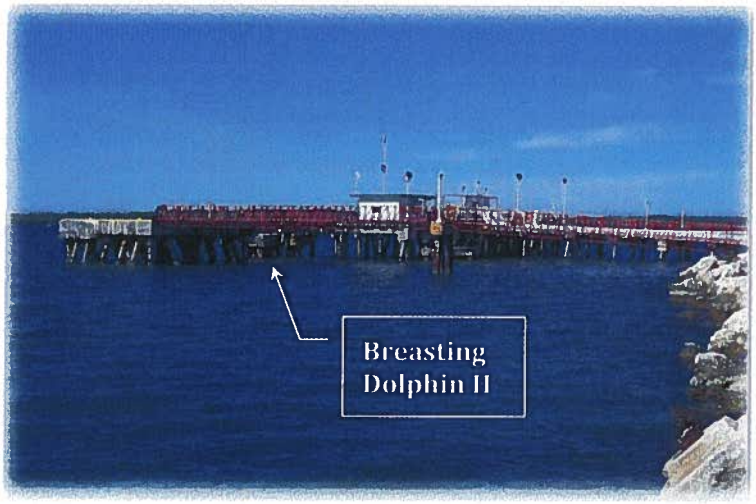
GUAM COASTAL MANAGEMENT PROGRAM

FEDERAL CONSISTENCY FORM APPLICATION:

Port Authority of Guam F-1 Fuel Pier Facility

Minor Damage Repairs at Breasting Dolphin H

Cabras Island, Piti



Prepared for

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Sta. Rita Industrial Drive
PO Box 8210,
Agat, Guam 96928

Prepared by

Dueñas, Camacho, & Associates Inc.
238 E. Marine Corps Drive, Ste. 201
Hagåtña, Guam 96910

MAY 2018

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APPENDICES

EXHIBITS

Tristar Terminals Guam, Inc.
P.O. Box 8210, Agat, Guam 96928
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Tel. +1 671.565.2300
Fax +1 671.565.3909
www.agilitylogistics.com/www.tristar-transport.com

May 24, 2018

Mr. Carl Dominguez
Director
Bureau of Statistics and Plans
P.O. Box 2950
Hagatna, Guam 96932

Subject: **CZMA Federal Consistency Certification Application for Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Guam** ***[Dept. of the Army Ref. No. POH-2018-112].***

Dear Mr. Dominguez:

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the F-1 Fuel Pier at the Port Authority of Guam (PAG) on Cabras Island in Piti, Guam. For this activity, Tristar is seeking a Department of the Army permit for work over (but not in) waters of the United States, and is providing its Coastal Zone Management Act (CZMA) Consistency Certification to the Bureau of Statistics and Plans, in accordance with the Guam Coastal Management Act of 1972 (P.L. 92-583). The purpose of the project is to repair minor structural damage, such as spalled and cracked concrete, on the existing breasting dolphin that Tristar currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

During a July 2017 vessel berthing incident, the surface and sub-surface areas of Breasting Dolphin H and supporting piles were damaged. On behalf of Tristar, Duenas, Camacho & Associates, Inc. (DCA) performed a surface and sub-surface inspection of the fuel pier in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face of the dolphin. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles. The Rubber Fender System appears to not have been damaged by the vessel contact; the rubber brace was found to be sheared off of the plate bolted to the breasting dolphin.

Based on DCA's inspection of the dolphin, the following surface repairs would be performed.

- The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust.
- The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications.

- If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.
- All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will be made to the supporting sub-surface piles or the Rubber Fender System, and no repairs will occur in waters of the U.S.

The Environmental Protection Plan (EPP) developed for the project describes the measures that would be implemented prior to construction activities to control debris from entering the water body at the site. Other measures include monitoring for marine and migratory species. No in-water work is planned for this project; however, there would be work directly under the pier that may require a fixed or floating work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific Best Management Practices (BMPs) that are ultimately installed will be the Contractor's prerogative as long as they achieve the compliance with the permit conditions. All work would be carried out in the daytime.

We certify that the proposed activity complies with the enforceable policies of Guam's approved coastal management program and will be conducted in a manner consistent with such program. A consistency assessment package is enclosed that discusses each of the 16 enforceable policies with findings that the proposed action and its effects are consistent with these policies. Please contact me at (671) 565-2300 or Jessica Gross of Duenas, Camacho & Associates, Inc. at (671) 477-7991 if you need additional information.

Sincerely,

K.K. Vikraman 5/24/2016
General Manager
Tristar Terminals Guam, Inc.

Enclosure: GCMP Federal Consistency Assessment Package.

GUAM COASTAL MANAGEMENT PROGRAM
ASSESSMENT FORMAT

DATE OF APPLICATION: May 2018
NAME OF APPLICANT: Tristar Terminals Guam, Inc.
CONTACT PERSON: K.K. Vikraman, General Manager
ADDRESS: Agat Terminal Route 2A, Sta. Rita Industrial Drive
PO Box 8210, Agat, Guam 96928
TELEPHONE NUMBER: (671) + 565-2300 **CELL NO:**
E-MAIL ADDRESS: vikraman@tristar-guam.com
FAX NUMBER: (671) 565-3909
TITLE OF PROPOSED PROJECT: Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H Cabras Island, Piti (Project Number POH-2018-112)

COMPLETE THE FOLLOWING PAGES

FOR BUREAU OF STATISTICS & PLANS ONLY

DATE APPLICATION RECEIVED: _____

ORCM NOTIFIED: _____ **LIC. AGENCY NOTIFIED:** _____

APPLICANT NOTIFIED: _____ **PUBLIC NOTICE GIVEN:** _____

PROJECT LOCATION: _____

OTHER AGENCY REVIEW REQUESTED: _____

DETERMINATION:

( ) CONSISTENT ( ) NON-CONSISTENT ( ) FURTHER INFORMATION REQUESTED

ORCM NOTIFIED: _____ **LIC. AGENCY NOTIFIED:** _____

APPLICANT NOTIFIED: _____

ACTION LOG:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

DATE REVIEW COMPLETED: _____

FEDERAL CONSISTENCY
SUPPLEMENTAL INFORMATION FORM

DATE: May 2018

PROJECT TITLE/DESCRIPTION: Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H Cabras Island, Piti

LOCATION: Along the F-1 Fuel Pier Facility at the Port Authority of Guam Commercial Port in Cabras Island, Piti, Guam

OTHER APPLICABLE AREA(S) AFFECTED, IF APPROPRIATE: Apra Harbor

EST. START DATE: 2018 **EST. DURATION:** 30 days

TELEPHONE NUMBER: 671-565-2300 **CONTACT:** K.K. Vikraman

APPLICANT

NAME & TITLE K.K. Vikraman, General Manager

AGENCY/ORGANIZATION Tristar Terminals Guam, Inc.

