

State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Boating and Ocean Recreation
Honolulu, Hawaii 96819

May 12, 2017

Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Hawai'i

**Installation and Modification of Existing Offshore Mooring and
Declare Project Exempt From Requirements of Chapter 343, HRS, and Title 11,
Chapter 200, Hawaii Administrative Rules for
Sea Paradise Scuba, Inc. (Vessel: Sea Paradise)
Keauhou Bay, Island of Hawaii, Hawaii**

The Division of Boating and Ocean Recreation (DOBOR) is requesting that the Board of Land and Natural Resources (Board) approve the installation and modification an existing permanent offshore mooring to the subject permittee and declare installation and modification of the mooring exempt from the requirements of Hawaii Revised Statutes, Chapter 343 to prepare an Environmental Assessment (EA), due to the use of submerged State land and the proposed offshore mooring being located within the basin of Keauhou Bay Small Boat Harbor.

The applicant, Richard Kersten, is the owner of the subject company and vessel and is requesting approval for the installation and modification of an existing offshore mooring within the basin of Keauhou Bay Small Boat Harbor. The modification of the existing mooring involves the installation of a Manta Ray type mooring anchors to strengthen the existing mooring anchor system for the vessel. See Exhibit B attached for details on the mooring installation and modification.

In accordance with Hawaii Administrative Rule (HAR) Section 11-200-8(A) and the Exemption List for the Department of Land and Natural Resources (DLNR), approved by the Environmental Council, on June 5, 2015, it has been determined that the installation and modification of the existing mooring is exempt from the preparation of an EA pursuant to the following exemptions:

Item No. 13 of Exemption Class 6: "Placement or construction of accessory structures such as...mooring buoys, blocks, and piles, and other similar structures accessory to existing facilities on state land and waters."

Pursuant to Chapter 343, HRS, and Chapter 11-200, HAR, the attached Exemption Notification labeled Exhibit A was prepared. Also attached is the applicant's request for installation of the mooring and EA Exemption approval, approved Mooring Installation Plan, and the U.S. Army Corps of Engineers Nationwide Permit No. 3 (Maintenance) Verification Letter authorizing installation of the mooring in navigable waters of the U.S., labeled Exhibit B.

RECOMMENDATION:

Approve the installation and modification of the existing offshore mooring within Keauhou Bay and declare that, after considering the potential effects of the installed mooring as provided by Chapter 343, HRS, and Chapter 11-200, HAR, this project will probably have minimal or no significant effect on the environment and is therefore exempt from the preparation of an environmental assessment.

Respectfully Submitted,



EDWARD R. UNDERWOOD
Administrator

Approved for Submittal:



SUZANNE D. CASE
Chairperson

Attachments: Exhibit A – Exemption Notification
Exhibit B – Applicant’s request for approval of mooring
installation and modification, EA Exemption, approved Mooring
Installation Plans, and Nationwide Permit Verification Letter from
Army Corps of Engineers



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

May 12, 2017

SUZANNE D. CASE
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

KEKOA KALUHIWA
FIRST DEPUTY

JEFFREY T. PEARSON
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAIKOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

EXEMPTION NOTIFICATION

Regarding the preparation of an environmental assessment pursuant to Chapter 343, Hawaii Revised Statutes (HRS), and Chapter 11-200, Hawaii Administrative Rules (HAR).

Project Title:	Installation and modification of an existing offshore mooring for Sea Paradise Scuba, Inc. (Vessel Name: Sea Paradise), Keauhou Bay, Island of Hawaii, Hawaii
Project Number:	None
Project Description:	Installation and modification of an existing offshore mooring.
Chapter 343 Trigger(s)	Use of State Lands (submerged)
Exemption Class & Description:	Exemption Authority: Exemption List for the Department of Land and Natural Resources approved by the Environmental Council on June 5, 2015. Scope of Work: Installation of offshore mooring. Exemption Class 6: Construction or placement of minor structures accessory to existing facilities.
Exemption Item Number and Description:	Item No. 13 of Class 6: Placement or construction of accessory structures such as utility sheds, storage or maintenance sheds, office trailers, trash enclosures, comfort stations or sanitation facilities and related individual wastewater disposal systems, bus shelters, pavilions or picnic shelters, parking and fee collection facilities, checking stations, interpretive kiosks and displays, dock boxes, mooring cleats, bumpers, and mooring buoys, blocks and piles, and other similar structures accessory to existing facilities on state lands or waters.
Consultation:	The following agencies/entities were consulted, see attached records of consultation. <ul style="list-style-type: none"> • U.S. Army Corps of Engineers, Honolulu District • Keauhou Canoe Club • State of Hawaii, Office of Planning, Coastal Zone Management Program Office
Recommendation:	It is anticipated this project will have minimal or no significant effect on the environment and is presumed to be exempt from the preparation of an environmental assessment

Suzanne D. Case, Chairperson

4/28/17
Date

From: Nakagawa, John D john.d.nakagawa@hawaii.gov
Subject: RE: POH-2017-00029 Final NWP 3 for Sea Paradise Keauhou Bay Mooring
Date: March 20, 2017 at 8:42 AM
To: Richard Kersten rich@seaparadise.com
Cc: Lum, Darryl C darryl.lum@doh.hawaii.gov, McCall, Finn D finn.d.mccall@hawaii.gov, Frager, Rebecca M CIV USARMY CEPOH (US) Rebecca.M.Frager@usace.army.mil, Chen, Edward edward.chen@doh.hawaii.gov



Mr. Frager:

With the Corps of Engineers authorization of your existing mooring maintenance/replacement at Keauhou Bay under Nationwide Permit No. 3, you do NOT have to submit an application for CZM federal consistency review. Previously, the Corps had not yet determined that your mooring would be authorized under NWP3, and that is why we were in discussion about CZM federal consistency requirements. The Hawaii CZM Program previously issued concurrence for NWP3 on March 16, 2012.

