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GOVERNOR OF HAWAII



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15 FEB 23 P4:07

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OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF CONSERVATION AND COASTAL LANDS
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

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INTERIM CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCES MANAGEMENT

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LAND
STATE PARKS

REF:OCCL:TM

FILE COPY

MAR 08 2015

CDUA: OA-3739

Acceptance Date: February 12, 2015

180-Day Exp. Date: August 11, 2015

SUSPENSE DATE: 21 Days from stamped date

MEMORANDUM

TO: Director
Office of Environmental Quality Control

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Draft Environmental Assessment (EA) for Conservation District Use Application (CDUA) OA-3739 for a Single Family Residence and Related Improvements Located at Tantalus, Honolulu, TMK: (1) 2-5-018:016

FEB 17 2015

The Department of Land and Natural Resources has reviewed the draft EA for the subject project, and anticipates a Finding of No Significant Impact (FONSI) determination. Please publish notice of availability for this project in the March 8, 2015 issue of the Environmental Notice. We have enclosed a hard copy and a pdf. copy on CD of the draft EA document. A copy of our acceptance letter and a copy of the applicant's Publication Form are also enclosed. An electronic copy of the Publication Form will be e-mailed to OEQC.

Should you wish to provide comments regarding this project, please respond by the suspense date noted above. If no response is received by the suspense date, we will assume there are no comments. Please contact Tiger Mills of our Office of Conservation and Coastal Lands staff at 587-0382 should you have any questions.

Enclosures

**APPLICANT ACTIONS
SECTION 343-5(C), HRS
PUBLICATION FORM (JANUARY 2013 REVISION)**

Project Name: Draft Environmental Assessment for the Proposed Spurgat/Waterhouse Single Family Residence (SFR) project

Island: Oahu

District: Makiki-Tantalus

TMK: (1) 2-5-018:016

Permits: State of Hawaii: Conservation District Use Permit; City and County of Honolulu: Building Permit, Grading Permit

Approving Agency: Office of Conservation and Coastal Lands, Department of Land and Natural Resources, Kalanimoku Building, 1151 Punchbowl Street, Room 131, Honolulu, Hawaii 96813; Contact: Samuel J. Lemmo, Administrator; Telephone: (808) 587-0377

Applicant: Adam Spurgat and Jacey Waterhouse, 3826 Round Top Drive, Honolulu, Hawaii 96822; Telephone: (808) 217-5377

Consultant: N/A

Status (check one only):

- DEA-AFNSI** Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of DEA, a completed OEQC publication form, along with an electronic word processing summary and a PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day comment period ensues upon publication in the periodic bulletin.
- FEA-FONSI** Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and a PDF copy (send both summary and PDF to oeqchawaii@doh.hawaii.gov; no comment period ensues upon publication in the periodic bulletin.
- FEA-EISPN** Submit the approving agency notice of determination/transmittal on agency letterhead, a hard copy of the FEA, an OEQC publication form, along with an electronic word processing summary and PDF copy (you may send both summary and PDF to oeqchawaii@doh.hawaii.gov; a 30-day consultation period ensues upon publication in the periodic bulletin.
- Act 172-12 EISPN** Submit the approving agency notice of determination on agency letterhead, an OEQC publication form, and an electronic word processing summary (you may send the summary to oeqchawaii@doh.hawaii.gov. NO environmental assessment is required and a 30-day consultation period upon publication in the periodic bulletin.
- DEIS** The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the DEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the DEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); a 45-day comment period ensues upon publication in the periodic bulletin.
- FEIS** The applicant simultaneously transmits to both the OEQC and the approving agency, a hard copy of the FEIS, a completed OEQC publication form, a distribution list, along with an electronic word processing summary and PDF copy of the FEIS (you may send both the summary and PDF to oeqc@doh.hawaii.gov); no comment period ensues upon publication in the periodic bulletin.
- Section 11-200-23 Determination** The approving agency simultaneously transmits its determination of acceptance or nonacceptance (pursuant to Section 11-200-23, HAR) of the FEIS to both OEQC and the applicant. No comment period ensues upon publication in the periodic bulletin.
- Statutory hammer Acceptance** The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it failed to timely make a determination on the acceptance or nonacceptance of the applicant's FEIS under Section 343-5(c), HRS, and that the applicant's FEIS is deemed accepted as a matter of law.

___Section 11-200-27
Determination

The approving agency simultaneously transmits its notice to both the applicant and the OEQC that it has reviewed (pursuant to Section 11-200-27, HAR) the previously accepted FEIS and determines that a supplemental EIS is not required. No EA is required and no comment period ensues upon publication in the periodic bulletin.

___Withdrawal (explain)

Summary (Provide proposed action and purpose/need in less than 200 words. Please keep the summary brief and on this one page):

The applicants propose to construct a Single Family Residence (SFR) at Tantalus, island of Oahu, TMK (1) 2-018:016. The approximately 1.534-acre parcel lies within the State Land Use Conservation District, Subzone Resource. The 2,922-ft² proposed SFR is a linear post on pier construction with a lower garage area. Design features include: 3 bedrooms, 2 baths, a kitchen/dining/living room, and a lanai area. Other improvements include three 6,000-gallon above ground water storage tanks, an individual wastewater system and a 12-ft wide gravel driveway. The proposed SFR will provide a primary residence for Adam Spurgat, Jacey Waterhouse and their children.

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LAND
STATE PARKS

REF:OCCL:TM

CDUA: OA-3739

Acceptance Date: February 12, 2015

180-Day Exp. Date: August 11, 2015

FEB 17 2015

Adam Spurgat & Jacey Waterhouse
3826 Round Top Drive
Honolulu, HI 96822

Dear Mr. Spurgat and Ms. Waterhouse:

**NOTICE OF ACCEPTANCE AND PRELIMINARY ENVIRONMENTAL
DETERMINATION**

**Conservation District Use Application (CDUA) OA-3739
(Board Permit)**

This acknowledges the receipt and acceptance for the processing of your CDUA for a Single Family Residence (SFR) located at Tantalus, island of Oahu, TMK (1) 2-5-018:016. The approximately 1.534-acre parcel lies within the State Land Use Conservation District, Resource subzone.

The property is vacant with no structures. According to the information provided, the proposed 2,922-ft² residence is a linear post on pier construction with a lower level garage area. The proposed SFR consists of 3 bedrooms, 2 baths, a kitchen/dining/living room, and lanai area. Other improvements include three 6,000-gallon water tanks, a propane tank, an individual wastewater system and a 12-ft wide concrete and gravel driveway that include a 40-ft² turn around.

Access is via Round Top Drive, a paved county road. Electricity, phone and cable services are available in this established neighborhood. No municipal water or wastewater disposal is available to the project area.

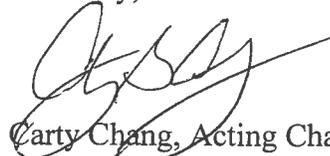
According to the information presented, the parcel has forested and open areas. The parcel was once part of a bigger estate that was established in the early 1900's. Existing vegetation consists of a variety of native and non-native flora. Native flora includes Koa, Ekaha, Hapu'u, Ohia lehua, Mamaki, Hala, Naio, and Hao. A variety of introduced birds are found in the subject area along with domestic mammals such as dogs, cats, rodents and feral pigs. No rare, threatened or endangered plant or animal species or significant habitats are known to exist on the subject property. There are no known archaeological or cultural resources in the area.

After reviewing the application, the Department finds that:

1. The proposed use is an identified land use in the Resource subzone of the Conservation District, pursuant to §13-5-24, Hawaii Administrative Rules (HAR), R-7, SINGLE FAMILY RESIDENCE, (D-1) A single family residence that conforms to design standards as outlined in Chapter 13-5, HAR. Please be advised, however, that this finding does not constitute approval of the proposal;
2. Pursuant to §13-5-40 of the HAR, a Public Hearing will not be required;
3. In conformance with Chapter 343, Hawaii Revised Statutes (HRS), as amended, and Chapter 11-200, HAR, a finding of no significant impact to the environment (FONSI) is anticipated for the proposed project; and
4. The proposed project is not within the Special Management Area.

Please discuss if any native mature trees shall be removed. Upon completion of the application review process, your CDUA will be placed on the agenda of the Board of Land and Natural Resources for their consideration. Should you have any questions regarding this application, please contact Tiger Mills of our Office of Conservation and Coastal Lands Staff at (808) 587-0382.

Sincerely,



Carty Chang, Acting Chairperson
Board of Land and Natural Resources

c: Oahu Board Member
DOCARE/DOFAW/ENG/HP/ODLO/SP
DOH/OHA/OEQC
City & County of Honolulu, DPP
Makiki/Punchbowl/Tantalus Neighborhood Board
Tantalus Community Association
Hawaii State Library

DRAFT ENVIRONMENTAL ASSESSMENT

Spurgat/Waterhouse Residence

Proposed Single-Family Residence
3730 Round Top Drive
Honolulu, Hawaii 96822
TMK: 2-5-018:016

December 2014

Owner/Applicant
Adam Spurgat and Jacey Waterhouse
3826 Round Top Drive
Honolulu, Hawaii 96822

Architect
Collaborative Studio, LLC
9 North Pauahi Street, Suite 300
Honolulu, HI 96817

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- A Tabulation of Results from Grid Elevations
- B Botanical Assessment
- C Individual Wastewater System

SUMMARY OF PROPOSED ACTION

Project	Single Family Residence, 3730 Round Top Drive
Landowner/Applicant	Adam Spurgat and Jacey Waterhouse
Accepting Agency	State of Hawaii, Department of Land and Natural Resources
Agent (Architect)	Collaborative Studio, LLC
Location	Tantalus, City & County of Honolulu, Oahu, Hawaii
Tax Map Key	2-5-018:016
Proposed Action	Develop a single-family residence
Land Area	1.534 acres
Present Use	Vacant
State Land Use District	Conservation, Resource Subzone
Development Plan Land Use Designation	Preservation
Present Zoning	P-1 Restricted Preservation
Special Management Area	No
Anticipated Determination	Finding of No Significant Impact (FONSI)

CHAPTER 1

INTRODUCTION

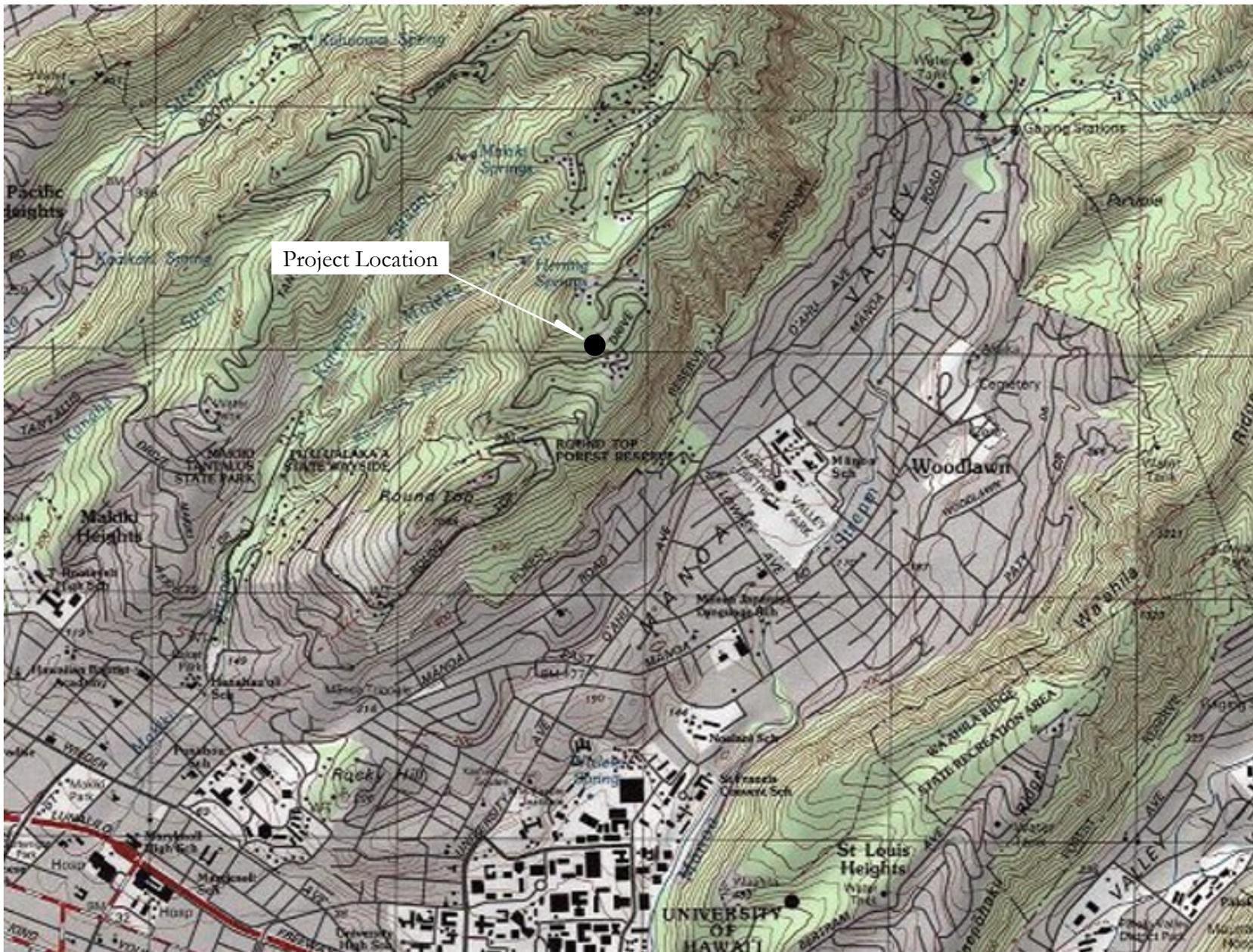
1.1 PROJECT OVERVIEW

Adam Spurgat and Jacey Waterhouse propose to develop a single-family residence on their vacant Tantalus property located within the Conservation District; Subzone: Resource. The construction of single-family residences is an identified land use in the 'Resource' Subzone of the Conservation District. The home will have 3 bedrooms and 2 baths in approximately 1,783 square feet of enclosed living area. The design and construction of the residence will conform to standard conditions for single-family residences in the Conservation District and applicable State and County regulations.