ADDRESS Agat Terminal, Route 2A, Sta. Rita Industrial Drive, P.O. Box 8210

Agat, Guam **ZIP** 96928

TELEPHONE DURING BUSINESS HOURS

A/C ( ) (671) + 565-2300

A/C ( )

AGENT

NAME & TITLE Jessica Gross, Environmental Services Division

AGENCY/ORGANIZATION Duenas, Camacho & Associates, Inc.

ADDRESS 238 East Marine Corps Drive, Suite 201

Hagatna, Guam **ZIP** 96910

TELEPHONE DURING BUSINESS HOURS

A/C ( ) (671) 477-7991

FAX (671) 479-6315

E-MAIL ADDRESS jlgross@dcaguam.com

CATEGORY OF APPLICATION (check one only):

( ) **I. Federal Activity**

(√) **II. Permit or License**

( ) **III. Grants & Assistance**

TYPE OF STATEMENT (check one only):

(√) **Consistency**

( ) **General Consistency (Category I only)**

( ) **Negative Determination (Category I only)**

( ) **Non-consistency (Category I only)**

APPROVING FEDERAL AGENCY (Categories II and III only):

AGENCY U.S. Army Corps of Engineers

CONTACT PERSON Ms. Karen Urelius

TELEPHONE DURING BUSINESS HOURS

A/C ( ) 671-339-2108

A/C ( ) _____

FEDERAL AUTHORITY FOR ACTIVITY

TITLE OF LAW Rivers and Harbors Act of 1889

SECTION Section 10

OTHER TERRITORIAL APPROVALS REQUIRED

Agency	Type Of Approval	Date Of Application	Status
Guam Environmental Protection Agency	401 Water Quality Certification	May 2018	Pending
U.S. Army Corps of Engineers	Department of the Army Permit	May 2018	Pending

PROJECT DESCRIPTION

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the Port Authority of Guam (PAG) F-1 Fuel Pier Facility in Cabras Island, Piti. The Port is located off of Route 11 in Apra Harbor on the western coast of Guam (Appendix A, Site Location and Vicinity Maps). The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing Breasting Dolphin H that Tristar Terminals Guam, Inc. (Tristar) currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

Background/History

During a July 2017 vessel berthing incident, the surface and sub-surface areas of the breasting dolphin and supporting piles at F-1 Fuel Pier were damaged. On behalf of Tristar, Duenas, Camacho & Associates, Inc. (DCA) performed a surface and sub-surface inspection of the breasting dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles.

Proposed Action

Based on the surface and sub-surface inspections, Tristar proposes the following repairs to the surface areas of the breasting dolphin. No repairs will occur on the sub-surface support piles or the Rubber Fender System; there will be no repairs in waters of the U.S.

Concrete spalls. The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust. The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

Concrete cracks. All cracks in the areas resulting from the berthing vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No in-water work is planned for this project; all work would be over the water. There would be work directly under the dolphin that may require either a floating or fixed work platform. The

Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific means and methods will be the Contractor's prerogative as long as they meet the permit conditions. All work would be carried out above-water and during daytime hours; no night work is proposed.

GUAM COASTAL MANAGEMENT PROGRAM ASSESSMENT FORMAT

DEVELOPMENT POLICIES

1. Shore Area Development

Intent: To ensure environmental and aesthetic compatibility of shore area land uses.

Policy: Only those uses shall be located within the Seashore Reserve which:
- --- enhance, are compatible with or do not generally detract from the surrounding coastal area's aesthetic and environmental quality and beach accessibility; or
- --- can demonstrate dependence on such a location and the lack of feasible alternative sites.

Discussion: Consistent. Breasting Dolphin H is an existing use within Cabras Island, which is exempt from the Guam Territorial Seashore Protection Act of 1974, due to its construction along the shoreline prior to the effective date of the Seashore Act. Therefore, the proposed action would not require a Seashore Clearance Permit. There will be no new development or construction of permanent structures in navigable waters. The project area will be restored after the repairs are completed.

2. Urban Development

Intent: To cluster high impact uses such that coherent community design, function, infrastructure support and environmental compatibility are assured.

Policy: Commercial, multi-family, industrial and resort-hotel zone uses and uses requiring high levels of support facilities shall be concentrated within urban districts as outlined on the Land Use Districting Map.

Discussion: Not applicable.

3. Rural Development

Intent: To provide a development pattern compatible with environmental and infrastructure support suitability and which can permit traditional lifestyle patterns to continue to the extent practicable.

Policy: Rural districts shall be designated in which only low-density residential and agricultural uses will be acceptable. Minimum lot size for these uses should be one-half acre until adequate infrastructure including functional sewer lines are provided.

Discussion: Not applicable.

4. Major Facility Siting

Intent: To include the national interest in analyzing the siting proposals for major utilities, fuel and transport facilities.

Policy: In evaluating the consistency of proposed major facilities with the goals, policies, and standards of the Comprehensive Development and Coastal Management Plans, the Territory shall recognize the national interest in the siting of such facilities including those associated with electric power production and transmission, petroleum refining and transmission, port and air installations, solid waste disposal, sewage treatment, and major reservoir sites.