John Nakagawa
Hawaii Coastal Zone Management (CZM) Program
Email: john.d.nakagawa@hawaii.gov
Phone: (808) 587-2878

-----Original Message-----

From: Frager, Rebecca M CIV USARMY CEPOH (US) [<mailto:Rebecca.M.Frager@usace.army.mil>]
Sent: Monday, March 20, 2017 8:18 AM
To: Richard Kersten <rich@seaparadise.com>
Cc: nicolas.A.Jarboe@uscg.mil; Jason.R.Olney@uscg.mil; Lum, Darryl C <darryl.lum@doh.hawaii.gov>; jnakagaw@dbedt.hawaii.gov; McCall, Finn D <finn.d.mccall@hawaii.gov>
Subject: RE: POH-2017-00029 Final NWP 3 for Sea Paradise Keauhou Bay Mooring

I just realized that the final verification did not get attached to the last email, only the enclosures. I suppose you will want a record of that too! Happy Monday.

Becca Frager
Biologist
U.S. Army Corps of Engineers
Honolulu District Regulatory Office
Building 230
Fort Shafter, HI 96858-5440
808-835-4307

-----Original Message-----

From: Frager, Rebecca M CIV USARMY CEPOH (US)
Sent: Friday, March 17, 2017 4:05 PM
To: 'Richard Kersten' <rich@seaparadise.com>
Cc: 'nicolas.A.Jarboe@uscg.mil' <nicolas.A.Jarboe@uscg.mil>; 'Jason.R.Olney@uscg.mil' <Jason.R.Olney@uscg.mil>; Lum, Darryl C <darryl.lum@doh.hawaii.gov>; 'jnakagaw@dbedt.hawaii.gov' <jnakagaw@dbedt.hawaii.gov>; 'finn.d.mccall@hawaii.gov' <finn.d.mccall@hawaii.gov>
Subject: POH-2017-00029 Final NWP 3 for Sea Paradise Keauhou Bay Mooring

Dear Mr. Kersten,

The U.S. Army Corps of Engineers, Honolulu District, has completed its review of your request for authorization dated January 3, 2017 for the proposed maintenance of the Sea Paradise Keauhou Bay Mooring, Kailua Kona, Hawaii (center coordinates: Latitude: 19.5619, Longitude: -155.9633). This office has verified that your proposed activity complies with the terms and conditions of Nationwide Permit 3 (NWP-3), Maintenance, and the overall NWP Program issued on March 17, 2012.

Please read the enclosed documents carefully. You will see that this verification expires on March 18, 2017. This is because all of the existing NWPs are scheduled to be modified, reissued, or revoked on this date and I cannot authorize any activity beyond this date. However, with this permit verification, you will have twelve (12) months from the date of the modification or revocation of the NWPs to complete the activity under the present terms and condition of these nationwide permits.

The Honolulu District Regulatory Office is digitally transmitting the attached document for your convenience. Please retain the document for your records. If you require a hard copy mailed to you, please notify me at your earliest convenience.

The Regulatory Office is committed to providing the highest level of customer service. I value your comments and appreciate you contacting me if you have any comments/ concerns regarding this permit verification and/or my customer service.

Sincerely

Secretary,

Becca Frager
Biologist
U.S. Army Corps of Engineers
Honolulu District Regulatory Office
Building 230
Fort Shafter, HI 96858-5440
808-835-4307



*Sailing & Snorkeling Tours
Manta Night Snorkeling
Private Charters*

Request for Exemption from Requirement for Preparation of Environmental Assessment for and Approval for the Installation and Modification of an Existing Offshore Mooring within Keauhou Bay, Kailua Kona on the Island of Hawaii

Submitted in compliance with Hawaii Revised Status Chapter 343 and HAR §§11-200-8; 11-200-8(b)

Submitted to:

Board of Land & Natural Resources, State of Hawaii, Department of Land & Natural Resources (DLNR) Division of Boating and Ocean Recreation, 4 Sand Island Access Road, Honolulu, HI 96819
Email: finn.d.mccall@hawaii.gov Phone: (808) 587-3520

Submitted by:

Richard Kersten, President Sea Paradise Scuba Inc. Email rich@seaparadise.com Ph. 808-895-0003

Request:

Richard Kersten (hereinafter referred to as "Petitioner") requests approval for installation and modification of an existing offshore mooring within Keauhou Bay and exemption from requirement for environmental assessment report associated with the proposed mooring installation, as the proposed mooring will have little to no environmental impact, as discussed herein below:

Reasoning and Justification for Request

Environmental Assessment Exemption

- 1) The reason for the Environmental Assessment is due to the use of State submerged lands
- 2) Petitioner requests exemption from requirement for environmental assessment report associated with the proposed mooring installation, as the proposed installation will have little or no impact on the environment in the proposed location.
- 3) The current exemption list for the Department of Land and Natural Resources data June 5, 2015 provides as follows under Exemption Class 6:

"13. Placement or construction of accessory structures such as...mooring, cleats, bumpers, and mooring buoys, blocks and piles, and other similar structures accessory to existing facilities on state land and waters."

