



VARIANCE REQUEST #851-25-000170-PLNG: CRAWFORD / SHOCKEY

*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: May 19, 2025

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

#851-25-000170-PLNG: A Variance request to reduce the required 20-foot front (east) yard setback to 10-feet to allow for the placement of a single-family dwelling. The subject property is located within the Unincorporated Community of Pacific City / Woods, accessed off of Park Lane, a county owned road, zoned Pacific City/Woods Low Density Residential (PCW-R1) Zone and designated as Tax Lot 5300 of Section 13D, Township 4 South, Range 11 West, Willamette Meridian, Tillamook County, Oregon. The applicant is Jade Crawford. The property owner is Kristina Shockey.

Written comments received by the Department of Community Development prior to 4:00 p.m. on June 2, 2025, 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, June 3, 2025.

Notice of the application, a map of the subject area, and the applicable criteria are 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.tillamookcounty.gov/commdev/landuseapps>.

If you have any questions about this application, please contact the Department of Community Development at (503) 842-3408 x 3123 or sheila.shoemaker@tillamookcounty.gov

Sincerely,

Sheila Shoemaker, Land Use Planner

Sarah Absher, CBO, 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:

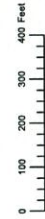
- (1) Circumstances attributable either to the dimensional, topographic, or hazardous characteristics of a legally existing lot, or to the placement of structures thereupon, would effectively preclude the enjoyment of a substantial property right enjoyed by the majority of landowners in the vicinity, 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.

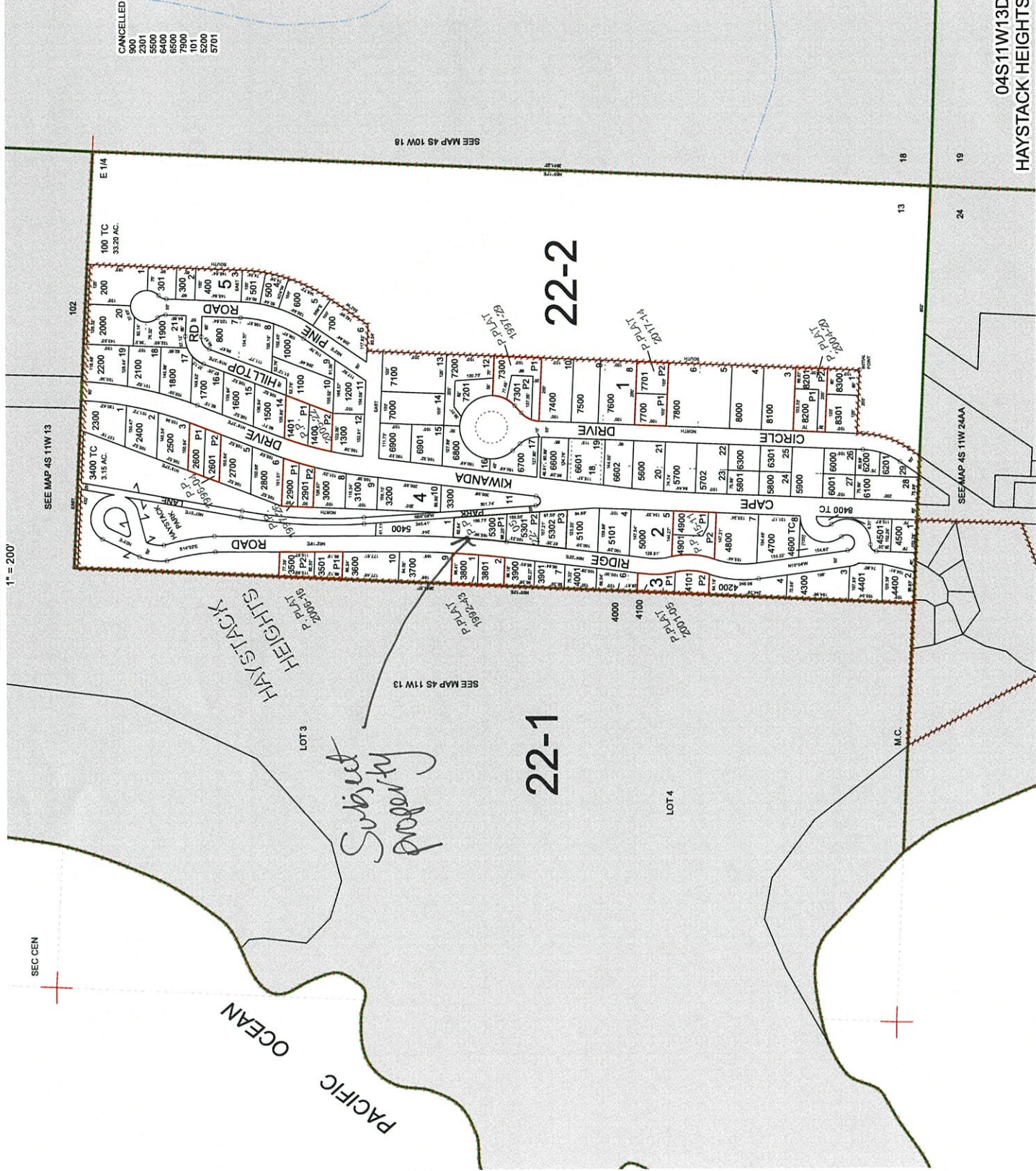
THIS MAP WAS PREPARED FOR
ASSESSMENT PURPOSE ONLY



S.E. 1/4 SEC. 13 T.4S. R.11W. W.M.

TILLAMOOK COUNTY

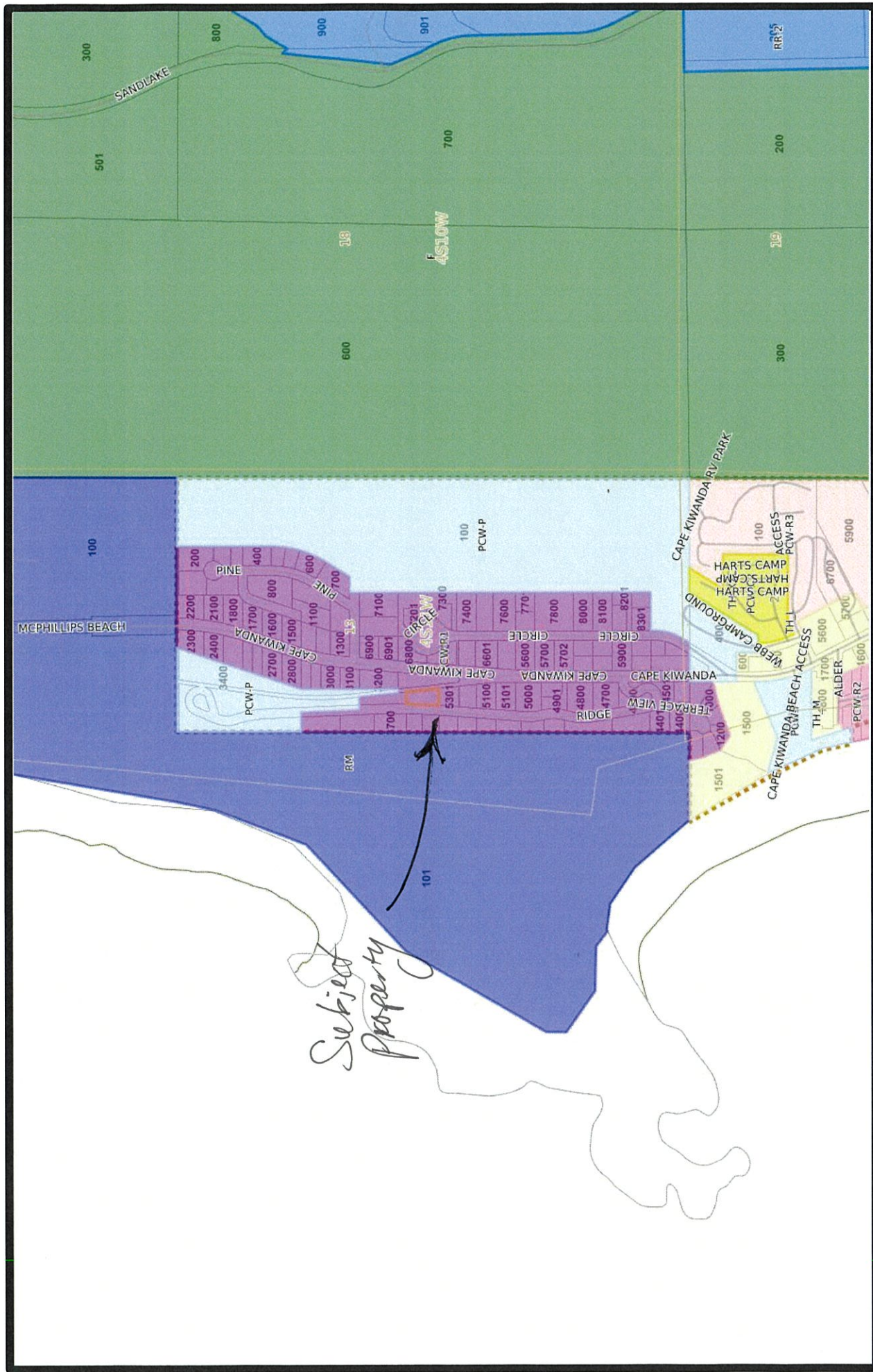
04S11W13D
HAYSTACK HEIGHTS



04S11W13D
HAYSTACK HEIGHTS

Revised 8/12/22, WS

Map





PLANNING APPLICATION

Applicant ☐ (Check Box if Same as Property Owner)

Name: Jade Crawford Phone: 97141
Address: 7750 Vaughn Rd
City: Tillamook State: OR Zip: 97141
Email: jadesbeachhouse@yahoo.com

Property Owner

Name: Kristina Shockey Phone: (503) 999-4677
Address: PO Box 1641
City: IGO State: CA Zip: 95047
Email: KRISTISTARPANSCOUTWEST@aol.com

Request: 10' Front Yard Setback

OFFICE USE ONLY	
Date Stamp	
RECEIVED	
APR 03 2025	
BY: <u>COUNTER</u>	
<input type="checkbox"/> Approved	<input type="checkbox"/> Denied
Received by:	
Receipt #:	
Fees:	
Permit No:	
851- <u>25-000170</u> -PLNG	

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

- ☐ Detailed Hazard Report
- ☐ Conditional Use (As deemed by Director)
- ☐ Ordinance Amendment
- ☐ Map Amendment
- ☐ Goal Exception
- ☐ Nonconforming Review (As deemed by Director)
- ☐ Variance (As deemed by Director)

Type IV

- ☐ Ordinance Amendment
- ☐ Large-Scale Zoning Map Amendment
- ☐ Plan and/or Code Text Amendment

Location:

Site Address:

Map Number: 45 11 13D 5300
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) Kristina Shockey
Applicant Signature Jade Crawford

3-5-25
Date
4/3/25
Date

PARTITION PLAT 2022-5
RE-PLAT OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS

SURVEYOR'S CERTIFICATE

I, DALLAS W. ESPLIN, CERTIFY THAT:
I HAVE CORRECTLY SURVEYED AND MARKED WITH PROPER MONUMENTS (NOTED HEREON) THE LOTS AND PARCELS SHOWN ON THE ATTACHED PARTITION PLAT, BEING LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 11765, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 503-842-5551, AND THE NEARBY PORTION OF WHICH IS A 3/8" REBAR AT THE NORTHEAST CORNER OF THIS PLAT.

DECLARATION

I, DALLAS W. ESPLIN, DO HEREBY CERTIFY THAT SHAWN MACDONALD IS THE OWNER OF THE LAND REPRESENTED ON THE ATTACHED PARTITION PLAT, AND THAT HE HAS CAUSED THE SAME TO BE SURVEYED AND PARTITIONED INTO THREE (3) PARCELS AS SHOWN ON THE ANNEXED MAP.

ACKNOWLEDGMENT

STATE OF OREGON
COUNTY OF TILLAMOOK

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON MARCH 3rd, 2022 BY (SHAWN MACDONALD).

Shawn Macdonald
(S&S)
Kawila Faye Kuhn
(WIFE)

NOTARY PUBLIC - OREGON

COMMISSION NO. 1020116
MY COMMISSION EXPIRES 20 DAY OF December, 2025

APPROVALS

APPROVED NOVEMBER 4, 2021 AS PARTITION 201-21-000300-PLUG

Spencer Blake March 11, 2022
TILLAMOOK COUNTY DEPT. OF COMMUNITY DEVELOPMENT DATE

APPROVED THIS 11 DAY OF March, 2022.

Debra J. Lopez, Deputy
TILLAMOOK COUNTY CLERK

TAXES HAVE BEEN PAID IN FULL TO JUNE 30, 2022.

Blaine D. Jones
TILLAMOOK COUNTY TAX COLLECTOR

NARRATIVE

THIS IS A REBURY SURVEY OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 11765, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 503-842-5551, AND THE NEARBY PORTION OF WHICH IS A 3/8" REBAR AT THE NORTHEAST CORNER OF THIS PLAT. THE SURVEY IS BASED ON THE ORIGINAL PLAT OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 11765, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 503-842-5551, AND THE NEARBY PORTION OF WHICH IS A 3/8" REBAR AT THE NORTHEAST CORNER OF THIS PLAT. THE SURVEY IS BASED ON THE ORIGINAL PLAT OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 11765, HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT 503-842-5551, AND THE NEARBY PORTION OF WHICH IS A 3/8" REBAR AT THE NORTHEAST CORNER OF THIS PLAT.