Discussion: Not applicable. Breasting Dolphin H is part of an existing fuel pier that has been in use since 1941. The proposed action is not a new major facility siting but only involves minor above-water repairs to a component of an existing facility.

5. Hazardous Areas

Intent: Development in hazardous areas will be governed by the degree of hazard and the land use regulations.

Policy: Identified hazardous lands, including floodplains, erosion-prone areas, air installations, crash and sound zones and major fault lines shall be developed only to the extent that such development does not pose unreasonable risks to the health, safety or welfare of the people of Guam, and complies with the land use regulations.

Discussion: Consistent. Breasting Dolphin H is not considered as hazardous land in terms of air installations, crash and sound zones, and major fault lines.

Floodplains

Executive Order 11988 (Floodplain Management) requires all federal agencies to evaluate the likely effects of their actions located in floodplains. Federal agencies shall reduce the risk of flood loss, minimize the impact of floods on human safety, health and welfare, and restore and preserve the natural and beneficial values served by floodplains in carrying out its responsibilities, including providing federally undertaken, financed, or assisted construction and improvements.

The Federal Emergency Management Agency (FEMA) Flood Rate Insurance Maps designates the project site in Apra Harbor as Flood Zone A. Zone A encompasses those

areas for which no base flood elevation has been determined. The sites lie in areas susceptible to the 1% annual flood, meaning that for any given year, there is a 1 in 100 chance for the area to experience the effects of a 100-year flood (FEMA, 2007).

The floodway is the area that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights. The coastal area off Apra Harbor encompassing the surface repair site is located within Zone A, which designates areas with a 1% chance of flooding. Pursuant to 23 CFR Section 650.111(e), the project was evaluated relative to the risks associated with implementation, impacts on natural and beneficial floodplain values, support of probable incompatible floodplain development, measures to minimize floodplain impacts associated with the action, and measures to restore and preserve the natural and beneficial floodplain values impacted by the action.

Since this is a repair of an existing structure, and all repairs are above-water, the work will not have an adverse impact on the floodway or floodplain. The proposed action, therefore, would not result in a significant encroachment.

6. Housing

Intent: To promote efficient community design placed where the resources can support it.

Policy: The government shall encourage efficient design of residential areas, restrict such development in areas highly susceptible to natural and man-made hazards, and recognize the limitations of the island's resources to support historical patterns of residential development.

Discussion: Not applicable.

7. Transportation

Intent: To provide transportation systems while protecting potentially impacted resources.

Policy: The Territory shall develop an efficient and safe transportation system while limiting adverse environmental impacts on primary aquifers, beaches, estuaries and other coastal resources.

Discussion: Not applicable.

8. Erosion and Siltation

Intent: To control development where erosion and siltation damage is likely to occur.

Policy: Development shall be limited in areas of 15% or greater slope by requiring strict compliance with erosion, sedimentation, and land use districting guidelines, as well as

other related land use standards for such areas.

Discussion: Not applicable. Erosion and siltation are potential concerns during most construction activities on Guam. Because there is no soil at the project site, there is no risk of erosion. The entire project site is paved with concrete and located over the water.

RESOURCE POLICIES

1. Air Quality

Intent: To control activities to insure good air quality.

Policy: All activities and uses shall comply with all local air pollution regulations and all appropriate Federal air quality standards in order to ensure the maintenance of Guam's relatively high air quality.

Discussion: Consistent. Breasting Dolphin H is located in Piti within a 3.5 km radius of the Piti Power Plant, which is a non-attainment area for sulfur dioxide under the National Ambient Air Quality Standards (NAAQS). None of the proposed repair construction activities are expected to contribute sulfur dioxide to the environment.

The Contractor will be required to operate and maintain construction vehicles per the applicable regulations governing air pollutant emissions. All vehicles used in construction shall have properly functioning and maintained air emission controls.

2. Water Quality

Intent: To control activities that may degrade Guam's drinking, recreational, and ecologically sensitive waters.

Policy: Safe drinking water shall be assured and aquatic recreation sites shall be protected through the regulation of uses and discharges that pose a pollution threat to Guam's waters, particularly in estuarine, reef and aquifer areas.

Discussion: Consistent. Breasting Dolphin H is not located over an aquifer recharge area. The water at Apra Harbor is classified by Guam EPA as "M3" (Fair) marine waters (Guam EPA, 2001). This category is intended for general, commercial, and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. During their September 2017 field inspection for the sub-surface assessment of the breasting dolphin, the team of DCA biologists observed an extremely high level of turbidity in the water, which limited the water visibility to one to three meters. Apra Harbor is on the list of Guam 303(d) Impaired Waters for Reporting Year 2016 issued by Guam EPA. The selected Contractor for the above-water construction activity will be responsible for implementing adequate BMPs to protect the marine channel, such as installing tarpaulin or sheeting below the breasting dolphin to capture any concrete debris during the above-water repairs. Visual water quality monitoring will be implemented during construction to ensure that any issues (such as

debris) are detected and addressed immediately.

3. Fragile Areas

Intent: To protect significant cultural areas, and natural marine and terrestrial wildlife and plant habitats.

Policy: Development in the following types of fragile areas shall be regulated to protect their unique character.

- --- historical and archaeological sites
- --- wildlife habitats
- --- pristine marine and terrestrial communities
- --- limestone forests
- --- mangrove stands and other wetlands

Discussion: Consistent.

Historic and archaeological sites. There would be no adverse effect on historic or archaeological sites, since the construction and repair work will be limited to the existing Breasting Dolphin H. This structure was installed in the early 1940's and repairs have occurred in the past, therefore it is unlikely that historic or cultural resources will be affected.

Wildlife Habitat. No avian fauna was detected during incidental sightings by DCA biologists in the vicinity of the project site. Due to Breasting Dolphin H being consistently used, there is only a low possibility of native or migratory birds utilizing the project site.

4. Living Marine Resources

Intent: To protect marine resources in Guam's waters.

Policy: All living resources within the territorial waters of Guam, particularly corals and fish, shall be protected from overharvesting and, in the case of marine mammals, from any taking whatsoever.

