CALIFORNIA COASTAL COMMISSION
NORTH COAST DISTRICT OFFICE
1385 EIGHTH STREET • SUITE 130
ARCATA, CA 95521
VOICE (707) 826-8950
FAX (707) 826-8960

W14b

Filed:	9/6/16
180th day:	3/5/17
Staff:	C. Kenyon-A
Staff Report:	9/16/16
Hearing Date:	10/5/16

STAFF REPORT: REGULAR CALENDAR

Application No.:	**1-16-0278**
Applicant:	**Noyo Harbor District**
Agent:	SHN Consulting Engineers and Geologists, lnc.
Location:	The Harbor District boat launch at the terminus of South Harbor Drive on the Noyo River and the adjacent parking lot between South Harbor Drive and Basin Street (APNs 018-240-26; 018-240-22; and 018-250-19).
Project Description:	Reconstruction of the Noyo River Boat Launch Facility and associated eelgrass monitoring and wetland fill mitigation.
Staff Recommendation:	Approval with conditions.

SUMMARY OF STAFF RECOMMENDATION

Commission staff recommends approval of Coastal Development Permit (CDP) Permit Application 1-16-0278 with conditions.

The Noyo Harbor District is proposing to reconstruct the Noyo River Boat Launch Facility located at the terminus of South Harbor Drive on the Noyo River estuary, just south of Fort Bragg in Mendocino County. Proposed development includes replacement of the existing boat launch ramp and boarding float, resurfacing of the existing parking lot with permeable pavement,

installation of a restroom in the parking lot, construction of an ADA-compliant path from the parking lot to the boat launch, and installation of directional and education signage.

The proposed project will replace an existing, deteriorated public boat launch facility with a new ADA-compliant facility that meets current California Department of Boating and Waterways (DBW) guidelines for small craft boat launching facilities. The replacement boat launch will result in approximately 341 square feet of additional area of fill in the Noyo River estuary for the longer ramp covering more mudflat area, and the placement of a small amount of rock slope protection and sheet pile fill along the edges of the ramp to protect the facility against erosion. To mitigate for the additional fill, the Harbor District proposes to remove at least 341 square feet of debris from a 1,800-square-foot area of Harbor District tidelands. Commission staff recommends **Special Condition 1** to ensure debris is removed as proposed, except that any large woody debris is left in the channel to add complexity to the stream habitat.

Given that native eelgrass (*Zostera marina*) grows in the project area to the west of the boat launch, the Harbor District has submitted a plan for avoiding eelgrass and monitoring and mitigating for unanticipated impacts to eelgrass. Staff recommends **Special Condition 2** to ensure implementation of the plan's eelgrass avoidance measures. Staff also recommends **Special Condition 3** requiring a final eelgrass monitoring and mitigation plan for any unanticipated adverse impacts on eelgrass that includes detailed monitoring methods, clear standards for quantifying impacts triggering compensatory mitigation, and reporting requirements.

Unless feasible mitigation measures are employed, the proposed development could have potential adverse effects on the biological productivity and quality of coastal waters, including effects from construction and demolition activities over and adjacent to Noyo River, the use of pressure-treated wood in the marine environment, stormwater runoff over the life of the development, and increased recreational boating use. To address potential adverse effects, staff recommends that the Commission attach **Special Conditions 2, 4, 5,** and **7** requiring: (1) adherence to construction-related responsibilities including restrictions on the timing of construction to avoid salmonids, high tides, and wet weather; (2) limitations related to the use of pressure-treated wood in the marine environment; (3) maintenance and monitoring plans for the proposed permeable parking lot pavement; and (4) plans for the installation of education signage informing the public of environmentally sound boating practices.

Staff believes that the proposed development, as conditioned, is consistent with all applicable Chapter 3 policies of the Coastal Act. The motion to adopt the staff recommendation of **approval** of Coastal Development Permit (CDP) 1-16-0278 with special conditions is found on **page 4**.

TABLE OF CONTENTS

APPENDICES

EXHIBITS

I. MOTION AND RESOLUTION

The staff recommends that the Commission adopt the following resolution:

Motion:

I move that the Commission approve coastal development permit 1-16-0278 pursuant to the staff recommendation.

Staff recommends a **YES** vote on the foregoing motion. Passage of this motion will result in approval of the permit as conditioned and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

Resolution:

The Commission hereby approves a coastal development permit for the proposed development and adopts the findings set forth below on grounds that the development as conditioned will be in conformity with the policies of Chapter 3 of the Coastal Act. Approval of the permit complies with the California Environmental Quality Act because either 1) feasible mitigation measures and/or alternatives have been incorporated to substantially lessen any significant adverse effects of the development on the environment, or 2) there are no further feasible mitigation measures or alternatives that would substantially lessen any significant adverse impacts of the development on the environment.

II. STANDARD CONDITIONS

This permit is granted subject to the following standard conditions:

1. **Notice of Receipt and Acknowledgment**: The permit is not valid and development shall not commence until a copy of the permit, signed by the permittee or authorized agent, acknowledging receipt of the permit and acceptance of the terms and conditions, is returned to the Commission office.

2. **Expiration**: If development has not commenced, the permit will expire two years from the date on which the Commission voted on the application. Development shall be pursued in a diligent manner and completed in a reasonable period of time. Application for extension of the permit must be made prior to the expiration date.

3. **Interpretation**: Any questions of intent of interpretation of any condition will be resolved by the Executive Director or the Commission.

4. **Assignment**: The permit may be assigned to any qualified person, provided assignee files with the Commission an affidavit accepting all terms and conditions of the permit.

5. **Terms and Conditions Run with the Land**: These terms and conditions shall be perpetual, and it is the intention of the Commission and the permittee to bind all future owners and possessors of the subject property to the terms and conditions.

III. SPECIAL CONDITIONS

This permit is granted subject to the following special conditions:

1. **Debris Removal**
   A. The permittee shall carry out the proposed removal of at least 341 square feet of debris over 1,800 square feet of Harbor District tidelands as depicted on Exhibit 6, pg. 4 in conformance with the debris removal plan prepared by SHN Consulting Engineers and Geologists, lnc. (SHN) dated August 31, 2016 (Exhibit 6), except that no large woody debris shall be removed from the river. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.
   B. Within 30 days of debris removal, the permittee shall submit to the Executive Director for review and approval, documentation including maps and photographs demonstrating that at least 341 square feet of debris has been removed from the mitigation site in accordance with the approved final debris removal plan.
   C. The 1,800-square-foot mitigation area as depicted on Exhibit 6, pg. 4 shall be maintained in a debris-free condition throughout the life of the project.

2. **Construction Responsibilities.** The permittee shall comply with the following construction-related requirements:
   A. Timing of construction:
      i. In accordance with the Harbor District's proposal, construction authorized by this permit shall be conducted only during the period of July 15th through October 15th to minimize conflicts with anadromous fish species; and
      ii. Construction activities occurring below high water mark shall be timed to occur during low tides only.
   B. Rainfall avoidance:
      i. All construction activities shall occur during periods of dry weather only;
      ii. If rainfall is forecasted during the time construction activities are being performed (i.e., the National Weather Service's Northwestern California forecast for the Fort Bragg sub-area of the Mendocino Coast predicts a greater than 50 percent chance of precipitation for the timeframe in which the work is to be conducted), all onsite stockpiles of soil, gravel, and construction debris shall be covered and secured before the onset of precipitation; and
      iii. After a rainstorm, all silt and debris shall be removed from the construction area and sandbag berms.

C. Eelgrass avoidance:

i. Pre-construction training shall be provided for all on-site contractors by a qualified biologist to educate personnel on the biological restrictions and sensitivity of habitats in and adjacent to the construction area, including the need to avoid eelgrass habitat;

ii. Prior to the start of construction activities, a qualified biologist shall install temporary flagging along the project side of adjacent eelgrass patches. The flagging shall be periodically inspected throughout each period of construction and repaired as necessary; and

iii. A biological monitor shall be retained onsite during in-water construction to ensure that avoidance and minimization measures including but not limited to the full-depth turbidity screen and eelgrass flagging are effectively implemented.

D. Pile removal:

i. The permittee shall remove timber piles proposed for removal in their entirety. Piles that cannot be removed in their entirety shall be cut off at least one foot below the level of the mudline.

E. Erosion and sediment control:

i. A full-depth turbidity screen shall be installed around the waterside edge of construction and a sand bag berm shall be installed at the top of the ramp as proposed and depicted on Plan Sheet W-2 (Exhibit 4, pg. 8);

ii. Erosion and sediment control devices including silt fences and fiber rolls shall be installed on the landside portion of the project to intercept sediment before it reaches the Noyo River as proposed and depicted on Plan Sheet EC-1 (Exhibit 4, pg. 11);

iii. Erosion and sediment control devices shall be installed prior to construction activities and shall remain in place until surface restoration is complete, soil stockpiles are removed, and vegetation is re-established. Sediment built up at the base of BMPs shall be removed before BMP removal to avoid any accumulated sediments from being mobilized post-construction; and

iv. To minimize wildlife entanglement and plastic debris pollution, the use of temporary rolled erosion and sediment control products with plastic netting (such as polypropylene, nylon, polyethylene, polyester, or other synthetic fibers used in fiber rolls, erosion control blankets, and mulch control netting) is prohibited. Any erosion-control associated netting shall be made of natural fibers and constructed in a loose-weave design with movable joints between the horizontal and vertical twines.

F. Staging and stockpiling:

i. Construction equipment and materials shall be staged away from coastal waters on the relatively flat parking area at least 100 feet from Noyo River;

ii. No excavated soil or construction debris shall be temporarily placed or stored where it may be subject to entering Noyo River. All onsite stockpiles of soil and construction debris shall be contained at all times to minimize discharge of sediment and other pollutants; and

iii. No soil, gravel, or other pore-clogging materials shall be stored or staged directly atop the permeable pavement areas at any time.

G. Debris Disposal:

i. During construction, all trash shall be removed from the work site and disposed of on a regular basis to avoid contamination of habitat. Any and all debris resulting from construction activities shall be removed from the project site and disposed of at an authorized upland disposal location within 10 days of project completion and/ or prior to the onset of the rainy season, whichever is earlier.

H. Use of heavy equipment:

i. Heavy equipment shall only be operated from upland areas to minimize the generation of suspended sediment and potential water quality impacts;

ii. Fuels, lubricants, and solvents shall not be allowed to enter Noyo River. All equipment used during construction shall be free of oil and fuel leaks at all times. Any fueling, equipment maintenance, concrete washout, and washing of construction equipment shall occur at least 100 feet away from the high water mark;

iii. Equipment used over the water will use biodiesel and vegetable based hydraulic oil; and

iv. Hazardous materials management equipment including oil containment booms and absorbent pads shall be available and immediately on-hand at the project site. A registered first-response, professional, hazardous materials clean-up/remediation service shall be locally available on call. Any accidental spill shall be contained rapidly and cleaned up. In the event of a spill, the Noyo Harbor District shall notify the appropriate regulatory agencies immediately.

I. Concrete paving and grinding operations:

i. BMPs for concrete paving and grinding operations and storm drain inlet protection shall be employed to prevent concrete grindings, concrete slurry, and paving rinseate from entering drop inlets or sheet-flowing into coastal waters. No concrete will be poured below the high water mark.

3. **Final Eelgrass Monitoring and Mitigation Plan**. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-16-0278, the applicant shall submit, for the review and approval of the Executive Director, a final eelgrass monitoring and mitigation plan prepared by a qualified biologist.

A. The final plan shall demonstrate that:

i. A pre-construction eelgrass survey shall be conducted and completed during the active growing season for eelgrass (May-September) prior to the beginning of construction for all intertidal and shallow subtidal areas within 10 meters of the in-water project footprint and at an appropriate reference site. If construction work does not commence within 60 days of completion of the pre-construction growing season survey, a new pre-construction survey shall be completed. The survey shall be conducted in substantial conformance with the National Marine Fisheries Service (NMFS)' October 2014 California Eelgrass Mitigation Policy

and Implementing Guidelines. Survey results shall be submitted for the review and approval of the Executive Director;

ii. A post-construction survey of the eelgrass habitat in the action area and at the reference site shall be completed within 30 days of completion of construction, or within the first 30 days of the next active growth period following completion of construction that occurs outside of the active growth period. Annual monitoring surveys shall be performed approximately one, two and three years after the first post-construction survey during the active growth period. Annual surveys shall be conducted within two weeks of the anniversary of the post-construction survey. All post-construction surveys shall be performed in substantial conformance with NMFS' October 2014 California Eelgrass Mitigation Policy and Implementing Guidelines;

iii. During pre- and post-construction eelgrass surveys, eelgrass spatial distribution, aerial extent, percent vegetated cover, and turion density shall be sampled within 10 meters of the in-water project footprint and at an appropriate reference site to help determine whether changes in eelgrass characteristics are attributable to natural variability or project actions;

iv. A monitoring report shall be provided to the Executive Director within 90 days of completion of each of the four post-construction growing season surveys. These monitoring reports shall include all preceding pre- and post-construction growing season survey results including eelgrass maps and information on the spatial distribution, areal extent, percent cover, and turion density of eelgrass at the project and reference sites within defined survey areas. The reports shall also include: (1) a summary of work operations; (2) photo-documentation of pre- and post-construction site conditions; (3) an impact analysis, including a quantitative assessment of any impacts on eelgrass that may have occurred as a result of project actions; and (4) a calculation of the area required for compensatory mitigation if needed and a description of how mitigation requirements will be met. Survey results shall be submitted for the review and written approval of the Executive Director;

v. If the cumulative results of the four post-construction surveys demonstrate to the satisfaction of the Executive Director that eelgrass distribution and density has not decreased and there has been no loss of extent of vegetated cover, then no further monitoring or mitigation is required; and

vi. If post-construction survey results indicate any decrease in eelgrass distribution or density attributable to project impacts, then an extended eelgrass mitigation and monitoring plan shall be prepared and submitted as an application for an amendment to CDP 1-16-0278. The mitigation methods, the location of the mitigation sites, and the monitoring plan shall be in substantial conformance with NMFS' October 2014 California Eelgrass Mitigation Policy and Implementing Guidelines, and shall provide for an initial mitigation area to impact area ratio of 4.82:1.

B. The final plan shall include, at a minimum, the following components:

i. A map of the project survey area and reference site;

ii. Detailed schedule and methods for conducting pre- and post-construction eelgrass monitoring in substantial conformance with NMFS' October 2014 California Eelgrass Mitigation Policy and Implementing Guidelines;

iii. Clear standards for quantifying project impacts on eelgrass triggering compensatory mitigation;

iv. A preliminary plan for potential in-kind compensatory mitigation to provide for an initial mitigation area to impact area ratio of 4.82:1; and

v. A schedule for submittal of monitoring reports to the Executive Director.

C. Eelgrass monitoring, mitigation, and reporting shall be conducted at all times in accordance with the final approved plan. Any proposed changes to the final plan shall be reported to the Executive Director. No changes to the requirements of the special condition shall be made without a Coastal Commission approved amendment of CDP 1-16-0278 unless the Executive Director determines that no amendment is legally required.

4. **Pressure-Treated Wood in the Marine Environment.** The permittee shall comply with the following requirements related to the removal of existing treated wood piles and dock elements and the installation of new pressure-treated wood elements in the marine environment, including the new boarding float:

A. The treated wood added to the dock shall be certified by a third party inspection program, as indicated by the presence of a BMP Quality Mark or Certificate of Compliance, to have been produced in accordance with industry BMP standards designed to minimize adverse impacts in aquatic environments;

B. Treated wood used in the project shall be labeled for the appropriate Use Category for the intended use, as specified by the American Wood Protection Association Standard U1, to ensure the wood has been treated to the proper preservative retention level. To minimize the amount of preservative present in the treated wood that may subsequently leach into the aquatic environment, wood treated to the standards for a higher Use Category (i.e., with a higher preservative retention level) than is necessary for that component shall not be used;

C. Whenever possible, cutting or drilling of treated wood shall occur in the designated staging area at least 100 feet away from coastal waters, and any sawdust, drill shavings, and wood scraps shall be contained and collected in order to prevent the discharge of treated wood into the marine environment;

D. Treated wood materials shall be stored during construction in a contained, covered area to minimize exposure to precipitation; and

E. Existing wooden piles and dock elements to be removed shall be removed and disposed of at a landfill authorized to accept such chemically treated waste.

5. **Maintenance and Monitoring Plan for Permeable Pavement.**

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT NO. 1-16-0278, the applicant shall submit, for the review and approval of the Executive Director, a final plan for the maintenance and monitoring of the 61,980 square feet area of

permeable pavement to be installed at the Noyo River Boat Launch Facility. The plan shall demonstrate the following:

i. Testing: A test to verify that the permeable pavement is infiltrating properly shall be conducted immediately after construction, and annually thereafter to detect any reduction in the infiltration rate, thereby determining the appropriate frequency of maintenance or the need for remediation. A simple test may be used, such as pouring a bucket of water onto the pavement and documenting how long it takes for the water to soak in, the size of the water mark that is left, and whether any water runs off.

ii. Monitoring & Maintenance:

a. Routine maintenance shall be conducted monthly, at a minimum, including a visual inspection of the pavement to ensure it is free of sediment and debris, and prompt removal of any pore-clogging materials deposited onto the permeable pavement;

b. At least one inspection of the pavement each year shall take place after a large storm, when puddles will make any clogging obvious; and

c. Periodic maintenance to reduce clogging shall be conducted at least twice annually, including flushing or power-washing the surface of the porous asphalt pavement. Use of chemicals to clean the permeable pavement shall be avoided, to prevent harm to the biological component of the permeable pavement system, pollution of the groundwater, or damage to the permeable pavement itself.

iii. Repairs: The porous asphalt shall at no time be sealed, coated, or repaved with impervious materials, including top coat sealers, asphalt sealers, crack sealers, or repaving with conventional asphalt.

iv. Documentation: The Harbor District shall maintain a maintenance log documenting all testing dates, observations, and maintenance activities. The log shall be available for inspection upon request by either the County of Mendocino or the Executive Director of the Coastal Commission.

B. The permittee shall undertake development in accordance with the approved final plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is required.

6. **Landscaping Plans.**

A. PRIOR TO ISSUANCE OF COASTAL DEVELOPMENT PERMIT 1-16-0278, the applicant shall submit, in a form and content acceptable to the Executive Director, two (2) sets of final landscaping plans, which shall include and be consistent with the following:

i. The plans shall demonstrate, at a minimum, all of the following:

a. Only native plant species shall be planted. All proposed plantings shall be obtained from local genetic stocks within Mendocino County. If documentation is provided to the Executive Director that demonstrates that

native vegetation from local genetic stock is not available, native vegetation obtained from genetic stock outside of the local area may be used. No plant species listed as problematic and/or invasive by the California Native Plant Society (http://www.CNPS.org/), the California Invasive Plant Council (formerly the California Exotic Pest Plant Council) (http://www.cal-ipc.org/), or as may be identified from time to time by the State of California shall be employed or allowed to naturalize or persist on the site. No plant species listed as a "noxious weed" by the State of California or the U.S. Federal Government shall be shall be planted or allowed to naturalize or persist on the site;

b. All planting shall be completed within 90 days after completion of construction;

c. The use of rodenticides containing any anticoagulant compounds is prohibited;

d. If using potable water for irrigation, only drip or microspray irrigation systems shall be used;

e. The landscaping design shall minimize the risk of vegetative debris falling onto the permeable pavement and being ground into the pavement by vehicle tires, which may reduce the pavement's permeability; and

f. All proposed plantings shall be maintained in good growing conditions throughout the life of the project, and whenever necessary, shall be replaced with new plant materials.

ii. The plans shall include, at a minimum, the following components:

a. A final landscape site plan map depicting the species and location of all plant materials to be planted on the property;

b. A schedule for the planting of the proposed landscaping; and

c. Provisions for ensuring that all proposed plantings shall be maintained in good condition throughout the life of the project to ensure continued compliance with the approved final landscape plan.

B. The permittee shall undertake site revegetation in accordance with the approved final landscaping plan. Any proposed changes to the approved final plan shall be reported to the Executive Director. No changes to the approved final plan shall occur without a Commission amendment to this coastal development permit unless the Executive Director determines that no amendment is legally required.

7. **Final Design Plans for Signage.**

A. PRIOR TO COMMENCEMENT OF CONSTRUCTION OF SIGNAGE AUTHORIZED BY COASTAL DEVELOPMENT PERMIT 1-16-0278, the permittee shall submit for the review and written approval of the Executive Director, two copies of a plan for all proposed signage, including educational and directional signage.

i. The plans shall demonstrate that all signs to be erected at the project site:

a. Are visually compatible with the character of surrounding areas with respect to height and bulk, including signs that are no larger than those currently installed at the adjacent Noyo Harbor Marina;

b. Do not significantly obstruct views from public vantage points; and

c. Conform in style, materials, colors, and physical appearance with other similar signage within the Noyo Harbor.

ii. The plan shall demonstrate that (a) at least one educational sign shall be conspicuously posted informing the public of environmentally sound boating practices, and (b) educational signage shall be maintained and replaced as necessary over the life of the boat ramp facility.

iii. The plan shall include, at a minimum, the following components:

a. A map or site plan showing the location of all signage;

b. A depiction of information to be displayed on signage; and

c. A description of the dimensions, materials, and colors of all signs.

B. The permittee shall undertake development in conformance with the approved final plans unless the Commission amends this permit or the Executive Director determines that no amendment is legally required for any proposed minor deviations.

8. **Exterior Lighting Standards.** Parking lot lights shall be low-wattage, non-reflective, shielded, and directed downward such that no light will shine beyond the boundaries of the parking lot or into the Noyo River.

9. **Assumption of Risk, Waiver of Liability and Indemnity.** By acceptance of this permit, the permittee acknowledges and agrees (i) that the site may be subject to hazards, including but not limited to river and tidal currents and tsunamis surges; (ii) to assume the risks to the permittee and the property that is the subject of this permit of injury and damage from such hazards in connection with this permitted development; (iii) to unconditionally waive any claim of damage or liability against the Commission, its officers, agents, and employees for injury or damage from such hazards; and (iv) to indemnify and hold harmless the Commission, its officers, agents, and employees with respect to the Commission's approval of the project against any and all liability, claims, demands, damages, costs (including costs and fees incurred in defense of such claims), expenses, and amounts paid in settlement arising from any injury or damage due to such hazards.

IV. FINDINGS AND DECLARATIONS

The Commission hereby finds and declares as follows:

A. PROJECT DESCRIPTION

The Noyo Harbor District proposes to reconstruct the Noyo River Boat Launch Facility located on the southern flat of the Noyo Harbor in Mendocino County (**Exhibits 1-2**). The facility includes a boat launch at the terminus of South Harbor Drive on the Noyo River and the adjacent parking lot to the southeast between South Harbor Drive and Basin Street. The parking lot is elevated five to six feet above South Harbor Drive where the road curves around the western and northern sides of the parking lot, between the parking lot and the boat ramp (See **Exhibit 3** for pictures of the existing facility). Constructed in 1966, the Noyo River Boat Launch Facility is

used primarily to launch recreational sportfishing vessels with occasional use by commercial fishermen. The Harbor District proposes to replace the existing boat launch, resurface and stripe the existing parking lot, construct a bathroom in the parking lot, and construct a new ADA-compliant path from the parking lot to the boat launch.

Waterside Portion of the Facility
The existing boat launch is severely degraded, is not compliant with the Americans with Disabilities Act (ADA), and is rendered inoperable during extreme high and low tides. The launch includes a 22.5-foot-wide, 76.6-foot-long, single-lane concrete ramp and a 6-foot-wide, 57-foot-long wooden boarding float. The Harbor District proposes to demolish and remove the existing ramp, float, and two associated piles (See **Exhibit 4, pg. 10** for boat launch demolition plans).

The boat launch ramp and boarding float would be replaced in the same location with a new 28-foot-wide, 83.5-foot-long concrete launch ramp and a 6-foot-wide, 80-foot-long fiberglass boarding float. While the existing ramp has a 13% slope and a top elevation of 6.47 feet, the new ramp would have a 15% slope and a top elevation of 7.86 feet. The new ramp would be constructed of precast reinforced concrete ramp panels with a V-groove finish on a gravel subgrade. The panels would be installed by crane on epoxy-coated fiberglass guide beams and would be secured at the bottom of the ramp using grout bags. Once the panels have been installed, a cast-in-place concrete apron would be poured at the top of the ramp above the high tide line. Next, the new fiberglass boarding float would be installed. The new boarding float would make use of two existing guide piles and would be anchored to a new removable reinforced concrete abutment. Approximately 11.7 cubic yards of rock slope protection (RSP) would be placed along the edges of the ramp to protect the facility (See **Exhibit 4, pgs. 12-15** for plans and specifications for the new boat launch).

The new boat launch would result in an additional 341 square feet of fill in Noyo River due to the extension of the length of the ramp and the placement of RSP on the sides of the ramp. No additional area of fill is associated with the installation of the new boarding float as the float would be positioned entirely over the new concrete boat ramp. To mitigate for the additional fill in mudflat habitat, the District proposes to remove at least 341 square feet of debris from a 1,800-square-foot area of nearby mudflat habitat.

Landside Portion of the Facility
The existing paved parking lot for the boat launch is degraded with numerous potholes and lacks stormwater management infrastructure to control and filter runoff. In addition, the parking lot lacks striping to designate parking places and is not ADA compliant. The existing facility also lacks a public restroom and an ADA-compliant path leading from the elevated parking lot to the boat launch.

The Harbor District proposes to repave the 61,980-square-foot existing parking lot with permeable pavement and stripe the lot for 18 vehicles and 48 vehicle-trailer parking spaces, including ADA-accessible spaces (See **Exhibit 4, pgs. 3-6** for plans and specifications for the parking lot improvements). The Harbor District also proposes to construct a 6-foot-wide, 315-foot-long, ADA-accessible path from the parking lot to the boat launch's boarding float, and install an ADA-accessible, prefabricated restroom adjacent to the resurfaced parking spaces. The

new 126-square-foot restroom would be a concrete single-user flush restroom unit on a concrete slab foundation and would be connected to existing sanity sewer, water, and electrical connections (See **Exhibit 4, pg. 7** for restroom construction details). As part of the project, the Harbor District would also install a dedication sign for the boat launching facility, directional signage, and educational signage to inform the public of boating best management practices to reduce the environmental impact of boating activities (See **Exhibit 4, pg. 16** for dedication sign details).

Construction Equipment, Access, Staging, and Timing
Construction equipment for the boat launch work would include an excavator, crane, backhoe, dump truck, and potentially a barge. The existing boat launch would be removed using an excavator operating either from shore or from a barge. A dive crew would assist in the demolition to verify that the existing boat ramp is removed in its entirety and no obstructions remain that would impede the construction of the new launch ramp. No heavy equipment would be allowed to enter the water. If a barge is utilized, it would be temporarily moored at the nearby Noyo Harbor Marina throughout construction and would be launched from an upstream boat launch ramp. The barge would be moved in and out of position during construction with on-board power, and attention would be given to tidal movement and river flows to prevent the barge from grounding. Construction of the boat launch improvements is proposed to occur over approximately 30 work days between July 15th and October 15th, to ensure that the peak salmonid migration periods for both spawning adults and out-migrating smolts are avoided, as well as to minimize the potential for impacts to green sturgeon.

Construction equipment for the landside parking lot and restroom work would include an excavator, backhoe, dump truck, and paving equipment. Construction of the landside improvements is also proposed to occur between July 15th and October 15,th to coincide with the dry season and to avoid impacting the area during the July 4th Salmon Barbeque, an annual event that utilizes the subject parking lot. All construction equipment and materials would be staged in existing paved area at least 100 feet from Noyo River (See **Exhibit 5** for a map of the proposed staging area).

B. PROJECT BACKGROUND & SETTING

The Noyo Harbor is a fishing port located in unincorporated Mendocino County at the southern end of the City of Fort Bragg near the mouth of the Noyo River (**Exhibits 1 & 2**). Noyo Harbor is one of four main harbors between San Francisco and the Oregon border, and is the only port of refuge between Bodega Bay in Sonoma County and Humboldt Bay in Humboldt County (Pomeroy, Thomson, & Stevens, 2010). The Noyo Harbor supports a large commercial fishing fleet as well as many sport fishermen and recreational boaters. Properties in Noyo Harbor have a zoning and land use classification of Fishing Village to ensure that the limited available space on the flats at Noyo is reserved for industries that must be on or near the water (Mendocino County General Plan Coastal Element).

The applicant, the Noyo Harbor District, is a designated port district that receives its authority from the Harbors and Navigation Code of the State of California. The Harbor District is governed by an appointed five-person Commission that is charged to organize, fund, build, administer, and maintain the Noyo Harbor and has the authority to pass and enforce ordinances to meet those ends

(Policy Consulting Associates, LLC, 2014). Tide and submerged lands within and along the Noyo River were granted to the Harbor District in 1961 by the state legislature. Infrastructure managed by the Harbor District is primarily located along the south side of the river, and includes the subject boat launch ramp as well as a second public launch ramp (owned by the State Department of Boating and Waterways), a harbor office building, parking and storage areas, park facilities, public restrooms and shower, a work hoist, an oil recycling center, and the Noyo Harbor Marina (Policy Consulting Associates, LLC, 2014). The Noyo Harbor Marina is located upriver from the subject boat launch facility, and includes a main pier and eight docks supporting 265 berths. Further upriver is the Dolphin Isle Marina and RV Park, a private marina that provides berths for about 150 boats (Policy Consulting Associates, LLC, 2014). The harbor also features a Coast Guard search and rescue station and numerous fishing support facilities including bait/tackle shops, boat building/repair shops, charter operations, fish buyers, fish processing plants, fish markets, an ice plant, marine supply/repair stores, and seafood restaurants (Policy Consulting Associates, LLC, 2014).