Project Description -

Installation of a private offshore mooring buoy in the Keauhou Bay, Kailua Kona HI.



*Sailing & Snorkeling Tours
Manta Night Snorkeling
Private Charters*

Technical Description of Proposed Installation –

The modification of the mooring will be the installation of an additional anchor immediately adjacent the existing mooring anchor. MANTA RAY anchor, a patented labor and time saving device, will be driven into the ground with no holes, no digging, and no concrete. Unlike other anchoring systems, the MANTA RAY actually compacts the soil around itself providing a safe and environmentally sensitive installation. MANTA RAY anchors are driven with conventional hydraulic/pneumatic equipment that is readily available worldwide. Once driven to the proper depth, an upward pull on the anchor tendon rotates the MANTA RAY into a perpendicular "anchor lock" position in undisturbed soil. The mooring anchor will be installed by "Malama Kai Foundation", in accordance with the attached Army Corps of Engineers permit.

Location of Proposed Installation –

The proposed mooring buoy would be located at center coordinates: Latitude: 19 degrees 33.7017'N & 155 degrees 57.79933'W. The location is approximately 440 feet from the nearest shore.

Purpose of Proposed Installation –

The proposed mooring will be used by the Petitioner solely for the purpose of mooring a sailboat for commercial purposes.

Impact on Coastal Ecosystems –

NEGLIGIBLE The proposed mooring site is 440ft from the nearest shore and is not within the Special Management Area or Shoreline Setback Area, nor is the site within a State Conservation District. This site does not provide habitat for any known endangered species of plants, birds, or mammals. The site is not within, and does not border any National Area Reserve, Marine Conservation District, or estuary. The site is not on or close to any reef or coral colonies. No material will be placed or discharged in the project area. A MANTA RAY anchor will be utilized in order to protect the natural resources in the area. The MANTA RAY anchor is an environmentally friendly anchor system that installs easily under water with conventional equipment. No dredge or fill activities will be involved in the installation of the MANTA RAY mooring anchor. The mooring will be placed within an existing designated DLNR "Offshore" mooring area.

Impact on Marine Resources –

NONE The proposed mooring does not involve or affect the use or development of any marine or coastal resources.

Impact on Historic Resources –

NONE The project site is not within a designated historic or cultural district and has not been listed or nominated for the Hawaii or National Register of Historic Places. The proposed project site contains no known historic or archeological resources and is not within or adjacent to any Hawaiian fishpond or historic settlement area.

Impact on Scenic and Open Space Resources –

NEGLIGIBLE A , a sailboat will be located at the proposed mooring location and will be visible. The mooring ball will be visible floating on the surface of the water.

Enclosure: As Stated.



DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, U.S. ARMY CORPS OF ENGINEERS
FORT SHAFTER, HAWAII 96858-5440

March 17, 2017

SUBJECT: Nationwide Permit Verification for Sea Paradise Keauhou Bay Mooring,
Kailua Kona, Hawaii; DA File No. POH-2017-00029

Richard Kersten
Sea Paradise Scuba, Inc.
PO Box 390159
Keauhou, HI 96739

Dear Mr. Kersten:

The U.S. Army Corps of Engineers, Honolulu District, has completed its review of your request for authorization dated February 1, 2017 for the proposed maintenance/replacement of the Sea Paradise Mooring located in Keauhou Bay, Kailua Kona, Hawaii (Center Coordinates: Latitude: 19.5619; Longitude: -155.9633). This office has verified that your proposed activity complies with the terms and conditions of Nationwide Permit 3 (NWP-3), *Maintenance*, and the overall NWP Program issued on March 17, 2012. Please reference Department of the Army (DA) file number POH-2017-00029 in any future correspondence relating to this permit.

This NWP verification is being issued pursuant to Section 10 of the Rivers and Harbors Act of 1899 (Section 10) and authorizes the following work as described below and as depicted on the enclosed drawings (Enclosure 1):

This project will involve the maintenance/replacement of the existing Sea Paradise commercial mooring. The proposed work includes using a hydraulic hammer to install a manta anchor, which is a "spade" type of anchor, 7-8 feet into the sea floor, 14 feet below the ocean surface, in an area with a sandy bottom. The mooring consists of a float connected to an anchor with a 20-foot long section of ¾-inch galvanized "Campbell" dock fender chain. The anchor attaches to the chain with a ¾-inch galvanized bolt anchor shackle with seizing wire. One 21-inch diameter midline buoy is attached to the chain. Below the top float are two ¾-inch galvanized bolt anchor shackles attached by a 7/8-inch forged eye-eye swivel, which also has a 20-foot long section of 1¼-inch double braided nylon rope with two eye splices attached.

After the installation of the manta anchor, the old chain will be removed from around the boulder it is currently attached to.

