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MEMORANDUM

TO: The Honorable William W. Paty, Chairperson
Department of Land and Natural Resources

SUBJECT: Final Environmental Impact Statement for the
Hanalei Pier Reconstruction

I am pleased to accept the Final Environmental Impact Statement for the Hanalei Pier Reconstruction as satisfactory fulfillment of the requirement of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding if the action described therein should be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to consider if the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and together with the comments made by reviewers, provide useful analysis of the proposed action.

John Waihee
JOHN WAIHEE

bcc: ✓ Dr. Bruce S. Anderson (OEQC)

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HANALEI PIER
RECONSTRUCTION

Final Environmental
Impact Statement

Department of Land and Natural Resources
Division of State Parks

June 1990

State of Hawaii
Department of Land and Natural Resources
Division of State Parks

FINAL ENVIRONMENTAL IMPACT STATEMENT
FOR HANAIEI PIER RECONSTRUCTION
HANAIEI, KAUAI

This statement was developed in accordance with the
Environmental Impact Statement Regulations, State of Hawaii,
and is submitted pursuant to Chapter 343, Hawaii Revised
Statutes

PROPOSING AGENCY:

Department of Land and Natural Resources
State of Hawaii

ACCEPTING AUTHORITY:

Governor, State of Hawaii

William W. Paty

W. W. Paty
William W. Paty, Chairperson

June 1990

HANAIEI PIER RECONSTRUCTION

Table of Contents

	<u>PAGE</u>
1. SUMMARY	1
1.1 Description of Action	1
1.2 Proposed Project - Beneficial and Adverse Impacts	1
1.3 Adverse Impacts Of The Project That Cannot Be Avoided	2
1.4 Alternatives	2
2. DESCRIPTION OF THE PROPOSED ACTION	4
2.1 Project Goals And Objectives	4
2.2 Project Location	4
2.3 Project History	6
2.4 Project Description	11
3. PHYSICAL ENVIRONMENTAL CONDITIONS/PROJECT IMPACTS	13
3.1 General Site Description	13
3.2 Geology	13
3.3 Climate	17
3.4 Soils	18
3.5 Terrestrial Fauna	19
3.6 Marine Flora And Fauna	20
3.7 Oceanography	25
3.8 Water Quality	26
3.9 Air Quality	28
3.10 Noise	29

	<u>PAGE</u>
4. PUBLIC FACILITIES AND SERVICES/PROJECT IMPACTS	30
4.1 Water, Wastewater, Electricity, And Solid Waste	30
4.2 Traffic	30
5. SOCIO-ECONOMIC CONDITIONS/PROJECT IMPACTS	32
5.1 Land Use Designation and Existing Land Uses	32
5.2 Historical Characteristics	32
5.3 Visual Quality	34
5.4 Economic Conditions	35
5.5 Population	36
5.6 Housing	36
5.7 Displacement	37
5.8 Recreation	37
6. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLAN, POLICIES AND CONTROLS FOR THE AFFECTED AREA	39
6.1 State	39
6.2 Federal	40
7. RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT LONG-TERM PRODUCTIVITY	41
8. ADVERSE EFFECTS WHICH CANNOT BE AVOIDED	42
9. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES	44
10. SUMMARY OF UNRESOLVED ISSUES	45
11. ALTERNATIVES TO THE PROPOSED ACTION	46
12. AGENCIES AND ORGANIZATIONS CONSULTED	50

	<u>PAGE</u>
13. REFERENCES	51
14. APPENDICES	53
14.1 AQUATIC BIOLOGICAL SURVEY	
14.2 COMMENTS AND RESPONSES TO THE DRAFT EIS	
14.3 CONSTRUCTION PLANS	

1. SUMMARY

1.1 DESCRIPTION OF ACTION

The proposed project involves the reconstruction of the existing pier consisting of the removal of the deteriorated pier and concrete pilings; installation of new concrete pilings and concrete pier; and the installation of handrails along the perimeter of the pier for public safety. The existing shed will be removed and replaced upon completion of the concrete deck.

1.2 PROPOSED PROJECT - BENEFICIAL AND ADVERSE IMPACTS

The construction of this project will not cause significant damage to the marine life. Construction work beneath the water is necessary to replace several cracked and damaged concrete pilings and the disturbance to the sea bottom will be kept to a minimum.

The turbidity of the surrounding water may be affected to a small degree due to the construction activity but the effects should be temporary and of a short-term nature. The construction activity will not significantly affect the water quality of Hanalei Bay.

Some noise will be generated from the contractor's operation, but all of the work will be done during daylight hours. The contractor will be required to take measurements to keep the noise within allowable limits. No long-term noise impacts are anticipated.

Recreational opportunities, such as fishing, sight-seeing and picnicking will be enhanced by the completion of this project. The pier will also present a picturesque view for residents and tourists to enjoy.

The project will provide temporary construction jobs at the project site. These jobs will enhance the temporary economic conditions of the Hanalei area and the island of Kauai.

1.3 ADVERSE IMPACTS OF THE PROJECT THAT CANNOT BE AVOIDED

The project may temporarily alter some marine habitats for a few individual species. Some minor degradation of water may occur temporarily. Noise, dust, and hydrocarbon emissions will be generated during the construction phase.

1.4 ALTERNATIVES

Alternatives to the proposed project are the following:

1. Save and keep as much of the existing pier and replace or repair as required.
2. Demolish the entire pier and construct a new wood

pier.

3. Do nothing and allow the existing pier to collapse.

2. DESCRIPTION OF THE PROPOSED ACTION

2.1 PROJECT GOALS AND OBJECTIVES

The objective of the project is to reconstruct the existing pier; make it safe for recreational use by the general public; and preserve the visual and historic significance of the pier. It is intended that funds appropriated by the State Legislature will be utilized for whatever improvements that are necessary to make the pier safe for use by the general public.

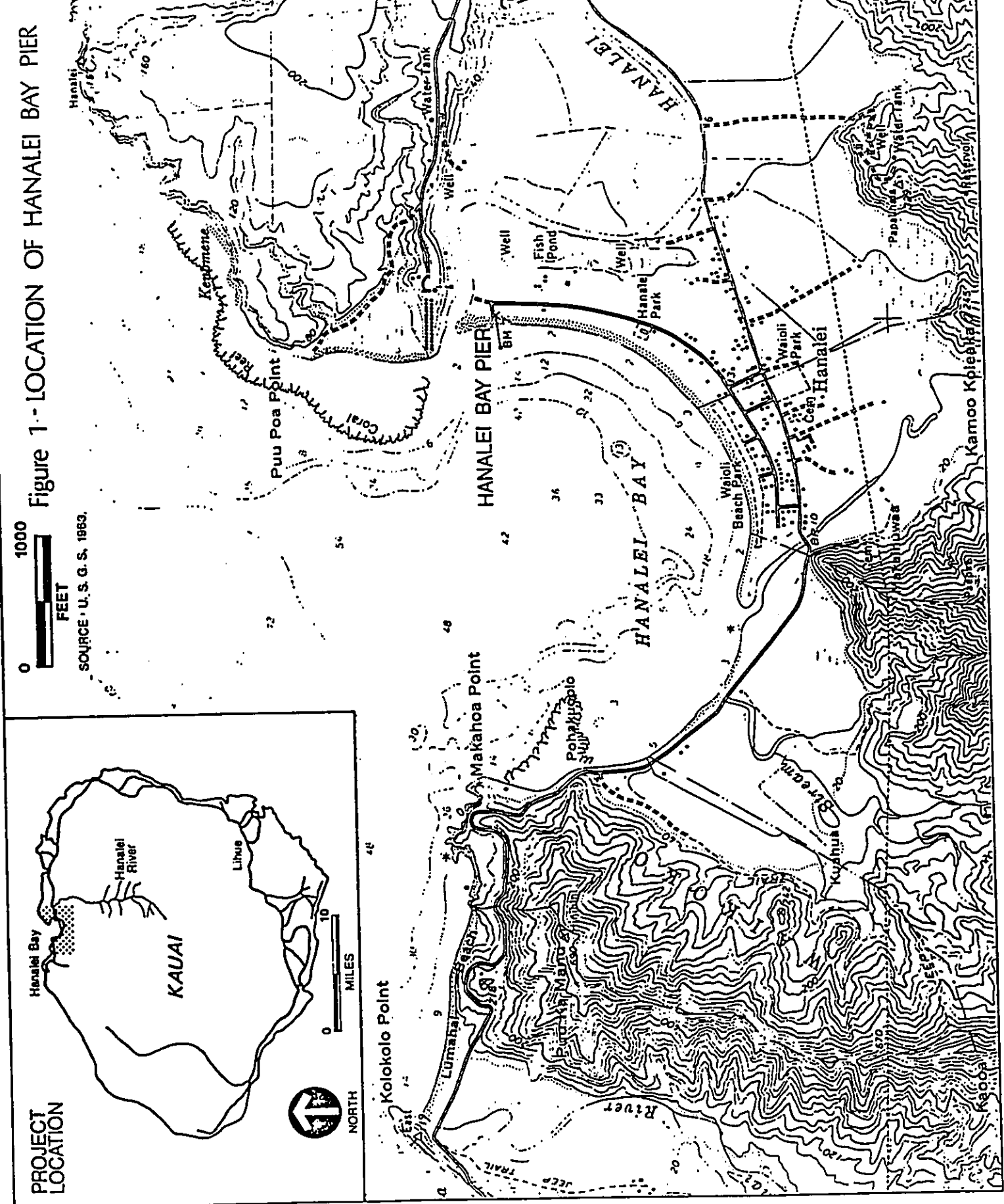
The objective of the project is in keeping with the North Shore Development Plan Update (1980) which states:

"The Hanalei Pier presently poses a serious safety hazard to visitors, and should be repaired as soon as possible." (pg. 17)

It is to the benefit of the residents, community groups and tourists to see that the pier is returned to an active recreational facility. The facility could then be used for fishing, sight-seeing and picnicking.

2.2 PROJECT LOCATION

The Hanalei Bay Pier, as shown in figure 1, is located on the eastern side of Hanalei Bay, near the mouth of the Hanalei River on the island of Kauai. The Tax Map Key designation is



5-5-01:8 and comprises .499 acres. The site is owned by the State of Hawaii. The pier adjoins the County of Kauai's Black Pot County Park (2.47 acres) at the northern end of Weke Road.

The pier extends 535 feet from Weke Road into the waters of Hanalei Bay. It consists of a 12'6" wide by 465' long concrete approach ramp which extends approximately 305 feet into Hanalei Bay to a 30' x 70' concrete platform covered with a wooden shed. Railroad tracks sit within a bed of sand and gravel throughout the approach ramp and the platform area. The track bed in the platform area has been filled with concrete.

2.3 PROJECT HISTORY

Originally, the pier was constructed out of timber, prior to 1882. The pier was reconstructed with reinforced concrete piles and beams and a wooden deck in 1912. Due to the difficulty in maintaining the wooden deck, the Territorial Legislature in 1921 appropriated funds for the construction of a concrete deck. The wooden decking was subsequently replaced with reinforced concrete in 1922. The shed at the end of the pier, originally built in 1940, was reinforced and reroofed in 1973.

The pier is historically significant as one of the last remaining vestiges of the rice industry in Hanalei. For this reason, it was placed on the State and Federal registers of

historic places in 1979. The Chinese were cultivating rice at Hanalei at least by 1882, and by 1892, Hanalei and Waioli, with 750 acres of land devoted to rice farming, were the largest rice producing areas in Hawaii. At the time of annexation, Hawaii was third in rice production in the United States, behind Louisiana and South Carolina. Annexation, with the removal of all tariffs, however spelled the downfall of Hawaiian rice production, as rice land was converted to cane use for the booming sugar industry. The decline in the Chinese population, the requirements for fertilizer, competition from California rice growers and the introduction of a rice-borer insect all served as contributing factors to the decline of rice farming.

The Hanalei Bay Pier is also significant for its association with transportation history in Hawaii. In the early 20th century, Hanalei served as an important local shipping center for Kauai. However, the declining rice trade and an improved highway system by the 1930's confirmed Nawiliwili Harbor as the major port. The wooden fenders and metal mooring cleats which were integral parts of the Hanalei Bay Pier no longer remain today.

At present, the Hanalei Bay Pier is in a deteriorated condition, as shown in figure 2, with considerable spalling under the deck and cracks in several of the concrete pilings.

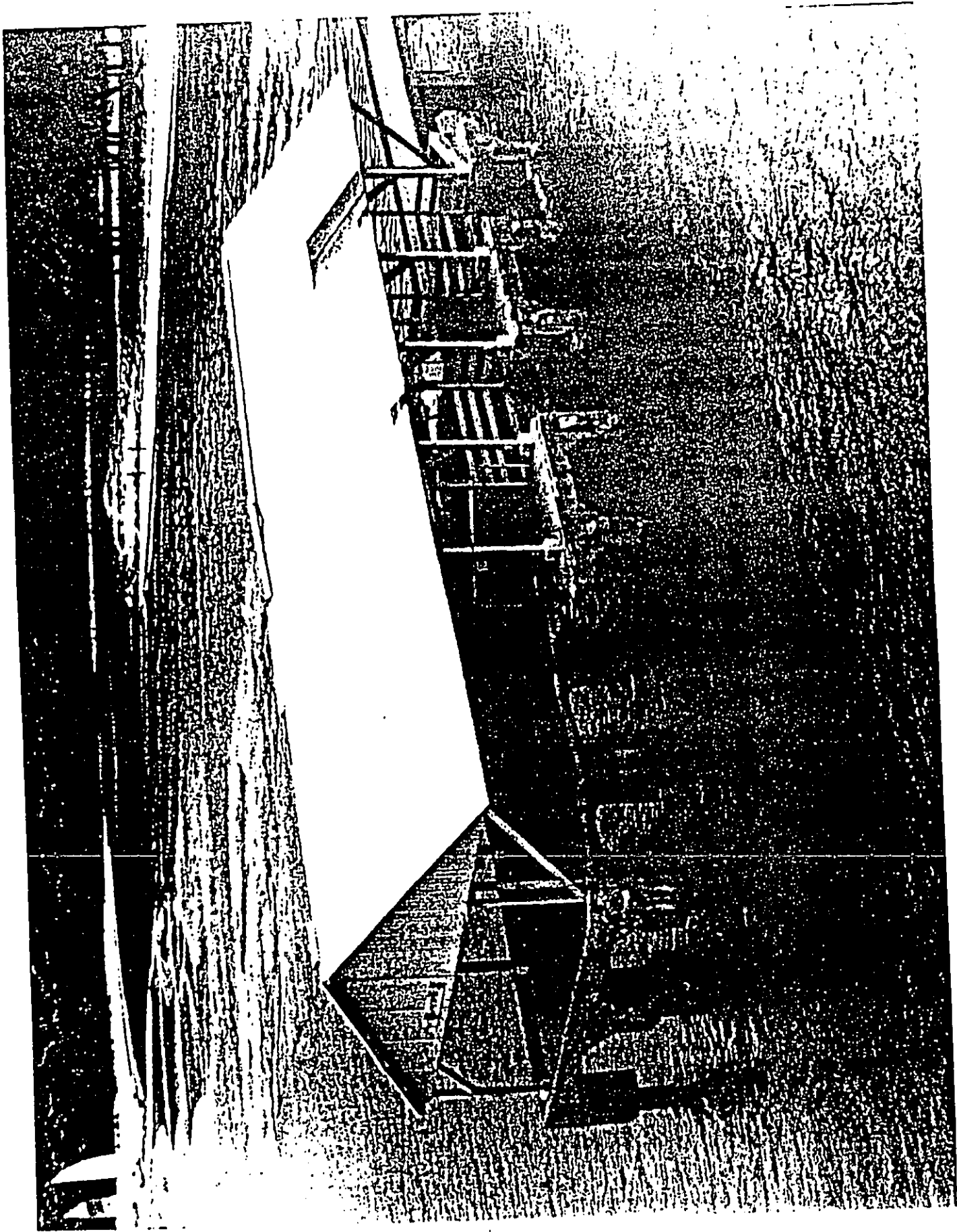


Figure 2 - DETERIORATION OF THE HANAIEI BAY PIER SHED

Years of wave action have eroded the concrete, corroded the steel reinforcement and caused large chunks of the concrete decking to collapse at the end of the pier. Because of its unsafe nature, signs indicating the pier's deteriorating condition have been posted conspicuously at the end of the approach ramp.

An engineering study was prepared by Harold T. Miyamoto & Associates, Inc. in October of 1981. This study indicated that there was substantial damage and deterioration throughout the entire pier structure. Both southern corners of the platform, including three piles, were demolished during a storm. Most of the reinforcing steel in the bottom of the slab and beams were completely exposed and rusted beyond repair.

Three alternatives were considered in the study:

1. Construct New Pier

The U.S. Department of Interior (1979) has established standards for historic preservation projects and has included reconstruction as an allowable alternative. The work will involve total demolition and construction to replicate the pier, including new piles and the installation of a railing system as necessary for public safety. The existing shed would be removed and replaced in kind.

The disadvantage of this alternative would be the noise generated by the driving of the piles.

The advantage of this solution is that the historical architecture of the pier will be preserved, and the useful life of the structure would be extended for a long period of time.

2. Rehabilitation of the Pier

The Department of Interior allows rehabilitation of a historic site provided it consists of returning a property to a state of utility through repair. The concept is to save and keep as much of the existing pier as possible and only replace or repair the existing pier as required. The work includes injecting epoxy into all exposed cracks, spalls, and deteriorated areas. Construction of an independent structural slab and beam system under the pier may be done to strengthen and support the deck. The existing shed would be removed and rebuilt after repair work is completed. A wooden handrail would most likely be constructed along the outer edge of the approach ramp and deck, to further insure public safety.

Rehabilitation as being considered, may not resolve

the pier's structural integrity as the concrete and metal reinforcements appear deteriorated.

The disadvantage of this alternative is that the life expectancy of the pier would be nominally extended but without much assurance. The repair work would also alter the thickness and shape of the underside of the deck.

3. No Repair

This alternative does not involve any cost, but the pier would not be available for any public use. Also because of the deteriorated conditions of the pier, collapse of the entire structure or any part thereof may occur at any given time.

The consultant concluded from his study that the construction of a new pier is the recommended alternative since most of the existing piles are old and damaged and their repair and further use is not recommended.

2.4 PROJECT DESCRIPTION

The proposed project will involve the removal of the deteriorated concrete pier and concrete pilings; the installation of new concrete pilings and a concrete pier; and the installation of handrails along the perimeter of the pier

for public safety. The existing wooden shed located on the platform at the outer end of the pier will also be removed and replaced upon reconstruction of the new concrete platform decking. Construction plans for this project are included in the APPENDIX.

2.4.1 PROJECT PHASING

This project will involve the reconstruction of the pier in phases based upon the availability of funds. The project will begin with work on the outermost portion of the pier since this is the area that has suffered the most deterioration.

2.4.2 PROJECT PLAN COST ESTIMATE

The estimated construction cost for this project is approximately \$2,204,000.

2.4.3 USE OF PUBLIC LANDS AND FUNDS

The project site is presently owned by the State of Hawaii. This project will be funded by the State of Hawaii and the Legislature has already appropriated funds for the first phase. The funds are subjected to be lapsed if they are not encumbered by a contract on or before June 30, 1990.

3. PHYSICAL ENVIRONMENTAL CONDITIONS/PROJECT IMPACTS

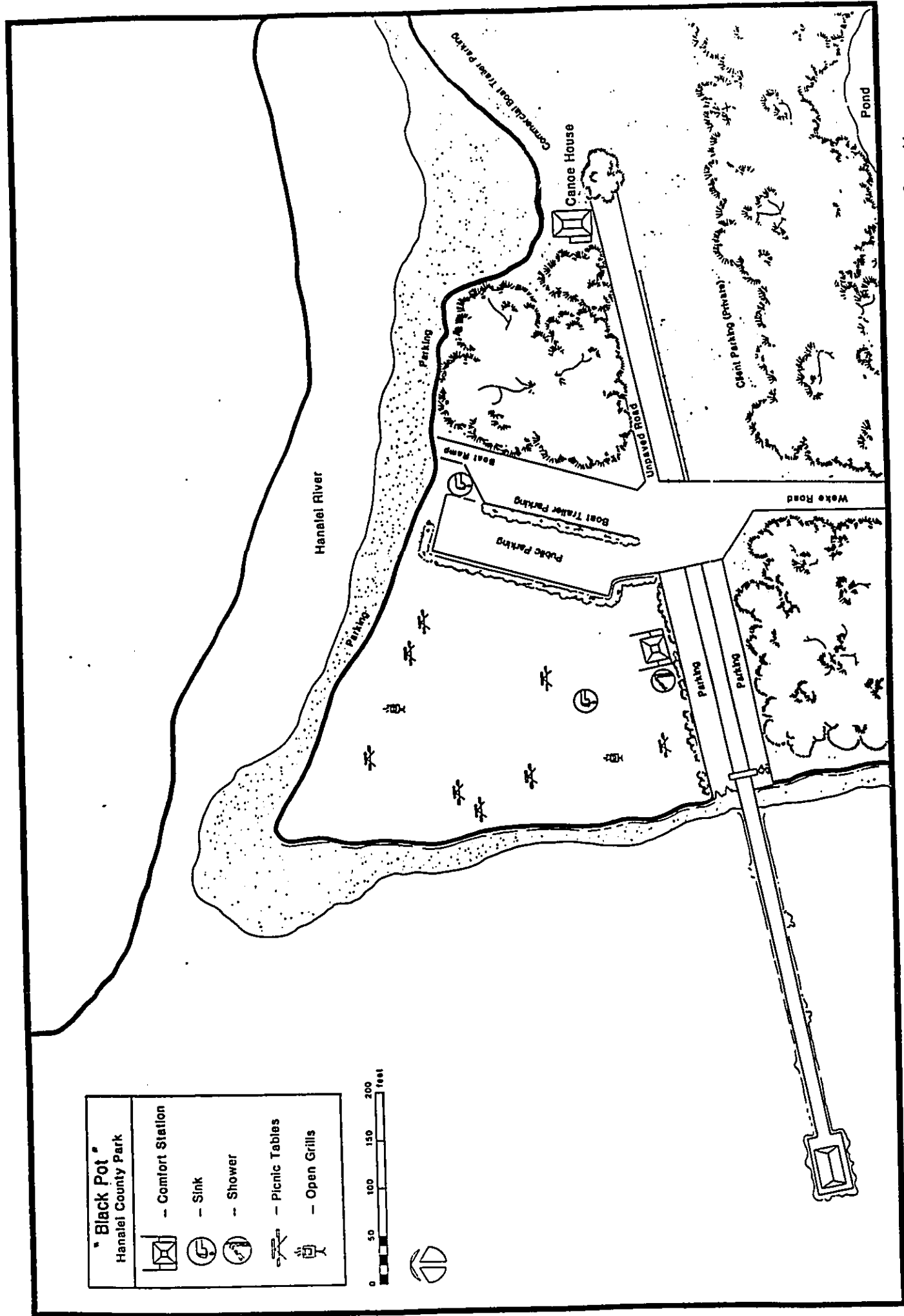
3.1 GENERAL SITE DESCRIPTION

Hanalei Bay Pier is located on the eastern side of Hanalei Bay, near the mouth of the Hanalei River on the island of Kauai. The pier is located on a .499 acre site next to the County's Black Pot Park at the northwestern end of Weke Road as shown on figure 3.

Black Pot County Park consists of 2.5 acres and is maintained by the County of Kauai. The park is used for picnicking, camping (on weekends only), boat launching, fishing, sunbathing and swimming. At the end of Weke Road is a boat launching ramp. Other County facilities include parking areas, a boat washdown area, rest rooms, showers, sinks, picnic tables, barbecue grills and trash containers.

3.2 GEOLOGY

The Hawaiian Archipelago lies in the mid-Pacific stretching 1,523 miles across the Tropic of Cancer. The eight main islands - Hawaii, Maui, Oahu, Kauai, Molokai, Lanai, Niihau, and Kahoolawe (in order of size) make up over 99% of the total land area of 6,425 square miles. The remaining one per cent, less than 6 square miles of land area, is made up of islands off the shores of the main islands and the Northwestern Hawaiian Islands, from Kure Atoll in the north to Nihoa in the



Prepared for:
County of Kauai
Planning Department

Prepared by:
Wilson Ohamoto & Associates, Inc.

Figure 3 BLACK POT PARK EXISTING FACILITIES MAP

south.

The island of Kauai is the northernmost and the oldest of the main Hawaiian Islands. It is 5,170 feet high and 32 miles in its longest diameter. It has an area of approximately 555 square miles. It is located about 63 nautical miles from Oahu. It is roughly circular in shape and consists of a single shield volcano. Most of the original flanks have been reduced by erosion. The valleys of Wainiha, Lumahai and Hanalei are some of the valleys that were created by the erosion action of the streams. Waves also contributed to the erosion of the great shield volcano.