The area around the Noyo River was originally inhabited by the Pomo Indians, who relied heavily on salmon, shellfish, and marine mammals for sustenance (Northwest Fisheries Science Center). The first sawmill on California's North Coast was built at the mouth of the Noyo River in 1852, and Fort Bragg was developed as a logging town in the late 1800s (Pomeroy, Thomson, & Stevens, 2010). The fishing industry grew along with the timber industry, and by the 1920s fishermen were landing millions of pounds of salmon that were processed and marketed in Fort Bragg (Northwest Fisheries Science Center). In 1950, the Noyo Harbor District was established, and in the 1960s, the Noyo Harbor Marina, the privately owned Dolphin Isle Marina, and the subject Noyo River Boat Launch Facility opened (Pomeroy, Thomson, & Stevens, 2010). Highway One historically crossed directly over the river on the river flats (at the location of the subject boat ramp) until 1948 when the high-span bridge over Noyo Cove was completed (Pomeroy, Thomson, & Stevens, 2010).

Today recreational anglers pursue an annual round of fisheries that primarily include salmon, groundfish, abalone, crab, and albacore (Pomeroy, Thomson, & Stevens, 2010). Commercial fisheries include the groundfish trawl, urchin dive, Chinook salmon troll, Dungeness crab pot, and sablefish and rockfish/lingcod hook-and-line and trap fisheries (Pomeroy, Thomson, & Stevens, 2010). Although fishing remains an important part of the local economy and identity, commercial and recreation fishing has experienced a decline over the past 30 years due in part to declining fish populations and increasing regulations.

The Noyo Harbor receives tidal influence and functions as a fully saltwater section of the Noyo River estuary during the low flow summer season. The Noyo River estuary supports important commercial and recreational fisheries and is designated critical habitat for Chinook Salmon (*Onchorynchus tshawytscha),* coho salmon (*Onchorynchus kisutch),* steelhead *(Oncorhynchus mykiss),* and green sturgeon (*Acipenser medirostris*). The Noyo River estuary also contains native eelgrass (*Zostera marina*).

C. STANDARD OF REVIEW

The proposed project area is bisected by the boundary between the retained coastal development permit (CDP) jurisdiction of the Commission and the CDP jurisdiction delegated to Mendocino

County by the Commission through the County's certified Local Coastal Program. Section 30601.3 of the Coastal Act authorizes the Commission to process a consolidated CDP application when requested by the local government and the applicant and approved by the Executive Director for projects that would otherwise require coastal development permits from both the Commission and from a local government with a certified LCP. In this case, the applicant requested a consolidated permit process, and the Mendocino Board of Supervisors adopted a resolution (Resolution No. 16-086) on July 21, 2016 consenting to the request. The Executive Director also agreed to the consolidated permit processing request.

The policies of Chapter 3 of the Coastal Act provide the legal standard of review for a consolidated coastal development permit application submitted pursuant to Section 30601.3. The local government's certified LCP may be used as guidance.

D. OTHER AGENCY APPROVALS

North Coast Regional Water Quality Control Board

The Regional Board requires a water quality certification (WQC) for projects involving dredging and/or filling activities under Section 401 of the Clean Water Act. On September 15, 2016, the Regional Board issued a WQC for the Noyo Harbor District Boat Launch and Parking Facility Project (WDID No. 1B16245WNME).

California Department of Fish and Wildlife (CDFW)

CDFW Code Section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW before beginning any activity that will substantially modify a river, stream or lake. If CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement must be prepared. On April 28, 2016, CDFW issued a Streambed Alteration Agreement for the proposed work (SAA No. 1600-2016-0098-R1).

California State Lands Commission (CSLC)

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions. The boat ramp is located on a parcel that used to be the old state highway and was owned by the County of Mendocino until the County quitclaimed it to the Noyo Harbor District in 1981. Since the Harbor District owns the parcel which includes the entire in-water project footprint, no authorization is necessary from the CSCL.

U.S. Army Corps of Engineers

The Army Corps has regulatory authority over the proposed project under Section 10 of the Rivers and Harbors Act of 1899 (*33 U.S.C. 1344*) which regulates the diking, filling, and placement of structures in navigable waterways, and Section 404 of the Clean Water Act which regulates the discharge of dredged or fill material in waters of the United States. In a letter dated August 11, 2016, the Army Corps determined that the proposed work is covered under an existing Department of the Army Nationwide Permit (NWP) 3 for Maintenance (File No. 2016-00099N).

National Marine Fisheries Service
Pursuant to Section 7(a) of the Endangered Species Act of 1973, as amended (U.S.C. Sec 1531 et seq.), the Army Corps initiated consultation with the National Marine Fisheries Service (NMFS) requesting their concurrence that the proposed project is not likely to adversely affect listed species. In a letter to the Army Corps dated June 20, 2016, NMFS concurred with the determination that the project was not likely to adversely affect Chinook salmon *(Oncorhynchus tshawytscha),* Steelhead *(Oncorhynchus myldss),* Green Sturgeon *(Acipenser medirostris),* and designated critical habitat for these species. The NMFS concurrence letter is attached as Exhibit 8.

E. FILL IN COASTAL WATERS & PROTECTION OF MARINE RESOURCES

Section 30230 of the Coastal Act states, in applicable part:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act states:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

Section 30233 of the Coastal Act states, in applicable part:

> *(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:*
>
> *(1) New or expanded port, energy, and coastal-dependent industrial facilities, including commercial fishing facilities.*
>
> *(2) Maintaining existing, or restoring previously dredged depths on existing navigational channels, turning basins, vessel berthing and mooring areas, and boat launching ramps.*
>
> *(3) In open coastal waters, other than wetlands, including streams, estuaries, and lakes, new or expanded boating facilities and the placement of*

structural pilings for public recreational piers that provide public access and recreational opportunities.

(4) Incidental public service purposes, including but not limited to, burying cables and pipes or inspection of piers and maintenance of existing intake and outfall lines.

(5) Mineral extraction, including sand for restoring beaches, except in environmentally sensitive areas.

(6) Restoration purposes.

(7) Nature study, aquaculture, or similar resource dependent activities.

…

(c) In addition to the other provisions of this section, diking, filling, or dredging in existing estuaries and wetlands shall maintain or enhance the functional capacity of the wetland or estuary…

Coastal Act Section 30108.2 defines "fill" as "*earth or any other substance or material, including pilings placed for the purposes of erecting structures thereon, placed in a submerged area*." The proposed project involves the replacement of an existing Noyo River boat launch ramp and boarding float with a slightly larger facility, resulting in approximately 341 square feet of additional area of fill in the Noyo River estuary. The new ramp, float dock, and rock slope protection (RSP) will have a below-high-water-mark footprint of 2,166 square feet. Of the 341 square feet of proposed additional area of permanent fill below high water line, 199 square feet is attributable to the ramp and 142 square feet is attributable to the RSP. There is no additional area of fill associated with the construction of the new boarding float because it will be positioned entirely over the new concrete boat ramp.

Section 30233 of the Coastal Act limits the fill of coastal waters to specific, enumerated uses, and also requires that any project which results in fill of coastal waters (a) be the least environmentally damaging feasible alternative, and (b) provide adequate mitigation to minimize adverse environmental effects. In addition, Coastal Act Sections 30230, 3231, and 30233 together require that marine resources, the biological productivity and quality of coastal waters, and the functional capacity of estuaries be maintained and enhanced.

Allowable Use

Section 30233(a)(3) of the Coastal Act allows the fill of open coastal waters, other than wetlands, such as the Noyo Harbor waterways where the subject project is located, for new or expanded boating facilities. The proposed project, the replacement of a public boat launch ramp, constitutes an expanded boating facility. The proposed new RSP is needed to armor the boat launch structure, and therefore the RSP fill is ancillary to, and a necessary part of, the boating facility. Thus, the project is an allowable use under Section 30233(a)(3).

Least Environmentally Damaging Feasible Alternative

As mentioned above, the Commission must ensure that the proposed project has no less environmentally damaging feasible alternative consistent with Section 30233 of the Coastal Act. Coastal Act Section 30108 defines "feasible" as "*…capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors*." In this case, alternatives that have been identified include: (a) the "no

project" alternative; (b) replacement of the boat launch in-kind without any enlargement of the structure or addition of RSP; and (c) installation of new guide piles rather than reuse of existing piles as proposed.

a. No project alternative
Under the "no project" alternative, the objective of the project – to repair and upgrade the boat launch – would not be met. The boat launch would continue to deteriorate, with the ramp surface and boarding float becoming more and more severely damaged and less usable by boaters. Thus, the no project alternative is not a less environmentally damaging feasible alternative to the proposed project as conditioned.

b. Replacement of the boat launch in-kind
The Harbor District proposes to replace the existing 22.5-foot-wide-by-76.6-foot-long boat launch ramp with a new, larger, 28-foot-wide-by-83.5-foot-long ramp and to replace the existing 6-foot-wide-by-57-foot-long boarding float dock with a new, larger, 6-foot-wide-by-80-foot-long float. The Harbor District also proposes to add 11.7 cubic yards of RSP along the sides of the new ramp. As a result, the replacement boat launch's footprint in estuarine waters will be 341 square feet larger than the existing boat launch's footprint. Repairing the existing boat launch or replacing it in kind would avoid this additional fill of coastal waters. However, the existing boat launch does not meet current California Department of Boating and Waterways (DBW) design standards and ADA accessibility standards, and is less functional than the proposed replacement launch. The necessity of the additional facility length, width, and RSP are described below.

Facility width: The existing and proposed replacement boarding floats consist of a series of individual floats hinged together, attached to an abutment on shore, and held in position by guide piles. The series of floats rises and falls with changing water levels. At lower water levels, the upper float sections rest on the boat launch ramp. The existing concrete boat ramp width (22.5 feet wide) does not extend under the existing wooden boarding float (6 feet wide). As a result, at low tide, the boarding float becomes unusable due to the uneven and variable slope below. The proposed new ramp would be 28 feet wide, allowing for the new 6-foot-wide boarding float to rest on top of the ramp during low tides with ample ramp width remaining for boat access. The increased width is consistent with DBW design standards for small craft boat launching facilities (1991), which calls for the ramp to extend continuously beneath the boarding float. The replacement boarding float is 6 feet wide, the same width as the existing float and the minimum width required by the DBW design standards. According to the standards, narrower floats tend to be unstable and "log roll" in water. Reducing the width of the proposed boat ramp or boarding float is therefore not a less environmentally damaging feasible alternative.

Facility length: The existing boat launch ramp is 76.6 feet long and the proposed new ramp would be 83.5 feet long. The increased length is necessary because the existing ramp does not reach a low enough elevation to be operable in low tide conditions. The proposed slope of the new ramp, 15%, is the maximum slope allowed by the DBW design standards. Given the slope constraint, the ramp length of 83.5 feet is the minimum necessary for the ramp to be functional during lower tides. The existing boarding float

(which is 57 feet long) does not extend out to the full functional end of the existing ramp, making boarding a vessel unsafe at lower tides. The proposed 80-foot-long boarding float extends far enough into the channel to allow for safe boarding at low tides, consistent with DBW design standards. The increased length of the boarding float also does not result in a larger footprint for the boat launch facility as it will be located directly above the boat launch ramp. The larger boarding float will result in an additional 41.4 square feet of overwater shading. However, the new boarding dock will be repositioned to float over the concrete boat launch that has very little habitat value for any fish or benthic invertebrate; whereas the existing boarding dock is positioned over natural streambed that has some habitat value. Reducing the length of the proposed boat ramp or boarding float is therefore not a less environmentally damaging feasible alternative.

Area of RSP: Of the 4.5 cubic yards of new RSP proposed below high water line, 3.1 cubic yards (101 square feet) will be placed on the west side of the proposed ramp and 1.4 cubic yards (41 square feet) will be placed on the east side. The consulting engineers have indicated that the quantity of RSP proposed is the minimum required to protect the ramp from the undermining effects of tidal and river currents and to assure the stability of the ramp over the life of the development. Additionally, the RSP provides a shoulder at the edges of the ramp that offers a buffer of safety to users, eliminating an abrupt edge that could result in a trailer becoming stuck in the river. Thus a reduction in proposed RSP is not a less environmentally damaging feasible alternative.

Therefore, the Commission finds that replacing the boat launch in-kind without any expansion of the facility is not a feasible less environmentally damaging alternative.

c. Installation of new guide piles to support the boarding float

The Harbor District proposes to utilize two existing creosote-treated wood guide piles to hold the new boarding float in position rather than install new piles. The Coastal Commission no longer allows the installation of new creosote treated pilings because the slow dissolution of some creosote components in water leads to toxicity for organisms in the surrounding water and sediment. Although the existing piles are wood with creosote preservative, they have been in the water for 30 to 40 years and the majority of any potential leaching into the water has already occurred. In addition, the use of these existing piles rather than the installation of new piles will minimize disturbance to the channel floor and the marine environment. The noise generated from the driving of new piles can cause injury to fish and marine mammals, and the installation and removal of piles can generate suspended sediment that can negatively impact marine life. The installation of new guide piles is therefore not a less environmentally damaging feasible alternative.

Feasible Mitigation Measures

The Commission must ensure that the proposed project minimizes adverse environmental effects consistent with Section 30233. The proposed project could have a number of potential adverse effects on the environment of the harbor, including (1) fill of harbor waters; (2) impacts to eelgrass habitat; (3) construction-related impacts to the biological productivity and quality of coastal waters; (4) impacts on water quality from the use of pressure-treated wood; (5) impacts on

water quality from post-construction stormwater runoff from the long term use of the boat launch facility; (6) impacts of increased recreational boating use; and (7) impacts of parking lot landscaping and lighting on native plants and wildlife. The potential impacts and their mitigations are discussed in the following sections:

a. Fill of Harbor waters

The proposed project involves the replacement of an existing Noyo River boat launch ramp and boarding float with a slightly larger facility, resulting in approximately 341 square feet of additional area of fill in mudflat habitat. Mudflats in the Noyo River estuary support a variety of worms, mollusks, and other benthic organisms which are important prey for many fish and birds. The Harbor District has submitted a debris removal plan prepared by SHN and dated August 31, 2016 that proposes to mitigate for the 341 square feet of additional area of wetland fill by removing at least 341 square feet of concrete, wood, and other miscellaneous debris from a nearby 1,800-square-foot area of mudflat habitat (**Exhibit 6**). The mitigation site is located approximately 300 feet east of the subject boat launch on tidelands between the Harbor District's pier and the U.S. Coast Guard station that are isolated from boat and foot traffic (See **Exhibit 6, pg. 4** for a map of the mitigation site).

The Harbor District proposes to collect smaller debris by hand at low tide and remove larger debris with a crane or lift from the pier to minimize impact. The Harbor District proposes to remove the debris in conjunction with the boat launch demolition and reconstruction during the July 15th – October 15th work window, utilizing the same methods and construction Best Management Practices (BMPs) as required for the boat launch project to minimize construction impacts.

The Commission often requires a greater than 1:1 mitigation ratio to compensate for the filling of wetlands to address temporal loss and the uncertainty of success of the mitigation. In this case, there will be no significant temporal loss. The debris removal will occur at the same time as the boat ramp construction. In addition, unlike mitigation that involves planting, there is no temporal loss associated with habitat establishment, as the mitigation does not involve the re-establishment of eelgrass or some other wetland plant habitat, only mudflat. For similar reasons, the chances of success of the mitigation are very high. Furthermore, the proposed boat launch fill results in a loss of mudflat habitat rather than a complete loss of wetlands as the ramp will not fill the entire water column or otherwise create uplands. Therefore the Commission finds the proposed 1:1 mitigation ratio is adequate in this case.

Although the removal of most debris will be beneficial to the river ecosystem, the mitigation site includes large woody debris that adds complexity to the stream habitat and is a vital and naturally occurring component of healthy stream ecosystems. The Commission attaches **Special Condition 1** requiring the Harbor District to remove at least 341 square feet of debris in conformance with the debris removal plan, except that no large woody debris shall be removed from the river. To ensure the mitigation is performed as proposed and conditioned, the Commission also requires as part of Special Condition 1 that the Harbor District submit to the Executive Director, within 30 days of debris

removal, documentation demonstrating that at least 341 square feet of debris has been removed from the mitigation site in accordance with the final debris removal plan and the conditions of CDP 1-16-0278. Furthermore, in order for the project's impacts to marine resources to be fully offset, Special Condition 1 requires that the 1,800 square foot mitigation site be maintained by the Harbor District in a debris-free state throughout the life of the development (i.e., through the full period during which the impacts of the project are occurring).

The Commission thus finds that the proposed project, as conditioned, will restore adequate mudflat habitat to offset the 341 square feet of mudflat to be covered by new project fill and provide feasible mitigation measures to minimize adverse environmental effects on mudflat habitat.

b. Impacts to eelgrass habitat

Native eelgrass (*Zostera marina*) grows in the project area. Eelgrass is essential to the health and productivity of the Noyo River estuary ecosystem as it provides many ecological benefits, including stabilization of bottom sediments, a substrate for epiphytic algae and invertebrates, foraging areas and shelter for young fish and invertebrates, food for migratory waterfowl, and spawning surfaces for invertebrates and fish. The project consultants conducted an informal survey for eelgrass in the project vicinity on May 9, 2016, and a 27.9-square-foot patch of eelgrass was observed immediately adjacent to the northwest corner of the existing boat ramp (see **Exhibit 4, pg. 12** for a map of eelgrass in the project vicinity and **Exhibit 3, pg. 2** for a photograph of the eelgrass patch adjacent to the boat ramp). Initially the Harbor District proposed to install an approximately 3-foot-wide rock slope protection feature on the western edge of the proposed boat ramp for its entire length. Approximately 5.5 square feet of the 27.9 square feet (19.7%) eelgrass patch would have been directly impacted by the installation of rock slope protection based on the previous project design. To avoid impacts to the eelgrass patch, the project engineer has redesigned a portion of the boat ramp so that a vertical sheet pile (approximately 19 inches tall and 6 inches wide) will substitute for the proposed rock slope protection in the vicinity of the eelgrass (See Plan Sheet W-3, **Exhibit 4, pg. 12**). To further decrease the likelihood of eelgrass impacts, the Harbor District proposes to (a) retain a biological monitor onsite during in-water construction, (b) train construction workers on the importance of avoiding and protecting eelgrass, and (c) place temporary flagging along the project side of the eelgrass to prevent encroachment into the eelgrass. These avoidance measures have been incorporated into **Special Condition 2(C)** (Construction Responsibilities, Eelgrass avoidance).

To verify that the development will not have significant adverse environmental impacts on eelgrass habitat, the Harbor District proposes to conduct pre- and post-construction eelgrass surveys at the project site and a reference site. If the pre- and post-construction eelgrass surveys show that eelgrass was impacted by project construction, then the Harbor District proposes to prepare an eelgrass mitigation plan in accordance with the California Eelgrass Mitigation Policy and Implementing Guidelines (NMFS, 2014). In consultation with CDFW, Regional Board, NMFS, and Commission staff, the Harbor District has identified two potential reference sites for monitoring and a potential future mitigation

site. The Harbor District's plan for eelgrass monitoring and potential mitigation is attached as **Exhibit 7**.

The Harbor District's plan for monitoring and potential mitigation does not include detailed methods for conducting pre- and post-construction eelgrass surveys, including information on the area around the project to be surveyed, mapping techniques, eelgrass parameters to be measured, and information on the reference site. The plan also lacks clear standards for quantifying project impacts on eelgrass triggering compensatory mitigation, or an initial mitigation ratio if mitigation is necessary. The Commission therefore attaches **Special Condition 3** requiring submittal of a final eelgrass mitigation and monitoring plan prior to permit issuance. The required plan components are based on the California Eelgrass Mitigation Policy and Implementing Guidelines (NMFS, 2014) and drafted in consultation with CDFW Marine Region staff.

Although the new boat ramp design will avoid direct impacts to eelgrass during project construction, the project could result in the loss of eelgrass overtime due to shading from the sheet pile or changes in sedimentation due to the expansion of the ramp structure. To account for these and other potential indirect impacts, Special Condition 3 also requires four years of post-construction monitoring surveys. This monitoring requirement is consistent with the California Eelgrass Mitigation Policy and Implementing Guidelines for actions where the impact on eelgrass cannot be fully determined until a substantial period after an action is taken (NMFS, 2014).

In addition, to ensure monitoring and mitigation oversite by the Commission, Special Condition 3 requires the Harbor District to submit a monitoring report to the Executive Director for review and approval within 90 days of completion of each post-construction growing season survey. These monitoring reports are required to include eelgrass maps and information on the spatial distribution, areal extent, percent cover, and turion density of eelgrass at the project and reference sites within the defined survey areas. The reports must also include: (1) a summary of work operations; (2) photo-documentation of pre- and post-construction site conditions; (3) an impact analysis, including a quantitative assessment of any impacts on eelgrass that may have occurred as a result of project actions; and (4) a calculation of the area required for compensatory mitigation if needed and a description of how mitigation requirements will be met. If post-construction survey results indicate any decrease in eelgrass distribution or density attributable to project impacts, then Special Condition 3 requires the Harbor District to submit an extended eelgrass mitigation and monitoring plan as an application for an amendment to CDP 1-16-0278 that is in substantial conformance with NMFS' October 2014 California Eelgrass Mitigation Policy and Implementing Guidelines, including an initial mitigation area to impact area ratio of 4.82:1. For the Northern California coast, NMFS recommends an initial mitigation ratio of 4.82:1 (transplant area to vegetated cover impact area) based on a 75% failure rate over the past 25 years in the region (based on 4 transplant actions). That is, for each square meter of eelgrass habitat adversely impacted, 4.82 square meters of new habitat with suitable conditions to support eelgrass should be planted with a comparable bottom coverage and eelgrass density as impacted habitat.

The Commission finds that the proposed project, as conditioned, will provide feasible mitigation measures to minimize its adverse environmental effects on eelgrass.

c. Construction-related impacts to the biological productivity and quality of coastal waters

The project as proposed involves demolition and construction within and adjacent to the Noyo River estuary that could result in sediments, debris, or hazardous materials entering coastal waters and impacting sensitive fish species, marine mammals, and their habitat, including the water quality of the estuary. To minimize temporary impacts from construction, the Harbor District proposes best management practices (BMPs) and avoidance and minimization measures as described in the project document "Noyo Harbor District Boat Launch Ramp and Parking Facilities Project Description," prepared by SHN and dated February 11, 2016.

To avoid the wet season and Coho salmon, steelhead, and Chinook salmon which spawn in the Noyo River watershed, the Harbor District proposes to limit construction work to the period of July 15th to October 15,th before the majority of the upstream adult spawning migrations and after the downstream migration of smolts has occurred. In addition, to minimize the generation of suspended sediment during construction, the Harbor District proposes to perform all construction activities occurring below high water mark during low tides only, and to install a full-depth turbidity screen around the waterside edge of construction. To prevent sediments, debris, and hazardous materials generated from landside construction activities from entering the Noyo River estuary, the Harbor District also proposes to install, prior to construction, a sand bag berm at the top of the ramp, a silt fence between South Harbor Drive and the river, and fiber rolls between the parking lot and the river, perpendicular to the slope of the land (See **Exhibit 4, pgs. 4 and 8**). The Harbor District also proposes (1) to stage construction materials in a flat, paved designated staging area at least 100 feet from Noyo River (see **Exhibit 5**); (2) to contain stockpiles at all times and cover before the onset of precipitation; and (3) to dispose of all construction debris at an authorized upland disposal location within 10 days of project completion and/ or prior to the onset of the rainy season, whichever is earlier. To ensure that the Harbor District implements these and other proposed best management practices (BMPs), the Commission includes the measures in **Special Condition 2**.

The proposed project includes the use of heavy equipment including an excavator, crane, backhoe, dump truck, and paving equipment. To ensure that adverse water quality impacts associated with hazardous material leaks and spills are minimized, the Harbor District proposes and **Special Condition 2** requires that: (1) heavy equipment shall only be operated from upland areas; (2) fuels, lubricants, and solvents shall not be allowed to enter Noyo River; (3) equipment used during construction shall be free of oil and fuel leaks at all times; (4) any fueling, equipment maintenance, concrete washout, and washing of construction equipment shall occur at least 100 feet away from the high water mark; (5) equipment used over the water will use biodiesel and vegetable based hydraulic oil; (6) hazardous materials management equipment shall be available and immediately on-hand at the project site; (7) a registered first-response, professional, hazardous materials clean-up/remediation service shall be locally available on call; (8) any accidental spill shall be rapidly contained and cleaned up; (9) BMPs for concrete paving and grinding operations

and storm drain inlet protection shall be employed to prevent concrete grindings, concrete slurry, and paving rinseate from entering drop inlets or sheet-flowing into coastal waters; and (10) no concrete shall be poured below the high water mark.

The Commission thus finds that the proposed development, as conditioned, provides feasible mitigation measures to minimize potential adverse environmental impacts of construction on the biological productivity and quality of coastal waters.

d. Impacts on water quality from the use of pressure-treated wood

The Harbor District proposes to demolish and remove an existing wooden boarding float and two associated treated-wood piles, and install a new fiberglass boarding float that includes treated wood. Chemicals in the wood preservative such as copper and arsenic could potentially leach into the water column where they could be absorbed by fish and other aquatic organisms with adverse consequences. To avoid releases of potentially toxic wood preservative chemicals into coastal waters, the Commission attaches **Special Condition 4** which includes a number of requirements to minimize water quality impacts from the use of new pressure-treated wood and the removal of old treated piles and wooden dock elements, including requirements that: (a) the treated wood added to the dock shall be certified by a third party inspection program to have been produced in accordance with industry BMP standards designed to minimize adverse impacts in aquatic environments; (b) pressure-treated wood used in the project shall be labeled for the appropriate Use Category for the intended use, as specified by the American Wood Protection Association Standard U1; (c) whenever possible, cutting or drilling of treated wood shall occur in the designated staging area at least 100 feet away from coastal waters, and any sawdust, drill shavings, and wood scraps shall be contained and collected to prevent the discharge of treated wood into the marine environment; (d) treated wood materials shall be stored during construction in a contained, covered area to minimize exposure to precipitation; and (e) existing treated wood elements to be removed shall be removed and disposed of at a landfill authorized to accept such chemically treated waste. Given that the project as conditioned will result in the removal of two existing creosote-treated piles and other wooden dock elements and best management practices will be utilized in selecting, cutting, drilling, stockpiling, and disposing of pressure-treated wood, the use of pressure-treated wood will not have a significant adverse impact on the water quality of the Noyo River estuary. The Commission thus finds that the proposed development, as conditioned, provides feasible mitigation measures to minimize potential adverse environmental impacts of pressure-treated wood on the biological productivity and quality of coastal waters.

e. Impacts on water quality from post-construction stormwater runoff

The project involves repaving 67,930 square feet of parking lot and roadway in close proximity to the Noyo River estuary. The parking lot to be resurfaced is elevated five to six feet above South Harbor Drive where South Harbor Drive curves around the western and northern sides of the parking lot, between the parking lot and the boat ramp (the boat ramp is located to the northwest of the parking lot). The entire facility is covered with impermeable concrete (the boat launch) and asphalt (the parking lot and road up to the launch), except for the western and northern side slopes of the parking lot which are

covered in ruderal vegetation (See **Exhibit 3, pg. 2** for a picture of the existing parking lot). Impervious surfaces block the natural infiltration of rainfall into the ground, which increases the volume and rate of stormwater runoff, changes the timing and duration of runoff flows, and impedes the filtration of pollutants that naturally occurs in soil. This may lead to problems in the watershed such as flooding, diminished groundwater replenishment, decreased stream base flows, higher stream temperatures, altered salinity in estuaries, and increased pollutant transport to waterways and the ocean.

To prevent stormwater runoff from the resurfaced parking lot resulting in the conveyance of sediment, debris, and pollutants into the adjacent Noyo River estuary, the Harbor District proposes to resurface the entire 61,980-square foot parking lot with permeable pavement. The District proposes to use standard pavement for the 5,950 square foot area at the head of the boat ramp as high traffic loading and the potential for groundwater would prevent the permeable pavement from functioning effectively in that location. In total, the Harbor District proposes to use permeable pavement for 93% of the project paving.

The proposed permeable pavement design consists of porous asphalt atop a 12-inch subgrade layer composed of drain rock (See Plan Sheet C-7, **Exhibit 4, pg. 6**). This design allows storm water to pass through the pavement's surface and be temporarily stored in a sub-surface stone-filled reservoir, before infiltrating slowly into the underlying soil subgrade. The Harbor District has designed the system to capture and retain the 85^{th} percentile storm event for the parking lot area. Based on soil borings taken during a geotechnical investigation of the site (SHN, 2014), the parking lot is underlain by silty sand soils, and a typical hydraulic conductivity value for loamy (silty) sands is 1.18 inches per hour. This information indicates that the runoff captured and stored in the permeable pavement subgrade section should percolate at a sufficient rate into the underlying soils. By capturing and infiltrating runoff, the permeable pavement will prevent sediments and pollutants from the parking lot from discharging into the Noyo River.

Permeable pavement can become clogged over time and stop functioning properly. To ensure that permeable pavement continues to effectively infiltrate stormwater for the life of the project, the Commission attaches **Special Condition 5** requiring a final maintenance and monitoring plan for the permeable pavement that includes monthly monitoring, annual testing, and twice annual maintenance including flushing or power-washing the surface of the porous asphalt pavement. Special Condition 5 also requires that porous asphalt shall at no time be sealed, coated, or repaved with impervious materials, including top coat sealers, asphalt sealers, crack sealers, or repaving with conventional asphalt.

As previously mentioned, the western and northern slopes of the parking lot are currently unpaved and covered with ruderal vegetation. The Harbor District proposes to remove 612 square feet of the existing vegetation and plant 1,650 square feet of new vegetation comprised of a native wildflower mix, for a net increase of 1,038 square feet of vegetation. This additional vegetation will help trap and filter any runoff that is not absorbed by the parking lot's permeable pavement before it reaches the river. The

vegetation will also prevent the unpaved slopes of the parking lot from eroding into the river. The Commission attaches **Special Condition 6** requiring a final landscaping plan that demonstrates, among other requirements, that the planting will be completed in a timely fashion within 90 days of completion of construction and that all proposed plantings will be maintained in good growing conditions throughout the life of the project, and whenever necessary, replaced with new plant materials.