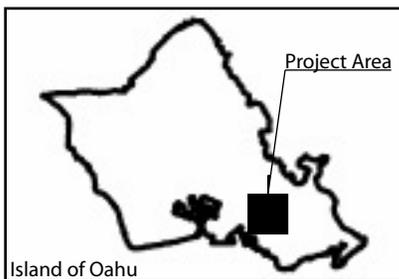
The proposed residence is located at 3730 Round Top Drive, Honolulu, Oahu (see FIGURE 1, **Project Location and Vicinity**). The 1.534 acre lot is identified by Tax Map Key 2-5-018:016 (see FIGURE 2, **TMK and Surrounding Properties**). The location is an area where single-family residences have long been an established use. Access to the property will be via Round Top Drive. The property is not within the Special Management Area (SMA).

1.2 PURPOSE OF THE ENVIRONMENTAL ASSESSMENT

This environmental assessment has been prepared pursuant to Hawaii Revised Statutes, Section 343-5-12, which states an environmental assessment shall be required for action which "propose any use within any land classified as conservation district by the state land use commission under Chapter 205." A Conservation District Use Application has also been prepared and submitted to the Department of Land and Natural Resources along with this environmental assessment, pursuant to Hawaii Administrative Rules, Section 13-5-31, "Permit Applications."



Source: USGS, Honolulu Quadrangle



Island of Oahu

FIGURE 1: Location and Vicinity Map
 Spurgat/Waterhouse Residence
 Tantalus, Oahu

⊕ Not to Scale

1.3 PREVIOUS LAND USE APPROVALS

No other prior land use approvals are known to have been requested or granted.

1.4 PURPOSE AND NEED FOR THE PROJECT

The proposed project will provide a primary residence for Adam Spurgat, Jacey Waterhouse, and their children.

1.5 ALTERNATIVES TO THE PROPOSED ACTION

There are no other alternative actions being proposed. The proposed residence has been designed to conform to its natural setting with minimal environmental impacts. The proposed residence is located in the Resource Subzone where single-family residences are an identified land use.

1.6 NO ACTION ALTERNATIVE

Under the No Action Alternative, the subject property would remain undeveloped. Taking no action does not accomplish the stated purpose of the proposed action, which is to provide a primary residence for the owners and their children.

CHAPTER 2

DESCRIPTION OF THE PROPOSED ACTION

2.1 EXISTING CONDITIONS

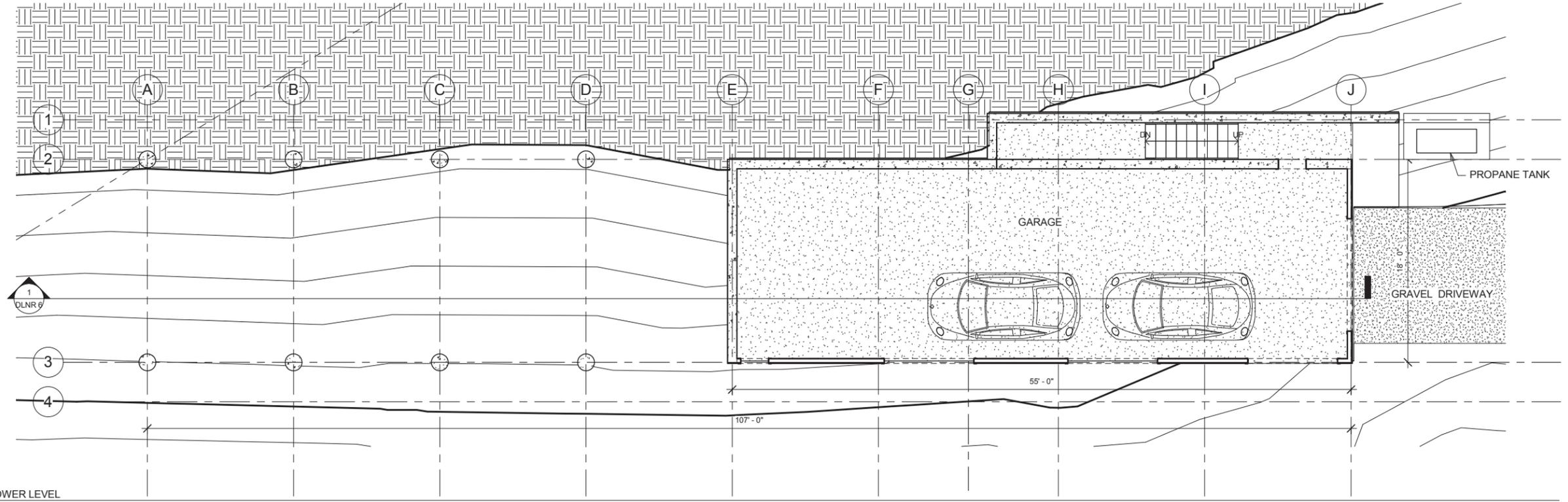
The property does not contain any structures. The property has both forested and open areas and is vegetated with introduced or non-native tall grasses, scattered shrubbery, ornamental and fruiting tropical plants, and mature trees. The Tantalus neighborhood was established over 100 years ago as a residential community within a heavily wooded, scenic area above Honolulu. The property is situated approximately 1 mile north of Puu Ualakaa State Wayside Park. The property is bounded to the northeast and southwest by Honolulu Watershed Forest Reserve; to the west and northwest by a property that contains a single-family residence; and to the south and southeast by Round Top Drive and will provide primary access to the proposed residence via a private driveway on the subject property.

Owned and maintained by the City and County of Honolulu, Round Top Drive, is a two-lane asphalt road. It provides access to numerous homes located on Tantalus, as well as scenic vistas of urban Honolulu.

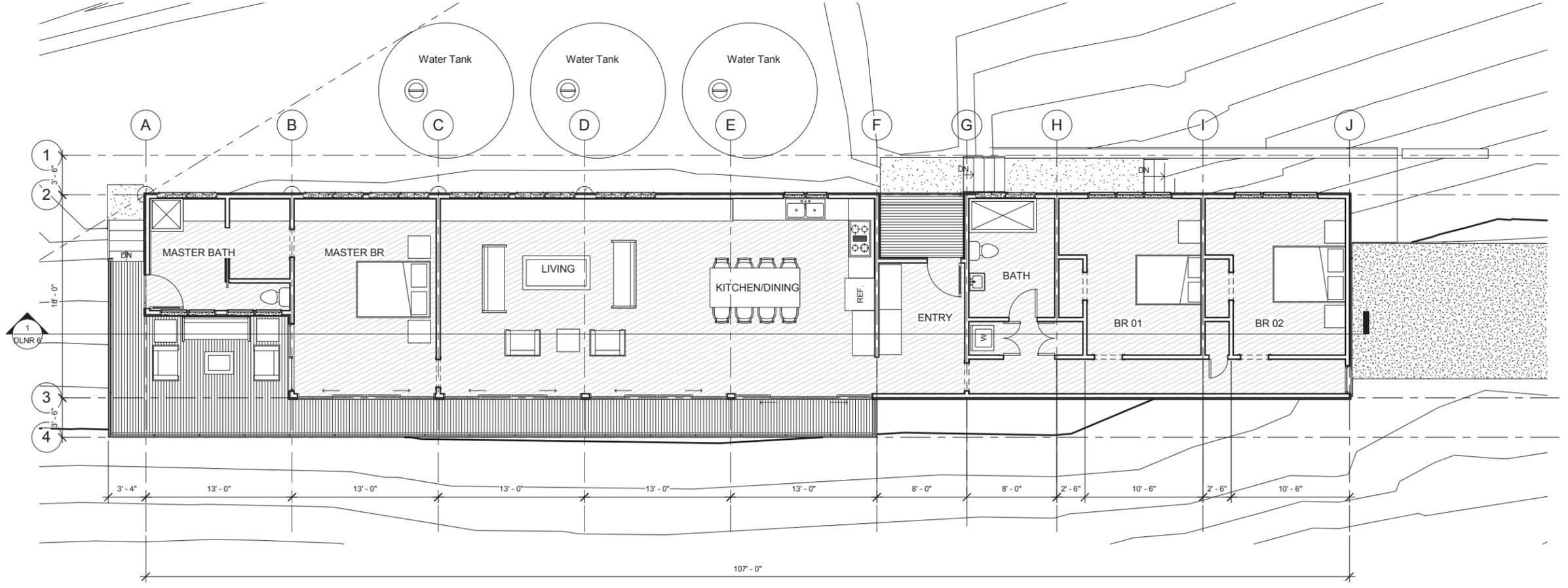
2.2 DESIGN FEATURES OF THE PROPOSED RESIDENCE

The proposed residence is planned as a 2,922 square foot, 3 bedroom, 2 bath home with a footprint of 1,924 square feet in which 1,783 square feet of that footprint will be enclosed living area and 998 square feet will be used as a lower level garage (see DRAWING, DLNR 4: **Floor Plans**). Additional design features include three 6,000 gallon above ground water storage tanks, a gravel driveway (see DRAWINGS, DLNR 1-3: **Site Plans**), and an anaerobic wastewater system (see Section 4.3, **Wastewater**).

The design incorporates muted natural colors for the structure and driveway and the exterior materials have been chosen to ensure that the house fits within both natural and conceptual surroundings and is minimally visible. The siding of the dwelling will be a mixture of cement board siding products, as well as painted sheet metal materials over the basic wooden frame. The exterior windows and doors are proposed to be anodized aluminum over wood frame. The shed style roof will be covered in standing-seam sheet metal panels for rainwater catchment



① LOWER LEVEL
 3/32" = 1'-0"



② UPPER LEVEL
 3/32" = 1'-0"

DATE	REVISION
	DRAFT EA DRAWINGS

Consultant:
 Seal:
 CATI L. SCHAR
 LICENSED PROFESSIONAL ARCHITECT
 No. 13620
 HAWAII, U.S.A.
 EXPIRATION DATE: 04.30.16

Project Title
ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title	FLOOR PLANS
File Name	
Date	12/29/2014
Project Number	1415
Drawn	Checked
Sheet Number	DLNR 4
Sheet of	Sheets

purposes. The gutter will be made from the same grade sheet metal product as the roofing material.

The majority of the structure, which includes a lower garage level, will be built on an area consisting of mostly flat and gently sloped terrain within the subject property (see FIGURE 3, **House Site**).

The property slopes up and away from Round Top Drive to a peak elevation of 1,310 feet above sea level. The slope ranges throughout the property from a gentle 5% grade in the east-southeast corner along Round Top Drive to a more moderate 20% grade along the west boundary. To better work with and incorporate the slope and natural configuration of the property's terrain, the following design features are proposed:

- A linear design (very narrow and elongated dwelling) situated inline with the contours to greatly reduce the need for extensive grading with cut/fill that would typically occur with a more traditional box-like design.
- Driveway entrance specifically located at the most broad, gently sloped portion of the subject property in order to provide a visibly safe and easy entry/exit with Round Top Drive.
- Driveway path to enter/exit straight with Round Top Drive then curve to follow the natural contours of the terrain and screened out of view by existing non-native tall ornamental tropical plants, shrubbery, and mature trees.
- The dwelling, wastewater treatment system, and three above ground storage tanks will all be situated in the center section of the subject property for the following reasons:
 1. It has both flat and low-sloped sections of terrain.
 2. It will dramatically reduce the amount of grading conducted.
 3. It is less vegetated, consisting of mostly non-native or introduced tall grasses and few trees.
 4. It will increase the setback distance of the dwelling from the roadway.
 5. It will allow the residence to remain out of immediate view and effectively screened by existing non-native vegetation.
 6. It will retain the wooded and scenic appeal of the roadway.



FIGURE 3: House Site
Spurgat/Waterhouse Residence
Tantalus, Oahu



Upper Level

The main living level is entered via an exterior walkway from the driveway and lower level below. The main (upper) level of the dwelling contains:

- Master Bedroom Suite consisting of bedroom, walk-thru closet, bathroom, and an outdoor sitting area.
- Kitchen/Dining/Indoor Sitting (open-concept)
- Entry with porch
- Hallway
- Bathroom with laundry
- Second bedroom with closet
- Third bedroom with closet

The main living level contains a floor area 1,924 sq. ft.

Lower Level

The lower level contains:

- Garage

The lower level contains a floor area of 998 sq. ft.

Building Summary

Lower Level

Garage	998 sf
--------	--------

Upper Level

Master Bedroom Suite	468 sf	
Kitchen/Dining/Sitting	701 sf	
Entry with porch	144 sf	
Hallway with closet	129 sf	
Bathroom with laundry	123 sf	
Bedroom 01 w/ closet	179 sf	
Bedroom 02 w/ closet	180 sf	<u>1,924 sf</u>

Total		2,922 sf
--------------	--	-----------------

The proposed dwelling is illustrated in the attached drawings:

Site Plan – Lower Level	DLNR 1
Site Plan – Upper Level	DLNR 2
Site Plan – Roof Level	DLNR 3
Floor Plans	DLNR 4
Elevations	DLNR 5
Sections	DLNR 6
Renderings	DLNR 7