In order for this NWP authorization to be valid, you must ensure that the work is performed in accordance with the *Nationwide Permit General Conditions* and the *Honolulu District Regional Conditions* (Enclosure 2), and the following project-specific special conditions:

a. Incidents where any individuals of Green Sea Turtle (*Chelonia mydas*), Hawksbill Turtle (*Eretmochelys imbricata*), Humpback Whale, (*Megaptera novaeangliae*), Loggerhead Sea Turtle (*Caretta caretta*), Hawaiian Monk Seal, (*Monachus schauinslandi*) listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this NWP shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Office of the Honolulu District of the U.S. Army Corps of Engineers at (808) 835-4303. The finder should leave the animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed discharge exposure or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measurements to ensure that evidence intrinsic to the specimen is preserved.

b. For compliance with Section 7 of the Endangered Species Act: You must comply with the attached Pacific Standard Local Operating Procedure for Endangered Species (Pac-SLOPES) general conditions, special conditions, and activity-specific best management practices (BMPs) to avoid effects to threatened or endangered marine species (Enclosure 3).

c. For compliance with Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and to ensure adverse effects to essential fish habitat (EFH) are minimal, you must implement the following conservation measures:

(1) You should anchor all support vessels and install the manta anchors only in sandy areas devoid of corals, seagrass and Halimeda algae, with enough buffer to avoid indirect impacts from installation activities (i.e. increased turbidity), and to ensure sufficient mooring chain travel.

(2) You should remove existing chains without adverse effects to sensitive and hard-to-replace EFH resources, especially corals that have attached to the chains.

(3) You should have a long term maintenance plan for each mooring and buoy to ensure its integrity. Once it is no longer needed, you are responsible for removing all components of the mooring buoy to ensure that it does not become marine debris. This will avoid impacts to nearby resources from broken and derelict buoys and vessels.

(4) You should avoid discharge of pollutants from moored vessels into the marine environment. This will avoid a contribution to reduced water quality of the water column EFH in the area.

d. You may conduct maintenance, repair and/or replacement of the existing mooring gear (i.e. chains, ropes, floats, shackles, etc.), as deemed necessary, without obtaining any additional written authorization from this office. Although written authorization is not required from this office for maintenance activities associated with

this existing mooring, we recommend use of best management practices (BMPs) to avoid and minimize adverse impacts to aquatic resources.

The State of Hawaii Department of Business, Economic Development and Tourism, Office of Planning issued a Coastal Zone Management consistency general concurrence for the 2012 NWP's on March 16, 2012, so no additional authorization is required.

This verification is valid until the NWP's are modified, reissued, or revoked. All of the existing NWP's are scheduled to be modified, reissued, or revoked prior to March 18, 2017. It is incumbent upon you to remain informed of changes to the NWP's. We will issue a public notice when the NWP's are reissued. Furthermore, if you commence or are under contract to commence this activity before the date that the relevant nationwide permits are modified or revoked, you will have twelve (12) months from the date of the modification or revocation of the NWP's to complete the activity under the present terms and conditions of these nationwide permits. Failure to comply with all terms and conditions of this NWP verification invalidates this authorization and could result in a violation of Section 10 and subsequent enforcement action. This authorization does not relieve you of the responsibility to obtain any other Federal, State, and/or local authorizations required by law.

Finally, General Condition #30 requires a signed certification be submitted to this office upon completion of work. Therefore, please sign, date and return the enclosed *Compliance Certification* form (Enclosure 4) within seven (7) days of completion of work to CEPOH-RO@usace.army.mil or to Rebecca.M.Frager@usace.army.mil.

Thank you for your cooperation with the Honolulu District Regulatory Program. Should you have any questions related to this determination, please contact Becca Frager of my staff via telephone at (808) 835-4307 or via e-mail at Rebecca.M.Frager@usace.army.mil. You are encouraged to provide comments on your experience with the Honolulu District Regulatory Office by accessing our web-based customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=136:4:0.

Sincerely,

Tunis W. McElwain
Chief, Regulatory Branch

Enclosure(s)

cc:
Mr. Nicolas Jarboe, USCG
Mr. Jason Olney, USCG

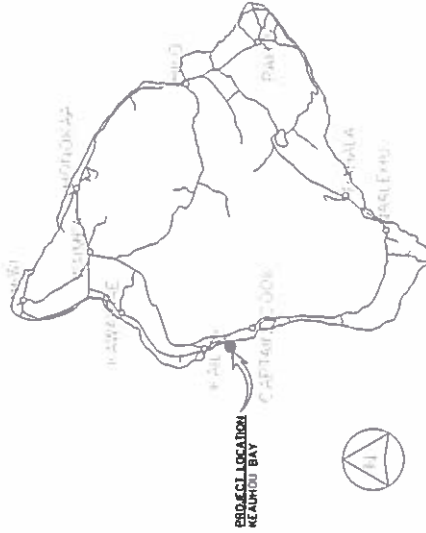
Mr. Darryl Lum, State of Hawaii Department of Health, Clean Water Branch (DOH-CWB)

Mr. John Nakagawa, State of Hawaii DBEDT Office of Planning

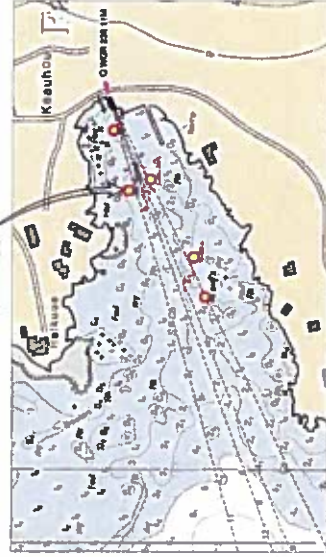
Mr. Finn McCall, State of Hawaii, DLNR-DOBOR