In total, under the proposed project, the area of impermeable surfaces to be reconstructed or modified is 68,968 square feet. Of this amount, 61,980 square feet will be reconstructed with permeable pavement, and 1,038 square feet will become vegetation, resulting in a net decrease in impervious surface area of 63,018 square feet. The Commission finds that as proposed and conditioned, the development will improve stormwater detention and infiltration at the Noyo River Boat Launch facility, reducing stormwater runoff volume, flow rate, and pollutants, and thus protecting the biological productivity and quality of the Noyo River estuary. The Commission thus finds that the proposed development, as conditioned, provides feasible mitigation measures to minimize potential adverse environmental impacts on water quality from stormwater runoff.

f. Impacts of increased recreational boating use

Currently, use of the facility is diminished due to its deteriorated condition. By improving the boat launch and associated parking lot, the proposed project will encourage increased recreational boating use at the site. Recreational boating can have significant adverse effects on water quality and the biological productivity of coastal waters, such as an increase in debris dumped or inadvertently spilled into the marine environment, an increase in the potential for petroleum, cleaning agents, sewage, and other hazardous substances to enter coastal waters, and a source of the inadvertent spread of invasive aquatic organisms, among other effects. Impacts can be minimized through the implementation of boating BMPs such as boaters regularly inspecting and maintaining engines, seals, gaskets, lines, and hoses in order to prevent oil and fuel spills; and disposing of all trash, recyclables, and hazardous wastes in a proper manner. The spread of invasive aquatic organisms can be prevented by effectively washing boats and marine gear after leaving one water body and before entering the next. Boat launch facilities can encourage these boating BMPs by providing sewage pump-out facilities, fish cleaning areas, boat wash stations, and educational signage, among other management strategies. There are no sewage pump-out facilities, fish cleaning areas, or boat washing stations in the project vicinity. There is currently a sign located directly adjacent to the existing boarding float that describes the existence and importance of Marine Protection Areas (MPAs). As part of this project, the District proposes to post educational signage alongside the existing MPA sign to inform the public of boating BMPs to reduce the environmental impact of boating activities.

The Commission finds that educating boaters on environmentally sound boating practices and appropriate use of the site is an effective means of preventing some of the boating-associated impacts to water quality and marine resources discussed above. To ensure educational signage is installed as proposed, the Commission attaches **Special Condition 7** requiring a final design plan for all signage that demonstrates that at least one

educational sign shall be conspicuously posted informing the public of environmentally sound boating practices. Special Condition 7 also requires that educational signage be maintained and replaced as necessary over the life of the boat ramp facility. The Commission thus finds that the proposed development provides feasible mitigation measures to minimize potential adverse environmental impacts of increased recreational boating use on the biological productivity and quality of coastal waters.

g. Impacts of parking lot landscaping and lighting on native plants and wildlife

As part of the proposed project, approximately 612 square feet of existing vegetation near the parking lot will be removed and 1,650 square feet of new vegetation will be seeded with a native wildflower mix formulated for the site. If implemented poorly, new landscaping could negatively impact the biological integrity of the area from (1) the introduction of exotic invasive plant species or other genetically incompatible plantings or (2) the use of rodenticides. To avoid such adverse impacts to biological resources, the Commission attaches **Special Condition 6** requiring the preparation of a landscaping plan that demonstrates that only native plant species obtained from local genetic stock shall be planted and the use of rodenticides containing any anticoagulant compounds shall be prohibited. To prevent a delay in site revegetation or a lack of maintenance resulting in the erosion of bare soils and discharge of sediment into the adjacent Noyo River, Special Condition 6 also requires that the final landscaping plan demonstrate that all planting is completed within 90 days of the completion of construction and all plantings are maintained in good growing conditions throughout the life of the project, and whenever necessary, replaced with new plant materials.

In addition, an existing parking lot light will be moved approximately 30 feet to accommodate the proposed striping layout. Artificial night lighting can have a variety of significant direct and cumulative effects on flora and fauna, including disruption of light-dark photosynthesis cycles and circadian rhythms, disruption of foraging behaviors and increased risks of predation, and inference with vision and migratory orientation. To ensure that the effects of project's proposed lighting are minimized, the Commission attaches **Special Condition 8**. This condition requires that all exterior lights shall be low-wattage, non-reflective, shielded, and directed downward such that no light will shine beyond the boundaries of the parking lot or into the Noyo River. As conditioned, the Commission finds that the project provides feasible mitigation measures to minimize potential adverse impacts of parking lot lighting and landscaping on native plants and wildlife.

Maintenance and Enhancement of Habitat Values

As discussed in the above findings, the conditions of the permit will ensure that the development will not have significant adverse impacts on: mudflat habitat; eelgrass habitat; water quality from construction related impacts, use of pressure-treated wood, and post-construction stormwater runoff; and native plants and wildlife. Therefore, the Commission finds that the development, as conditioned, will maintain and enhance the biological productivity and functional capacity of the habitat, maintain and restore optimum populations of marine organisms, and protect human health consistent with Sections 30230, 30231, and 30233.

F. PUBLIC ACCESS & RECREATIONAL BOATING

Coastal Act Section 30210 states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Coastal Act Section 30211 states:

> *Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.*

Coastal Act Section 30212(a) states, in part:

> *Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or, (3) agriculture would be adversely affected.*

Section 30213 of the Coastal Act states, in part:

> *Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.*

Section 30220 of the Coastal Act states:

> *Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.*

Coastal Act Section 30224 states:

> *Increased recreational boating use of coastal waters shall be encouraged, in accordance with this division, by developing dry storage areas, increasing public launching facilities, providing additional berthing space in existing harbors, limiting non-water-dependent land uses that congest access corridors and preclude boating support facilities, providing harbors of refuge, and by providing for new boating facilities in natural harbors, new protected water areas, and in areas dredged from dry land.*

Coastal Act Section 30234 states:

> *Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for*

> *those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.*

The proposed project will replace an existing, deteriorated public boat launch facility with a new ADA-compliant facility that meets DBW guidelines for small craft boat launching facilities. The 49-year-old existing facility, comprised of a parking lot and boat launch ramp, is open to the public free of charge and is used primarily to launch recreational sportfishing vessels with occasional use by commercial fishermen. Currently, use of the facility is diminished due to its deteriorated condition. By improving the boat launch and associated parking lot, the proposed project will protect and upgrade a low cost recreational amenity that provides access to the Noyo River estuary for recreational boaters and the public at large.

Under the proposed project, the existing boat launch ramp will be replaced with a longer ramp that will allow boats to launch during lower tides. The parking lot will also be repaved to address severe potholing and will be striped to designate parking spaces. In addition, a restroom will be installed in the parking lot and an ADA-compliant path will be constructed leading from the parking lot to the waterfront. These improvements will make the boat launch facility more accessible and safe for a wider array of users, improving public access to the Noyo Harbor and encouraging increased recreational boating use.

The boat launch and parking facility will be closed during construction for approximately three months. According to the Harbor District, construction of the boat launch improvements, the in-water portion of the project, will take approximately 30 days and will occur between July 15th and October 15th to avoid the peak salmonid migration window. The Harbor District also proposes to begin the landside work (i.e., the parking lot, bathroom, and ADA pathway construction) at the same time, to coincide with the dry season and to avoid impacting the area during the July 4th Salmon Barbeque, an annual event that utilizes the subject parking lot. A maximum 60 day construction window is anticipated for landside work, resulting in the completion of the entire project prior to October 1 and the beginning of the rainy season. The projected schedule is based on a very small window that includes both wet-season and salmonid migration avoidance as well as minimizing impact to the annual Salmon Barbeque.

Recreational fishing out of Noyo Harbor is possible throughout much of the year depending on resource availability and regulations, with salmon available in the spring through fall (when the season is open), albacore in late summer (when it is within range), abalone in late spring through fall, crab in winter, and rockfish year-round. Although the proposed summer construction window is a time of high use for the facility, the impact is short-term and temporary, and the project will maintain and restore a recreational boating facility and improve public access to the Noyo River over the long-term. Furthermore, the Harbor District manages a second public launch facility upstream of the project site, just past the Noyo Harbor marina (See **Exhibit 2, pg. 1**). This second boat launch ramp and parking lot can be accessed by traveling one half mile northeast on Basin Street from the subject boat launch facility. During the construction period, signage will be posted at the entrance of the parking lot to notify boaters of the temporary shut-down of the ramp and directions to the alternative facility upstream. As the closure of the dock will be for a relatively

short duration and alternative public access and recreational boating facilities exist nearby that can be used instead, the Commission finds that the temporary adverse impacts of construction on public access and recreational boating are not significant.

The proposed project involves the removal of two existing piles from the river. If the piles are only partially removed, or broken off during removal and left in the water, they could pose a safety and navigation hazard to boaters and other river users. Therefore, to avoid adverse impact to public access and recreation on the river from hazardous piles, the Commission attaches **Special Condition 2(D)** to ensure that all piles that cannot be removed in their entirety are cut off one-foot below the mudline.

The Commission thus finds that the proposed development, as conditioned, is consistent with Coastal Act Policies 30210, 30211, 30212, 30213, 30220, 30224, and 30234.

G. HAZARDS

Section 30253 of the Coastal Act states in applicable part:

> *New development shall do all of the following:*
>
> *(1) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.*
>
> *(2) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs…*

The proposed project is located within a seismically active area at a site underlain by loose silty sands and undocumented fill that is subject to numerous seismic hazards, including strong ground motions, soil liquefaction, and lateral spreading. To address the significant geologic risks of the proposed project, SHN prepared a geotechnical investigation which included subsurface explorations at the boat launch ramp and in the vicinity of the proposed restroom. In a report dated December 12, 2014, SHN makes a number of recommendations on the design and construction of the project based on the site conditions and resulting hazards, which have been incorporated into the project design and construction plans. The proposed boat launch's location on the south bank of the Noyo River estuary also places it at risk of damage due to inundation, scour, and wave attack. To ensure that the replacement launching facility is designed to withstand these river forces, the proposed replacement boat launch has been designed in compliance with the DBW's Layout, Design and Construction Handbook for Small Craft Boat Launching Facilities (1991). Because the proposed project will comply with the site-specific recommendations of the project's geotechnical report as well as DBW standards, the development is designed to assure stability and structural integrity consistent with the requirements of Section 30253(b).

Section 30253(b) also requires that new development not create nor contribute significantly to erosion. While the subject boat launch is a form of hard armoring on the south bank of the Noyo

River, the boat launch is replacing an existing launch in the same location and therefore will not modify the shoreline profile. In addition, the adjacent properties and the entire south bank of the Noyo Harbor is developed and armored, so the subject launch will not have an impact on shoreline erosion on adjacent properties. The adjacent upstream and downstream developments extend into the channel further than the boat launch, and the expanded launch will remain in their current shadow. Thus changes in sedimentation patterns will be negligible.

The construction of a boat launch in coastal waterways requires consideration of existing and future water levels. According to the Harbor District, the high water line for the project location is currently 6.1 feet elevation. The designed top elevation of the proposed boarding float as well as the proposed concrete ramp is 7.86 feet.[1] These design elevations allow for 21.12 inches of sea level rise before the ramp is completely inundated and thus no longer operable during high tides. The State of California supported the preparation of the 2012 National Research Council (NRC)'s report, Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present, and Future, which is currently considered the best available science on sea level rise for Mendocino County. For areas south of Cape Mendocino, the NRC projects 2 to 12 inches of sea level rise by 2030, 5 to 24 inches by 2050, and 17-66 inches by 2100.[2] The Harbor District proposes a design life of 20 years for the reconstructed boat launch facility based on the expectations of the project's funder, DBW, that the project is maintained and functional for this period of time (i.e., until 2037). As previously mentioned, the design elevations allow for 21 inches of sea level rise, which is above the worst case scenario projection for 2030 and 3 inches below the worst case scenario projection for 2050. The boat launch's parking lot is elevated above the boat ramp at approximately 11 to 16.4 feet in elevation and is therefore safe from inundation given current sea level rise projections. Therefore, the Commission finds that the proposed project as conditioned will assure stability and structural integrity over the life of the development, consistent with Section 30253(b) of the Coastal Act.

As discussed above, the existing boat launch is located in an area of high hazard from tidal and river currents and tsunamis surge, and the proposed boat launch replacement is necessary to address previous damage from these hazards and to protect and restore the structural integrity of the boat launch. Due to the uncertain nature and inherent risk associated with the construction of improvements in high energy coastal environments, the Commission attaches **Special Condition 9**. Special Condition 9 requires the Harbor District to assume the risks of extraordinary hazards in Noyo Harbor and waive any claim of liability on the part of the Commission. Given that the Harbor District has chosen to implement the project despite these risks, the Harbor District must assume the risks. In this way, the Harbor District is notified that the Commission is not liable for damage as a result of approving the permit for the development. The condition also requires the Harbor District to indemnify the Commission in the event that third parties bring an action against the Commission as a result of the failure of the development to withstand hazards.

The Commission finds that as conditioned, the development will minimize risks to life and property from geologic and flood hazards, will assure stability and structural integrity, and will neither create nor contribute significantly to geologic instability or erosion of the site or surrounding area consistent with the requirements of Section 30253 of the Coastal Act.

[1] The existing top elevation of the ramp is 6.47 feet (Exhibit 4, pg. 1).
[2] Year 2000 sea level is the baseline for these projections.

H. VISUAL RESOURCES

Section 30251 of the Coastal Act states in applicable part:

> *The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality of visually degraded areas.*

The proposed project will upgrade a deteriorated boat launch and parking lot, improving the visual quality of the area. The project will not result in the alteration of natural landforms, as the boat launch will be replaced in the same location as the existing ramp and the existing parking lot will not be significantly regraded. The project is also generally visually compatible with the relatively open, industrial, fishing and boating-oriented character of the surrounding area.

Except for the new restroom and signage, the proposed improvements will be at or below grade so the project will have a minimal effect on views to and along the Noyo River. The proposed restroom is small in size (12 by 10.5 feet) and will not adversely affect views to and along the coast or the visual character of the area. The Harbor District has submitted final design plans for a new three-foot-tall dedication sign for the facility, but has not submitted final plans for proposed directional and educational signage. The Harbor District has indicated that the signs will be no larger than 3 feet by 3 feet. To ensure the new signs will be constructed to be unobtrusive on the landscape and visually compatible with the character of the surrounding area, the Commission attaches **Special Condition 7**. Special Condition 7 requires the permittee, prior to construction of the signage, to submit final plans, for the review and approval of the Executive Director, that include the location, dimensions, materials, colors, and contents of all proposed signage. The final plans must demonstrate how the facility's signage will be visually compatible with the character of surrounding areas.

The Commission therefore finds that the project, as conditioned, will be consistent with Section 30251 of the Coastal Act as the project will not adversely affect views to or along the coast, result in major landform alteration, or be incompatible with the character of the surrounding area.

I. CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

The North Coast Regional Water Quality Control Board served as the lead agency for the project for CEQA purposes. The Regional Board found the project categorically exempt from CEQA pursuant to Section 15301(c)(d) of the CEQA Guidelines (Existing Facilities). Section 13906 of the Commission's administrative regulation requires Coastal Commission approval of CDP applications to be supported by a finding showing the application, as modified by any conditions of approval, is consistent with any applicable requirements of the California Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are any feasible alternatives or feasible mitigation measures available, which would substantially lessen any significant adverse effect the proposed development may have on the environment.

The Commission incorporates its findings on Coastal Act consistency at this point as if set forth in full. As discussed above, the proposed project has been conditioned to be consistent with the policies of the Coastal Act. The findings address and respond to all public comments regarding potential significant adverse environmental effects of the project on coastal resources that were received prior to preparation of the staff report. As conditioned, there are no other feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse impacts which the activity may have on the environment. Therefore, the Commission finds that the proposed project, as conditioned to mitigate the identified impacts, can be found consistent with the requirements of the Coastal Act to conform to CEQA.

APPENDIX A
SUBSTANTIVE FILE DOCUMENTS

Application File for Coastal Development Permit No. 1-16-0278.

California Department of Boating and Waterways, Boating Facilities Division. (1991, March). Layout, design, and construction handbook for small craft boat launching facilities. Available online at: http://www.dbw.ca.gov/PDF/LaunchFac/LRamps.pdf

California Department of Transportation. (2009, February). Technical guidance for assessment and mitigation of the hydroacoustic effects of pile driving on fish. Sacramento, CA: ICF Jones & Stokes, Illinworth & Rodkin.

National Marine Fisheries Service. (2014, October). California Eelgrass Mitigation Policy and Implementing Guidelines.

Northwest Fisheries Science Center. Community profiles for West Coast and North Pacific fisheries; Fort Bragg. Available online at: https://www.nwfsc.noaa.gov/research/divisions/cb/ecosystem/humandim/communityprofiles/California/Fort_Bragg_CA.pdf

Policy Consulting Associates, LLC. (2014, January 7). Noyo Harbor District municipal service review, public review draft. Prepared for the Local Agency Formation Commission of Mendocino County. Available online at: http://www.mendolafco.org/msr/nhd_msr_public_review_draft_01-07-14.pdf

Pomeroy, C., Thomson, C. J., & Stevens, M. M. (2010, August). California's north coast fishing communities historical perspective and recent trends; Fort Bragg/Noyo Harbor fishing community profile. La Jolla: California Sea Grant College Program, Scripps Institution of Oceanography, University of California San Diego. Available online at: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/CA_NCoastFCP.pdf

West Coast Watershed. (2007, August). Noyo River Watershed enhancement plan. Available online at: http://noyoriver.org/Noyo_River_WEP.pdf

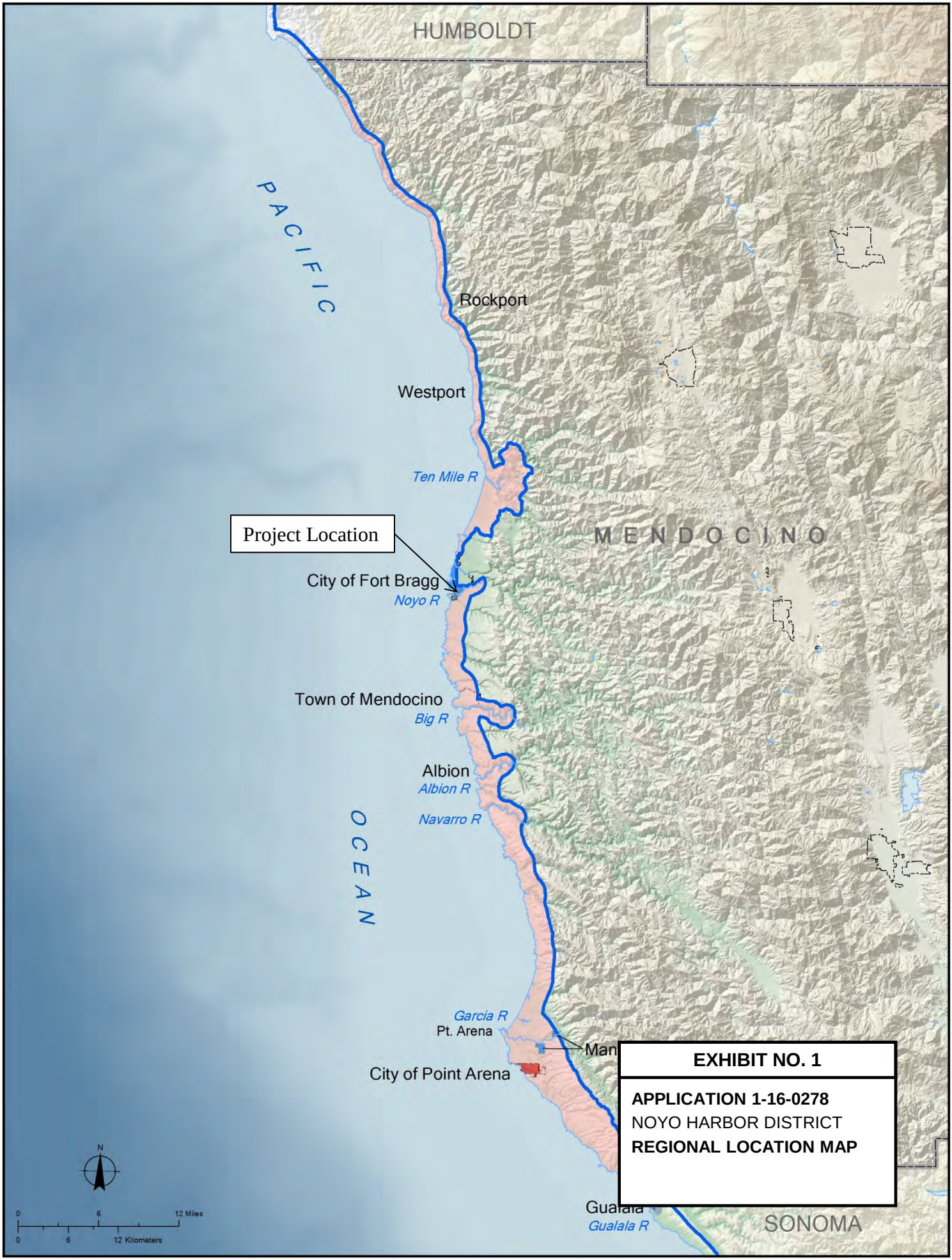


EXHIBIT NO. 1

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
REGIONAL LOCATION MAP

EXHIBIT NO. 2

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
VICINITY MAPS
1 of 2

Google earth

feet 1000
meters 300

Picture taken from South Harbor Drive looking north toward the boat ramp and the Noyo River.

Picture taken from the boat ramp looking north toward the Noyo River.

EXHIBIT NO. 3

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
SITE PHOTOGRAPHS
1 of 2

Picture of a patch of eelgrass directly to the west of the bottom of the existing boat launch ramp.

Picture looking east down South Harbor Drive with the boat launch parking lot to the south.

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

SHEET INDEX AND PROJECT CONTROL

DESIGN JDI
DR JDI
CHK WSB
APVD

NO.	DATE	REVISION	BY

SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.
333 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY
0 1"

SHEET C-1
SEQ 3
DATE 06/2016
PROJ. NO. 414059

REGISTERED PROFESSIONAL ENGINEER — JAMES D. JASON — CIVIL — STATE OF CALIFORNIA

KEY

AREA OF NEW AC PAVING SECTION. ALL OTHER PAVED AREAS TO BE NEW PERMEABLE PAVEMENT

CONTROL POINTS

#	POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	1	2285020.6837'	6052388.3847'	16.398'	MAG&S
2	2	2285157.6484'	6052341.9178'	8.472'	MAGS
3	3	2284963.3978'	6052765.0780'	15.567'	
4	4	2284774.5060'	6052538.5780'	15.133'	MAGS
5	5	2285092.5389'	6052527.0881'	11.124'	F

SURVEY NOTES:

HORIZONTAL DATUM: CCSB3 ZONE 2 BASED UPON GPS OBSERVATIONS, PROCESSED WITH CORS STATIONS P312 & P168 REFERENCE EPOCH 2014.80475
VERTICAL DATUM: NAVD 88 BASED UPON CORS GPS DATA

UNDERGROUND UTILITY NOTE:
UNDERGROUND UTILITY INFORMATION SHOWN IS BASED ON VISIBLE EVIDENCE, SHN MAKES NO GUARANTEE REGARDING LOCATION, TYPE, SIZE, NOR PRESENCE, OR ABSENCE OF UNDERGROUND UTILITIES.
IRRIGATION SYSTEM NOT MAPPED.

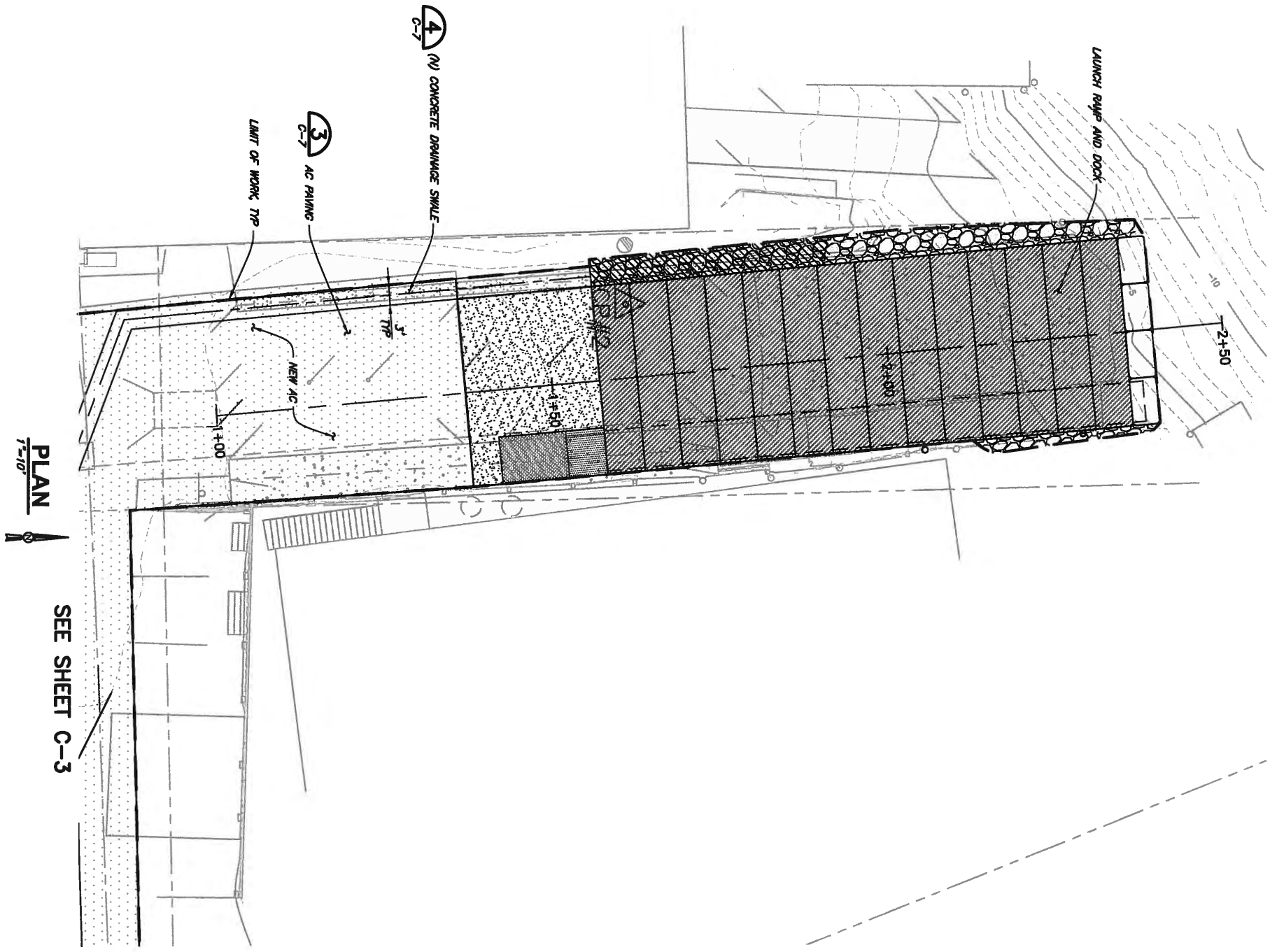
OVERHEAD UTILITY NOTE:
OVERHEAD LINES OFF OF THE PROJECT SITE ARE NOT FULLY MAPPED. INFORMATION SHOWN IS BASED ON VISIBLE EVIDENCE. NO MAPPING OBTAINED FOR PHONE AND CABLE TELEVISION FACILITIES. PHONE AND CABLE TELEVISION LINE LOCATIONS NOT VERIFIED.

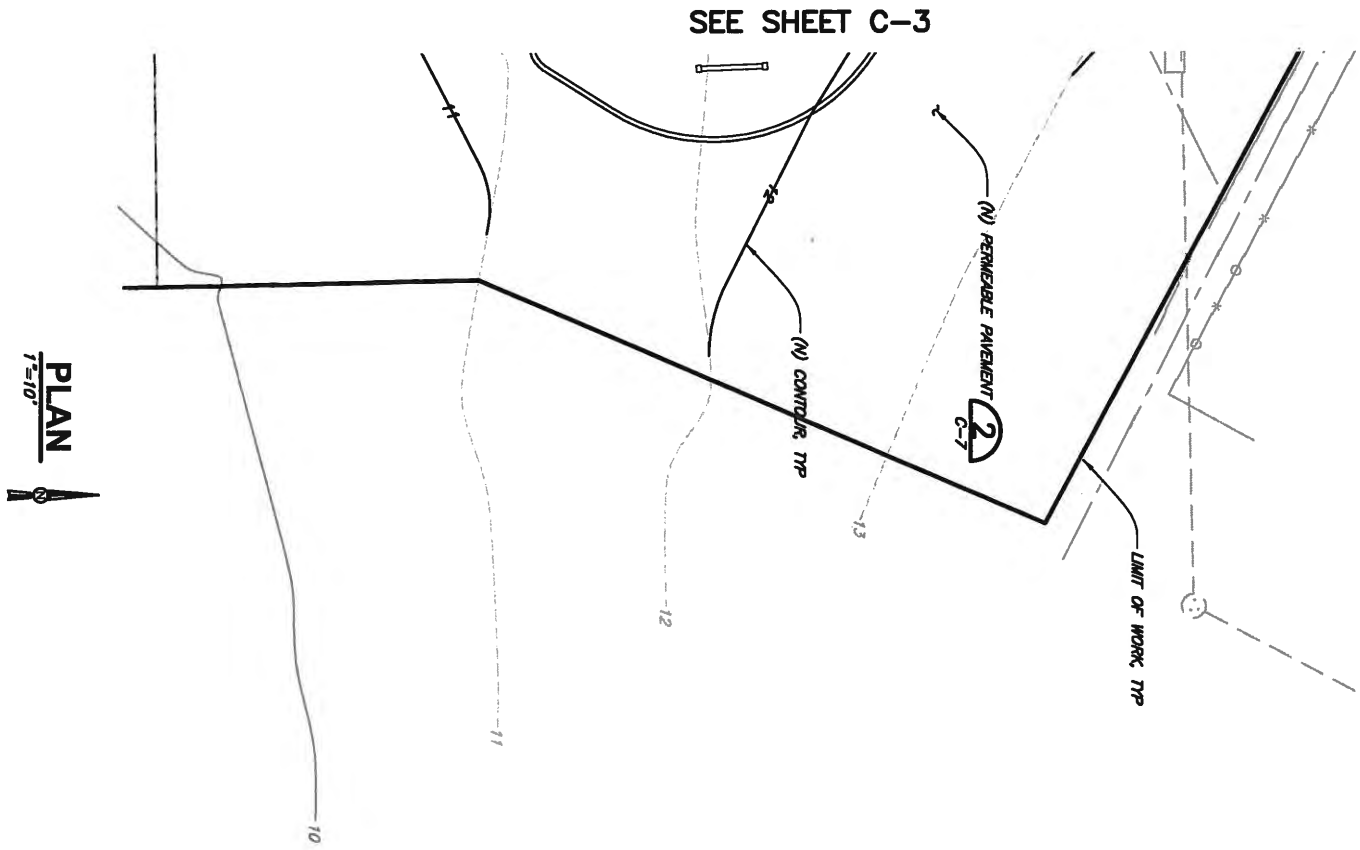
BOUNDARY NOTE:
THE BOUNDARY SHOWN HEREON IS BASED UPON FOUND MONUMENTS AND RECORD DATA PER THE RECORD OF SURVEYS FILED IN M.C. V. D. 38, P. 23, M.C.R. AND MAPS, D. 79, P. 69, M.C.R.