Discussion: Consistent. No in-water work will be required for this project. During the September 2017 site inspection by DCA biologists, the marine community at the project site consisted of a few single corals growing on the piles, such as cauliflower coral (*Pocillopora damicornis*), interspersed with sponges and a low density of small fish. The environment in the direct vicinity of F-1 Fuel Pier was highly disturbed and mostly depauperate of marine life.

The threatened green (*Chelonia mydas*) and endangered hawksbill (*Eretmochelys imbricata*) sea turtles are the only species listed under the Endangered Species Act (ESA) that may potentially occur in the vicinity of the project site. Because the project site is

located within Apra Harbor, it is unlikely for any marine mammals or pelagic turtles to be affected by the above-water repair work. In 2014, NOAA listed 22 coral species as threatened under the ESA of 1973, of which three species occur in Guam waters, i.e., *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*. These species were not observed within the project site, based on sub-surface inspections conducted by DCA biologists in September 2017.

5. Visual Quality

Intent: To protect the quality of Guam's natural scenic beauty.

Policy: Preservation and enhancement of, and respect for the island's scenic resources shall be encouraged through increased enforcement of and compliance with sign, litter, zoning, subdivision, building and related land-use laws. Visually objectionable uses shall be located to the maximum extent practicable so as not to degrade significant views from scenic overlooks, highways and trails.

Discussion: Consistent. Breasting Dolphin H does not provide a significant view corridor or vista. The project repairs would not permanently obstruct or degrade natural scenic views, since they are only repairs to the surface area of the dolphin.

6. Recreational Areas

Intent: To encourage environmentally compatible development.

Policy: The Government of Guam shall encourage development of varied types of recreational facilities located and maintained so as to be compatible with the surrounding environment and land uses, adequately serve community centers and urban areas and protect beaches and such passive recreational areas as wildlife and marine conservation areas, scenic overlooks, parks and historical sites.

Discussion: Consistent. The proposed breasting dolphin repairs would not permanently change or restrict public access to potential nearby recreational areas in Apra Harbor or elsewhere.

7. Public Access

Intent: To ensure the right of public access.

Policy: The public's right of unrestricted access shall be ensured to all non-federally owned beach areas and all territorial recreation areas, parks, scenic overlooks, designated conservation areas and their public lands; and agreements shall be encouraged with the owners of private and federal property for the provision of releasable access to and use of resources of public nature located on such land.

Discussion: Consistent. The proposed breasting dolphin improvements would not change or restrict

public access to the nearby coastal areas of Sasa Bay or Apra Harbor. There is currently no public access to the project site at F-1 Fuel Pier, as it is a restricted area of the Port.

8. Agricultural Lands

Intent: To stop urban types of development on agricultural land.

Policy: Critical agricultural land shall be preserved and maintained for agricultural use.

Discussion: Not applicable.

REFERENCES CITED

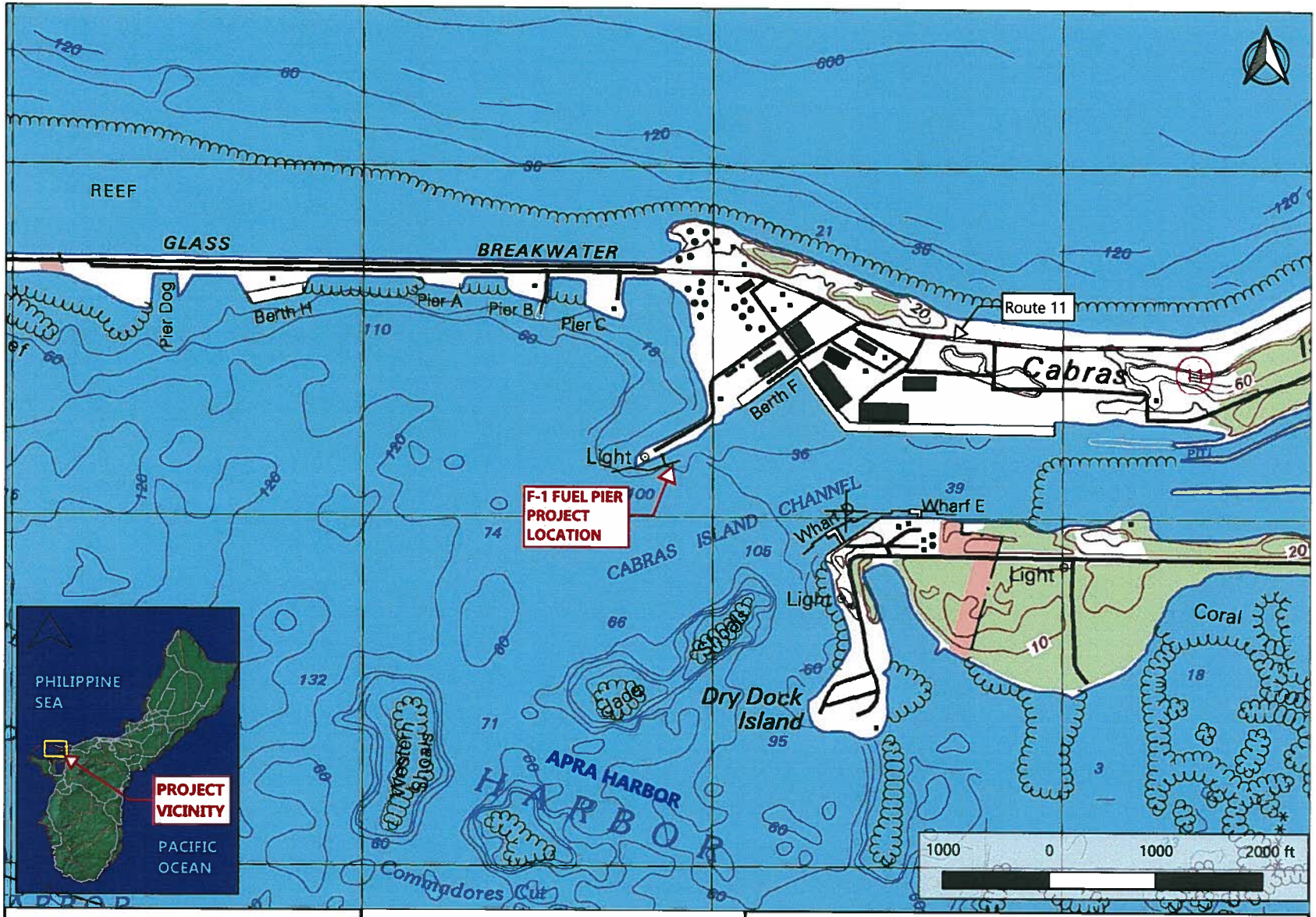
Federal Emergency Management Agency (FEMA). 2007. Flood Insurance Rate Maps. Panel 0181D (Map Revised September 28, 2007).