OFFSHORE MOORING - KEAUHOU BAY FOR RICHARD KERSTEN - SEA PARADISE

GPS COORDINATES OF MOORING : 19°33.7017'N, 155°57.7933'W
APPROXIMATE WATER DEPTH : 14'



VICINITY MAP



LOCATION MAP

INDEX TO DRAWINGS

SHEET NUMBER	DRAWING NUMBER	DESCRIPTION
1	T-1	TITLE, INDEX TO DRAWINGS, AND VICINITY MAP
2	S-1	MOORING NOTES AND ELEVATION
3	S-2	MOORING ELEVATION AND PLAN

PHREE CREATIONS, LLC.
61-555 KAMEHAMEHA HIGHWAY
HALENA, HAWAII 96712 • (808) 319-4990



R. Kersten
RICHARD KERSTEN
REGISTERED PROFESSIONAL ENGINEER
STATE OF HAWAII
LICENSE NO. 10000

GENERAL NOTES
1. CONTRACTOR SHALL VERIFY ALL DATA AND INFORMATION AND BE RESPONSIBLE FOR THE ACCURACY OF THE DATA AND INFORMATION.
2. CONTRACTOR SHALL VERIFY ALL DATA AND INFORMATION AND BE RESPONSIBLE FOR THE ACCURACY OF THE DATA AND INFORMATION.
3. CONTRACTOR SHALL VERIFY ALL DATA AND INFORMATION AND BE RESPONSIBLE FOR THE ACCURACY OF THE DATA AND INFORMATION.
4. CONTRACTOR SHALL VERIFY ALL DATA AND INFORMATION AND BE RESPONSIBLE FOR THE ACCURACY OF THE DATA AND INFORMATION.

REVISION: _____ DATE: _____ DESCRIPTION: _____

PROPOSED PROJECT
OFFSHORE MOORING
KEAUHOU BAY
FOR

RICHARD KERSTEN
SEA PARADISE
78-6831 ALB DRIVE STE. 144
KAILUA POINT, HI 96740
PHONE: (808) 893-0003
GPS COORDINATES: 19°33.7017'N
155°57.7933'W

SHEET TITLE
TITLE SHEET

DWG NO: 2015-0007.23 DRAWING NO
DATE: DEC 29, 2016 SHEET: 1 OF 3

**Department of Land and Natural Resources
Division of Boating and Ocean Recreation
PLAN REVIEW:**

- Approved
- Rejected
- Approved, as noted
- Revise & Resubmit

By: *[Signature]* Date: 1/9/17

Corrections, comments or approval of plans shall not relieve the contractor from other local, state, federal or other agency regulations or permit conditions. This review is for general conformance with engineering design guidelines. The contractor is responsible for confirming all dimensions, quantities, fabrication requirements, and coordination with all other trades.