Volcanic activity was later renewed in the eastern two-thirds of the island about 1.42 million years ago. Lava from the Koloa volcanic series partially buried the eroded topography of the original lava flows and filled some of the earlier valleys. The original flank lavas are presently exposed only along the Na Pali Coast. The mountainous central plateau of the island is all that remains of the floor of a massive caldera whose rim has completely eroded away.

Kauai has high sea cliffs where the old lava flows meet the shore and low sea cliffs where the lava flows are more recent in origin. Along a 30-mile section of the northwestern coast, wave action has created the Na Pali cliffs, some 2,000

to 3,000 feet high. The remainder of the 113-mile shoreline consists of sand beaches or low cliffs created from the Koloa series lava flows.

River and stream mouth estuaries are better developed on the island of Kauai than on any of the other Hawaiian Islands. Kauai also has more than one third of all beach sand in the main Hawaiian Islands. The largest nearshore sand reservoirs are off Hanalei, Wailua, and Nawiliwili Bays.

Hanalei Bay is the largest bay on Kauai, is nearly semicircular, and opens to the north. It is rimmed by a wide white sand beach which is especially well developed on the western shoreline, and is mostly floored by sand. The Hanalei, Waioli, and Waipa Rivers have deposited detritus at their mouths and these sediments along with calcareous sands from offshore organisms have formed the two-mile long beach which ends at the Hanalei River in the east. On the west side, the beach has abundant gravel where it narrows between Puu Manu headland and a reef which occupies the west side of the bay.

Hanalei Beach averages about 125 feet in width and shows a seasonal variation and is the narrowest during the winter. There is a small County park (Black Pot Park) and pavilion in the east-central portion of the beach. The swimming is good except when the waves are high.

3.3 CLIMATE

3.3.1 EXISTING CONDITION

Hawaii's climate has relatively mild and equable temperatures the year round. In Hawaii there are only two seasons, summer and winter. Summer occurs between May and October when the sun is nearly overhead, the weather warmer and drier, and the trade winds most persistent. Between the months of October and April, the winter season is characterized by the sun in the south, the weather is cooler, and the trade winds are more often interrupted by other winds and by intervals of widespread cloud and rain.

The winds in the islands are normally northeasterly (trade) but are occasionally interrupted during the winter by southerly or "kona" winds. The trade and southerly winds bring rain to the islands. The heavy storms usually come from the south.

The northeastern side of the mountains are usually the wettest because of the prevailing wind. Depending upon the form and height of each island, maximum precipitation occurs between the altitudes of 2,000-6,000 feet. Above the 6,000 feet level, the precipitation decreases. When the winds descend the leeward slopes, they become warmer and drier, causing arid and semiarid climates.

The project area is subject to the normal tradewinds produced by the northeasterly wind. Temperature readings for the project site are not available but the average temperature for Kilauea can be approximated for this area. The average temperature for the coolest month is approximately 62°F and 82°F for the warmest month. The average rainfall in Hanalei is approximately 60-70 inches.

The March 4, 1987 Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Agency indicate that the project site is located in Zone VE (special coastal flood area with velocity hazard due to wave action), with base flood elevations ranging from 12 to 13 feet MSL. The tsunami of 1946 caused wave heights of 9 to 14 feet at Hanalei Bay. The 1957 and the 1960 tsunami produced waves with elevations of approximately 18 feet and 8 feet respectively.

3.3.2 PROJECT IMPACT

The proposed project is not expected to have an impact on the climatic or flood conditions of the area.

3.4 SOILS

3.4.1 EXISTING CONDITION

The Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii indicates the project site is

composed of entirely BS (Beaches). Beaches occur as sandy, gravelly, or cobbly areas on all the islands in the State of Hawaii.

The beach at the project site is composed of detritus deposited by the Hanalei River along with calcareous sand.

3.4.2 PROJECT IMPACT

The project will not change the overall soil composition at the project site. All work will be confined to only the pier.

3.5 TERRESTRIAL FAUNA

3.5.1 EXISTING CONDITION

There are a large number of streams, ponds, reservoirs, marshes and estuary areas in the Hanalei area that provide an excellent habitat for waterbirds. The endangered waterbird species found in this area include the Hawaiian stilt (Himantopus mexicanus knudseni), the Hawaiian coot (Fulica americana alai), the Hawaiian duck (Anas wyvilliana) and the Hawaiian gallinule (Gallinula chloropus sanvicensis). The Namolokama mountains behind Hanalei have been identified as an endangered forest bird habitat.

The southern part of the Hanalei fishpond has been

identified as a wetland by Elliot and Hall (1977). The pond area provides a habitat for duck and the Hawaiian coot.

3.5.2 PROJECT IMPACT

Reconstruction of the pier is not expected to disturb the waterfowl in the area.

3.6 MARINE FLORA AND FAUNA

3.6.1 EXISTING CONDITION

A survey was conducted by the staff of the Division of Aquatic Resources, Department of Land and Natural Resources in the vicinity of the Hanalei Pier.

The water had about 20 feet visibility with considerable freshwater intrusion from the nearby Hanalei River mouth. The pier is situated on a sand flat with no visible hard bottom, rock, or coral.

The biota on, and associated with the pilings of the Hanalei Pier are typical of a "wharf piling" community in Hawaii. The pilings are dominated by filter-feeding organisms, primarily bivalves and tunicates subtidally, and the intertidal biota is typical of that found in other relatively calm intertidal areas with vertical concrete substrate.

Generally, the species diversity is relatively low, with only a few organisms dominating in abundance (both numerically and total biomass). The objectives of the marine biological survey were:

1. To identify the most abundant marine macrofauna and flora living on, or associated with the pilings of the Hanalei Pier, and
2. To predict what kinds of biotic changes may be forthcoming with the planned reconstruction of this pier.

A number of plants and animals were found attached to or living on the pier's supports. Fish were also observed near the pier's foundation.

The filter-feeding bivalve Isognomen sp. was the dominant organism on the pilings, representing approximately 95% of the total biomass. Their distribution on the pilings appeared to be limited to between the lower reaches of the intertidal zone, down to the lower reaches of the pilings that were not exposed to sand abrasion (i.e. the Porolithon zone). The size of this vertical band of bivalve living on a piling was also dependent upon the length of the underwater portions of the pilings, which is a function of water depth which ranges from about 0.75 to 2.25 m deep.

A 10 cm² sample of Isognomen taken from a piling weighed 302 g (wet weight). The circumference of a piling is 1.4 m, there is a total of about 68 pilings that extend into the water, and the bivalve reaches on the average about 1.5 m down the pilings. Therefore, the total biomass of this bivalve on the pier pilings is about 4,312.5 kg (9,056.2 lb), or 30.2 kg/m² (53 lb/yd²).

Additionally, the 10 cm² sample of Isognomen contained many amphipods (15), polychaete worms (9), juvenile Portunid crabs (11), and two species of macroalgae. A complete list of the biota observed on the pilings, and their relative abundance, are given in Table 1.

Table 1. Relative Abundance of Biota Associated with the Hanalei Pier, 12 January 1990.

Class	Scientific Name	Common Name	Abundance ²
(Animals)			
Pices:	<u>Kulia sandvicensis</u>	aholehole	abundant
	<u>Mulloidis flavolineatus</u>	weke	common
	<u>Synodus biotatus</u>	'ulae	rare
Mollusca:			

Bivalvia:	<u>Isognomen</u> sp.	oyster	abundant ³
	<u>Branchidontes</u> <u>cerebristriatus</u>	mussel	common
Gastropoda:	<u>Littorina</u> sp	pupu kolea	common
	<u>Serpulorbis variabilis</u>	tube snail	common
Crustacea:			
Decapoda:	<u>Grapsus tenuicrustatus</u>	a'ama crab	common
	<u>Thalamita creata</u>	haole crab	uncommon
Amphipoda:	Unidentified Gammarids	--	abundant

²Legend - the relative abundance of organisms was categorized as follows:

abundant = more than 1000 observed
 common = more than 100 observed
 uncommon = more than 10 observed
 rare = only one observed

³This was the most abundant organism, comprising approximately 95% of the total biomass on the pilings.

Cnidaria:			
Hydroida:	<u>Halocordyle districha</u>	hydroid	abundant
Ascidiacea:	Unidentified tunicate	tunicate	common
Polychaeta:	Unidentified Nereids	worms	common
(Algae)			
Chlorophyta:	<u>Chaetomorpha antennina</u>	-	uncommon

Rhodophyta:	<u>Acanthophora spicifera</u>	-	abundant ⁴
	<u>Coelothrix irregularis</u>	-	common
	<u>Porolithon onkodes</u>	-	abundant
	<u>Laurencia nidifica</u>	mane'one'o	uncommon
Phaeophyta:	<u>Giffordia brevi-</u>	-	abundant
	<u>articulata</u>		
	<u>Ralfsia pangoensis</u>	-	rare

⁴This was the most abundant alga seen, with Giffordia breviarticulata second in abundance. However, since this survey was done in the winter, on a day with heavy wave action, it is likely that more species of algae may occur during the summer months.

3.6.2. PROJECT IMPACT

Virtually all of these species grow relatively fast, are well adapted for life on, or around, wharf pilings, and will quickly recolonize the pier after reconstruction is completed. Therefore, although the biomass of organisms inhabiting the Hanalei Pier is substantial, the impacts of pier reconstruction will likely be short-term.

This project is expected to produce a temporary adverse impact in the form of increased turbidity and displacement of the sessile plants and animals attached to the pier's foundation. These animals and plants are expected to return after reconstruction is completed.

3.7 OCEANOGRAPHY

3.7.1 EXISTING CONDITION

Hanalei Pier's location on the northern coast of Kauai would make it susceptible to the North Pacific Swell and the Trade Wind Waves. The North Pacific Swell is present during winter and early spring. These waves are generated by winter storms in the North Pacific. They have a height of 8-14 feet and periods of 10-17 seconds. These high storm-generated waves occur most frequently than tsunamis, but are not as destructive.

The trade wind waves are present during a large portion of the year. The largest waves are present from late spring through late autumn. These waves are generated by the northeast trade winds. They have a height of 4-12 feet and periods of 5-8 seconds.

The circulation of the bay waters has not been studied in any great detail. Fresh water entering the bay from the Waioli and Waipa Streams and the Hanalei River should create an outflowing layer above the bay's sea water. Surface currents are dependent upon the wind conditions and the topography of the shoreline. The movement of tidal currents is generally in a clockwise direction during flood tides and counter-clockwise during ebb tides. These tidal currents play a major role in the flushing characteristics of the bay.

3.7.2 PROJECT IMPACT

This project should not have an impact upon the circulation of the water in the area.

3.8 WATER QUALITY

3.8.1 EXISTING CONDITION

Hanalei Bay is defined as an "embayment," with Class AA waters in Chapter 37-A, Water Quality Standards, of the DOH Public Health Regulations. It is the largest embayment estuary on Kauai, and the third largest in the State.

Embayments are defined as land confined and physically protected marine waters with restricted openings to coastal waters, where the ratio of total bay volume to the cross-sectional entrance area is 700:1 or greater. The objective of Class AA waters is that they remain in their natural pristine state as nearly as possible, with an absolute minimum of pollution or alteration of water quality from any human-caused source or actions. Embayment estuaries are vitally important ecosystems in Hawaii because they receive large periodic inputs of freshwater and nutrients. Therefore, these habitats are relatively productive feeding, nursery and spawning grounds for many species of fishes and invertebrates.

Discharges from Hanalei River after heavy rainfall cause

a muddy freshwater lens to cover much of the surface of Hanalei Bay.

3.8.2 PROJECT IMPACT

This project will create a temporary and cause a short-term turbidity of the water during the construction phase, however, it should not significantly affect the quality of the water.

In the demolition phase of the project, the concrete pier platform will be cut into small pieces, removed by a crane and deposited on to the barge. The contractor will attempt to pull the old concrete pilings out of the ocean floor. If this method of removal is not successful, he will cut the piles at or below the level of the ocean floor and deposit the old piles on the barge.

During the construction phase, the contractor will drive new concrete piles into the ocean floor. After all the piles have been installed, the contractor will install reinforcement steel, build wooden forms and pour concrete to create a new platform on top of the concrete pilings. The wooden shed will then be reconstructed on the platform along with wooden handrails for public safety.

The materials used for reconstruction of the pier and

platform will be concrete pilings, concrete, reinforced steel and wood; the shed will be constructed out of wood; and the handrails will be made from wood. All debris will be removed by the contractor and placed on a barge. The barge will be towed to Nawiliwili Harbor and trucks will be used to transport the debris for disposal at an appropriate site.

3.9 AIR QUALITY

3.9.1 EXISTING CONDITION

For the greater portion of the year, Hawaii's trade winds (northeasterly winds) carry pollutants in a southwesterly direction toward the Haena coast. Air quality is generally good because of the trades. Air pollution problems may occur during times of "Kona" winds (southwesterly winds). These problems are usually localized and occur most often during the winter months.

3.9.2 PROJECT IMPACT

This project will create a short term impact due to construction activities, equipment and machinery and will temporarily impact local air quality.

In order to mitigate the impact of these activities on the quality of air, the contractor will be required to ensure that he exercises appropriate dust measures such as the

spraying of water on the site. All machinery used will be maintained in proper working order to avoid producing extra emissions.

3.10 NOISE

3.10.1 EXISTING CONDITION

The primary source of existing noise levels at the project site is traffic on Weke Road and boat traffic in the vicinity of the mouth of the Hanalei River.

3.10.2 PROJECT IMPACT

Temporary noise impact will be created by this project. Pile driving, power tools and machinery are expected to generate noise levels that may cause temporary impacts, but all of the heavy work will be done during daylight hours. The contractor will be required to perform the heavy work during the daylight hours to minimize early morning and early evening intrusion. The contractor will be required to take measurements to keep noise levels within allowable limits.

4. PUBLIC FACILITIES AND SERVICES/PROJECT IMPACTS

4.1 WATER, WASTEWATER, ELECTRICITY, AND SOLID WASTE

4.1.1 EXISTING CONDITION

The existing pier does not utilize any utility services. The adjoining Black Pot County Park has sinks, showers, restrooms, electrical service and trash containers. The wastewater from the restrooms are disposed of in a cesspool in the park.

4.1.2. PROJECT IMPACT

Visitors to the pier utilize the facilities at the adjoining County park. This project will not have any impact of water, wastewater, electrical and solid waste service.

4.2. TRAFFIC

4.2.1 EXISTING CONDITION

The existing access to the Hanalei area is by way of the State owned Kuhio Highway. The Hanalei Bridge is located on Kuhio Highway and is a steel truss bridge with a wooden decking. It is owned and maintained by the State Department of Transportation. The bridge is 116 feet long and 20 feet wide. It has a single 15-foot wide traffic lane. The load carrying capacity of this bridge is 15 tons.

Access to the project site is through the County roads from the State highway.

4.2.2 PROJECT IMPACT

During the construction phase of this project, there will be a temporary increase in the traffic at the project site. This increase in traffic will be primarily due to the workers commuting to and from the project site each working day.

Since the carrying capacity of the Hanalei Bridge is limited, the contractor will utilize a barge to carry equipment, and materials to and from the project site, and trucks will be used to transport the materials and equipment to and from the barge when it docks at Nawiliwili Harbor. The barge will also be used for removal of the debris.

After the construction phase, there should be minimal impact on the traffic within the project area. Since the pier is not located alongside Kuhio Highway, it is not visited by many visitors.

5. SOCIO-ECONOMIC CONDITIONS/PROJECT IMPACTS

5.1 LAND USE DESIGNATION AND EXISTING LAND USES

Since all work for this project will be confined to only the pier, there will be no impact to the land use designation and existing land uses.

5.2 HISTORICAL CHARACTERISTICS

5.2.1 EXISTING CONDITION

Hanalei Pier is significant as a good example of a typical finger pier constructed prior to the 1920's in Hawaii. It is one of the best known piers in the State due to its magnificent setting. It is prominent in most promotional pictures of the Hanalei area and has been featured in several movies, the most notable being South Pacific.

The pier is historically significant as one of the last remaining vestiges of the rice industry in Hanalei. For this reason, it was placed on the State and Federal registers of historic places in 1979. The Chinese were cultivating rice at Hanalei at least by 1882, and by 1892, Hanalei and Waioli, with 750 acres of land devoted to rice farming, were the largest rice producing areas in Hawaii. At the time of annexation, Hawaii was third in rice production in the United States, behind Louisiana and South Carolina. Annexation, with the

removal of all tariffs, however spelled the downfall of Hawaiian rice production, as rice land was converted to cane use for the booming sugar industry. The decline in the Chinese population, the requirements for fertilizer, competition from California rice growers and the introduction of a rice-borer insect all served as contributing factors to the decline of rice farming.

The Hanalei Bay Pier is also significant for its association with transportation history in Hawaii. In the early 20th century, Hanalei served as an important local shipping center for Kauai. However, the declining rice trade and an improved highway system by the 1930's confirmed Nawiliwili Harbor as the major port. The wooden fenders and metal mooring cleats which were integral parts of the Hanalei Bay Pier no longer remain today.

Hanalei Pier was placed on the Hawaii Register of Historic Places on July 28, 1979. On September 13, 1979, the pier was placed on the National Register of Historic Places.

The existing Hanalei Pier extends 535 feet into the waters of Hanalei Bay. It consists of a 12' 6" wide by 465' long concrete ramp which is supported by concrete pilings. At the end of the ramp is a concrete platform that is covered with a wooden shed. The platform is also supported by concrete

pilings.

5.2.2 PROJECT IMPACT

The U.S. Department of the Interior has established standards for historic preservation projects and has included reconstruction as an allowable alternative. Since the historical architecture of the pier will be retained, this project should not have a significant impact upon the historical characteristics of the site.

The reconstructed pier will be constructed out of concrete and be supported by concrete pilings. The wooden shed will also be reconstructed. When this project is completed, the pier will look like the former pier, except that it will not be in a deteriorated condition.

Handrails are proposed to be added to the new pier for safety reasons. However, upon further consideration, it may not be prudent to install handrails since there is a concern that it will deviate from the original historic character of the pier. Since the primary purpose for the installation of handrails is due to liability concerns, it may be feasible to install warning signs at the entrance to the pier to warn the public that the water is shallow and that it is dangerous to dive from the pier into the water.

5.3 VISUAL QUALITY

5.3.1 EXISTING CONDITION

The pier is well known as a picturesque site to residents and visitors of the island. It is used for promotional films of the area and has been used for various movies.

Due to the pier's deteriorated condition, large chunks of decking at the end of the pier have collapsed.

5.3.2 PROJECT IMPACT

Since the existing pier will be reconstructed and replicated, there should be a positive impact on the visual quality of the site.

5.4 ECONOMIC CONDITIONS

5.4.1 EXISTING CONDITION

Hanalei is currently an important taro producing area in the State of Hawaii. Approximately 160 acres of taro are being grown in the North Shore area, with additional acreage in taro production in the Hanalei National Wildlife Refuge area. Small parcels of "prime" agricultural land are scattered throughout the lower areas of the Hanalei Valley.

Tourism has replaced sugar as the leading industry on Kauai and is expected to play a major role in the economy of the North Shore.

5.4.2 PROJECT IMPACT

The construction project will have a short-term impact on the economy of Kauai. The construction project will result in the expenditure of approximately \$2,204,000 during the construction period. Some of this money will find its way into the economy of Kauai, since the contractor will require manpower, construction equipment, construction materials, and other related items.

The State will also derive tax revenues from general excise and State income taxes.

5.5 POPULATION

5.5.1 EXISTING CONDITION

The island of Kauai had a population of 39,082 in 1980. The project site is located in census tract 401 which had a population of 2,668. The population of the area has increased by 125.7% from the 1970 population of 1,182. Much of this increase can be attributed to the resort development at Princeville. From 1980 to 1986, the population increased to

4,660 or a 73.4% increase.

5.5.2 PROJECT IMPACT

The proposed project will not have an impact on the population of the area.

5.6 HOUSING

5.6.1 EXISTING CONDITION

The project site is included in census tract 401 which had 902 households in 1980.

There are no residential units on the project site.

5.6.2 PROJECT IMPACT

This project will not include any housing units and will not add to the housing pool on Kauai.

5.7 DISPLACEMENT

5.7.1 EXISTING CONDITION

All construction work will be done to only the pier.

5.7.2 PROJECT IMPACT

Since this project involves the reconstruction of an

existing structure, no homes or businesses will be displaced from the project site.

5.8 RECREATION

5.8.1 EXISTING CONDITION

In its present condition, the pier cannot be utilized for fishing, sight-seeing and picnicking. Because of its unsafe nature, signs and barricades have been placed conspicuously on the pier to keep the public out of the area.

Although there is boating activity in the area, the boaters do not use the pier.

5.8.2 PROJECT IMPACT

The reconstruction of the pier will enable the residents and visitors to once again to fully utilize the pier for recreational purposes. Recreational and commercial boating use of the pier is not currently planned. The Department of Transportation will be resolving any boating use of the Hanalei Pier as a separate issue.

6. RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLAN,
POLICIES AND CONTROLS FOR THE AFFECTED AREA

6.1 STATE

The proposed reconstruction of the pier will meet several objectives of the Hawaii State Plan Revised (Hawaii Revised Statutes, as amended), including:

Sec. 226-12 Objective and policies for the physical environment--scenic, natural beauty, and historic resources.

(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.

(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:

(1) Promote the preservation and restoration of significant natural and historic resources.

(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

Sec. 226-23 Objective and policies for socio-cultural advancement--leisure.

(a) Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards the achievement of the objective of the adequate provisions of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.

(b) To achieve the leisure objective, it shall be the policy of this State to:

(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

6.2 FEDERAL

The project site is within zone VE, as designated by the Flood Insurance Rate Maps. This designation is given to areas subject to coastal flood with velocity hazard (wave action).

7. RELATIONSHIP BETWEEN SHORT TERM USES OF THE ENVIRONMENT
AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The project site had been used as a shipping pier for many years. Subsequently it has been used for fishing, sight-seeing and picnicking until it was closed due to hazardous conditions. The proposed project will not result in a change of use of the area but will allow the property to be used again for recreational uses. This will enhance the long-term productivity of the site.

8. ADVERSE EFFECTS WHICH CANNOT BE AVOIDED

The project will not have any significant impact. There will, however, be some minor, temporary impacts that cannot be avoided and they are:

1. Marine flora and fauna impact
2. Water quality impact
3. Air quality impact
4. Noise impact

The project will have an insignificant and temporary impact on the marine flora and fauna in the area. Since this project will involve the total demolition and reconstruction of the pier, some of the sessile plants and animals attached to the pier's foundation will be displaced. However, after reconstruction has been completed, these animals and plants are expected to reestablish themselves.

The project will have an insignificant and temporary impact on the water quality for the area. During the construction phase, a temporary and short-term turbidity of the water will occur. Once construction is completed, the quality

of the water should return to its Class AA condition.

The project will have a temporary impact on the local air quality. The construction activities will generate some dust. The construction equipment and machinery will also produce some hydrocarbon emissions, but properly maintained, these emissions should be reduced. These conditions will cease with the completion of the construction work and the local air quality will return to its original condition.

The project will also have a temporary noise impact on the local environment. Pile driving and the power tools and other machinery will generate noise. All of the heavy work will be confined to the daylight hours. The contractor will be required to take noise measurements to keep the noise levels within allowable limits. These conditions will cease with the completion of the construction work.

9. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The reconstruction of the pier will require an irreversible commitment of capital, labor and energy expended in the design, development, construction, construction materials and construction equipment. However, since the project site has already been used as a pier for many years, this project will not result in an irretrievable loss of natural resources.

10. SUMMARY OF UNRESOLVED ISSUES

The unresolved issue for this project is the construction alternative for saving the pier. The community at one time indicated a preference for "repairing" rather than "reconstructing" the pier.

The above, notwithstanding, the potential impacts of the proposed development are generally known and appropriate mitigative measures have been developed to address these impacts.

11. ALTERNATIVES TO THE PROPOSED ACTION

In the development of this project, the following three alternatives were considered:

1. Save and keep as much of the existing pier and replace or repair as required.
2. Demolish the existing pier and construct a new wood pier.
3. Do nothing and allow the existing pier to collapse.

Alternative 1 involves the rehabilitation of the pier by saving and keeping as much of the existing pier as possible and only replacing or repairing the pier as necessary. The work includes injecting epoxy into all exposed cracks, spalls, and deteriorated areas. An independent structural slab and beam system would be constructed under the pier to strengthen and support the deck. The existing shed would be removed and rebuilt after the repair work has been completed. Wooden handrails would most likely be constructed along the outer edge of the approach ramp and deck for public safety.

There is a concern that the pier may collapse during the construction work due to its deteriorated condition. There is

also no assurance as the number of years that would be added to the life expectancy of the pier with this alternative.