CERTIFICATE OF COUNTY CLERK

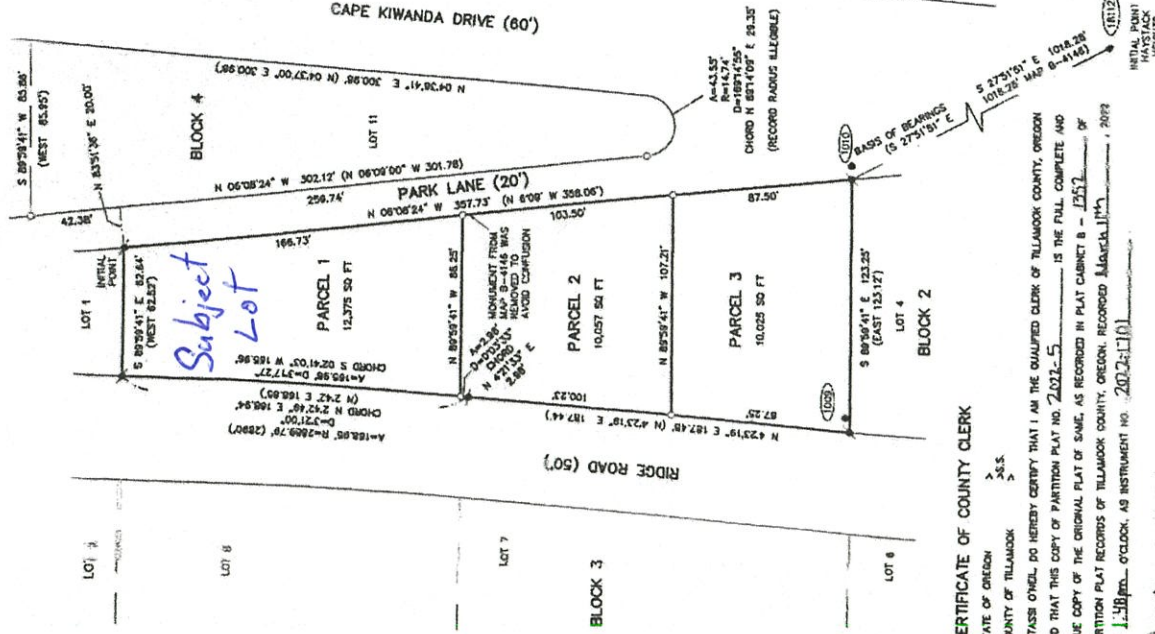
STATE OF OREGON
COUNTY OF TILLAMOOK

I, TASSI O'NEIL, DO HEREBY CERTIFY THAT I AM THE QUALIFIED CLERK OF TILLAMOOK COUNTY, OREGON, AND THAT THIS COPY OF PARTITION PLAT NO. 2022-5 IS THE FULL COMPLETE AND TRUE COPY OF THE ORIGINAL PLAT OF SAME, AS RECORDED IN PLAT CUBINET B - 1257 OF PARTITION PLAT RECORDS OF TILLAMOOK COUNTY, OREGON, RECORDED MARCH 11th, 2022 AT 1:38 PM. O'NEIL, AS INSTRUMENT NO. 202-2-110.

Tassi O'Neil
TASSI O'NEIL

I, DALLAS W. ESPLIN, DO HEREBY CERTIFY THAT THIS IS A TRUE, CORRECT AND TRUE COPY OF THE ORIGINAL PLAT AS INTENDED ABOVE.

Dallas Esplin
DALLAS W. ESPLIN, PLS. 03837



REGISTERED
PROFESSIONAL
LAND SURVEYOR
Dallas Esplin
OREGON
DECEMBER 3, 2014
DALLAS W. ESPLIN
RENEWED: DECEMBER 31, 2023

BASIS OF BEARINGS

THE BASIS OF BEARINGS IS NORTH AS DETERMINED BY G.P.S. OBSERVATIONS USING THE OREGON COAST ZONE COORDINATE SYSTEM. THE COORDINATE SYSTEM IS BASED ON THE NORTH AMERICAN DATUM OF 1983.

OREGON COORDINATE REFERENCE SYSTEM

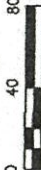
THE BASIS OF BEARINGS IS NORTH AS DETERMINED BY G.P.S. OBSERVATIONS USING THE OREGON COAST ZONE COORDINATE SYSTEM. THE COORDINATE SYSTEM IS BASED ON THE NORTH AMERICAN DATUM OF 1983. LATITUDE OF LOCAL ORIGIN: 44°45'00" N. LONGITUDE OF LOCAL ORIGIN: 123°15'00" W. FALSE EASTING: 500,000.000 METERS. FALSE NORTHING: 500,000.000 METERS. SKEW ANGLE: 0.000000. (THE ABOVE INFORMATION IS RECORD FROM OREGON COAST ZONE COORDINATE REFERENCE SYSTEM, VERSION 3.01 2-28-2017, APPENDIX A, PAGE 14-2, SEE COOT RECORDS)

LEGEND

- 0 SET 5/8" X 40" REBAR WITH PLASTIC CAP MARKED "DALLAS ESPLIN L3 03837"
- 1 FOUND 5/8" REBAR WITH PLASTIC CAP MARKED "DALLAS ESPLIN L3 03837", SEE MAP B-1146, AT POSITION
- 2 FOUND MONUMENT AS NOTED HEREON. HELD UNLESS NOTED OTHERWISE
- () RECORD VALUE FROM PLAT OF HAYSTACK HEIGHTS, MAP C-174
- NO () MEASURED VALUE

MONUMENT NOTES

- (1358) FOUND 5/8" X 40" REBAR WITH PLASTIC CAP MARKED "T.S. 1285", FLUSH WITH GRADE, N 72°20'13" E 1.74' FROM POSITION. SEE MAP A-5656, NOT HELD
- (1359) FOUND 5/8" REBAR WITH PLASTIC CAP MARKED "T.S. 1285", FLUSH WITH GRADE, S 89°35'02" E 1.33' FROM POSITION. SEE MAP A-5656, NOT HELD
- (13113) FOUND TILLAMOOK COUNTY PLAT C-174 IN CONCRETE, STAMPED "T.S. PT HAYSTACK HEIGHTS, TILLAMOOK COUNTY PLAT RECORDS, REFINES BOOK 6, PAGE 417, HELD FOR INITIAL POINT OF HAYSTACK HEIGHTS



SCALE:
1" = 40'

PARTITION PLAT FOR
SHAWN MACDONALD
REPLAT OF LOTS 2-3, BLOCK 2,
HAYSTACK HEIGHTS,
TILLAMOOK COUNTY PLAT RECORDS
SE 1/4 SECTION 13, T4S, R11W, W.M.
TILLAMOOK COUNTY, OREGON

DATE: JANUARY 21, 2022
EXPIRATION: FC-6000
11765-1, ES-103

FIELD: []
CHECKED: []
DRAWN: []
DATE: []
JOB NUMBER: 0213

TILLAMOOK COUNTY
DATE: MARCH 11, 2022
SURVEYOR: DALLAS W. ESPLIN

Proposal to Tillamook County Planning for a Setback Variance

In regards to Lot 2, Block 2 of Haystack Heights, SE 1/4 Section 13, T4S, R11W, The Owner, Kristina Shocky, hereby referred to as the applicant, seeks the granting of a front yard setback variance. The applicant requests the modification to a 10 ft setback to insure both enjoyment of the property rights by her and minimization of a geological and natural surrounding disturbances.

The following will address the applicants need for said variance and display conformance to both the review criteria set out in Section 8.030 and Article iv supplementary regulations of Section 4.005.

Section 8.030

- (1) In the vicinity of the applicants lot the primary property right enjoyed by landowners is the placement and occupation of single family dwellings. The applicant seeks the same, however, the existing topography of the lot greatly limits possible options to place such a structure due to the great majority of the lot being steeply sloped sand dune. The one fairly level building area is on the street side of the lot on the SE corner. Currently zoned setbacks prohibit the use of this portion of the lot. At the recommendation of our geologist, Jason Morgan, we are seeking a variance to utilize this building area and limit disturbing the sloped sand dune and vegetation (see attached). The applicant has already conceded the need to drastically reduce the square footage and footprint of a desired dwelling to substantially less than to those of surrounding landowners. But even with that, the maintaining of a standard front setback would push the structure so far toward the aforementioned steep dune that the width of such a structure would not be practical or would require a substantial invasion into the dune. This would result in both the possible unwanted destabilization of the disturbed area and if possible, the applicant to expend what could be considered exorbitant and limiting expenses. In addition, the owner desires to maintain as much natural foliage and its stabilizing effect as possible, and believes the surrounding community as well. By locating the desired dwelling in the proposed location much removal of existing floral would be avoided, both maintaining helpful stabilization of the lot and natural visual appeal.
- (2) As mentioned above, the applicant seeks to enjoy the same use of the property as other landowners in the vicinity, that being the building and occupying of a single family dwelling.
- (3) Refer to supplementary regulations in Article iv, Section 4.005, Residential and Commercial zoned standards.
 - (1) The applicants lot is of substantial size and private open space would not be affected especially considering the small size of the proposed dwelling.
 - (2) There are no obstructions to either the applicants proposed dwelling or any structures of neighboring landowners.
 - (3) No other structures are proposed on the applicants property and side setbacks will be adhered to separating it from any neighboring structures, none of which exist currently.

- (4) The applicant would have no visual line of sight to any surrounding dwellings from the proposed location.
 - (5) The requested variance would ensure the applicant's ability to have a dwelling and parking area, while still maintaining private open space and safe access to the common road.
 - (6) The applicant lot is one of only two on Pike Road and located at the end of it. Pike Road is a seldom used straight and level dead end road with no visual obstructions.
 - (7) Same as above
 - (8) The applicant's proposed dwelling will be well under applicable height restrictions and is in a location that has no ability to restrict any views of surrounding properties.
 - (9) No incapable land uses are proposed
 - (10) No plans for alternative energy production are proposed
- (4) The applicant contends that adhering to the standard front setback would, as mentioned before, would require an inhibitive expense and unwanted destabilization of the lot and considers those unreasonable alternatives to a setback variance of ten feet.

Attachment 1



MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130

ph: 503-801-6016

www.morgancivil.com

March 26, 2025

Kristina Shockey

PO Box 164

Igo, CA 96047

c/o

jadesbeachhouse@yahoo.com

**Re: Setback Variance Recommendation for Tax Lot 5300, Map 04S 11W 13D, Parcel 1 of
Partition Plat 2022-05, Pacific City, Tillamook County, Oregon (Park Lane)
Project #19-07-Mac**

Dear Ms. Shockey:

At the request of your Contractor, Jade Crawford, I have completed a recent review of your property, referenced above. A Dune Hazard Report (DHR) for the property was completed by Morgan Civil Engineering, Inc. (MCE), dated March 9, 2020. This assessment include a recent site visit with the contractor.

The property fronts Park Lane for about 167 feet and is about 88 feet deep on the southern end. The property narrows to about 63 feet deep at the northern end.

The property consists entirely of dune sand. The parcel is flat at the front of the property, but the rear of the property rises steeply to Ridge Road. The slope is densely vegetated and has a slope of about 75 percent.

Due to the steepness of the slope and the fact that it is sand, I advise against cutting into the slope. Therefore, in order to create a larger more viable building area, I recommend applying for a front-yard setback variance.

KRISTINA SHOCKEY
*Setback Recommendation for
Tax Lot 5300, Map 4S 11W 13D
Pacific City, Tillamook County*

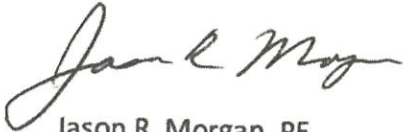
March 26, 2025

MORGAN CIVIL ENGINEERING, INC.

Should you have any questions regarding my recommendations, please contact me at
jason@morgancivil.com or 503-801-6016.

Sincerely,

MORGAN CIVIL ENGINEERING, INC.



Jason R. Morgan, PE
Professional Engineer



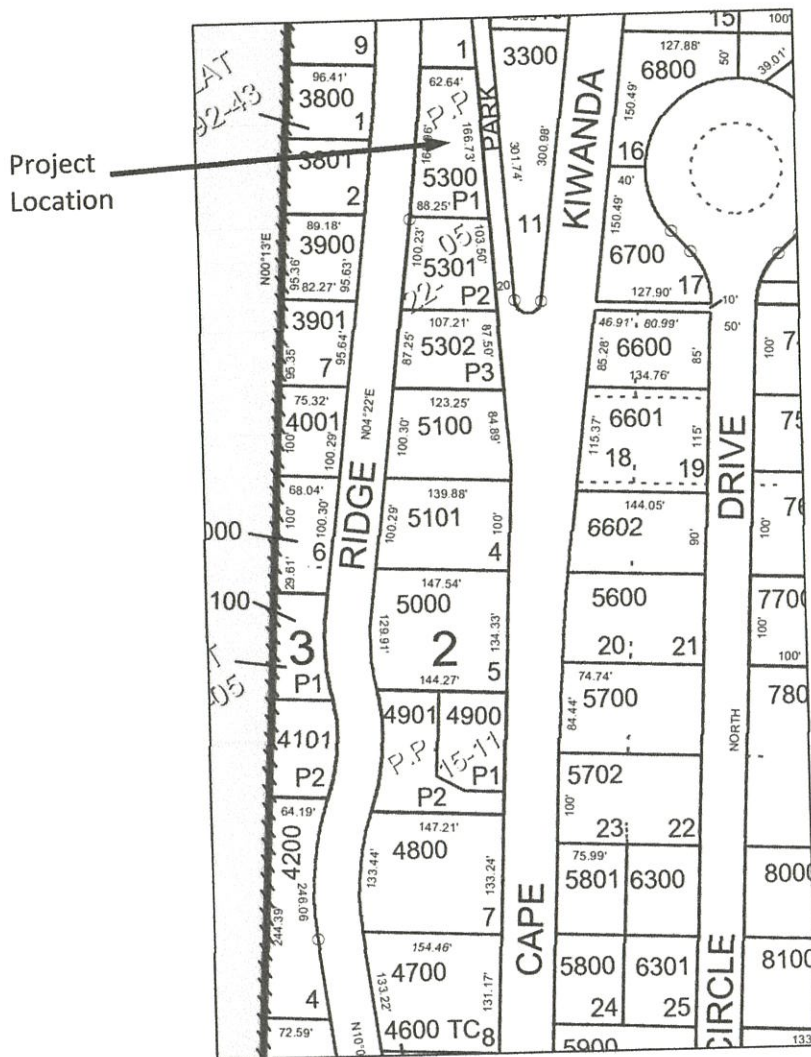
cc: Project File #19-07-Mac

<V:\19-07-Mac\Reports\Shockey Setback.docx>

*Setback Recommendation for
Tax Lot 5300, Map 4S 11W 13D
Pacific City, Tillamook County*

March 26, 2025

MORGAN CIVIL ENGINEERING, INC.



