings. The first-floor joists should then be supported either with conventional posts and beams, or pressure treated pony walls on continuous strip footings tied together with the continuous perimeter footings.

Alternatively, piers can be drilled into the bedrock in order to resist the uplift loads. Drill into the bedrock and install a threaded rod and secure it with thin cementitious grout. For design, use an assumed resistance of 100 pounds per square foot of embedded surface for each pier. This loading can be tested after the grout has cured. Epoxy can also be used for securing the piers in the bedrock. The piers would then be connected with concrete grade beams or an alternative method.

Regardless of depth, the bottom of all footings and pads should be excavated to below any organic material to rest on hard sandstone bedrock. There is a potential for isolated pockets of organic material that extend deeper into the bearing material than in other locations.

Regardless of depth, all organic debris and topsoil should be removed from below the footings and grade beams.

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When excavation takes place, it is recommended that a representative of MCE, or an equivalent geotechnical specialist or engineer, be consulted in order to determine whether the appropriate materials have been exposed for foundations. I believe that such an inspection is extremely important and, therefore, I recommend that inspection of the foundation excavation prior to footing construction be a **mandatory requirement for construction**.

Soil bearing pressures at the bottom of all footings should not exceed 4000 pounds per square foot (psf) on sandstone. All footings should be at least 16 inches in width.

For footings bearing on compacted crushed rock fill, the soil bearing pressure should not exceed 2000 psf. This would only apply near the cul-de-sac, on road fill.

Retaining walls are expected to support crushed rock backfill. Therefore, any retaining walls should be designed according to the following criteria:

Allowable Soil Bearing Pressure, psf (on sandstone)	4,000
Lateral Soil Bearing Pressure on Unrestrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	29
Lateral Soil Bearing Pressure on Restrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	39
Lateral Soil Bearing Pressure (Passive), pcf/ft of depth	504
Friction Angle, degrees	38°
Maximum unit weight, pcf	120
Coefficient of Friction	0.35

Backfill behind all retaining walls should be clean, well-drained, imported, select granular backfill. Native material for backfill behind retaining walls will not be acceptable. All retaining walls require foundation drains, as described in Section H below.

The retaining wall designer should determine whether a retaining wall is restrained or not.

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F. Driveway Location and Design – The driveway should be constructed such that the roadbed is on engineered fill material or a bridge deck. Access should be from Haystack Drive. Any location along the front the property is acceptable. Driveway design standards should include pit-run base rock as needed for grade and a 3-inch-thick layer of 3/4"-minus crushed rock surfacing. Asphalt surfacing on the driveway is recommended.

Fill should be placed over firm inorganic soil or bedrock in order to avoid settlement.

Grading of the driveway should be included in the detailed site plan for the property. Any necessary retaining walls should also be shown.

G. Stormwater Management, Runoff and Drainage – All roof drainage should be collected with eave gutters and downspouts and then piped in order to discharge into the vegetation downslope of the house. Accumulated surface drainage should also be collected and discharged downslope. The complete roof drainage system, including roof gutters and downspouts, should be installed immediately after the roof sheathing in order to protect the ground from erosion during construction. When the surface is not protected from roof run-off, the surface soil will continue to erode.

The vegetated areas of the property downslope of the actual home construction should be protected from erosion and siltation due to runoff from the construction site by using silt fencing or "bio-bags" during construction. Specifically, silt fencing should be placed along the downslope side of the of the disturbed surface area and "bio-bags" (or hay bales) should be placed at locations of visible discharge. These temporary measures should be left in place and properly maintained until all surface revegetation is established. Driveway surface drainage should be collected and transmitted with the roof drains to downslope of the house.

Discharge the collected water onto the slope into vegetation in order to avoid erosion. I recommend multiple discharge points, and discharge the water using a level tee and perforated caps. If needed, a mat of pit-run rock can be added to further protect the surface soil.

A rock entrance pad should be installed prior to beginning building excavation or grading work on the site.

During construction, the excavated building area should be graded and maintained in order to avoid standing water.

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I. Foundation Drains – Foundation drains should be installed on the uphill side of all continuous concrete retaining walls and foundation footings. The use of a fabric covered, perforated drainage pipe, such as ADS DrainGuard®, or an equivalent alternative, is recommended. The backfill around and above the foundation drains should be clean, washed drain rock or angular ballast rock in order to ensure good drainage. All foundation drains should discharge toward the lowest point along the wall.

All roof and surface area drainage piping should be separated from the foundation drainage piping. Discharge the water collected by the foundation drains at a separate location from the stormwater system.

L. Site Plan – I recommend that the topographic information be used in order to develop a site-specific development plan. The development of a detailed site plan should include all grading, driveway slopes, house location, drainage pipes, and any retaining walls. Development of a detailed site plan prior to construction will reduce costs, unexpected costs, and delays. A house foundation designed specifically for this property will likely reduce the amount of excavation.

Summary Findings and Conclusions

1. The proposed use is currently single-family residential. Final development plans are not available for review. There are no immediate adverse effects on adjacent properties from future house construction. Future development may result in increased stormwater runoff or decreased runoff quality on adjacent properties. Future development proposals should be further evaluated in the context of the recommendations of this report at the time of issuance of a building permit.
2. Hazards to life, public and private property, and the natural environment, which may be caused by the proposed use, are discussed herein and addressed in each of the Development Standards.
3. The methods for protecting the surrounding area from the adverse effects of the proposed development are set forth in each of the Development Standards.
4. The maintenance of new and existing vegetation, and temporary and permanent stabilization programs, are discussed in Development Standard "D".

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UNIT TWO OF SAHHALI SHORES

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5. The proposed development of this lot, according to the Mandatory Standards set out herein, will result in the new parcels and future developments being adequately protected from the above described reasonably foreseeable ordinary hazards, although not necessarily from major earthquake, the possibility of which is discussed herein.
6. The proposed development of this lot, according to the recommended standards, is designed in order to minimize adverse environmental effects.
7. Periodic monitoring is necessary to ensure that the recommended development standards are implemented for the long-term success of the development.

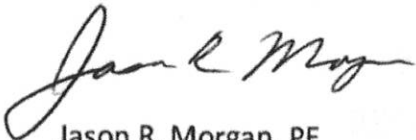
Limitation

The engineering portion of this report is based on a site inspection of the subject property and vicinity, as well as a review of the site topography. The engineering conclusions and recommendations in this engineering portion of the report are based upon the conclusions presented in the geologic report prepared by Warren Krager, CEG. The engineering conclusions and recommendations presented herein are believed to represent the site and are offered as professional opinions derived according to current standards of professional practice for a report of this nature. No warranty is expressed or implied. This report has been prepared for the timely use of the above addressee and parties to the pending development of the subject property, and it does not extend to the activities of unidentified future owners or occupants of the property for which the writer bears no responsibility.

Should you have any questions regarding my investigation or this report, please contact me.

Sincerely,

MORGAN CIVIL ENGINEERING, INC.