Guam Environmental Protection Agency (GEPA). 2002. Guam Water Quality Standards, 2001 Revision. 60 pp. + Appendix A-H.

National Oceanic and Atmospheric Administration. 2009. Coral Reef Habitat Assessment for the U.S. Marine Protected Areas: U.S. Territory of Guam. 7

APPENDIX A

Site Location and Vicinity Maps



SITE LOCATION MAP (2000 USGS APRA HARBOR 7.5'' QUADRANGLE)

Datum: MSL
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 1 of 2
May, 2018

DCA DUEÑAS · CAMACHO

Note: Tide lines derived from Satellite Image and 2012 NOAA Lidar product. Lidar based on GUVD04 was subtracted to the MLLW datum.
Benthic Habitat: 2007 Guam Coastal Atlas Benthic Habitat Data, David R. Burdick

SATELLITE IMAGERY (2016 DIGITALGLOBE)

Datum: MLLW
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112
Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 2 of 2
May, 2018

DCA DUENAS · CAMACHO

EXHIBIT A

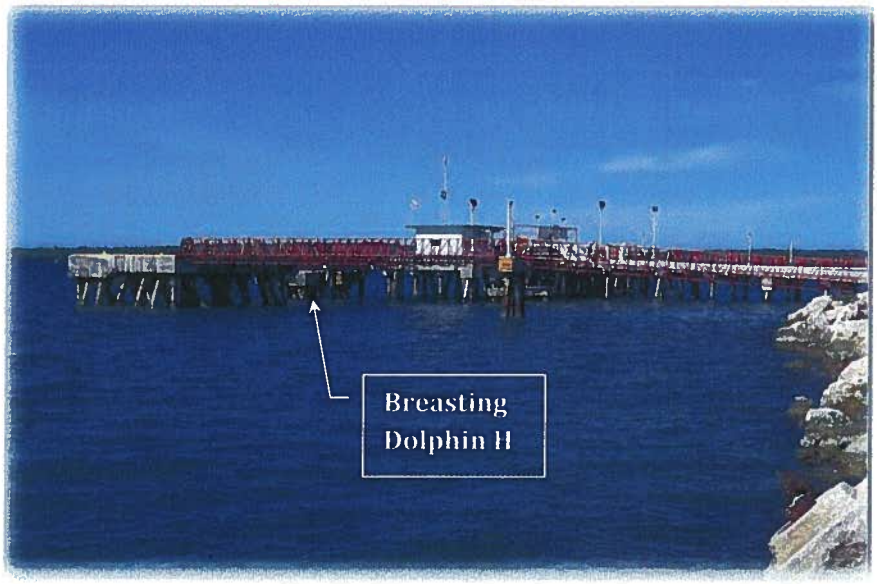
Department of the Army Permit Application

DEPARTMENT OF THE ARMY PERMIT APPLICATION:

Port Authority of Guam F-1 Fuel Pier Facility

Minor Damage Repairs at Breasting Dolphin H

Cabras Island, Piti



Prepared for

Tristar Terminals Guam, Inc.
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May 2018

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May 24, 2018

Ms. Karen Urelius
Department of the Army
U.S. Army Corps of Engineers, Honolulu District
Guam Field Office
PSC 455, Box 188, FPO AP 96540

Subject: **Guam Department of the Army Permit Application for Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti, Guam** ***[Dept. of the Army Ref. No. POH-2018-112].***

Dear Ms. Urelius:

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the F-1 Fuel Pier at the Port Authority of Guam (PAG) on Cabras Island in Piti, Guam. The purpose of the project is to repair minor structural damage, such as spalled and cracked concrete, on the existing breasting dolphin that Tristar currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

During a July 2017 vessel berthing incident, the surface and subsurface areas of Breasting Dolphin H and supporting piles were damaged. On behalf of Tristar, Duenas, Camacho & Associates, Inc. (DCA) performed a surface and sub-surface inspection of the breasting dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles. The Rubber Fender System appears to not have been damaged by the vessel contact; the rubber brace was found to be sheared off of the plate bolted to the breasting dolphin.

Based on DCA's inspection of the dolphin, the following surface repairs would be performed.

- The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust.
- The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications.

- If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.
- All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will be made to the supporting sub-surface piles or the Rubber Fender System, and no repairs will occur in waters of the U.S.

The Environmental Protection Plan (EPP) developed for the project describes the measures that would be implemented prior to construction activities to control debris from entering the water body at the site. Other measures include monitoring for marine and migratory species. No in-water work is planned for this project; however, there would be work directly under the pier that may require a fixed or floating work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific Best Management Practices (BMPs) that are ultimately installed will be the Contractor's prerogative as long they achieve compliance with permit conditions. All work would be carried out in the daytime.

Please find the enclosed Department of the Army Permit application package for Nationwide Permit 3 (Maintenance). The package contains the NWP application, Pre-Construction Notification (PCN) form, DCA structural inspection report, EPP, and design plans for the repairs. A 401 Water Quality Certification (WQC) application and Federal Consistency assessment have been filed with Guam Environmental Protection Agency (Guam EPA) and Bureau of Statistics and Plans Guam Coastal Management Program (GCMP), respectively. These application packages are also enclosed for your reference.

