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

COMPLETED BY STAFF

Received By: A. Dibble

Date Submitted: 1/17/20

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

Fee: $1922.70

Fee Paid: $1922.70

Receipt No.: 214490

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

CONDITIONAL USE REVIEW

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

***Supplemental Application required**

STAFF NOTES: Beaches/Dunes & Liquefaction

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

I. APPLICANT

Name: Zyta Construction c/o Sheri McGrath

Mailing Address: P.O. Box 1548

City Bandon, State OR Zip 97411

Daytime Phone 541-982-9531

Email: cooscurry@gmail.com

II. OWNER(S)

Name: Jeffrey A Urbach

Mailing Address: 35 Bridge Street

City Fairview State OR Zip 97024

Daytime Phone

Email:

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

Location or Address: Subdivision Deal Park, Lot 3

No. Acreage .91 acres

Tax Acct. 7455200

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

Zone: RR-2

Water Service Type: Private Well

Sewage Disposal Type: On site septic system

School District: North Bend

Fire District: Hauser Rural Fire

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

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

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

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

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

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

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

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

Sheri McGrath on behalf of Zyta Construction

Applicant/Owner Signature

Applicant/Owner Signature

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The adjoining properties have similar conditions including geologic setting and soils

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

Investigation methodology and findings are found on pages 3-4

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

Recommendations for development are found on pages 5-7

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

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

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

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

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

Project implementation details are located on page 8.

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

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

ADDITIONAL SUPPORTING DOCUMENTS

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

ZYTA CONSTRUCTION

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

CONSENT FOR REPRESENTATION

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

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

Contact information for Sheri McGrath is:

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

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

DATED: 7-2-19, 2019

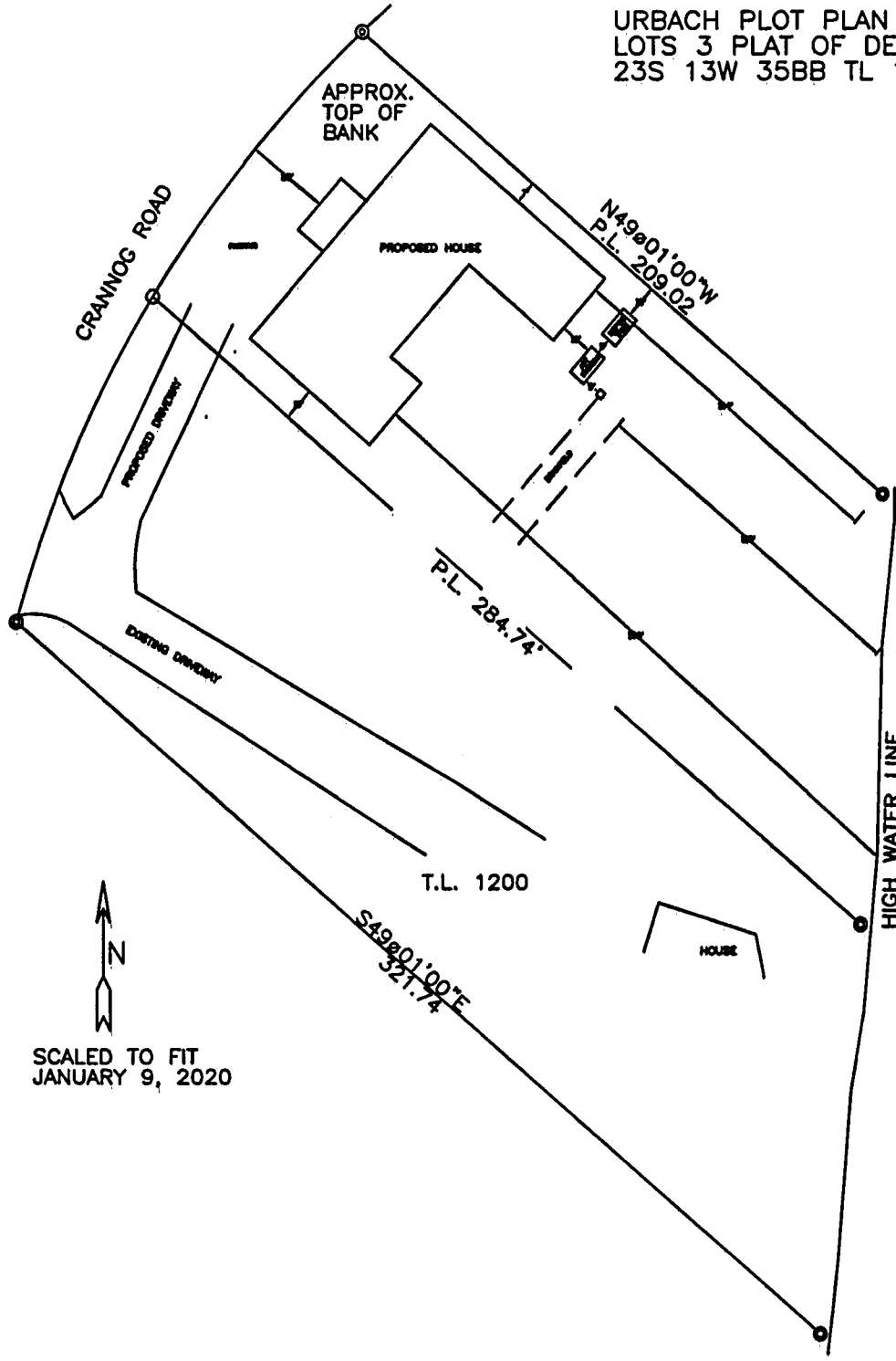
ZYTA CONSTRUCTION

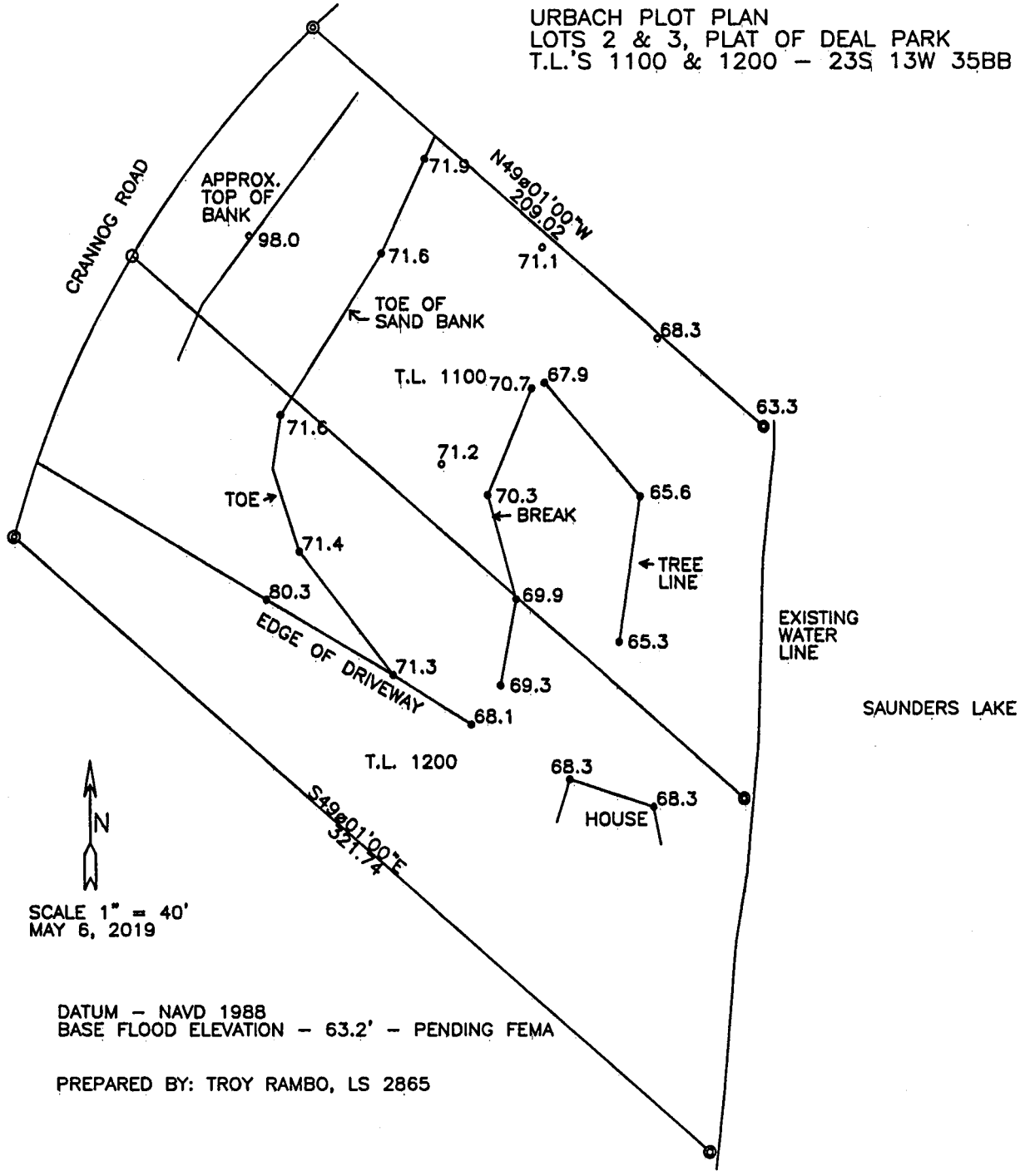
By: DAVID ZYTA

CLIENT

By: Property Owner

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




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

COOS County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2019

NOT OFFICIAL VALUE

June 13, 2019 4:40:11 pm

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

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

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

Value Summary

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

Land Breakdown

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

Improvement Breakdown

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

Exemptions/Special Assessments/Potential Liability

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

PP Account(s): 1317-99918989

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

COOS County Assessor's Summary Report

Real Property Assessment Report

FOR ASSESSMENT YEAR 2019

NOT OFFICIAL VALUE

June 13, 2019 4:39:25 pm

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

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

Situs Address(s)	Situs City

Value Summary

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

Land Breakdown

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

Improvement Breakdown

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

Exemptions/Special Assessments/Potential Liability

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

Comments: DEAL PARK
LOT 3
FIRE PAT ACRES .58

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

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

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

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

STATUTORY WARRANTY DEED

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

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

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

Subject to:

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

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

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

Dated: May 4, 2018

Richard K. Empens

Joanne Empens

State of OR
County of Coos

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

Notary Public - State of Oregon

My Commission Expires: 9-29-18

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

EXHIBIT "A"
Exceptions

Subject to:

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

streets. roads, alleys and highway.

Any adverse claim based upon the assertion that:

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

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

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

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

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

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

Any adverse claim based upon the assertion that:

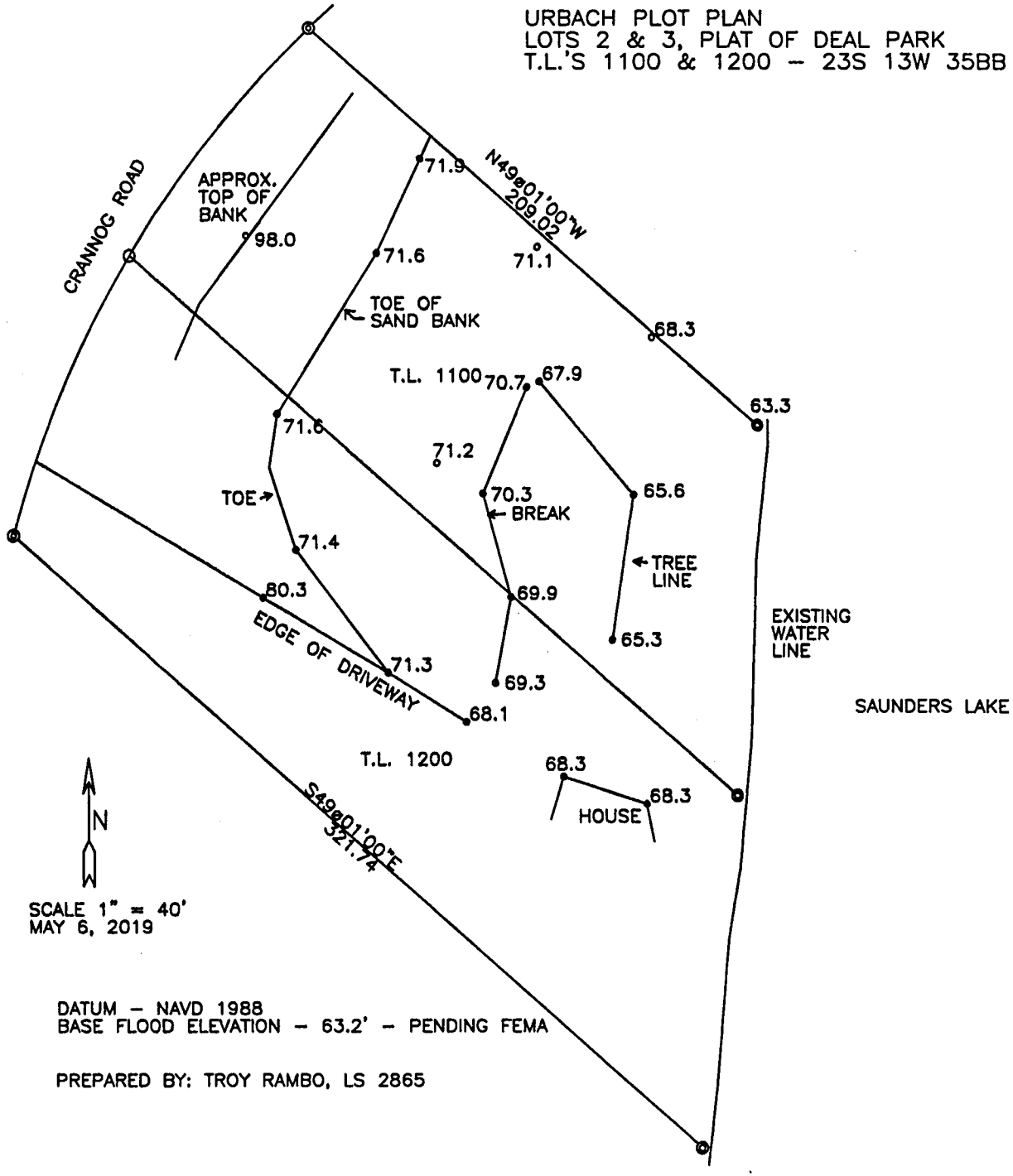
a) Some portion of said Land has been created by artificial means, or has accreted to such portion so created.

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

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

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

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


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

THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSE ONLY

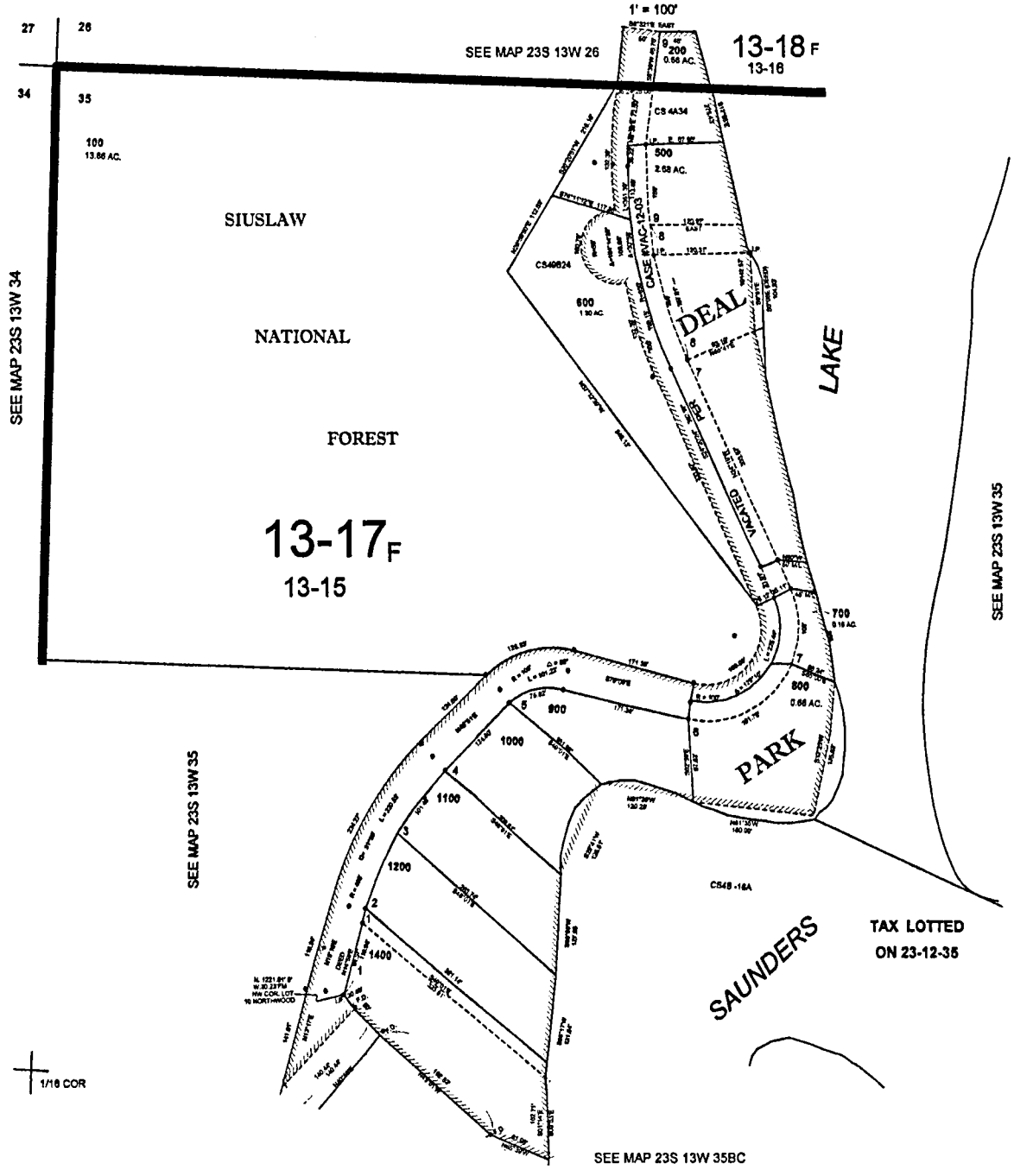
NW1/4 NW1/4 SEC. 35 T23S R13W W.M.
COOS COUNTY