Jason R. Morgan, PE
Professional Engineer



RENEWAL DATE: DECEMBER 31, 2022

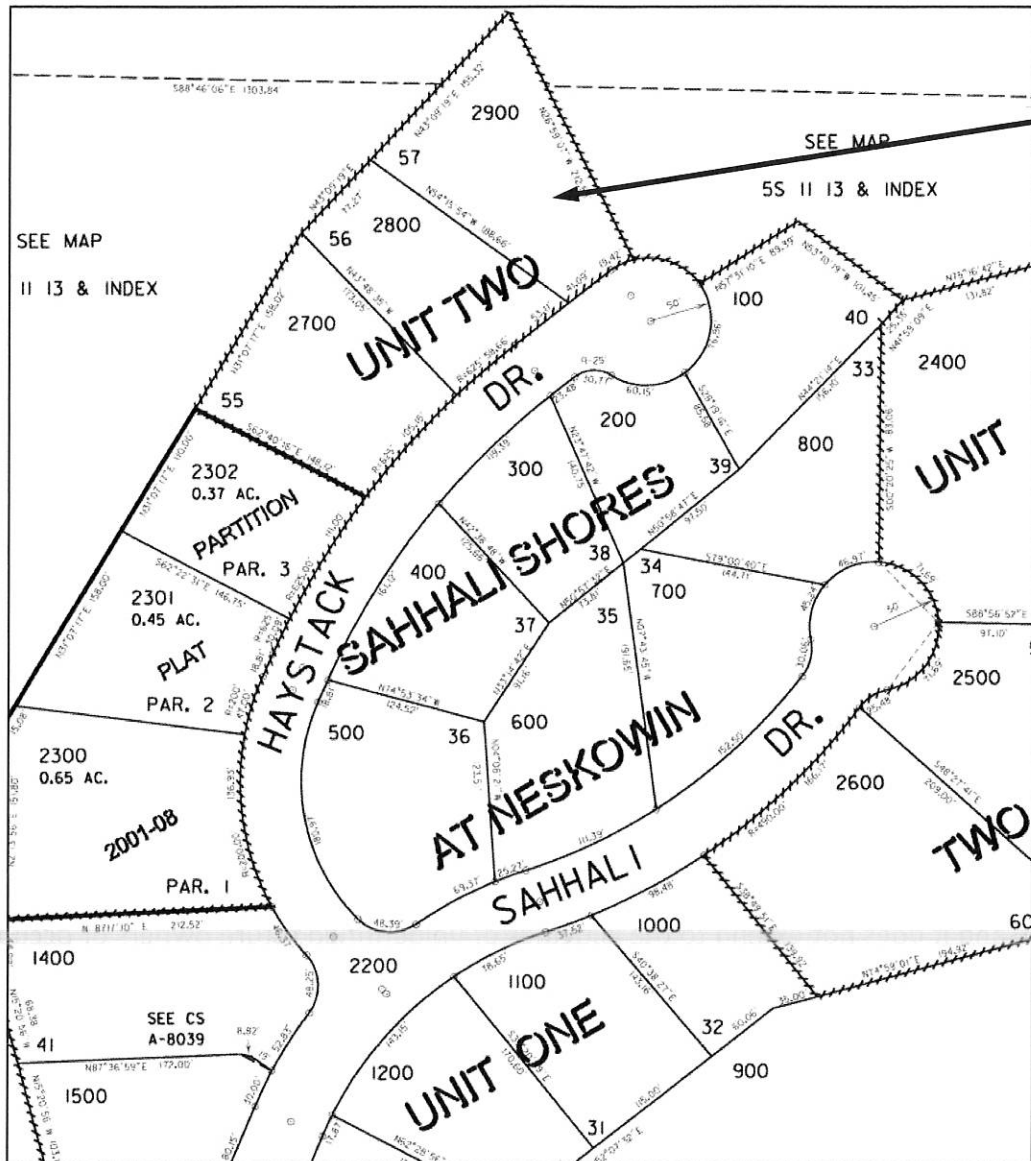
cc: Project File 21-05-McG

<W:\Documents\21-05-McG\Reports\McGlynn GHR.docx>

GHR for Lot 57

UNIT TWO OF SAHHALI SHORES

Neskowin, Tillamook County, OR



Project Location

Tax Lot 2900, Map 5S 11W 13DB
Lot 57 of UNIT 2 OF SAHHALI SHORES
Neskowin, Tillamook County Oregon
(Haystack Drive)

OWNER: SARAH & ROB McGLYNN
1322 SW UPLAND DR
PORTLAND, OR 97221

TAX LOT: 5S 11W 13DB LOT 2900 (LOT 57, SAHHALI SHORES)

STREET ADDRESS: HAYSTACK DRIVE, TILLAMOOK COUNTY, OR, 97149

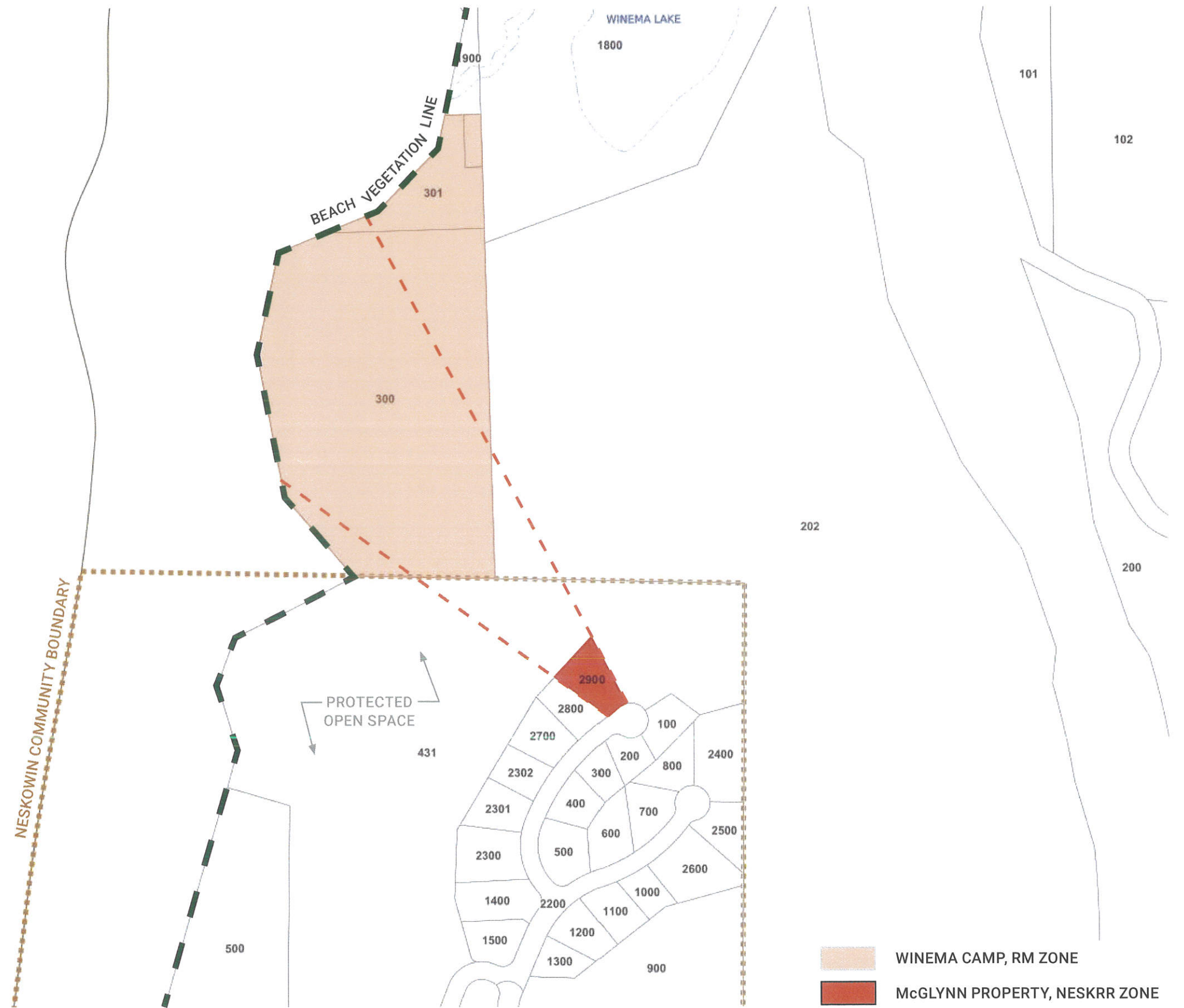
ZONING: NESK RR - NESKOWIN RURAL RESIDENTIAL