2.3 SITE GRADING

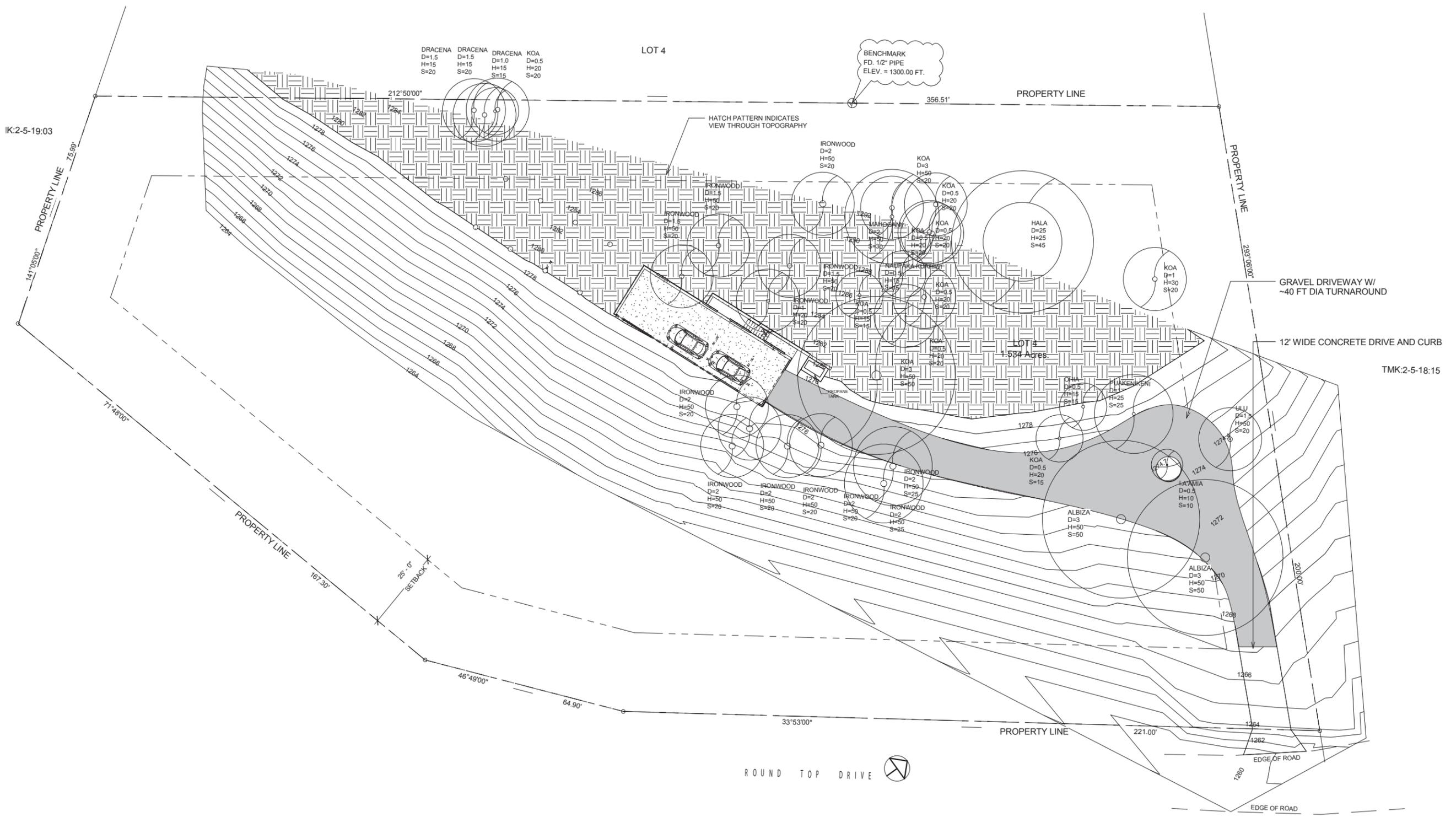
The construction of the project will require some grading of the property in order to create the driveway, garage, foundation, and home structure. However, significant efforts were made in the design process to better integrate the residence into the naturally existing conditions of the property. By developing a more linear floor plan (narrow and elongated), situating the majority of the construction on the most level areas of the property, and incorporating pier foundation columns, the amount of grading was reduced to a minimal level (see DRAWING, DLNR 9: **Grading Plan** and APPENDIX A: **Tabulation of Results from Grid Elevations**).

2.4 DRIVEWAY

A private driveway will be constructed with access directly off Round Top Drive at the gently sloped area in the east corner of the property (see FIGURE 4, **Driveway Area**). The driveway, in a twelve (12') foot wide path will enter/exit straight with Round Top Drive then curve to the left to follow the natural contours of the terrain where it will be screened out of view by existing non-native ornamental tropical plants, shrubbery, and mature trees (see FIGURE 5, **Driveway Path**).

The configuration of the driveway was designed specifically to allow for a visibly safe and easy entry/exit with Round Top Drive, utilize an area of gently sloping terrain, and preserve existing site conditions as much as possible (see FIGURE 6, **Driveway Entry**). Only the necessary introduced or non-native trees will need to be removed during construction of the driveway, but existing trees and flowering tropical plants on either side of the driveway will remain, effectively screening most of the driveway from Round Top Drive.

The driveway will be constructed of gravel with a small concrete entry/exit section where it connects with Round Top Drive. An expanded turning area at the beginning of the driveway will serve as a vehicle maneuvering and guest parking area. The driveway will terminate at a lower level garage beneath the main living level of the residence.



1 Site Plan - Lower Level
 1/32" = 1'-0"

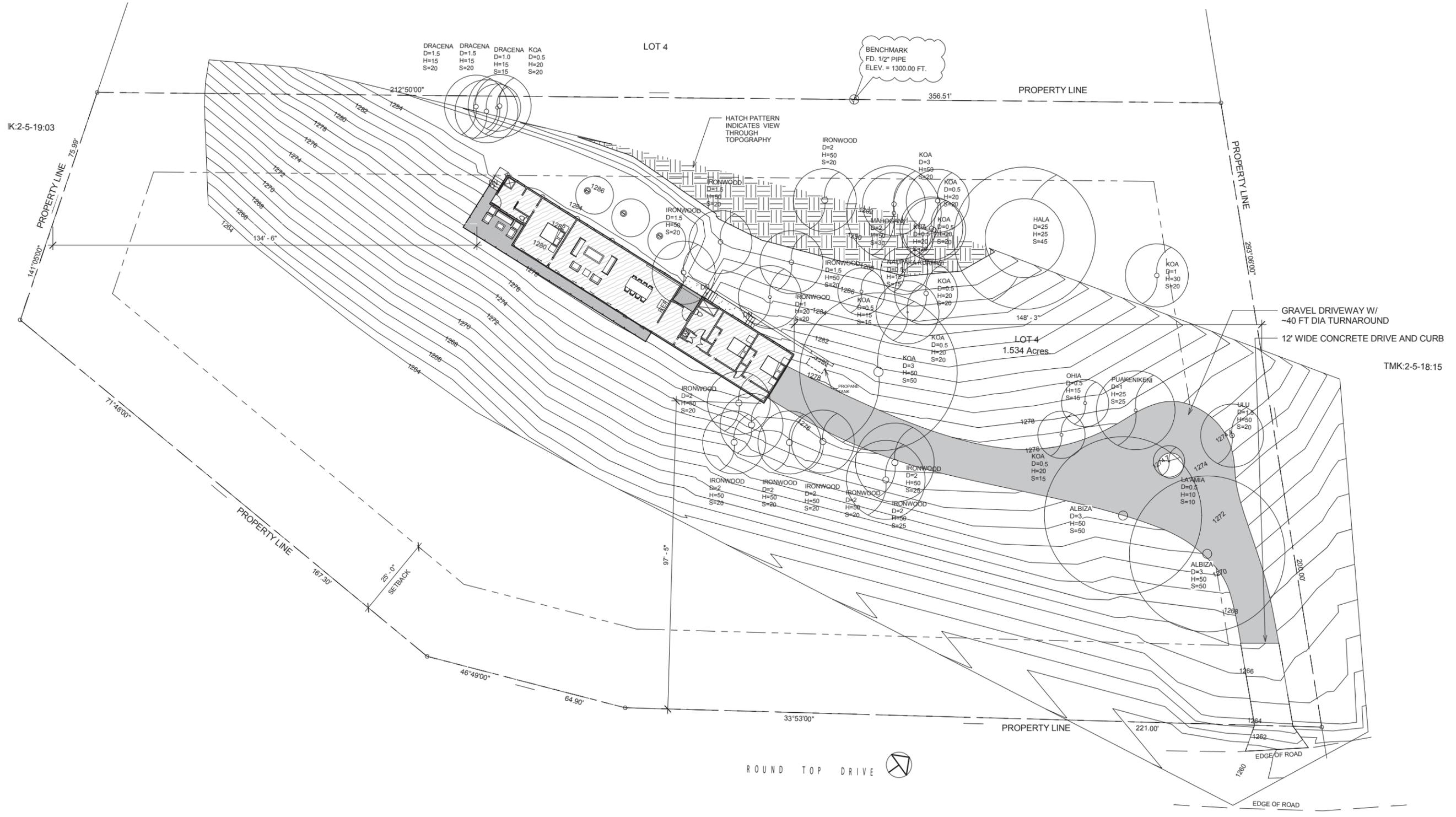
DRAFT EA DRAWINGS	
DATE	REVISION
Consultant:	



ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title:	SITE PLAN - Lower Level
File Name:	
Date:	12/29/2014
Project Number:	1415
Drawn:	Checked
Sheet Number:	

DLNR 1



1 Site Plan - Upper Level
 1/32" = 1'-0"

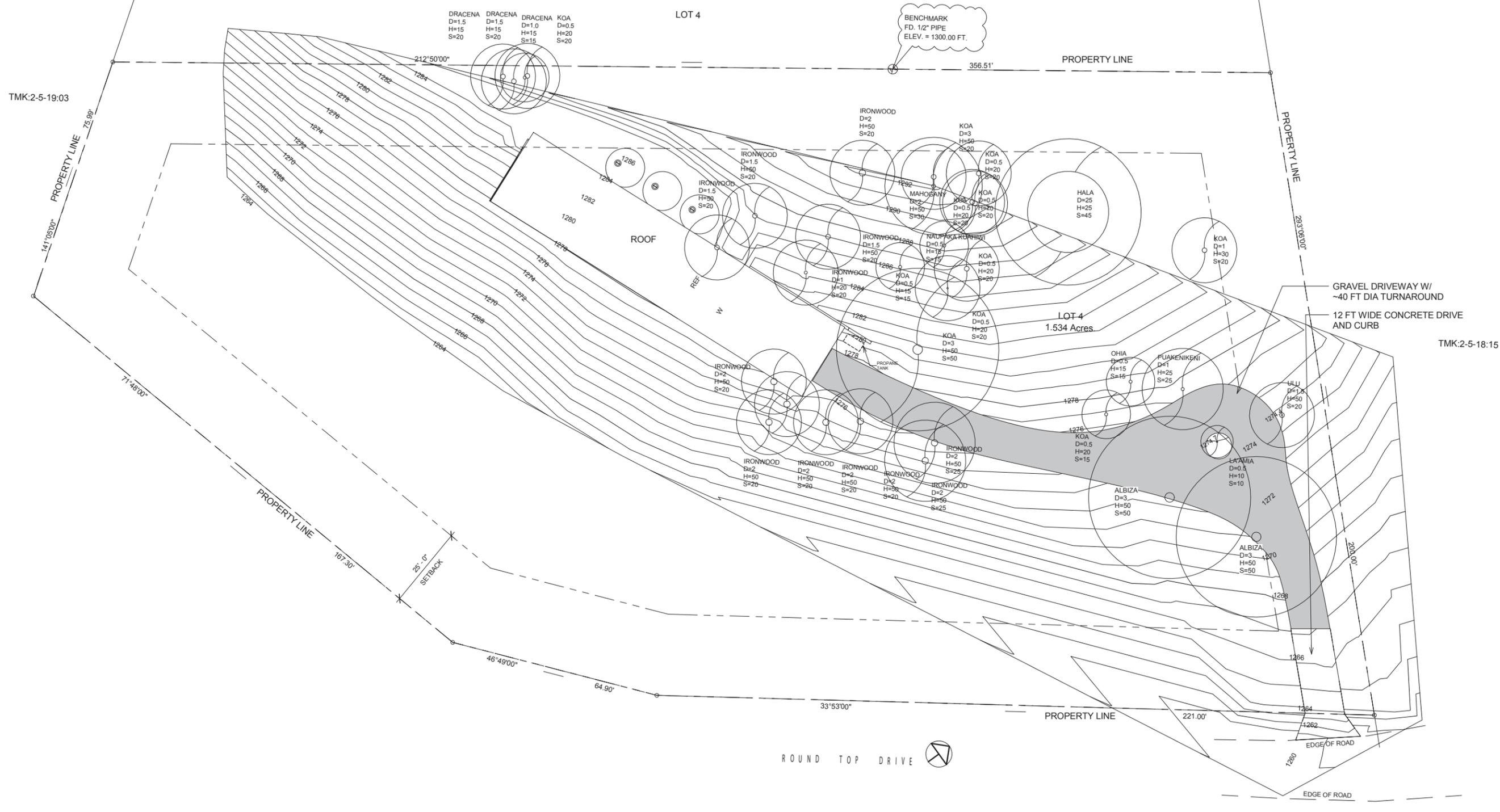
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Consultant:	



ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title:	SITE PLAN - Upper Level
File Name:	
Date:	12/29/2014
Project Number:	1415
Drawn:	Checked:
Sheet Number:	

DLNR 2

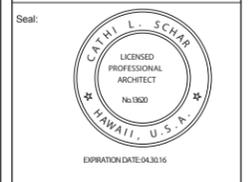


1 Site Plan - Roof Level
 1/32" = 1'-0"

DATE	REVISION

DRAFT EA DRAWINGS

Consultant:



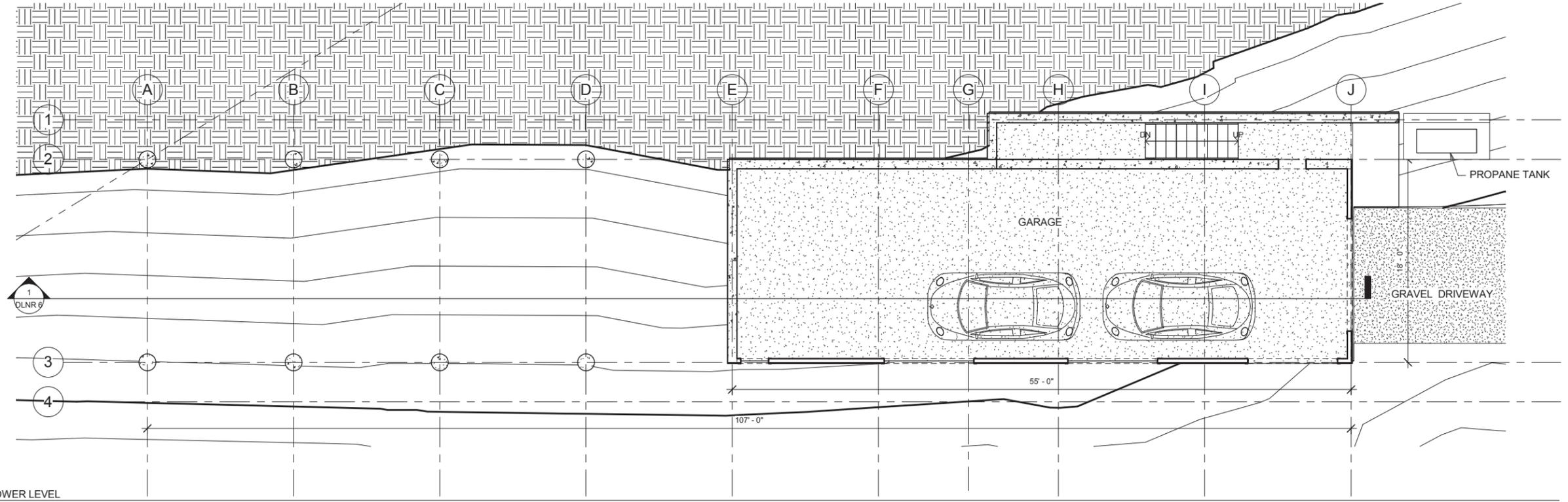
Project Title
ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title
SITE PLAN - Roof Level