Alternative 1 is estimated to cost \$2,414,000.

Alternative 1 was rejected for the following reasons:

1. The project is being financed through the State's Capital Improvements Program (CIP) budget with general obligation bond funds. The State of Hawaii obtains the funds by selling bonds for which it repays for approximately 20 years. Consequently any project financed with this type of funds should have a life expectancy that would at least allow the State to capitalize its investment.

It is not known how much additional life expectancy that would be added to the pier by alternative 1. Projects that involve repair type of work are normally financed through the operating budget with general funds.

2. The addition of a structural support under the existing pier will affect the visual quality of the pier. The thickness and the shape of the underside of the pier will appear to be different.

Alternative 2 involves the demolition of the existing pier and the construction of a new wooden replacement. Alternative 2 is estimated to cost \$1,174,532.

While a new wooden pier would probably last for many years, the visual and historical qualities of the pier will be affected. The pier will not look like the pier that many have seen pictures of. This is one of the qualities that the residents of the area are trying to preserve.

Alternative 3 (do nothing) means that the existing pier will continue to deteriorate and the safety problem for the public will remain. The collapse of the entire structure or any part thereof, may occur at any given time. The pier will continue to be an eyesore until it is eventually removed or replaced.

The above concerns notwithstanding, the alternative of demolishing and reconstructing the existing pier was selected for the following reasons:

1. The historical architecture of the pier will be preserved. The pier will appear to look like the pier that people have seen pictures of.
2. The life expectancy of the reconstructed pier will

exceed 20+ years. The nature of the project is consistent with the use of State general obligation bond funds.

3. This project will make the pier safe and enable the public to utilize it for again for fishing, sight-seeing and picnicking.

12. AGENCIES AND ORGANIZATIONS CONSULTED

A. STATE

Department of Transportation
Highways Division

Department of Land and Natural Resources
Division of Aquatic Resources
Division of Water and Land Development

Department of Budget and Finance
Finance Division

B. COUNTY

Planning Department

Department of Parks and Recreation

C. FEDERAL

U.S. Department of Interior
Fish and Wildlife Service
U.S. Army Corps of Engineers

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14.1 AQUATIC BIOLOGICAL SURVEY

State of Hawaii
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

December 29, 1989

MEMORANDUM

TO: Ralston Nagata, Administrator
Division of State Parks, Outdoor Recreation and Historic Sites

FROM: Henry M. Sakuda, Administrator
Division of Aquatic Resources

SUBJECT: Marine Survey at the Hanalei Pier, Kauai

Pursuant to Mr. Clyde Hosokawa's request, a marine survey was conducted on June 6, 1989, in conjunction with other survey activities on Kauai. A survey report is attached.

Should there be any questions, please contact Alton Miyasaka at Ext. 4371.


HENRY M. SAKUDA

attach.

HANAIEI PIER SURVEY

On June 6, 1989, Alton Miyasaka, Brian Kanenaka, and Don Heacock of the Division of Aquatic Resources (DAR) surveyed the Pier at Hanalei Bay on Kauai's north shore. The Division of State Parks requested an inventory of marine animals and plants existing in the area around the pier's foundation. The dilapidated pier is scheduled to be refurbished.

The above mentioned biologists conducted a visual snorkel survey around the pier's foundation beginning from the water's edge towards the pier's end. The survey revealed that the end of the pier was in only about five feet of water (at mean tide). The water had about 20 feet visibility with considerable freshwater intrusion from the nearby Hanalei River mouth. The pier is situated on a sand flat with no visible hard bottom, rocks, or coral.

The pier's pilings looked intact with minimal corrosion below the water line. The undercarriage has suffered considerable spalling and large chunks of concrete have separated and fallen off.

A number of plants and animals were found attached to or living on the pier's supports. Fish were also observed near the pier's foundation.

The dominant animal species was a 1-2 inch bivalve, occurring in dense carpets attached to the pier's pilings. The bivalves begin within a foot of the water's surface and extend to about a foot above the sand bottom. Their density is estimated at some 400 per square foot. The opae were found crawling over the

bivalves in a concentration of some 100 per square foot. The limu Sphacelaria furcigera filled the spaces between the bivalves. The hydroids were established near the piling bottom.

At the beginning of the survey, a juvenile aholehole school (less than 100) was seen at the water's edge beneath the pier. Iao were observed in two loosely associated schools of about 5 feet in diameter. Less than 5 halalu were also observed.

We did not extrapolate the number of fish observed to a number per acre because the figure would falsely exaggerate the actual amount of fish in the area.

The proposed pier's refurbishing is expected to produce temporary adverse impacts in the form of increase turbidity and displacement of the sessile plants and animals attached to the pier's foundation. These animals should return after reconstruction is completed. The safe public use of the pier should compensate for the relatively minor impacts caused by the refurbishing activities.

The following is a list of the animals and plants observed on June 6, 1989 during the survey of the pier in Hanalei Bay.

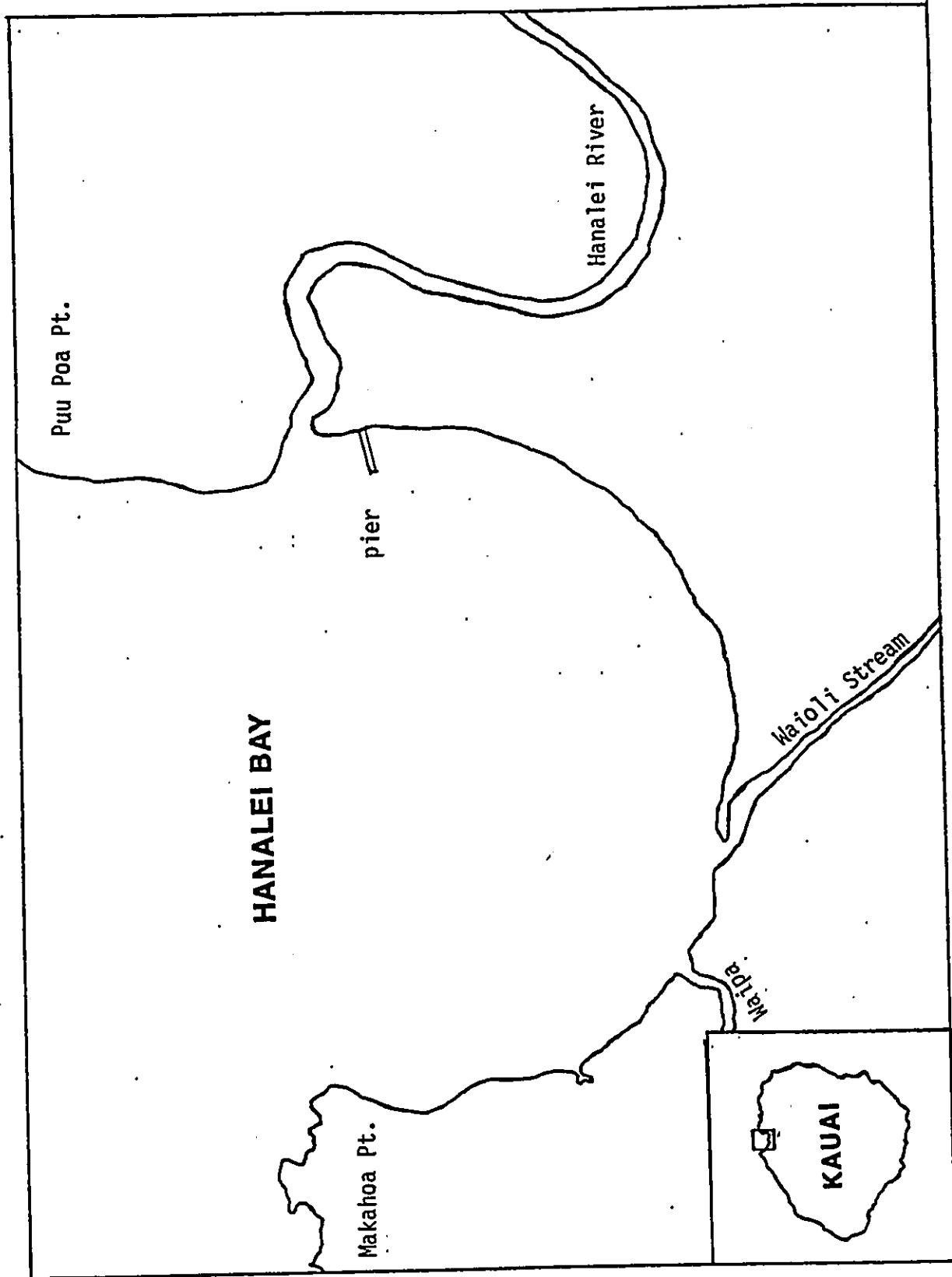
LIMU (SEAWEEDS)
Sphacelaria furcigera (most abundant)
Chaetomorpha antennina
Boodlea composita
Liagora maxima
Grateloupia hawaiiiana
Hypnea sp.
Codium arabicum
Porolithon onkodes

ANIMALS

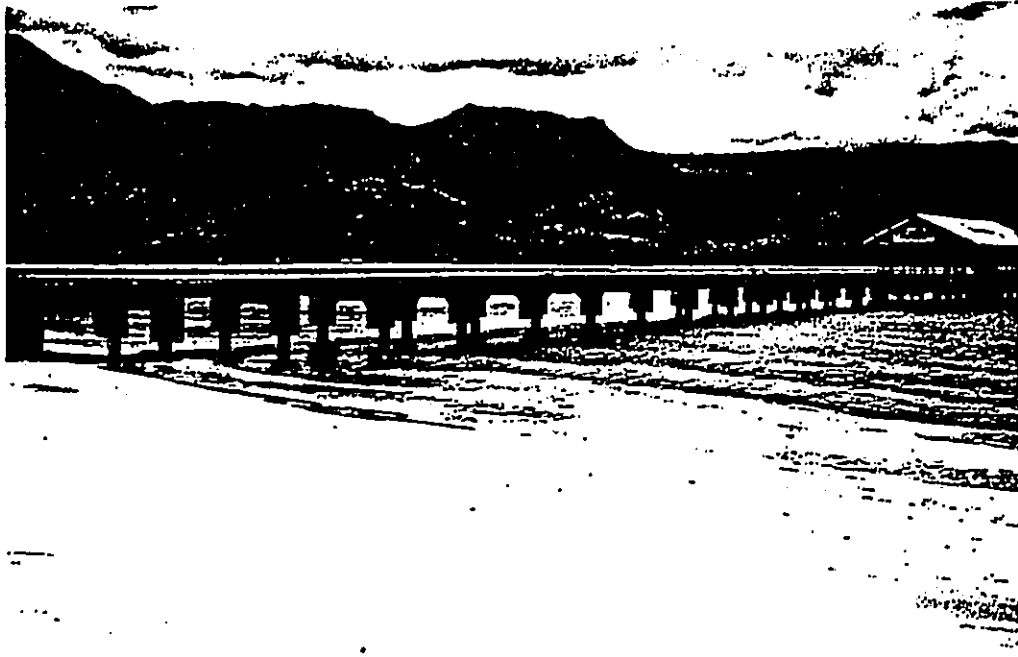
Brachidontes crebristriatus (bivalves) most abundant
Palaemon debilis (opae) abundant
Nerita picea (pipipi)
Littorina sp. (periwinkles)
Halocordyle disticha (hydroid)
Zoanthus sp. (anemone)
Grapsus grapsus tenuicrustatus (a'ama crab)

FISHES

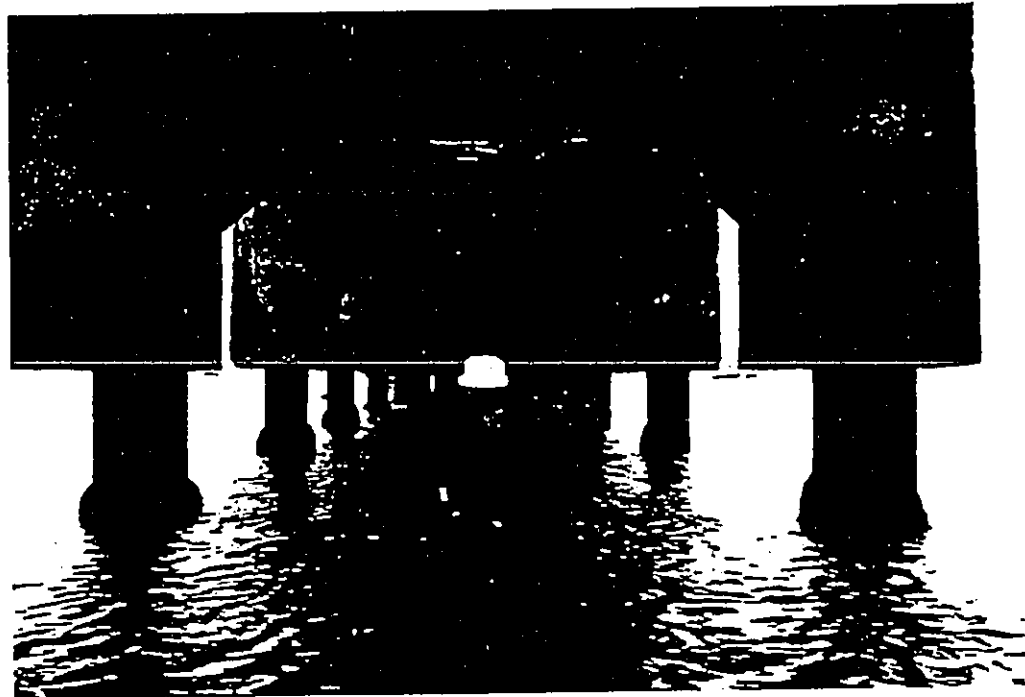
Fransesius insularum (iao) most abundant
Selar crumenophthalmus (halalu)
Kuhlia sandvicensis (aholehole)



RECEIVED AS FOLLOWS

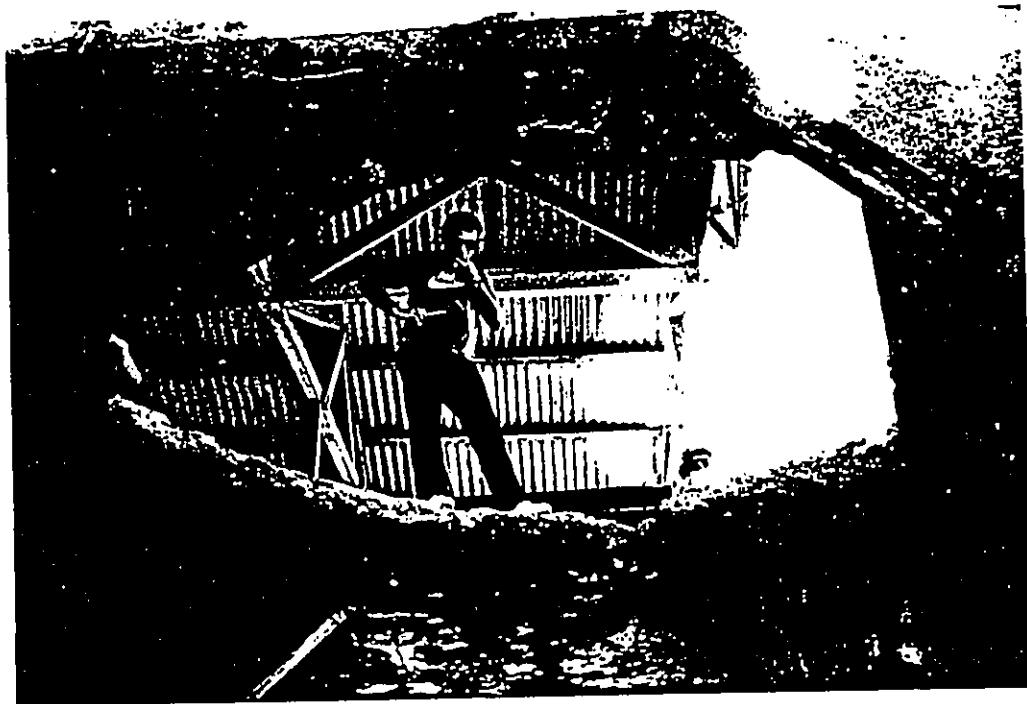


VIEW OF PIER AT HANAIEI BAY, KAUAI

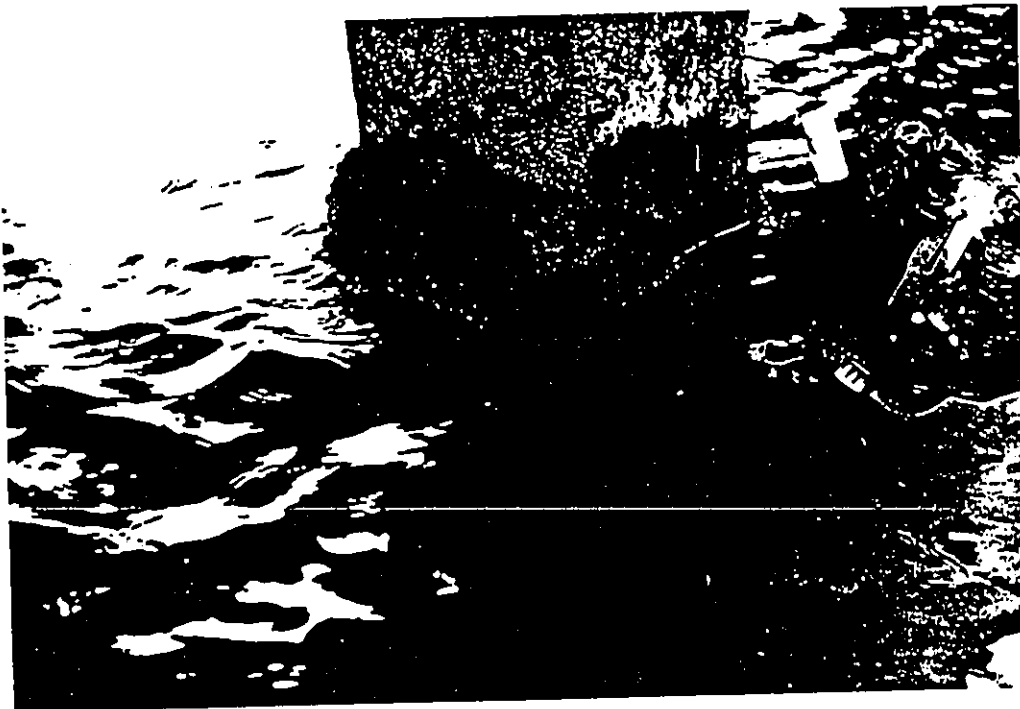


VIEW OF UNDERSIDE OF HANAIEI PIER

RECEIVED AS FOLLOWS



HOLE IN PIER



VIEW OF PIER'S SUPPORT

State of Hawaii
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

February 14, 1990

MEMORANDUM

TO: Clyde Hosokawa, Planner
Division of State Parks

FROM: David Eckert, Aquatic Biologist
Aquatic Resources

SUBJECT: Reporting an Aquatic Biological Survey of Hanalei Pier, Kauai,
and Assessing Impacts of Rebuilding It

Enclosed is the report and assessment requested during a telephone conversation late last year, and approved by Henry Sakuda, our Administrator.

In brief, there is a substantial community of benthic organisms on the pier, but the organisms affected by reconstruction would be replaced rapidly by recolonization. We anticipate the net impact on aquatic biota would be temporary, quickly and completely recovered, and therefore not significant for the purposes of HRS Chapter 343.

Don Heacock suggests the project could benefit fishing if surplus structures were deposited next to the rebuilt pier for an artificial reef. I have (somewhere) a copy of a paper documenting benefit of depositing hard material under private piers (out of the way of boats and swimmers) as a condition of permits for construction in Florida. We realize marine disposal could complicate your permit situation, but we hope you can at least consider these options. Brian Kanenaka might be able to give useful advice: he gets the permits for our artificial reefs.

Please consider also another possible means of benefit--designing the replacement pier with features built in to make fishing easier, more attractive, and/or accessible to the disabled. These could include extra-wide railings at appropriate heights, with or without boards for holding/cutting bait; wheelchair ramps; holes to act as rod holders; tables/counters for rigging tackle (or playing checkers), and picnicking, with or without running water and drains for cleaning fish; restrooms with stalls for the disabled; and so on. At a conference in Kona last October we met Ray Buckley, Federal (fishing) Aid coordinator for Washington State. He talked at length about about his experience developing multiple-use harbor facilities, with jetties, seawalls, piers and so forth designed to meet boaters' and fishermen's needs at the same time. We understand time constraints alone may preclude this approach for the Hanalei Pier job, but we can ask Ray for some detailed suggestions if you see any point in pursuing it.

Please call again if we can be of any further assistance.

David Eckert
DAVID ECKERT

encl.

State of Hawaii
Division of Aquatic Resources
Department of Land & Natural Resources

MEMORANDUM 16 January 1990

To: Paul Kawamoto, Chief Environmental Protection
Thru: David Eckert, Oahu District Aquatic Biologist
From: Don Heacock, Kauai District Aquatic Biologist *DA*
Subject: Biological Reconnaissance of Hanalei Pier and Impact
Assessment of Pier Reconstruction, Hanalei, Kauai.

General Comments:

Hanalei Bay is ^{the} largest embayment estuary on Kauai, and the third largest in the State. Embayment estuaries are vitally important ecosystems in Hawaii because they receive large periodic inputs of freshwater and nutrients. Therefore, these habitats are relatively productive feeding, nursery, and spawning grounds for many species of fishes and invertebrates.

Hanalei Bay is nearly semicircular, open to the north, rimmed by a wide white sand beach especially well developed on its western shoreline, and is mostly floored by sand. The Hanalei Pier is a concrete finger pier built around 1920 in relatively shallow water over a sand-bottomed area located in the eastern side of Hanalei Bay, about 100 m south of the Hanalei River mouth.

The biota on, and associated with, the pilings of the Hanalei Pier are typical of a "wharf piling" community in Hawaii. The pilings are dominated by filter-feeding organisms (bivalves and tunicates) subtidally, and the intertidal biota is typical of that found in other relatively calm¹ intertidal areas with vertical concrete substrate.

Generally, the species diversity is relatively low, with only a few organisms dominating in abundance (both numerically and total biomass). The objectives of this biological reconnaissance were:

1. To identify the most abundant marine macrofauna and flora living on, or associated with, the pilings of the Hanalei Pier, and
2. To predict what kinds of biotic changes may be forthcoming with the planned reconstruction of this pier.

¹For obvious reasons most piers are built in relatively calm areas (eg. embayments). However, Hanalei Pier does periodically receive large amounts of wave action when large north-swells are present.

The zonation of the most abundant biota living around the Hanalei Pier pilings are shown in Figure 1. The filter-feeding bivalve Isognomen sp. was the dominate organism on the pilings, representing approximately 95% of the total biomass. Their distribution on the pilings appeared to be limited to between the lower reaches of the intertidal zone, down to the lower reaches of the pilings that were not exposed to sand abrasion (ie. the Porolithon zone). The size of this vertical band of Isognomen living on a piling was also dependent upon the length of the underwater portions of the pilings, which is a function of water depth which ranges from about 0.75 to 2.25 m deep.

A 10 cm² sample of Isognomen taken from a piling weighed 302 g (wet weight). The circumference of a piling is 1.4 m, there is a total of about 68 pilings that extend into the water, and Isognomen reaches on the average about 1.5 m down the pilings. Therefore, the total biomass of this bivalve on the pier pilings is about 4,312.5 kg (9,056.2 lb), or 30.2 kg/m² (53 lb/yd²).

Additionally, the 10 cm² sample of Isognomen contained many amphipods (15), polychaete worms (9), juvenile Portunid crabs (11), and two species of macroalgae. A complete list of the biota observed on the pilings, and their relative abundance, are given in Table 1.

Table 1. Relative Abundance of Biota Associated with the Hanalei Pier, 12 January 1990.