SETBACKS: FRONT - 20'
REAR - 20'
SIDE - 5'

MAX HEIGHT: 35' FROM EXISTING GRADE AT ALL POINTS

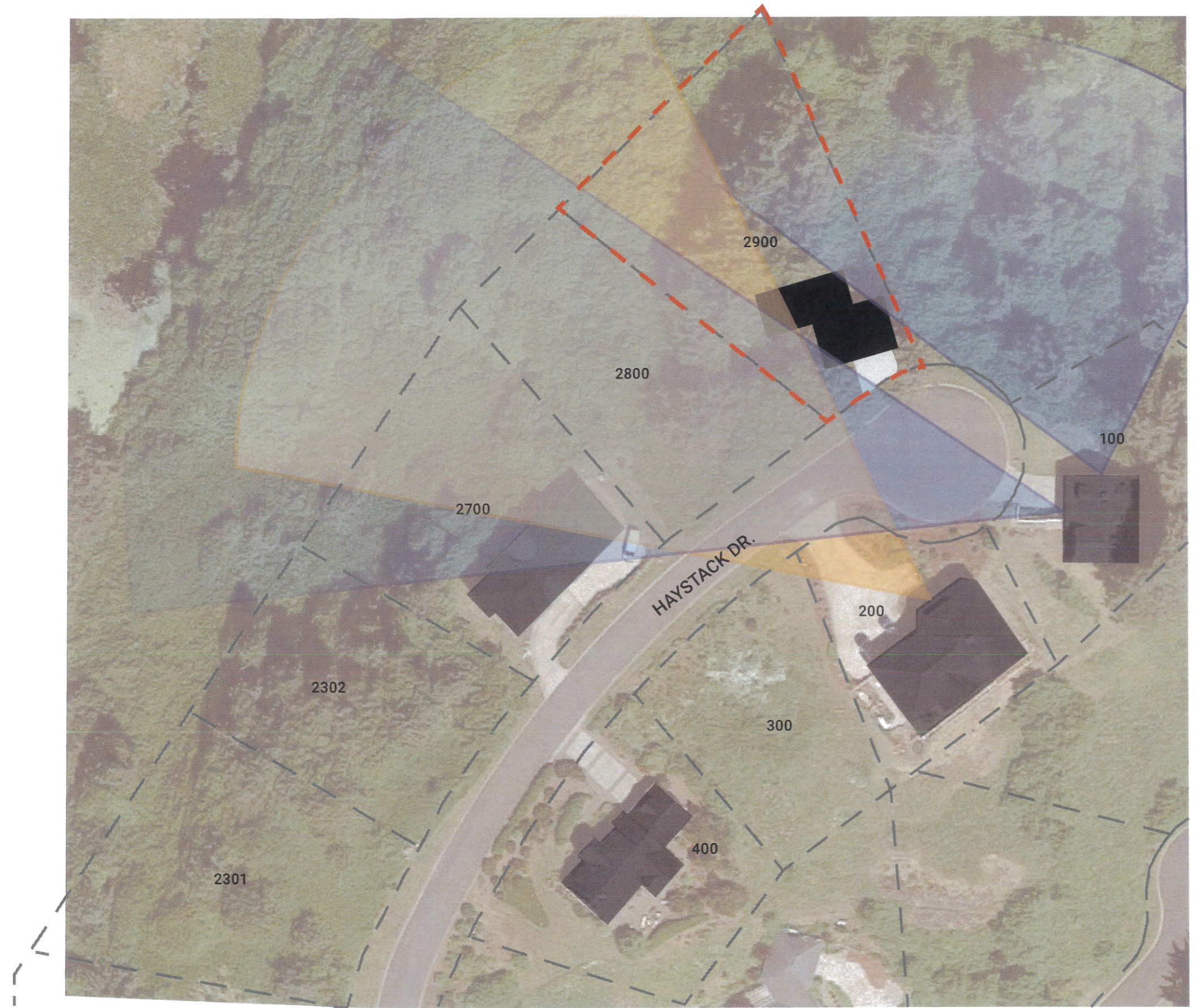
SAHHALI SHORES CCRs: **SETBACKS:** FRONT - 20'
INTERIOR LOT LINE - 15'

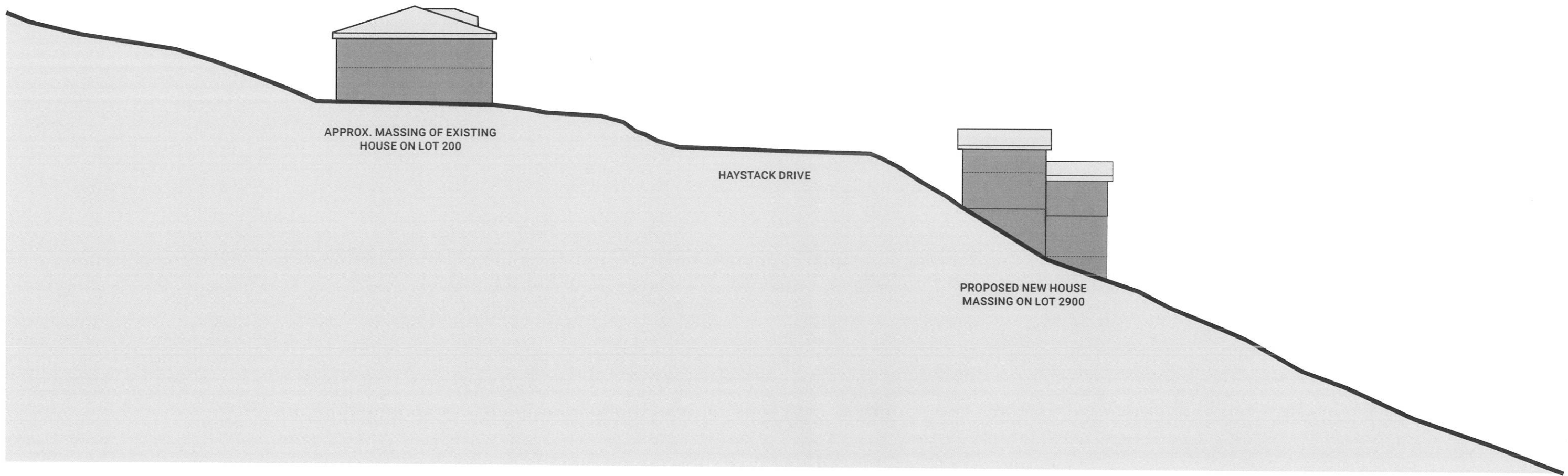
MAX HEIGHT: 30' FROM EXISTING GRADE AT UPHILL SIDE





-  McGLYNN PROPERTY, NESKRR ZONE
-  PROPOSED HOUSE FOOTPRINT
-  EXISTING HOUSE FOOTPRINT
-  LOT 100 VIEWS
-  LOT 200 VIEWS