**Tax Lot 5300, Map 04S 11W 13D
Parcel 1 of Partition Plat 2022-05
Pacific City, Tillamook County, Oregon
(Park Lane)**

BLOCK 4

NOTES

THIS IS A TOPOGRAPHIC SURVEY OF LOTS 2 AND 3, BLOCK 2, HAYSTACK HEIGHTS. THE PURPOSE OF THIS SURVEY IS TO SHOW TOPOGRAPHIC INFORMATION IN RELATION TO THE BOUNDARY ON LOTS 2 AND 3, BLOCK 2. THIS MAP DOES NOT CONSTITUTE AS A BOUNDARY SURVEY, FOR BOUNDARY INFORMATION SEE MAP BY THIS FIRM DATED APRIL 23, 2021, TILLAMOOK COUNTY SURVEY RECORDS. UTILITIES WERE NOT LOCATED AND OTHER UTILITIES MAY BE PRESENT.

LEGEND

- FOUND 5/8" X 40" REBAR WITH PLASTIC CAP MARKED "DALLAS ESPLIN L2 83627"
- ◇ SET 1/2" X 6" WHITE FIBERGLASS POST
- TREE, SIZE AND TYPE NOTED
- W WATER BLOW OFF
- V WATER VALVE
- ⊙ SANITARY SEWER CLEANOUT

Proposed 10' Setback

LOT 11
Approx Dwelling Location 14x40

Driveway

CAPE KIWANDA DRIVE (60')

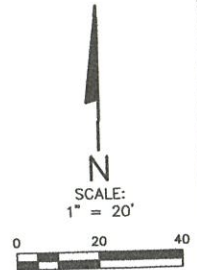
PARK LANE (20')

LOT 2

LOT 3

LOT 4

RIDGE ROAD (50')



REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
DECEMBER 3, 2014
DALLAS W. ESPLIN
83627
RENEW: DECEMBER 31, 2021

TOPO\MACDONL-TOPO.DWG
MCDONALD-SH.CRS

SURVEY BY:
BAYSIDE SURVEYING LLC
11765 HWY 101 SOUTH
TILLAMOOK, OR 97141
503-842-5551

TOPOGRAPHIC MAP FOR:
SHAWN MACDONALD
LOTS 2-3, BLOCK 2
HAYSTACK HEIGHTS,
TILLAMOOK COUNTY PLAT RECORDS
SE 1/4 SECTION 13, T4S, R11W
TILLAMOOK COUNTY, OREGON

DATE _____ EQUIPMENT _____ FIELD _____ DRAWN _____ CHECKED _____ JOB NUMBER _____



MORGAN CIVIL ENGINEERING, INC.

PO Box 358, Manzanita, OR 97130

ph: 503-801-6016

www.morgancivil.com

March 9, 2020

Shawn MacDonald
200 NW Jenna Terr
Portland, OR 97229

nwsteelheader@hotmail.com

**Re: Dune Hazard Report for Tax Lots 5200 & 5300, Map 04S 11W 13D, Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS, Pacific City, Tillamook County, Oregon (Park Lane)
Project #19-07-Mac**

Dear Mr. MacDonald:

At your request, I have completed the investigation for the Beach and Dune Hazards Report (DHR) for your properties and roadway, referenced above. Available maps and previous reports of nearby properties were utilized as part of this work. I visited the property as part of this review. Approximately 40 minutes were spent on the site and nearby areas in order to explore the topography and nearby landforms.

This report has been prepared to meet the requirements of Tillamook County Ordinance 3.530 and is prepared for your use in the construction of a new single-family home on each property, as well as improving Park Lane. The standards set forth herein should be incorporated into the development plans for those projects.

After the development plans are completed for each lot, an addendum to this report should be completed in order to allow for a review of the planned site improvements and building design. This review is recommended in order to ensure that the building and site improvements have been designed in accordance with all of the requirements noted in this, and other applicable, reports. I understand that you plan to access the properties from Park Drive. This appears to be the best way to enter the lots.

Site elevations noted in this report are based on the topographic information obtained from the Oregon Department of Geology and Mineral Industries (DOGAMI) LiDAR project. The LiDAR elevations are based on the NAVD88 datum. Note that the information shown for dune erosion from "Nanoos" is shown with NAVD88 elevations. Current FEMA and DOGAMI maps are also based on NAVD88. NAVD88 is roughly 3.4 feet higher than NGVD29 in this region.

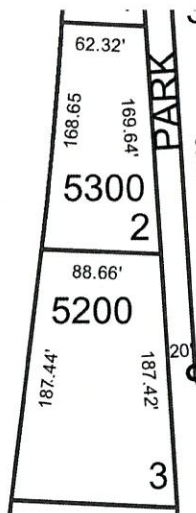
*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

For design and construction of the roadway, I recommend that a site-specific topographic survey be prepared by a professional land surveyor. This survey should include the ground surface, edge of asphalt roadway, underground utilities, large trees, and any other features relevant to construction of the new roadway in order to access these lots. The building area of the lots should also be surveyed in order to ensure proper design.

Under potential extreme long-term conditions (e.g. major earthquake), the proposed measures will not provide complete protection for the structure. The possibility of these events occurring during the life of the structure is considered low, but cannot be positively determined.

Site Conditions

The subject lots are roughly rectangular through properties, fronting Park Lane to the east and Cape Kiwanda Drive to the west. Lot 2 is roughly 170 feet long from north to south, and tapers in width to the north, from about 89 feet to about 62 feet. Lot 3 is roughly 187 feet long, and also tapers to the north, reducing from about 123 feet to about 89 feet. The Park Lane right-of-way is 20 feet wide. See the attached portion of the assessor's map for property configuration and dimensions.



*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

The subject properties are undeveloped, and Park Lane has only a narrow sandy foot path. To the west, Ridge Road is a dead-end road that is very rough but passable. The property to the southwest, across from Lot 3, is developed, but it is the furthest home to the north on Ridge Road. The nearby properties across Park Lane are also undeveloped. Several of the properties further to the east, across Cape Kiwanda Drive, are developed with homes.

The entire area consists of dune sand that rises from Park Lane to Ridge Road. The slopes on the properties increase closer to Ridge Road. Lot 3 rises from about 125 feet to about 195 feet (NAVD88), for an average slope of 50 percent. Similarly, Lot 2 rises from about 140 feet to about 190 feet, for an average slope near 60 percent. Each lot has a relatively flat area in the eastern 10 to 20 feet before rising up more steeply. See Figure 4.

The Ridge Road roadway descends slowly to the north, with an elevation of about 200 feet in front of Lot 3 and 190 feet in front of Lot 2. Park Lane rises up to the north gradually at about 5 percent. See Figure 2.

All typical utilities are located in the Cape Kiwanda Drive right-of-way. The Haystack Heights subdivision was platted in 1957. See Figure 5.

The primary dune crest is located 70 feet to the west of the property, west of Ridge Road, at an elevation of about 190 feet. Cape Kiwanda is located due west of the properties. To the south of the properties the ground is lower, with the ground continually falling to the beach access south of the Cape.

The lots have been cleared of trees. The remaining vegetation generally consists of fern, blackberry, salal, and other species typical of dune forest underbrush.

Based on the 1975 Beaches & Dunes of the Oregon Coast report, the site is in an area classified as Open Sand Dunes (OS). See attached Figure 10.

There are no creeks on, or near, the property. Stormwater infiltrates into the dune sand. The Wetlands Inventory Map from US Fish and Wildlife Services does show a riverine located to the east of the Haystack Heights subdivision. See attached Figure 13.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

The State Beach Zone Line is shown on the assessor's map in the grayed-out area far to the north and south, more than 1000 feet in either direction.

The site is in a 110 miles per hour basic wind gust speed zone, unprotected from the ocean winds (Exposure 'D' as per the 2017 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 110 miles per hour Exposure 'D' wind loading also will withstand even severe earthquake loads. According to the 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) loose sand; 2) steep slopes; 3) buried vegetation; 4) regional seismic hazards. Mitigation of these hazards is discussed in the Development Standards addressed herein.

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 during these conditions.

Tsunami Hazard

Based on the maps from DOGAMI (Figures 8 and 9), the subject properties are located outside of the area of tsunami risk. The Tsunami Evacuation Map shows the area outside of the hazard area for a local Cascadia Earthquake and Tsunami.

Large subduction zone tsunamis are not expected to cause damage to the properties, but will cause damage to Cape Kiwanda Drive to the south. Smaller tsunamis from distant earthquakes are not predicted to affect the properties or the egress routes.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)***Flood Zone Hazards**

According to the FEMA Flood Insurance Rate Map for the Tillamook County (Panel Number 410196 0855 F), these lots are located to the northwest of VE Zone, with a base elevation of 25.6. See Figure 7.

With a minimum elevation of 120 feet, the lots are located outside of the flood hazard zone.

Shoreline Protection

The properties are about 1400 feet from the sand beach at the public access, adjacent to the Pelican Pub and Brewery. The area between the subject properties and shoreline is developed with roads, paved parking areas, and buildings.

Additionally, Cape Kiwanda is located directly west of the subject lots.

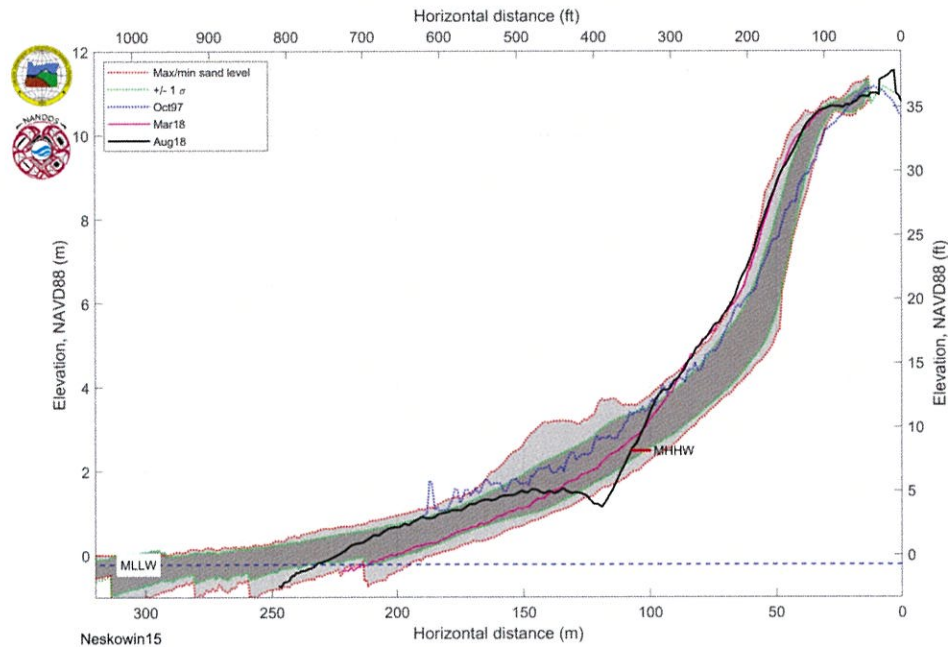
Erosional History

The Pacific City area has a documented history of accretion over the last 20 years. A review of aerial photos in the last 20 years for the area to the south of the beach access shows no vegetation due to regular sand accumulation and frequent clearing.

To the south of the Parking Area and the Publican Pub & Brewery, the Webb's subdivision has no vegetation to the west due to sand accretion and maintenance. The next subdivision to the south, Shorepine Village, has had vegetation expansion to the west. The following subdivision to the south, Kiwanda Shores, has had no vegetation to the west due to sand accretion and maintenance. These conditions have continued over the past 20 years, at least.

To the west of the property, Cape Kiwanda provides protection from erosion, consisting of hard sandstone.

The data on the "Nanoos" Web site link titled "Pilot Coastal Ocean Observatory for the Estuaries and Shorelines of Oregon and Washington" provides beach and dune cross sections developed over several years since 1997. The profile from the closest monitoring location to the subject site is shown below. Neskowin Profile 15 is located approximately 2600 feet south of the site.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

This profile provides a view of the beach and dune erosion that has occurred since 1997. Note that in Neskowin Profile 15, above an elevation of about 20 feet, the dune profile has changed very little since 1997, even shifting westward due to accretion.

Overall, the subject property is not considered at risk of ocean erosion during the life of the structure.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)***Mandatory Development Standards**

In addition to the required standards of Section 3.530(5) of the Tillamook County Land Use Ordinance, the following site-specific standards shall also be required:

A. Development Density – These properties 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 any conditions of the subdivision CC&Rs.

The lots are located in the Pacific City/Woods Low Density Residential (PCW-R1) Zone. A single-family home is outright permitted on each property by Section 3.332(2)(a) of the Ordinance.