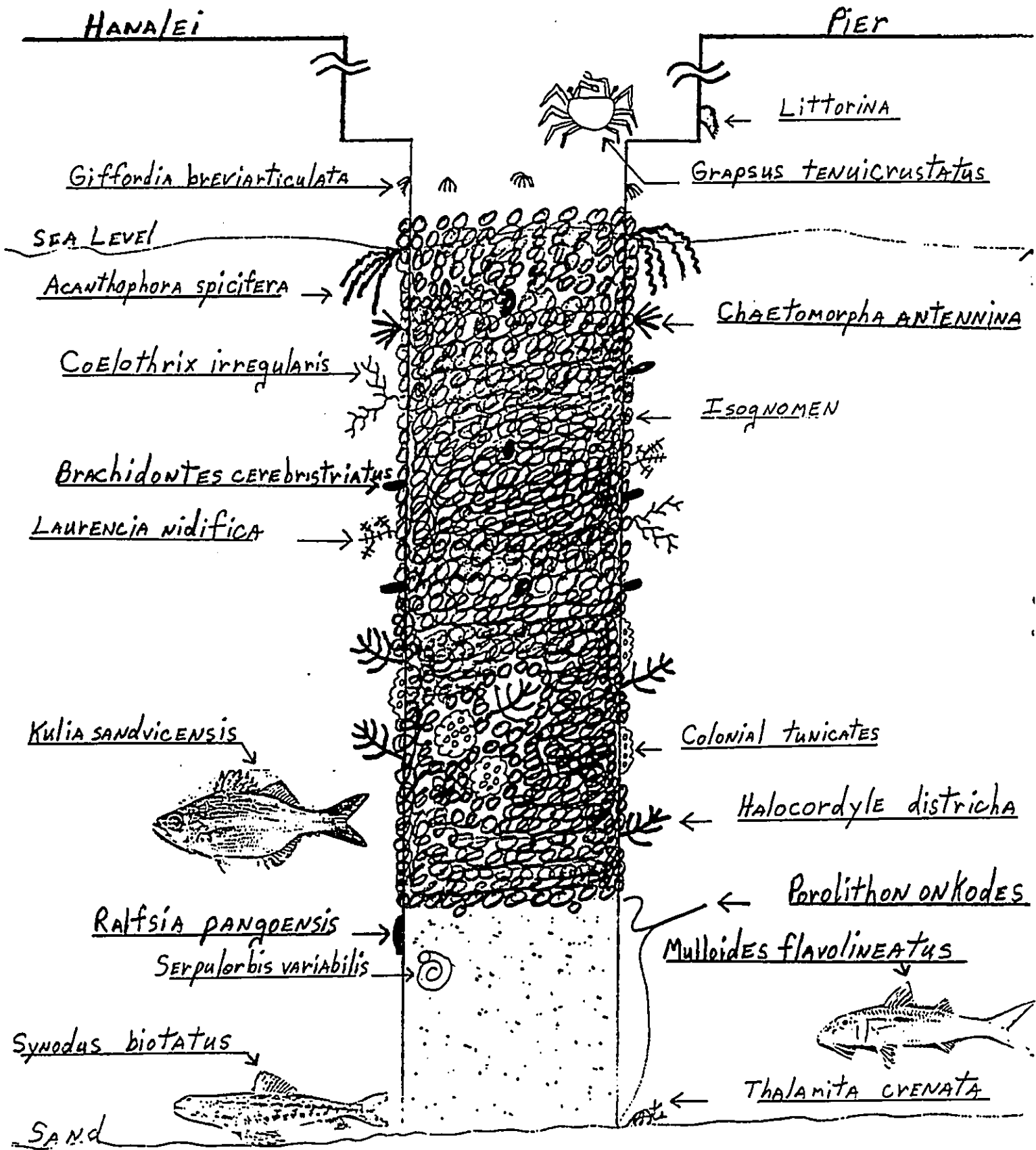
Class	Scientific Name	-Common Name	Abundance ^e
(Animals)			
Pices:	<u>Kulia sandvicensis</u>	aholehole	abundant
	<u>Mulloides flavolineatus</u>	weke	common
	<u>Synodus biotatus</u>	'ulae	rare
Mollusca:			
Bivalvia:	<u>Isognomen</u> sp.	oyster	abundant
	<u>Branchidontes</u>		

Legend - the relative abundance of organisms was categorized as follows:

abundant= >1000 observed
 common = >100 "
 uncommon= >10 "
 rare = only one "

This was the most abundant organism, comprised approximately 95% of the total biomass on the pilings.

Figure 1. The macrobiota observed on concrete pilings on the Hanalei Pier, Hanalei Bay, Kauai.



		<u>cerebristriatus</u>	mussel	common
Table 1 (contin.)				
Gastropoda:	<u>Littorina</u> sp		pupu kolea	common
Mesogastropoda:	<u>Serpulorbis variabilis</u>		tube snail	common
Crustacea:				
Decapoda:	<u>Grapsus tenuicrustatus</u>		a'ama crab	common
	<u>Thalamita creata</u>		haole crab	uncommon.
Amphipoda:	Unidentified Gammarids		-	abundant
Cnidaria:				
Hydrozoa:	<u>Halocordyle districha</u>		hydroid	abundant
Ascidiacea:	Unidentified tunicate		tunicate	common
Polychaeta:	unidentified Nereids		worms	common
(Algae)				
Chlorophyta:	<u>Chaetomorpha antennina</u>	-		uncommon
Rhodophyta:	<u>Acanthophora spicifera</u>	-		abundant*
	<u>Coelothrix irregularis</u>	-		common
	<u>Porolithon onkodes</u>	-		abundant
	<u>Laurencia nidifica</u>		mane'one'o	uncommon
Phaeophyta:	<u>Giffordia breviarticulata</u>			abundant
	<u>Ralfsia pangoensis</u>	-		rare

Virtually all of these species grow relatively fast, are well adapted for life on, or around, wharf pilings, and will quickly recolonize the pier after reconstruction is completed. Therefore, although the biomass of organisms inhabiting the Hanalei Pier is substantial, the impacts of pier reconstruction will likely be short-term.

During pier reconstruction, it may be possible to use some of the waste materials (ie: old materials to be replaced) for construction of an artificial reef adjacent to the pier. This would both decrease reconstruction costs by eliminating the need to haul all old materials away, and increase the biological productivity of the nearshore waters, thereby improving fishing.

*This was the most abundant alga seen, with Giffordia breviarticulata second in abundance. However, since this survey was done in the winter, and on a day with heavy wave action, it is likely that more species of algae may occur during the summer months.

14.2 COMMENTS AND RESPONSES TO THE DRAFT EIS

RECEIVED

JOHN WAIHEE
GOVERNOR

90 APR 25 P 1: 39

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS

P. O. BOX 119, HONOLULU, HAWAII 96810

DIVISION OF
STATE PARKS

RUSSEL S. NAGATA
COMPTROLLER

APR 27 9 24 AM '90

JAMES H. YASUDA
DEPUTY COMPTROLLER

(P)1316.0

LETTER NO.

APR 25 1990

Mr. William Paty
Chairperson of the Board
Department of Land and
Natural Resources
State of Hawaii
Honolulu, Hawaii

Attention: Mr. Clyde Hosokawa

Dear Mr. Paty:

Subject: Hanalei Pier Reconstruction
Draft EIS

Thank you for the opportunity to review the subject document. We have no comments to offer.

Should there be any questions, please contact Mr. Cedric Takamoto of the Planning Branch at 548-7192.

Very truly yours,

TEUANE TOMINAGA
State Public Works Engineer

CT:em

cc: Department of Land and Natural Resources
Division of State Parks, Outdoor Recreation
and Historic Sites
Office of Environmental Quality Control

JOHN WAIHEE
GOVERNOR



DIVISION OF
STATE PARKS
MAY 30 2 55 PM '90

JOSEPH K. CONANT
EXECUTIVE DIRECTOR

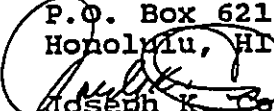
STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
SEVEN WATERFRONT PLAZA, SUITE 303
500 ALA MOANA BOULEVARD
HONOLULU, HAWAII 96813
FAX (808) 543-6841

IN REPLY REFER TO:

90:PLNG/2269 jt

May 25, 1990

To: Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

From: 
Joseph K. Conant
Executive Director

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT (DEIS) FOR HANAIEI
PIER RECONSTRUCTION

Thank you for the opportunity to review the subject DEIS. We have
no comments to offer.

JT:eks

c: DLNR, Division of State Parks,
Outdoor Recreation Historic Sites
Dr. Marvin Miura, OEQC



DEPARTMENT OF BUSINESS AND ECONOMIC DEVELOPMENT

JOHN WAIHEE
GOVERNOR
ROGER A. ULVELING
DIRECTOR
BARBARA KIM STANTON
DEPUTY DIRECTOR
LESLIE S. MATSUBARA
DEPUTY DIRECTOR

RECEIVED

ENERGY DIVISION, 335 MERCHANT ST., RM. 110, HONOLULU, HAWAII 96813

FAX: (808) 531-5243

APR 24 8:05

April 20, 1990

DEPARTMENT OF LAND & NATURAL RESOURCES
STATE OF HAWAII

90-661

Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

Dear Sir:

Subject: DEIS Hanalei Pier Reconstruction, TMK: 5-5-01:8, Hanalei, Kauai

We wish to inform you that we have no comments to offer on the subject environmental impact statement.

Thank you for the opportunity to review the document.

Sincerely,

Maurice H. Kaya
Energy Program Administrator

MHK:hk

cc: DLNR Div. of State Parks, Outdoor Recreation & Historic Sites
Dr. Marvin T. Miura

DLNR
OCEA

90 APR 24 PM 3:59

RECEIVED

JOHN WAIHEE
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3848 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816-4495

DEPARTMENT OF
STATE
APR 15 11 52 AM '90
ALEXIS T. LUM
MAJOR GENERAL
ADJUTANT GENERAL
MYLES M. KATSU
COLONEL
DEPUTY ADJUTANT GENERAL

April 24, 1990

90 661

Engineering Office

State of Hawaii
Department of Land and Natural
Resources
P. O. Box 621
Honolulu, HI 96809

Gentlemen:



ELNAR
OCEA

1990 APR 25 AM 9:39

RECEIVED

DEIS Hanalei Pier Reconstruction
TMK: 5-5-01:8
Hanalei, Kauai

Thank you for providing us the opportunity to review the above subject project.

We have no comments to offer at this time regarding this project.

Sincerely,

Jerry M. Matsuda
Lieutenant Colonel
Hawaii Air National Guard
Contracting & Engineering Officer

cc: Dept of Land and Natural
Resources, Div. of State Parks,
Outdoor Recreation & Historic Sites
Marvin T. Miura, Ph.D., Director
OEQC



JOHN WAIHEE
GOVERNOR OF HAWAII

DEPARTMENT OF
STATE PARKS

JUN 15 4 03 PM '90



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

WILLIAM W. PATY, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

KEITH W. AHUE
MANABU TAGOMORI
RUSSELL N. FUKUMOTO

AQUACULTURE DEVELOPMENT
PROGRAM
AQUATIC RESOURCES
CONSERVATION AND
ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
PROGRAM
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

File: 90-661
Doc.: 8262E

REF: OCEA-CT

JUN 13 1990

MEMORANDUM

TO: Honorable Marvin T. Miura, Director
Office of Environmental Quality Control

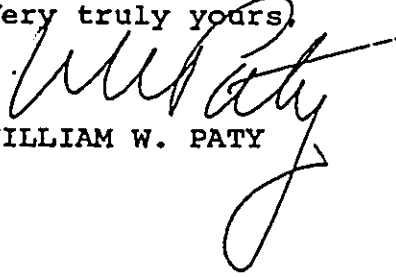
FROM: William W. Paty, Chairperson
Board of Land and Natural Resources

SUBJECT: Draft EIS Hanalei Pier Reconstruction TMK: 5-5-1: 8

Thank you for giving our Department the opportunity to comment on this matter. As the Department of Land and Natural Resources is the Accepting Authority and the Proposing Agency we have no comments.

If you have any questions, please call me or Cathy Tilton at our Office of Conservation and Environmental Affairs at 548-7837.

Very truly yours,


WILLIAM W. PATY

Sorry, no time to type. I am the
Environmental Health Specialist for Kawai
at the Dept. of Health. Below comments were not
sent out by DOTT, so I'm sending them as a private
citizen commenting on the EIS.
Comments on Hanalei Pier Reconstruction EIS

5/9/90

mahalo

Rollin
5/11/90
PARKS
5/30/90

1. Recent investigations by Kawai's EHS were made to determine if the Pier should be added to an expanded list of ocean water/bacteria monthly sample points. Local residents commented that it should be sampled as "many children play on both the left and right sides of the Pier on the weekends". It was further stated by local beach frequenters that "the kids like to jump off the pier into the water next to the beach."

The ocean water immediately to the right of the pier, on the beach where children frequent swim, will be sampled monthly for bacterial count. Samples will also be taken at the Hanalei and Waiali beach.

2. Due to the high use by children, the adverse impact (1.3 of EIS) of dust is a concern.

Noise and hydrocarbon emissions (into the air it's presumed, no hydrocarbon emissions into the ocean or sand can be tolerated) should have no impact on children, but dust will linger in the water and beach sand. Children may breathe it.

Swallow it and so the material from whence the dust arises becomes important.

Dust from wood may contain termiticide and preservatives. All possible means should be employed to prevent such dust from reaching the surrounding water, sand, or soil where the children play.

Dust from cement work is not as questionable except that ^{dust} generated from surfaces that were formed by wooden forms that may have acquired a surface film of chemical pollutants. Concrete showing stains or ingraining small pieces of form material should be treated as "chemicalized" wood and extra care taken to contain the dust and prevent it from getting to water and sand where children and wildlife may be impacted.

3. If the rehabilitation of the existing Pier is the chosen alternative (#2 page 10 of EIS), the "injecting" of epoxy is a possible means of contamination of the local sands (and children). All possible means must be used to prevent contamination and cleanup sands contaminated before children are allowed back into the area.

4. It is possible that ~~contamination~~ complete prevention of contaminating dusts transporting to surrounding sand is not practical or possible. If

that is the case, bearing in mind the use by children, the construction plans should include the removal of sand in the immediate area next to the pier, and replacement with sand known to be free of contaminants.

4. As weekend use by children is ^{the} ~~paramount~~, ^{health} ~~at hand~~, extra care should be given to preventing children access to the site and surrounding sands during weekends.

5. Noted on the drawing by Harold Miyamoto at the rear of the EIS, is the "corrugated asbestos roofing" on the pier shed. Demolition may release asbestos fibers into the air and water. Fibers may reach the beach and become a health hazard to children and wildlife. ~~The~~ Precautions are necessary. Applicable EPA and State regulations on asbestos in demolition work must be followed, and considering the history of use by children extra care taken to insure no exposure will occur. Again, if there are questions about the pollution of adjoining sand it should be removed and replaced.

Rollin Frost MS, CSP
Env. Health Spec.
Kauai D.O.H.

JUN 19 1990

REF:SP-rn

Mr. Rollin L. Frost
RR 1, Box 405A
Koloa, Kauai 96756

Dear Mr. Frost:

SUBJECT: Draft Environmental Impact Statement
Reconstruction of Hanalei Pier, Hanalei, Kauai
Tax Map Key 5-5-01:8

Thank you for reviewing the draft Environmental Impact Statement for the reconstruction of the Hanalei Pier.

We share your concerns on possible environmental hazards and pollution to the community as may be created by the reconstruction of Hanalei Pier. Accordingly, our contract specifications for construction contain provisions to minimize airborne emissions of dust; reduction of noise levels with also a ban on the use of blasting or explosives; clean-up of debris from the area; and the proper handling and disposal of hazardous and or toxic materials. The department will also have a construction inspector available to monitor compliance and halt any violations to the contract provisions.

Black Pot Park at the base of Hanalei Pier is a County facility and we will take precautions to separate the public utilizing the park and the on-going construction. Most of the heavy construction will be confined to the ocean extremity of the pier over 200 feet from the shoreline.

A copy of your letter will be included in the final Environmental Impact Statement for this project.

Sincerely,

/S/ WILLIAM W. PATY

WILLIAM W. PATY

CH:ns:rn

11/90

UNITED STATES
DEPARTMENT OF
AGRICULTURE

SOIL
CONSERVATION SERVICE
P. O. BOX 50004
HONOLULU, HAWAII
96850

90 JUN 12 4 3 91

June 4, 1990

DIVISION OF
STATE PARKS
JUN 13 11 54 AM '90

Mr. William Paty, Jr., Director & NATURAL RESOURCES
Department of Land and Natural Resources
P.O. Box 621
Honolulu, HI 96809

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

Dear Mr. Paty:

Subject: Draft Environmental Impact Statement (DEIS) -
Hanalei Pier Reconstruction, Hanalei, Kauai, Hawaii

We have no comments to offer at this time; however, we would appreciate the opportunity to review the final EIS.

Sincerely,



WARREN M. LEE
State Conservationist

cc:
Mr. Ralston H. Nagata, Administrator, Division of State Parks, Outdoor
Recreation and Historic Sites, Department of Land and Natural Resources,
1151 Punchbowl Street, Honolulu, HI 96813
Mr. Marvin T. Miura, Director, Office of Environmental Quality Control,
465 S. King Street, Honolulu, HI 96813



DEPARTMENT OF THE NAVY
COMMANDER
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860-5020

IN REPLY REFER TO:

5090 (16B)
Ser 00F2/1346
20 Apr 1990

Department of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

Gentlemen:

HANAIEI PIER RECONSTRUCTION, TMK: 5-5-01:8

The Draft Environmental Impact Statement (DEIS) for Hanalei Pier Reconstruction has been reviewed, and we have no comments to offer. Since we have no further use for the document, it is being returned to the Office of Environmental Quality Control.

Thank you for the opportunity to review the draft.

Sincerely,

W. K. LIU
Assistant Base Civil Engineer
By direction of
the Commander

Copy to:
Clyde Hosokawa, DLNR
OEQC (w/DEIS)

JOANN A. YUKIMURA
MAYOR

DIVISION OF
STATE PARK RECEIVED

MAY 14 4 10 PM 1990



TOM H. SHIGEMOTO
PLANNING DIRECTOR

ROLAND D. SAGUM, III
DEPUTY PLANNING DIRECTOR

TELEPHONE (808) 245-3918

COUNTY OF KAUAI
PLANNING DEPARTMENT
4280 RICE STREET
LIHUE, KAUAI, HAWAII 96768

May 9, 1990

Mr. William W. Paty
State Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawaii 96809

Re: Comments on Proposed Hanalei Pier
TMK: 5-5-01:8 Hanalei, Kauai

We have reviewed the draft EIS for the above-referenced proposal and have determined that the proposed project is physically outside of the County of Kauai's zoning and SMA jurisdiction. We take this opportunity to provide the following comments for your consideration:

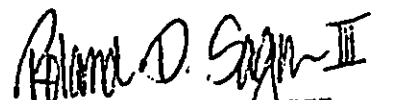
1. For aesthetic purposes, we suggest that the uniformity of the spacing between the pilings should be maintained, if possible.
2. The proposal to use the old piling materials for an artificial reef appears to be a good concept. Obviously, subsurface dangers to boats or divers from the pier, and effects on shoreline processes need to be considered. Placement of the old piling materials under the pier may create a groin-like structure and potentially may affect the shoreline process.
3. We assume the barge will be moored by the pier and that the only restricted area to the public will be the immediate area of the pier.
4. The Eckert letter, dated February 14, 1990, appears to offer many considerations for the accessibility, comfort, and convenience of the public. We hope to see built-in benches and handrails, which

Mr. William W. Paty
Page 2
May 9, 1990

allow sight lines and fishing for wheelchair or other seated persons, and posts or other means to keep vehicles off.

5. The proposal on page 38 indicates no recreational or commercial boating use is currently planned for the pier. We assume no tie-ups or other boating accommodations are included in the project.
6. We understand that additional maintenance costs would be required for a wooden planking surface, but it would add to the rustic appearance and be consistent with the character of Hanalei.

Thank you for allowing us to comment.


ROLAND D. SAGUM, III
Deputy Planning Director

cc: Clyde, Hosokawa, DLNR
Marvin T. Miura, Ph.D, OEQC

MAY 22 1980

REF:SP-ns-zn

Mr. Roland D. Sagun, III
Deputy Planning Director
County of Kauai
Planning Department
4280 Rice Street
Lihue, Kauai, Hawaii 96766

Dear Mr. Sagun:

Subject: Draft Environmental Impact Statement
Reconstruction of Hanalei Pier, Hanalei, Kauai
Tax Map Key 5-5-01:3

We appreciate your review of the draft Environmental Impact Statement for the reconstruction of the Hanalei Pier and provide the following responses to your comments:

COMMENT:

"1. For aesthetic purposes, we suggest that the uniformity of the spacing between the pilings should be maintained, if possible."

RESPONSE:

Uniform spacing between the new concrete pilings will be maintained to the extent possible during construction.

COMMENT:

"2. The proposal to use the old piling materials for an artificial reef appears to be a good concept. Obviously, subsurface dangers to boats or divers from the pier, and effects on shoreline processes need to be considered. Placement of the old piling materials under the pier may create a groin-like structure and potentially may affect the shoreline process."

RESPONSE:

The use of materials from the old pier is a logical alternative in creating a favorable habitat for aquatic

5/22/90

Mr. Roland D. Sagum, III
Page 2

MAY 22 1990

resources. However, we concur that placement of any material adjacent to or under the Hanalei Pier could be hazardous to public users and cause undesirable effects to ongoing shoreline processes (i.e., sand transport, erosion, etc.). Accordingly, all of the debris will be transported to an approved disposal site on land.

COMMENT:

"3. We assume the barge will be moored by the pier and that the only restricted area to the public will be the immediate area of the pier."

RESPONSE:

A barge will most likely be moored by the pier during construction. Public access may be restricted on the pier and approach ramp as necessary for construction.

COMMENT:

4. "The Eckert letter, dated February 14, 1990, appears to offer many considerations for the accessibility, comfort, and convenience of the public. We hope to see built-in benches and handrails, which allow sight lines and fishing for wheelchair or other seated persons, and posts or other means to keep vehicles off."

RESPONSE:

We are considering public safety and handicap accessibility needs into the pier but our primary goal is to replicate the original pier for historic reasons as much as possible. Accordingly, many built-in amenities such as benches are not being considered at this time. Handrails, restricted vehicle access and eventual handicap access is being implemented.

Mr. Roland D. Sagum, III
Page 3

MAY 22 1977

COMMENT:

"5. The proposal on page 38 indicates no recreational or commercial boating use is currently planned for the pier. We assume no tie-ups or other boating accommodations are included in the project."

RESPONSE:

We are not including any provisions for the docking of recreational or commercial boating at the pier. Our concern is primarily for public walk-on access for sightseeing and fishing and for visual appearance as part of the scenic panorama.

COMMENT:

"6. We understand that additional maintenance costs would be required for a wooden planking surface, but it would add to the rustic appearance and be consistent with the character of Hanalei."

RESPONSE:

Hanalei Pier is being reconstructed as a replica of the existing as much as possible. As there is no wooden decking presently, none was considered on the proposed alternative selected for implementation.

Thank you for your participation in the EIS process. Your letter will be included in the final Environmental Impact Statement for this project.

Sincerely,

~~WILLIAM W. PATY~~
KETH W. A. '82

for WILLIAM W. PATY

CH:ns:rn

1050

Cee

JOANN A. YUKIMURA
MAYOR



KIYOJI MASAKI
Acting COUNTY ENGINEER
TELEPHONE 245-3318

ARNOLD W.F. LEONG
DEP. COUNTY ENGINEER
TELEPHONE 245-3602

MAILING ADDRESS:
4444 RICE STREET, RM. 230
LIHUE, HI 96766

COUNTY OF KAUAI
DEPARTMENT OF PUBLIC WORKS
3021 UMI STREET
LIHUE, KAUAI, HAWAII
MAY 23 1990

Mr. William W. Paty, Chairperson
State of Hawaii
Department of Land and Natural Resources
Division of State Parks, Outdoor Recreation
& Historic Sites
P.O. Box 621
Honolulu, Hawaii 96809

DIVISION OF
STATE PARKS
MAY 23 4 56 PM '90

Dear Mr. Paty:

RE: DEIS HANALEI PIER RECONSTRUCTION

Thank you for the opportunity to review the Environmental Impact Statement (EIS) on the Hanalei Pier Reconstruction.

At this time, we have no comments to offer.

Very truly yours,

KIYOJI MASAKI
Acting County Engineer

MN:dm

RECEIVED
MAY 23 4 21 PM '90
COUNTY ENGINEER

STATE PARKS
APR 27 1990

DEPARTMENT OF WATER

COUNTY OF KAUAI
P.O. BOX 1706
LIHUE, HAWAII 96766-5706
FAX NO. 245-5813

RECEIVED

90 APR 30 A 7:55

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

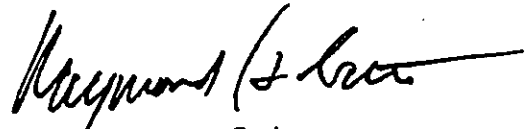
April 26, 1990

Dept. of Land & Natural Res.
P. O. Box 621
Honolulu, HI 96809

Re: Draft Environmental Impact Statement, Hanalei Pier
Reconstruction, TMK: 5-5-01:8, Hanalei, Kauai

We reviewed the Draft Environmental Impact Statement for the
Hanalei Pier Reconstruction and have no comments to offer at this
time.

Thank you for the opportunity to comment.