LOT 100



LOT 200



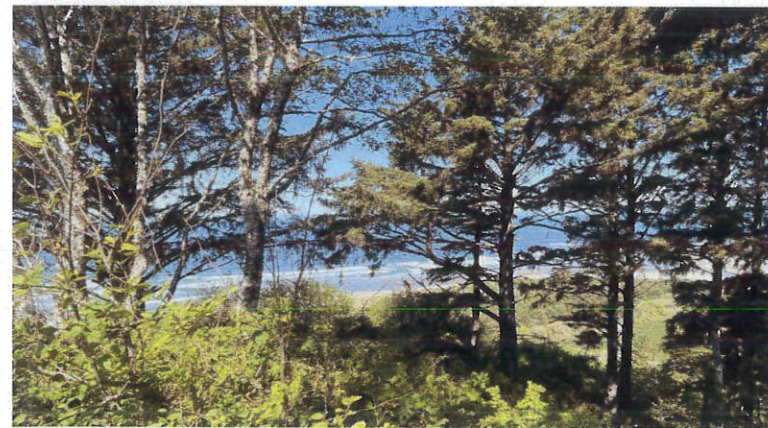
LOT 2700



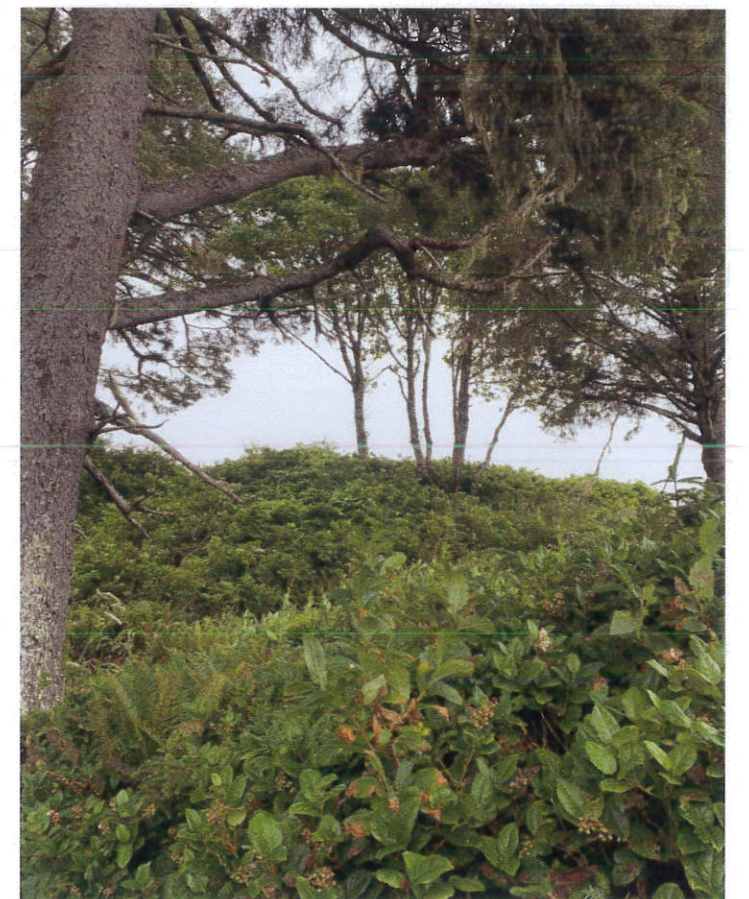
VIEW OF SITE FROM HAYSTACK DRIVE LOOKING WEST