B. Structure Foundation and Road Location – All footings, including piers for overhanging decks, should be placed at least 5 feet from the toe of any dressed and graded cut slope, or at least 3 feet from the foundation of any retaining structure. The top of retaining walls should be set at least 5 feet horizontally from the face of the retained slope.

All structures are also required to conform with the standard front- and side-yard setbacks required under the Tillamook County Land Use Ordinance.

Due to the increasingly steep and high rear slopes, I recommend constructing as close to Park Lane as possible. The rear retaining wall will become taller as it moves to the west.

Footing design should be in accordance with Development Standard E, noted below. Site access should take place from Park Lane.

C. Land Grading Practices – All excavation for construction should be done during reasonably dry weather (while it is not raining hard).

All permanent cut or fill slopes must be graded and dressed to a maximum 2H:1V slope and revegetated as noted below. Note that the existing ground is generally steeper than 2H:1V (50 percent). Temporary slopes may be graded to 1.5H:1V and should be monitored for movement. All proposed grading should be shown on the site plans for the development.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

Temporary sand slopes steeper than 1.5 horizontal to 1 vertical will require shoring. Therefore, deep foundation footings located near the edges of the properties should be carefully considered and addressed during design of the house and site improvements. The design of a temporary excavation plan is recommended, in addition to a grading plan.

Excavated sand should be removed for disposal off-site. Small areas near the front of the lots may be used for stockpiling backfill material.

Foundation retaining walls should be designed with a minimal heel footing (and a larger toe footing) in order to reduce the excavated area.

After the construction of a building is completed, the area immediately around the foundation should be protected from sand deflation. It is my recommendation that a minimum 6-inch thick layer of 3/4"-minus crushed rock is the most cost-effective method for dealing with the sand deflation problem. Concrete walks or driveways constructed up against the foundations will provide similar protection. A sand stabilization method, such as concrete walkways, asphalt driveways, or crushed rock surfacing, should be employed in all areas around the foundations. Any concrete structures, such as walks or driveways, should be similarly protected by an edging of crushed rock. Similar to crushed rock, planting vegetation near the structure will also help to protect the home from sand deflation.

The properties should be graded in order to provide positive surface drainage away from the proposed buildings.

D. Vegetation Removal and Revegetation – Most of the area has been cleared of trees. Do not disturb the remaining vegetation on the slope outside of the building area. All disturbed areas should be revegetated in order to reduce the potential for erosion. It is important that bare ground surfaces be vegetated or covered in order to avoid localized erosion from wind and rain. During dry periods, sand movement will continue to be a problem as long as bare sand is exposed.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

The planting of dune grasses will help stabilize slopes and reduce sand movement. Plant a combination of beach grasses in order to promote growth: use a mixture of 80 percent European beach grass and 20 percent American dune grass. Dune grasses should be planted in the fall and fertilized immediately.

To further contribute to the stability of the disturbed areas, tackifier, jute matting, straw cover, or other stabilization product such as SoilGuard®, should be placed over the soil in order to help protect against erosion, especially on slopes. 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.

Vegetation on the sand should be monitored and replaced, as necessary. Ground cover is important to stabilizing disturbed areas and helps prevent erosion.

E. Foundations – The building foundations should employ a continuous, reinforced concrete perimeter system, using reinforced concrete foundation walls, where required. The lots lend themselves toward the use of a daylight basement design for the homes in order to economically use the existing slope of the site.

The construction of a concrete slab on grade on the lower level of the buildings is acceptable on a prepared pad. The areas to support a slab should consist entirely of firm, compacted sand.

Below any concrete slab, I recommend the use of a capillary break in order to prevent moisture directly under the slab. Below the slab, use a layer of plastic sheeting, clean 3/4-inch crushed rock (no fines), or a combination of both options.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

Where a crawl space is planned beneath a wood first floor, I recommend the use of continuous, reinforced concrete strip footings running between perimeter foundation walls in order to allow for continuity of the reinforced concrete footings. Isolated footings should not be used within the perimeter foundation walls. 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 supported on continuous strip footings tied together with the continuous perimeter footings.

After excavation of the site and prior to compaction, I recommend that the building site be probed with a steel rod in order to check for buried organic soil or vegetative debris. All buried debris should be removed, and the resultant hole filled with sand then compacted.

For compaction, the sand should be spread levelly and thoroughly watered. I recommend accessing a nearby fire hydrant in order to supply the water; rain will not be adequate. The sand should be thoroughly compacted using mechanical means; an excavator-mounted vibratory plate compactor, a hoe-pack, is recommended. The degree of compaction sought is 95 percent of optimum density.

After compaction is complete, the foundation should be promptly constructed. If the sand dries out, the areas under the footings should be watered and compacted again, with a plate compactor, before placing rebar. Alternatively, spread a thin layer of crushed rock over the sand to help maintain compaction until construction occurs.

Soil bearing pressures at the bottom of all footings should not exceed 1500 pounds per square foot after compaction is completed. All footings should be at least 18 inches in width.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

All retaining walls should be designed according to the following criteria:

Allowable Soil Bearing Pressure, psf (after compaction is completed)	1,500
Lateral Soil Bearing Pressure on Unrestrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	35
Lateral Soil Bearing Pressure on Restrained retaining walls with level backfill, pcf/ft of depth, equivalent fluid weight (Active pressure excluding surcharge effects)	45
Lateral Soil Bearing Pressure (Passive), pcf/ft of depth	410
Friction Angle, degrees	33°
Maximum unit weight, pcf	120
Coefficient of Friction	0.35

All retaining walls should also be designed in order to account for any surcharge loads or sloping backfill conditions. The retaining wall designer should determine whether a retaining wall is restrained or not.

Native material is acceptable for backfill behind retaining walls.

F. Driveway Location and Design – The roadway and driveways should be constructed such that the roadbed is entirely on firm compacted sand. Access to the lots should be from Park Lane; any location along the front of property is acceptable.

Park Lane must be improved starting at Cape Kiwanda Shores. The County Public Works Department will determine the required width.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

Roadway and driveway design standards should include a minimum of an 8-inch thick layer of pit-run base rock and a 3-inch thick layer of 3/4"-minus crushed rock surfacing. Asphalt surfacing is optional, but recommended on slopes over 12 percent.

Stormwater run-off from the driveways and roadway should be directed into the sand at the edge of the road in order to allow for infiltration. Pitch the roadway in order to the drain to the west.

G. Stormwater Management, Runoff and Drainage – All roof drainage should be collected with eave gutters and downspouts, then piped to discharge downslope of the buildings. 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.

Discharge the collected water into dry wells, or surface ponds, at least 10 feet away from the house foundation.

No erosion control measures are needed for these lots. Stormwater will infiltrate into the sand. If sand stockpiled on the site does begin to move or erode, cover the sand or remove the stockpile.

H. Foundation Drains – Considering the topography of the site and the adjacent areas, groundwater is not expected to be a problem. Additionally, the site consists entirely of free-draining native sand, which will allow water to infiltrate quickly. Therefore, foundation drains are generally not required.

For retaining walls and foundation walls taller than 4 feet, however, foundation drains should be installed on the uphill side of the walls. The use of a fabric covered, perforated drainage pipe, such as ADS DrainGuard®, or an equivalent alternative, is recommended. All foundation drains should discharge toward the lowest point along the wall.

Extend the foundation drains in order to discharge on the surface. Do not connect the roof drains to the foundation drains.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

I. Topographic Survey – Based on the variable grades on the properties, as well as the development plans for the properties and roadway, accurate topographic information will be necessary in designing the improvements. Having a topographic survey of the lots will allow for house designs and site plans specifically for the sites. A detailed topographic map will also be helpful in determining the height of retaining walls and allowable building height elevations.

The topographic survey should extend from the existing roadway (Cape Kiwanda Drive) to 20 feet west of the area to be disturbed. All of the Park Lane right-of-way in front of Lots 2 and 3 should also be surveyed. As part of a topographic survey map, all easements and utilities that cross the properties should be shown.

J. Site Plan – The topographic survey should be used in order to develop site-specific development plans for each lot and the roadway. The development of a detailed site plan should include all temporary excavation, grading, drainage, driveway slopes, house location, stockpile sites, and retaining walls. Development of a detailed site plan prior to construction will reduce costs, unexpected costs, and delays. A house foundation designed specifically for each property will likely reduce the amount of excavation.

Summary Findings and Conclusions

1. The proposed use is currently single-family residential. There are no development plans currently available for review at this time. 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.

*Dune Hazard Report**for Tax Lots 5200 & 5300, Map 04S 11W 13D**Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS**Pacific City, Tillamook County, Oregon**(Park Lane)*

4. Temporary and permanent stabilization programs and maintenance of new and existing vegetation are discussed in Development Standard "D".
5. The proposed development of these properties according to the Mandatory Standards set out herein will result in future developments being adequately protected from the above described reasonably foreseeable ordinary hazards, although not necessarily from major earthquake.
6. The proposed development of these properties, according to the recommended standards, is designed in order to minimize the adverse environmental effects.

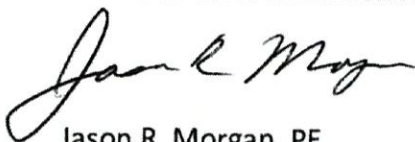
Limitations

This report is based on a site inspection of the subject properties and vicinity as well as a review of the site topography. 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 properties, and does not extend to the activities of unidentified future owners or occupants of the properties 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

JRM/st

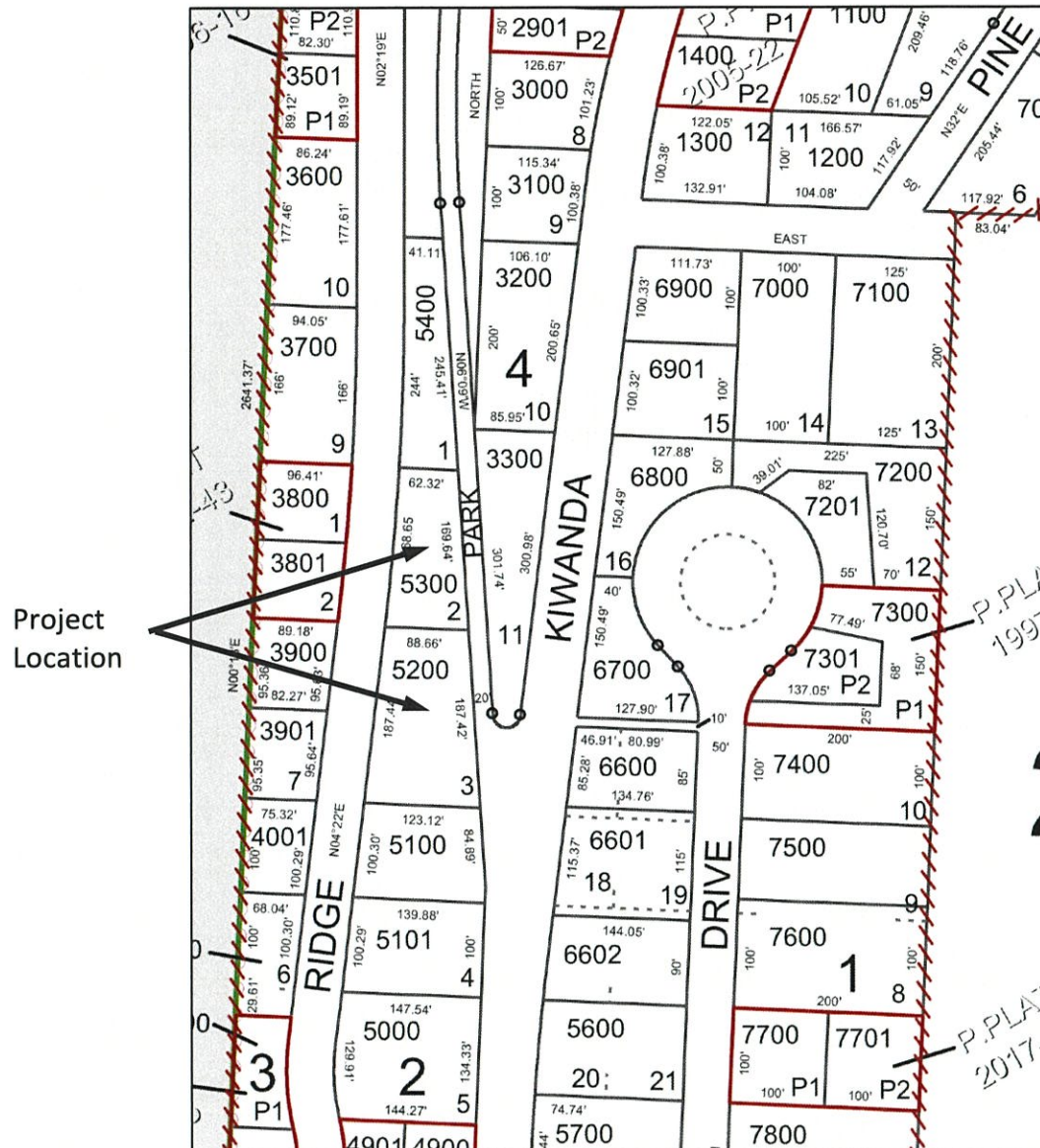
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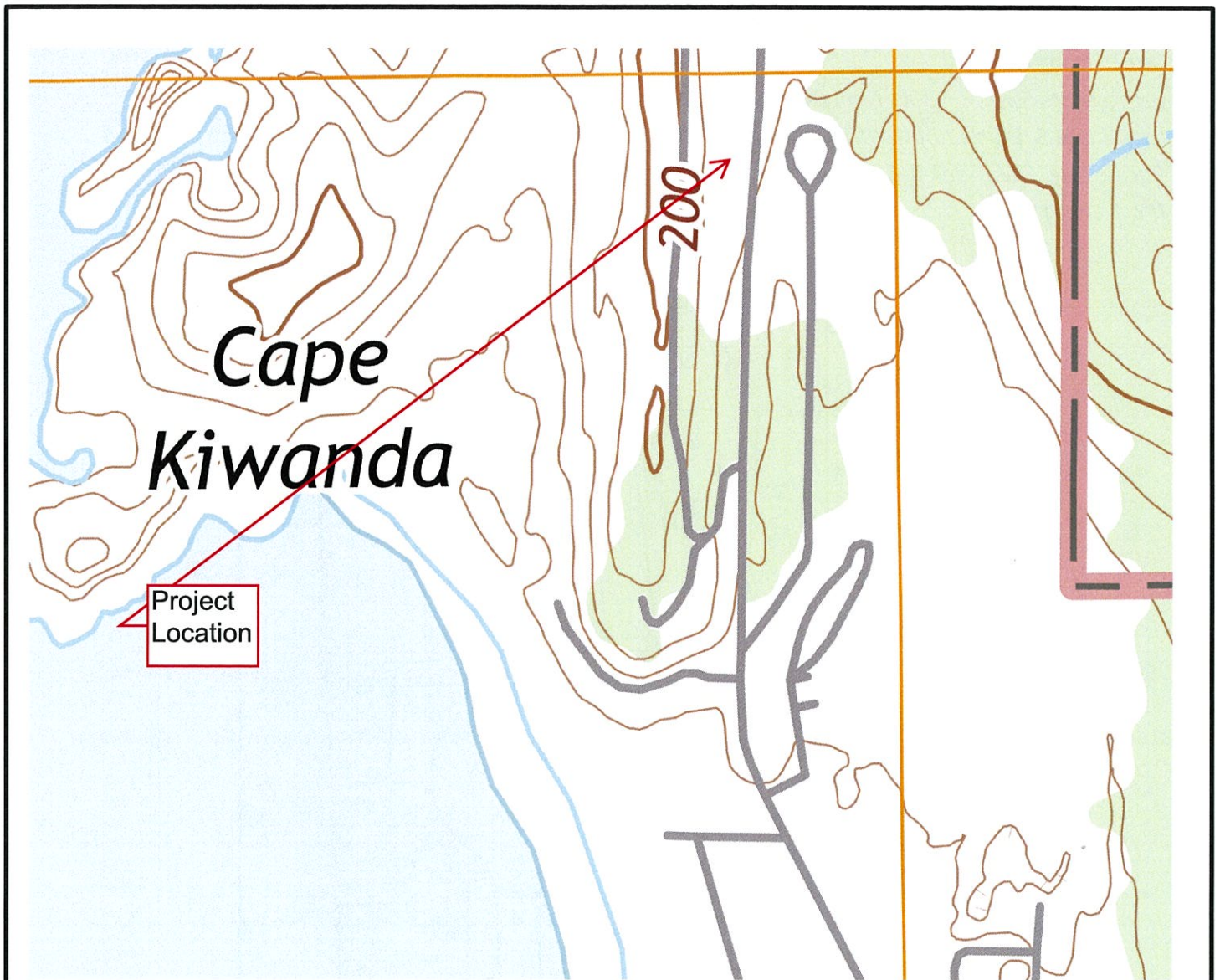