Raymond H. Sato
Manager and Chief Engineer

cc: Dept. of Land & Natural Res.
Division of State Parks
Outdoor Recreation & Historic Sites
P. O. Box 621
Honolulu, HI 96809
Attention: Mr. Clyde Hosokawa

Marvin T. Miura, Ph.D., Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, HI 96813



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858-5440

May 16, 1990

REPLY TO
ATTENTION OF:
Planning Division

RECEIVED

90 MAY 21 12:17

DEPARTMENT OF
LAND & NATURAL RESOURCES
MAY 30 4 58 PM '90

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

Mr. William W. Paty
Chairman
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

We have reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Hanalei Pier Reconstruction, Hanalei, Kauai. The following comments are offered:

a. The project will require a Department of the Army permit. For information regarding permit requirements, please contact Operations Division at 438-9258.

b. The reference made to Flood Insurance Rate Maps in the DEIS (page 18, first sentence in paragraph 2) should be amended to indicate that, according to the March 4, 1987 Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency, the project site is located in Zone VE (special coastal flood area with velocity hazard due to wave action), with base flood elevations ranging from 12 to 13 feet MSL.

Sincerely,

Risuk Cheung
Director of Engineering

DI:NR
OCEA

RECEIVED
90 MAY 24 AM 8:51

Copy Furnished:

Department of Land and Natural Resources
Division of State Parks, Outdoor Recreation
and Historic Sites
P.O. Box 621
Honolulu, Hawaii 96809

Mr. Marvin T. Miura, Ph.D.
Director
Office of Environmental Quality Control
465 South King Street, Room 104
Honolulu, Hawaii 96813

JAY 31

REF:SP-ns-rn

Mr. Kisuk Cheung
Director of Engineering
Department of the Army
U.S. Army Engineering District, Honolulu
Building 230
Ft. Shafter, Hawaii 96858-5440

Attention: Planning Division

Dear Mr. Cheung:

Subject: Draft Environmental Impact Statement
Reconstruction of Hanalei Pier, Hanalei, Kauai
Tax Map Key 5-5-01:8

We appreciate your review of the draft Environmental Impact Statement for the reconstruction of the Hanalei Pier and provide the following responses to your comments:

COMMENT:

"a. The project will require a Department of the Army permit. For information regarding permit requirements, please contact Operations Division at 438-9258."

RESPONSE:

We have contacted the Operations Division and are coordinating this project with them to secure the Department of the Army permits and/or clearances as necessary.

COMMENT:

"b. The reference made to Flood Insurance Rate Maps in the DEIS (page 18, first sentence in paragraph 2) should be amended to indicate that, according to the March 4, 1987 Flood Insurance Rate Map (FIRM) prepared by the Federal Emergency Management Agency, the project site is located in Zone VE (special coastal flood area with velocity hazard due to wave action), with base flood elevations ranging from 12 to 13 feet MSL."

-1/31/90

Mr. Kisuk Cheung
May 30, 1990
Page 2
MAY 31 1990

RESPONSE:
This has been corrected and will be reflected in the revised EIS.

Thank you for your participation in the EIS process.
Your letter will be included in the final Environmental Impact Statement for this project.

Sincerely,

/S/ WILLIAM W. PATY

WILLIAM W. PATY

CH:ns:rn

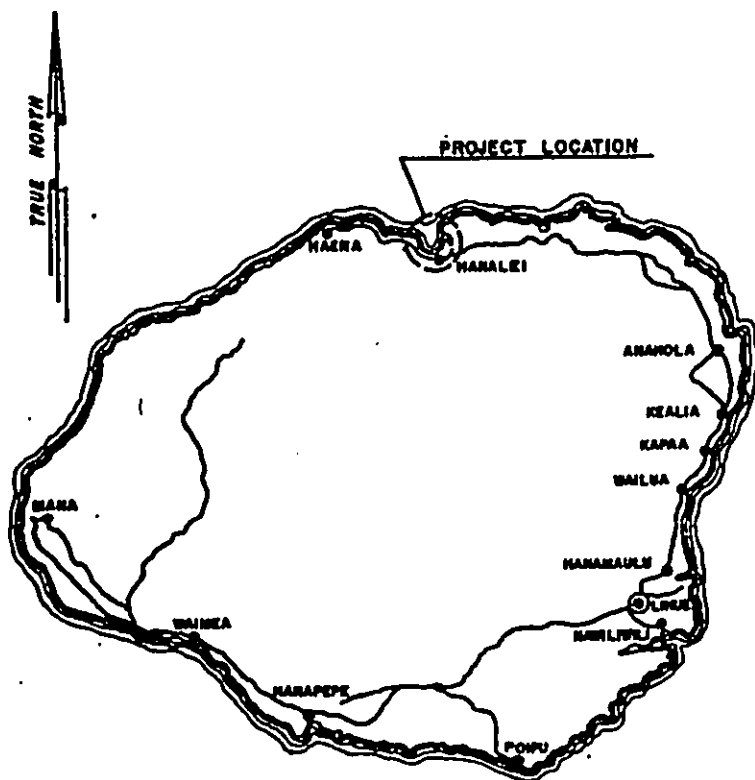
14.3 CONSTRUCTION PLANS

JOB NO. 95 - KP

RECONSTRUCTION OF PHASE I HANALEI, KAUAI,

ACT 301, SLH 1983, PART V, ITEM
ACT 216, SLH 1987, PART IV, ITEM H-47, B-8
ACT 390, SLH 1988, PART IV, ITEM H-47, B-8
ACT 316, SLH 1989, PART IV, ITEM H 17, B-8

STRUCTURAL ENGINEER: HAROLD T. MIYAMOTO & ASSOCIATES

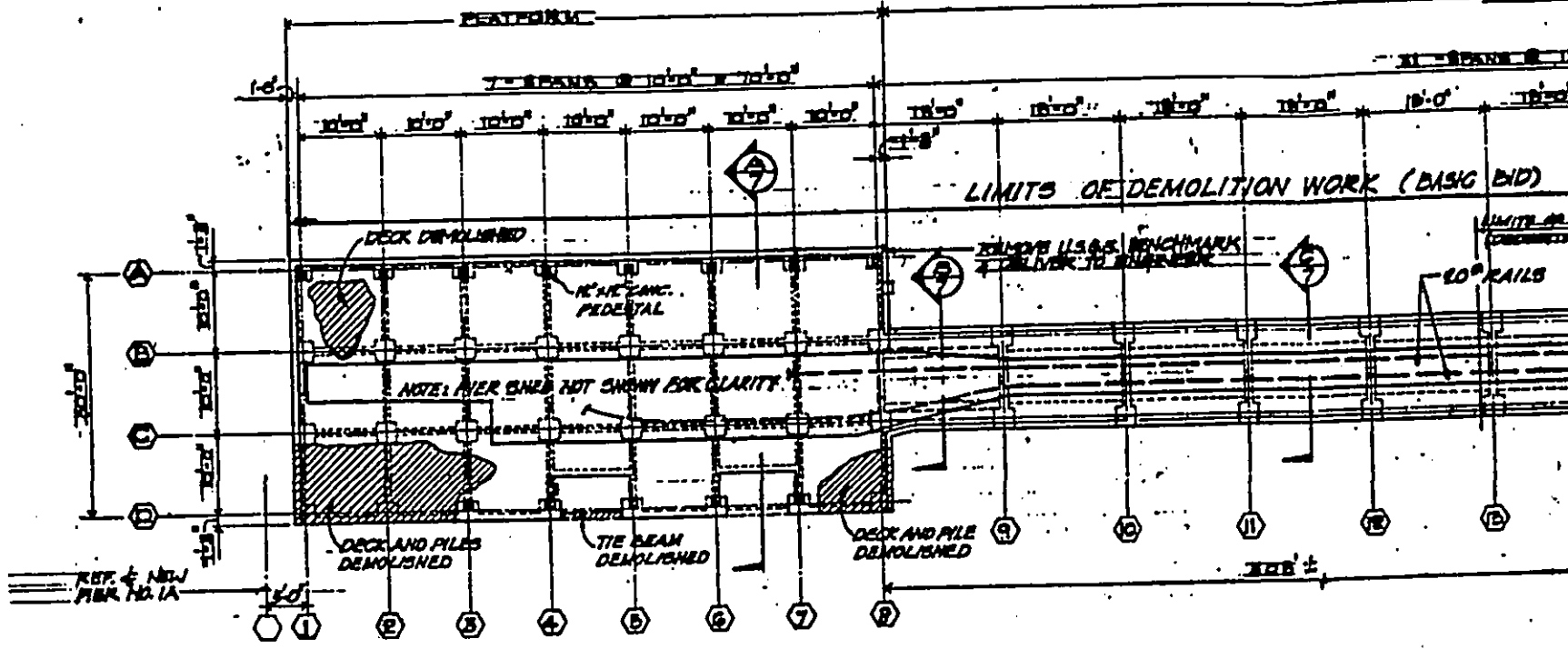


LOCATION MAP
ISLAND OF KAUAI

INDEX	
SHEET NO.	TITLE
1	TITLE, INDEX, LOCATION MAP & SITE PLAN
2	EXISTING PIER FRAMING PLAN
3	PILE LAYOUT
4	PLATFORM & APPROACH RAMP FRAMING PLAN
5	SECTIONS & PRESTRESSED CONCRETE PILES
6	SECTIONS, RAILING DETAIL & STRUCTURAL NOTES
7	SECTIONS & DETAILS
8	SHED FRAMING PLAN, ELEVATIONS & TYPICAL SECTION
9	SHED DETAILS

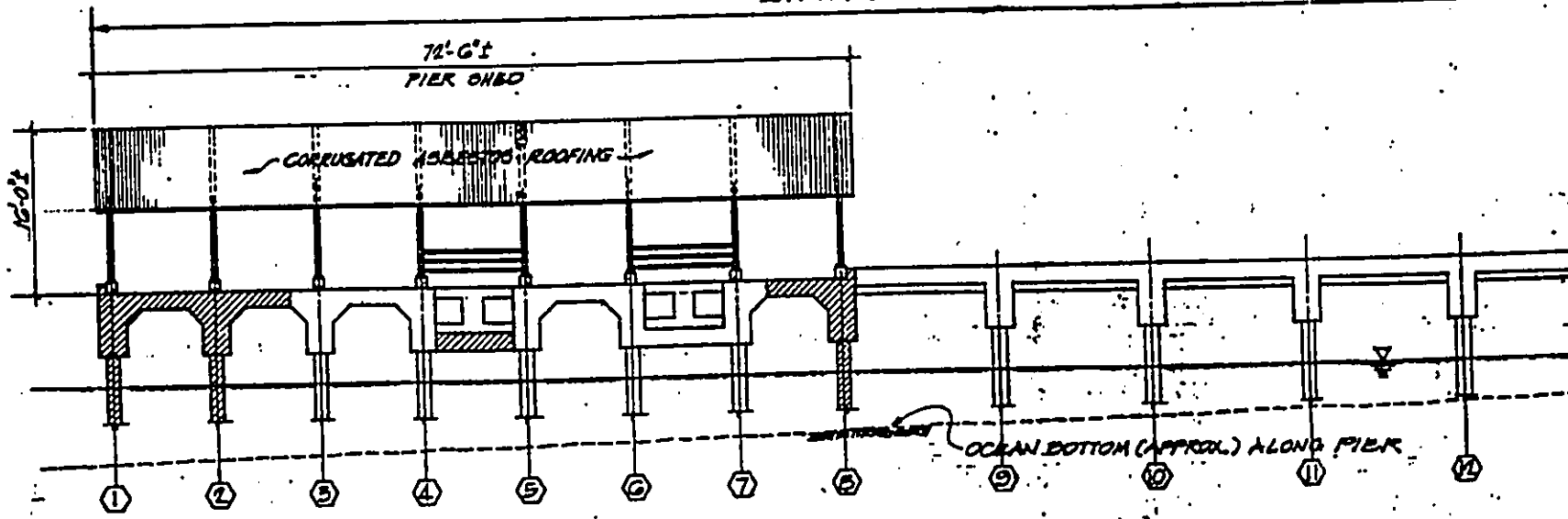


THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Harold T. Miyamoto

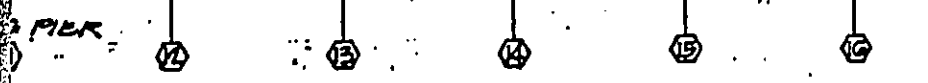
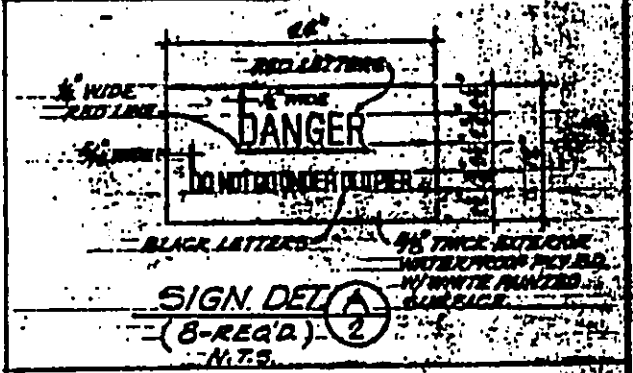
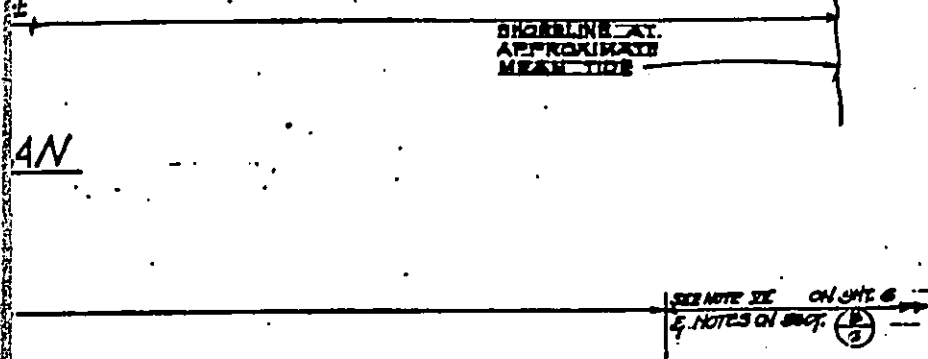
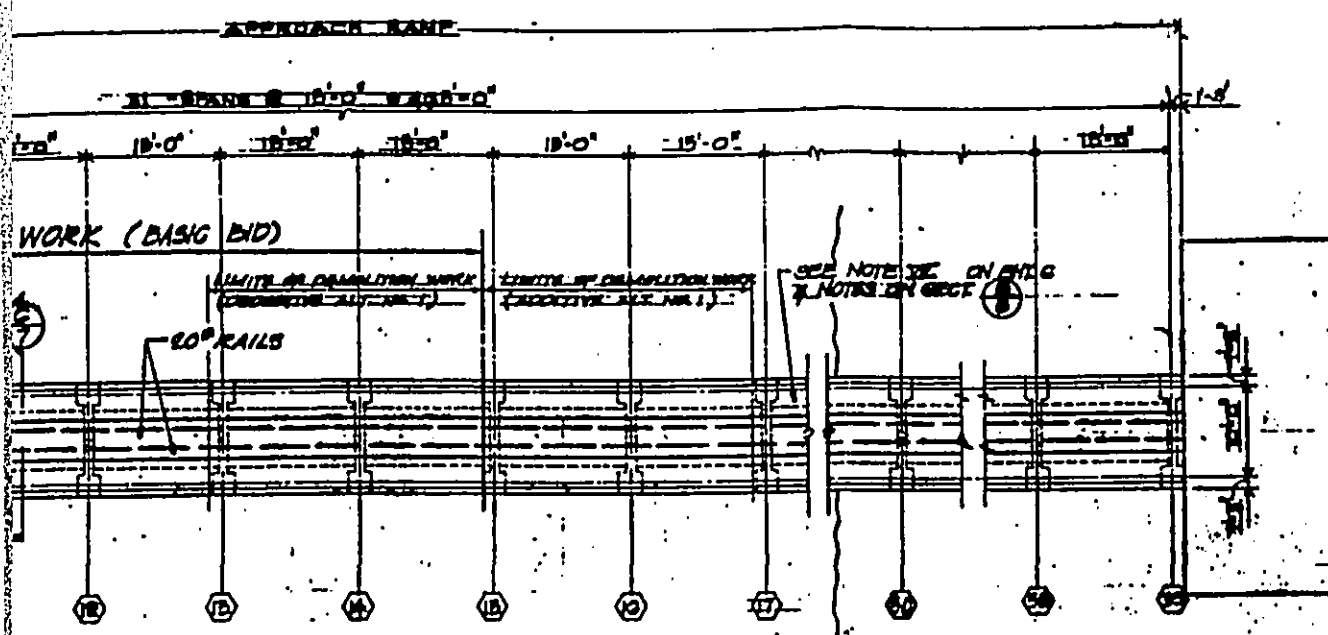


EXISTING PIER FRAMING PLAN
SCALE: 1"=10'-0"

LIMITS OF DEMOLITION WORK



EXISTING PIER ELEVATION
SCALE: 1/8"=1'-0"



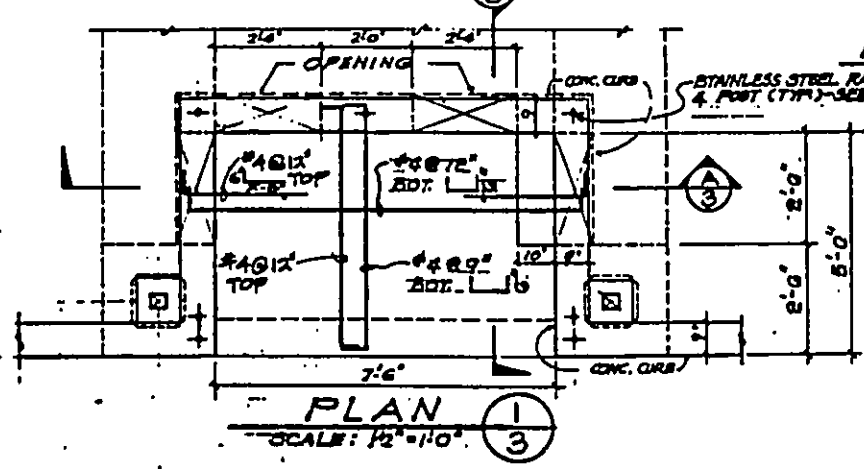
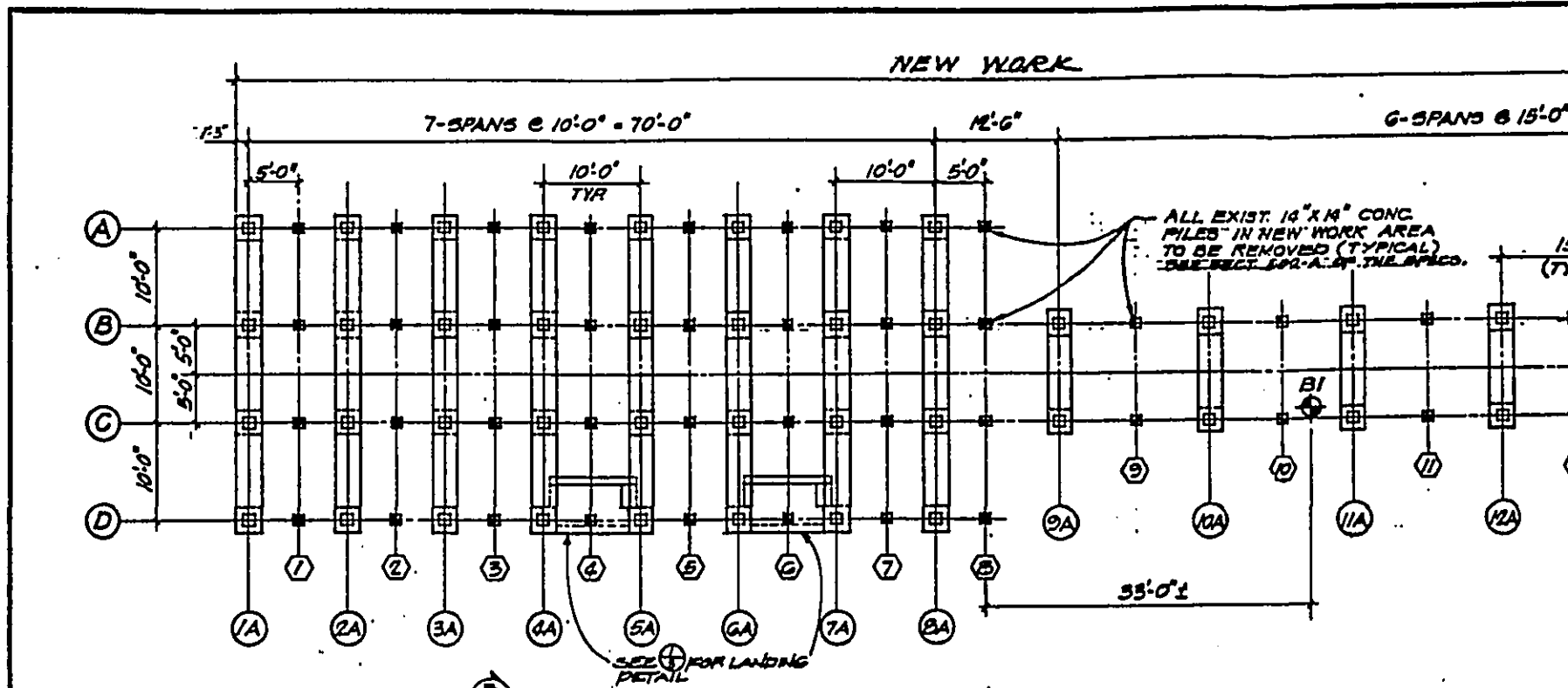
THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Harold Takashi Mizutani

REV.	DESCRIPTION	DATE	BY

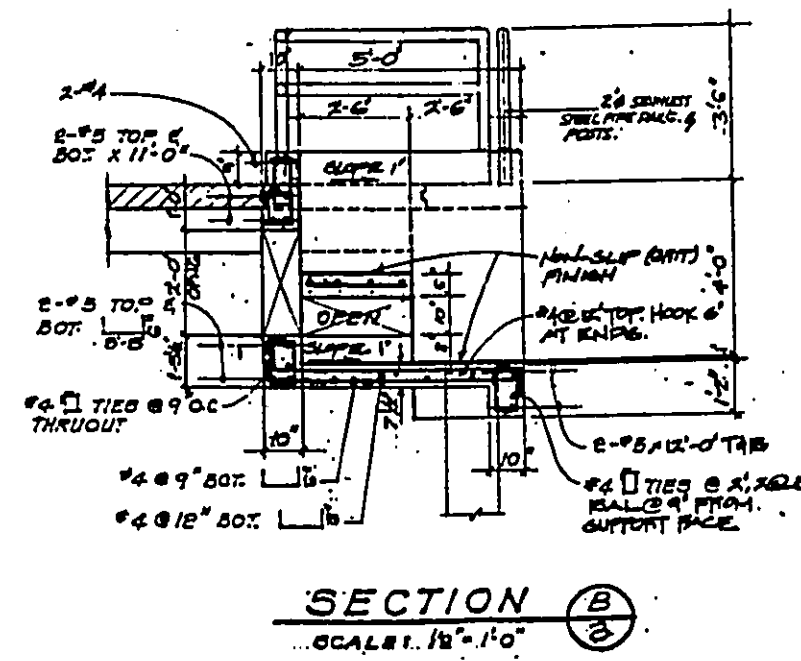
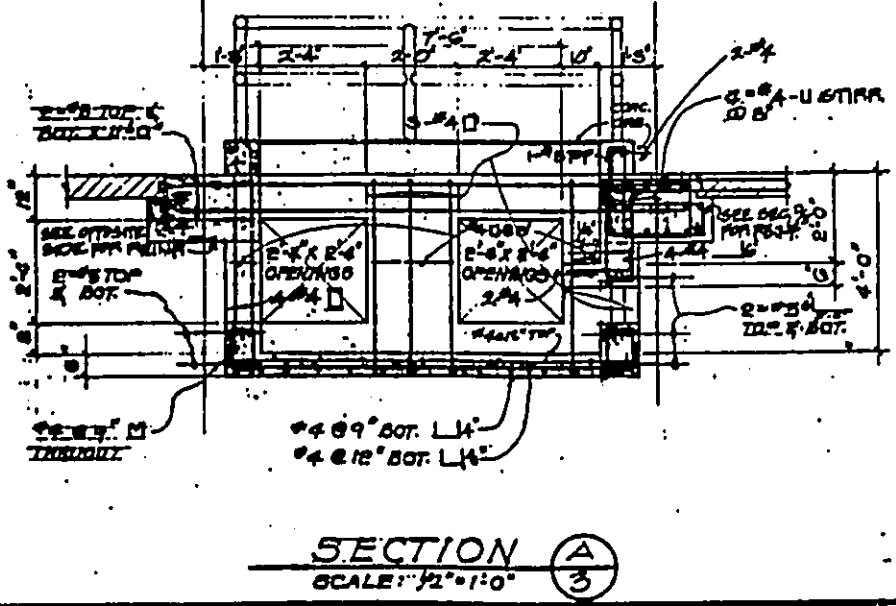
STATE OF HAWAII
 DIVISION OF STATE PLANS, SURVEYING REGULATION AND REPORTS
 DEPARTMENT OF LAND AND NATURAL RESOURCES