Please contact me at (671) 565-2300 or Jessica Gross of Duenas, Camacho & Associates, Inc. at (671) 477-7991 if you need additional information.

Sincerely,

K.K. Vikraman
General Manager
Tristar Terminals Guam, Inc.

Enclosure: Department of the Army Permit Application Package.

U.S. Army Corps of Engineers (USACE)

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT

33 CFR 325. The proponent agency is CECW-CO-R.

Form Approved - OMB No. 0710-0003 Expires: 01-08-2018

The public reporting burden for this collection of information, OMB Control Number 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned. System of Record Notice (SORN). The information received is entered into our permit tracking database and a SORN has been completed (SORN #A1145b) and may be accessed at the following website: http://dpcld.defense.gov/Privacy/SORNsIndex/DOD-wide-SORN-Article-View/Article/570115/a1145b-ce.aspx

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
POH-2018-112			

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required)
First - K.K. Middle - Last - Vikraman	First - Jessica Middle - Last - Gross
Company - Tristar Terminals Guam, Inc.	Company - Duenas, Camacho & Associates, Inc. (DCA)
E-mail Address - vikraman@tristar-guam.com	E-mail Address - jlgross@dcaguam.com
6. APPLICANT'S ADDRESS:	9. AGENT'S ADDRESS:
Address- Agat Terminal, Rte 2A, Sta. Rita Industrial Dr., POBox 8210	Address- 238 E. Marine Corps Dr., Suite 201
City - Santa Rita State - Guam Zip - 96928 Country - USA	City - Hagatna State - Guam Zip - 96910 Country - USA
7. APPLICANT'S PHONE NOs. w/AREA CODE	10. AGENTS PHONE NOs. w/AREA CODE
a. Residence b. Business (671)-565-2300 c. Fax	a. Residence b. Business (671)-477-7991 c. Fax

STATEMENT OF AUTHORIZATION

11. I hereby authorize, Duenas, Camacho & Associates to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

SIGNATURE OF APPLICANT — DATE 5/25/2018

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions)

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

13. NAME OF WATERBODY, IF KNOWN (if applicable)	14. PROJECT STREET ADDRESS (if applicable)
Apra Harbor	Address
15. LOCATION OF PROJECT	City - State- Zip-
Latitude: •N 13°27'34.21" Longitude: •W 144°39'43.39"E	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions)

State Tax Parcel ID Municipality

Section - Township - Range -

17. DIRECTIONS TO THE SITE

While taking Marine Corps Drive (Route 1) south, turn right onto Route 11 and pass the Cabras and Piti Power Plants. Continue along Route 11 for approximately 1.7 miles and turn left into the restricted access at Jose D. Leon Guerrero Commercial Port (Apra Harbor). Continue straight for approximately another 0.4 miles to access F-1 Fuel Pier Facility.

18. Nature of Activity (Description of project, include all features)

During a July 2017 vessel berthing incident at F-1 Fuel Pier, the surface and sub-surface areas of breasting Dolphin H and supporting piles were damaged. Based on a surface and sub-surface inspection in September 2017, Tristar proposes the following repairs to the surface areas of the dolphin. No repairs will occur in waters of the U.S.

All loose concrete shall be removed from the concrete spalled areas and the surfaces cleaned from all dirt and dust. The cleaned areas would be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing Breasting Dolphin H that is located along the F-1 Fuel Pier at the Port of Guam. Tristar currently uses this pier for docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

N/A. No discharge is proposed in waters of the U.S.

21. Type(s) of Material Being Discharged and the Amount of Each Type In Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
N/A		

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres N/A (no work in waters of the U.S.)

or

Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

In-water work will be avoided. The Contractor may use either a fixed or floating platform to conduct the repairs. No other alternative methods were suggested for this repair work, as the type of damage observed can only be repaired in the described manner. Best management practices would be required to be implemented by the Contractor during demolition and construction activities. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water. The Contractor would monitor prior to construction activities to detect the presence of any listed threatened or endangered species.

24. Is Any Portion of the Work Already Complete? ☐ Yes ☒ No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list)

a. Address- Port Authority of Guam, Jose D. Leon Guerrero Commercial Port, 1026 Cabras Highway, Suite 201

City - Piti State - Guam Zip - 96915

b. Address-

City - State - Zip -

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-

City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
Guam EPA	401 WQC		May 2018		
Bur. of Stats. & Plans	CZM Fed. Consist.		May 2018		

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
	5/25/2018		

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

Honolulu District
U.S. Army Corps of Engineers

Nationwide Permit Pre-Construction Notification (PCN)

This PCN template integrates requirements of the U.S. Army Corps of Engineers (Corps) Nationwide Permit (NWP) Program with the Honolulu District (POH) NWP Regional Conditions. Boxes 1-10 should be completed to include all information required by NWP General Condition 32. Boxes 11 and 12 (or other sufficient information to show compliance with all NWP General and POH Regional Conditions) is also recommended to be completed for proposed activities seeking verification under the NWP Program. If additional space is needed, please provide as a separate attachment. Please refer to the *Instructions for the Honolulu District Nationwide Permit Pre-Construction Notification (PCN)* (Instructions) for instructions on completing the PCN.