VIEW FROM SITE LOOKING SW



VIEW FROM SITE LOOKING WEST



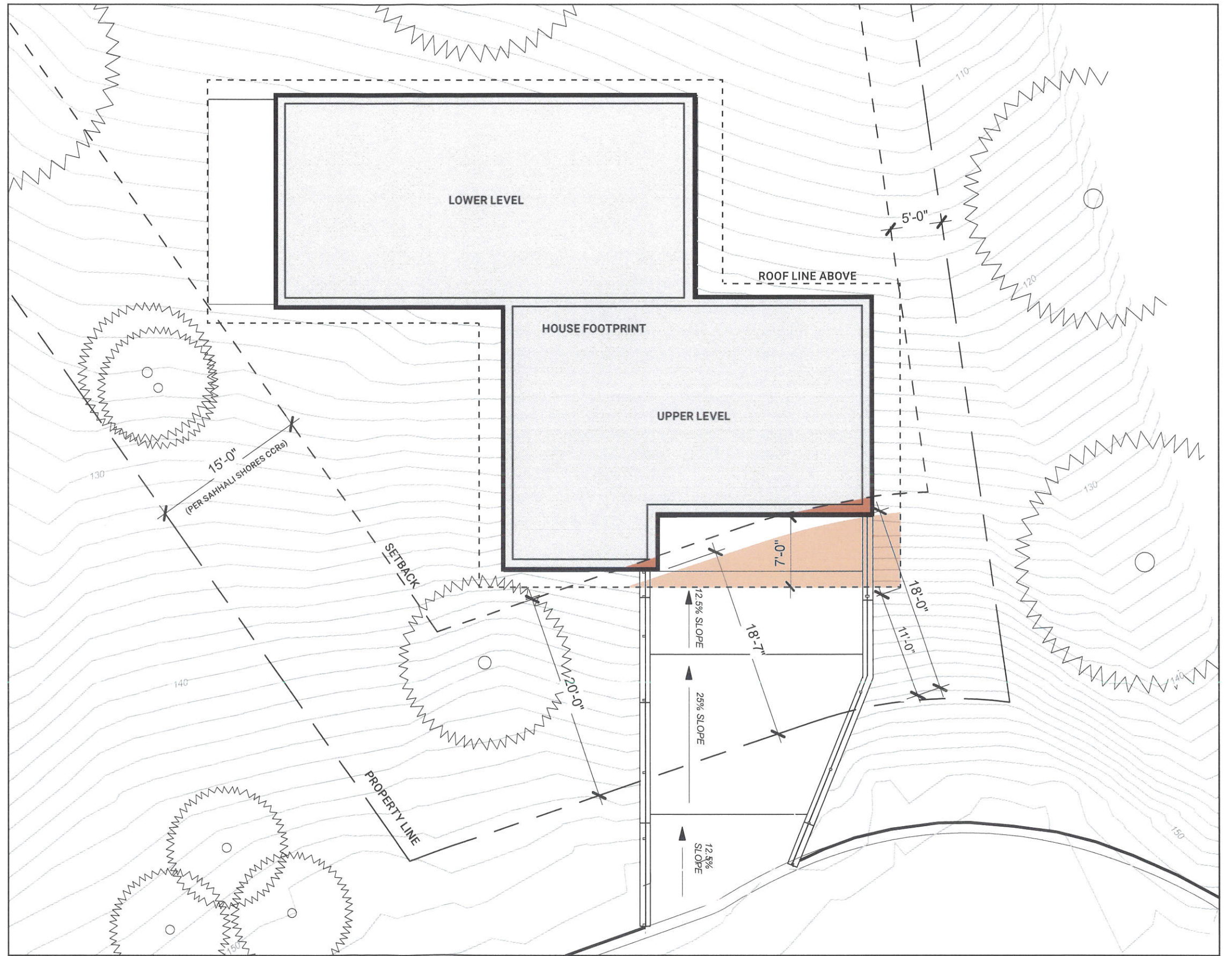
VIEW FROM SITE TOWARD HAYSTACK DRIVE