RECONSTRUCTION OF HANAIEI PIER
EXISTING PIER FRAMING PLAN

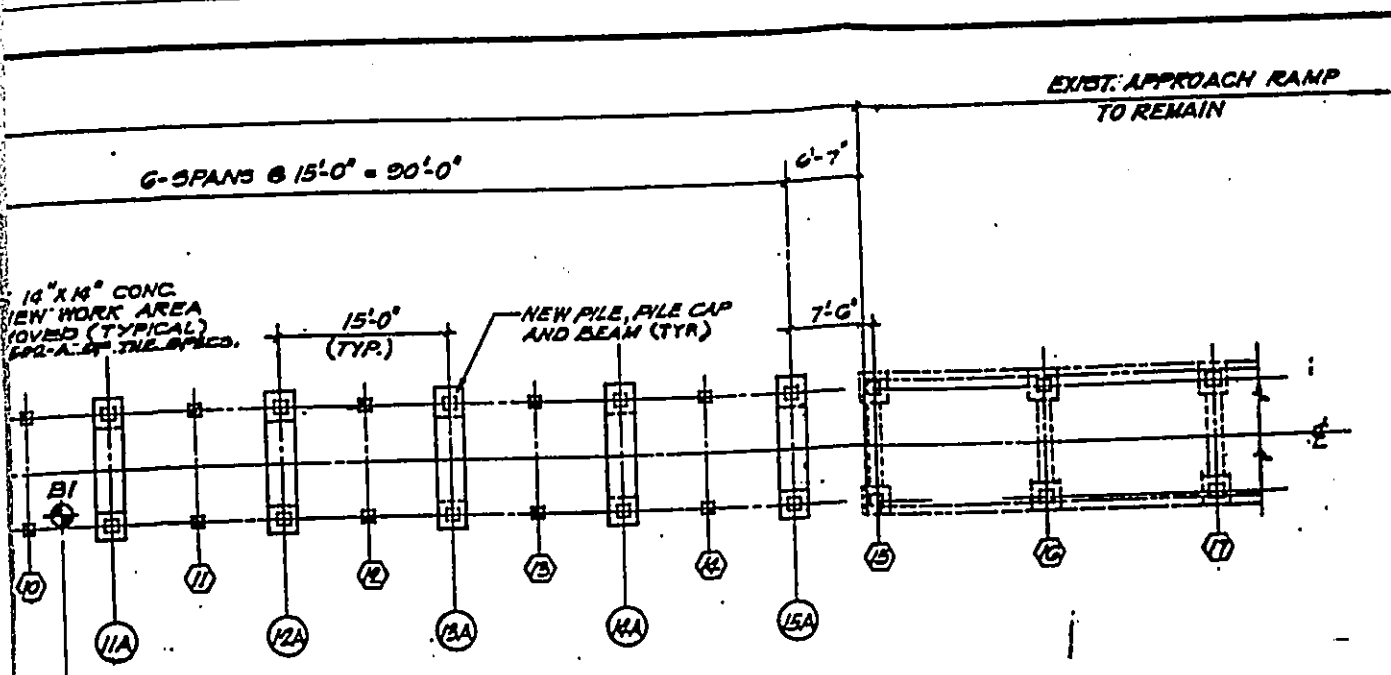
DESIGNED BY: <i>H. M.</i>	CHECKED BY: <i>H. M.</i>
DRAWN BY: <i>H. M.</i>	APPROVED BY: <i>H. M.</i>



PILE, PILE CAP AND BEAM LAYOUT
SCALE: 1/8" = 1'-0"



SECTION B
SCALE: 1/2" = 1'-0"



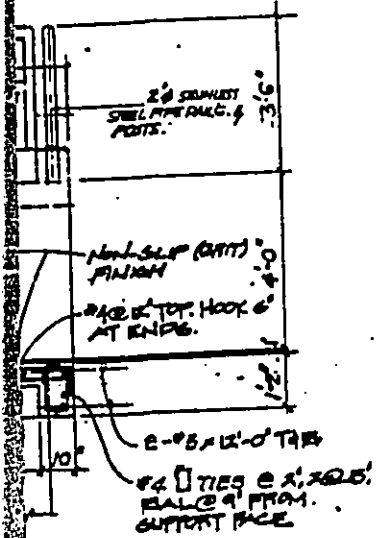
PIER LAYOUT

LEGEND

- = LOCATION OF EXISTING 16" X 16" CONCRETE PILES
- = LOCATION OF NEW PILE AND BEAM

NOTES

- 1- THE BORING DATA IN THE FOUNDATION REPORT ARE THE RESULTS OF THE FACTS GATHERED AT THE SPECIFIC LOCATIONS INDICATED TO PRIMARILY AID IN THE DESIGN OF THE STRUCTURE AND DOES NOT NECESSARILY TYPIFY CONDITIONS AT OTHER LOCATIONS. THE DEPARTMENT ASSUMES NO RESPONSIBILITY FOR SUFFICIENCY OF BORING DATA OR THE PREVALENCE OF CONDITIONS SIMILAR TO THAT INDICATED BY THE BORING DATA.
- 2- THE SOIL BORING LOGS ARE SHOWN IN THE FOUNDATION REPORT ENTITLED: FOUNDATION INVESTIGATION RECONSTRUCTION OF HANAIEI PIER HANAIEI, KAUAI, HAWAII. TMK S-B-0116.
- 3- THE FOUNDATION REPORT MAY BE INSPECTED AT THE DIVISION OF WATER AND LAND DEVELOPMENT.

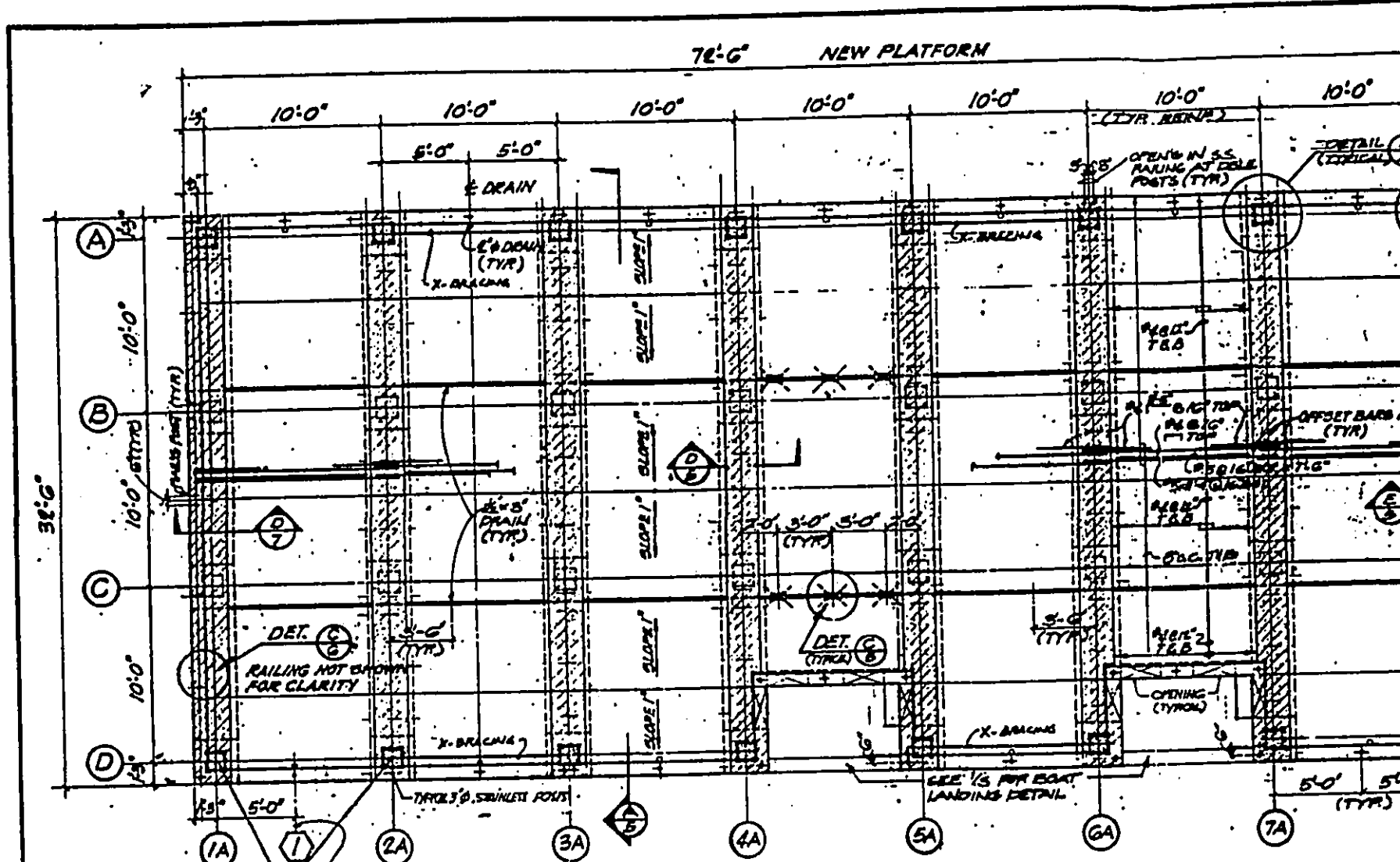


ON B
3

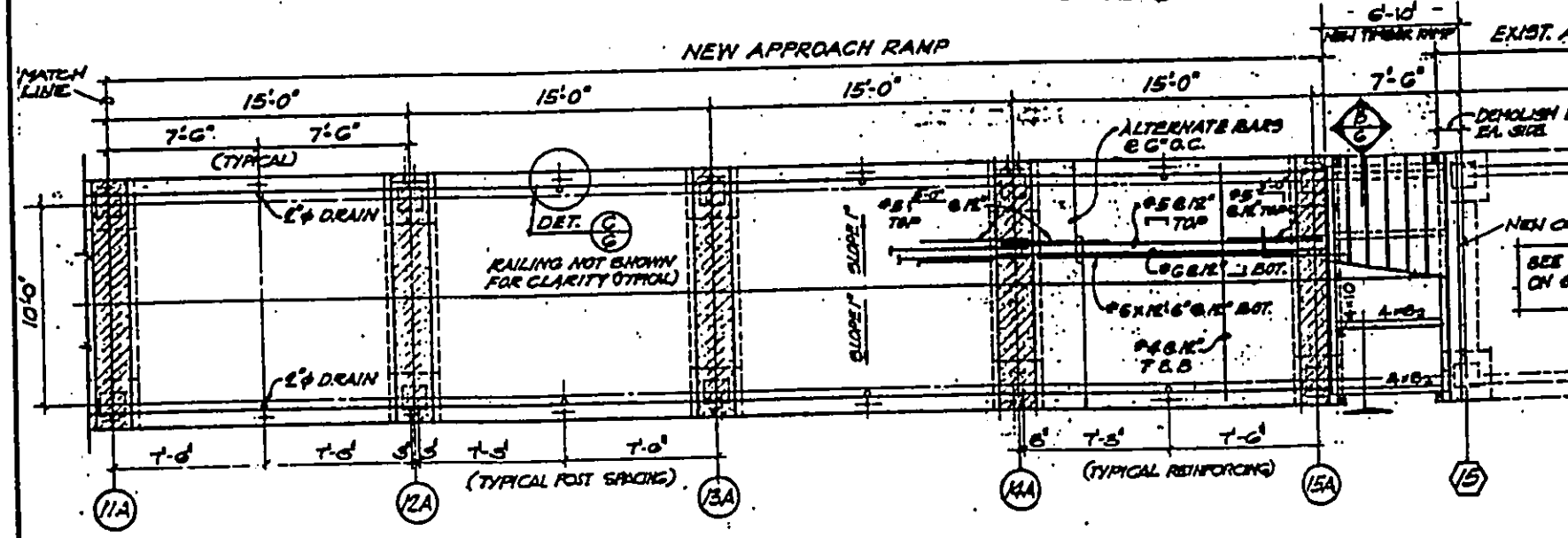


THE WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Masao Takashi

NO.	DESCRIPTION	DATE	BY
REVISIONS			
STATE OF HAWAII DIVISION OF STATE PARKS, OUTDOOR RECREATION AND HISTORIC SITES DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIEI PIER			
PIER LAYOUT			
DESIGNED L.S.	REVIEWED	DATE	
DRAWN RWC	CHECKED	DATE	
CHECKED H.M.	SUBMITTED	DATE	
APPROVED	DATE	FILE NO.	

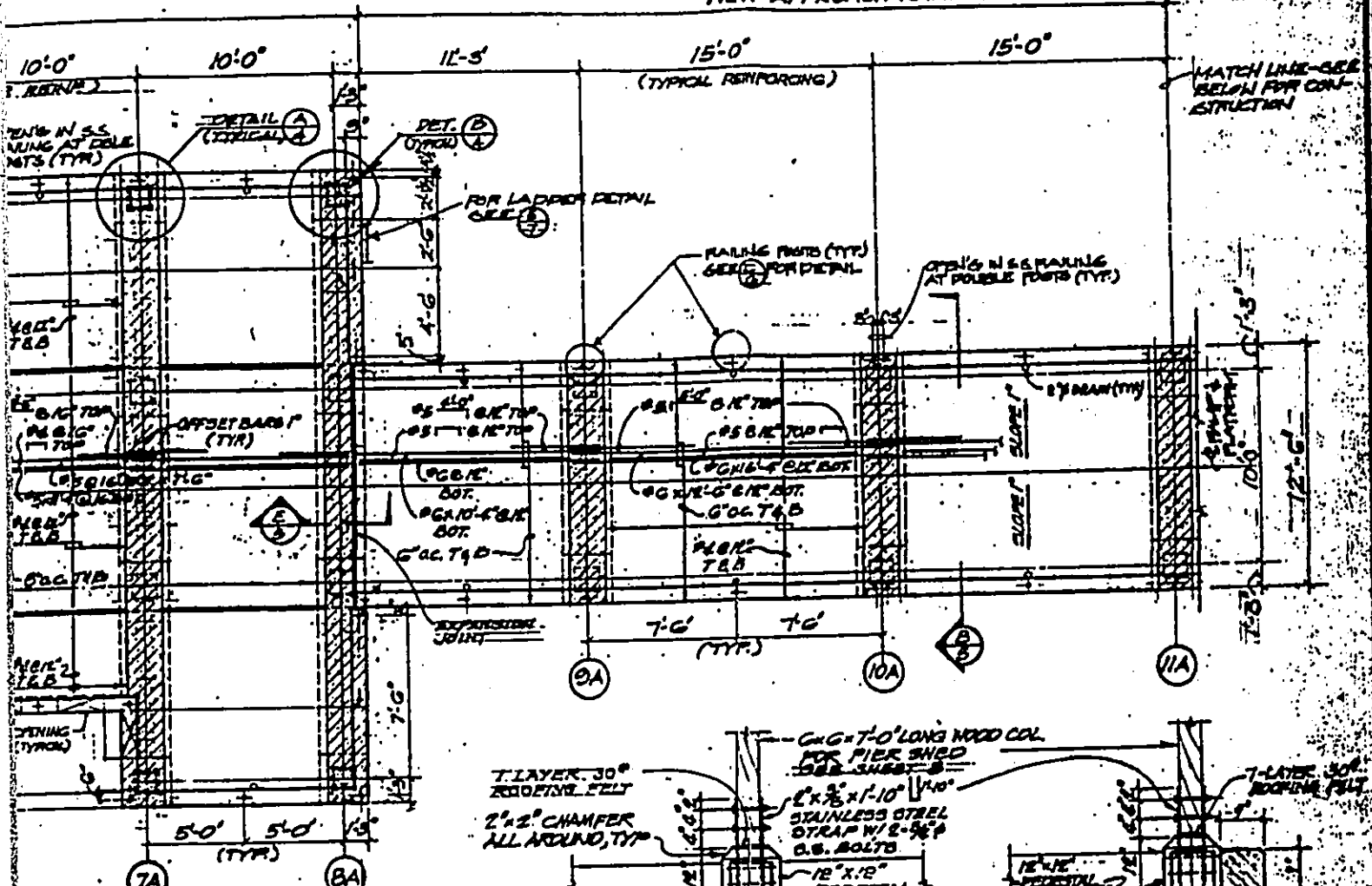


PLATFORM AND APPROACH RAMP FRAMING PLAN
SCALE: 1/4" = 1'-0"

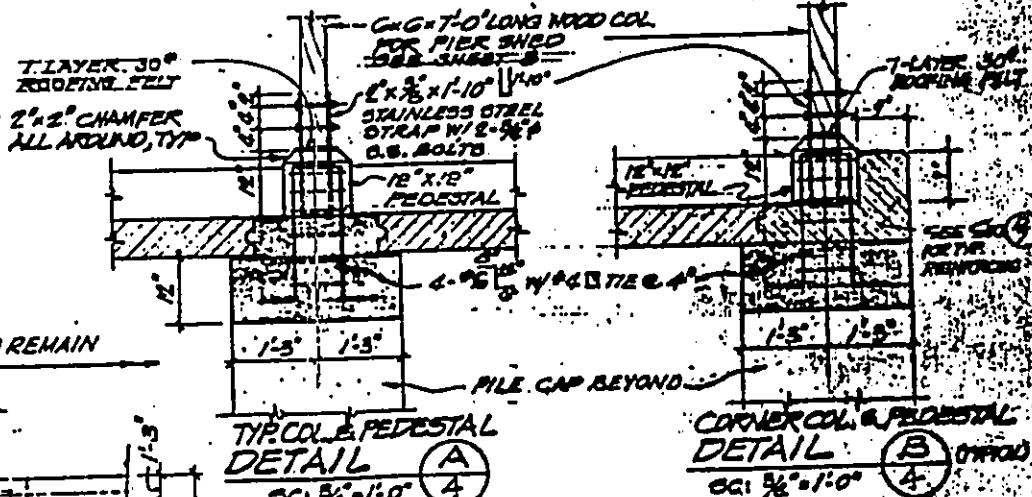


APPROACH RAMP - PARTIAL FRAMING PLAN
SCALE: 1/4" = 1'-0"

NEW APPROACH RAMP

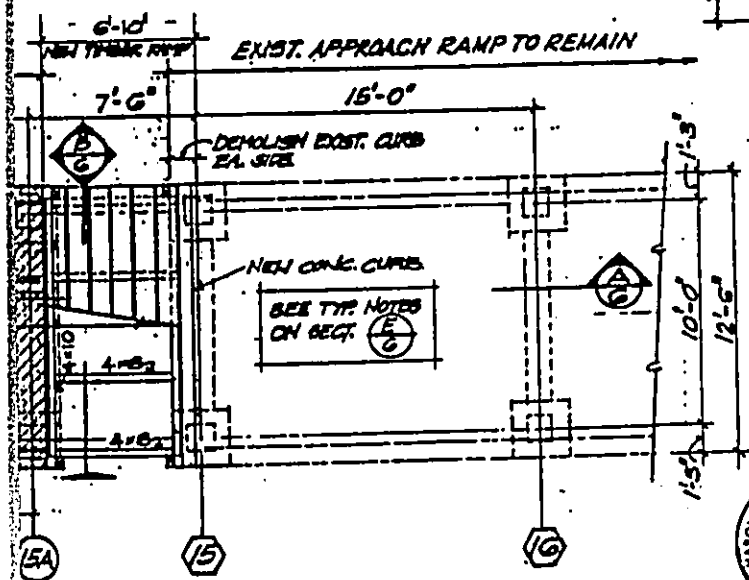


FRAMING PLAN



TIP COL. & PEDESTAL DETAIL (A)

CORNER COL. & PEDESTAL DETAIL (B)

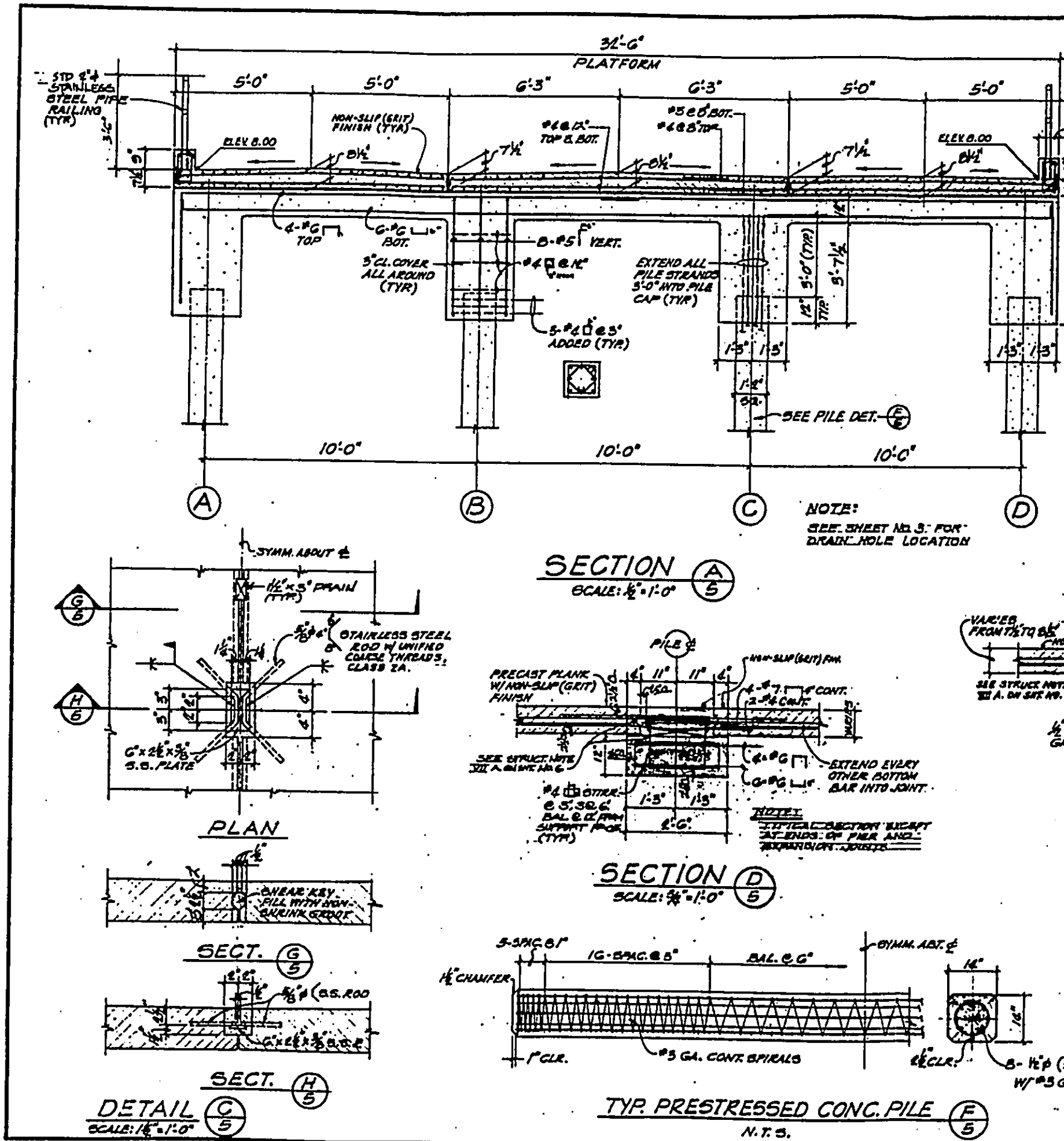


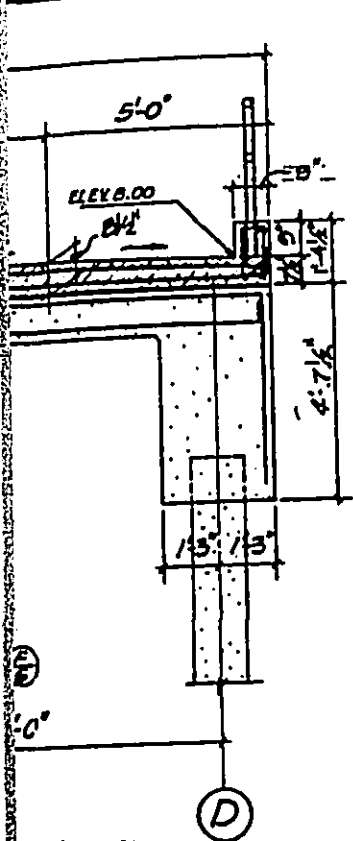
FRAMING PLAN



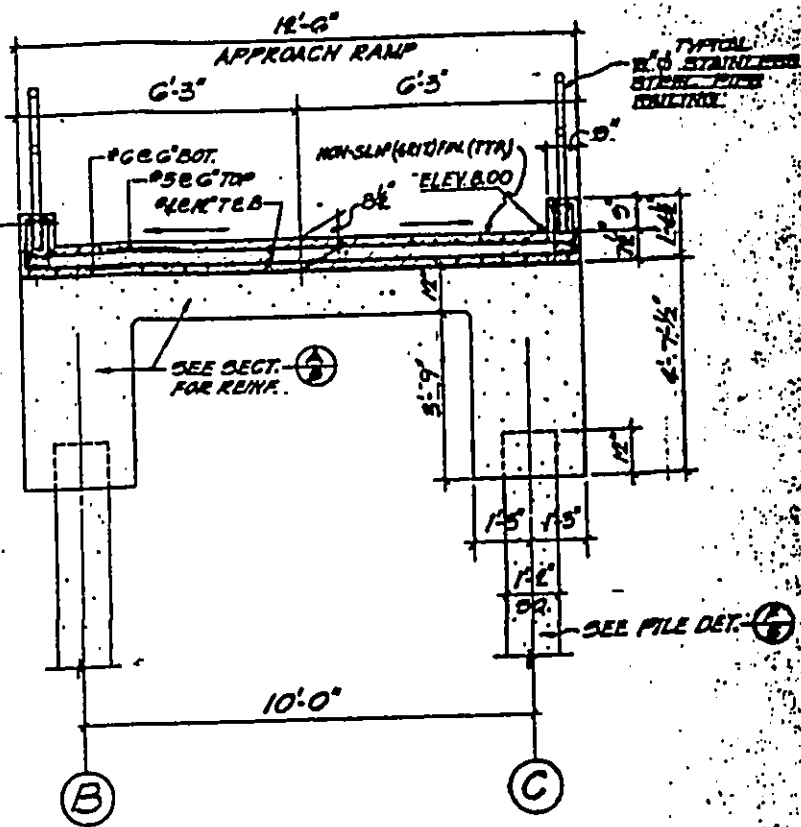
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Harold Takami