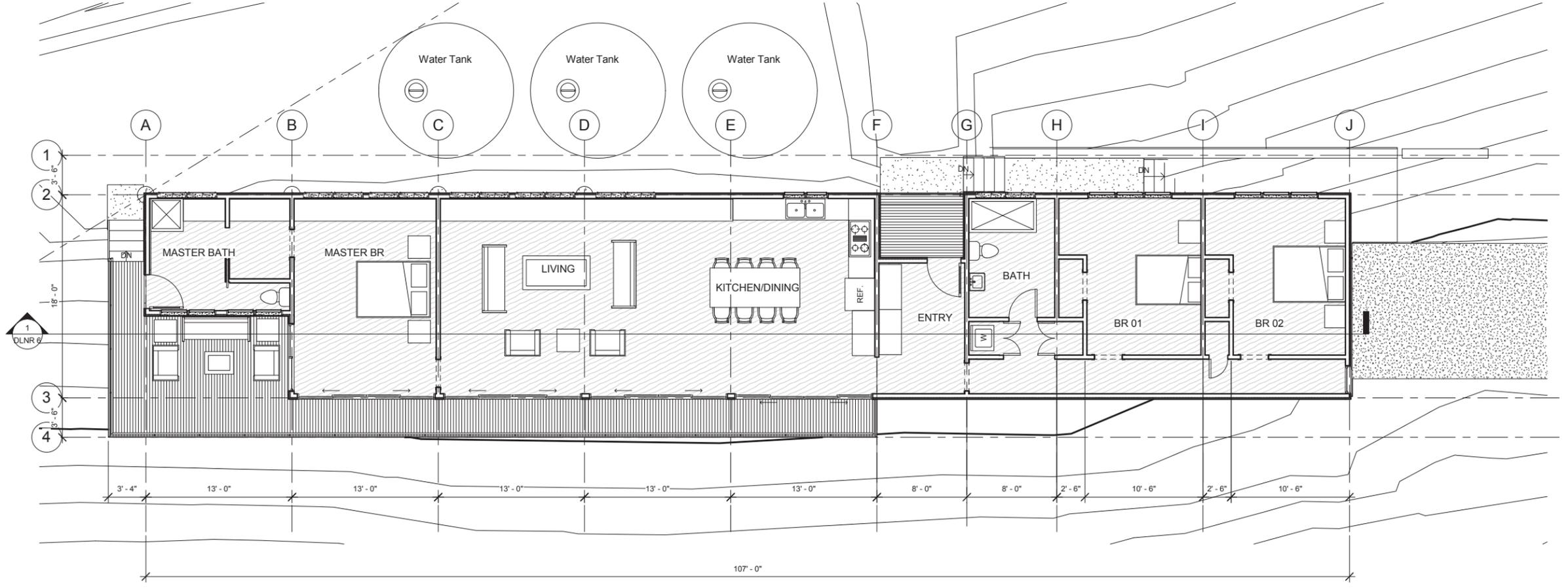
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DLNR 3

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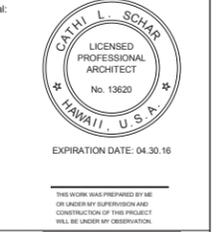
① LOWER LEVEL
 3/32" = 1'-0"



② UPPER LEVEL
 3/32" = 1'-0"

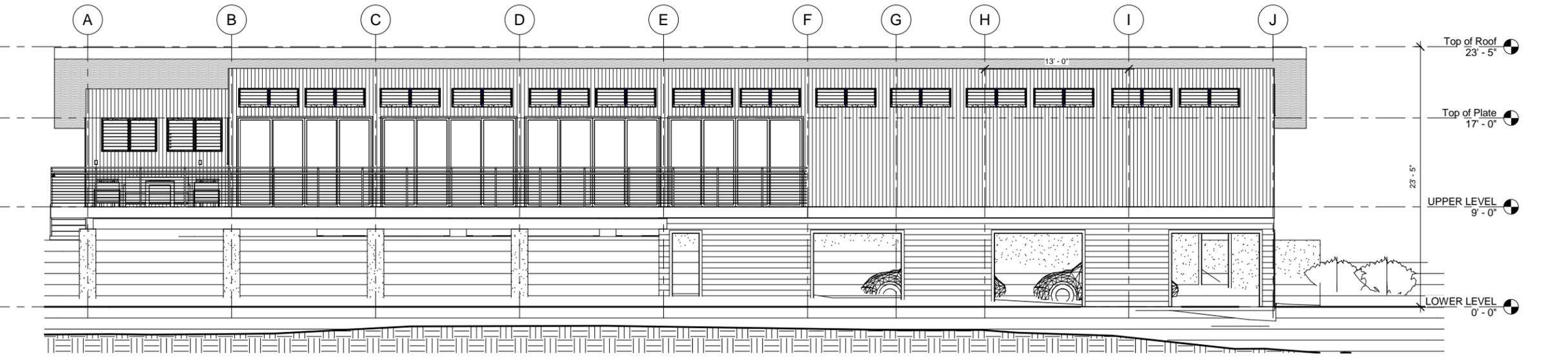
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Consultant:

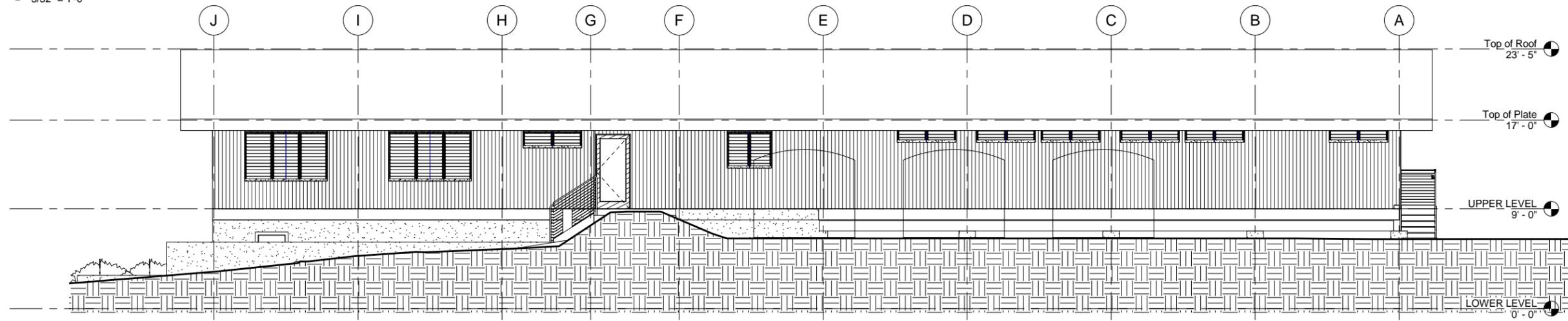


Project Title
ROUND TOP RESIDENCE
 NEW CONSTRUCTION

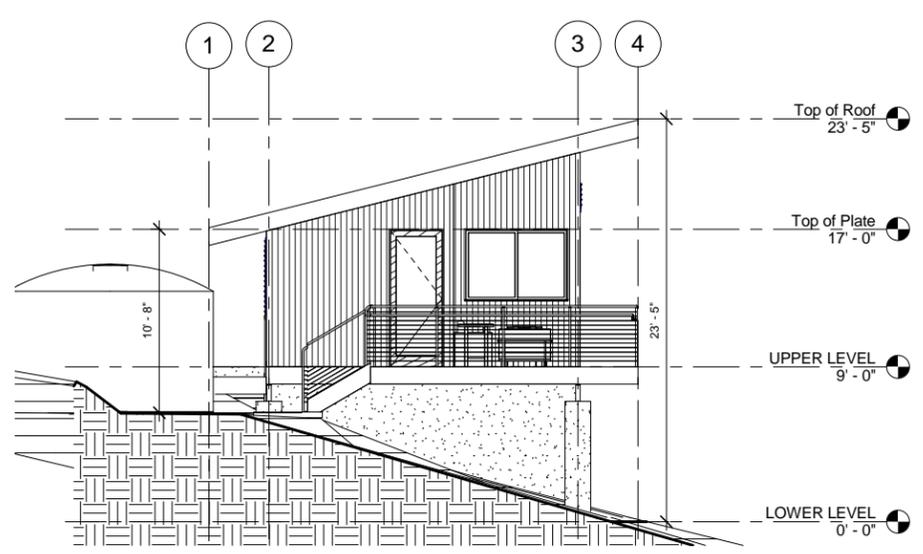
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File Name	
Date	12/29/2014
Project Number	1415
Drawn	Checked
Sheet Number	DLNR 4
Sheet of	Sheets



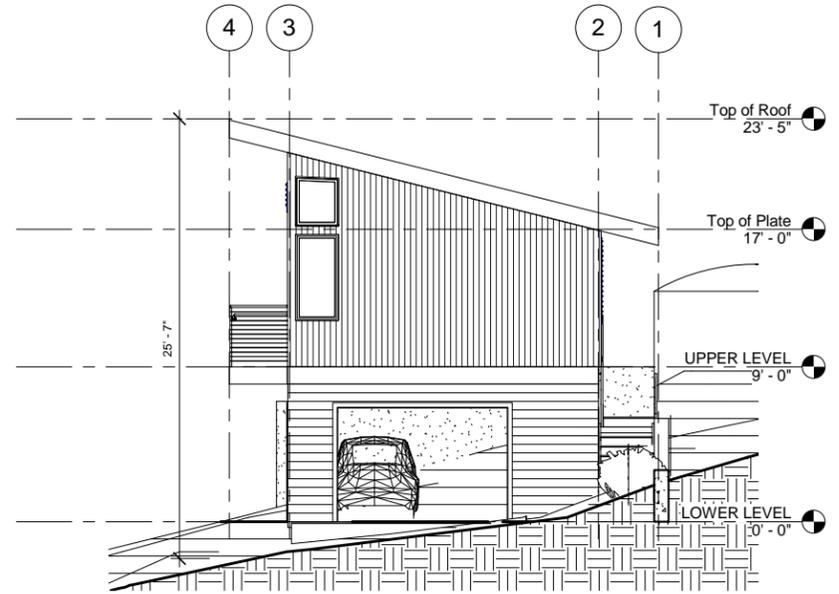
① Elevation Mauka
 3/32" = 1'-0"



② Elevation Makai
 3/32" = 1'-0"



③ Elevation West facing
 3/32" = 1'-0"



④ Elevation East facing
 3/32" = 1'-0"

DRAFT EA DRAWINGS

DATE REVISION

Consultant:



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Project Title
ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title
ELEVATIONS

File Name

Date 12/29/2014

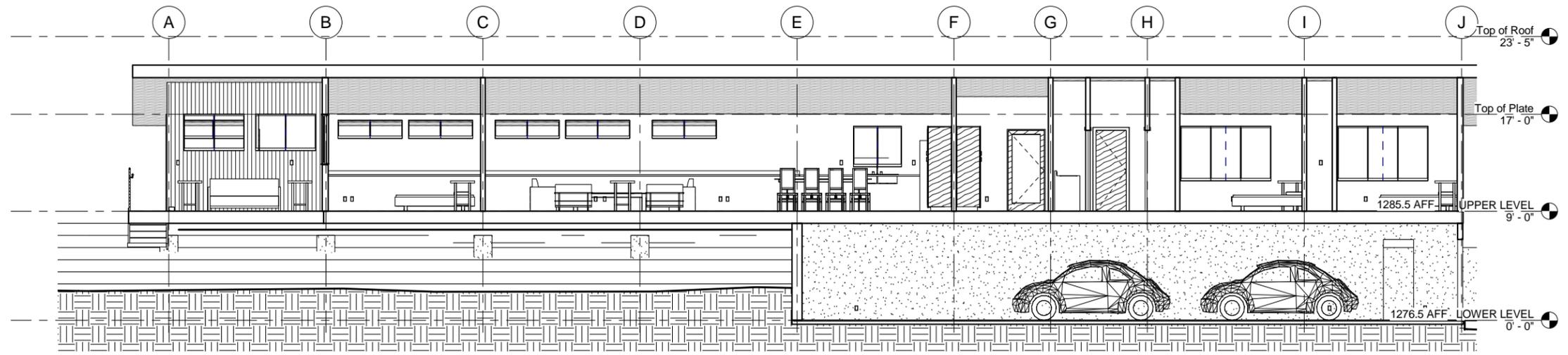
Project Number 1415

Drawn Checked

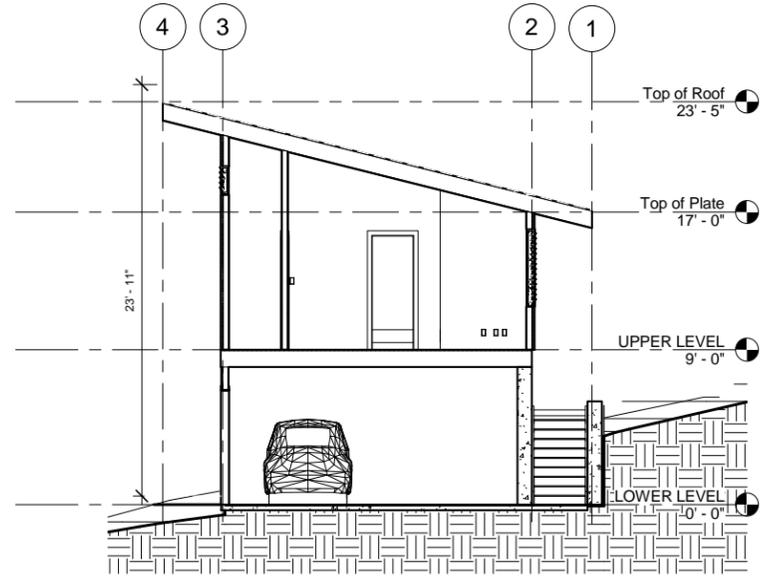
Sheet Number

DLNR 5

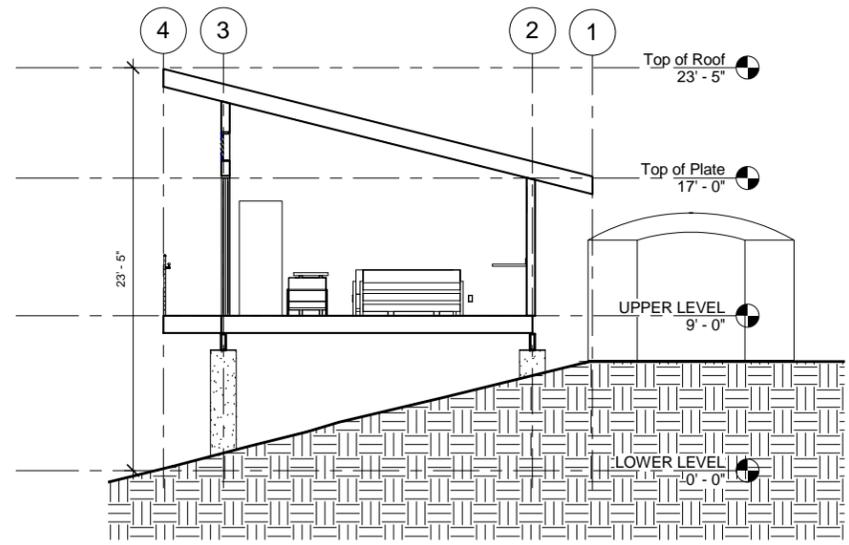
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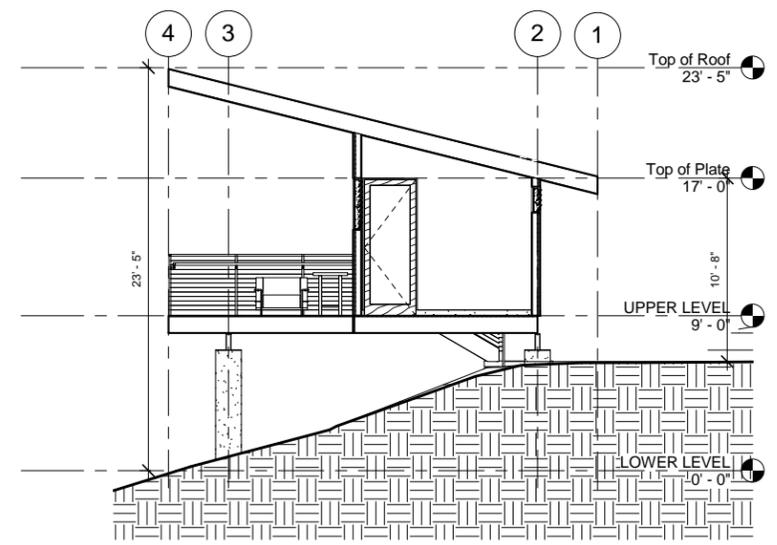
① Section 1
 3/32" = 1'-0"