EXHIBIT NO. 4

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
PROJECT PLANS
1 of 16

SAVED: 5/23/2016 4:41 PM JISLAND, PLOTTED: 5/23/2016 4:47 PM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg





PRELIMINARY
REGISTERED PROFESSIONAL ENGINEER
JASON G. ISLAND
No. 80117
CIVIL
STATE OF CALIFORNIA

PROJ. NO. 414059	SHEET C-2	NOYO HARBOR DISTRICT BOAT LAUNCH RAMP AND PARKING FACILITIES SOUTH HARBOR DRIVE, FORT BRAGG, CA	DSGN JGI	NO.	DATE	REVISION	BY
DATE 06/2016	SEQ 4	BOAT LAUNCH RAMP	DR JGI				
			CHK WSB				
			APVD				

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SAVED: 5/23/2016 4:41 PM JISLAND, PLOTTED: 5/23/2016 4:42 PM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg

SEE SHEET C-2

SEE SHEET C-5

PLAN
1"=10'

DETAIL 1
NTS

SEE SHEET C-2

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

PARKING LOT IMPROVEMENTS 1
GRADING AND DRAINAGE

DSGN	JGI
DR	JGI
CHK	WSB
APVD	

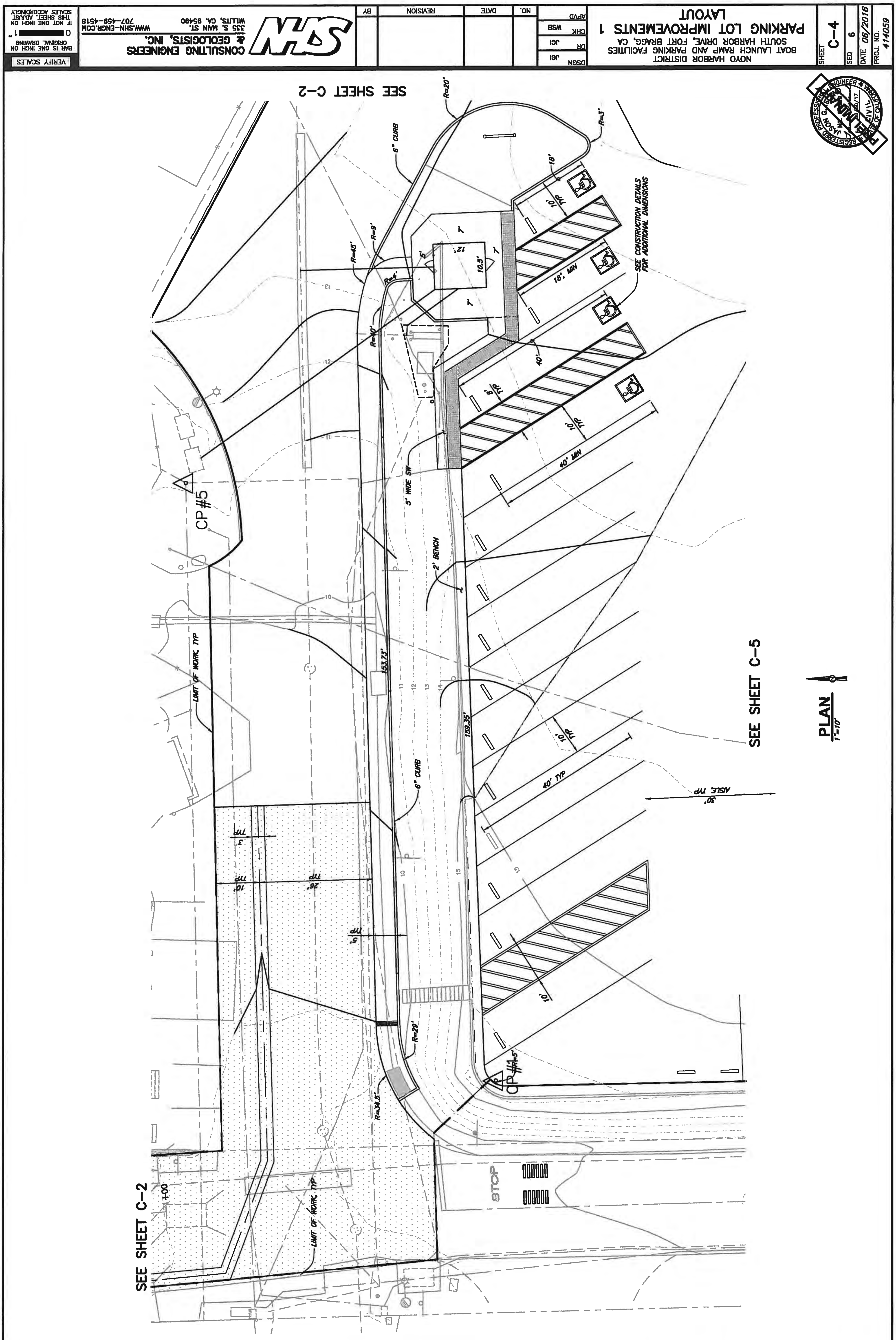
NO.	DATE	REVISION	BY

SHEET C-3
SEQ 5
DATE 06/2016
PROJ. NO. 414059

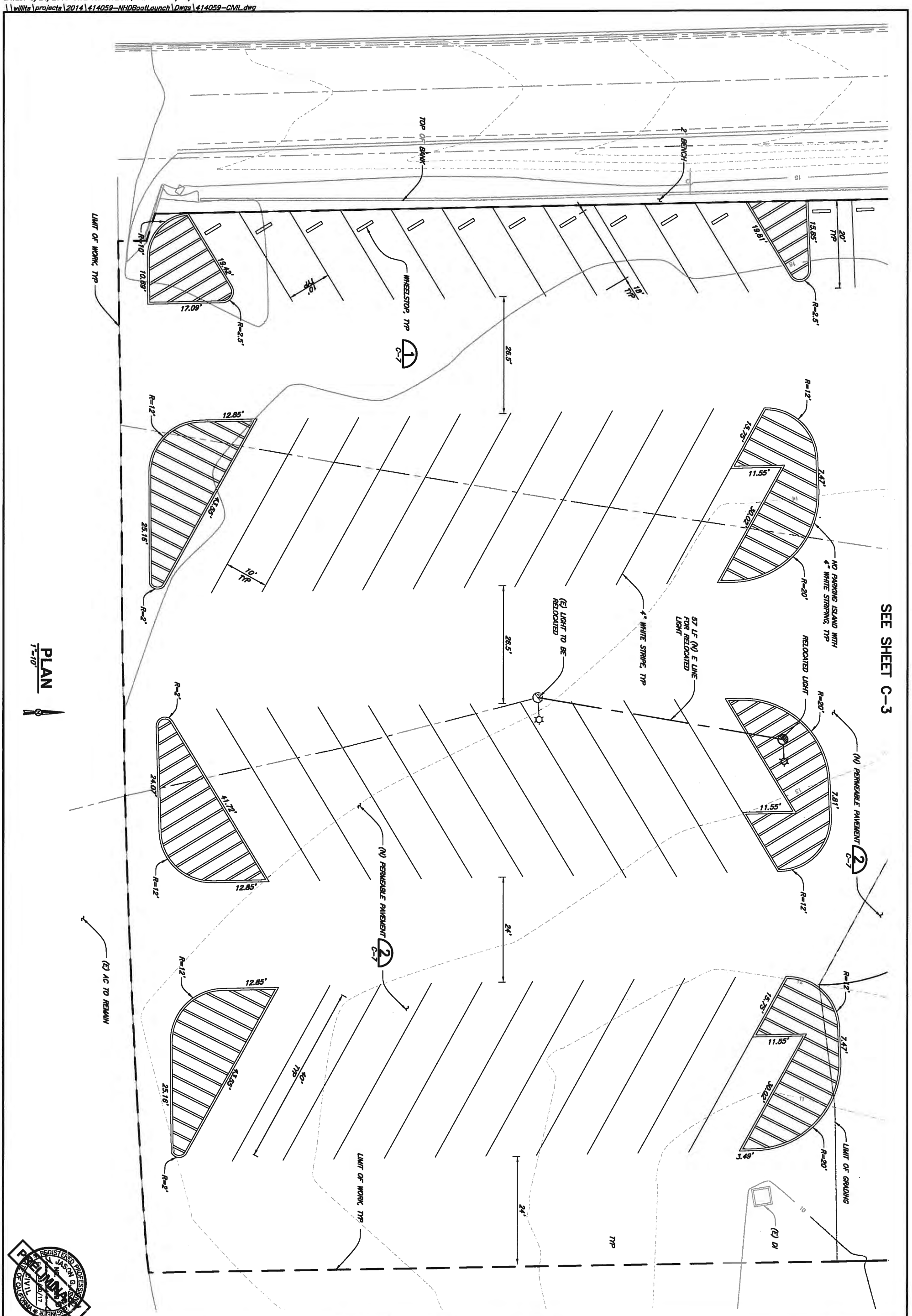
CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER * JASON G. ISLAND * No. 18765 * CIVIL * STATE OF CALIFORNIA
PRELIMINARY


NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA
PARKING LOT IMPROVEMENTS 1
LAYOUT
SHEET C-4
SEQ 6
DATE 06/2016
PROJ. NO. 414059
DSGN JGI
DR JGI
CHK WSB
APVD
NO.
DATE
REVISION
BY
SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY
VERIFY SCALES
SEE SHEET C-2
SEE SHEET C-5
SEE SHEET C-2
PLAN
1"=10'
6" CURB
R=20'
R=3'
R=45'
R=9'
R=4'
R=40'
R=29'
R=34.5'
R=5'
18'
10' TYP
7'
12'
10.5'
5'
18', MIN
40'
8' TYP
40' MIN
40' TYP
30' AISLE, TYP
SEE CONSTRUCTION DETAILS FOR ADDITIONAL DIMENSIONS
5' WIDE SW
2' BENCH
153.73'
159.35'
LIMIT OF WORK, TYP
3' TYP
10' TYP
26' TYP
5' TYP
CP #5
CP #1
STOP
1+00
SAVED: 5/23/2016 4:41 PM JISLAND, PLOTTED: 5/23/2016 4:50 PM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg

SAVED: 5/24/2016 9:02 AM JISLAND, PLOTTED: 5/24/2016 9:02 AM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg



PLAN
1"=10'

PRELIMINARY
REGISTERED PROFESSIONAL ENGINEER
JASON G. ISLAND
No. 18460
CIVIL
STATE OF CALIFORNIA
8/30/17

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

PARKING LOT IMPROVEMENTS 2

DSGN	JGI
DR	JGI
CHK	WSB
APVD	

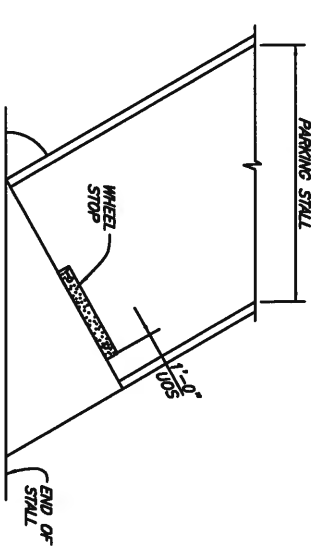
NO.	DATE	REVISION	BY

SHEET C-5
SEQ 7
DATE 06/2016
PROJ. NO. 414059

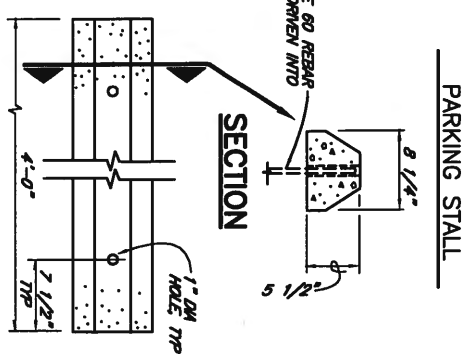
SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

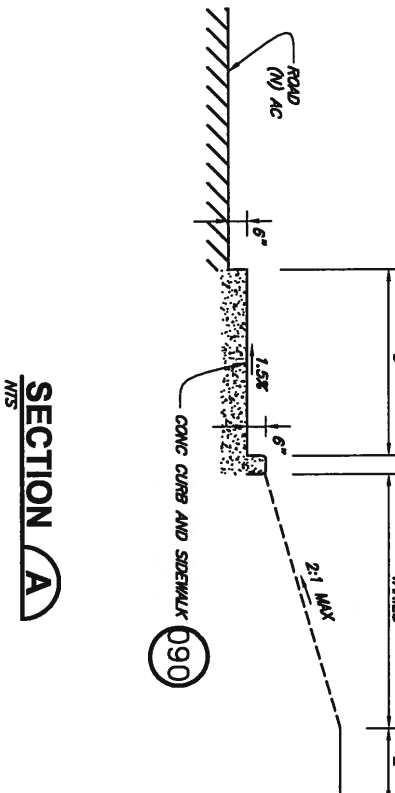
SAVED: 5/23/2016 4:05 PM JISLAND, PLOTTED: 5/23/2016 4:11 PM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg



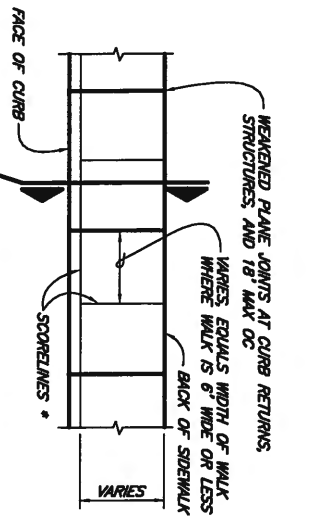
PARKING STALL



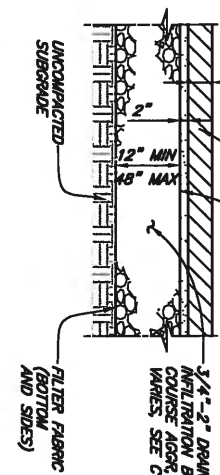
DETAIL 1
NTS
(WHEEL STOP)



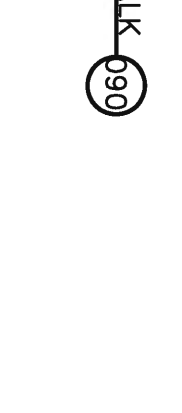
SECTION A
NTS



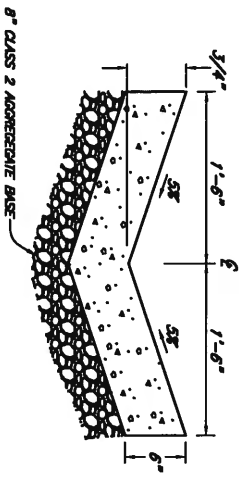
CURB AND SIDEWALK
NO SCALE
090



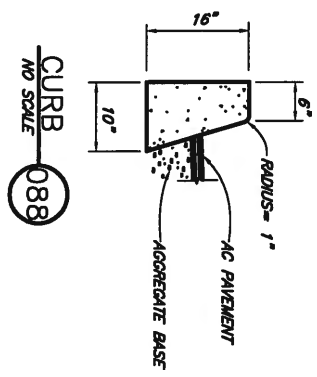
DETAIL 2
NTS
(PERMEABLE PAVEMENT SECTION)



DETAIL 3
NTS
(AC PAVING)



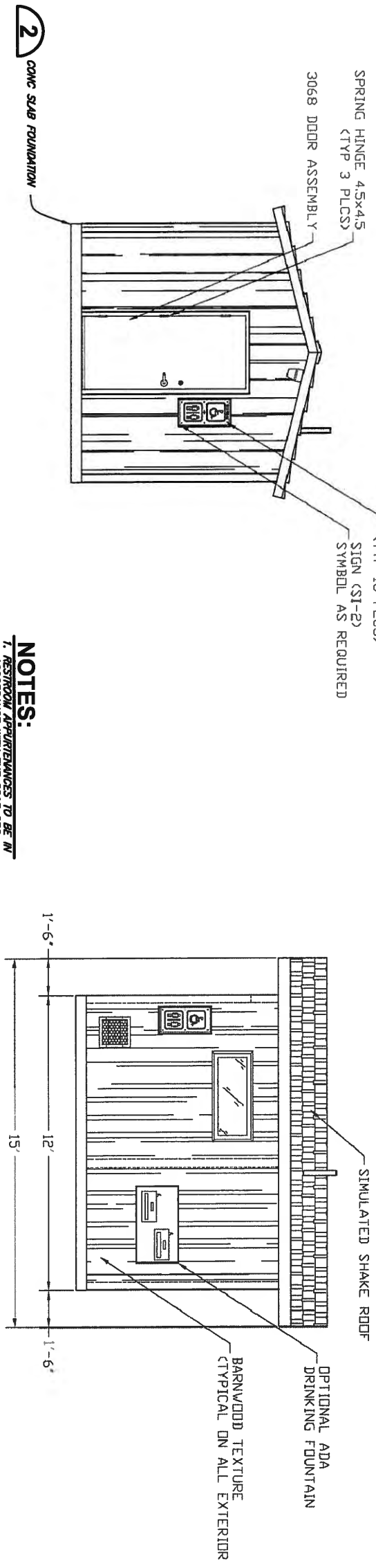
DETAIL 4
NTS



CURB
NO SCALE
088

PROJ. NO. 414059	DATE 06/2016	SEQ 9	SHEET C-7	NOYO HARBOR DISTRICT BOAT LAUNCH RAMP AND PARKING FACILITIES SOUTH HARBOR DRIVE, FORT BRAGG, CA **CONSTRUCTION DETAILS**	DSGN JGI DR JGI CHK WSB APVD	NO. / DATE / REVISION / BY	SHN CONSULTING ENGINEERS & GEOLOGISTS, INC. 335 S. MAIN ST. WILLITS, CA. 95490 WWW.SHN-ENGR.COM 707-459-4518	VERIFY SCALES BAR IS ONE INCH ON ORIGINAL DRAWING 0 — 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SAVED: 5/24/2016 9:02 AM JISLAND, PLOTTED: 5/24/2016 9:04 AM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-CIVIL.dwg



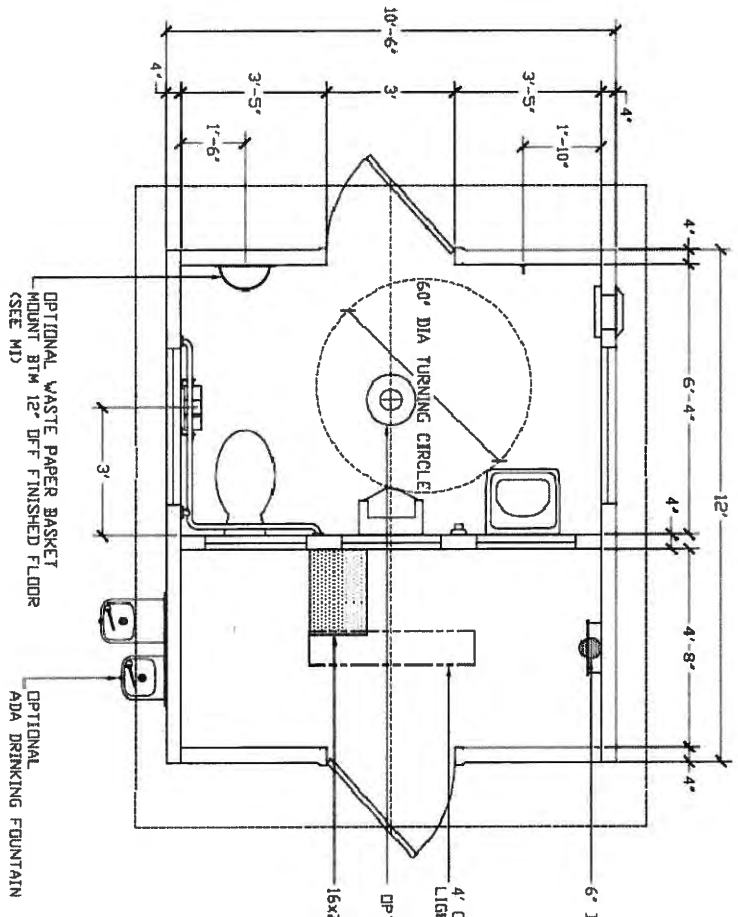
2 CONC SLAB FOUNDATION

FRONT ELEVATION

RIGHT END ELEVATION

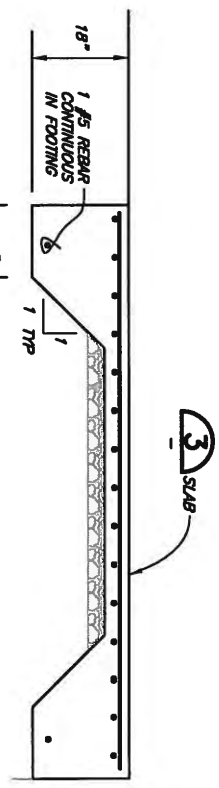
NOTES:

1. RESTROOM APPURTENANCES TO BE IN ACCORDANCE WITH THE 2013 CBC.
2. OPTIONAL DRINKING FOUNTAINS WILL NOT BE A PART OF THIS PROJECT.

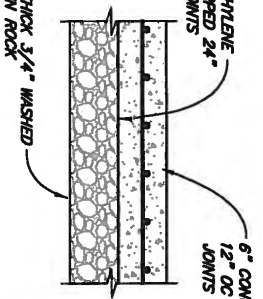


DETAIL 1
NTS

(CXT FLUSH BATHROOM UNIT)



DETAIL 2
NTS



DETAIL 3
NTS

PRELIMINARY
REGISTERED PROFESSIONAL ENGINEER
JASON G. ISLAND
No. 18760
CIVIL
STATE OF CALIFORNIA
10/17

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

CONSTRUCTION DETAILS

DSGN	JGI
DR	JGI
CHK	WSB
APVD	

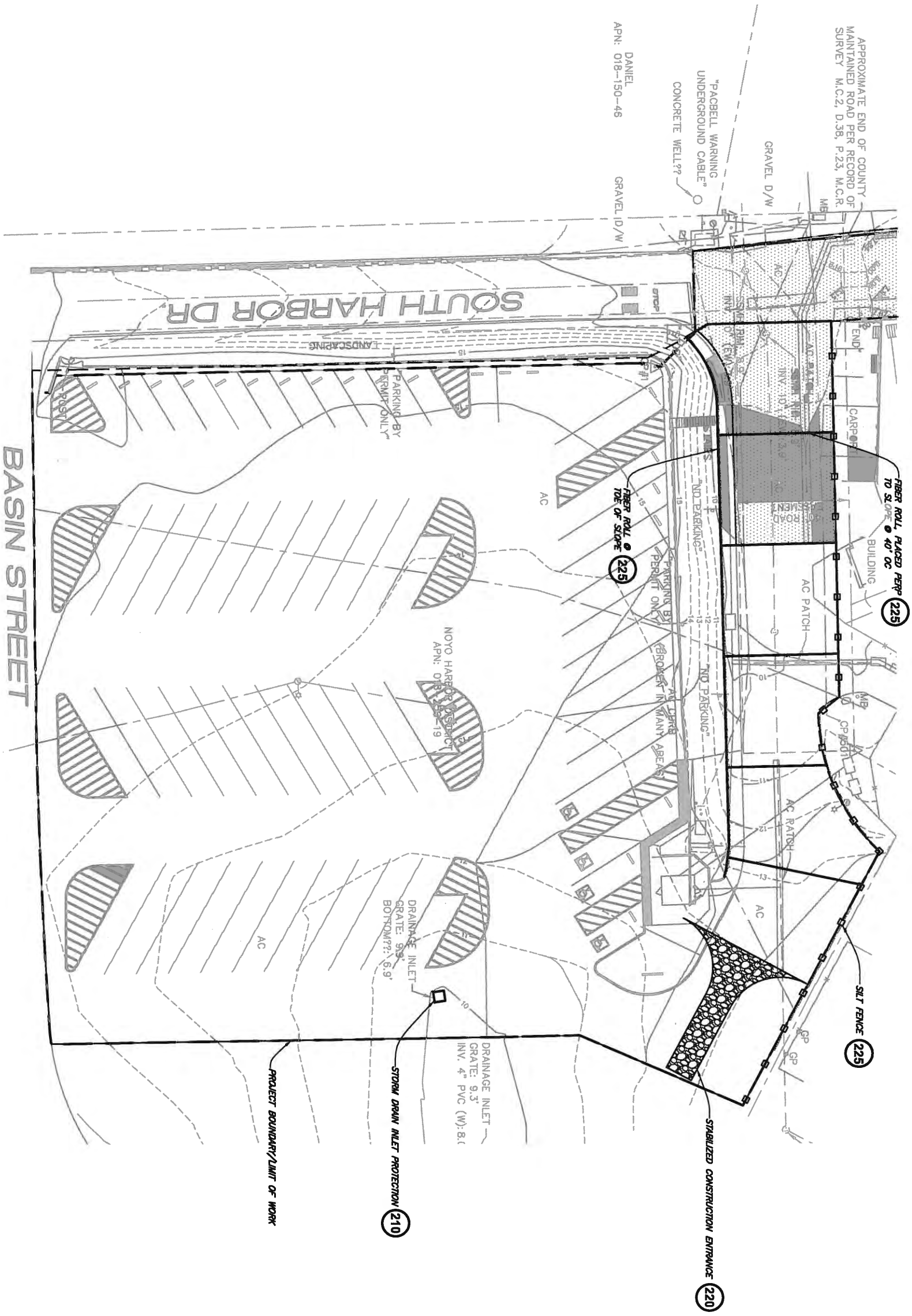
NO.	DATE	REVISION	BY

SHEET C-8
SEQ 10
DATE 06/2016
PROJ. NO. 414059

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SAVED: 3/28/2016 3:55 PM MMILECK, PLOTTED: 5/24/2016 9:32 AM JASON ISLAND
\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs\414059-ESCP.dwg



PRELIMINARY
REGISTERED PROFESSIONAL ENGINEER
JASON G. IMMEL
No. 18760
CIVIL
STATE OF CALIFORNIA
06/17

PROJ. NO. 414059	SHEET EC-1	NOYO HARBOR DISTRICT BOAT LAUNCH RAMP AND PARKING FACILITIES SOUTH HARBOR DRIVE, FORT BRAGG, CA **EROSION AND SEDIMENT CONTROL PLAN**	DSGN JGI DR DRFT CHK CHKR APVD	NO.	DATE	REVISION	BY

DATE 06/2016
SEQ

SHN CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

EROSION AND SEDIMENT CONTROL PLAN NOTES:

1. ALL WORK SHALL BE PERFORMED IN CONFORMANCE WITH THE RECOMMENDATIONS OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP), (SHN, 2015)
2. BEFORE COMMENCING WORK, THE CONTRACTOR SHALL SCHEDULE, AND CONDUCT AN IN-FIELD PRE-CONSTRUCTION MEETING WITH THE OWNER AND THE ENGINEER TO DISCUSS THE INTENT AND THE REQUIREMENTS OF THE EROSION AND SEDIMENT CONTROL PLAN (ESCP).
3. CONTRACTOR SHALL TAKE EFFECTIVE ACTION TO PREVENT THE FORMATION OF ANY AIRBORNE DUST NUISANCE AND SHALL BE RESPONSIBLE FOR ANY DAMAGE RESULTING FROM HIS FAILURE TO DO SO. ALL CONSTRUCTION SHALL BE PERFORMED IN SUCH A MANNER AS TO COMPLY WITH THE STANDARDS ESTABLISHED BY THE AIR QUALITY MANAGEMENT DISTRICT FOR AIRBORNE PARTICULATES.
4. THIS PLAN IS THE MINIMUM LEVEL OF PROTECTION REQUIRED. CONTRACTOR SHALL USE ADDITIONAL BEST MANAGEMENT PRACTICES (BMPs) WHERE APPLICABLE AND AS NECESSARY TO PREVENT THE DISCHARGE OF POLLUTANTS IN STORMWATER RUNOFF. BMP FACT SHEETS ARE INCLUDED IN THE SWPPP.
5. IN THE EVENT THAT ANY ASPECT OF THIS PLAN FAILS, THE CONTRACTOR IS RESPONSIBLE FOR IMMEDIATELY CONTACTING THE ENGINEER TO MAKE A RECOMMENDATION FOR APPROVAL. UPON ENGINEERS APPROVAL THE RECOMMENDATION WILL BE IMPLEMENTED BY THE CONTRACTOR.
6. ALL SIGNIFICANT GRADING & EARTHWORK SHALL BE COMPLETED DURING THE DRY SEASON, BETWEEN APRIL 15TH AND OCTOBER 15TH, UNLESS WEATHER PERMITS OTHERWISE.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTANT MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES AT ALL TIMES TO THE SATISFACTION OF THE ENGINEER. EROSION AND SEDIMENT CONTROL CONTROL MEASURES AND THEIR INSTALLATION SHALL BE ACCOMPLISHED USING BMPS AND SHALL AT A MINIMUM COMPLY WITH REQUIREMENTS OF THE PROJECT SWPPP.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CORRECTING ANY DISCHARGE VIOLATIONS AND SHALL TAKE CORRECTIVE MEASURES TO BECOME COMPLIANT WITH THE PROJECT SWPPP.
9. ALL DISTURBED SOILS SHALL BE PROTECTED USING BEST MANAGEMENT PRACTICES, AS OUTLINED IN THE PROJECT SWPPP.
10. UNSTABILIZED, STORM DAMAGED AREAS WILL BE REPAIRED AS SOON AS POSSIBLE AND WITHIN 48 HOURS AFTER BEING DAMAGED.
11. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REPAIRED OR REPLACED WHEN THEY ARE NO LONGER FUNCTIONING PER BMP GUIDANCE STANDARDS.
12. REFER TO THE PROJECT CONTRACT DOCUMENTS FOR THE CONTRACTOR'S RESPONSIBILITIES TO PAY ANY FINES ISSUED FOR PERMIT VIOLATIONS.