RENEWAL DATE: DECEMBER 31, 2020

*for Tax Lots 5200 & 5300, Map 04S 11W 13D
Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS
Pacific City, Tillamook County, Oregon
(Park Lane)*



**Tax Lots 5200 & 5300, Map 04S 11W 13D
Lots 2 and 3, Block 2 of HAYSTACK HEIGHTS
Pacific City, Tillamook County, Oregon
(Park Lane)**



**FIGURE 1:
AREA TOPOGRAPHY**



Source: United States Geologic Survey (USGS)

MARCH 9, 2020

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LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE

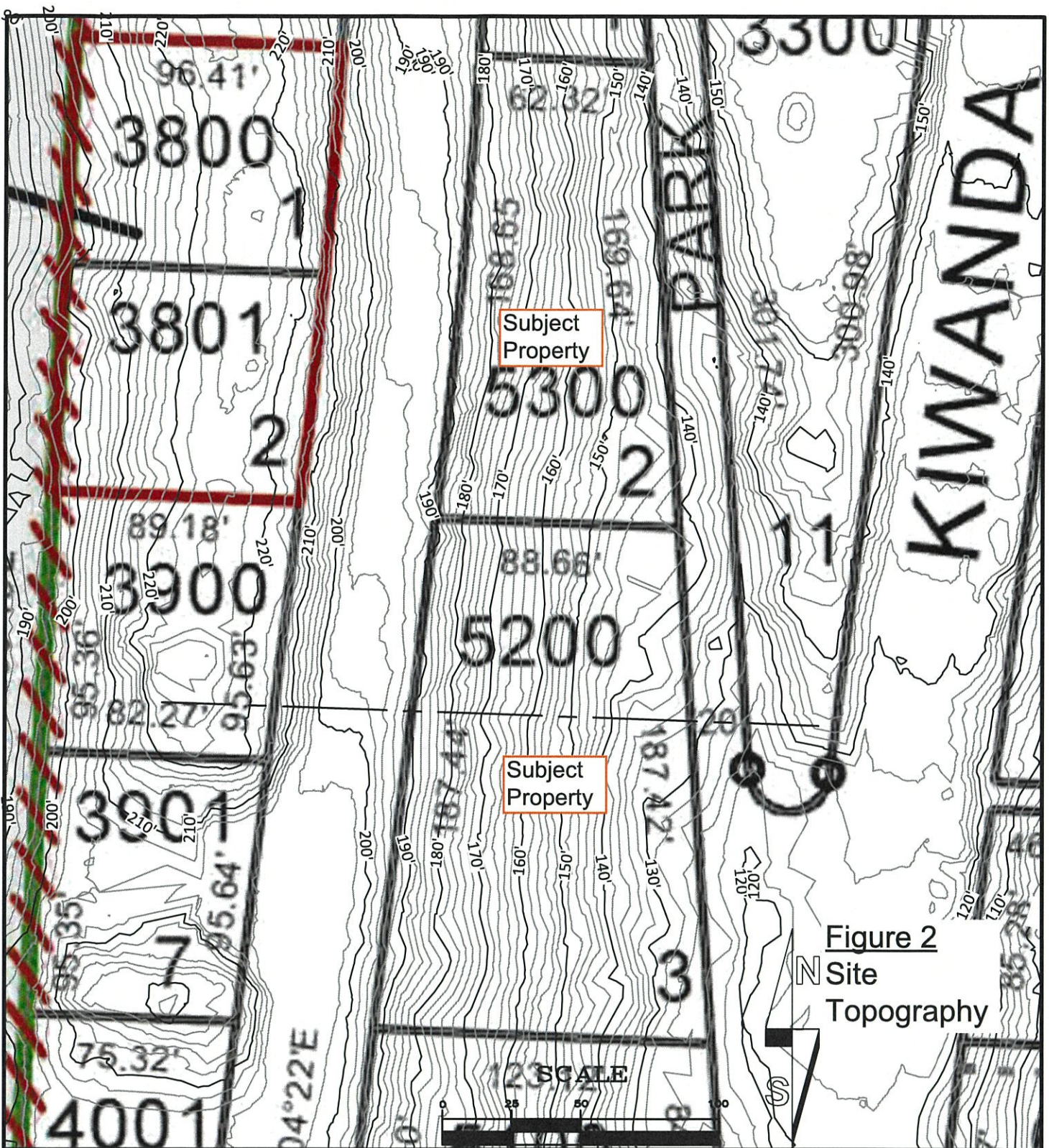
PACIFIC CITY/MAP 4S 11W 13D



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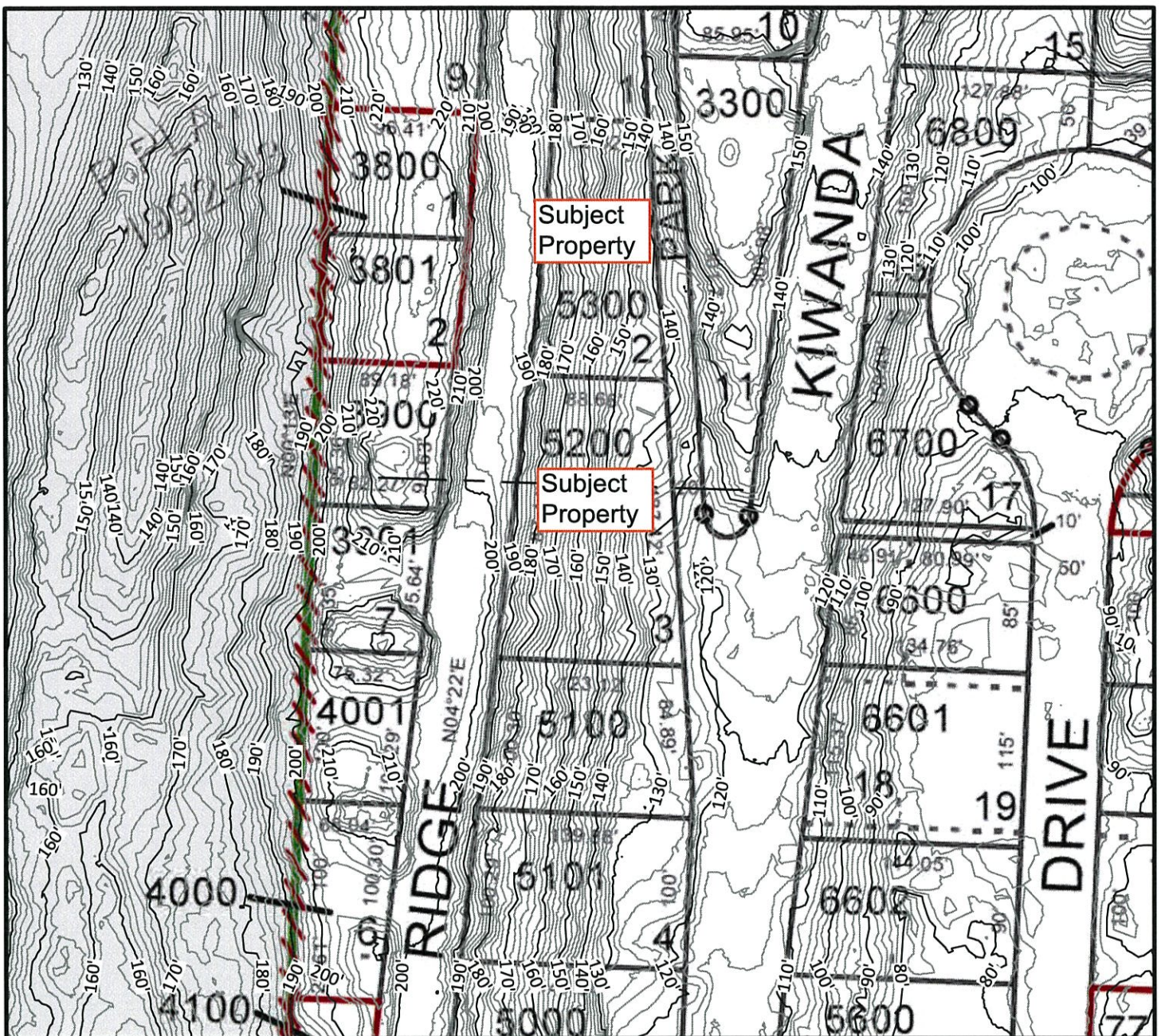
SHAWN MACDONALD
 LOTS 2 & 3, BLOCK 2
 RIDGE VIEW HEIGHTS, PARK LANE
 PACIFIC CITY/MAP 4S 11W 13D



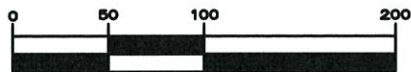
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SCALE



1 inch = 100 ft.