② Section 2
 3/32" = 1'-0"



⑤ Section 3
 3/32" = 1'-0"



⑦ Section 4
 3/32" = 1'-0"

DRAFT EA DRAWINGS

DATE REVISION

Consultant:



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Project Title

ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title
SECTIONS

File Name

Date 12/29/2014

Project Number 1415

Drawn Checked

Sheet Number

DLNR 6

Sheet of ___ Sheets ___



1 VIEW FROM ROUND TOP WITHOUT VEGETATION 1



2 VIEW FROM ROUND TOP WITHOUT VEGETATION 2

DRAFT EA DRAWINGS	
DATE	REVISION

Consultant:

Seal:



EXPIRATION DATE: 04.30.16

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Project Title

ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title
RENDERINGS

File Name

Date 12/29/2014

Project Number 1415

Drawn Checked

Sheet Number

DLNR 7

Sheet of ___ Sheets ___

NEW RESIDENCE AT 3730 ROUND TOP DRIVE BUILDING PERMIT SET HONOLULU, HAWAII 96822 TMK: 25018016:0000

PROJECT CONTACT INFO

CLIENT
Jacey Waterhouse and Adam Spurgat
3730 Round Top Dr.
Honolulu, HI 96822

ARCHITECT
COLLABORATIVE STUDIO, LLC
9. NORTH PAUAI ST. #300
HONOLULU, HI 96817
T: 808.532.2177
CONTACT: CATHI HO SCHAR

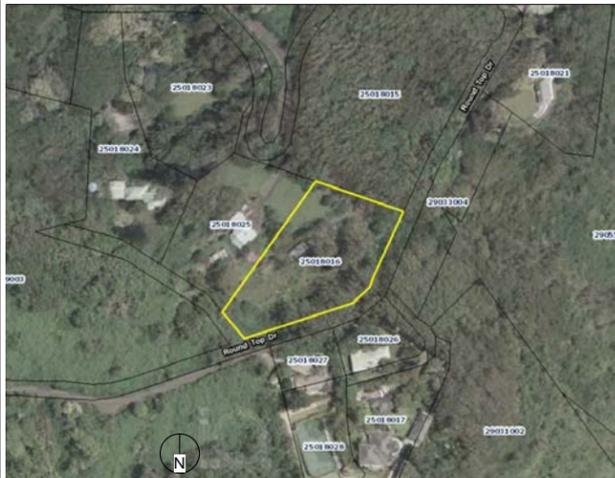
STRUCTURAL ENGINEER
JPB ENGINEERING
47388 HUI IWA STREET #2
KANEHOHE, HI 96744
T: 808.436.8108
CONTACT: JON BRANDT, S.E.

collaborative studio llc
a: 9 N. Pauahi St. #300 Honolulu HI 96817
t: 808.532.2177
e: info@collabstudio.com

VICINITY MAP



VICINITY MAP



CODE DATA

ZONING CODE DATA

1. TMK: 25018016:0000
2. LUO Designation: P-1
3. State Land Use: Residential
4. Flood Zone: X
5. Conditional Use: n/a
6. Lot Area: 87,120 sf (2 acres)
7. Min Lot Area: *** sf
8. Min Lot Width: ***
9. Min Yards (Front): 25' PER DLNR
10. Min Yards (Side + Rear): 25' PER DLNR
11. Height Limit: 25'
12. Allowable Developable area: 5,000 sf. lots over 1 acre
14. New building footprint: 1924 sf

1. Occupancy: R-4
 2. Type of Construction: V-B
- BUILDING CODE DATA**

ENERGY CODE STATEMENT

CITY AND COUNTY OF HONOLULU REVISED ORDINANCE
CHAPTER 32 HONOLULU COUNTY CODE 1990, AS AMENDED.

FOR THE PLANS PREPARED FOR THE NEW CONSTRUCTION OF
A RESIDENCE AT 3730 ROUND TOP DRIVE HONOLULU, HI 96822
TMK 25018016:0000

TO THE BEST OF MY KNOWLEDGE THIS PROJECT'S DESIGN
SUBSTANTIALLY CONFORMS TO THE BUILDING ENERGY
CONSERVATION CODE FOR

*BUILDING COMPONENT SYSTEMS

SIGNATURE:

DATE:

NAME: CATHI HO SCHAR
TITLE: ARCHITECT
LICENSE NO: 13620

AREA CALCULATIONS

Lower level Area Schedule (Gross Building)	
Name	Area
Garage	998 SF
Grand total	998 SF

Upper level Area Schedule (Gross Building)	
Name	Area
Kitchen/Dining/Living	701 SF
Bath w/landry	123 SF
Bedroom 01	179 SF
Bedroom 02	180 SF
Hallway w/closet	129 SF
Entry	98 SF
Master Bedroom	235 SF
Master Bath w/closet	138 SF
Master sitting area	95 SF
Entry Porch	46 SF
Grand total	1924 SF

Total Area (Gross Building)	
Name	Area
	2922 SF
Grand total	2922 SF

CONSTRUCTION NOTES

APPLICABLE CODES AND REGULATION: COMPLY WITH ALL GOVERNMENTAL REGULATIONS REGARDING EMPLOYMENT, OCCUPATIONAL SAFETY, HAZARDOUS MATERIALS, POLLUTION, & BUILDING CONSTRUCTION.

FIRE SAFETY DURING CONSTRUCTION, ALTERNATION AND DEMOLITION SHALL BE IN ACCORDANCE WITH NFPA 1 2006 FIRE CODE.

SHEET INDEX

Sheet List	
Sheet Number	Sheet Name
DLNR 1	SITE PLAN - Lower Level
DLNR 2	SITE PLAN - Upper Level
DLNR 3	SITE PLAN - Roof Level
DLNR 4	FLOOR PLANS
DLNR 5	ELEVATIONS
DLNR 6	SECTIONS
DLNR 7	RENDERINGS
DLNR 8	TITLE SHEET
DLNR 9	GRADING PLAN
DLNR 10	EXISTING TOPOGRAPHY

DRAFT EA DRAWINGS

DATE REVISION

Consultant:

Seal:



EXPIRATION DATE: 04.30.16

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Project Title

**ROUND TOP RESIDENCE
NEW CONSTRUCTION**

Sheet Title
TITLE SHEET

File Name

Date 12/29/2014

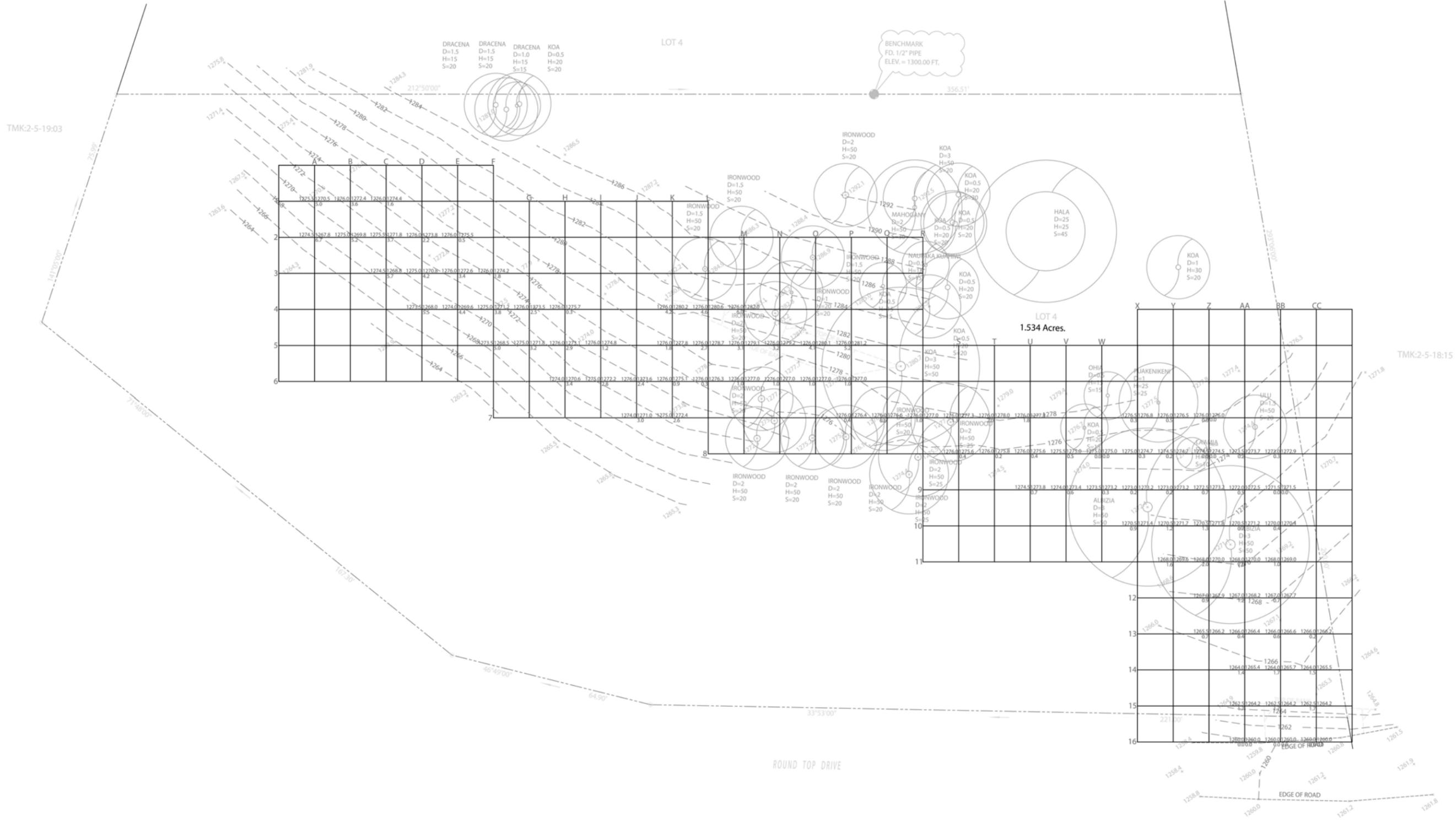
Project Number 1415

Drawn Checked

Sheet Number

DLNR 8

Sheet of ___ Sheets



① Grading Plan
 3/32" = 1'-0"

DRAFT EA DRAWINGS	
DATE	REVISION

Consultant:



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Project Title
ROUND TOP RESIDENCE
 NEW CONSTRUCTION

Sheet Title GRADING PLAN	
File Name	
Date	12/29/2014
Project Number	1415
Drawn	Checked
Sheet Number DLNR 9	
Sheet of ___ Sheets___	



FIGURE 4: Driveway Area
Spurgat/Waterhouse Residence
Tantalus, Oahu





FIGURE 5: Driveway Path
Spurgat/Waterhouse Residence
Tantalus, Oahu





FIGURE 6: Driveway Entry
Spurgat/Waterhouse Residence
Tantalus, Oahu



CHAPTER 3

AFFECTED ENVIRONMENT – Potential Impacts and Mitigation Measures

3.1 TOPOGRAPHY

The surface elevations range along Round Top Drive from about +1,246 at the south side of the parcel to +1,260 feet at the east corner of the parcel. Elevations rise from Round Top Drive to a peak elevation of about +1,310 feet at the north corner of the parcel (see DRAWING, DLNR 10: **Existing Topography**). The proposed house site, at elevation 1,278 feet, is about 26 feet above the street elevation and is set back about 97+ feet from Round Top Drive. The house is situated in a linear fashion along a northeast/southwest axis.

3.1.1 Potential Impacts and Mitigation Measures

In order to construct the project it is necessary to do some grading and earthwork to access the building site, but the strategic design process of the project has kept this to a minimum. It is expected the project will be built in phases with driveway grading being the initial activity. After initial grubbing and shaping of the driveway has been constructed, grading will begin to fill for the base course gravel drive surface. Completing the driveway up to initial base course gravel material will provide site access. It is anticipated that all grading and site work will be completed before framing construction of the residence will begin. Although grading is required for site access, several design goals were achieved to situate the house within the existing environment and follow existing topography as much as possible. This will greatly reduce site disturbance and effectively allow for more of the existing surrounding vegetation to remain undisturbed.