SEDIMENT CONTROL

13. CONSTRUCTION OF EROSION AND SEDIMENT CONTROL MEASURES AND BMPs SHALL CONFORM TO:
    A. STATE WATER RESOURCES CONTROL BOARD (SWRCB) CONSTRUCTION GENERAL PERMIT (ORDER NO. 2009-0009-DWQ AS AMENDED IN 2010 AND 2012)
    B. PROJECT SWPPP (SHN, 2015)
14. IMPLEMENTATION OF THE ESCP AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THE RECOMMENDED BMPs ARE THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED, THE WORK IS ACCEPTED BY THE OWNER, AND UNTIL PERMANENT REVEGETATION AND LANDSCAPING IS IN-PLACE AND ESTABLISHED.
15. THE BMPs SHOWN ON THESE PLANS ARE THE MINIMUM ACCEPTABLE, AND MUST BE INSTALLED BEFORE ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITIES BEGIN. NEITHER SEDIMENT NOR SEDIMENT LADEN WATER SHALL BE ALLOWED TO ENTER THE DRAINAGE SYSTEM, ROADWAYS, OR VIOLATE APPLICABLE WATER QUALITY OR AIR QUALITY STANDARDS.
16. THE CONTRACTOR SHALL INSPECT ALL BMPs ON A WEEKLY BASIS AT A MINIMUM AND PERFORM MAINTENANCE AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. DURING THE WET SEASON, DAILY BMP INSPECTIONS SHALL BE MADE IMMEDIATELY PRIOR TO A FORECAST STORM EVENT, DURING STORM EVENTS AND WITHIN 24 HOURS FOLLOWING A STORM EVENT. DURING THE WET SEASON THE CONTRACTOR SHALL IMMEDIATELY MAKE REPAIRS TO BMPs AS NECESSARY.
17. STREET SWEEPING AND CLEANING MUST BE PERFORMED BY HAND OR VACUUM SWEEPER. STREET WASHING IS NOT ALLOWED. CONTRACTOR SHALL PERFORM STREET SWEEPING DAILY OR MORE OFTEN, AS REQUIRED OR DIRECTED BY THE INSPECTOR DURING CONSTRUCTION, AND AFTER CONSTRUCTION IS COMPLETE IN THAT AREA.
18. DRAINAGE INLET PROTECTION AND SEDIMENT BARRIERS SHALL BE INSTALLED PRIOR TO CONSTRUCTION ACTIVITIES AND ARE TO REMAIN IN PLACE UNTIL SURFACE RESTORATION IS COMPLETE, SOIL STOCKPILES ARE REMOVED, AND VEGETATION IS RE-ESTABLISHED.
19. THE CONTRACTOR WILL BE RESPONSIBLE FOR ADDRESSING ANY STORM WATER THAT HAS BECOME POLLUTED DUE TO NOT TAKING NECESSARY EROSION AND SEDIMENT CONTROL ACTIONS.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN UP OF MUD AND DEBRIS CARRIED ONTO SURROUNDING STREETS AND ROADS AS A RESULT OF CONSTRUCTION ACTIVITY ON THE SITE TO THE SATISFACTION OF THE INSPECTOR.
21. SEDIMENT SPILLED, DROPPED OR TRACKED ONTO PUBLIC RIGHT-OF-WAY SHALL BE REMOVED IMMEDIATELY USING BEST MANAGEMENT PRACTICES.
22. AFTER CONSTRUCTION IS COMPLETE, THE STORM DRAIN SYSTEMS- INCLUDING INLETS, MANHOLES, PIPES, CURB GUTTERS AND OUTLETS- ASSOCIATED WITH THIS PROJECT SHALL BE INSPECTED AND CLEARED OF ACCUMULATED SEDIMENT AND DEBRIS.

CLEAR WATER DIVERSION

23. SUFFICIENT WATER TO MAINTAIN AQUATIC LIFE AND HABITAT DOWNSTREAM SHALL BE ALLOWED TO PASS THROUGH ANY PROJECT COMPONENT OR OBSTRUCTION AT ALL TIMES.
24. WHERE POSSIBLE, AVOID OR MINIMIZE DIVERSION OR ENCROACHMENT IMPACTS ON EXISTING WATERCOURSES BY SCHEDULING CONSTRUCTION ACTIVITIES DURING PERIODS OF LOW OR NO FLOW CONDITIONS. SEE THE PROJECT SPECIFICATIONS AND THE SWPPP FOR TEMPORAL CONSTRUCTION RESTRICTIONS.
25. WHERE WORKING AREAS ENCROACH ON LIVE STREAMS OR WATERCOURSES, THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN BARRIERS ADEQUATE TO PREVENT THE FLOW OF SEDIMENT LADEN WATER INTO THE STREAM. RELEASE OF SEDIMENT TO THE STREAM SHALL BE MINIMIZED DURING CONSTRUCTION OF THE BARRIERS.
26. THE CONTRACTOR SHALL IMPLEMENT THE GUIDELINES PRESENTED IN THE PROJECT SWPPP IN THE CONSTRUCTION OF CLEAR WATER DIVERSIONS. CONSTRUCT STREAM CROSSINGS AND CLEAR WATER DIVERSIONS ACCORDING TO THE DETAILS OF THE CONTRACT DRAWINGS. ANY DEWATERING SHALL BE PERFORMED IN STRICT CONFORMANCE WITH REQUIREMENTS OF THE SWPPP AND THESE NOTES.
27. DIVERSION STRUCTURES MUST BE ADEQUATELY DESIGNED TO ACCOMMODATE FLUCTUATIONS IN WATER DEPTH OR FLOW VOLUMES RESULTING FROM EXTERNAL SOURCES SUCH AS PRECIPITATION, RUNOFF, ETC. UNDER NO CIRCUMSTANCES SHALL DIVERSION STRUCTURES RESTRICT STREAM FLOW THROUGH THE CONSTRUCTION AREA.
28. CONSTRUCT DIVERSION STRUCTURES WITH MATERIALS FREE OF POTENTIAL POLLUTANTS SUCH AS SOIL, SILT, SAND, CLAY, GREASE, OIL, OR PETROLEUM RESIDUE.

STOCKPILES

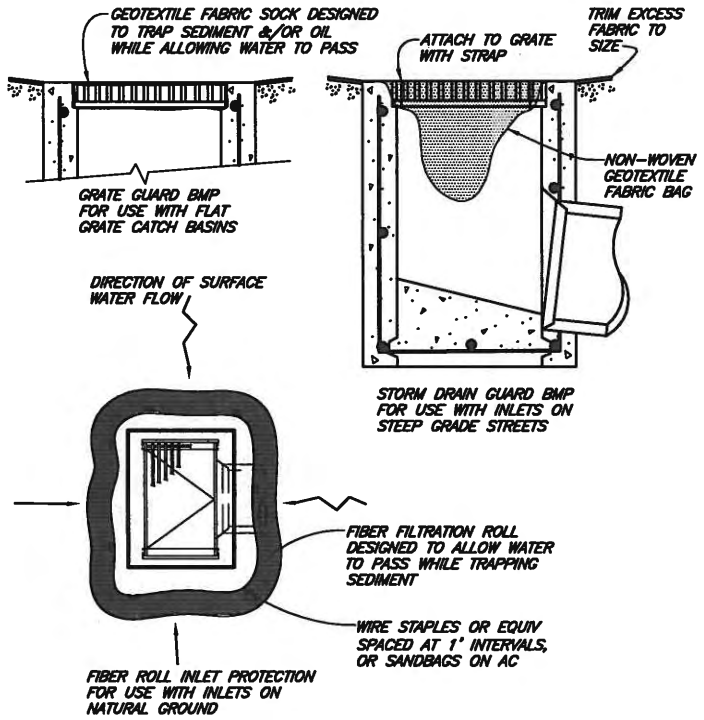
29. SOIL STOCKPILES SHALL BE COVERED, STABILIZED, OR PROTECTED WITH SOIL STABILIZATION MEASURES AND SURROUNDED BY PERIMETER SEDIMENT BARRIERS AT ALL TIMES.
30. STOCKPILED SOILS LESS THAN TWO FEET DEEP MAY BE PLACED ADJACENT TO THE EDGE OF THE TRENCH EXCAVATION. SOILS MOUNDED UP TO A MAXIMUM OF EIGHT FEET DEEP SHALL NOT BE PLACED CLOSER THAN TEN FEET FROM THE EDGE OF THE TRENCH EXCAVATION. COMPLIANCE WITH OSHA REGULATIONS MUST ALSO BE FOLLOWED.
31. STOCKPILED SOILS SHALL NOT BE MOUNDED HIGHER THAN EIGHT FEET ABOVE EXISTING GROUND.

EQUIPMENT

32. EQUIPMENT SHALL NOT LEAK FLUIDS, LUBRICANTS, OR FUELS. THE OWNER OR ENGINEER MAY INSPECT THE CONTRACTOR'S EQUIPMENT AND MAY REJECT EQUIPMENT THAT DEMONSTRATES EVIDENCE OF LEAKAGE.
33. THE EXTERIORS AND SURFACES OF MECHANICAL COMPONENTS OF VEHICLES AND EQUIPMENT THAT MAY ENCROACH ON A WATER BODY SHALL BE MAINTAINED FREE OF GREASE, OIL, FUEL AND OTHER RESIDUES.
34. STATIONARY EQUIPMENT, SUCH AS MOTOR DRIVEN PUMPS AND GENERATORS, SHALL BE PLACED WITHIN ISOLATION BERMS, OVER DRIP PANS, AND SHALL BE PROVIDED WITH SPILL CONTAINMENT FACILITIES.

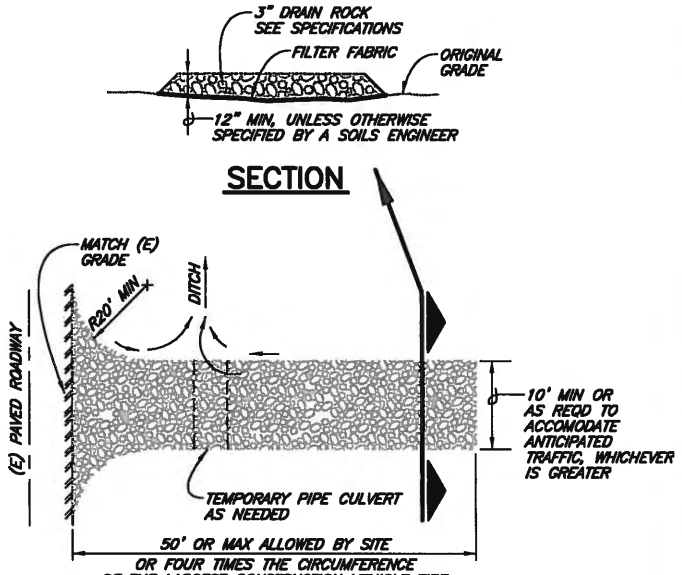
VEGETATION

35. DISTURBANCE OR REMOVAL OF VEGETATION SHALL NOT EXCEED THE MINIMUM NECESSARY TO COMPLETE OPERATIONS. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGE TO EXISTING VEGETATION ADJACENT TO THE WORK. ALL VEGETATION THAT IS DAMAGED OR REMOVED SHALL BE REPLACED ACCORDING TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND PERMITS ASSOCIATED WITH THE WORK.
36. WHEN RIPARIAN VEGETATION IS REMOVED IN THE EXECUTION OF THE WORK, IT SHALL BE CUT OFF NO LOWER THAN GROUND LEVEL. THE ROOT SYSTEMS SHALL BE LEFT INTACT AND SHALL BE PROTECTED FROM DAMAGE TO FACILITATE REGROWTH.
37. USE APPROVED NATIVE GRASS SEED TO RE-VEGETATE DISTURBED AREAS IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN FOR THE PROJECT. SEEDED AREAS SHALL BE COVERED WITH OAT OR WHEAT STRAW, FREE FROM WEEDS, AND KEPT MOIST UNTIL GRASSES ARE ESTABLISHED.



STORM DRAIN INLET PROTECTION 210

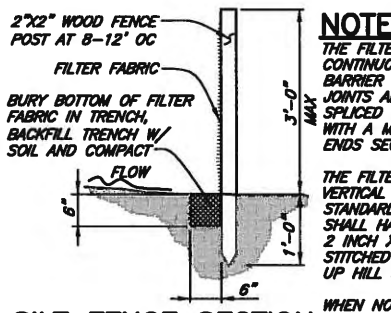
NTS



NOTE:
CONSTRUCT SEDIMENT BARRIER AND CHANNELIZE RUNOFF TO SEDIMENT TRAPPING DEVICE.

STABILIZED CONSTRUCTION ENTRANCE/EXIT 220

NTS



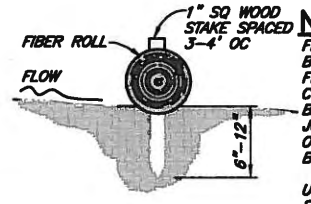
SILT FENCE SECTION

NOTES FOR SILT FENCE:

THE FILTER FABRIC SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FILTER CLOTH SHALL BE SPLICED TOGETHER ONLY AT A SUPPORT POST, WITH A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY FASTENED TO THE POST.

THE FILTER FABRIC SHALL HAVE A MINIMUM VERTICAL BURIAL OF 6 INCHES. STANDARD OR HEAVY DUTY FILTER FABRIC FENCE SHALL HAVE MANUFACTURED STITCHED LOOPS FOR 2 INCH X 2 INCH POST INSTALLATIONS. STITCHED LOOPS SHALL BE INSTALLED ON THE UP HILL SIDE OF THE SLOPED AREA.

WHEN NO LONGER REQUIRED, FILTER FABRIC FENCES SHALL BE REMOVED AND PROPERLY DISPOSED OF.



FIBER ROLL SECTION

NOTES FOR FIBER ROLL:

FIBER ROLLS SHALL BE CONSTRUCTED OF BIODEGRADABLE NON-PLASTIC MATERIALS. THE FIBER ROLL SHALL BE PURCHASED IN A CONTINUOUS ROLL CUT TO THE LENGTH OF THE BARRIER TO AVOID USE OF JOINTS. WHEN JOINTS ARE NECESSARY, FIBER ROLL SHALL BE OVERLAPPED A MINIMUM 6-INCH OVERLAP, AND BOTH ENDS SECURELY STAKED.

UNLESS DIRECTED OTHERWISE FIBER ROLLS SHALL BE SEATED IN A TRENCH 2-3 INCHES DEEP TO ENSURE DIRECT CONTACT OF THE FIBER ROLL WITH THE SOIL.

STAKES SHALL BEGIN NO MORE THAN 6" FROM ENDS OF FIBER ROLL AND SPACED NO MORE THAN 4' FROM EACH OTHER.

WHEN NO LONGER REQUIRED, SLIT FIBER ROLLS DOWN THE LENGTH AND BROADCAST THE STRAW.

GENERAL NOTES:

1. THE FILTER FABRIC FENCE AND FIBER ROLLS SHALL BE INSTALLED TO FOLLOW THE CONTOURS WHERE FEASIBLE.
2. ALL EXCAVATED MATERIAL FROM FILTER FABRIC FENCE INSTALLATION SHALL BE BACK FILLED AND COMPACTED, ALONG THE ENTIRE DISTURBED AREA.
3. BARRIERS SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY PROTECTED AND STABILIZED.
4. SEDIMENT SHALL BE REMOVED WHEN IT BUILDS UP TO 1/3 OF THE BARRIER HEIGHT.

SEDIMENT BARRIER 225

NTS

REGISTERED PROFESSIONAL ENGINEER JASON C. GRAY No. 10/06/17 CIVIL STATE OF CALIFORNIA — PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

NO.	DATE	REVISION	BY

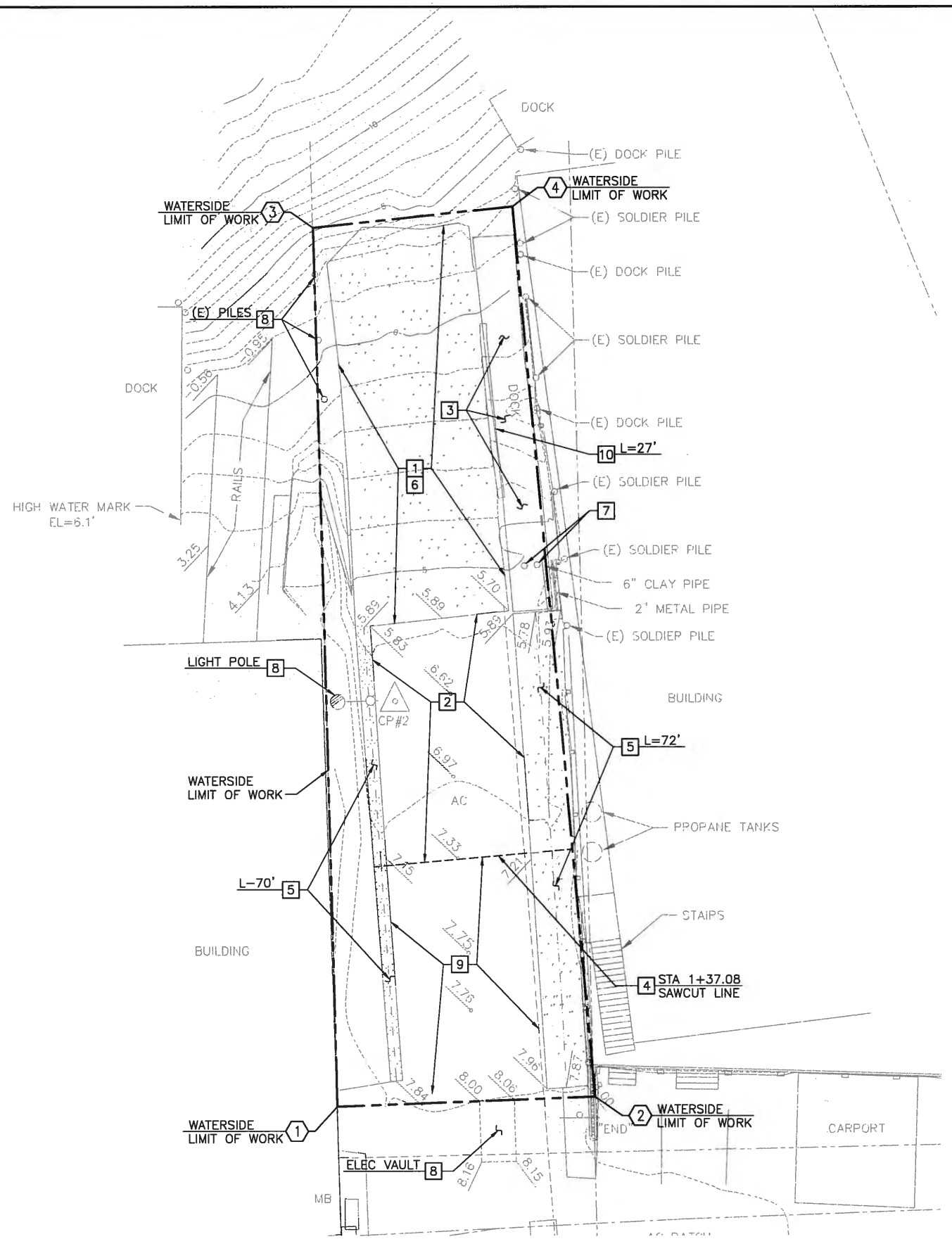
DSGN JGI | DR MMM | CHK JGI | APVD

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

EROSION AND SEDIMENT CONTROL NOTES

SHEET EC-2
SEQ
DATE 06/2016
PROJ. NO. 414059

SAVED: 3/28/2016 3:55 PM MMILECK, PLOTTED: 5/24/2016 8:30 AM JASON ISLAND
\\willits\projects\2014\414059-NHOBoatLaunch\Dwgs\414059-ESCP2.dwg



1 W-1 WATERSIDE REMOVAL PLAN
SCALE:1" = 10'

COORDINATES		
#	NORTHING	EASTING
1	2285095.96	6052332.82
2	2285095.88	6052332.75
3	2285229.64	6052329.70
4	2285232.93	6052360.19

LEGEND:

WATERSIDE LIMIT OF WORK

REMOVAL NOTES:

1. DEMOLISH AND REMOVE EXISTING REINFORCED CONCRETE BOAT LAUNCH RAMP
2. DEMOLISH AND REMOVE EXISTING ASPHALT CONCRETE BOAT LAUNCH APRON
3. DEMOLISH AND REMOVE EXISTING BOARDING FLOAT DOCK AND PLATFORM
4. SAWCUT LINE
5. REMOVE EXISTING RIBBON GUTTER, CURB TO REMAIN
6. CLEAR AND PREPARE SLOPE FOR PRECAST RAMP PANELS, CONCRETE APRON AND ROCK SLOPE PROTECTION
7. REMOVE PILES TO TWO FEET BELOW NEW SUBGRADE ELEVATION
8. PROTECT IN PLACE
9. PREPARE EXISTING SURFACE FOR AC OVERLAY
10. REMOVE EXISTING CURB

N
0 10 20
SCALE IN FEET

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347-2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

NO.	REVISION	BY	DATE

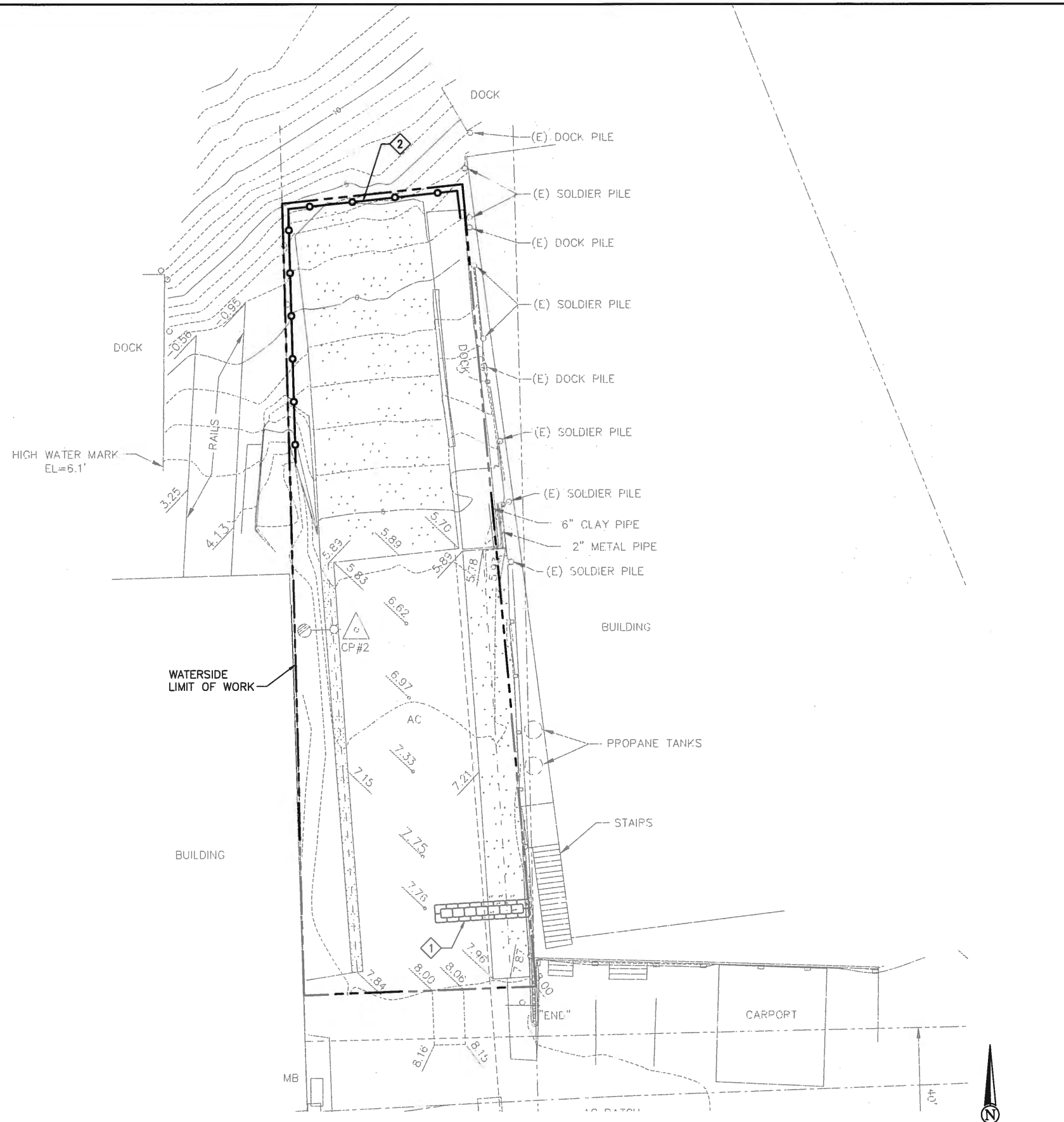
DSGN RS
DR RR
CHK MTH
APVD

NOYO BOAT RAMP
19290 SOUTH HARBOR DRIVE
FT. BRAGG, CA

WATERSIDE REMOVAL PLAN

SHEET W-1
SEQ 10
DATE 08/2015
PROJ. NO. 414059

SAVED: 8/17/2015 4:34 PM RRAZONABLE, PLOTED: 8/17/2015 4:39 PM RAUL RAZONABLE
L:\AutoCAD Project Files_Projects\1211-SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059-W1-Removal.dwg



1 W-2 EROSION CONTROL PLAN
SCALE:1" = 10'

0 10 20
SCALE IN FEET

LEGEND:

WATERSIDE LIMIT OF WORK

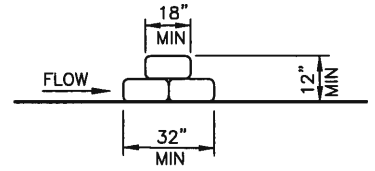
SILT CURTAIN / TURBIDITY SCREEN

KEYNOTES:

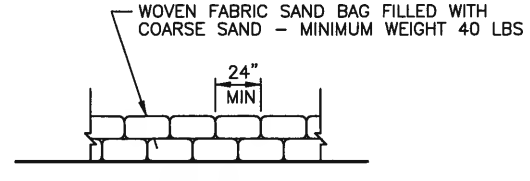
1. INSTALL SAND BAG BERM 2 BAGS HIGH PER DETAIL 2 / W-2
2. INSTALL FULL–DEPTH TURBIDITY SCREEN FOR USE DURING CONSTRUCTION

EROSION CONTROL NOTES:

1. CONSTRUCTION BEST MANAGEMENT PRACTICES AS OUTLINED IN THE PROJECT SWPPP SHALL BE IMPLEMENTED. COPIES OF THE SWPPP, NOTICE OF INTENT AND OTHER APPLICABLE PERMITS SHALL BE KEPT ON SITE AND ACCESSIBLE AT ALL TIMES. TEMPORARY CONCRETE WASHOUT PER WM–8.
2. ALL REMOVABLE EROSION PROTECTION DEVICES SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE 5–DAY RAIN PROBABILITY FORECAST EXCEEDS 40%.
3. AFTER A RAINSTORM, ALL SILT AND DEBRIS SHALL BE REMOVED FROM CONSTRUCTION AREA AND SAND BAG BERMS.