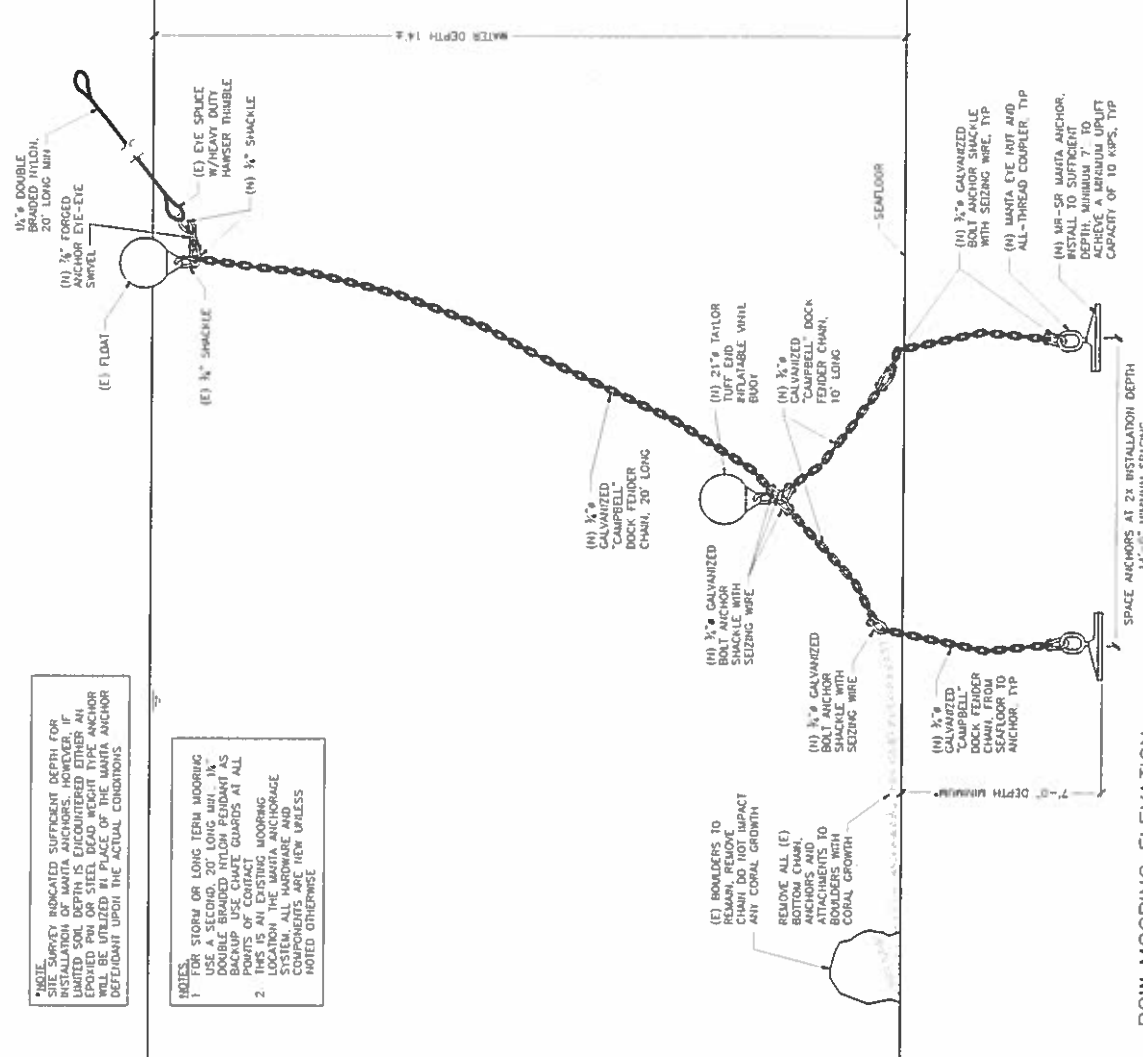


GENERAL NOTES
Contractor shall verify all field measurements and verify field conditions before installation of mooring hardware. If discrepancies are noted, the contractor shall report to the engineer immediately. The contractor shall provide a copy of the field report to the engineer. The contractor shall maintain a log of all field measurements and conditions. The contractor shall provide a copy of the log to the engineer. The contractor shall provide a copy of the log to the engineer.

REVISION NO. • DATE • DESCRIPTION
PROJECT
PROPOSED
OFFSHORE MOORING
KEAHOHU BAY
FOR
RICHARD KERSTEN
SEA PARADISE
79-6831 ALB DRIVE STE. 144
HALONA, HAWAII 96740
PHONE: (808) 695-0003
GPS COORDINATES 19.337017N
155.577933W

**MOORING NOTES
AND ELEVATION**

SHEET TITLE
DRAWING NO. 2015-0007.78
DATE: DEC. 28, 2016
SHEET 2 OF 3



***NOTE:**
THE SURVEY INDICATED SUFFICIENT DEPTH FOR INSTALLATION OF MANITA ANCHORS. HOWEVER, IF INSUFFICIENT DEPTH IS DETERMINED, THE ANCHOR WILL BE UTILIZED IN PLACE OF THE MANITA ANCHOR DEFENDANT UPON THE ACTUAL CONDITIONS.

NOTES:
1. FOR STORM OR LONG TERM MOORING USE A SECOND, 20' LONG NYLON, 1/2" DOUBLE BRAIDED NYLON FEEDER AS BACKUP GUARDS AT ALL POINTS OF CONTACT.
2. THIS IS AN EXISTING MOORING LOCATION. THE MANITA ANCHORAGE COMPONENTS ARE NEW UNLESS NOTED OTHERWISE.

(E) BOWHEADS TO REMAIN REMOVE CHAIN DO NOT IMPACT ANY CORAL GROWTH
REMOVE ALL (E) ANCHORS AND ATTACHMENTS TO BOWHEADS WITH CORAL GROWTH

BOW MOORING ELEVATION
NOT TO SCALE

GENERAL

- WORKMANSHIP AND MATERIALS SHALL CONFORM TO THE BUILDING CODE AS STATED BELOW. HOWEVER, WHERE REFERENCE IS MADE TO THE BUILDING CODE, THE MORE STRINGENT SHALL APPLY.
- COUNTY OF HAWAII AMENDED IBC, 2006
- THE CONTRACTOR SHALL TAKE FIELD MEASUREMENTS AND VERIFY FIELD CONDITIONS BEFORE INSTALLATION OF MOORING HARDWARE. IF DISCREPANCIES ARE NOTED, THE CONTRACTOR SHALL REPORT TO THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL MAINTAIN A LOG OF ALL FIELD MEASUREMENTS AND CONDITIONS. THE CONTRACTOR SHALL PROVIDE A COPY OF THE LOG TO THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR METHODS OF CONSTRUCTION, WORKMANSHIP AND JOB SAFETY.
- DETAILS NOTED AS TYPICAL ON THE STRUCTURAL DRAWINGS SHALL APPLY IN ALL CONDITIONS UNLESS SPECIFICALLY SHOWN OR NOTED OTHERWISE.
- PRODUCT DATA REQUIRED BY THESE NOTES SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION.