To be completed by the Corps – do not fill-in

Application Number:	Date Received:	Date Complete:

1. Prospective Permittee and Agent Contact Information (see Instructions)

a. Prospective Permittee

First - K.K. Middle - _____ Last - Vikraman

Company - Tristar Terminals Guam, Inc. Email Address - vikraman@tristar-guam.com

Address - Agat Terminal, Rte 2A, Sta. Rita Industrial Dr., POBox 8210 City - Santa Rita State/Territory - Guam Zip - 96928

Phone (Residence/Mobile) - _____ Phone (Business) - (671)-565-2300

b. Agent (if applicable)

First - Jessica Middle - _____ Last - Gross

Company - Duenas, Camacho & Associates, Inc. (DCA) Email Address - jlgross@dcaguam.com

Address - 238 E. Marine Corps Dr., Suite 201 City - Hagatna State/Territory - Guam Zip - 96910

Phone (Residence/Mobile) - _____ Phone (Business) - (671)-477-7991

c. Statement of Authorization: I hereby authorize Duenas, Camacho & Associates, Inc., to act on my behalf as my agent for the proposed activity. (Optional, see instructions)

K.K. VIKRAMAN — Signature of Applicant

5/25/2018 — Date

2. Name and Location of the Proposed Activity (see Instructions)

☐ The proposed work would involve multiple-single and complete projects. See attachment for the information required in Boxes 2 through 12, as applicable.

a. Project Name or Title:	b. City, County, Island, State/Territory:
Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti	Piti, Guam

c. Name of Impacted Waterbody(ies):
Apra Harbor

d. Coordinates (in decimal format):
☐ Unknown (please provide other location descriptions below)

Latitude - 13°27'34.21"N Longitude - 144°39'43.39"E

e. Other Location Description (optional, see instructions):

f. Directions to the site (optional, see instructions):

While taking Marine Corps Drive (Route 1) south, turn right onto Route 11 and pass the Cabras and Piti Power Plants. Continue along Route 11 for approximately 1.7 miles and turn left into the restricted access at Jose D. Leon Guerrero Commercial Port (Apra Harbor). Continue straight for approximately another 0.4 miles to access F-1 Fuel Pier Facility.

3. Specific NWP(s) you want to use to authorize the proposed activity (see Instructions)

NWP 3 Maintenance

4. Description of the Proposed Activity (see Instructions)

a. Complete description of the Proposed Activity:

During a July 2017 vessel berthing incident at F-1 Fuel Pier, the surface and sub-surface areas of breasting Dolphin H and supporting piles were damaged. Based on a surface and sub-surface inspection in September 2017, Tristar proposes the following repairs to the surface areas of the dolphin. No repairs will occur in waters of the U.S.

All loose concrete shall be removed from the concrete spalled areas and the surfaces cleaned from all dirt and dust. The cleaned areas would be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added. All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator.

No repairs would occur on the sub-surface supporting piles or the Rubber Fender System.

b. Purpose of the Proposed Activity:

The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing breasting dolphin that is located along the F-1 Fuel Pier at the Port of Guam. Tristar currently uses this pier for docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

c. Direct and indirect adverse environmental effects the activity would cause, including the anticipated amount of loss of wetlands, other special aquatic sites, and other waters expected to result from the NWP activity, in acres, linear feet, or other appropriate unit of measure:

There will be no loss of wetlands associated with this project. The Contractor will refer to the NMFS Protected Resources Division's BMPs, which are recommended for general in- and near-water work including boat operations to reduce potential adverse effects on protected marine species.

There is no designated or proposed critical habitat in the vicinity of the Breasting Dolphin H at the F-1 Fuel Pier, although nearby Sasa Bay MPA is a hawksbill foraging area. There is the potential of the threatened green and endangered hawksbill sea turtles to occur within the action area; however it would be very unlikely as the breasting dolphin at F-1 Fuel Pier has remained an active fueling area. As no in-water work is being proposed, repair work is not likely to result in any type of turbidity and sedimentation of the nearby substrate. The implementation of best management practices would minimize impacts to the existing marine life in Guam's coastal waters.

Ambient noise levels in the vicinity of the project sites are mostly attributed to port docking activities and vehicle traffic. The proposed construction activities are expected to temporarily increase the noise levels.

d. Description of any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed activity:

Best management practices would be required to be implemented by the Contractor during demolition and construction activities. These could include the deployment of silt control devices, such as full depth double-walled turbidity curtains, as appropriate to the situation and water depth.The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water.

There will be no in-water work for this project. The Contractor would monitor prior to construction activities to detect the presence of any listed threatened or endangered species, particularly marine ESA species or migratory birds. If any protected species are observed in the vicinity of the work site, work would not commence until the species voluntarily leaves the area. However, due to the high level of activity at the Port, it would be unlikely for any ESA species or migratory birds to frequent the project site.

e. Any other NWP(s), or Individual Permit(s) used or intended to be used to authorize any part of the proposed activity or any related activity including other separate and distant crossings for linear projects that require Department of the Army authorization:

None

f. Have sketches been provided containing sufficient detail to show that the activity complies with the terms of the NWP and provide an illustrative description of the proposed activity? ■ Yes, Attached ☐ No

5. Aquatic Resource Delineation (see Instructions)

a. Has a delineation of aquatic resources(wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams) been conducted in accordance with the current method required by the Corps? ☐ Yes ■ No

If yes, please attach a copy of the delineation

Note: If no, your PCN is not complete. In accordance with General Condition 32, you may request the Corps delineate the special aquatic sites and other waters on the project site, but there may be a delay. In addition, the PCN will not be considered complete until the delineation has either been submitted to or completed by the Corps, as appropriate.

b. If a delineation has been submitted, would you like the Corps to conduct a jurisdictional determination (preliminary or approved)? ☐ Yes ■ No

If yes, please complete, sign and return the attached *Appendix 1 – Request for Corps Jurisdictional Determination (JD)* sheet or provide a separate attachment with the information identified in Appendix 1.

6. Compensatory Mitigation (see Instructions)

a. Will the proposed activity result in the loss of greater than 1/10-acre of wetlands? ☐ Yes ■ No

If yes, describe how you propose to compensate for the loss of each type of wetland:

Note: For the loss of less than 1/10 acre of wetlands, or if no compensatory mitigation is proposed, the Corps may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in no more than minimal adverse environmental effects.

b. Will the proposed activity result in the loss of streams or other open waters of the U.S.? ☐ Yes ■ No

If yes, provide a description of any proposed compensatory mitigation for the loss of each type of stream or other open water:

Note: If no compensatory mitigation is proposed, the Corps may determine on a case-by-case basis that compensatory mitigation is required to ensure that the activity results in no more than minimal adverse environmental effects.