CROSS–SECTION



FRONT VIEW

2 W-2 SAND BAG BERM DETAIL
SCALE:NTS

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347–2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN–ENGR.COM
707–459–4518

NO.	REVISION	BY	DATE

DSGN RS
DR RR
CHK MTH
APVD

NOYO BOAT RAMP
19290 SOUTH HARBOR DRIVE
FT. BRAGG, CA

EROSION CONTROL PLAN

SHEET W–2
SEQ 11
DATE 08/2015
PROJ. NO. 414059

SAVED: 8/14/2015 10:01 AM RRAZONABLE, PLOTTED: 8/17/2015 4:40 PM RAUL RAZONABLE
L:\AutoCAD Project Files\Projects\1211–SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059–W2–Erosion Control.dwg

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING
0 ■■■■■ 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST. WILLITS, CA. 95490
WWW.SHN-ENGR.COM 707-459-4518

NO.	DATE	REVISION	BY

DSGN RS
DR RR
CHK MTH
APVD

LAUNCH RAMP PLAN & PROFILE

NOYO BOAT RAMP
19290 SOUTH HARBOR DRIVE
FT. BRAGG, CA

SHEET W-3
SEQ 12
DATE 08/2015
PROJ. NO. 414059

PRELIMINARY

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347-2780

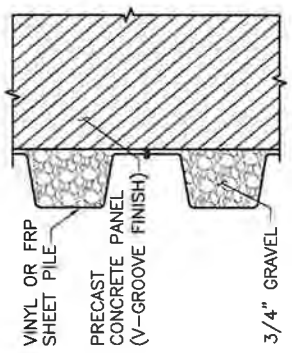
A PROFILE
SCALE:1" = 10'

LEGEND:

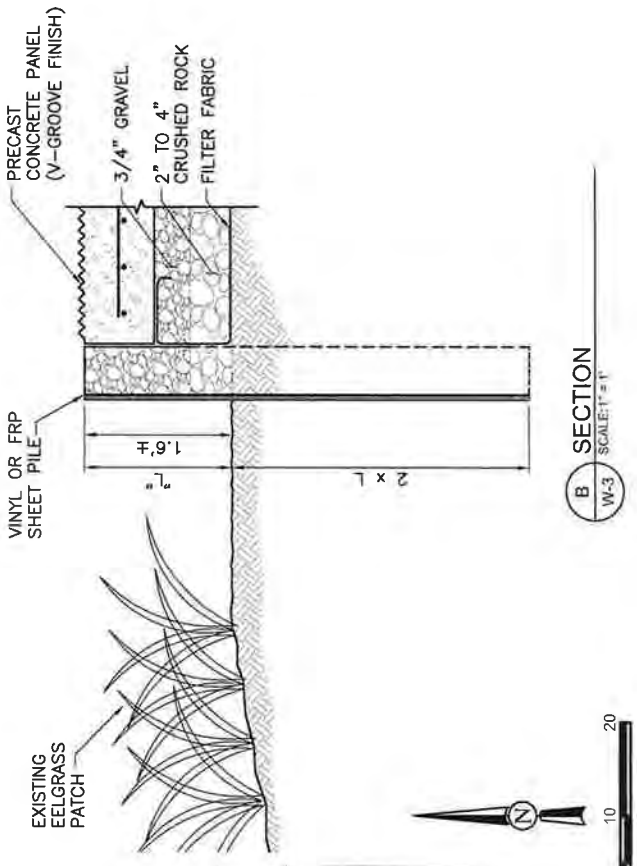
- V-GROOVE FINISHED CONCRETE
- BROOM FINISHED CONCRETE
- WATER LEVEL
- ROCK SLOPE PROTECTION
- GROUTED ROCK SLOPE PROTECTION

CONSTRUCTION NOTES:

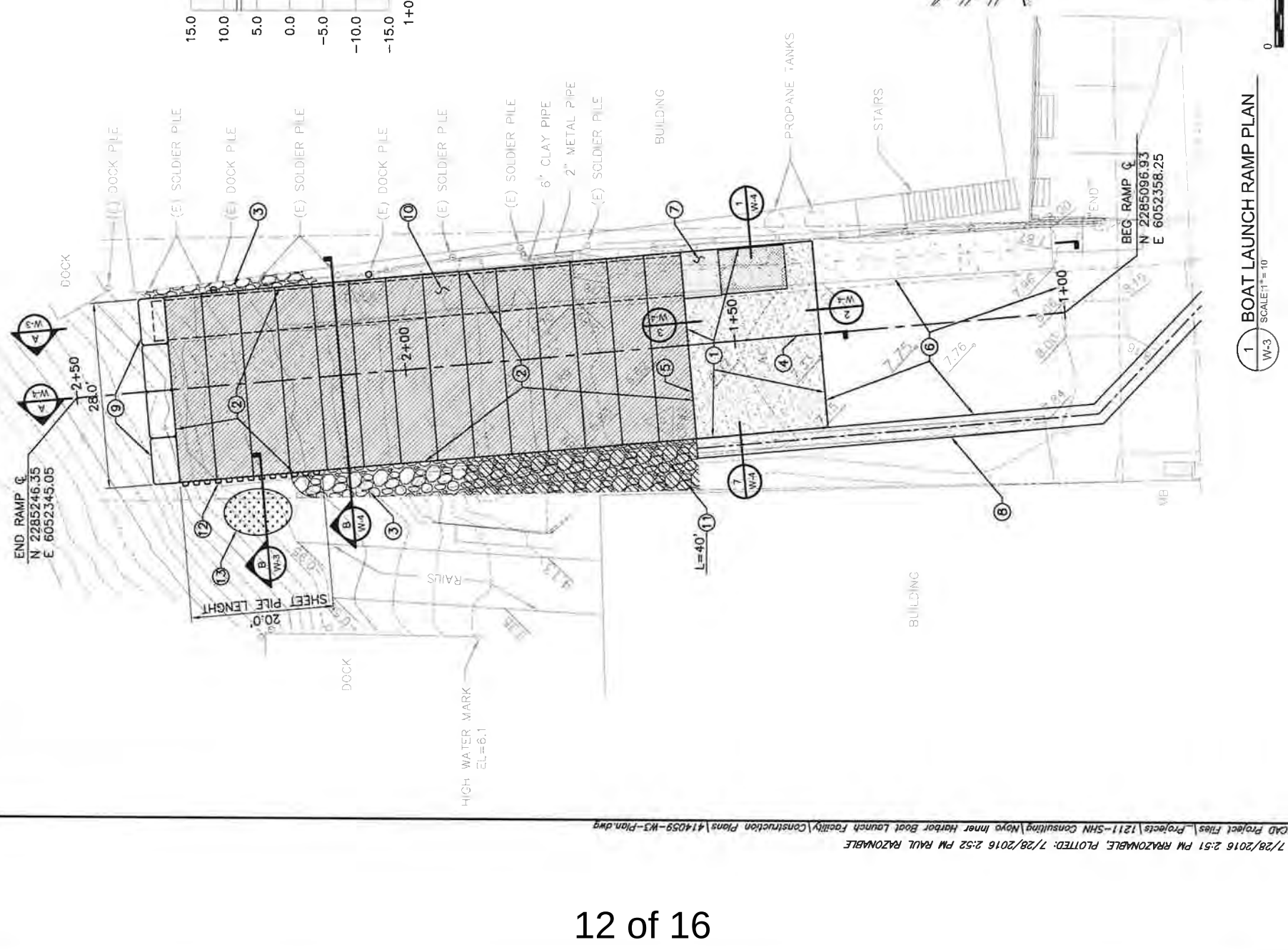
1. CONSTRUCT CAST-IN-PLACE REINFORCED CONCRETE APRON
2. PROVIDE AND INSTALL V-GROOVE FINISHED PRECAST PANELS PER DETAIL (1/W-5)
3. CONSTRUCT ROCK SLOPE PROTECTION
4. CONSTRUCT CONTROL JOINT PER DETAIL (6/W-4)
5. CONSTRUCT APRON TO RAMP TRANSITION JOINT
6. CONSTRUCT AC OVERLAY TO MATCH EXISTING AND DRAIN
7. CONSTRUCT REMOVABLE REINFORCED CONCRETE ABUTMENT PER DETAIL (2/W-6)
8. CONSTRUCT CONCRETE SWALE
9. PROVIDE AND INSTALL GROUT BAGS
10. CONSTRUCT BOARDING FLOAT DOCK PER DETAIL (1/W-7)
11. GROUT ROCK SLOPE PROTECTION FORM AND SMOOTH TRANSITION FROM SWALE TO ROCKS
12. INSTALL VINYL OR FRP CANTILEVERED SHEET PILES (DESIGN/BUILD)
13. PROTECT-IN-PLACE EXISTING EELGRASS PATCH



PLAN

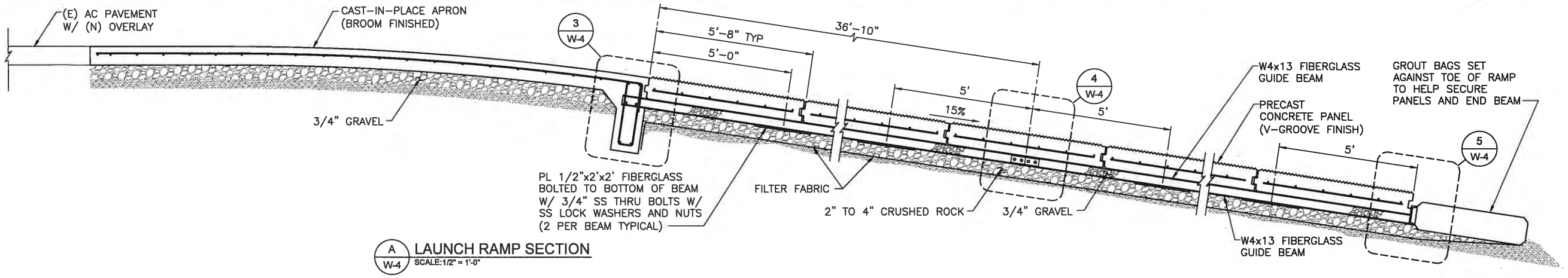


B SECTION
SCALE:1" = 1'

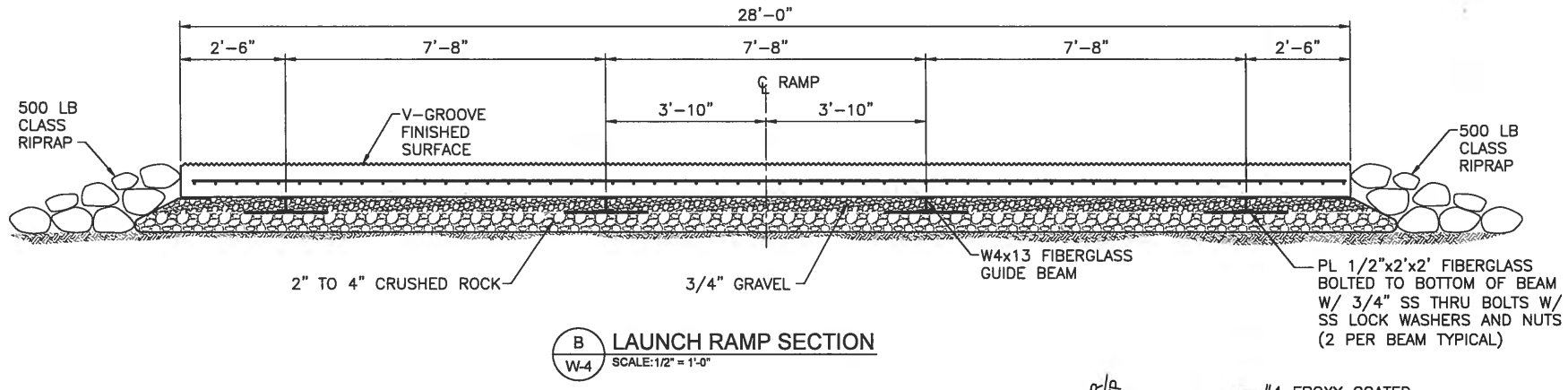


1 BOAT LAUNCH RAMP PLAN
SCALE:1" = 10'
W-3

SAVED: 7/28/2016 2:51 PM RRAZONABLE, PLOTTED: 7/28/2016 2:52 PM RAUL RAZONABLE
I:\AutoCAD Project Files_Projects\1211-SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059-W3-Plan.dwg



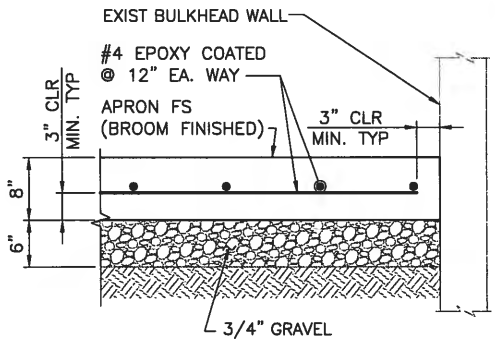
A W-4 **LAUNCH RAMP SECTION**
SCALE:1/2" = 1'-0"



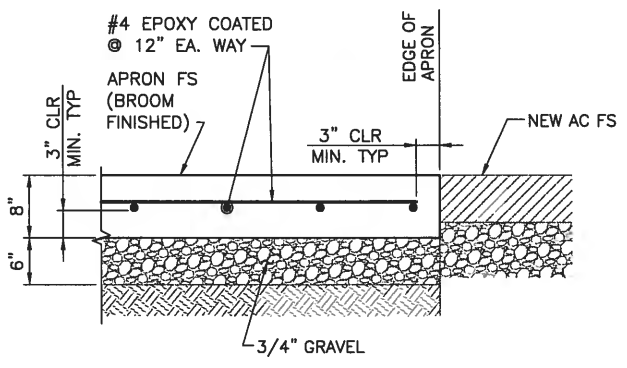
B W-4 **LAUNCH RAMP SECTION**
SCALE:1/2" = 1'-0"

NOTES:

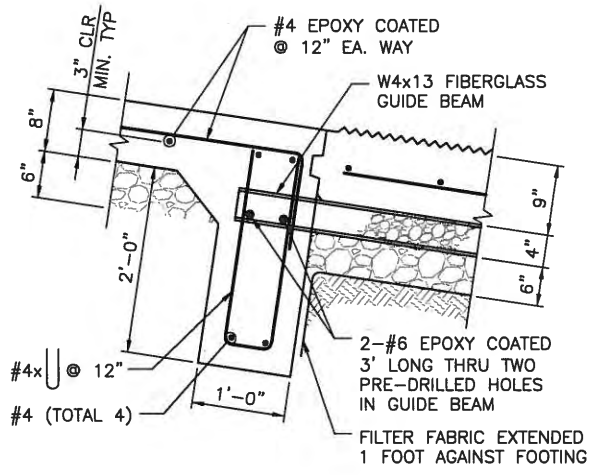
1. GROUT BAGS SHALL BE 4" WIDE x 7'-0" LONG x 1' DEEP (4 TOTAL). MANUFACTURED FROM GEOTEXTILE FABRIC WITH A MINIMUM TENSILE STRENGTH OF 120 LBS, PILEFORM SPB SCOUR PROTECTION BAGS AS MANUFACTURED BY FIVE STAR MARINE, AT (203) 336-7919, OR APPROVED EQUAL.
2. GROUT SHALL BE PUMPABLE CEMENTITIOUS UNDERWATER GROUT AS MANUFACTURED BY FIVE STAR MARINE, AT (203) 336-7919, OR APPROVED EQUAL WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI.
3. 2" TO 4" CRUSHED ROCK SHALL BE ANGULAR BASALT OR QUARRY SPALLS.
4. CONCRETE SHALL BE MINIMUM 5,000 PSI WITH MAXIMUM 0.40 WATER-CEMENT RATIO AS PER SPECIFICATIONS.



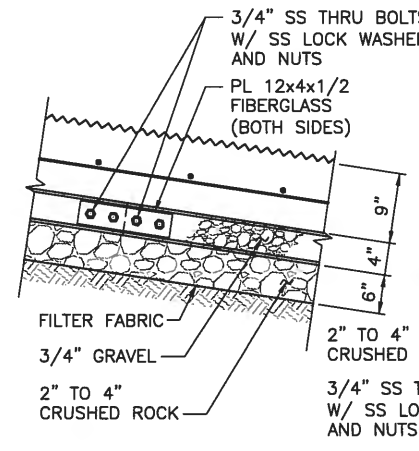
1 W-4 **CAST-IN-PLACE APRON**
SCALE:1" = 1'-0"



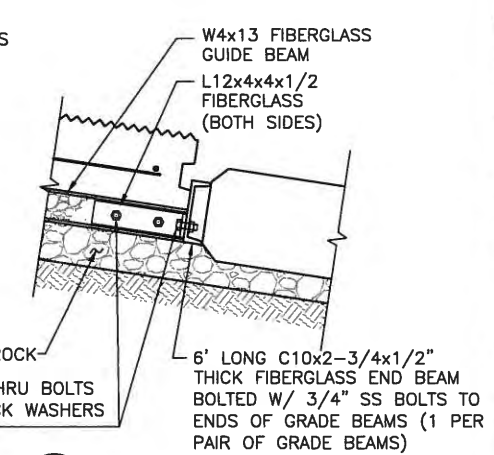
2 W-4 **CAST-IN-PLACE APRON EDGE**
SCALE:1" = 1'-0"



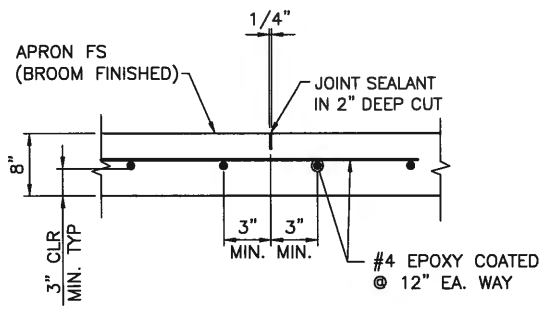
3 W-4 **APRON TO RAMP JOINT DETAIL**
SCALE:1" = 1'-0"



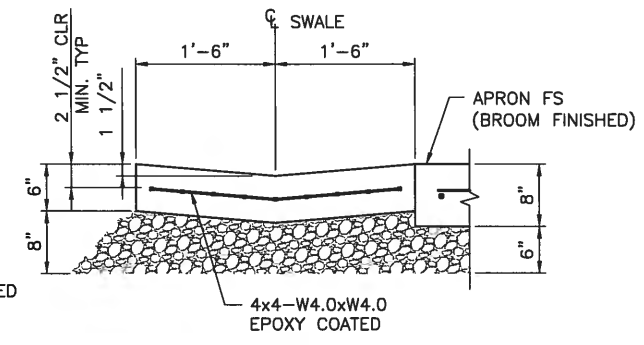
4 W-4 **BEAM TO BEAM JOINT DETAIL**
SCALE:1" = 1'-0"



5 W-4 **END STOP DETAIL**
SCALE:1" = 1'-0"



6 W-4 **CONTROL JOINT DETAIL**
SCALE:1" = 1'-0"



7 W-4 **CONCRETE SWALE DETAIL**
SCALE:1" = 1'-0"

0 1 2
SCALE IN FEET

0 2 4
SCALE IN FEET

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347-2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

NO.	DATE	REVISION	BY

DSGN RS
DR RR
CHK MTH
APVD

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

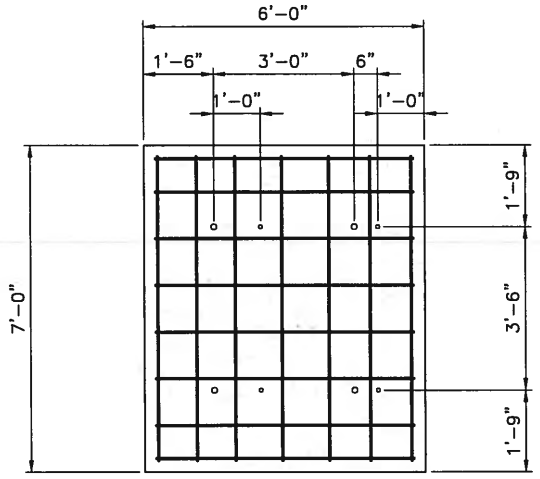
DETAILS-1

SHEET W-4
SEQ 13
DATE 08/2015
PROJ. NO. 414059

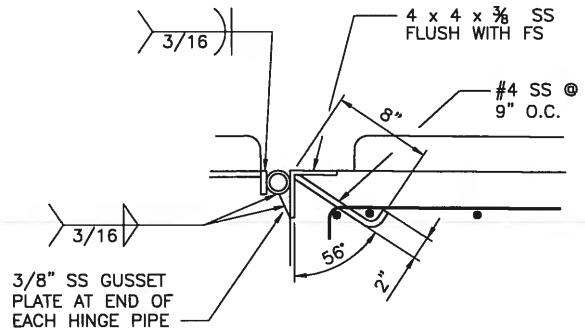
SAVED: 8/14/2015 10:09 AM RRAZONABLE, PLOTTED: 8/17/2015 4:42 PM RAUL RAZONABLE
L:\AutoCAD Project Files\Projects\1211-SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059-W4-Details-1.dwg

NOTES:

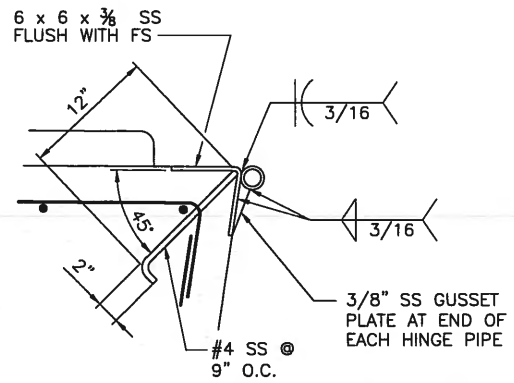
1. LIFTING POINT SHALL BE MODEL CX–51 OPEN COIL INSERT 1–1/4"x9–1/2" STAINLESS STEEL, AS MANUFACTURED BY MEADOW BURKE AT (800)804–6565, OR APPROVED EQUAL.
2. FIBERGLASS SHEAR DOWELS SHALL BE #8 BAR EMBEDDED 6" MIN. INTO REMOVABLE ABUTMENT. DOWELS SHALL BE SEATED IN 1–1/2" INNER DIAMETER SCHEDULE 80 PVC PIPE CAST INTO THE UNDERLYING CONCRETE APRON. PVC PIPE SHALL BE FLUSH WITH THE APRON FINISHED SURFACE UPON REMOVAL OF THE ABUTMENT.



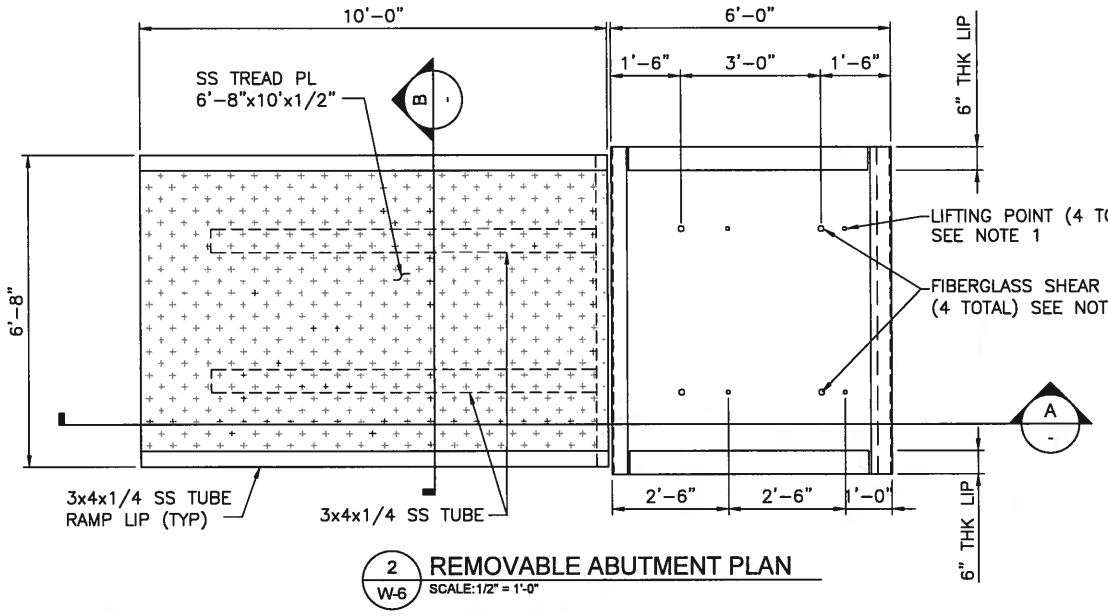
1 W-6 REMOVABLE ABUTMENT REINFORCING DETAIL
SCALE:1/2" = 1'-0"



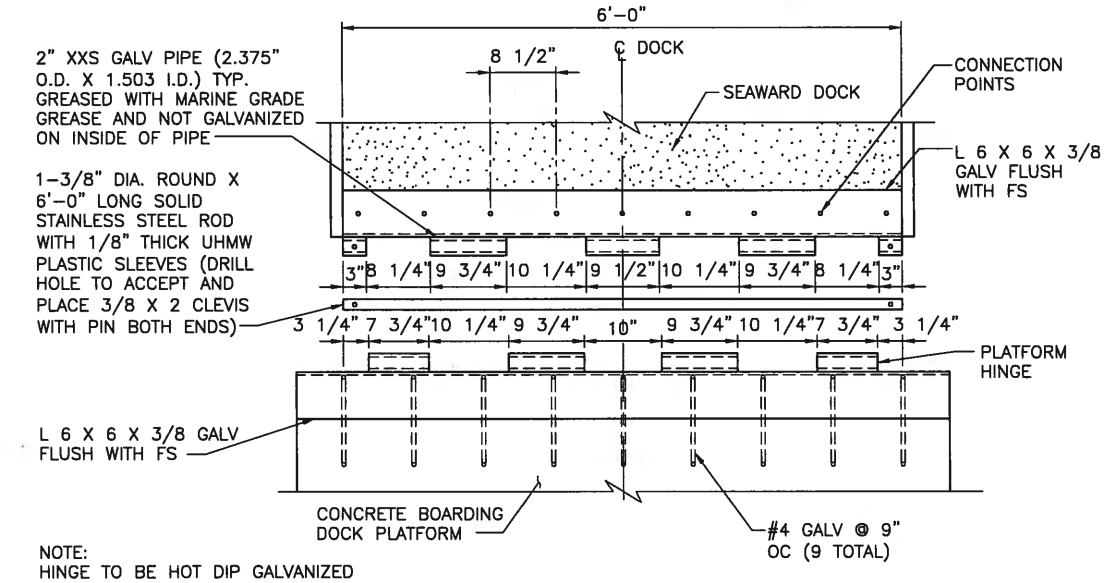
3 W-6 ONSHORE HINGE DETAIL DETAIL
SCALE:1 1/2" = 1'-0"



4 W-6 OFFSHORE HINGE DETAIL
SCALE:1 1/2"=1'-0"

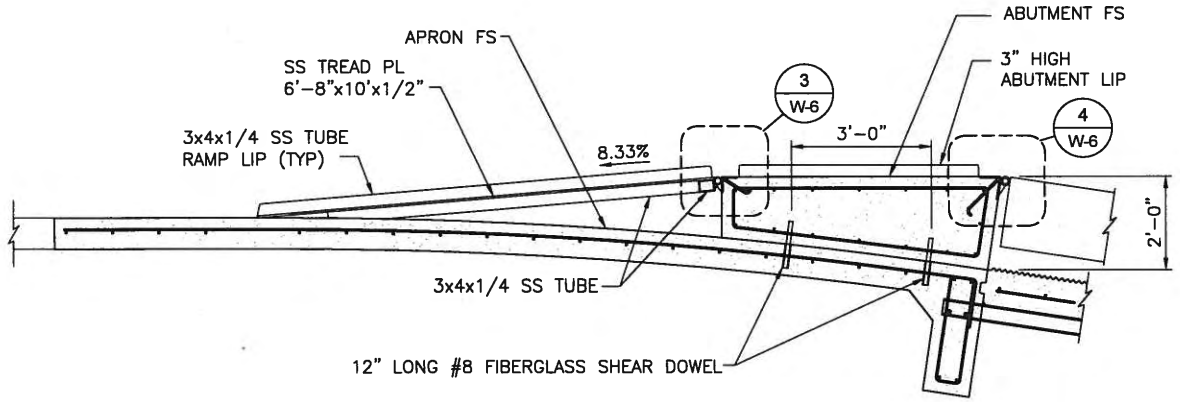


2 W-6 REMOVABLE ABUTMENT PLAN
SCALE:1/2" = 1'-0"

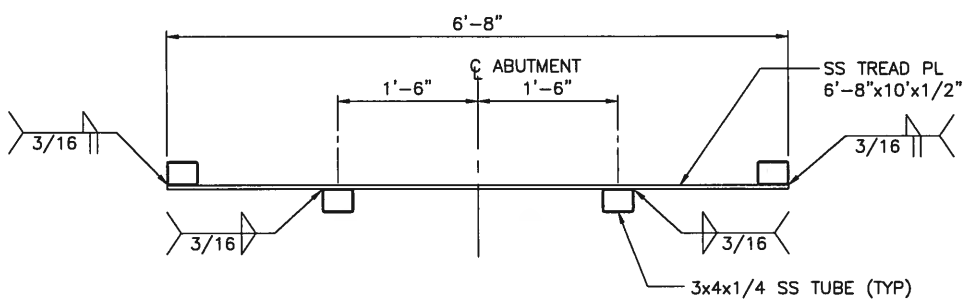


NOTE:
HINGE TO BE HOT DIP GALVANIZED SUBSEQUENT TO FABRICATION

5 W-6 REMOVABLE ABUTMENT TO DOCK HINGE DETAIL
SCALE:1" = 1'-0"



A W-6 REMOVABLE ABUTMENT SECTION
SCALE:1/2" = 1'-0"



B W-6 REMOVABLE RAMP SECTION
SCALE:1" = 1'-0"

0 1 2
SCALE IN FEET

0 2 4
SCALE IN FEET

0 8 16
SCALE IN INCHES

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347–2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

SHN
CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN–ENGR.COM
707–459–4518