3.2 SOILS

Soils at the property are classified as (TAF) Tantalus silty clay loam (see FIGURE 8, **Soils Map**), which are well-drained soils of uplands that developed in volcanic ash and material weathered from cinders. They are moderately sloping to very steep with elevations ranging from 100 to 2,200 feet. Permeability is moderately rapid, runoff is medium, and the erosion hazard is moderate. These soils are used for home-sites, water supply, and recreation. (U.S. Department of Agriculture, 1972)

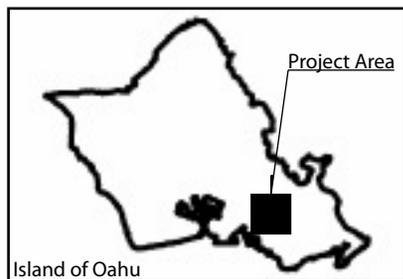


FIGURE 8: Soil Map
 Spurgat/Waterhouse Residence
 Tantalus, Oahu

⊕ Not to Scale

3.2.2 Potential Impacts and Mitigation Measures

The proposed project is not anticipated to significantly impact existing soil conditions at the site and is designed to minimize soil disturbance. The structural design and siting of the residence, as well as the design of the wastewater system take into consideration the soil conditions. (see Section 4.3, **Wastewater**) Best Management practices will be followed during construction. No further mitigation is warranted.

3.3 DRAINAGE

While there are no streams within or near the project site, the rainfall for the Tantalus area averages over 100 inches per year. The roof area will be used to capture and divert rainfall for the residence's domestic water supply. Storm water will flow towards the Forest Reserve or towards Round Top Drive.

3.3.1 Potential Impacts and Mitigation Measures

The runoff from the residence's non-permeable roof surface will be directed into the rainwater catchment system or into vegetated and gravel areas designed to encourage absorption and minimize sheet runoff. With over 90% of the property remaining in open space, which contains the existing vegetation, and plantings that already absorb and slow sheet flows no significant impacts to drainage are anticipated. No additional mitigation is warranted.

3.4 AIR QUALITY

The combination of the elevation of the proposed residence (+1,280 feet), fairly consistent trade winds and rain showers, low vehicular traffic, and absence of other pollutant sources all contribute to excellent air quality in the project site and the surrounding Tantalus area.

3.4.1 Potential Impacts and Mitigation Measures

Air quality impacts attributed to the proposed action will be contributed to short-term, construction-related activities such as exhaust emissions and dust generated by construction vehicles. Control measures such as regular watering and sprinkling will be implemented as needed to

minimize wind-blown emissions. Work will be performed in conformance with the air-pollution control standards contained in the Hawaii Administrative Rules, Title 11, Chapter 59, “Ambient Air Quality Standards” and Chapter 60, “Air Pollution Control.” Long-term air quality impacts due to inhabiting the proposed residence are not expected to cause significant increases in air pollution over existing levels. No long-term mitigation is warranted.

3.5 WATER QUALITY

No surface water sources exist on the project site. The residence will use a roof water catchment system. Rainwater will be diverted and stored and will be used to meet all domestic water and fire protection needs. Appropriate water treatment will be provided to ensure acceptable potable quality.

3.5.1 Potential Impacts and Mitigation Measures

Since the property abuts the Honolulu Watershed Forest Reserve, it is important that runoff from construction be controlled (see Section 3.3, **Drainage**). Construction activities will be performed in conformance with the applicable provisions of the water pollution control and water quality standards contained in the Hawaii Administrative Rules, Chapter 11-55, “Water Pollution Control” and Chapter 11-54, “Water Quality Standards.” No long-term mitigation is warranted.

3.6 NOISE

Existing noise levels at the subject property are very low due to the open space and distance between residences. The Tantalus area is a residential community spread throughout a heavily wooded area. Traffic from Tantalus and Round Top Drive is not a significant source of noise since the roadway does not carry heavy volumes. The narrow and winding of this two-lane roadway limits vehicular speed, a major source of vehicular noise.

3.6.1 Potential Impacts and Mitigation Measures

Noise will be generated from short-term construction related activity. Short-term noise from construction machinery and vehicles may impact existing residences nearby, but construction activity will be limited to

daylight working hours and will comply with Hawaii Administrative Rules, Chapter 11-46, "Community Noise Control." Once construction is completed, it is anticipated that the proposed residence will not have an adverse impact upon existing noise characteristics. No significant long-term noise impacts are anticipated with the occupation of the residence and the additional vehicular traffic is not expected to cause significant increases in noise over existing levels. No long-term mitigation is warranted.

3.7 FLORA AND FAUNA

There are no known rare, threatened, or endangered plant or animal species or significant habitats on the subject property. Introduced tree species, weedy shrubs, and grasses primarily cover the subject property (see APPENDIX B, **Biological Assessment**).

No threatened or endangered mammals have been observed during site visits to the subject property, but based on general information about the Tantalus area and site visit evidence, resident mammals are limited to feral pigs, dogs, cats, and various rodents. Most of the birds in the area are introduced species such as doves, thrushes, house finch, Japanese white-eyed, common myna, and northern cardinal. No rare, threatened or endangered species are known to be resident.

3.7.1 Potential Impacts and Mitigation Measures

Since the property does not contain any known threatened or endangered species of flora or fauna, no adverse impacts are anticipated. No mitigation is warranted.

3.8 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

According to the State of Hawaii, State Historic Preservation Division's (SHPD) report on Hawaii and National Review of Historical Places for the island of Oahu, there are no listed historic connections to the subject property. The subject property is vacant; there are no structures. There are no known archaeological sites on the subject property, and given the location of the property, archaeological sites are not expected to be present.

The project site and surrounding vicinity are not known for cultural practices. The residence will not block existing view planes, is not visible from coastal waters, and will not obstruct any natural features or landmarks. The subject property does not block access to forest resources. There are not likely to be burial sites on the subject property due to the location, nature of the soil, and the project location away from the shoreline and natural cave areas.

3.8.1 Potential Impacts and Mitigation Measures

No impacts to historic or cultural resources or practices are anticipated to result from the proposed project. In the unlikely event that archaeological features are uncovered, all work will stop and immediate archaeological consultation will be sought with the Department of Land and Natural Resources, State Historic Preservation Division in accordance with applicable regulations.

3.9 SCENIC RESOURCES

The subject property is visible in the foreground of southeast-looking views from the adjacent property to the northwest. From that property's vantage points, the subject property currently appears as a lower lot with non-native or introduced mature trees and tropical plants to the east and an open area to the south with scattered non-native or introduced grasses and shrubbery. The residence on the adjacent property to the northwest is sited about 46 feet higher in elevation than the proposed project residence's location. The property is not anticipated to affect south-looking views of adjacent parcel TMK 2-5-018:025. Additionally, the co-applicant, Jacey Waterhouse is an owner of the property to the northwest.

The Honolulu Watershed Forest Reserve bounds the subject property to the northeast and southwest. The subject property does not affect views of these adjacent parcels and there are no houses on them. There are houses on the opposite side of Round Top Drive. However, these houses are downhill of the subject property and are sited at a significantly lower elevation of the project site. The subject property does not affect views of these properties. The lot is not visible from shoreline areas.

The street frontage of the subject property is only visible from Round Top Drive. The proposed residence will be set back about 97+ feet from the street and will be about 26 feet higher in elevation than the street level. Additionally, the driveway entrance off Round Top Drive will be located at the east corner of the property. The driveway site access location, long winding design, and existing non-native tall tropical plants and varying vegetation will significantly screen the house from view and retain the wooded and scenic appeal of the roadway. Therefore, it is anticipated that the house will not be immediately visible from Round Top Drive (see FIGURE 7, **View from Round Top Drive**).

3.9.1 Potential Impacts and Mitigation Measures

Lot Coverage and Visibility

The development of the residence will have a footprint of 1, 972 square feet and a roof area of about 2,750 square feet leaving over 90% of the lot as open space. The proposed residence will be screened from view due to the existing dense non-native or introduced vegetation; the rise in topography, and the distance the house will be set back from Round Top Drive.

Setbacks

The setback of the residence from the edge of the lot will meet or exceed the minimum 25 feet on all sides (HAR, Chapter 13-5, Exhibit 4, Single-Family Residential Standards: September 6, 1994”) as follows:

Location of Setback	Standard Condition	Spurgat/Waterhouse Residence (per proposed house site)
Northwest	25 feet	25 feet
Northeast	25 feet	+148 feet
Southeast	25 feet	+97 feet
Southwest	25 feet	+134 feet

Landscaping

The landscaping concept for the residence is two-part:

1. New native vegetation added to the landscape along pathway leading to house entry
2. The remaining area of the property will be kept as existing native and non-native or introduced vegetation.



FIGURE 7: View from Round Top Drive
Spurgat/Waterhouse Residence
Tantalus, Oahu



Colors

Muted natural colors (greens and/or grays) are chosen to ensure the house blends in with its natural surroundings and is minimally visible. Details of the proposed colors and finishes for the structure are shown in Table 1, **Exterior Finish of Structure**. No significant visual impacts are anticipated due to the construction of the house. No further mitigation is warranted.

TABLE 1
Exterior Finish of Structure

Structure	Material	Exterior Finish
Roofing	Painted sheet metal	“Cool” color (white/light gray)
Gutters	Painted sheet metal	Muted natural color (green/gray)
Trim	Painted wood	Muted natural color (green/gray)
Exterior Walls	Cement board Painted sheet metal	Muted natural color (green/gray)
Windows and Doors	Aluminum Cladding	Muted natural color (green/gray/bronze)
Support Columns	Cast Concrete	Natural
Driveway	Gravel	Natural

CHAPTER 4

PUBLIC SERVICES – Potential Impact and Mitigation Measures

4.1 RECREATIONAL RESOURCES

For many years the Tantalus area has successfully combined residential uses with a public trail system. Trails in the general vicinity of the project site are Makiki Valley Trail, Moleka Trail, and Ualakaa Trail.

4.1.1 Potential Impact and Mitigation Measures

The subject property is not visible from these public trails and existing trees and dense vegetation will screen the proposed residence. Therefore, no impacts on public recreational resources are anticipated and no mitigation measures are proposed.

4.2 TRAFFIC AND ROADWAYS

Primary access to the subject property is via Round Top Drive and is approximately 1 mile beyond the Puu Ualakaa State Wayside Park. Round Top Drive, a winding two-lane road constructed in asphalt concrete averaging 20 feet in width and providing access to numerous homes in the Tantalus area, as well as scenic vistas of urban Honolulu, is owned and maintained by the City and County of Honolulu. The proposed residence will have a minimum 12-foot wide private driveway that intersects with Round Top Drive to access the residence.

4.2.1 Potential Impacts and Mitigation Measures

The proposed single-family residence is not expected to create a significant impact to the roadway or traffic volumes. On a short-term basis construction-related work on the proposed project may impact traffic flow on Round Top Drive. Traffic volumes and vehicular speeds are relatively low due to the winding nature of the roadway. Short-term impacts are not considered significant since Round Top Drive will remain open at all times and project-related delays by motorists, if any, are anticipated to be minor.

4.3 WASTEWATER

The Tantalus area is not serviced by the municipal sewer system. Therefore all treatment of wastewater must be performed on-site through a wastewater treatment system designed to meet the State Department of Health requirements. The system will consist of an underground septic tank with a capacity of 1,000 gallons and a 528 sf leach field (see APPENDIX C, **Individual Wastewater System**).

The Department of Health *Recommended Standards* (Chapter 10) indicate that leach fields (absorption trenches) should not be used in soils with a percolation rate slower than 60 minutes per inch. The percolation rate measured during testing was at 9 minutes per inch. Therefore, leach fields (absorption trenches) may be used for the disposal of domestic effluent on the project site (see APPENDIX C, **Individual Wastewater System**).

4.3.1 Potential Impacts and Mitigation Measures

The individual wastewater treatment system for the proposed residence will conform with Hawaii Administrative Rules, Chapter 11-62, “Wastewater Systems” and the applicable and required permits will be applied for from the State DOH. The septic system and leaching field are not expected to result in adverse impacts.

4.4 POTABLE WATER

The City and County of Honolulu’s Board of Water Supply does not service the subject property. Similar to other typical residences in the Tantalus area, the domestic water for the proposed residence will be supplied from an on-site catchment system. The proposed residence’s non-permeable roofed areas will be used to catch and divert rainfall to be stored in three 6,000 gallon above ground catchment tanks (18,000 gallons total).

4.4.1 Potential Impacts and Mitigation Measures

No adverse impacts will occur with regard to the potable water supply, due to the absence of municipal water service in the area and the installation of an individual water catchment system. No mitigation is required.

4.5 SOLID WASTE

The City and County of Honolulu's solid waste collection system service the Tantalus area.

4.5.1 Potential Impacts and Mitigation Measures

The impact to solid waste collection services will be one additional family in the Tantalus area. No adverse impacts are anticipated to result from the proposed single-family residence. No mitigation measures are proposed.

4.6 POLICE, EMERGENCY, AND FIRE PROTECTION SERVICES

The Tantalus area is serviced by the Honolulu Police Department's District #1 Patrol. The City Fire Department's Station #3 Makiki Station located at 1202 Wilder Avenue provides fire protection services. However, the residence is not served by municipal water for firefighting purposes.

4.6.1 Potential Impacts and Mitigation Measures

As part of the building permit process, the applicant will develop a fire contingency plan that will be approved by the appropriate agencies, and will provide necessary fire protection to the subject property. This will include a sprinkler system within the residence, which will use water from the above ground water storage tanks. The system will be designed to meet the Fire Department's standards for fire fighting.

4.7 ELECTRICAL AND COMMUNICATION SERVICES

Electrical and communication services are provided to the Tantalus area via overhead lines. Hawaiian Electric Company provides electrical power; Hawaiian Telcom provides telephone service; and Oceanic Cable provides cable service. Propane gas for the proposed residence will provide fuel for cooking and domestic hot water. One 250-gallon propane tank will be located on the property.

4.7.1 Potential Impacts and Mitigation Measures

No adverse impacts are expected from the single-family residence connecting to existing facilities. The propane tanks for cooking and domestic hot water will be constructed according to standards of the City and County of Honolulu and The Gas Company. These include installation of the tanks on a concrete pad a minimum of 10 feet from the property line and a minimum of 10 feet from any ignition source.

CHAPTER 5

PERMITS AND APPROVALS

The proposed construction of a single-family residence in the Conservation District, Resource Subzone requires the applicant to obtain approval from the State of Hawaii, Board of Land and Natural Resources for a Conservation District Use Permit. If the CDUP is approved, the applicant will need to apply to the City and County of Honolulu's Department of Planning and Permitting for the necessary building permits and to the State Department of Health for permits related to the proposed wastewater and potable water systems.