DATE	DESCRIPTION	BY	APP'D
REVISIONS			
STATE OF HAWAII DIVISION OF STATE PARKS, OUTDOOR RECREATION AND HISTORIC SITES DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIEI PIER PLATFORM AND APPROACH RAMP FRAMING PLAN			
DESIGNED: L.S.	REVIEWER:		
DRAWN: RWG	DATE:		
CHECKED: H.M.	SUBMITTER:		
APPROVED:	DATE:		



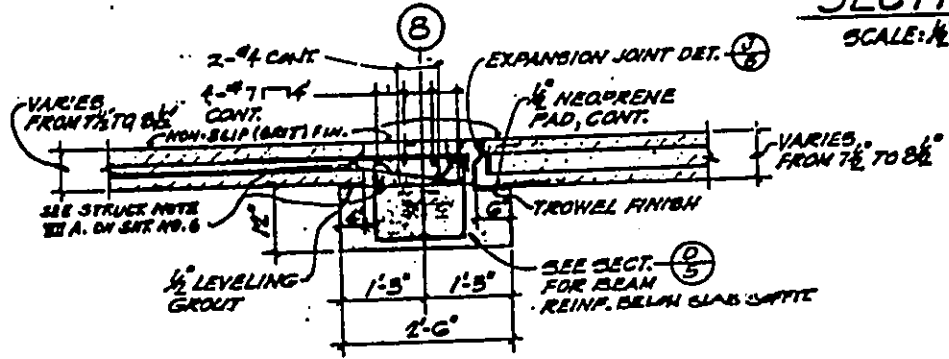


2-#4 CONT.
W/#5 TIES
@ 12" O.C. &
ONE EXTRA
EACH SIDE OF
PILING & PAST
(TYP.)

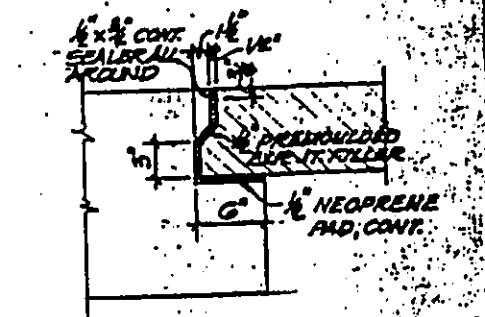


SEE S. FOR
LOCATION

SECTION B-B
SCALE: 1/4" = 1'-0"



SECTION E-E
SCALE: 3/8" = 1'-0"

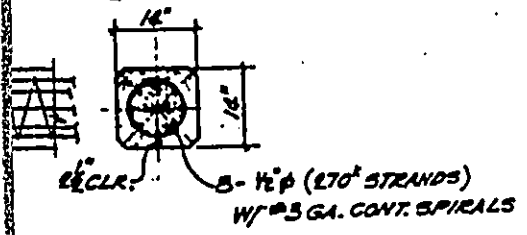


EXPANSION JOINT DET. J
SCALE: 1/4" = 1'-0"

EVERY
BOTTOM
JOINT.

BECAUSE
AND

MIN. ABS. &

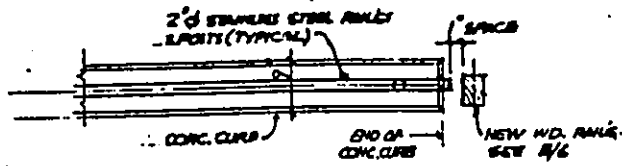


PILE F-F
SCALE: 1/4" = 1'-0"

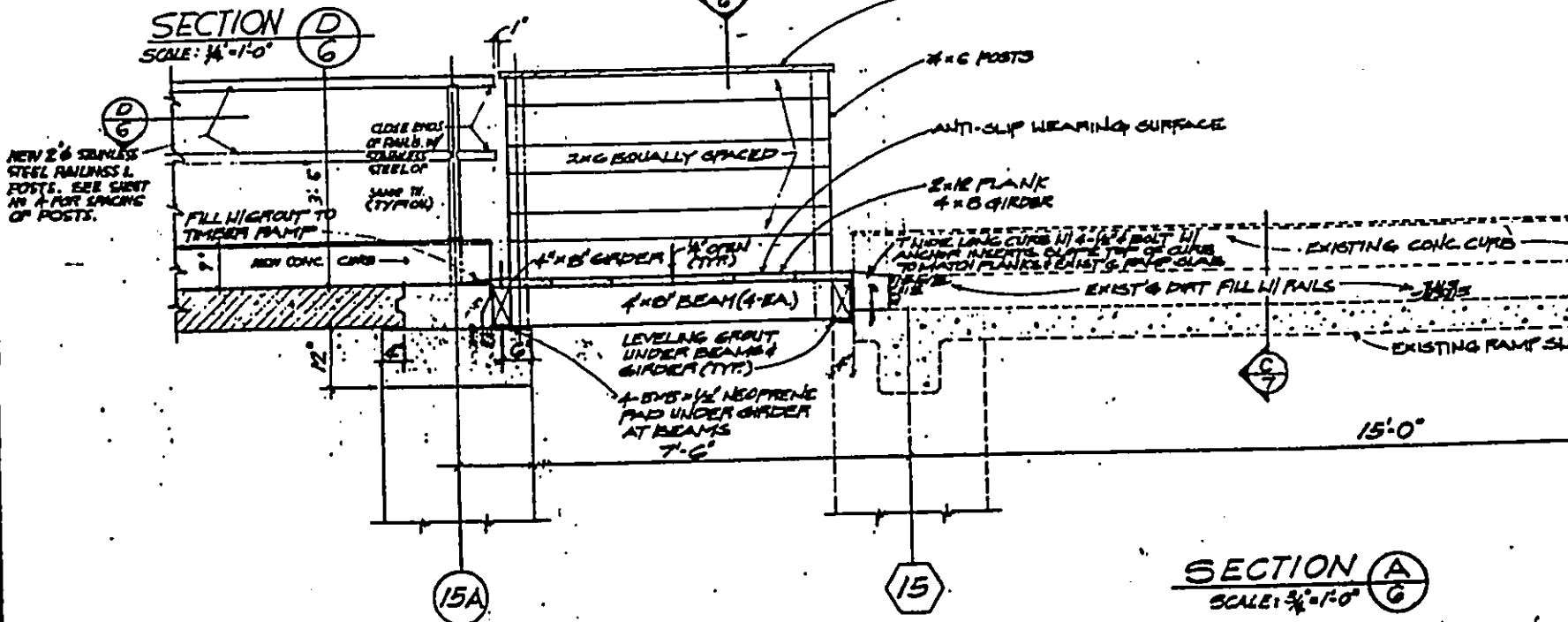


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OR UNDER MY SUPERVISION
Harold Miyamoto

DATE	DESCRIPTION	BY	APP'D
REVISIONS			
STATE OF HAWAII DIVISION OF STATE PARKS, OUTDOOR RECREATION AND HISTORIC SITES DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIE PIER SECTIONS AND PRESTR. CONC. PILE			
DESIGNED: L.S.	REVIEWED:		
DRAWN: RWC	CHECKED:		
CHECKED: H.M.	SUBMITTED:		
APPROVED:			FILE NO.



NOTE:
USE ONLY NON-VIBRATORY
ELECTRIC TOOLS TO MAKE
EXISTING CONCRETE



STRUCTURAL NOTES

I- REINFORCED CONCRETE

- A- MINIMUM CONCRETE STRENGTHS**
 1- POURED IN PLACE CONCRETE AT 28 DAYS ——— 4,500 PSI
 2- PRECAST CONCRETE PLANKS
 a- AT PICK-UP ——— 3,000 PSI
 b- AT 28 DAYS ——— 4,500 PSI
 3- PRESTRESSED CONCRETE PILES
 a- AT STRESS TRANSFER ——— 4,000 PSI
 b- AT 28 DAYS ——— 6,000 PSI

B- REINFORCEMENT

- 1- ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60
 2- SPIRALS IN PILES SHALL BE COLD DRAWN WIRE CONFORMING TO ASTM A62
 3- PRESTRESSING STRANDS SHALL CONFORM TO ASTM A416 GRADE 270

C- CONCRETE PROTECTION FOR REINFORCEMENT UNLESS SHOWN OTHERWISE.

- 1- PILE CAP ——— 3 IN.
 2- SLABS & SEAMS ——— 2 1/2 IN.
 3- PRESTRESSED PILES ——— 2 1/2 IN.
 4- ALL OTHERS ——— 2 1/2 IN.

D- SPLICES IN REINFORCEMENT

- 1- LAP TOP BARS AT MIDSPAN AND BOT BARS AT SUPPORTS, STAGGERED WHERE POSSIBLE.
 2- UNLESS SHOWN OTHERWISE, MINIMUM LAP DISTANCE SHALL BE 45 DIAMETERS.

II- CONCRETE PILES

- A- CONCRETE PILES SHALL BE STORED AND HANDLED SO AS TO PREVENT CRACKING OR OTHER DAMAGE.
 B- PILES SHALL NOT BE DRIVEN UNTIL A MIN. STRENGTH OF 4,000 PSI IS ATTAINED AND UNTIL TEN DAYS AFTER CASTING.
 C- WORK OF CUTTING OFF PRESTRESS CONCRETE PILES OR CONCRETE PILE BUILD-UPS SHALL BE PERFORMED IN SUCH A MANNER AS TO AVOID SPALLING OR DAMAGING THE PILE BELOW CUT-OFF. DAMAGED PORTIONS SHALL BE REMOVED AND PILE CUT-OFF ELEVATION LOWERED AS REQUIRED BY THE CONTRACTING OFFICER.
 D- TOP OF PILE AT CUT-OFF LINE SHALL BE PREPARED AS REQUIRED FOR CONSTRUCTION JOINTS.
 E- PILES SHALL BE FURNISHED FULL LENGTH WITHOUT SPLICES.
 F- FOR BIDDING PURPOSES ONLY, IT MAY BE ASSUMED THAT THE PILE TIPS ARE ELEV. -54.00

- G- ALL NEW PILES ARE FRICTION PILES AND SHALL BE TO AT LEAST 47' BELOW THE OCEAN FLOOR.
 H- THE MINIMUM WARRING FORCE IN PRESTRESSING

III- TIMBER

- A- UNLESS OTHERWISE NOTED ALL STRUCTURAL TIMBER SHALL BE GRADE 24S.
 B- ALL TIMBER SHALL BE TREATED PRIOR TO PAINT

IV- STRUCTURAL STEEL

- A- ALL STRUCTURAL STEEL INCL. ALL HARDWARE SHALL BE GALVANIZED STRUCTURAL STEEL.
 B- ALL WELDING SHALL CONFORM TO APPLICABLE REQUIREMENTS FOR STAIN-LESS STEEL & STRUCTURAL STEEL

V- DESIGN NOTES

- A- CONCRETE DECK LIVE LOAD (PERMANENT)
 B- TIMBER DECK LIVE LOAD (TEMPORARY)
 C- WIND LOAD
 D- EARTHQUAKE
 E- PILE ALLOWABLE VERTICAL LOAD
 F- TSUNAMI LATERAL LOAD

VI- EXISTING STRUCTURES

- A- EXISTING CONDITIONS AND DIMENSIONS ARE AS SHOWN AND CONTRACTOR SHALL MAKE FIELD INSPECTION OF EXISTING CONDITIONS AND DIMENSIONS.
 B- THE CONTRACTOR IS WARNED THAT HAULING OF EQUIPMENT BY LAND TO THE JOB SITE MAY BE BEYOND CAPACITY OF 15 TONS FOR HANDLE BRIDGE AND PORTATION MAY BE REQUIRED. VEHICULAR TRAFFIC

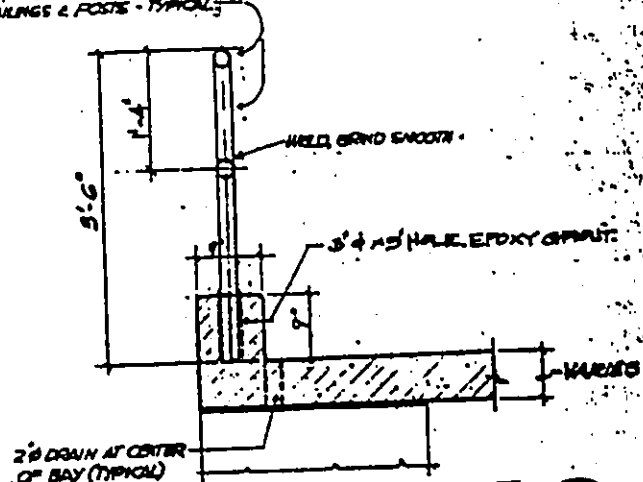
VII- CONSTRUCTION JOINTS

- ALL CONCRETE SURFACE THAT WILL HAVE NEW CONCRETE AGAINST IT SHALL BE COATED WITH EPOXY BOND IMMEDIATELY PRIOR TO POURING NEW CONCRETE. MUST BE ROUGHENED BY LIGHT SANDBLASTING, COAT OF EPOXY APPLIED IMMEDIATELY PRIOR

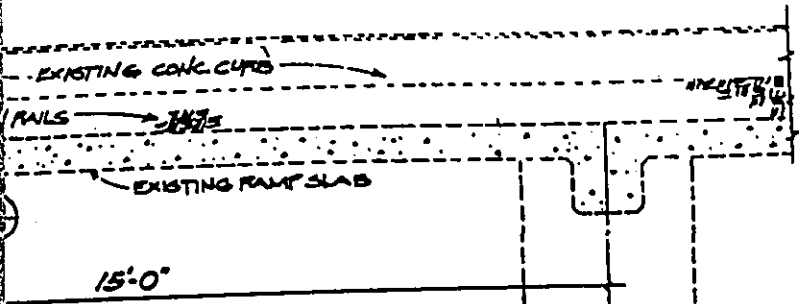
NOTE

USE ONLY NON-VIBRATORY HAND-HELD OR ELECTRIC TOOLS TO MAKE HOLES IN EXISTING CONCRETE

2" DIA STAINLESS STEEL PIPE RAILINGS & POSTS - TYPICAL



TYP. RAILING DET. (C)
SCALE: 1"=1'-0"



SECTION (A)
SCALE: 3/8"=1'-0"

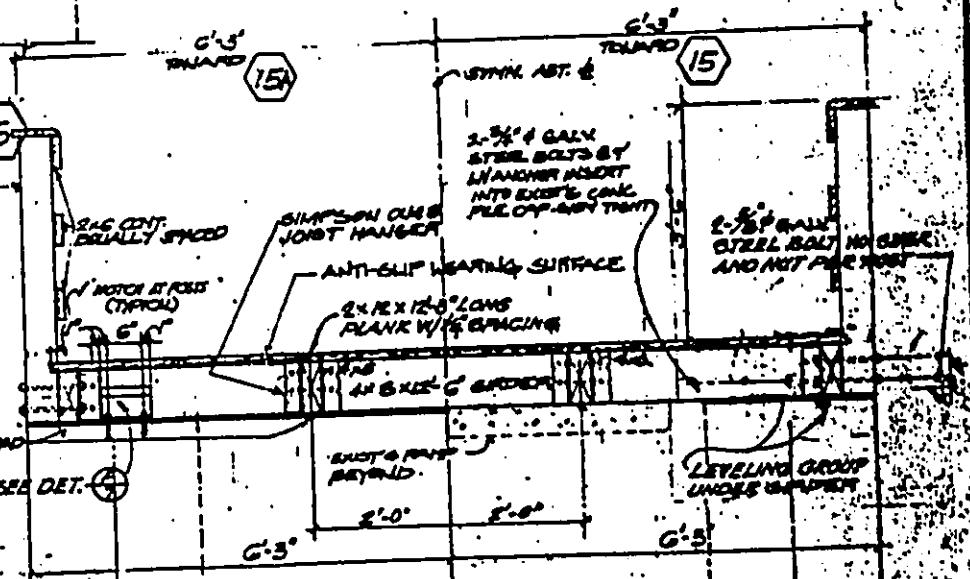
FRICITION PILES AND SHALL BE DRIVEN BELOW THE OCEAN FLOOR.
LOADING FORCE IN PRESTRESSING STEEL SHALL BE 180 KIPS.
NOTE: ALL STRUCTURAL TIMBER SHALL BE S4S, NO. 2 GRADE.
TIMBER SHALL BE TREATED PRIOR TO PAINTING.

STEEL INCL. ALL HARDWARE SHALL BE STAINLESS STEEL.
UNFINISHED STRUCTURAL STEEL PLATES AND BOLTS SHALL BE GALVANNEAL.
ALL CONFORM TO APPLICABLE AISC & AIA.
STAINLESS STEEL & STRUCTURAL STEEL.

DEAD LOAD (PERMANENT)	100 PSF
ROAD (TEMPORARY)	50 PSF
	20 PSF
ZONE I	
VERTICAL LOAD	15 TONS
LOAD	260 PSF

ALL DIMENSIONS AND DIMENSIONS ARE APPROXIMATE ONLY. FIELD INSPECTIONS TO VERIFY DIMENSIONS AND DIMENSIONS.
IT IS WARNED THAT HAULING OF MATERIALS AND TO THE JOB SITE MAY BE LIMITED BY THE POSTED WEIGHTS FOR HANAIEI BRIDGE AND THAT WATER TRANSPORTATION IS REQUIRED. VEHICULAR TRAFFIC IS NOT PERMITTED ON EXISTING RAMP.

CONCRETE
SURFACE THAT WILL HAVE NEW CONCRETE POURED SHALL BE COATED WITH EPOXY BONDING COMPOUND PRIOR TO POURING NEW CONCRETE. EPOXY THAT HAS CURED HARD SHALL BE LIGHT SANDBLASTED, CLEANED, AND A SECOND COAT APPLIED IMMEDIATELY PRIOR TO POURING NEW CONCRETE.

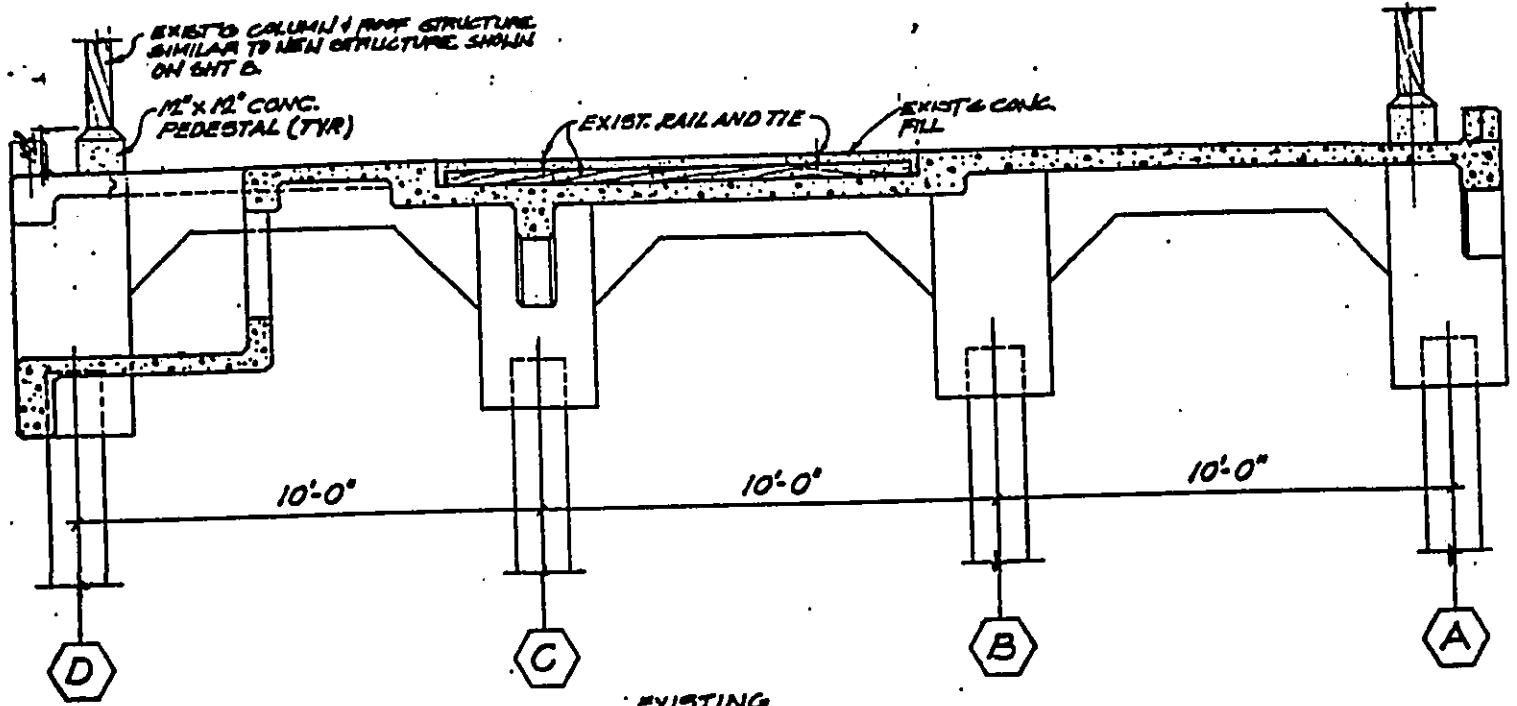


TYP. SECTION (B)
SCALE: 3/8"=1'-0"

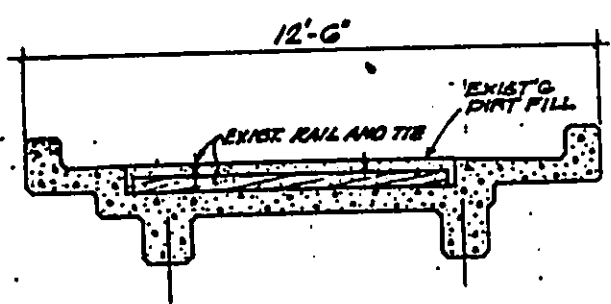


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Harold Takashi Miyamoto

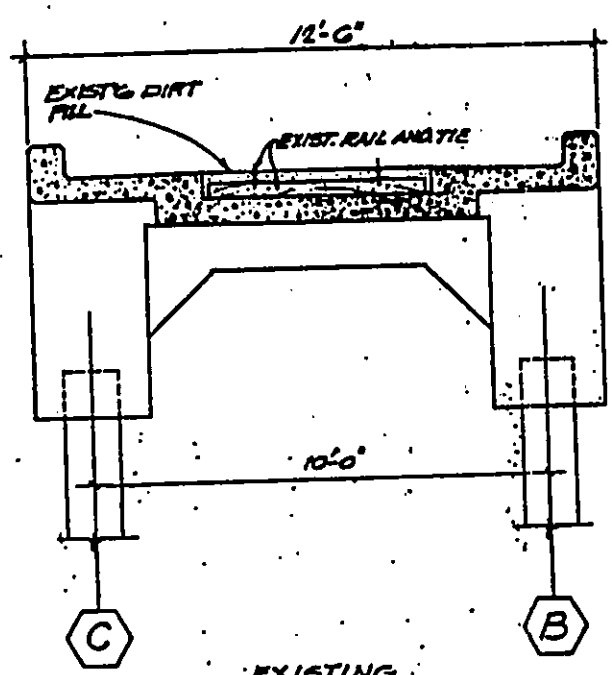
DATE	DESCRIPTION	DATE	BY
	REVISIONS		
STATE OF HAWAII DIVISION OF STATE PARKS, OUTDOOR RECREATION AND HISTORIC PRESERVATION DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIEI PIER SECTIONS, RAILING DET. AND STRUCT. NOTES			
DESIGNED: L.S.	REVIEWED:	DATE:	
DRAWN: RWC	CHECKED:	DATE:	
CHECKED: H.M.	APPROVED:	DATE:	
APPROVED:		DATE:	FILE NO.