DESIGN CRITERIA

- MINIMUM DESIGN CRITERIA FOR MOORING IN ACCORDANCE WITH UFC 4-159-03 FOR BOW MOORING
- WIND DESIGN DATA
 - BASIC WIND SPEED: 105 MPH
- CURRENT
 - MAX CURRENT: 2 KNOTS
- WAVES AND TIDAL VARIATIONS
 - PEAK WAVE HEIGHT: 6 FEET

DESIGN VESSEL: SEA PARADISE

- LOAD: 55'-0"
- BEAM: 26'-0"
- DRAFT: 6'-0" MAX
- WEIGHT: 26 TONS

*MOORING IS DESIGNED FOR DESIGN VESSEL ONLY, ANY CHANGE IN MOORED VESSEL REQUIRES RE-ANALYSIS

EARTH ANCHORS:

- SELECTION OF ANCHOR TYPE SHALL BE BASED UPON SURVEY SITE AND SOIL PROPERTIES TO MINIMUM DEPTH OF 10' AT PROPOSED ANCHOR LOCATION. CONTRACTOR SHALL PROVIDE RESULTS OF SURVEY, SOIL PROPERTIES, AND PROPOSED ANCHOR TYPE TO ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
- INSTALL ANCHORS PER MANUFACTURER'S INSTRUCTIONS. PROVIDE TEST TO MINIMUM UP-LIFT CAPACITY STATED ON DESIGN DRAWINGS. SUBMIT DOCUMENTATION OF PROOF LOAD TESTING TO ENGINEER FOLLOWING INSTALLATION.
- MANITA ANCHORS SHALL NOT BE INSTALLED IN LOCATIONS WHERE SHIFTING SAND MAY RESULT IN REDUCED SOIL COVER OVER ANCHOR HEAD.

CHAIN, HARDWARE, ROPE, AND MOORING COMPONENTS

- ALL CHAIN AND HARDWARE SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A153
- TRIMBLE OR CHAVE GUARDS SHALL BE USED WITH ROPES AT ALL POINTS OF CONTACT
- SUBMIT PRODUCT DATA OF ALL CHAINS, HARDWARE, ROPE AND MOORING COMPONENTS TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION

MOORING HARDWARE, MAINTENANCE AND INSPECTION

- THE VESSEL OWNER SHALL BE RESPONSIBLE FOR MAINTAINING THE VESSEL'S MOORING SYSTEM AND INSPECTING FOR DAMAGE RESULTING FROM NORMAL USE. THE OWNER SHALL BE RESPONSIBLE FOR REPAIRING DAMAGE RESULTING FROM NORMAL USE. THE OWNER SHALL BE RESPONSIBLE FOR THE VESSEL OWNER.
- THE VESSEL OWNER SHALL INSPECT ALL MOORING HARDWARE, ROPES, AND CHAINS FROM SEA FLOOR TO PENNANT FOR SAFETY AND SECURITY NO LESS THAN TWO TIMES PER YEAR. INSPECTION REPORT/RECORDS SHALL BE KEPT BY VESSEL OWNER.
- THE VESSEL OWNER IS RESPONSIBLE FOR INSTALLING AND MAINTAINING CHAFING GEAR ON ALL MOORING LINES