Figure 3
Area
Topography

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RIDGE VIEW HEIGHTS, PARK LANE
SUBDIVISION MAP
PACIFIC CITY/MAP 4S 11W 13D



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TL 5200 PROFILE

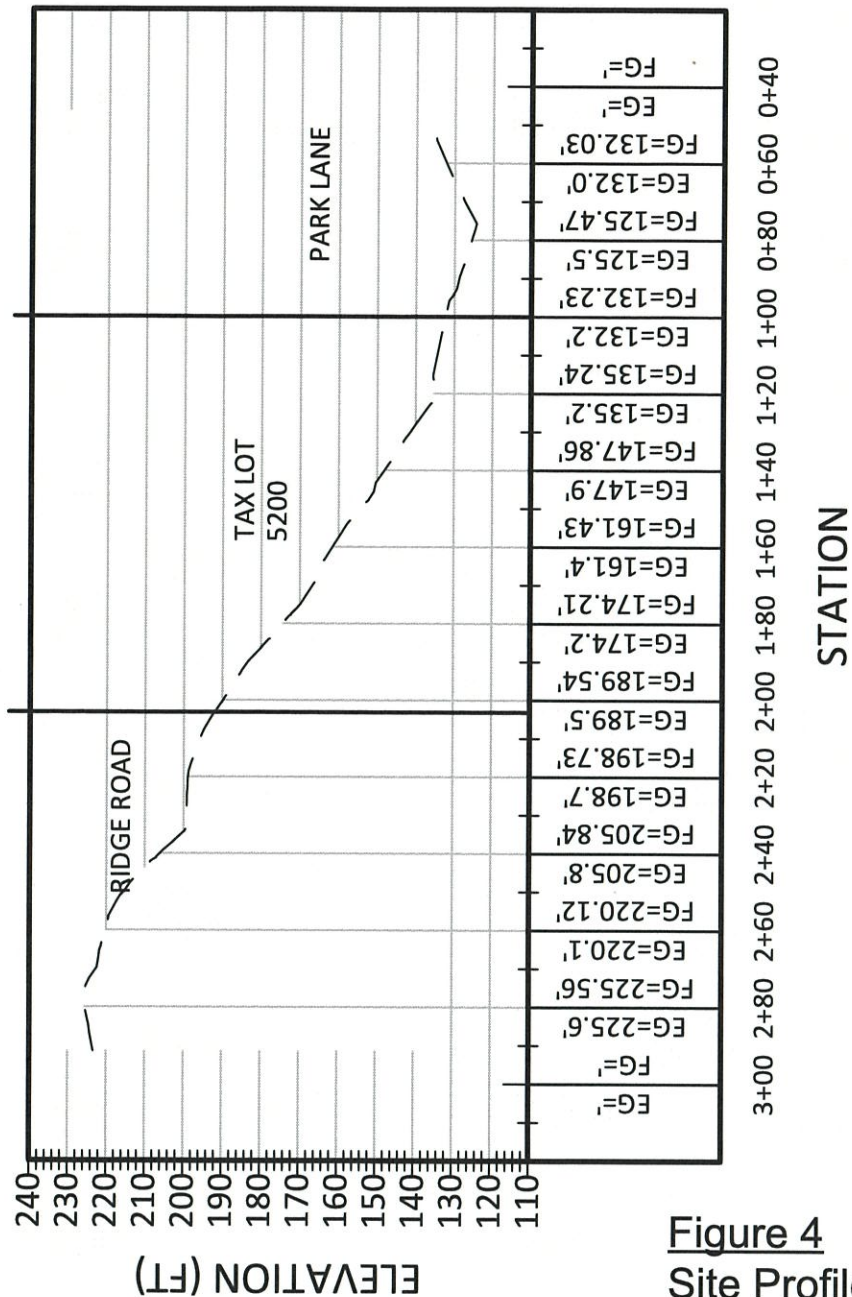


Figure 4
Site Profile

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RIDGE VIEW HEIGHTS, PARK LANE
SITE PROFILE
PACIFIC CITY/MAP 4S 11W 13D



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Location

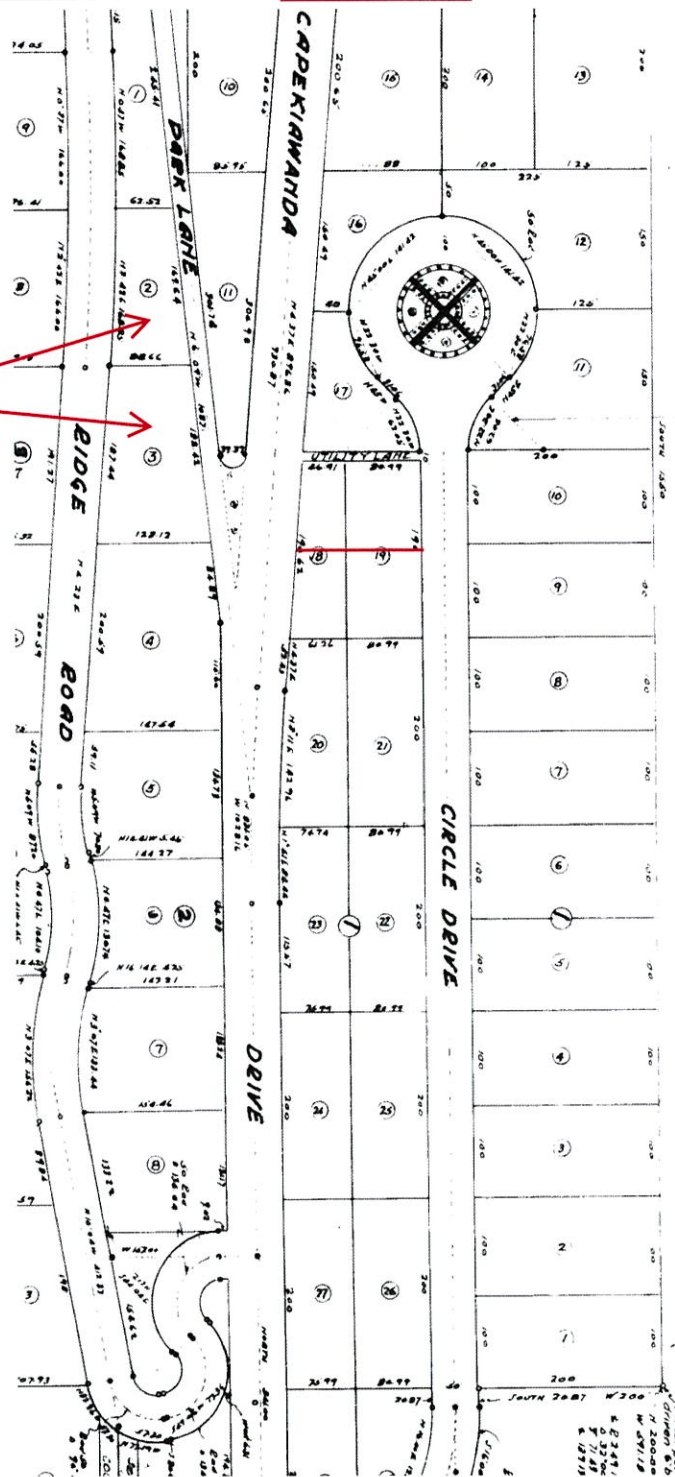


Figure 5
Area Map

Source
Survey Map C-174, 1957

MARCH 9, 2020

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LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE
SUBDIVISION MAP
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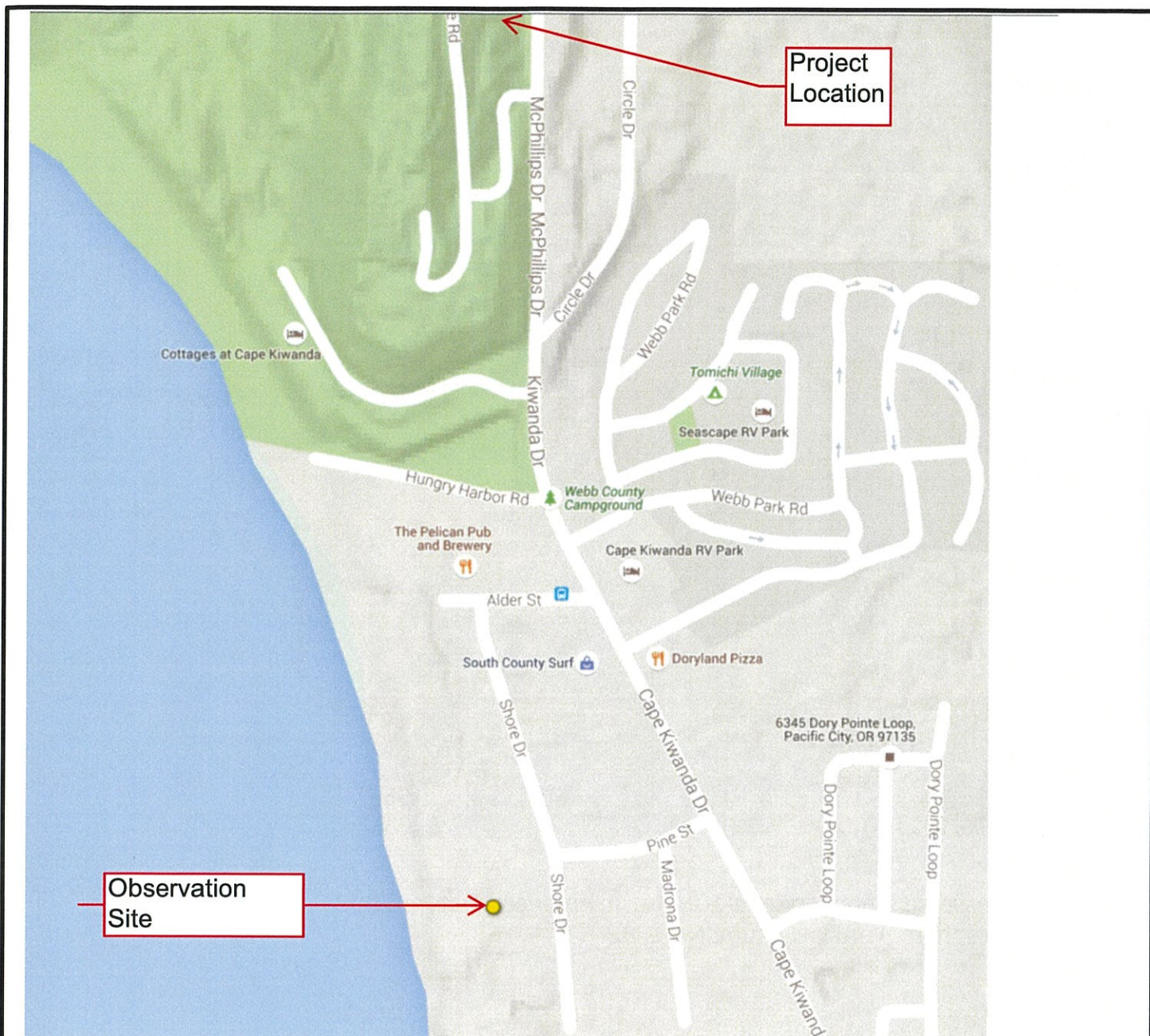


Figure 6
NANOOS Observation Site

Source: Northwest Association of
Networked Ocean Observing Systems
(NANOOS)



MARCH 9, 2020

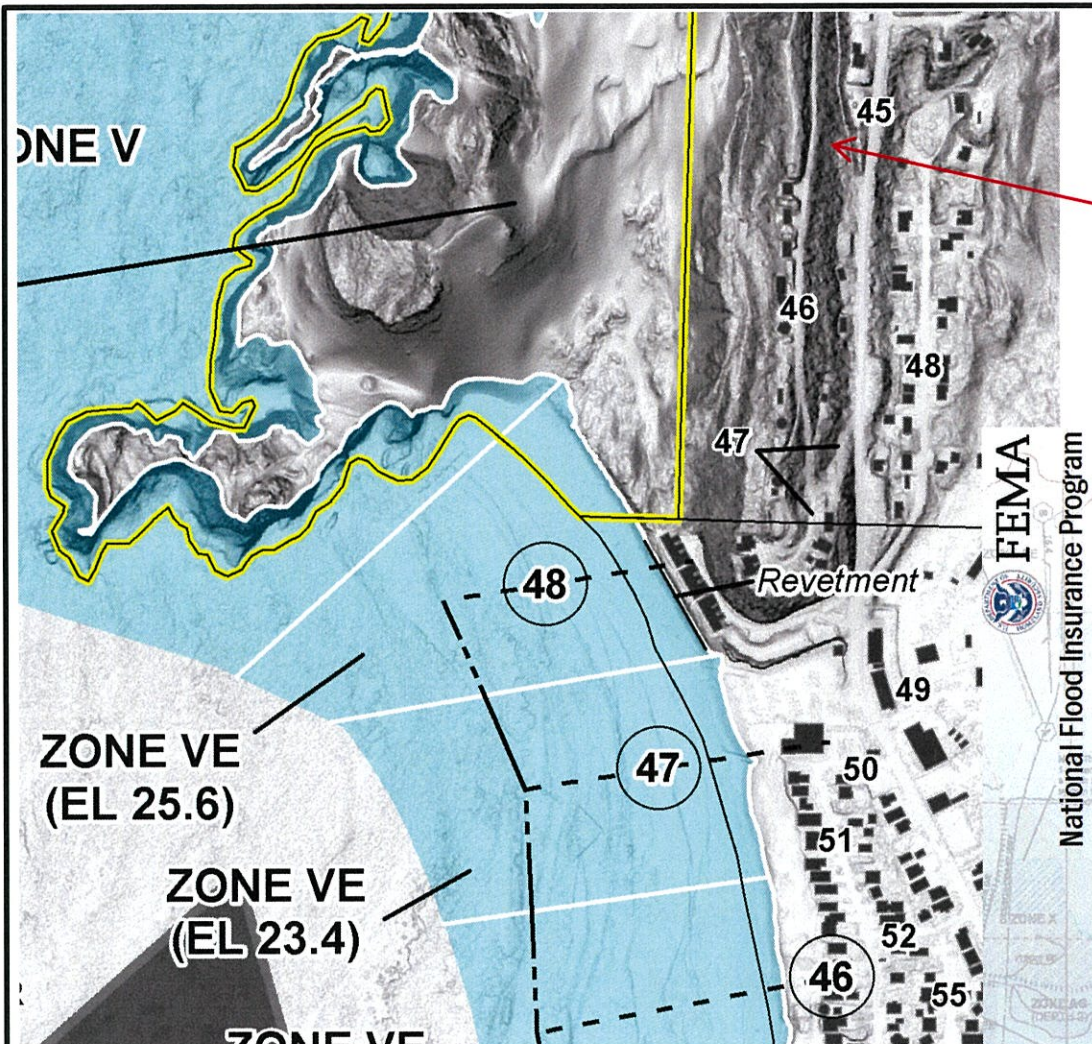
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NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

TILLAMOOK COUNTY, OREGON
And Incorporated Areas

PANEL 855 OF 1075



Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
TILLAMOOK COUNTY	410196	0855	F

VERSION NUMBER
2.3.2.1

MAP NUMBER
41057C0855F

EFFECTIVE DATE
SEPTEMBER 28, 2018

Map Projection:

Universal Transverse Mercator Zone 10N; North American Datum 1983
Western Hemisphere; Vertical Datum: NAVD 88

Figure 7

FEMA Flood Map

MARCH 9, 2020

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LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE
FLOOD HAZARD MAP
PACIFIC CITY/MAP 45 11W 13D