1" = 100'

23S 13W 35BB

CANCELLED NO.

300
400
1300
101
102



07-31-2013

23S 13W 35BB

ENGINEERING REPORT

Geotechnical Engineering Assessment & Design of Foundations

for

Building Development

74949 Carnnog Rd.
North Bend, Oregon

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

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

Date: **September 16, 2019**

Exp. 12/2019

CONTENTS

INTRODUCTION

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

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

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

PURPOSE & SCOPE

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

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

GEOLOGIC SETTING & SOILS

Geology & Geomorphology

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

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

Soils

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

INVESTIGATION & FINDINGS

Investigation Methodology

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

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

Findings

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

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

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

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

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

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

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

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

GEOTECHNICAL DESIGN & RECOMMENDATIONS

A. Site Grading & Modifications

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

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

Recommendations

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

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

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

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

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

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

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

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

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

B. Building Foundations

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

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

- Footing settlement limits: total settlement is less than 1 in, differential settlement less than ½ in corresponding to angular distortion of less than 1/300.

- Assumed foundation loads:

  - Continuous, strip footings = 1,500 plf, max.
  - Point loads = 10,000 lb, max.
  - Slab-on-grade loads = 100 psf, max.

The geotechnical analysis of the foundations included:

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

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

Assuming the following:

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

Recommendations

1. The building foundations should be placed onto a compacter structural fill – see A. Site Grading & Excavation above.

2. The minimum width of the concrete footing should be 24 inches.

3. The subgrade soil strength and the compactness of the structural fill must be tested and approved in writing by a registered Geotechnical Engineer. The

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

C. Subgrade Wall

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

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

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

Recommendations

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

   In sand = ¾ H : 1 V

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

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

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

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

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

   EFP = 75 pcf – with horizontal backfill

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

   Notes:

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

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

   a. EFP = 250 pcf

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

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

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

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

PROJECT IMPLEMENTATION

Evaluation

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

Recommendations

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

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

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

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

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

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

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

Limitations in the Use and Interpretation of This Report

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

Please consider the following:

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

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

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

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

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

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

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

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

CONTACT INFORMATION

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

Karel M. Broda, P.E.

GEO Environmental Engineering

1131 Westview Dr., Roseburg, OR 97471

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

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

The End