NO.	DATE	REVISION	BY

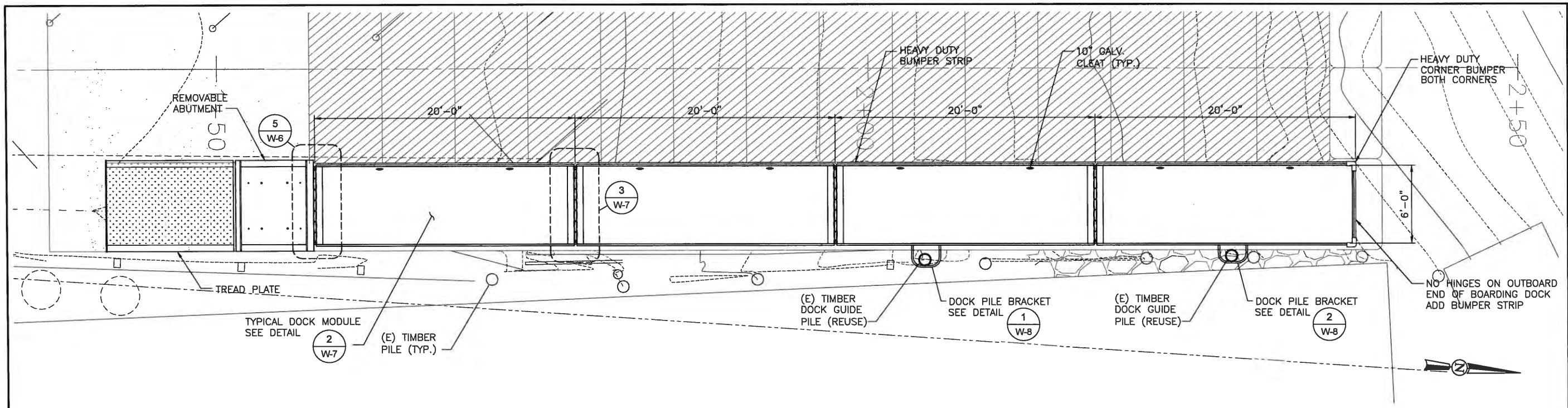
DSGN RS
DR RR
CHK MTH
APVD

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

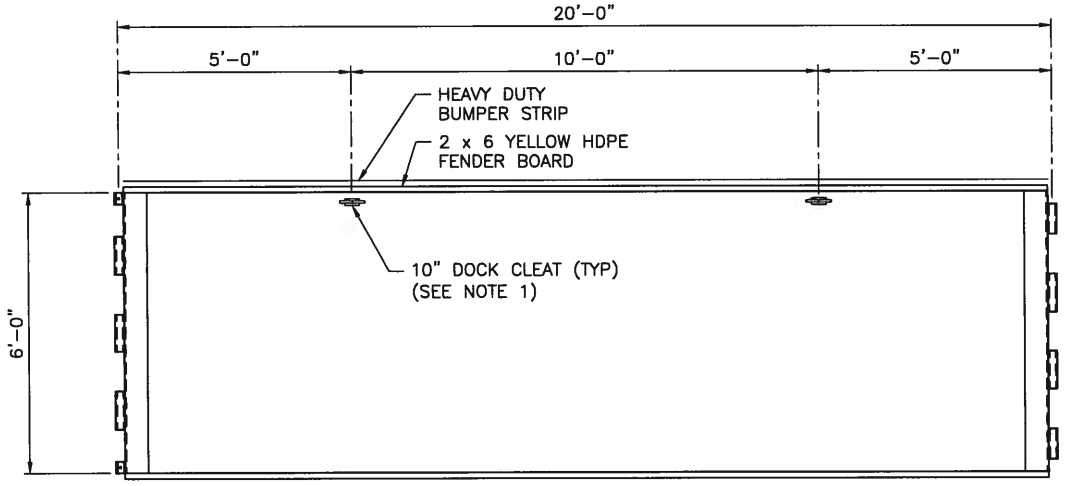
DETAILS–3

SHEET W–6
SEQ 15
DATE 04/2015
PROJ. NO. 414059

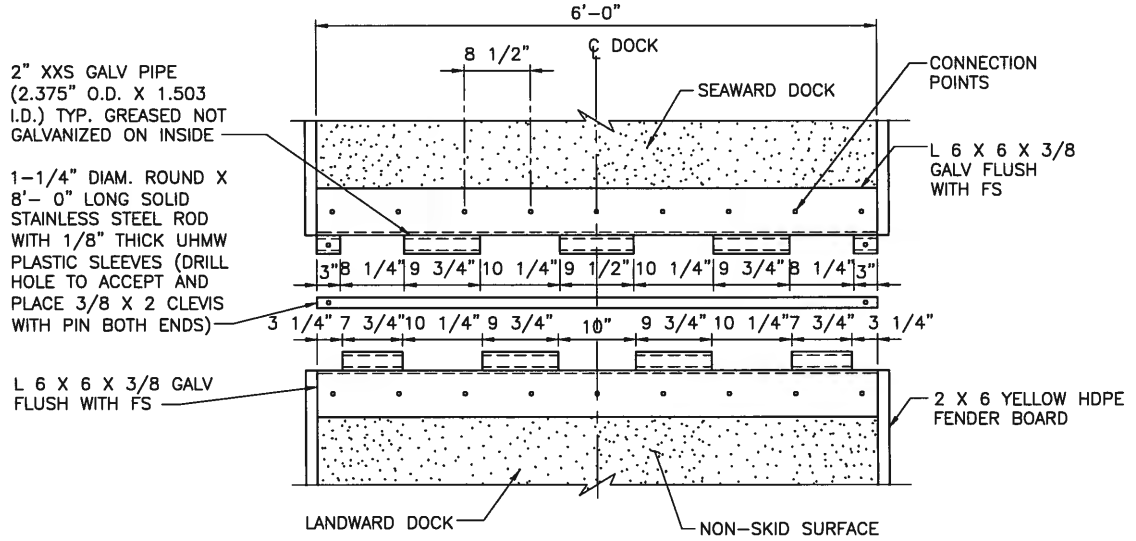
SAVED: 8/13/2015 3:42 PM RRAZONABLE, PLOTTED: 8/17/2015 4:43 PM RAUL RAZONABLE
L:\AutoCAD Project Files_Projects\1211–SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059–W6–Details–3.dwg



1 W-7 **BOARDING FLOAT DOCK PLAN**
SCALE: 1/4" = 1'-0"



2 W-7 **TYPICAL DOCK MODULE PLAN**
SCALE: 1/2" = 1'-0"



NOTE:
HINGE TO BE HOT DIP GALVANIZED SUBSEQUENT TO FABRICATION

3 W-7 **TYPICAL DOCK HINGE DETAIL**
SCALE: 1" = 1'-0"

BOARDING FLOAT DOCK NOTES:

1. BOARDING FLOAT DOCKS ARE A DESIGN-BUILD ELEMENT OF THE PROJECT TO BE PROVIDED BY THE CONTRACTOR BASED ON PERFORMANCE SPECIFICATIONS IN SECTION 355135 – FLOATING DOCKS, AND ARE A DEFERRED SUBMITTAL FOR BUILDING PERMITS.
2. PLACE STAINLESS STEEL DOCK SUPPORT LEGS SO THAT OVERALL DOCK HEIGHT IS APPROXIMATELY 23 INCHES FROM DOCK FINISHED SURFACE TO RAMP V-GROOVED FINISH SURFACE AND DOCK WILL PERFORM OVER TIDE RANGE WITHOUT BINDING UP OR PUTTING EXCESSIVE STRESS ON HINGES.
3. BOARDING FLOAT DOCK RESTRAINING SYSTEM SHALL CONSIST OF GUIDE PILE HOOPS ALLOWING THE DOCK TO WILL PERFORM OVER TIDE RANGE WITHOUT BINDING UP OR PUTTING EXCESSIVE STRESS ON BRACKETS.

0 1 2 SCALE IN FEET
0 2 4 SCALE IN FEET
0 4 8 SCALE IN FEET

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347-2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING 0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

NO.	DATE	REVISION	BY

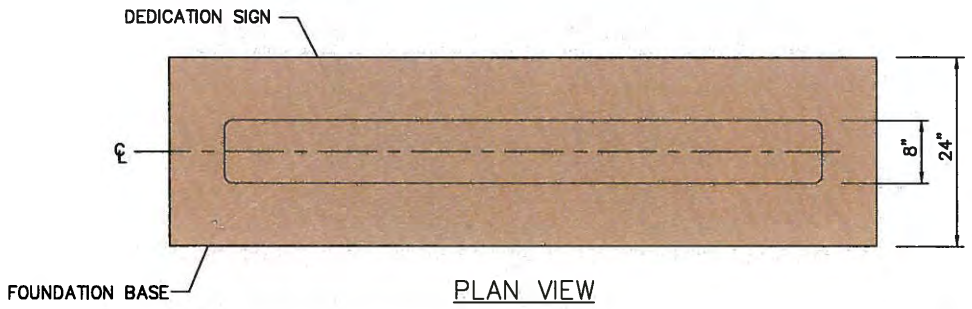
DSGN RS | DR RR | CHK MTH | APVD

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

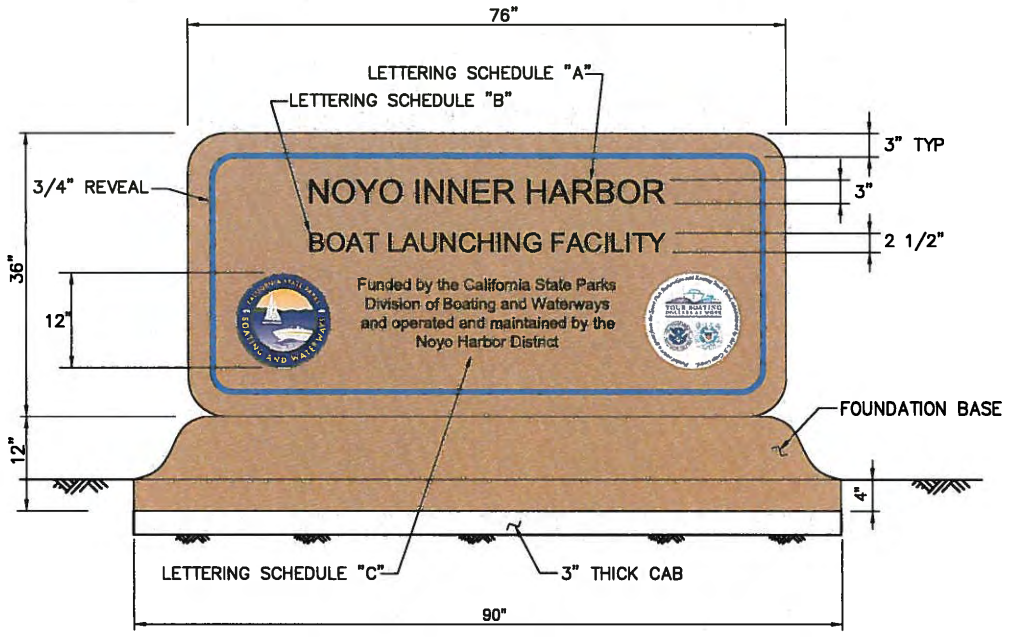
DETAILS-4

SHEET W-7
SEQ 16
DATE 08/2015
PROJ. NO. 414059

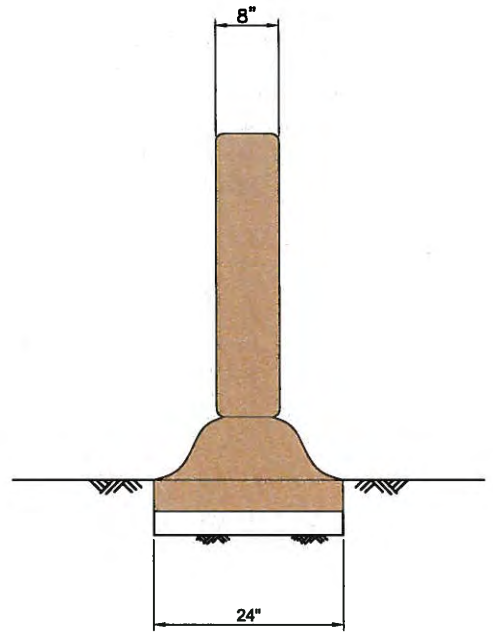
SAVED: 8/17/2015 4:33 PM RRAZONABLE, PLOTTED: 8/17/2015 4:44 PM RAUL RAZONABLE
L:\AutoCAD Project Files_Projects\1211-SHN Consulting\Noyo Inner Harbor Boat Launch Facility\Construction Plans\414059-W7-Details-4.dwg



PLAN VIEW



FRONT VIEW



SIDE VIEW

1 / W-9 DEDICATION SIGN
SCALE:1" = 1'-0"

COLOR SCHEDULE:

SIGN SURFACE	TAN ACID STAIN
LETTERING	BLACK
BORDER REVEAL	AZURE BLUE
LOGOS	MATCH AS APPROPRIATE

TAN ACID STAIN

AZURE BLUE

LETTERING SCHEDULE:

A	NAME OF CITY	3"	ARIAL UPPER CASE ONLY
B	NAME OF FACILITY	2 1/2"	
C	ACKNOWLEDGMENTS	1 1/2"	

DEDICATION SIGN NOTES:

1. SIGN SHALL BE MODEL #712S, AS MANUFACTURED BY OUTDOOR CREATIONS OF ANDERSON, CA, AT (530) 337-6774, OR APPROVED EQUAL.
2. LOGOS TO BE CAST IN FULL RELIEF AND PAINTED TO MATCH APPROPRIATE COLORS.
3. LETTERS TO BE CAST IN 1/2" DEPTH AND PAINTED PER SPECIFICATIONS.
4. SIGN TO BE FINISHED WITH MINIMUM (3) COATS OF GLOSSY ANTI-GRAFFITI COATING.
5. ALL AREAS OF SIGN TO BE SMOOTH FINISH WITH ALL CORNERS AND EDGES FULLY ROUNDED (RADIUS = 3 INCHES TYP).
6. CONCRETE MIX DESIGN SHALL BE PER THE SPECIFICATIONS.
7. SIGN AND BASE TO BE COVERED BY A TWO (2) YEAR MANUFACTURER'S WARRANTY AGAINST MANUFACTURER'S DEFECTS.

Funded under a grant from the Sport Fish Restoration and Boating Trust Fund, administered by the U.S. Coast Guard.

0 1 2
SCALE IN FEET

ANCHOR QEA
27201 Puerta Real, Suite 350
Mission Viejo, CA 92691
(949)347-2780

PRELIMINARY

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"
IF NOT ONE INCH ON THIS SHEET ADJUST SCALES ACCORDINGLY

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. MAIN ST.
WILLITS, CA. 95490
WWW.SHN-ENGR.COM
707-459-4518

NO.	DATE	REVISION	BY

DSGN RS
DR RR
CHK MTH
APVD

NOYO HARBOR DISTRICT
BOAT LAUNCH RAMP AND PARKING FACILITIES
SOUTH HARBOR DRIVE, FORT BRAGG, CA

DEDICATION SIGN

SHEET W-9
SEQ 17
DATE 08/2015
PROJ. NO. 414059

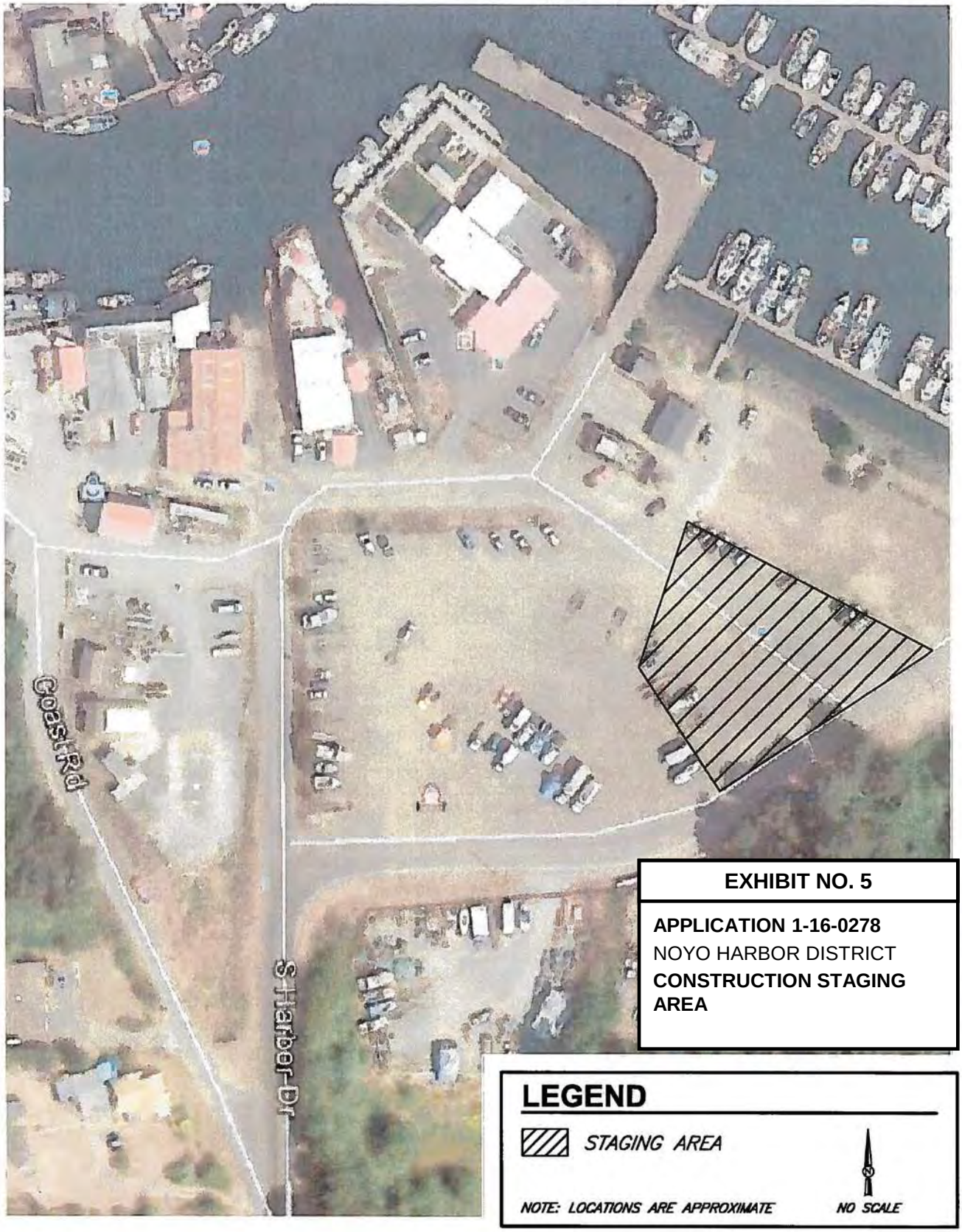


EXHIBIT NO. 5

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
CONSTRUCTION STAGING AREA

LEGEND

STAGING AREA

NOTE: LOCATIONS ARE APPROXIMATE

NO SCALE

SHN Consulting Engineers & Geologists, Inc.	Noyo Harbor District Boat Launch Facility	Staging Area Site Map 414059
	July 2016 / Figures	Figure 1

\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs, SAVED: 7/19/2016 1:51 PM, JISLAND, PLOTTED: 7/19/2016 1:51 PM, JASON ISLAND

CONSULTING ENGINEERS & GEOLOGISTS, INC.
335 S. Main St., Willits, CA 95490-3977• 707-459-4518 • FAX: 707-459-1884 • willitsinfo@shn-engr.com

Reference: 414059.200

August 31, 2016

Cristin Kenyon
California Coastal Commission
1385 8th Street, #130
Arcata, CA 95521

EXHIBIT NO. 6

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
DEBRIS REMOVAL PLAN
1 of 6

Subject: Response to Question, Noyo Harbor District Boat Launch Ramp and Parking Facilities Project

Dear Cristin:

This letter provides a response to your question regarding proposed mitigation for permanent wetland fill associated with the subject project.

Question:

Mitigation for 341 square feet (sq ft) of permanent wetland fill (1:1 ratio) – Can we identify 341 sq ft of debris removal to compensate for the increase in project footprint? Draw on an aerial to indicate the proposed debris removal (pilings, sunken vessels, concrete debris, trash, etc), area in sq ft at each location, and provide a statement that the debris is located on harbor district owned tideland and that debris will be removed during construction using applicable construction BMPs. Explain how debris will be removed (by barge at high tide, by hand from on foot at low tide, etc), how any pilings to be removed will either be pulled or cut off at least 2 feet below mud line, etc. as applicable.

Response:

The project engineer has identified a 1,800 square foot area of tideland at Noyo marina where debris can be removed as compensation for the increased project footprint (see Figure 1. attached). Total debris removal polygon area is approximately 1,800 sq ft. Total area of debris to be removed within that area is approximately 400 sq ft. The debris includes concrete, wood, and trash that has accumulated in the vicinity of the pier (see sample photos, attached). Smaller debris will be collected by hand at low tide, and larger debris will be removed with a crane or lift from the pier above to minimize impact. The Noyo Harbor District (NHD) has stated that they own this area. It is also within the tidal zone and has the potential for future eelgrass mitigation. Some eelgrass already occurs within the proposed debris removal area polygon. Eelgrass will be avoided during debris removal by limiting all debris removal activities to at least 1 meter away from existing eelgrass.

The following applicable project best management practices will be implemented during debris removal:

- Debris removal will occur between July 15 and October 15, to ensure that peak salmonid migration periods for both spawning adults and out-migrating smolts are avoided, as well as to minimize the potential for impacts to green sturgeon.
- If rainfall is forecasted during the time debris removal is being performed, all onsite stockpiles of debris shall be covered and secured before the onset of precipitation.
- Construction equipment and materials shall be staged away from coastal waters on the relatively flat parking area at least 100 feet from Noyo River.
- No removed debris shall be temporarily placed or stored where it may be subject to entering Noyo River. All onsite stockpiles of debris shall be contained at all times to minimize discharge of sediment and other pollutants.
- No debris, soil, silt, sand, trash, concrete or washings thereof, oil or other petroleum products or washings thereof, or other foreign materials shall be allowed to enter or be placed where it may be washed by rainfall or runoff into waters of the U.S. or State.
- During debris removal, all trash shall be removed from the work site and disposed of on a regular basis to avoid contamination of habitat. Any and all debris resulting from construction activities shall be removed from the project site and disposed of at an authorized disposal location within 10 days of project completion and/or prior to the onset of the rainy season, whichever is earlier.
- All spoils and construction debris will be hauled offsite and disposed of at an appropriately permitted upland disposal facility (landfill or recycling plant).
- Fuels, lubricants, and solvents shall not be allowed to enter Noyo River. All equipment used during construction shall be free of oil and fuel leaks at all times. Any fueling, equipment maintenance, concrete washout, and washing of construction equipment shall occur at least 100 feet away from the high water mark.
- Equipment used over the water will use biodiesel and vegetable based hydraulic oil.
- Any removed debris that requires dewatering will be controlled in such a manner that it avoids/minimizes sediment release into Noyo River.
- Hazardous materials management equipment including oil containment booms and absorbent pads shall be available and immediately on-hand at the project site. A registered first-response, professional, hazardous materials clean-up/remediation service shall be locally available on call. Any accidental spill shall be contained rapidly and cleaned up. In the event of a spill, NHD shall notify the appropriate regulatory agencies immediately.
- Construction activities occurring below high water mark shall be timed to occur during low tides.

If you have questions about this letter, please feel free to call me at 707-441-8855.

Sincerely,

SHN Engineers & Geologists

Stein Coriell
Project Planner

SEC:dla

LEGEND

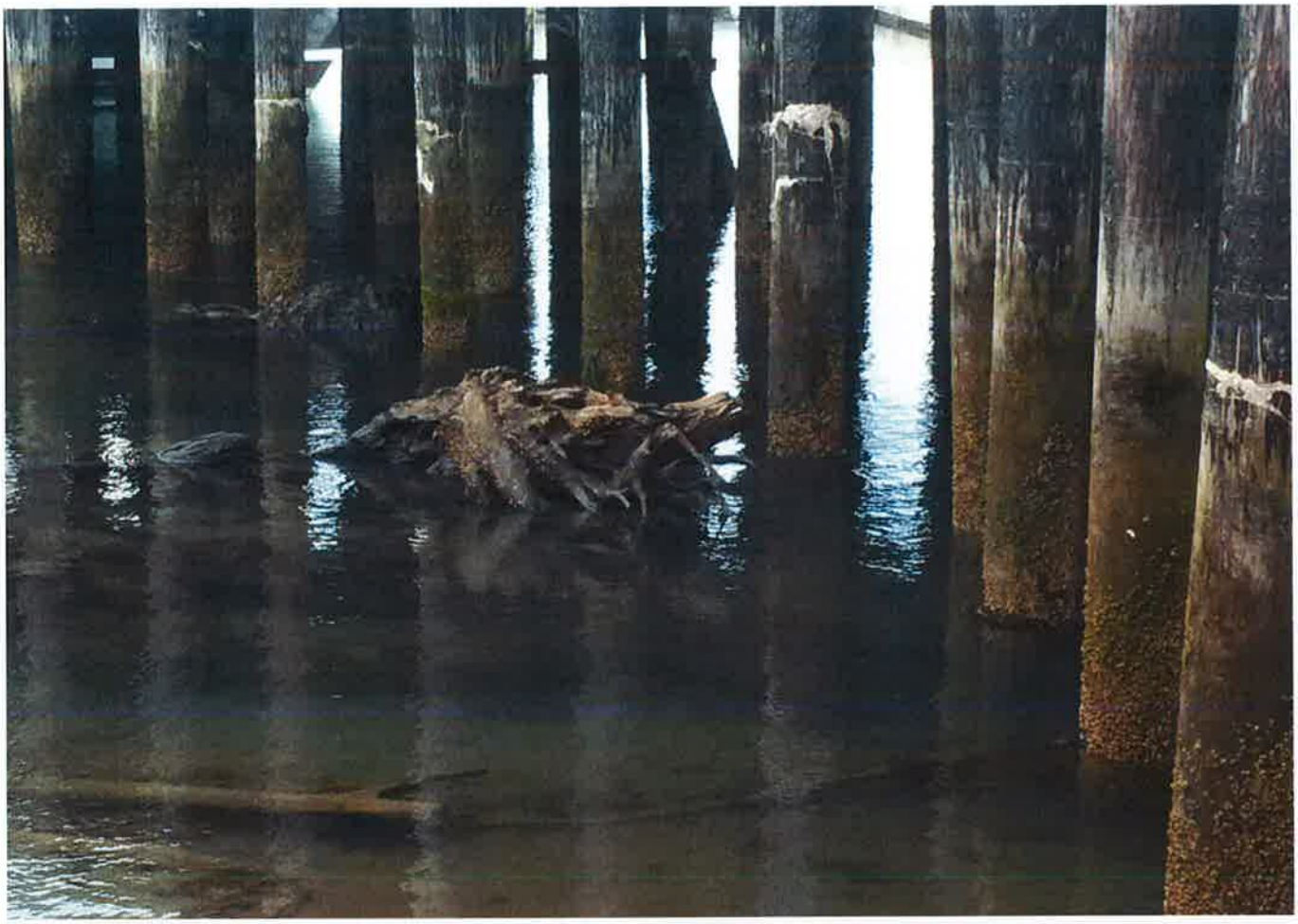
DEBRIS REMOVAL AREA

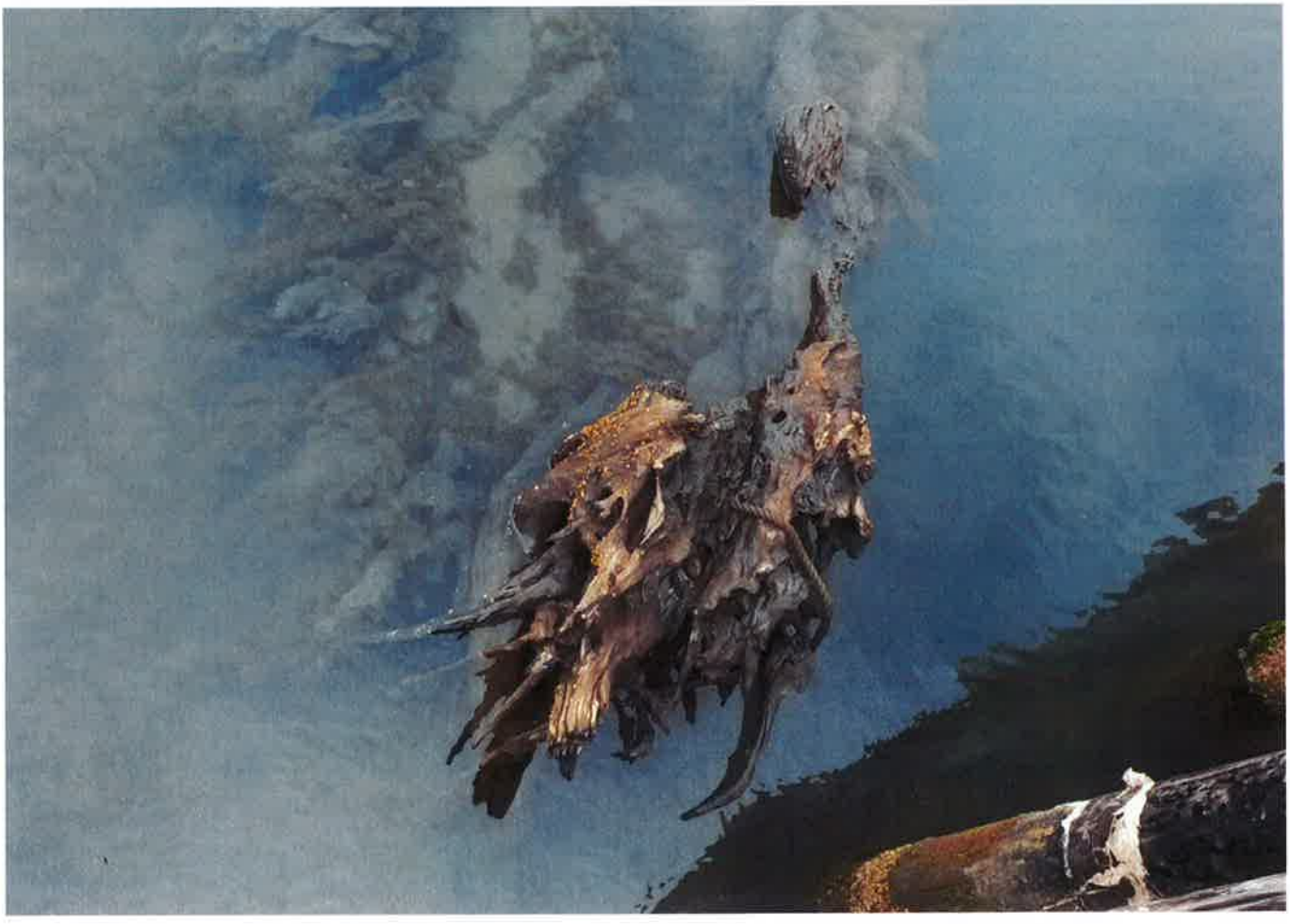
NOTE: LOCATIONS ARE APPROXIMATE

NO SCALE

Consulting Engineers & Geologists, Inc.	Noyo Harbor District Boat Launch Facility	Debris Removal Site Map 414059
July 2016	Figures	Figure 1

\\willits\projects\2014\414059-NHDBoatLaunch\Dwgs, SAVED: 7/19/2016 1:52 PM JISLAND, PLOTTED: 7/19/2016 1:52 PM, JASON ISLAND





ENGINEERS & GEOLOGISTS, INC.
812 W. Wabash • Eureka, CA 95501-2138 • 707/441-8855 • FAX: 707/441-8877 •shninfo@shn-engr.com

Technical Memorandum

Reference: **414059.200**
Date: **August 4, 2016**
To: **File**
From: **Greg O'Connell, MS**
Subject: Noyo Harbor Boat Ramp Eelgrass Avoidance

Summary

The purpose of this memorandum is to document changes to the proposed boat ramp replacement design for the Noyo Harbor District Boat Launch Ramp and Parking Facilities Project. Preliminary eelgrass survey results and the initially proposed conceptual mitigation plan, based on the original project design, are described in Appendix A. The goal of the project revisions presented within this memorandum is to ensure avoidance of existing eelgrass adjacent to the project area.