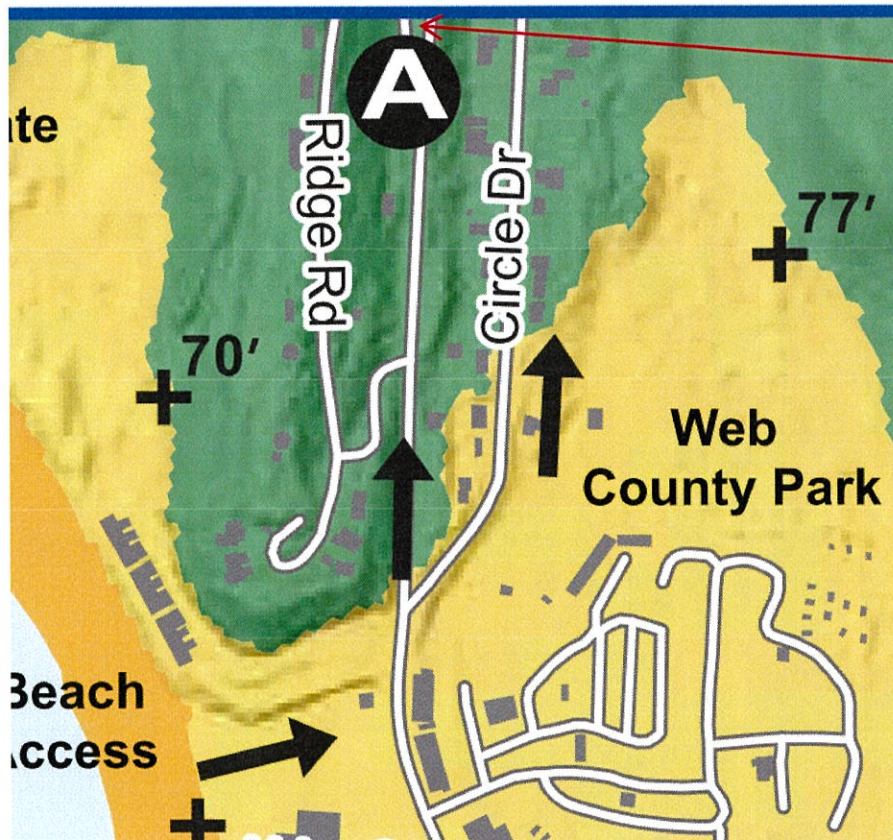


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Location

MAP SYMBOLS / SÍMBOLOS DEL MAPA

- Evacuation route / Ruta de evacuación
- A Assembly area / Área reunión
- Escuela School / Escuela
- Municipalidad City Hall / Municipalidad
- Policia Law enforcement / Policía
- Bomberos Fire department / Bomberos
- Puente Bridge / Puente
- Sirena de aviso de tsunami Tsunami warning siren / Sirena de aviso de tsunami



SCALE / ESCALA

0.25 mile
0.25 km

NOTICE

This tsunami evacuation zone map was developed by DOGAMI for the purpose of evaluating the most effective means to guide the public in the event of a tsunami evacuation. The map is based on preliminary data and should not be used for site-specific planning. This map adopts recommendations from the Oregon Tsunami Advisory Council. The evacuation routes were developed by local emergency officials and reviewed by the Oregon Department of Emergency Management.

MAP REVISED 03-30-12



Figure 9
Tsunami Evacuation Map

Source: Oregon Department of Geology and Mineral Industries
(DOGAMI)

MARCH 9, 2020

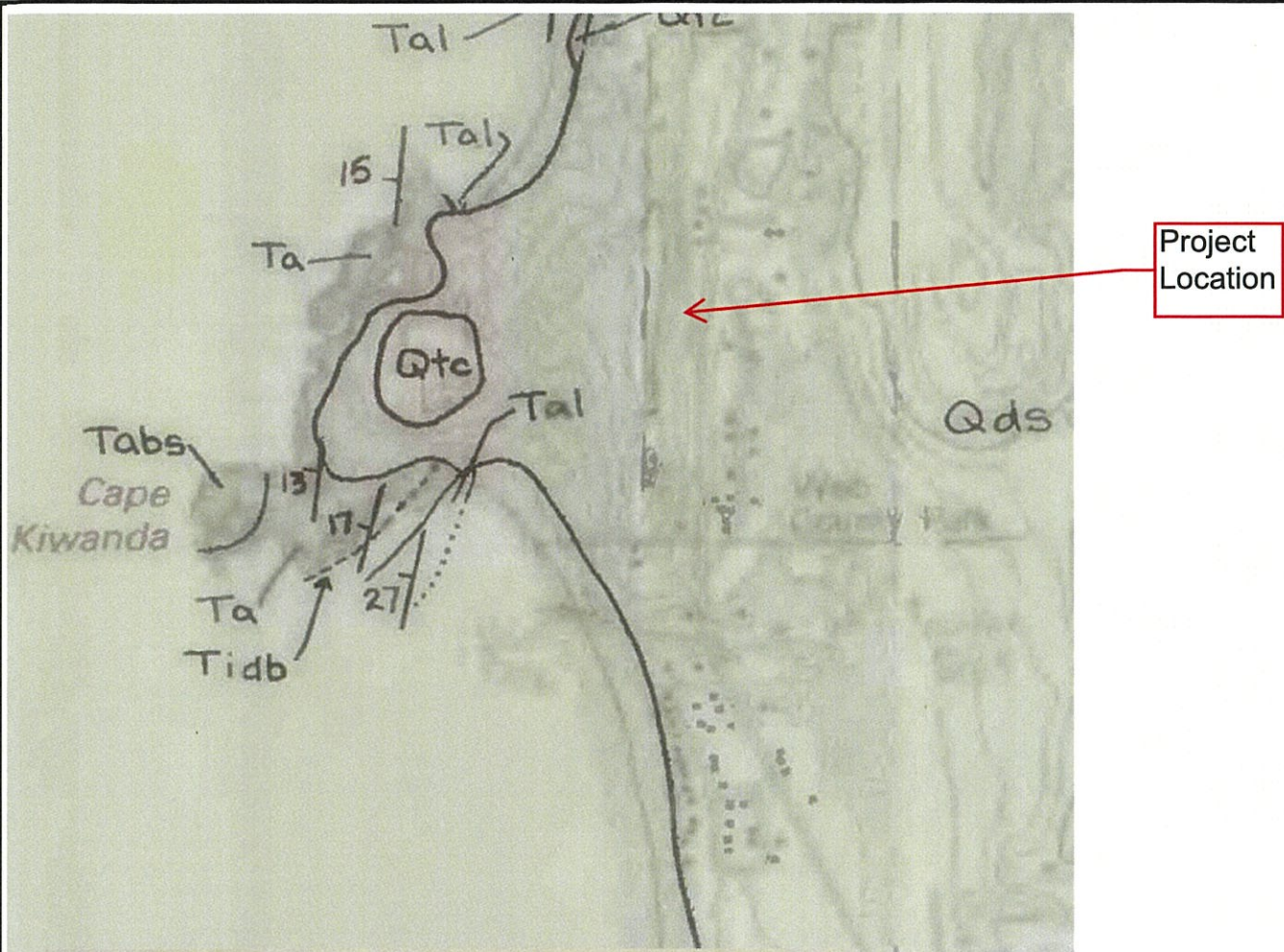
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TSUNAMI EVACUATION MAP
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SURFICIAL DEPOSITS

- Qal** Alluvial deposits (Holocene)—Silt, sand, and gravel along rivers and streams; locally includes low-lying river terrace gravels and thick colluvium; also includes estuarine and lagoonal mud, silt, and sand marginal to Nestucca Bay; in places unmapped Tertiary bedrock is exposed in river beds
- Qbs** Beach and spit sands (Holocene)—Beach sand and minor gravel, and spit sands; Tertiary bedrock is locally exposed at low tide along beach in winter and spring
- Qds** Dune sands (Holocene and Pleistocene)—Active and stabilized dunes on the Nestucca River spit, adjacent to Kiwanda Beach north of Neskowin, and in the Pacific City-Cape Kiwanda area; thin veneer of eolian sand on bedrock in coastal area not mapped
- Qls** Landslide debris (Holocene and Pleistocene)—Mapped where deposits are readily apparent or inferred from topographic expression on maps or aerial photographs; thin colluvial deposits and small soil or rock failures not shown; landslides are pervasive, but of greatest areal extent marginal to areas capped by basalt sills and areas underlain by siltstone along the lower reaches of the Nestucca River; half arrows show direction of movement

Figure 11
Geologic Map

Open File Report 90-202

Source: United States Geologic Survey (USGS)

MARCH 9, 2020

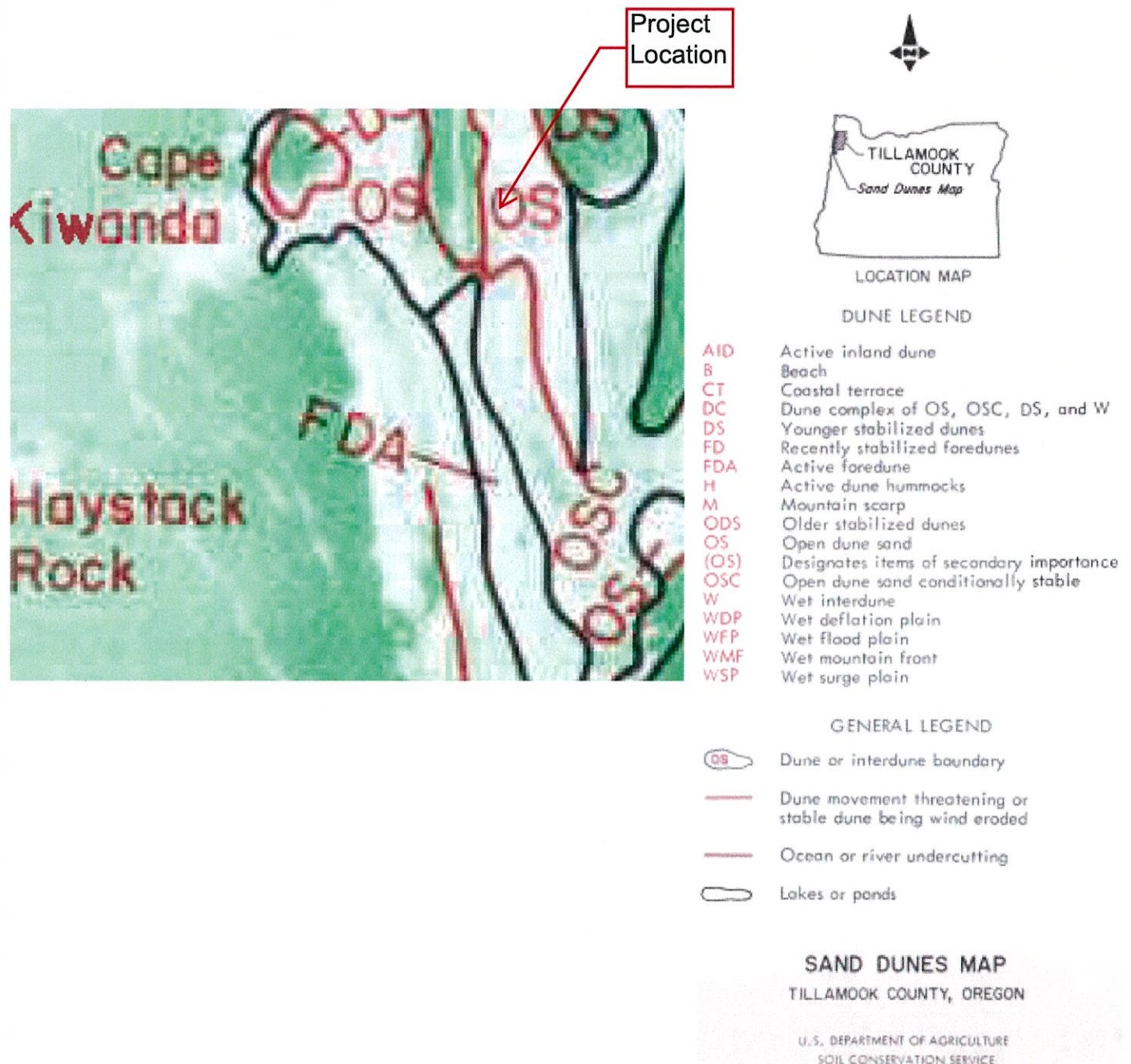
SHAWN MACDONALD
LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE
GEOLOGIC MAP
PACIFIC CITY/MAP 4S 11W 13D



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Source: Beaches & Dunes of the Oregon Coast
US Soil Conservation Service - March 1975

MARCH 9, 2020

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LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE
DUNE MAP
PACIFIC CITY/MAP 4S 11W 13D