CHAPTER 6

AGENCIES AND ORGANIZATIONS CONSULTED

State of Hawaii

- Department of Health, Environmental Planning Office
- Department of Health, Water Quality Office
- Department of Land and Natural Resources, Office of Conservation and Coastal Lands
- Department of Land and Natural Resources, State Historic Preservation Division

City and County of Honolulu

- Department of Planning and Permitting
- Honolulu Fire Department

REFERENCES

- City and County of Honolulu, Revised Ordinances of the City and County of Honolulu, 1990
- City and County of Honolulu, Board of Water Supply, Water System Standards, 2002
- City and County of Honolulu, Department of Planning and Permitting, gis.hicentral.com
- Collaborative Studio, Architect, Site Plan – Lower Level, DLNR 1, 2014
- Collaborative Studio, Architect, Site Plan – Upper Level, DLNR 2, 2014
- Collaborative Studio, Architect, Site Plan – Roof Level, DLNR 3, 2014
- Collaborative Studio, Architect, Floor Plans, DLNR 4, 2014
- Collaborative Studio, Architect, Elevations, DLNR 5, 2014
- Collaborative Studio, Architect, Sections, DLNR 6, 2014
- Collaborative Studio, Architect, Renderings, DLNR 7, 2014
- Collaborative Studio, Architect, Title Page, DLNR 8, 2014
- Collaborative Studio, Architect, Grading Plan, DLNR 9, 2014
- Collaborative Studio, Architect, Topographic Map, DLNR 10, 2014
- Hawaii Revised Statutes, Chapter 343
- Hawaii Revised Statutes, Chapter 11-54
- Hawaii Revised Statutes, Chapter 11-55
- Hawaii Revised Statutes, Chapter 11-59
- Hawaii Revised Statutes, Chapter 11-200
- Hawaii Revised Statutes, Chapter 13-5
- State of Hawaii, Department of Health, Onsite Wastewater Treatment Survey and Assessment, March 2008
- State of Hawaii, Department of Health, Office of Environmental Quality Control, Guide to the Implementation and Practice of the Hawaii Environmental Policy Act, 2012 Edition
- State of Hawaii, Department of Land and Natural Resources, Division of Wildlife, Na Ala Hele
- State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division
- State of Hawaii, Office of Planning, Hawaii Statewide GIS Program
- State of Hawaii, Department of Business, Economic Development and Tourism, State of Hawaii Data Book, 2013
- U.S. Department of Agriculture, Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, United States Department of Agriculture, Soil Conservation Service, August 1972
- U.S. Department of Agriculture, Natural Resources Conservation Service, Soils

- U.S. Department of Agriculture, Natural Resources Conservation Service, [Web Soil Survey](#)
- www.tantalusoahu.com
- www.totakeresponsibility.blogspot.com/2013/02/tantalus.html

APPENDIX A

Tabulation Results from Grid Elevations

Proposed Spurgat/Waterhouse Residence
3730 Round Top Drive, Honolulu, Hawaii
TMK: 2-5-018:016

Tabulation of Results from Grid Elevations

Spurgat/Waterhouse Residence 3730 Round Top Drive TMK: 2-5-018:016

Station	New Elevation	Existing Elevation	Depth Cut	Depth Fill	Frequency	Area Constant	Volume Cut	Volume Fill
1A	1275.0	1270.5	0.00	5.0	1	32.339	0.00	161.70
1B	1275.5	1272.4	0.00	3.6	2	32.339	0.00	232.84
1C	1276.0	1274.4	0.00	1.6	1	32.339	0.00	51.74
2A	1274.5	1267.8	0.00	6.7	1	32.339	0.00	216.67
2B	1275.0	1269.8	0.00	5.2	3	32.339	0.00	504.49
2C	1275.5	1271.8	0.00	3.7	3	32.339	0.00	358.96
2D	1276.0	1273.8	0.00	2.2	2	32.339	0.00	142.29
2E	1276.0	1275.5	0.00	0.5	1	32.339	0.00	16.17
3C	1274.5	1268.8	0.00	5.7	2	32.339	0.00	368.66
3D	1275.0	1270.8	0.00	4.2	3	32.339	0.00	407.47
3E	1276.0	1272.6	0.00	3.4	3	32.339	0.00	329.86
3F	1276.0	1274.2	0.00	1.8	1	32.339	0.00	58.21
4D	1273.5	1268.0	0.00	5.5	1	32.339	0.00	177.86
4E	1274.0	1269.6	0.00	4.4	2	32.339	0.00	284.58
4F	1275.0	1271.2	0.00	3.8	2	32.339	0.00	245.78
4G	1276.0	1273.5	0.00	2.5	2	32.339	0.00	161.70
4H	1276.0	1275.7	0.00	0.3	1	32.339	0.00	9.70
4K	1276.0	1280.2	4.2	0.0	1	32.339	271.65	0.00
4L	1276.0	1280.6	4.6	0.0	2	32.339	297.52	0.00
4M	1276.0	1282.0	6.0	0.0	1	32.339	194.03	0.00
5F	1273.5	1268.5	0.0	5.0	1	32.339	0.00	161.70
5G	1275.0	1271.8	0.00	3.2	2	32.339	0.00	206.97
5H	1276.0	1273.1	0.00	2.9	2	32.339	0.00	187.57
5I	1276.0	1274.8	0.00	1.2	1	32.339	0.00	38.81
5K	1276.0	1277.8	1.8	0.0	1	32.339	116.42	0.00
5L	1276.0	1278.7	2.7	0.0	3	32.339	261.95	0.00
5M	1276.0	1279.1	3.1	0.0	3	32.339	300.75	0.00
5N	1276.0	1279.2	3.2	0.0	2	32.339	206.97	0.00
5O	1276.0	1280.1	4.1	0.0	2	32.339	265.18	0.00
5P	1276.0	1281.2	5.2	0.0	1	32.339	168.16	0.00
6H	1274.0	1270.6	3.4	0.00	1	32.339	0.00	109.95

Tabulation of Results from Grid Elevations

Spurgat/Waterhouse Residence 3730 Round Top Drive TMK: 2-5-018:016

Station	New Elevation	Existing Elevation	Depth Cut	Depth Fill	Frequency	Area Constant	Volume Cut	Volume Fill
6I	1275.0	1272.2	0.00	2.8	1	32.339	0.00	90.55
6J	1276.0	1273.6	0.00	2.4	1	32.339	0.00	77.61
6K	1276.0	1275.1	0.00	0.9	2	32.339	0.00	58.21
6L	1276.0	1276.3	0.3	0.0	1	32.339	9.70	0.00
6M	1276.0	1277.0	1.0	0.0	2	32.339	64.68	0.00
6N	1276.0	1277.0	1.0	0.0	2	32.339	64.68	0.00
6O	1276.0	1277.0	1.0	0.0	2	32.339	64.68	0.00
6P	1276.0	1277.0	1.0	0.0	1	32.339	32.34	0.00
7J	1274.0	1271.0	0.00	3.0	2	32.339	0.00	194.03
7K	1275.0	1272.4	0.00	2.6	1	32.339	0.00	84.08
7P	1276.0	1276.4	0.4	0.0	1	32.339	45.27	0.00
7Q	1276.0	1276.6	0.6	0.0	1	32.339	51.74	0.00
7R	1276.0	1277.0	1.0	0.0	1	32.339	64.68	0.00
7S	1276.0	1277.3	1.3	0.0	2	32.339	148.76	0.00
7T	1276.0	1278.0	2.0	0.0	2	32.339	194.03	0.00
7U	1276.0	1277.8	1.8	0.0	1	32.339	90.55	0.00
7X	1276.5	1276.8	0.3	0.00	1	32.339	9.70	0.00
7Y	1276.0	1276.5	0.5	0.00	2	32.339	32.34	0.00
7Z	1276.0	1276.0	0.0	0.00	1	32.339	0.00	0.00
8S	1276.0	1275.6	0.0	0.4	1	32.339	0.00	12.94
8T	1276.0	1275.8	0.0	0.2	2	32.339	0.00	12.94
8U	1276.0	1275.6	0.0	0.4	3	32.339	0.00	38.81
8V	1275.5	1275.0	0.0	0.5	2	32.339	0.00	32.34
8W	1275.0	1275.0	0.0	0.0	2	32.339	0.00	0.00
8X	1275.0	1274.7	0.0	0.3	3	32.339	0.00	29.11
8Y	1274.5	1274.7	0.2	0.00	4	32.339	25.87	0.00
8Z	1274.5	1274.5	0.0	0.0	3	32.339	0.00	0.00
8AA	1273.5	1273.7	0.2	0.0	2	32.339	12.94	0.00
8BB	1273.0	1272.9	0.3	0.0	1	32.339	9.70	0.00
9U	1274.5	1273.8	0.0	0.7	1	32.339	0.00	22.64
9V	1274.0	1273.4	0.0	0.6	2	32.339	0.00	38.81

Tabulation of Results from Grid Elevations

Spurgat/Waterhouse Residence 3730 Round Top Drive TMK: 2-5-018:016

Station	New Elevation	Existing Elevation	Depth Cut	Depth Fill	Frequency	Area Constant	Volume Cut	Volume Fill
9W	1273.5	1273.2	0.0	0.3	2	32.339	0.00	19.40
9X	1273.0	1273.2	0.2	0.0	3	32.339	19.40	0.00
9Y	1273.0	1273.2	0.2	0.0	4	32.339	25.87	0.00
9Z	1272.5	1273.2	0.7	0.0	4	32.339	0.00	0.00
9AA	1272.0	1272.5	0.5	0.0	2	32.339	32.34	0.00
9BB	1271.5	1271.5	0.0	0.0	2	32.339	0.00	0.00
10X	1270.5	1271.4	0.9	0.0	1	32.339	29.11	0.00
10Y	1270.5	1271.7	1.2	0.0	3	32.339	116.42	0.00
10Z	1270.5	1271.8	1.3	0.0	4	32.339	168.16	0.00
10AA	1270.5	1271.2	0.7	0.0	4	32.339	90.55	0.00
10BB	1270.0	1270.4	0.4	0.0	2	32.339	25.87	0.00
11Y	1268.0	1269.6	1.6	0.0	1	32.339	51.74	0.00
11Z	1268.0	1270.0	2.0	0.0	4	32.339	194.03	0.00
11AA	1268.0	1270.0	2.0	0.0	3	32.339	194.03	0.00
11BB	1268.0	1269.0	1.0	0.0	2	32.339	64.68	0.00
12Z	1267.0	1267.9	0.9	0.0	1	32.339	29.11	0.00
12AA	1267.0	1268.2	1.2	0.0	4	32.339	155.23	0.00
12BB	1267.0	1267.7	0.7	0.0	2	32.339	45.27	0.00
13AA	1266.0	1266.4	0.4	0.0	2	32.339	116.42	0.00
13BB	1266.0	1266.6	0.6	0.0	3	32.339	38.81	0.00
13CC	1266.0	1266.2	0.2	0.0	1	32.339	6.47	0.00
14AA	1264.0	1265.4	1.4	0.0	2	32.339	90.55	0.00
14BB	1264.0	1265.7	1.7	0.0	2	32.339	109.95	0.00
14CC	1264.0	1265.5	1.5	0.0	2	32.339	97.00	0.00
15AA	1262.5	1264.2	1.7	0.0	2	32.339	109.95	0.00
15BB	1262.5	1264.2	1.7	0.0	4	32.339	219.91	0.00
15CC	1262.5	1264.2	1.7	0.0	2	32.339	109.95	0.00
16AA	1260.0	1260.0	0.0	0.0	1	32.339	0.00	0.00
16BB	1260.0	1260.0	0.0	0.0	2	32.339	0.00	0.00
16CC	1260.0	1260.0	0.0	0.0	1	32.339	0.00	0.00

Tabulation of Results from Grid Elevations

Spurgat/Waterhouse Residence 3730 Round Top Drive TMK: 2-5-018:016

Station	New Elevation	Existing Elevation	Depth Cut	Depth Fill	Frequency	Area Constant	Volume Cut	Volume Fill
						TOTAL	5,145	5,145

SUMMARY

Bulk Cut **191** cubic yards

Bulk Fill **191** cubic yards

Balance **0** cubic yards

APPENDIX B

Biological Assessment

Proposed Spurgat/Waterhouse Residence
3730 Round Top Drive, Honolulu, Hawaii
TMK: 2-5-018:016

By Na'u Consultants, LLC

November 23, 2014

Biological Assessment of Waterhouse Property, Tantalus, Honolulu, Hawaii

Prepared by:

Ane Bakutis
Na'u Consultants LLC
PO Box 698
Kaunakakai, HI 96748

November 2014

The Biological resources on the Property are predominantly introduced species. During a walk-through survey on November 23, 2014, 41 plant species were identified, including 6 endemic, 2 indigenous, 3 Polynesian introductions and 30 naturalized. The property is divided into two sections, forested and open. The forested half of the property is dominated by introduced tree species, such as *Toona ciliata* (Australia Mahogany), *Eucalyptus robusta* (swamp Mahogany), *Albizia falcate* (Albizia) and *Casuarina equisetifolia* (iron wood). The understory is also weedy, primarily consisting of tropical flowers and *Clerodendrum philippinum* (Pikake honohono). The other half of the property is open dominated by weedy shrubs and grasses. Rare or endangered plant species were not located on the property and habitat fit for such species does not exist on site. The proposed development of the area will not disturb any existing native plant species (planted or naturally occurring).

TABLE 1. PLANT SPECIES LIST
Waterhouse Property, Tantalus, PLANT CHECKLIST

The following is a list of vascular plant species noted during walk-through survey of the Waterhouse's property on Tantalus.