PHREE CREATIONS, LLC.
 61-655 KALEMACHUA HIGHWAY
 HALLEMA, HAWAII 96712 • (808) 319-4890



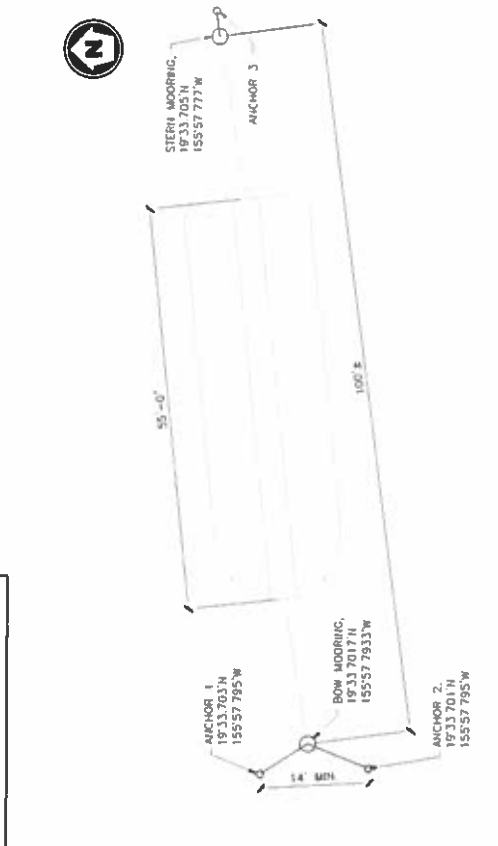
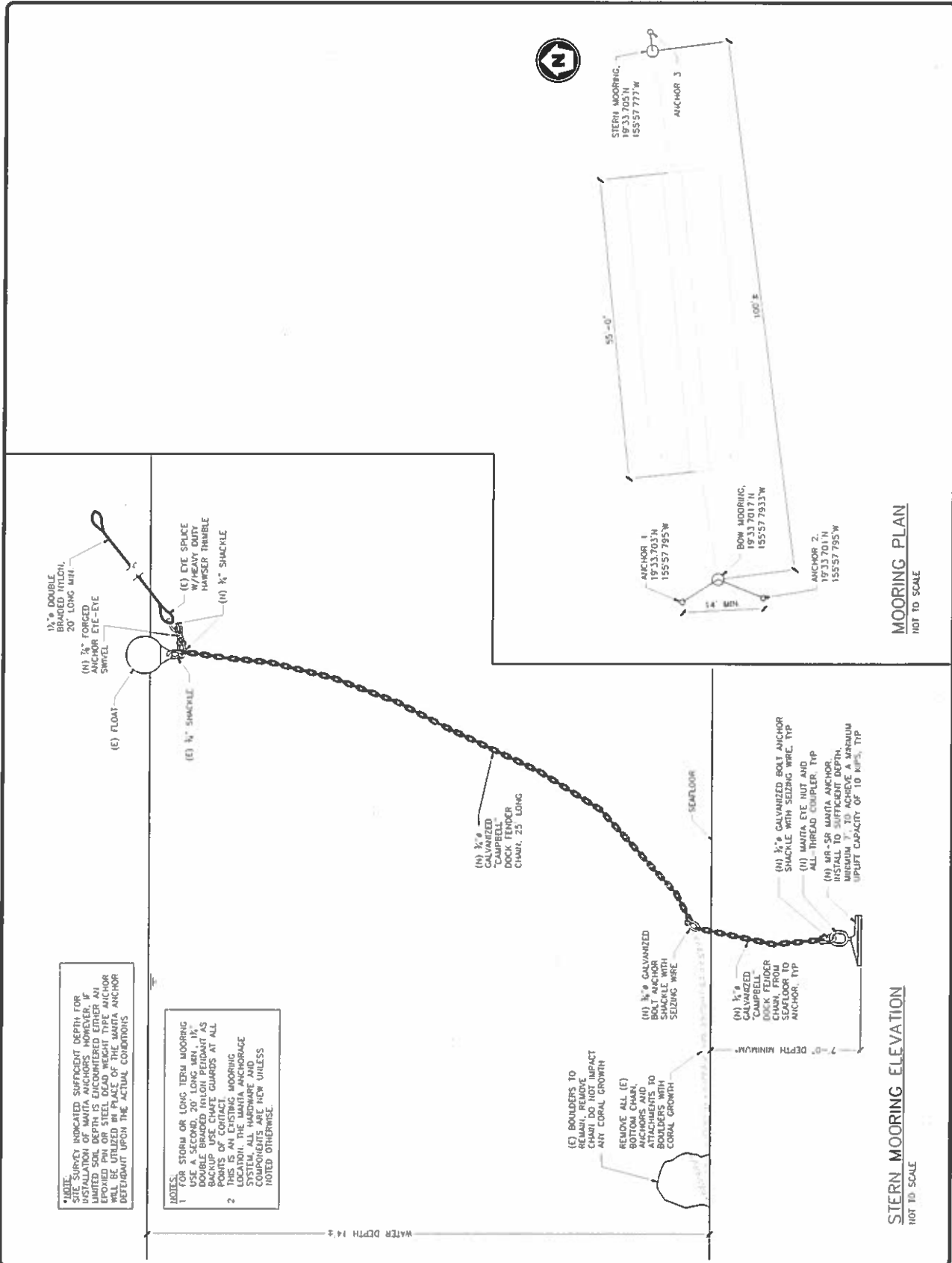
Phree Creations, LLC
 PROJECT ENGINEER
 PHREE CREATIONS, LLC
 61-655 KALEMACHUA HIGHWAY
 HALLEMA, HAWAII 96712

GENERAL NOTES
 1. CONSULT THE HAWAIIAN ENGINEERING BOARD FOR ANY REQUIREMENTS THAT MAY APPLY TO THIS PROJECT.
 2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.
 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

REVISION MARK • DATE • DESCRIPTION
 PROPOSED
 OFFSHORE MOORING
 KEANOHOU BAY
 FOR
RICHARD KERSTEN
 SEA PARADISE
 79-6831 ALB DRIVE STE. 144
 KAILUA KOHA, HI 96740
 PHONE (808) 695-0003
 GPS COORDINATES 19°33'70.17"N
 155°57'79.33"W

MOORING ELEVATION AND PLAN

SHEET TITLE
 208 NO. 2015-0007.23 DRAWING NO.
 DESIGNED: JAM
 CHECKED: JAM
 DATE: DEC. 29, 2016
S-2
 SHEET 1 OF 1



***NOTE:**
 SITE SURVEY INDICATED SUFFICIENT DEPTH FOR INSTALLATION OF MANITA ANCHORS. HOWEVER, IF THE SURVEY DEPTH IS FOUND TO BE INSUFFICIENT, ANCHORS WILL BE UTILIZED BY PLACE OF THE MANITA ANCHOR DETERMINED UPON THE ACTUAL CONDITIONS.

- NOTES:**
- FOR STORM OR LONG TERM MOORING USE A SECOND, 20' LONG MIN., 1 1/2\"/>
 - THIS IS AN EXISTING MOORING LOCATION. THE MANITA ANCHORAGE COMPONENTS ARE NEW UNLESS NOTED OTHERWISE.

(E) BOULDERS TO BE REMOVED FROM CHAIR DO NOT IMPACT ANY CORAL GROWTH

(U) 3/8\"/>

(N) 3/8\"/>

(N) 3/8\"/>

MOORING PLAN
 NOT TO SCALE

STERN MOORING ELEVATION
 NOT TO SCALE