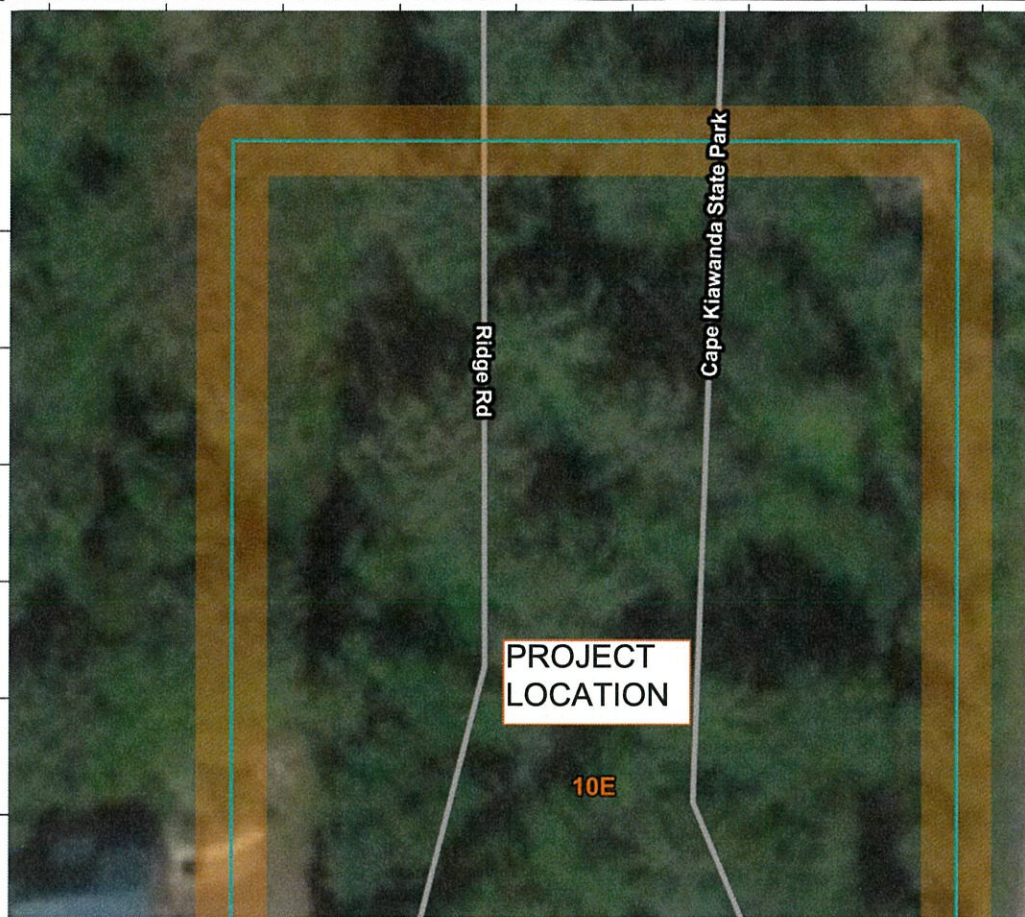


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Figure 12
Soil Survey Map



Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
10E	Waldport fine sand, thin surface, 15 to 60 percent slopes	1.7	100.0%
Totals for Area of Interest		1.7	100.0%

Source: United States Department of Agriculture (USDA)

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LOTS 2 & 3, BLOCK 2
RIDGE VIEW HEIGHTS, PARK LANE
SOIL SURVEY MAP
PACIFIC CITY/MAP 4S 11W 13D

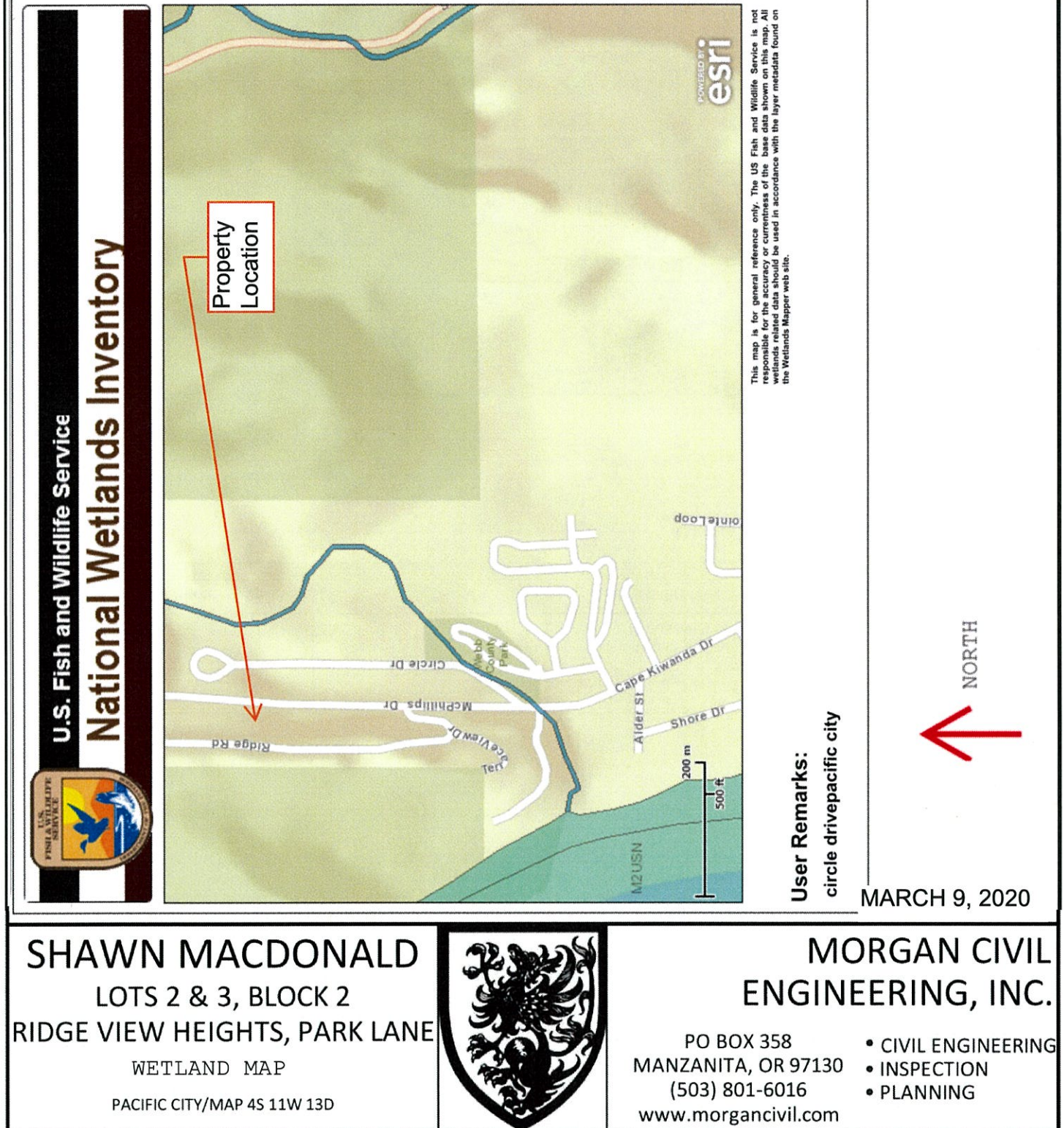


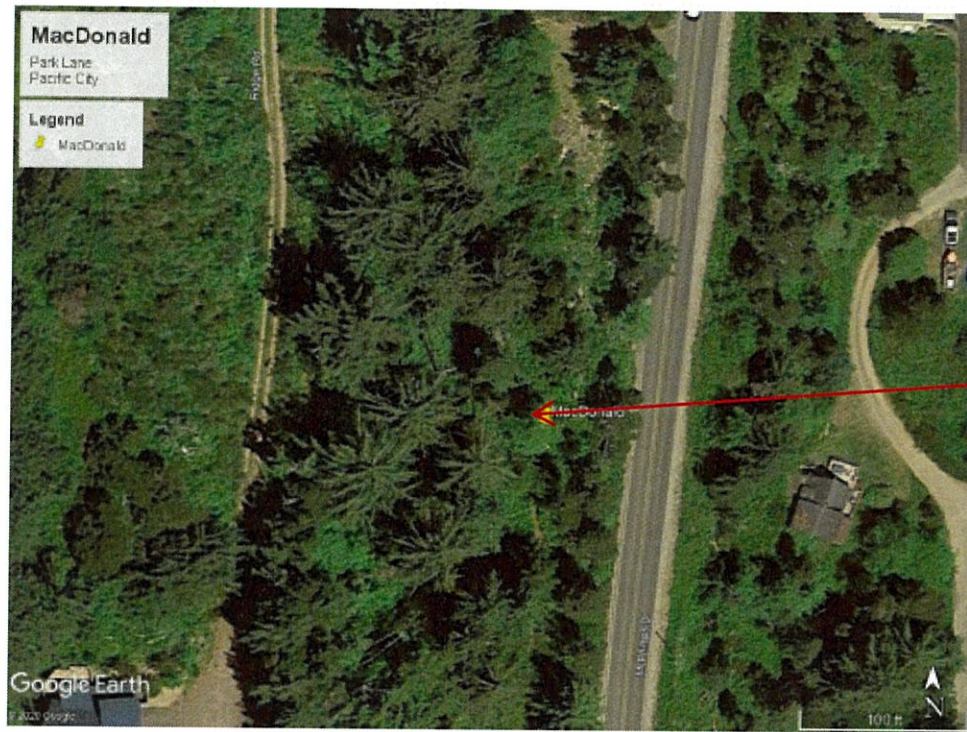
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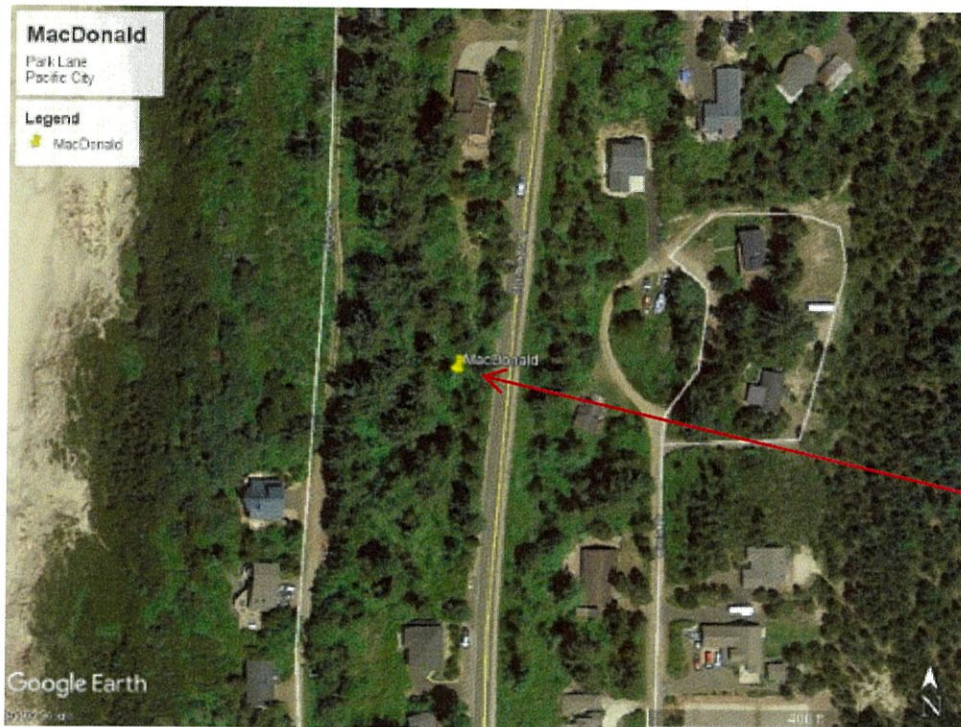
Figure 13
Wetland
Inventory Map





Project
Location

Figure 13: MacDonald site - Google Earth (06/22/2017)



Project
Location

Figure 14: MacDonald site - Google Earth (06/22/2017)

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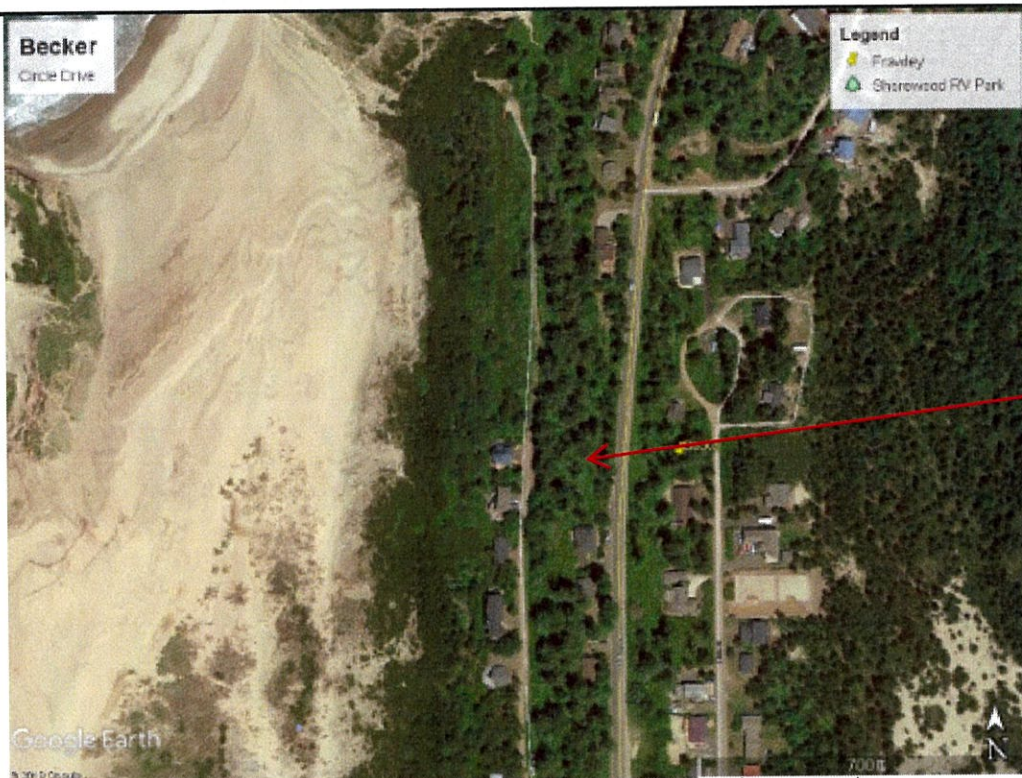


Figure 15: MacDonald site - Google Earth (06/22/2017)



Figure 16: MacDonald site - Google Earth (06/22/2017)

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FIGURE 17: MacDonald SITE - GOOGLE EARTH 1994



FIGURE 18: MacDonald SITE - GOOGLE EARTH 2017

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