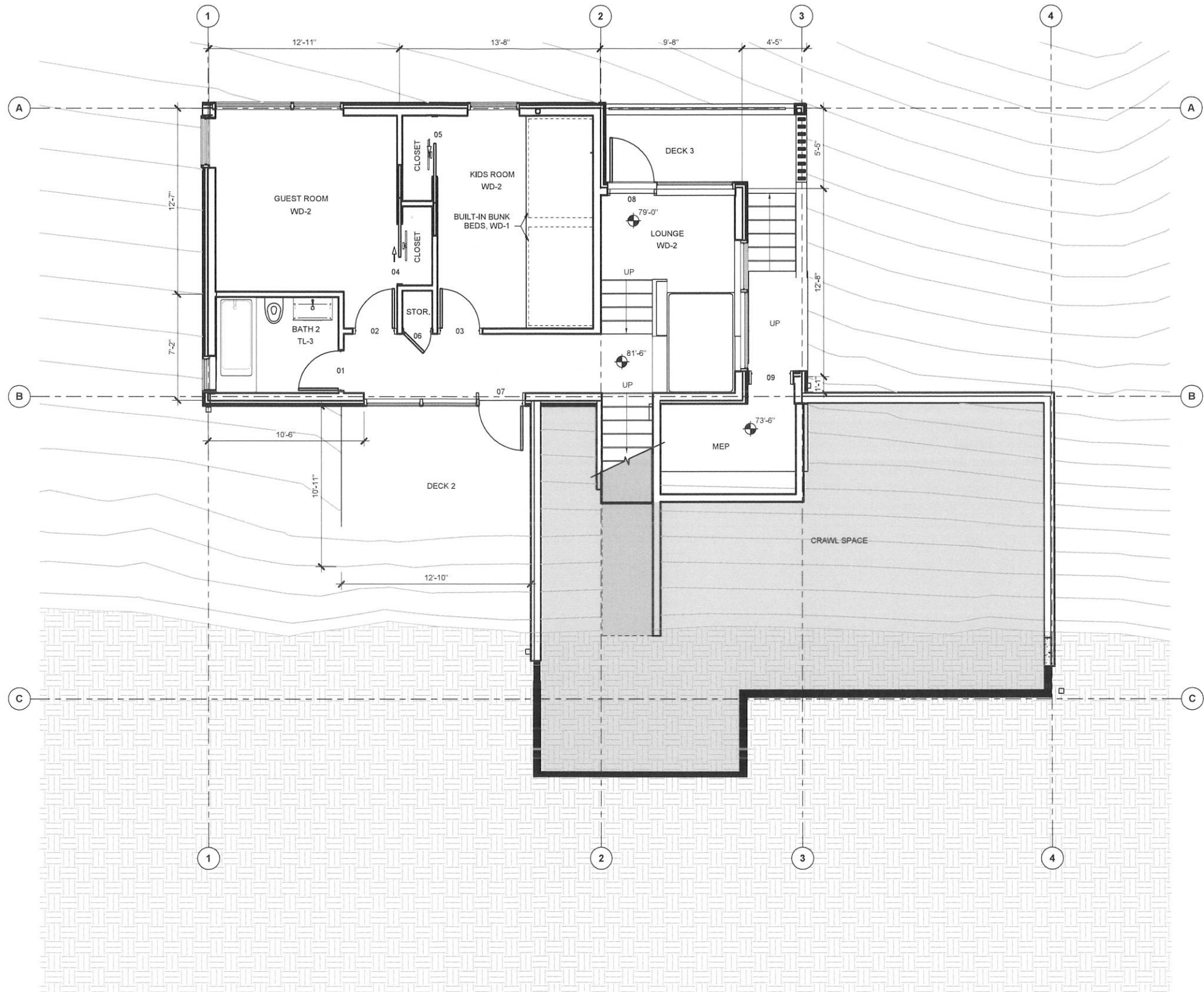
SITE SLOPING FROM HAYSTACK DRIVE

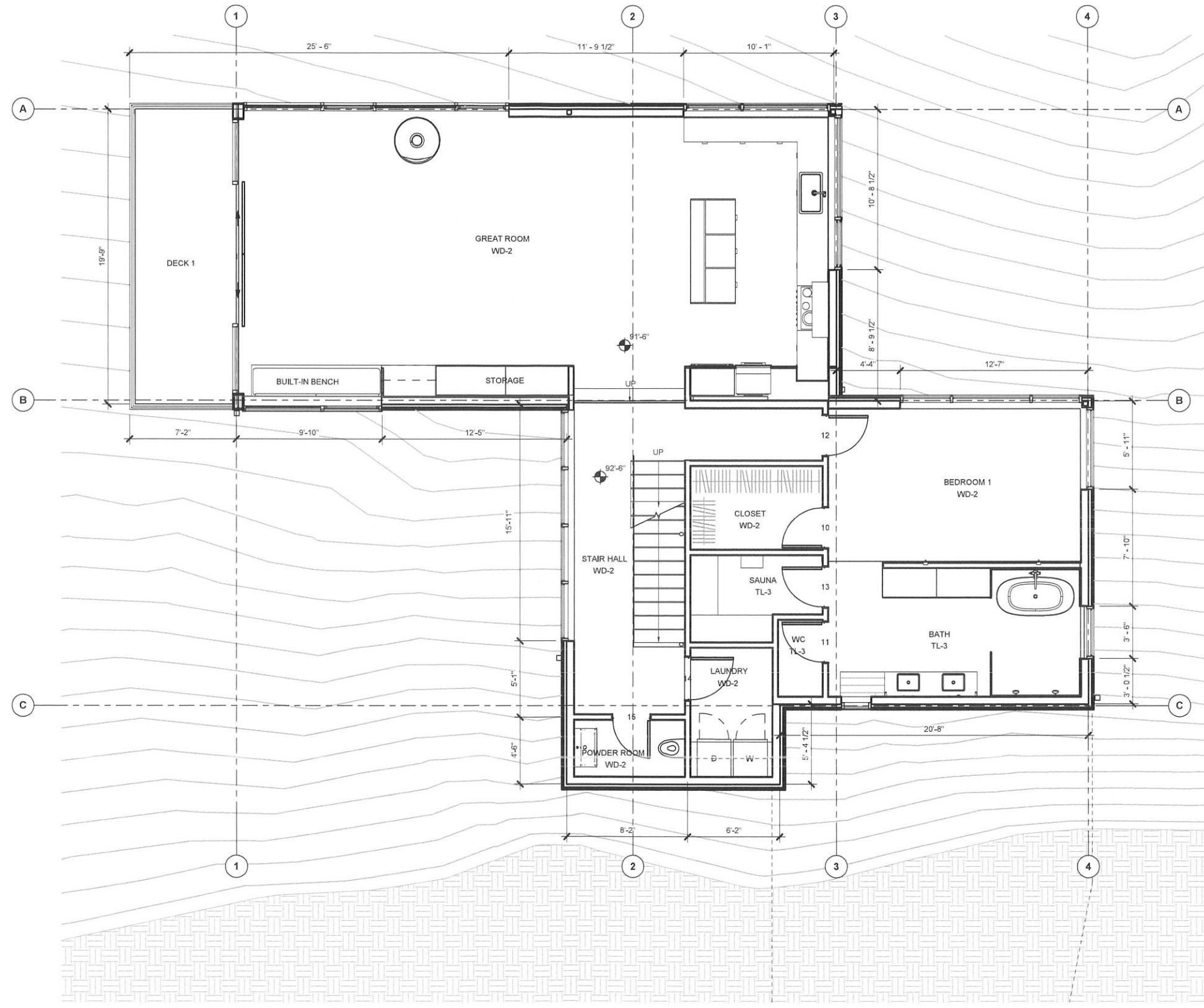


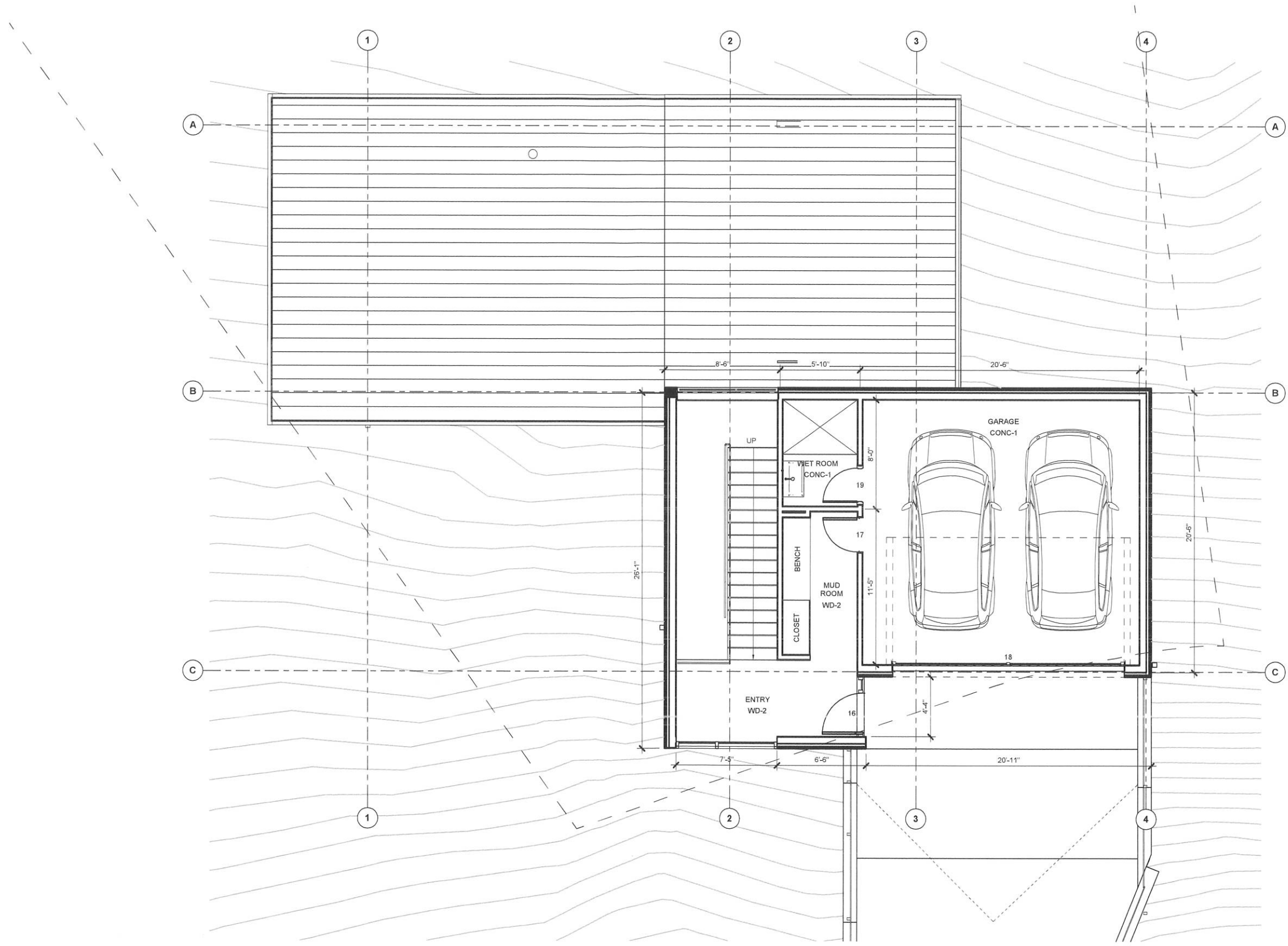