Project Revisions to Avoid Eelgrass

Modifications to the Noyo Harbor District Boat Launch Ramp and Parking Facilities Project have been made to avoid impacts to native eelgrass (*Zostera marina* L.) adjacent to the existing boat ramp that is proposed to be replaced. The boat ramp improvements include the replacement of the existing concrete slab with new, pre-casted slabs as well as replacement of the existing wooden boarding float dock with a new fiberglass boarding float dock. Based on the previous project description, an approximately 3-foot wide rock slope protection feature was proposed to be installed on the western edge of the proposed boat ramp concrete slabs for its entire length. A 27.9-square foot patch of eelgrass is located immediately adjacent to the northwest corner of the existing boat ramp and approximately 5.5 square feet of the 27.9 square feet (19.7%) eelgrass patch would have been directly impacted by the installation of rock slope protection based on the previous project design.

During the project planning phase, initial inquiries were made with the original water-side engineer to find out if the rock slope protection could be reduced or redesigned to avoid the eelgrass patch. At that time, the water-side engineer stated that proposed boat ramp engineering criteria could not be met without the rock slope protection being installed in the vicinity of the eelgrass patch. The original water-side engineer is no longer working on the project and the new engineer was able to redesign the portion of the boat ramp so that a vertical sheet pile (approximately 19 inches tall and 6 inches wide) will substitute for the proposed rock slope protection in the vicinity of the eelgrass (Appendix B, sheet W-3). The revised design has sheet piling and rock slope protection installation occurring at least 12 inches away from the existing eelgrass patch. These revisions allow the project to avoid direct impacts to eelgrass.

EXHIBIT NO. 7

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
EELGRASS AVOIDANCE & MONITORING PLAN
1 of 2

To further decrease the likelihood of eelgrass impacts, the following measures will be implemented:

- To prevent inadvertent eelgrass impacts during construction, a biological monitor will be onsite during in-water construction activities.
- Contractors will be required to keep copies of permits onsite during construction and will be instructed on the importance of avoiding and protecting eelgrass.
- Prior to placement of the full-depth turbidity curtain and the start of construction, the biological monitor will place temporary rebar stakes (or similar) with orange flagging attached along the project side of the eelgrass to:
    - help the contractor identify and avoid eelgrass, and;
    - physically protect eelgrass from the turbidity curtain encroaching within the eelgrass patch.

A pre-construction eelgrass surveys will occur no more than 60 days prior to construction and a post-construction survey will occur within 30 days. If construction activities conclude after the eelgrass survey season (May – September), the post construction eelgrass survey will occur within the first 30 days of the following eelgrass survey season or at a similar time as the pre-construction survey. If the pre- and post-construction eelgrass surveys show that eelgrass was impacted, then an eelgrass mitigation and monitoring plan would be prepared at that time in accordance with the California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP; NOAA, 2014) and agency requirements. Any necessary permit amendments would be addressed at that time.

If unforeseen impacts to eelgrass do occur, a feasible mitigation site has been located approximately 300 feet east of the proposed boat ramp improvement project in a location that currently supports several patches of eelgrass (Appendix A, Figure 2). If mitigation is required, elevations and sediment types will be characterized within this location. If needed, minor habitat alterations will occur at this site to ensure that this location can support additional eelgrass as mitigation. If needed, donor sites for eelgrass will be located in coordination with permitting agencies. Lastly, if mitigation occurs at that site, eelgrass would be planted centrally within the mitigation site to minimize potential eelgrass impacts if adjacent piling or sheet piling repairs occur in the future.

References

National Oceanic and Atmospheric Administration. (October 2014). "California Eelgrass Mitigation Policy and Implementing Guidelines." NOAA Fisheries West Coast Region. Available at: http://www.westcoast.fisheries.noaa.gov/publications/habitat/california_eelgrass_mitigation/Final%20CEMP%20October%202014/cemp_oct_2014_final.pdf

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE

West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404

June 20, 2016 **Refer to NMFS No:** WCR-2016-4689

U.S. Army Corps of Engineers
San Francisco District
Regulatory Division

USACE File #2016-00099N
Noyo Harbor Boat Ramp Replacement
Enclosure 5
July 19, 2016

Aaron O. Allen, Ph.D
Acting Regulatory Branch Chief
U.S. Department of the Army
San Francisco District, Corps of Engineers
1455 Market Street
San Francisco, California 94103-1398

Re: Endangered Species Act Section 7(a)(2) Concurrence Letter and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Response for the Noyo Harbor District Boat launch Ramp and Parking Facilities Project (Corps File Number 20016-00099N)

Dear Dr. Allen:

On April 20, 2016, NOAA's National Marine Fisheries Service (NMFS) received your request for a written concurrence that U.S. Army Corps of Engineers (Corps) proposed authorization of the Noyo Harbor District Boat launch Ramp and Parking Facilities project under Section 404 of the Clean Water Act of 1972, as amended (33 U.S.C. Section 1344), and Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. Section 403 *et seq.*) is not likely to adversely affect (NLAA) species listed as threatened or endangered or critical habitats designated under the Endangered Species Act (ESA). This response to your request was prepared by NMFS pursuant to section 7(a)(2) of the ESA, implementing regulations at 50 CFR 402, and agency guidance for preparation of letters of concurrence.

NMFS also reviewed the proposed action for potential effects on essential fish habitat (EFH) designated under the Magnuson-Stevens Fishery Conservation and Management Act (MSA), including conservation measures and any determination you made regarding the potential effects of the action. This review was pursuant to section 305(b) of the MSA, implementing regulations at 50 CFR 600.920, and agency guidance for use of the ESA consultation process to complete EFH consultation.

This letter underwent pre-dissemination review using standards for utility, integrity, and objectivity in compliance with applicable guidelines issued under the Data Quality Act (section 515 of the Treasury and General Government Appropriations Act 106-554). The concurrence letter will be available through NMFS stem[1]

[1] Once on the PCTS homepage, use the following PCTS tracking n WCR-2016-4689.

EXHIBIT NO. 8

APPLICATION 1-16-0278
NOYO HARBOR DISTRICT
NMFS CONCURRENCE LETTER
1 of 12

(https://pcts.nmfs.noaa.gov/pcts-web/homepage.pcts). A complete record of this consultation is on file at NMFS's North Central Coast Office in Santa Rosa, California.

Proposed Action and Action Area

The Noyo Harbor District (District) is proposing to reconstruct its Noyo River Boat Launch Facility (Facility). The Facility is located on South harbor Drive at the Noyo Inner Harbor Boat Launch Facility on the Noyo River estuary, just south of Fort Bragg, Mendocino County. The Facility is located on Assessor's parcel numbers (APN) 018-240-22, 018-240-26, and 018-259-19. The District is reconstructing its Facility to make it easier to use by the general public, including disabled boaters, fishermen, and boat builders.

The District will reconstruct the Facility by removing an existing boat ramp, and dock; installing a new boat ramp, and dock; installing signage, repaving the existing parking lot, and constructing sidewalks and a restroom in the parking lot nearby. Further details of the proposed action, submitted by the District to the Corps, can be found in the project designs (Noyo Harbor District Boat Launch Ramp and Parking Facilities. Fort Bragg, CA. Prepared by SHN June, 2016), which are summarized below:

Boat Ramp and Dock

On the waterside portion of the Facility, the existing 22.5 foot (ft) wide by 76.6 ft long concrete boat launch ramp will be replaced with a new 28 ft wide by 83.5 ft long v-grooved concrete launch ramp in the same location. The existing 6 ft wide by 57 ft long wooden boarding float dock will be removed and replaced with a 6 ft wide by 80 ft long fiberglass boarding float dock and removable reinforced concrete abutment. There are seven existing wooden soldier piles and four existing wooden dock piles used by the existing boarding float dock. Two of the existing dock piles, near the south end of the existing boarding dock, will be removed by sawing them in place 2 ft below grade. The remaining piles will be reused for the new fiberglass boarding float dock.

The existing launch ramp will be destroyed by land or barge based excavator and a dive team. The dive team will verify that the existing boat ramp is removed in its entirety, so that no obstructions will remain that would impede the construction of the new launch ramp. Divers will inspect and video-document any obstructions, change of bottom condition, the turbidity screen, or the condition of the constructed ramp (or finished ramp prior to final acceptance), and assist the surveyor in establishing and verifying control and survey information for the project. Once removed, the existing launch ramp will be removed to an offsite location.

Once the existing launch is removed, installation of the new launch ramp will commence. The new launch ramp will be made of precast reinforced concrete ramp panels (not poured in place). These panels will be placed on a gravel subgrade using an approximately 80- to 120-ton crane. The panels will set on epoxy-coated fiberglass guide beams and will be secured at the bottom of the ramp using grout bags. After the new ramp has been installed, a cast in place concrete apron will be constructed. Then, the fiberglass boarding float dock will be placed and fastened to two existing wooden piles, and anchored to the new reinforced concrete abutment. On both sides of the boat ramp, rock slope protection (RSP) will be placed adjacent to the ramp to protect the Facility. The RSP above the ordinary high water mark will be grouted.

The total materials to be removed and place below the high water mark includes:

- removal of 31.9 cubic yards (cy) of existing ramp concrete,
- removal of 42.7 cy of existing ramp base materials,
- removal of two existing 12 inch piles that are in the footprint of the existing float dock,
- remove existing wooden board float dock,
- install 58 cy of gravel and rock base for the new ramp,
- install 64.0 cy of precast concrete ramp panels,
- install 12.4 cy of RSP along sides of the new ramp.

Parking Area

The existing parking area will be repaved and striped for 18 vehicles and 48 vehicles-trailer parking species. A new pathway will be constructed to be compliant with the Americans with Disability Act (ADA) and to connect the parking area to the boat launch ramp. Informational and directional signage will be installed.

Restroom

An ADA-accessible restroom will be constructed nearby the parking area. The restroom will be a concrete CXT Ozark single-user flush unit connected to existing sanitary sewer, water, and electrical connections on a concrete slab foundation.

Timing, Equipment, Access and Staging

Construction of the boat ramp and dock will occur over a 30 day period between July 15th and October 15th. Construction of the parking area and restroom will occur over 90 days between June 1st and October 15th. Construction equipment for the boat launch work will include an excavator, backhoe, dump truck, and a barge (potentially). Construction for the parking area and restroom will include an excavator, backhoe, dump truck, and paving equipment. Access to the project area will be from existing roads, and construction equipment and materials will be staged in the existing parking area at least 100 feet from the river.

There are no interrelated or interdependent activities associated with the proposed action.

Action Agency's Effects Determination

The Corps has determined the potential impacts resulting from the Noyo Harbor District Boat launch Ramp and Parking Facilities Project are not likely to adversely affect Northern California (NC) steelhead (*Oncorhynchus mykiss)*, Central California Coast (CCC) coho salmon (*O. kisutch),* California Coastal (CC) Chinook salmon (*O. tshawytscha)*, and the Southern Distinct Population Segment (DPS) of North American green sturgeon (*Acipensor medirostris*). This determination is based on an analysis for the project activities described above and the avoidance and minimization measures outlined in SHN Consulting Engineers and Geologists Inc., (2016).

Available information indicates that ESA listed species of the following Evolutionarily Significant Unit (ESU) or Distinct Population Segment (DPS) may occur within the project site:

Northern California (NC) steelhead DPS (*Oncorhynchus mykiss)*
Threatened (January 5, 2006; 71 FR 834)
Critical habitat (September 5, 2005; 70 FR 52488);
Central California Coast (CCC) coho salmon ESU (*O. kisutch)*
Endangered (70 FR 37160; June 28, 2005)
Critical habitat (May 5, 1999; 64 FR 24049);
California Coastal (CC) Chinook salmon ESU (*O. tshawytscha*)
Threatened (June 28, 2005; 70 FR 37160)
Critical habitat (September 5, 2005; 70FR 52488);
Southern DPS of North American green sturgeon (*Acipenser medirostris*)
Threatened (April 7, 2006; 71 FR 17757)
Critical habitat, proposed (September 8, 2008; 73 FR 52084).

Regarding EFH, the Corps has determined that the proposed action would not have a substantial adverse impact on EFH for species managed under the Pacific Groundfish Fishery Management Plan and Pacific Coast Salmon Fishery Management Plan. This determination is based on the disturbed nature of the site, the minimal additional impacts the proposed work would cause, and the minimization and avoidance measure outlined in SHN (2016) that are included in the proposed project.

Consultation History

The Corps requested concurrence with their ESA and EFH determinations by letter dated April 20th, 2016. On May 6, 2016, NMFS determined there was not enough information to concur with the Corps' determinations on the proposed project and requested more information by email to the Corps and the District on that day. Additional information was provided by the District to NMFS and the Corps on May 26th, 2016, and with that new information, the Corps initiated informal consultation with NMFS.

ENDANGERED SPECIES ACT

Effects of the Action

Under the ESA, "effects of the action" means the direct and indirect effects of an action on the listed species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action (50 CFR 402.02). The applicable standard to find that a proposed action is not likely to adversely affect listed species or critical habitat is that all of the effects of the action are expected to be discountable, insignificant, or completely beneficial. Beneficial effects are contemporaneous positive effects without any adverse effects to the species or critical habitat. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.

All of the anadromous salmonids listed above spawn in the Noyo River watershed and therefore could be exposed to potential impacts from the proposed activities. However, all three species have specific migratory patterns that allow the District to construct the proposed project in a manner that avoids exposing listed salmonids to potential adverse effects. Beginning in October, adult coho salmon can begin staging in the Noyo River estuary waiting for the first rains to trigger their upstream spawning migration. Adult steelhead can also begin their upstream migration from the ocean in early fall, but generally do not return in numbers until late November and December with peak spawning occurring in January and February. Chinook salmon have similar adult run timing as coho salmon with migration occurring from early fall to late January. Juvenile steelhead and salmon (smolts) migrate to the ocean in the late winter and spring months. Based on out-migrant trapping information collected by the California Department of Fish and Wildlife (CDFW), smolts have completed their migration and transition to the marine environment by early July in most years. Lastly there is limited presence of juvenile salmonids in the Noyo River Harbor during late summer and fall. No salmonids were found during the construction of the Noyo Harbor Bridge in the summer of 2002, and sampling efforts in the estuary area upstream of the harbor by CDFW have yielded few salmonids during the summer months. By the Corps and the District limiting in-water activities to July 15th to October 15th, when salmonids are not present, the proposed project avoids exposing listed salmonids to direct adverse effects and therefore renders any potential adverse effect discountable.

The southern DPS of North American green sturgeon spawn in the upper reaches of the Sacramento River, and not in Noyo River. Adult green sturgeon exhibit an extensive marine existence, traveling as far north along the Pacific west coast as Alaska. These fish return from the ocean every few years in the late winter to spawn, and generally show fidelity to their upper Sacramento River spawning sites. Only one detection of green sturgeon has been confirmed within the Noyo Harbor (Adams *et al.* 2002). Little is known about the use of Noyo Harbor by green sturgeon; however, given the disturbed habitat that exists, it's unlikely that green sturgeon spend a great deal of time in Noyo Harbor. In addition, while in estuaries, like Noyo Harbor, green sturgeon spend their time over shallow intertidal mud flats feeding on benthic invertebrates (Dumbauld *et al.* 2008), they do not appear to use hard substrates (M. Moser, unpublished data cited in NMFS 2010). The existing substrate within the project area is a concrete boat launch ramp, a very hard substrate that is unlikely to be utilized by green sturgeon for foraging.

The potential direct adverse effects of the proposed action to green sturgeon result from increases in turbidity, from project activities (*e.g.,* dust and debris created during destruction, removal and installation of the boat launch, and disturbance of sediments during dock pile removal) and or being crushed by positioning of the concrete ramps. Increases in turbidity disturbs essential feeding behaviors and increases risk of mortality from predation. The placement of the pre-cast concrete ramps could cause harm or mortality of green sturgeon by crushing them. However, the proposed project includes avoidance and minimization measures that render these potential adverse effects to sturgeon insignificant and discountable. These measures include: using a full-depth turbidity curtain around the work area to reduce turbidity exposure, and to keep fish from entering the area during installation of the pre-cast concrete ramps.

The potential indirect adverse effects of the proposed action to listed salmonids and green sturgeon result from storm runoff entering the Noyo River from the newly asphalt paved parking lot and

from overwater shading resulting from the boarding dock. Asphalt can contain a wide variety of polynuclear aromatic hydrocarbons (PAHs), which can result in adverse impacts to salmonids and green sturgeon. PAHs can alter salmonid and green sturgeon egg hatching rates and reduce egg survival as well as harm the benthic organisms that are food sources for salmonid (Eisler 2000) and green sturgeon. The proposed action includes design measures which reduce the chances of PAHs entering the adjacent stream. The parking lot will be paved with permeable pavement on top drain rock that will prevent direct conveyance of PAHs to the Noyo River. Permeable pavement serves as a bioretention soil media that can retain or adsorb toxins in runoff (Davis *et al.*, 2009; Chapman and Horner 2010, Zhang *et al.*, 2010; Davis *et al.*, 2006), including PAHs (Dibalasi *et al.*, 2009). In fact the rate of retention and adsorption that permeable pavement has for PAHs and other pollutants effectively reverses the acute lethal and sublethal effects of urban runoff on listed salmonids (McIntyre *et al.*, 2014). In addition, the proposed project must comply with the National Pollutant Discharge Elimination System (NPDES) permit process, which requires applicants to comply with a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must provide adequate erosion and sediment control, including plans for implementing BMPs for the control of stormwater runoff, erosion and sedimentation. Due to the parking lot's construction design (compaction, and permeable pavement), and implementation of the SWPPP, any indirect adverse effects to listed salmonids and green sturgeon that might result from exposure to PAHs are expected to be insignificant and discountable.

Shading is known to alter predator-prey interactions (Helfman 1981), and change invertebrate assemblages (Glasby 1999), and reduce the density of benthic invertebrates (Struck *et al.* 2004). Reduced light conditions found under an overwater structure also limit the ability of fishes, especially juveniles and larvae, to use visual cues for spatial orientation, prey capture, schooling, predator avoidance and migration (Hanson *et al.* 2003). The increase in overwater area of the proposed project is 138 square feet. However, the new boarding dock will be repositioned to float over the concrete boat launch that has very little habitat value; whereas the existing boarding dock is positioned over natural streambed that has some habitat value. Since the concrete boat launch provides little habitat value for any fish or benthic invertebrate, the adverse effects of shading from the new boarding dock is insignificant. Rather, the repositioning of the new boarding dock is a beneficial effect of the proposed project even though it is larger than the existing.

The action area is located within designated critical habitat for CC Chinook salmon, CCC coho salmon, NC steelhead, and the southern DPS of green sturgeon. The designation of critical habitat for these species uses the term primary constituent element (PCE) or essential features. The new critical habitat regulations (81 FR 7414) replace this term with physical or biological features (PBFs). This shift in terminology does not change the approach used in conducting our analysis, whether the original designation identified primary constituent elements, physical or biological features, or essential features. In this letter of concurrence, we use the term PBF to mean PCE or essential feature, as appropriate for the specific critical habitat.
PBF of designated critical habitat for salmonids in the Noyo River include water quality and quantity, foraging habitat, natural cover including large substrate and aquatic vegetation, and migratory corridors free of obstructions. Similarly, the PBFs for proposed critical habitat for the southern DPS of green sturgeon in estuarine areas include: food resources, water flow, water quality, migratory corridor, water depth, and sediment quality. As discussed above, the primary concerns regarding impacts to habitat of listed salmonids is decreased water quality from toxins,

within the channel area of the Noyo Harbor. The primary concerns regarding impacts to habitat of green sturgeon are decreased water quality from toxins and turbidity, and degradation of benthic areas utilized for foraging. However, considering the avoidance measures incorporated into the Project, effects to water quality are insignificant or discountable. Given the small footprint of the channel in relation to the lower Noyo River estuary, potential effects to available forage areas is expected to be insignificant. The proposed project is not expected to change existing habitat values or result in adverse impacts to designated critical habitat for salmonids or critical habitat for green sturgeon.

Conclusion

Based on this analysis, NMFS concurs with the Corps that the proposed action is not likely to adversely affect the subject listed species and designated critical habitats.

Reinitiation of Consultation

Reinitiation of consultation is required and shall be requested by the Corps or by NMFS, where discretionary Federal involvement or control over the action has been retained or is authorized by law and (1) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (2) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this concurrence letter; or if (3) a new species is listed or critical habitat designated that may be affected by the identified action (50 CFR 402.16). This concludes the ESA portion of this consultation.

MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Under the MSA, this consultation is intended to promote the protection, conservation and enhancement of EFH as necessary to support sustainable fisheries and the managed species' contribution to a healthy ecosystem. For the purposes of the MSA, EFH means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity", and includes the associated physical, chemical, and biological properties that are used by fish (50 CFR 600.10), and "adverse effect" means any impact which reduces either the quality or quantity of EFH (50 CFR 600.910(a)). Adverse effects may include direct, indirect, site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

An assessment of the status of eelgrass was conducted from the boat ramp, within the action area, on January 21, 2016 during a -0.6ft tide. No eelgrass was observed; however, this assessment was conducted during a time period when eelgrass is dormant. More recently, during a "pre-pre construction survey" for eelgrass on May 9th, 2016, eel grass was observed within the vicinity of the action area. Therefore, the Corps, District, and NMFS assume the action area may include potential habitat for eelgrass.

NMFS determined the proposed action would adversely affect EFH as follows: 1) increased turbidity (as described above), 2) increased shading (as described above), and 3) loss of individual plants of eelgrass. As discussed above, disturbance during construction activities may re-suspend

bottom sediments into the water column, which reduces light penetration and lowers the rate of photosynthesis for subaquatic vegetation (Dennison 1986). If sediment loads remain high for an extended period of time, the primary productivity of an aquatic area may be reduced (Cloern 1987). For this project, increased levels of suspended sediment are expected to be temporary and isolated as turbidity increase will only occur within the curtain and subside once construction activities are complete.

Shading is known to alter predator-prey interactions (Helfman 1981), and change invertebrate assemblages (Glasby 1999), reduce the density of benthic invertebrates (Struck *et al.* 2004), and lowers the rate of photosynthesis for eelgrass (Dennison 1986). Reduced light conditions found under an overwater structure also limit the ability of fishes, especially juveniles and larvae, to use visual cues for spatial orientation, prey capture, schooling, predator avoidance and migration (Hanson *et al.* 2003). The increase in overwater area of the proposed project is 138 square feet. However, the new boarding dock will be repositioned to float over the concrete boat launch; whereas the existing boarding dock is positioned over natural streambed that has some habitat value for eelgrass. Therefore, repositioning the new boarding dock over concrete rather than natural substrate is a beneficial effect of the proposed project even though it is larger than the existing. Therefore, the proposed project actually improves EFH within the Action Area. Also, if based on the results of post-construction eelgrass surveys, the District, the Corps, and NMFS finds that eelgrass was adversely affected, or if individuals were destroyed by project activities; the District will provide the Corps and NMFS with an eelgrass mitigation plan consistent with California Eelgrass Mitigation Policy and Implementing Guidelines (NMFS 2014). When the mitigation plan is approved by NMFS the District will implement it.

Based on this analysis, NMFS has determined the proposed action would adversely affect EFH for various life stages of fish species managed under the Pacific Groundfish FMP and Pacific Coast Salmon FMP; however, the proposed action contains adequate measures to avoid, minimize, mitigate, or otherwise offset the adverse effects to EFH. These measures are described in more detail in SHN (2016) (Noyo Harbor District Boat Launch Ramp and Parking Facilities Project Description dated February 11, 2016). Therefore, NMFS has no practical EFH conservation recommendations to provide to avoid or reduce the magnitude of these effects. The Corps' must reinitiate EFH consultation with NMFS if the proposed action is substantially revised in a way that may adversely affect EFH. This concludes the MSA portion of this consultation.

Please direct questions regarding this letter to Dan Wilson, North Central California Coast Office, 707-578-8555.

Sincerely,

William W. Stelle, Jr.
Regional Administrator

cc: Cameron Purchino, USCOE
Copy to File ARN 151422WCR2016SR00199
Copy to Chron File

Literature Cited

Adams, P. B., C. B. Grimes, S. T. Lindley, and M. L. Moser. 2002. Status review for North American green sturgeon, *Acipenser medirostris*. NOAA, National Marine Fisheries Service, Southwest Fisheries Science Center, Santa Cruz, CA. 50 p.

Chapman, C., Horner, R.R., 2010. Performance assessment of a street-drainage bioretention system. Water Environment Research 82, 109–119

Cloern, J.E. 1987. Turbidity as a control on phytoplankton biomass and productivity in estuaries. Continental Shelf Research 7(11/12):1367-1381.

Davis, A.P., Hunt, W.F., Traver, R.G., Clar, M., 2009. Bioretention technology: overview of current practice and future needs. Journal of Environmental Engineering - ASCE 135, 109–117

Davis, A.P., Shokouhian, M., Sharma, H., Minami, C., 2006. Water quality improvement through bioretention media: nitrogen and phosphorus removal. Water Environment Research 78, 284–293.

Dennison, W. C., R.S Alberte. 1986. Photoadaptation and growth of *Zostera marina* L.(eelgrass) transplants along a depth gradient. Journal of Experimental Marine Biology and Ecology, 98(3), 265-282.

DiBlasi, C.J., H. Li, A.P. Davis, U. Ghosh. 2009. Removal and fate of polycyclic aromatic hydrocarbon pollutants in an urban stormwater bioretention facility. Environmental Science & Technology 43, 494–502.

Dumbauld, B. R., D. L. Holden, and O. P. Langness. 2008. Do sturgeon limit burrowing shrimp populations in Pacific Northwest estuaries? Environmental Biology of Fishes 83:283- 296.

Eisler, R. 2000. Handbook of Chemical Risk Assessment: Health Hazards to Humans, Plants, and Animals. Volume 1, Metals. Lewis Press, Boca Raton, Florida.

Glasby, T.M. 1999. Effects of shading on subtidal epibiotic assemblages. Journal of Experimental Marine Biology and Ecology 234:275-290

Hanson J, Helvey M, Strach R. editors. 2003. Non-fishing impacts to essential fish habitat and recommended conservation measures. Long Beach (CA): National Marine Fisheries Service (NOAA Fisheries) Southwest Region. Version 1. 75 p.

Helfman, G.S. 1981. The advantage to fishes of hovering in shade. Copeia 2:392-400

McIntyre, J.K., Davis, J.W., Hinman, C., Macneale, K.H., Anulacion, B.F., Scholz, N.L. & Stark, J.D. (2014) Soil bioretention protects juvenile salmon and their prey from the toxic impacts of urban stormwater runoff. Chemosphere, 132, 213–219

NMFS 2010. Endangered Species Act Biological Opinion and Not Likely to Adversely Affect Determinations for Operation of the Pacific Coast Groundfish Fishery in 2012. F/NWR/2011/06358

NMFS 2014. California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP). 45 pages.

Struck, S.D., Craft C.B., Broome S.W., Sanclements M. D., & Sacco J.N., 2004. Effects of bridge shading on estuarine marsh benthic invertebrate community structure and function. Environmental Management, 34:99-111.

Zhang, X.Y., Liu, X.M., Zhang, M.H., Dahlgren, R.A., Eitzel, M., 2010. A review of vegetated buffers and a meta-analysis of their mitigation efficacy in reducing nonpoint source pollution. J. Environ. Qual. 39, 76–84.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM
San Francisco District

This Preliminary Jurisdictional Determination finds that there *"may be"* waters of the United States in the subject review area and identifies all such aquatic features, based on the following information:

Regulatory Division: North Branch **File Number**: 2016-00099N **PJD Completion Date**: 07-14-2016

Review Area Location
City/County: Fort Bragg, Mendocino Co. State: California
Nearest Named Waterbody: Noyo River
Approximate Center Coordinates of Review Area
Latitude (degree decimal format): 39.4231°N
Longitude (degree decimal format): -123.8031°W
Approximate Total Acreage of Review Area: 0.19 acre

File Name: Noyo Harbor Boat Ramp Replacement

Applicant or Requestor Information
Name: Jere Kleinbach
Company Name: Noyo Harbor District
Street/P.O. Box: 19101 South Harbor Drive
City/State/Zip Code: Fort Bragg, California 95437

Estimated Total Amount of Waters in Review Area

Non-Wetland Waters: lineal feet feet wide and/or
0.077 acre(s) Flow Regime: Perennial

Wetlands: lineal feet feet wide and/or
acre(s) Cowardin Class: Select

Name of Section 10 Waters Occurring in Review Area
Tidal: Noyo River
Non-Tidal:

☒ Office (Desk) Determination
☐ Field Determination:
Date(s) of Site Visit(s): MM-DD-YYYY

SUPPORTING DATA: Data reviewed for Preliminary JD (check all that apply – checked items should be included in case file and, where checked and requested, appropriately reference sources below)

☒ Maps. Plans, plots or plat submitted by or on behalf of applicant/requestor (specify): Maps

☐ Data sheets submitted by or on behalf of applicant/requestor (specify):

- ☐ Corps concurs with data sheets/delineation report.
- ☐ Corps does not concur with data sheets/delineation report.

☐ Data sheets prepared by the Corps.
☐ Corps navigable waters' study (specify):
☐ U.S. Geological Survey Hydrologic Atlas:
- ☐ USGS NHD data.
- ☐ USGS HUC maps.

☐ U.S. Geological Survey map(s) (cite quad name/scale):
☐ USDA Natural Resources Conservation Service Soil Survey.
☐ National wetlands inventory map(s) (specify):
☐ State/Local wetland inventory map(s) (specify):
☐ FEMA/FIRM maps.
☐ 100-year Floodplain Elevation (specify, if known):
☒ Photographs: ☒ Aerial (specify name and date): Google Earth
☐ Other (specify name and date):
☐ Previous JD determination(s) (specify File No. and date of response letter):
☐ Other information (specify):

IMPORTANT NOTE: If the information recorded on this form has not been verified by the Corps, the form should not be relied upon for later jurisdictional determinations.

Cammy Pudlic 2016.07.15 11:37:18 -07'00'

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

Aquatic Resource I.D.	**Latitude** (degree decimal format)	**Longitude** (degree decimal format)	**Cowardin Class and Flow Regime**	**Estimated Area or Lineal Feet of Aquatic Resource**	**Type of Aquatic Resource**
rp-1	39.4231°N	-123.9031°W	Estuarine Flow: Perennial	lineal ft ft wide 0.190 acre(s)	Estuary
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select
	°Select	- °Select	Select Flow: Select	lineal ft ft wide acre(s)	Select