EXISTING SECTION A
SCALE: 1/2" = 1'-0" 7



EXISTING SECTION B
SCALE: 1/2" = 1'-0" 7



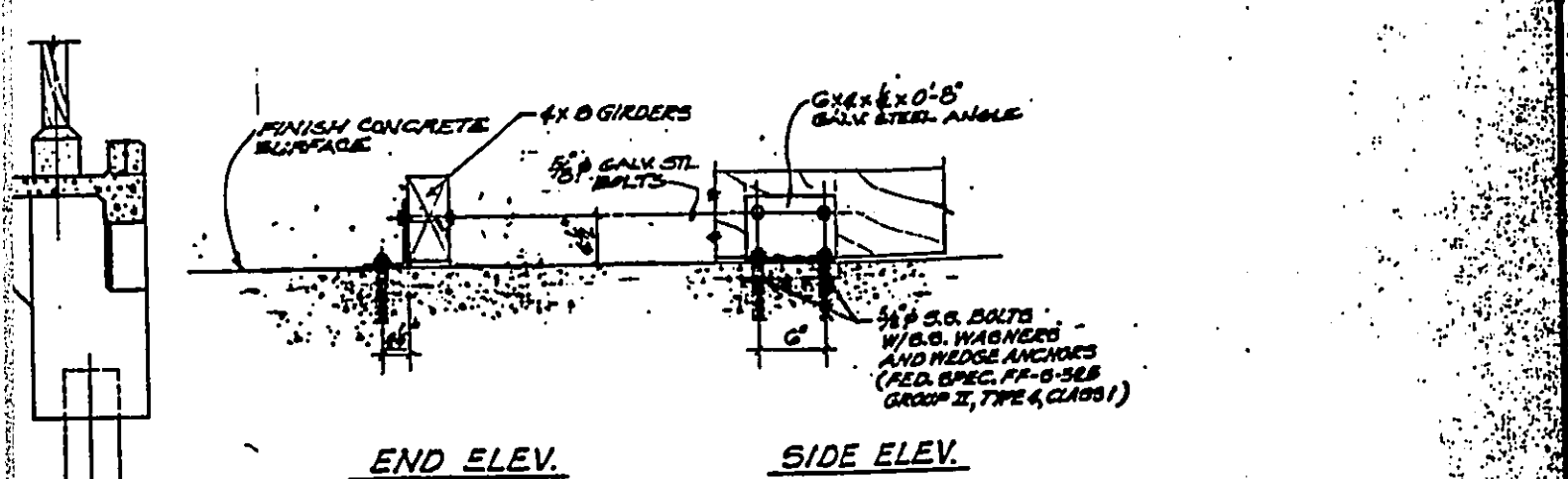
EXISTING SECTION C
SCALE: 1/2" = 1'-0" 7

FINISH SURFACE

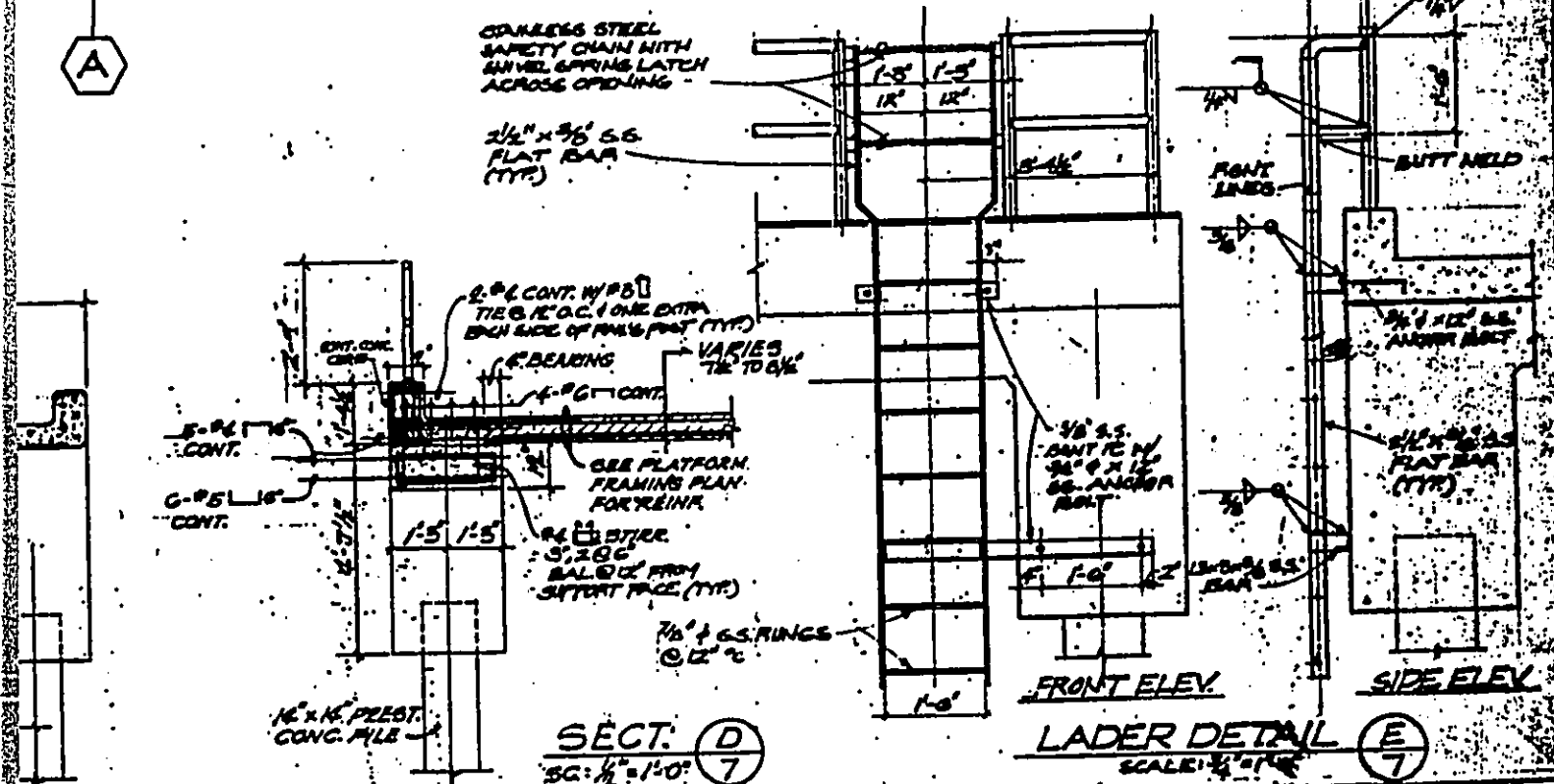
5'-0" 1/2" CONT.

6'-0" 5/16" CONT.

12' x 12' CONG.



ANCHOR DETAIL (F)
SCALE: 1/4" = 1'-0"



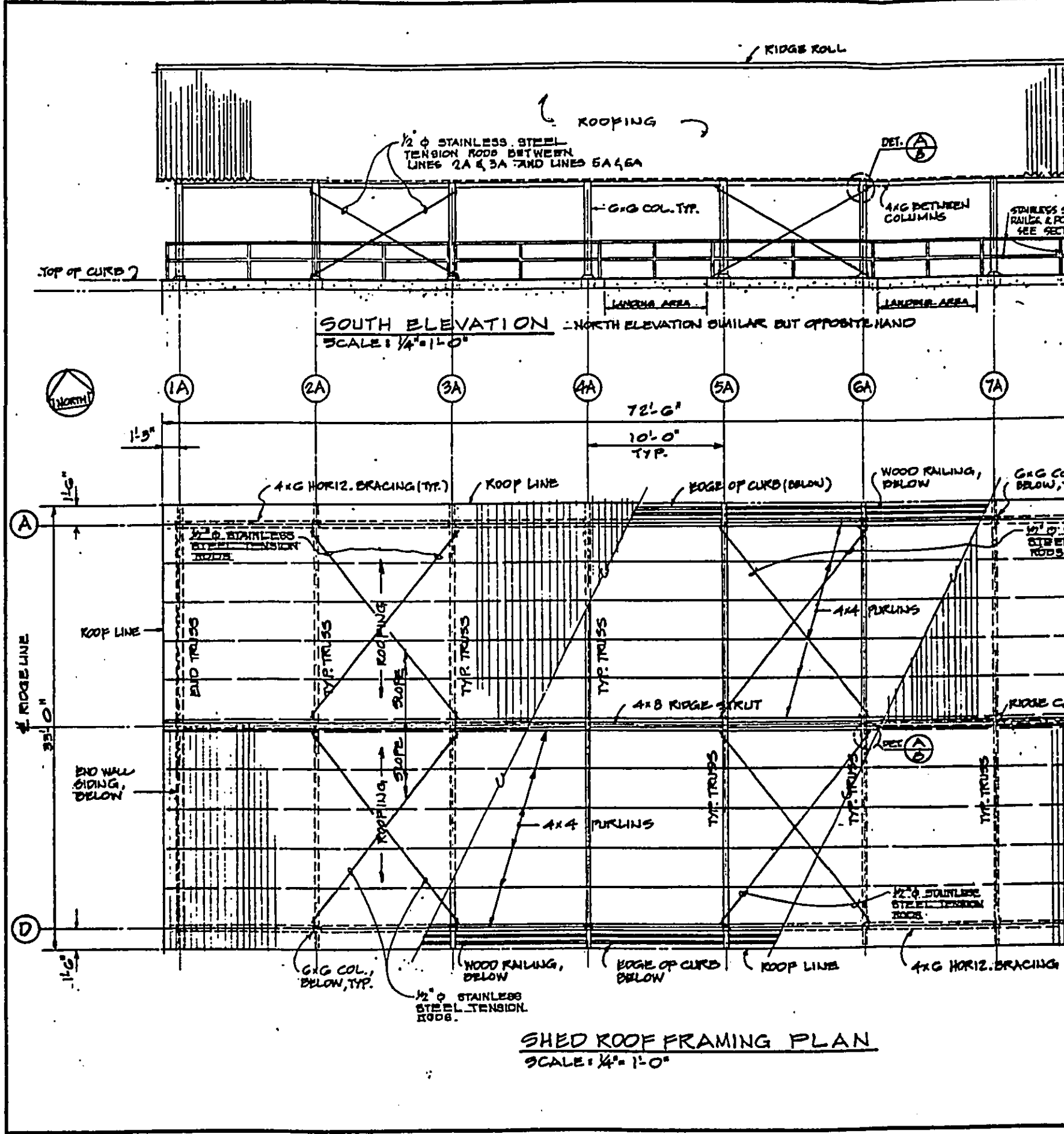
SECT. (D)
SCALE: 1/4" = 1'-0"

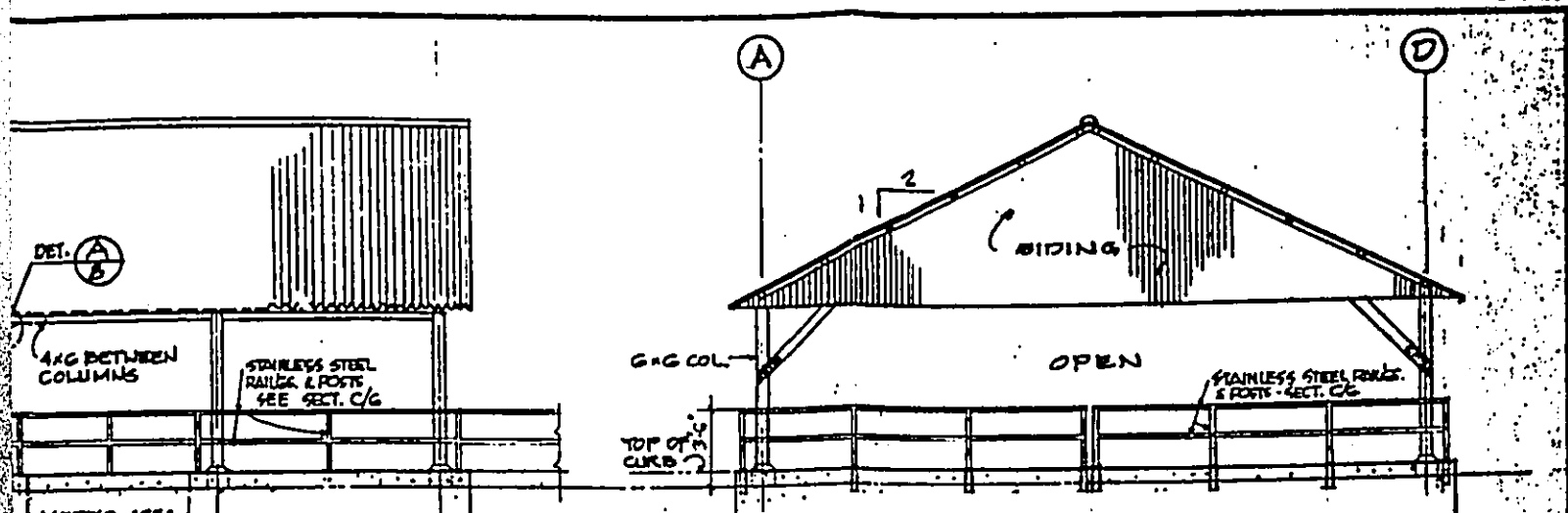
LADDER DETAIL (E)
SCALE: 1/4" = 1'-0"



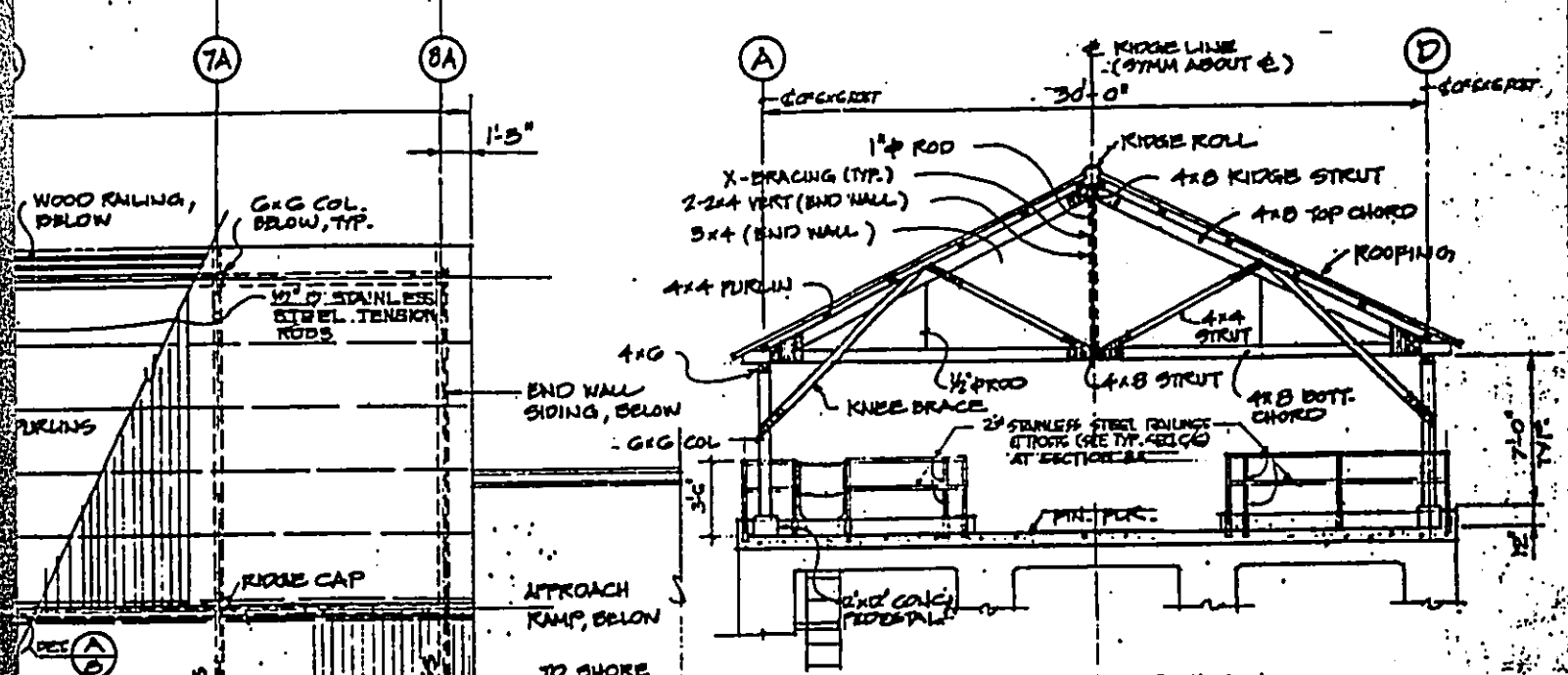
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Harold H. Kawan

DATE	REVISION	BY	APP'D.
	REVISED		
STATE OF HAWAII DIVISION OF PUBLIC WORKS, CONSTRUCTION AND DESIGN BUREAU DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIEI PIER			
SECTIONS AND DETAILS			
DESIGNED BY L.S.	CHECKED BY	DATE	
DRAWN BY RWC	SCALE		
CHECKED BY H.M.	DATE		
APPROVED	DATE		

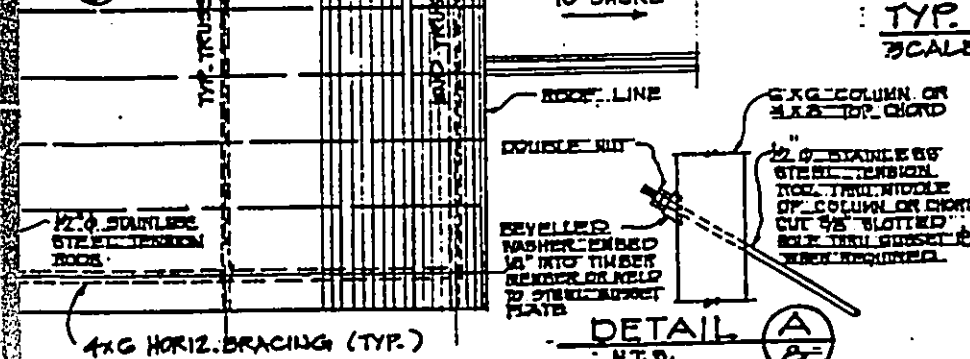




WEST ELEVATION - EAST ELEV. SIMILAR BUT
SCALE 1/4" = 1'-0" OPT. HAND



TYP. SHED SECTION
SCALE 1/4" = 1'-0"

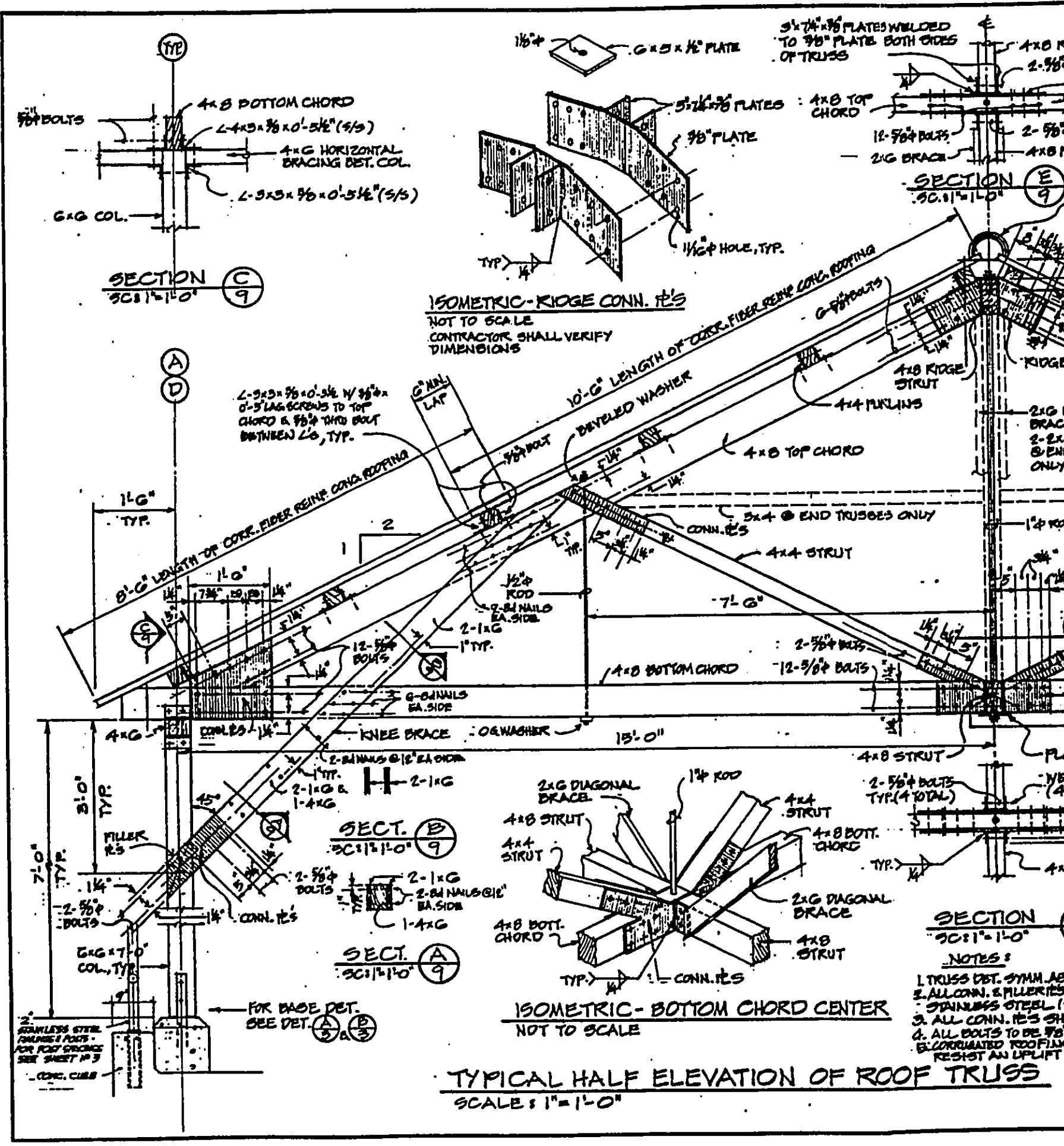


DETAIL A
N.T.S.

REV.	DESCRIPTION	DATE	APP'D.
REVISIONS			
STATE OF HAWAII DIVISION OF STATE PARKS, OUTDOOR RECREATION AND SERVICE BUREAU DEPARTMENT OF LAND AND NATURAL RESOURCES			
RECONSTRUCTION OF HANAIEI FIER			
SHED FRAMING PLAN, ELEVATIONS & TYP. SECTION			
DESIGNED	L.S.	REVIEWED	ARCHITECT
DRAWN	E.W.	DATE	PROJECT NUMBER
CHECKED	H.M.	DATE	PROJECT NUMBER
APPROVED		DATE	PROJECT NUMBER



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Harold Takashi Nakagawa



SECTION C
SC: 1/2" = 1'-0"

ISOMETRIC - RIDGE CONN. DET.
NOT TO SCALE
CONTRACTOR SHALL VERIFY DIMENSIONS

SECT. B
SC: 1/2" = 1'-0"

SECT. A
SC: 1/2" = 1'-0"

SECTION E
SC: 1/2" = 1'-0"

ISOMETRIC - BOTTOM CHORD CENTER
NOT TO SCALE

TYPICAL HALF ELEVATION OF ROOF TRUSS
SCALE: 1" = 1'-0"

- NOTES:
1. TRUSS DET. SYMM. ABOUT CENTERLINE
 2. ALL CONN. & MILLERIES TO BE STAINLESS STEEL (10)
 3. ALL CONN. DET'S SHALL BE STAINLESS STEEL
 4. ALL BOLTS TO BE 3/4" CORRUGATED ROOFING RESIST AN UPLIFT