VIEW FROM SITE LOOKING NORTH

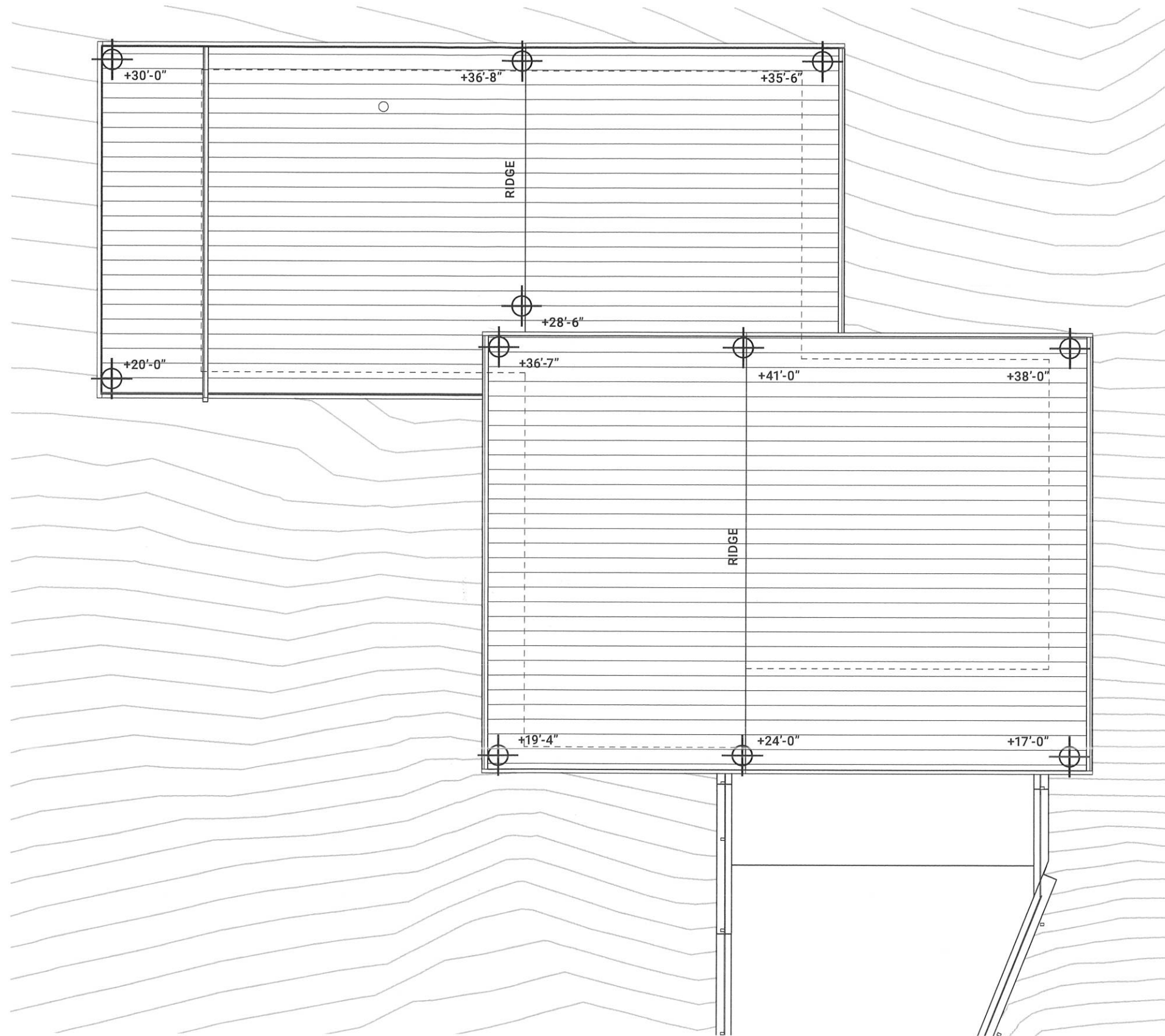


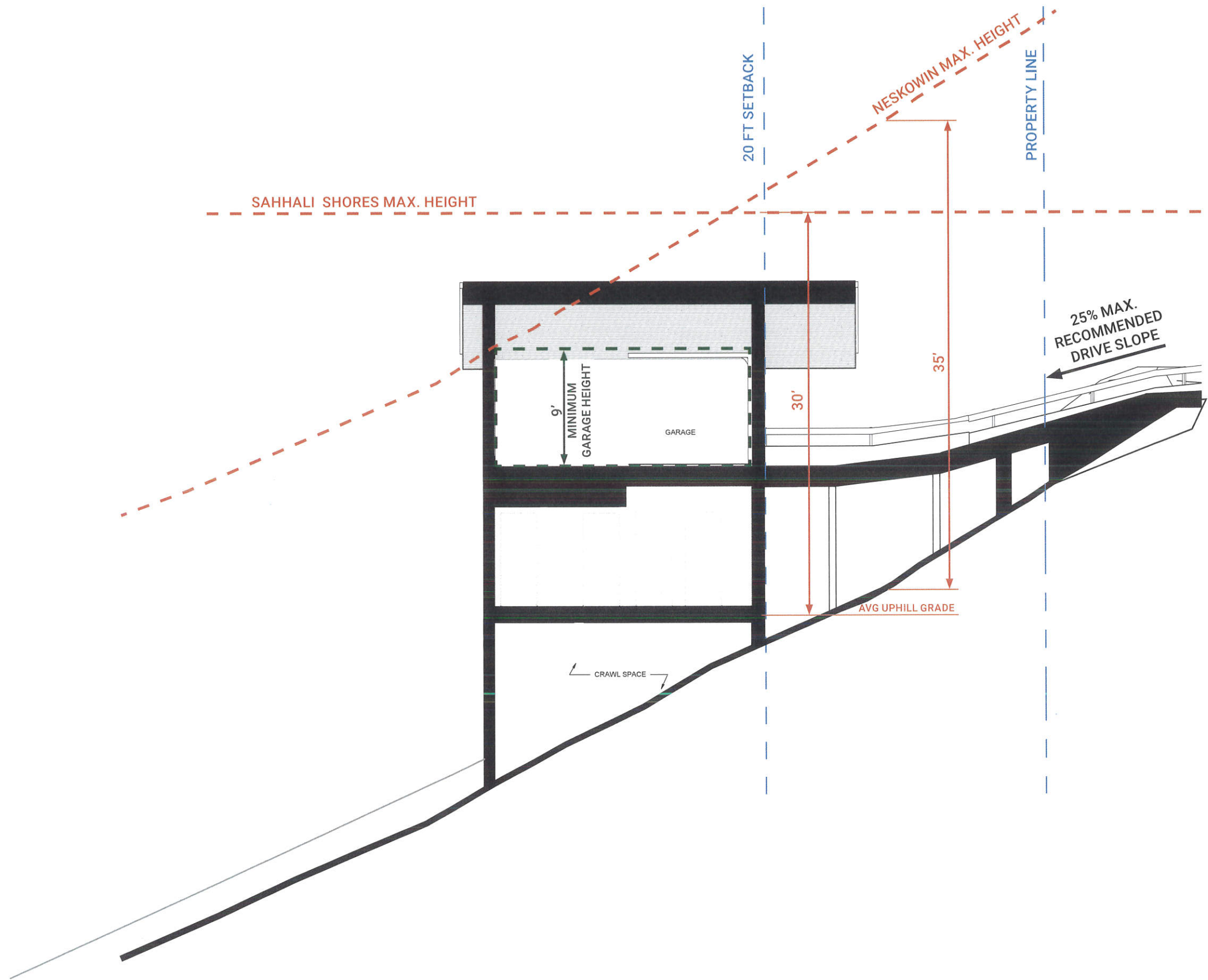
- SETBACK REQUEST
- EAVE OVERHANG REQUEST