Species are arranged alphabetically by genus, and species. Each entry includes scientific name, biogeographic status, common name (if available)

Biogeographic Status (from Wagner et al. 1999a)

- end Endemic: native, occurring only in the Hawaiian Archipelago
- ind Indigenous: native, occurring naturally in the archipelago but also outside of Hawai'i
- pol Introduced by first Polynesians
- nat Naturalized: introduced to the archipelago directly or indirectly by humans since Western contact and reproducing and spreading vegetatively or by seed

SCIENTIFIC NAME	STATUS	COMMON NAME
Acacia confusa	Nat	Formosa koa
Acacia koa	End	Koa
Albizia falcate	Nat	Albizia

SCIENTIFIC NAME	STATUS	COMMON NAME
<i>Alocasia macroorrhiza</i>	Pol	Ape
<i>Alpinia zerumbet</i>	Nat	Shell ginger
<i>Argyreia nervosa</i>	Nat	Elephant ear vine
<i>Artocarpus altilis</i>	Pol	'Ulu, Breadfruit
<i>Asparagus densiflorus</i>	Nat	Asparagus fern
<i>Asplenium nidus</i>	End	Ekaha, bird's nest fern
<i>Casuarina equisetifolia</i>	Nat	Iron wood
<i>Cibotium</i> sp.	End	Hapuu
<i>Citharexylum spinosum</i>	Nat	Fiddlewood
<i>Clerodendrum philippinum</i>	Nat	Pikake honohono
<i>Commelina diffusa</i>	Nat	Honohono, spreading dayflower
<i>Cordyline fruticosa</i>	Pol	ti
<i>Crescentia cujete</i>	Nat	Laamia, Calabash tree
<i>Eucalyptus robusta</i>	Nat	Swamp Mahogany
<i>Fagraea berteriana</i>	Nat	Pua keniken
<i>Ficus microcarpa</i>	Nat	Chinese Banyan
<i>Heliconia psittacorum</i>	Nat	Parrot's beak heliconia
<i>Heliconia</i> sp.	Nat	Red heliconia
<i>Hibiscus tiliaceus</i> L.	Ind	Hau
<i>Holmskioldia sanguinea</i>	Nat	Cup and saucer plant
<i>Lonicera japonica</i>	Nat	Japanese honeysuckle
<i>Metrosideros polymorpha</i>	End	Ohia lehua
<i>Monstera deliciosa</i>	Nat	Monstera
<i>Musa x paniculata</i>	Pol	Banana
<i>Myoporum sandwicense</i>	End	Naio
<i>Neoregelia</i> spp.	Nat	Bromeliads
<i>Oplismenus hirtellus</i>	Nat	Honohono grass
<i>Paederia scandens</i>	Nat	Maile pilau
<i>Pandanus tectorius</i>	Ind	Hala
<i>Panicum maximum</i>	Nat	Guinea grass
<i>Persea americana</i>	Nat	avocado
<i>Phlebodium aureum</i>	Nat	False lauae
<i>Pipturus alibidus</i>	End	Mamaki
<i>Roystonea regia</i>	Nat	Royal palm
<i>Schefflera actinophylla</i> (Endl.) Harms	Nat	Octopus Tree
<i>Schinus terebinthifolia</i>	Nat	Christmas berry
<i>Senna</i> sp.	Nat	Senna
<i>Toona ciliate</i>	Nat	Australia Mahogany

SCIENTIFIC NAME	STATUS	COMMON NAME
Trema orientalis	Nat	Gunpowder tree
Washingtonia robusta	Nat	Mexican fan palm

APPENDIX C

Individual Wastewater System

Proposed Spurgat/Waterhouse Residence
3730 Round Top Drive, Honolulu, Hawaii
TMK: 2-5-018:016

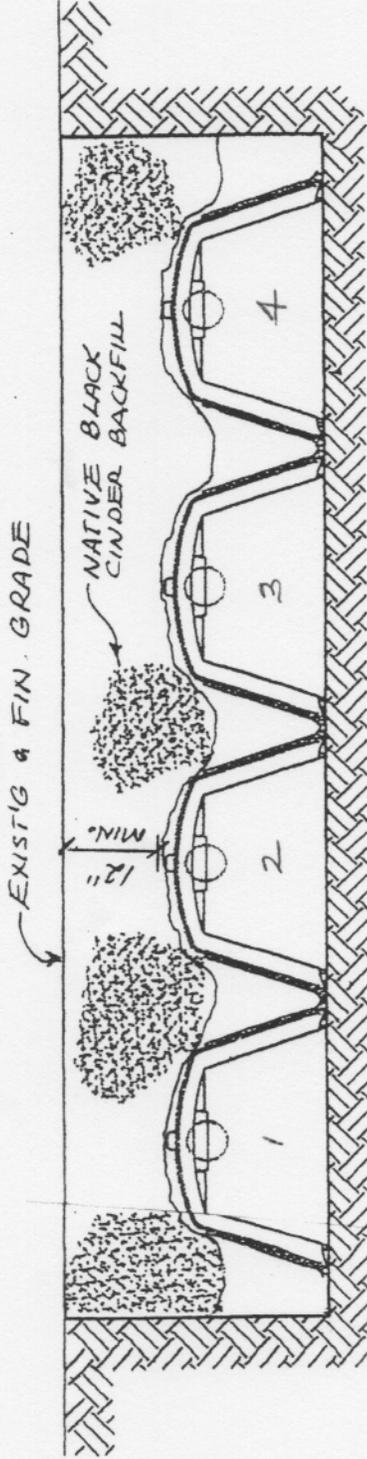
By Inland Designs, LLC

September 24, 2014

January 6, 2015

BioDiffuser® Septic Disposal System Cluster System

N.T.S. (TYP.)



NOTES:

1. EXCAVATE AND LEVEL INSTALLATION AREAS.
2. SCARIFY SURFACE TO REMOVE ANY SMEARING CAUSED DURING EXCAVATION.
3. INSTALL BIODIFFUSER LEACHING CHAMBERS IN ADJACENT ROWS TO COVER DESIRED AREA.
4. INSTALL UNIVERSAL END CAP AND SECURE IN PLACE WITH BACK FILL.
5. INSTALL 4" PIPE TO EACH ROW OF BIODIFFUSER USING KNOCKOUTS PROVIDED IN THE UNIVERSAL END CAPS.
6. ENDS OF ROWS MAY BE CONNECTED WITH PIPING TO IMPROVE DISTRIBUTION.
7. FILL PERIMETER AND INTERIOR SIDEWALL AREAS TO TOP OF CHAMBERS AND WALK INTO PLACE.
8. USING A LIGHT TRACKED MACHINE COVER BIODIFFUSER LEACHING CHAMBERS TO A MINIMUM OF 12" AFTER CONSOLIDATION FOR H-10 APPLICATIONS AND WITH 18" MINIMUM COVER AFTER CONSOLIDATION FOR H-20 APPLICATIONS. AVOID LARGE ROCKS OR DEBRIS IN COVER MATERIAL. A WELL GRADED, CRUSHED GRAVEL AND CAREFUL COMPACTION IS RECOMMENDED FOR H-20 INSTALLATIONS.

ADAM SPURGAT
3730 ROUND TOP DR.
HONOLULU, HI 96822
TMK # 2-5-018 : 016

	REVISIONS	
	BY AWM	DATE 02.20.02
DRAWD BY G.H.S. 3-31-00	APPROVED BY P.X.C. 3-31-00	DRAWING # STD-906

**DEPARTMENT OF HEALTH - WASTEWATER BRANCH
INDIVIDUAL WASTEWATER SYSTEM (IWS) - SITE EVALUATION / PERCOLATION TEST**

Date / Time: 9-24-14 1:30 P.M. Test Performed by: RICHARD CERVINO

Owner: ADAM SPURGAT TMK: (1) 2 - 5 - 018 : 016

Elevation: 70 feet
 Depth to Groundwater Table: 730 feet below grade
 Depth to Bedrock (if observed): _____ feet below grade
 Diameter of Hole: 12 inches
 Depth to Hole Bottom: 3 feet below grade

<u>Depth, inches below grade</u>	<u>Soil Profile (color, texture, other)</u>
<u>0 - 3 FT</u>	<u>DARK REDDISH-BROWN SILTY LOAM, PERMEABILITY IS MODERATELY RAPID, RUN-OFF IS MEDIUM.</u>

PERCOLATION READINGS:

Time 12 inches of water to seep away: 72 minutes
 Time 12 inches of water to seep away: 81 minutes

Check one:

- Percolation tests in sandy soils, recorded time intervals and water drops at least every 10 minutes for at least 1 hour.
- Percolation tests in no-sandy soils, presoaked the test hole for at least 4 hours. Recorded time intervals and water drops at least every 10 minutes for 1 hour of time for the first 6 inches to seep away in greater than 30 minutes record time intervals and water drops at least every 30 minutes for 4 hours or until 2 successive drops do not vary by more than 1/16 inch.

<u>Time Interval</u>	<u>Drop in Inches</u>	<u>Time Interval</u>	<u>Drop in Inches</u>
<u>30 MIN.</u>	<u>3.73</u>	_____	_____
<u>" "</u>	<u>3.62</u>	_____	_____
<u>" "</u>	<u>3.57</u>	_____	_____
<u>" "</u>	<u>3.33</u>	_____	_____
<u>" "</u>	<u>3.33</u>	_____	_____
<u>" "</u>	<u>3.33</u>	_____	_____

Percolation Rate (time/final water level drop): 9 minutes/inches

As the engineer responsible for gathering and providing site information and percolation test results, I attest to the fact that above site information is accurate and that the site evaluation was conducted in accordance with the provisions of Chapter 11-62, "Wastewater Systems" and the results were acceptable. I also attest that three feet of suitable soil exist between the bottom of the soil absorption system and the groundwater table or any other limiting layer.

Roscoe O Ford

 Engineer's Signature/Stamp

10/02/14

 Date



PROJECT DESIGN DATA

1. LOCATION
NO PASS ZONE (NO) (YES)

2. PROJECTED FLOW
NUMBER OF BEDROOMS..... 3-BED
TOTAL DAILY FLOW, GPD..... 600 GPD

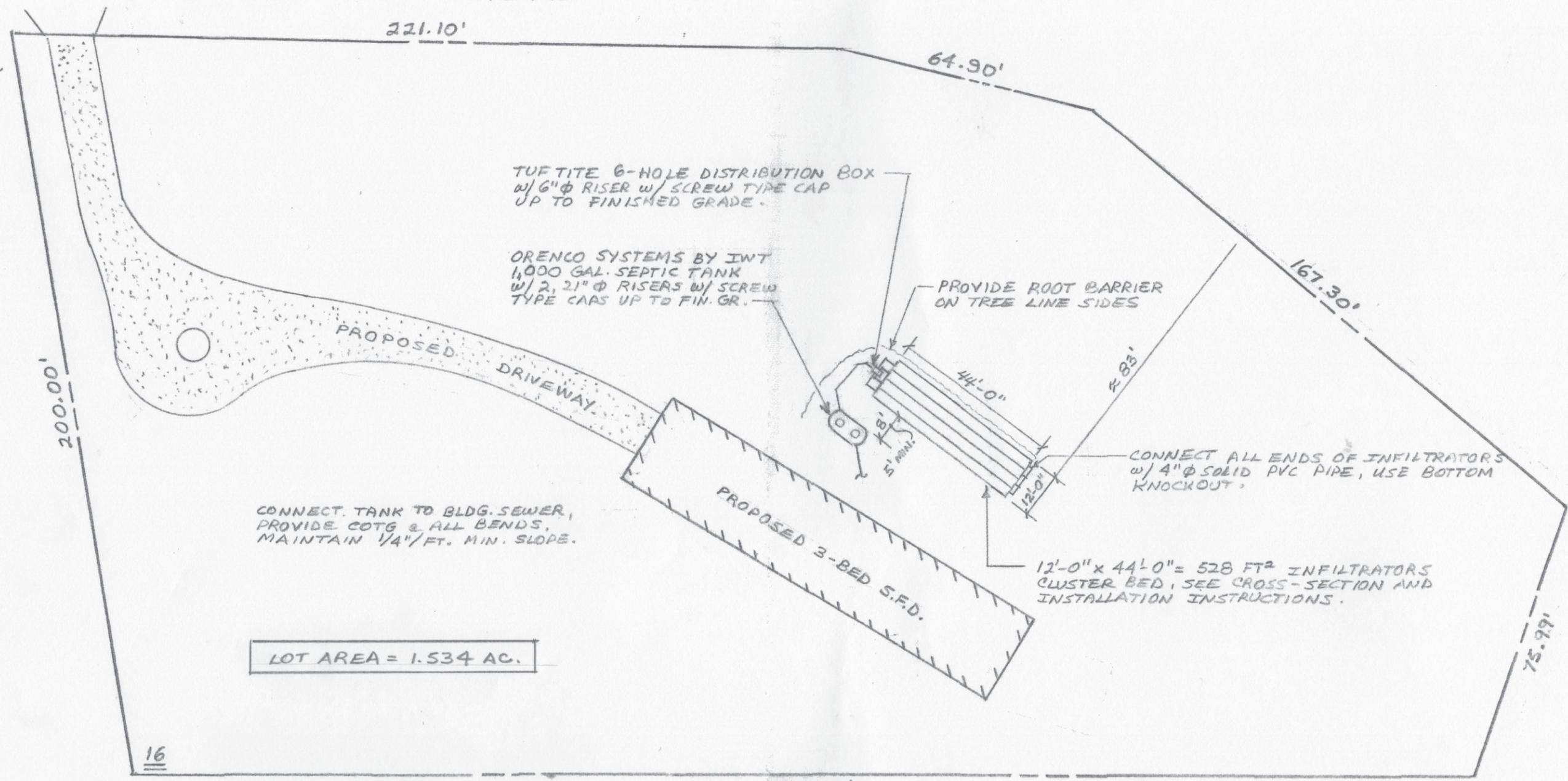
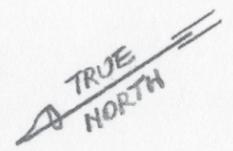
3. SEPTIC TANK (HAWAII ADMINISTRATIVE RULES, TITLE II,
CHAPTER 62, SECTION 33.1(A)(2))
TOTAL GALLONS..... 1,000 GAL.

4. DISPOSAL SYSTEM
PERCOLATION RATE (OBSERVED)(ESTIMATE)..... 9 MIN.
(TIME FOR WATER TO FALL ONE INCH):
REQUIRED ABSORPTION AREA, SQ. FT..... $157 \text{ FT}^2 \times (3) \times (.83) = 391 \text{ FT}^2$
(TABLE 1, MANUAL OF SEPTIC TANK PRACTICES):
REQUIRED LENGTH OF LEACH LINE TRENCH 2 FT. WIDE..... N/A
OR
REQUIRED DEPTH OF ___ FT. DIAMETER SEEPAGE PIT..... N/A
(BELOW INLET PIPE)

5. ABSORPTION AREA PROVIDED:..... A = $\frac{W \times L}{12' \times 44'}$
= $\frac{528 \text{ FT}^2}{528 \text{ FT}^2}$

6. SOIL.....

ROUND TOP DRIVE



LOT AREA = 1.534 AC.

16

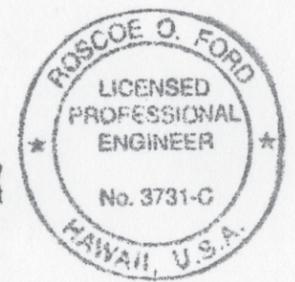
PLOT PLAN
SCALE: 1" = 30'-0"

INDIVIDUAL WASTEWATER SYSTEM

ADAM SPURGAT
3730 ROUND TOP DRIVE
HONOLULU, HI 96822

TMR # 2-5-018:016

DATE: JAN. 06, 2015
DRAWN BY: RICHARD CERVINO
INLAND DESIGNS, LLC



Roscoe O. Ford
This work was prepared by me or under my supervision and construction of this project will be under my observation.
Expires: 4/30/16

SP-1