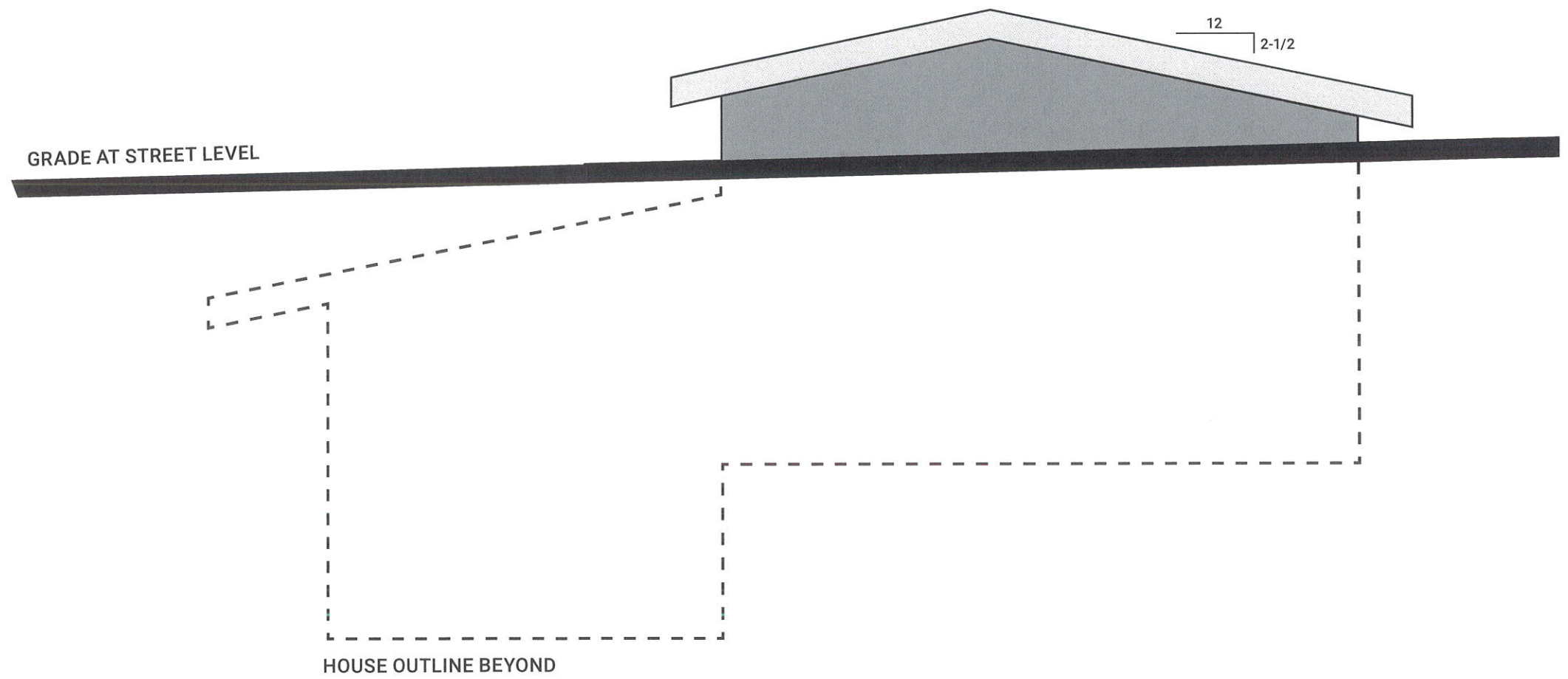


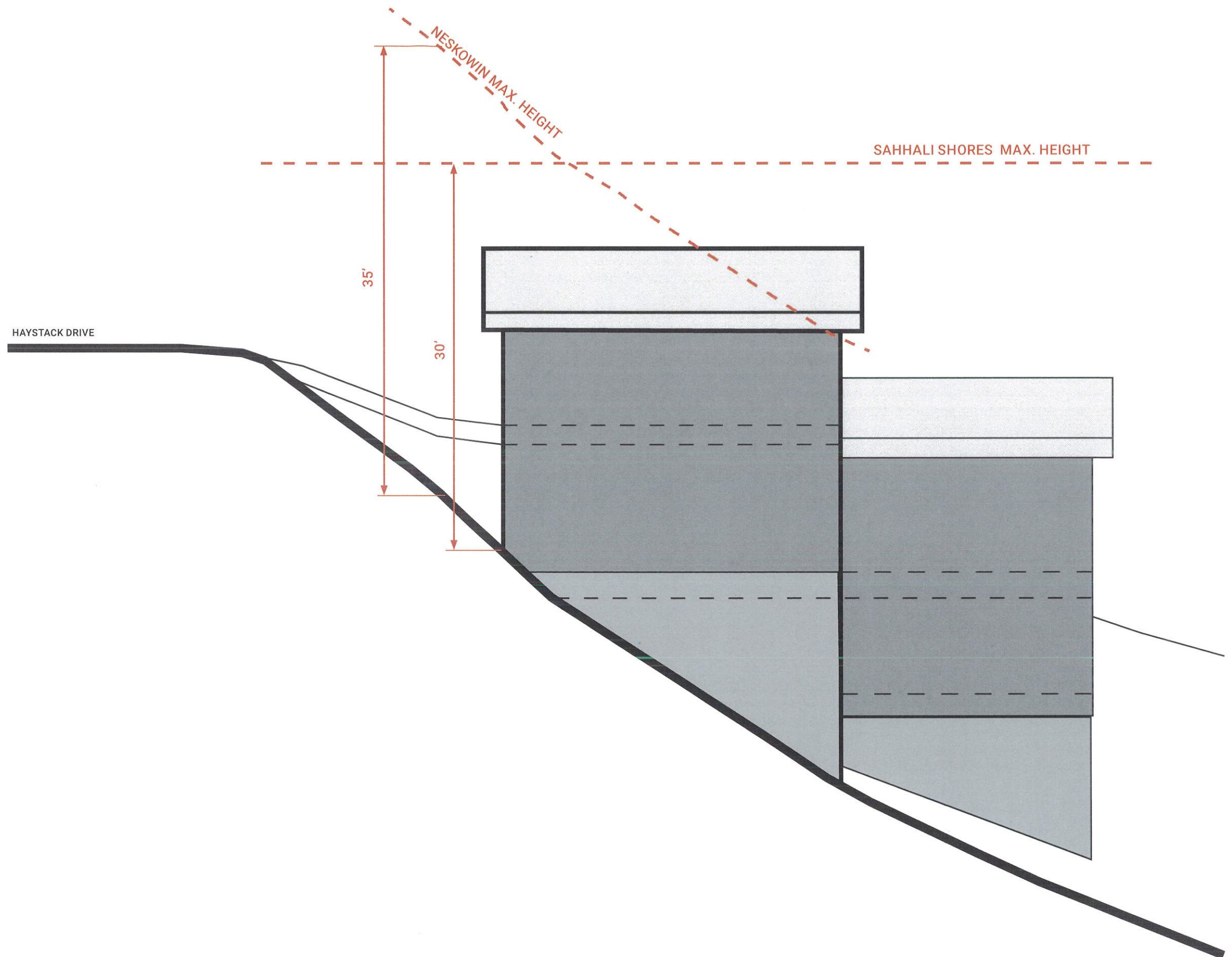


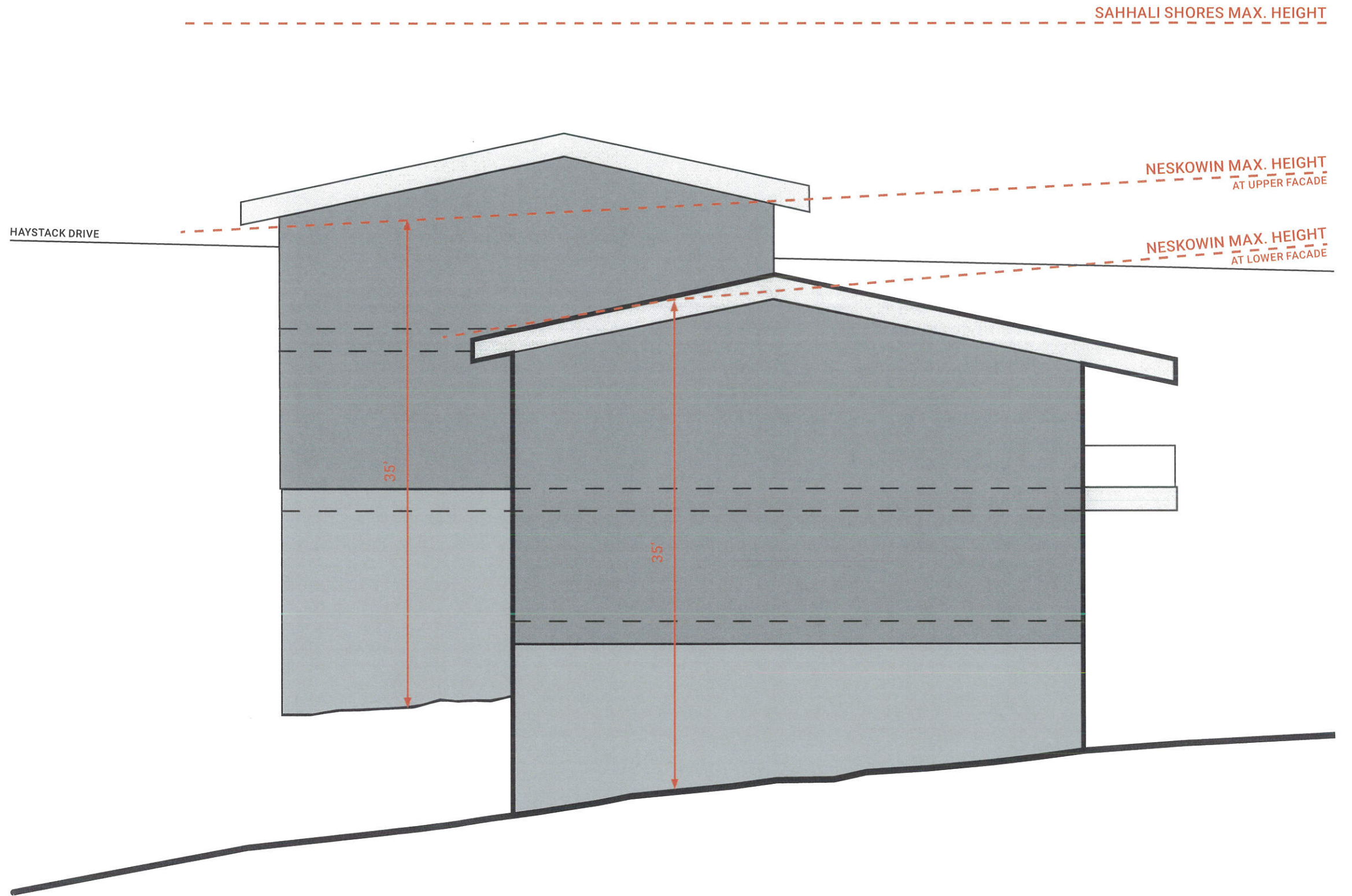


NESKOWIN MAX. HEIGHT @ FRONT FACADE

SAHHALI SHORES MAX. HEIGHT









VIEW NORTHWEST FROM NEAR HAYSTACK DRIVE



VIEW WEST ACROSS HAYSTACK DRIVE FROM NEAR LOT 200



SCALE: 1" = 10'

NOTE: THE ELEVATION DATUM FOR THIS SURVEY WAS BASED UPON AN ASSUMED ELEVATION OF 150.00 AT THE SOUTHEAST CORNER OF THE SUBJECT TRACT.



TOPOGRAPHIC SURVEY FOR LAWRENCE WALKER
LOT 57, SAHHALI SHORES at NESKOWIN, IN THE NW 1/4 SE 1/4 SEC. 13, T. 5 S., R. 11 W. W.M.,
TILLAMOOK COUNTY, OREGON

SURVEY & MAP BY: KELLOW LAND SURVEYING LLP
P.O. BOX 335
PACIFIC CITY, OR 97135-0335
(503)965-4664

DATE: FEBRUARY 16, 2005

REGISTERED
PROFESSIONAL
LAND SURVEYOR

Douglas H. Kellow
OREGON
REGISTERED
DOUGLAS H. KELLOW
2007
EXAMINER 065005

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