7. Endangered Species Act (ESA) Compliance (see Instructions)

a. For non-Federal permittees (if Federal permittee, check N/A and skip to 7(d)): ■ N/A

(1) Is there any Federally-listed endangered or threatened species or designated critical habitat that might be affected or is in the vicinity of the activity? ■ Yes ☐ No ☐ Unknown

(2) Is the activity located in designated critical habitat for Federally-listed endangered or threatened species? ☐ Yes ■ No

If yes to either (1) or (2), include the name(s) of those endangered or threatened species that might be affected by the proposed activity or might utilize the designated critical habitat that might be affected by the proposed activity:

1. Green sea turtle
2. Hawksbill sea turtle
3.
4.
5.
6.
7.
8.
9.
10.

If no to both (1) and (2), proceed to Box 8.

Note: If yes to either (1) or (2), note per General Condition 18(c), you shall not begin work on the activity until notified by the Corps that the requirements of the ESA have been satisfied and that the activity is authorized.

b. For Federal permittees, you must provide documentation demonstrating compliance with ESA as a separate attachment. ☐ Documentation provided, see attached.

8. Historic Properties (see Instructions)

a. For non-Federal permittees (if Federal permittee, check N/A and skip to 7(d)): ☐ N/A

(1) Is there a known historic property listed on, determined to be eligible for listing on, or potentially eligible for listing on, the National Register of Historic Places that your proposed activity may have the potential to affect? ☐ Yes ■ No

If yes to (1), state which historic property may have the potential to be affected by the proposed activity:

1.
2.
3.
4.
5.
6.

OR

☐ A vicinity map indicating the location of the historic property is enclosed

(2) If no to (1), describe the potential for the proposed work to affect a previously unidentified historic property:

There would be no adverse effect on historic or archaeological sites, since the repair work will be limited to the existing breasting dolphin within the disturbed Apra Harbor. Since the breasting dolphin was installed several years ago and repairs have occurred in the past, it is unlikely that historic or cultural resources will be affected.

Note: If yes to (1), note per General Condition 20(c), you shall not begin the activity until notified by the Corps that the activity has no potential to cause effects or that consultation under Section 106 of the National Historic Preservation Act (NHPA) has been completed.

b. For Federal permittees, you must provide documentation demonstrating compliance with NHPA in a separate attachment. ☐ Documentation provided, see attached.

9. National Wild and Scenic Rivers (see Instructions)

a. Will the proposed activity occur in a component of the National Wild and Scenic River System or a river officially designated by Congress as a "Study River" for possible inclusion in the system while the river is in an official study status? ☐ Yes, in a component of a National Wild and Scenic River System; ☐ Yes, in a "study" river ■ No

If yes, identify the Wild and Scenic River or the "study river":

Note: Per General Condition 16(b), you shall not begin the NWP activity until notified by the Corps that the Federal agency with direct management responsibility for that river has determined in writing that the proposed NWP activity will not adversely affect the Wild and Scenic River designation or study status. If you have received written notification from the Federal agency, please attach the correspondence.

10. Section 408 Permissions (see Instructions)

a. Will the proposed activity also require permissions from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a Corps federally authorized Civil Works project? ☐ Yes ■ No

If yes, have you received Section 408 permission to alter, occupy, or use the Corps project? ☐ Yes ☐ No

If yes, please attach the Section 408 permission

Note: If yes, note per General Condition 31, an activity that requires Section 408 permission is not authorized by NWP until the Corps issues the Section 408 permission to alter, occupy, or use the Corps project, and the Corps issues a written NWP verification.

11. Compliance with NWP General Conditions (see Instructions)

Check	General Condition	Rationale for Compliance with General Condition
☑	1. Navigation	No disturbance to navigation is anticipated at Apra Harbor during construction, since activities such as commercial and transportation vessel operators and private boat owners could continue with their regular schedules. Repair work should last thirty days; the creation of a "no wake zone" is not necessary.
☑	2. Aquatic Life Movements	There will be no in-water work. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water. All structures would be removed afterwards.
☑	3. Spawning Areas	There will be no in-water work.
☑	4. Migratory Bird Breeding Areas	The project is not located in a migratory bird breeding area.
☑	5. Shellfish Beds	There will be no in-water work.
☑	6. Suitable Material	No unsuitable materials will be used.
☑	7. Water Supply Intakes	There are no public water supply intakes in the vicinity of the project site.
☑	8. Adverse Effects from Impoundments	Water will not be impounded during this project.
☑	9. Management of Water Flows	Water flow will not be impeded during this project
☑	10. Fills Within 100-Year Floodplains	There will be no dredging or placement of fill material in waters of the U.S.

☑	11. Equipment	No heavy equipment will be used during this project. The Contractor may use a floating platform or barge for support.
☑	12. Soil Erosion and Sediment Controls	Because there is no soil at the project site, there is no risk of erosion.
☑	13. Removal of Temporary Fills	No temporary fills will be used for the project.
☑	14. Proper Maintenance	Public safety will be ensured during the project.
☑	15. Single and Complete Project	This is a single and complete project.
☑	16. Wild and Scenic Rivers	There are no wild and scenic rivers in the project vicinity.
☑	17. Tribal Rights	There are no tribal lands in the project vicinity
☑	18. Endangered Species	See Box 7 above.
☑	19. Migratory Bird and Bald and Golden Eagle Permits	Due to the high level of activity at the Port, it would be unlikely for any migratory birds to frequent the project site. If any migratory birds are observed in the vicinity of the work site, work would not commence until the species voluntarily leaves the area.
☑	20. Historic Properties	See Box 8 above.
☑	21. Discovery of Previously Unknown Remains and Artifacts	It is highly unlikely that any previously unknown remains or artifacts will be discovered at Breasting Dolphin H.
☑	22. Designated Critical Resource Waters	There are no designated critical resource waters nearby.
☑	23. Mitigation	See Boxes 4(d) and 6 above.
☑	24. Safety of Impoundment Structures	The structure will be safely designed.
☑	25. Water Quality	A WQC application will be jointly filed with this application.
☑	26. Coastal Zone Management	A CZM application will be jointly filed with this application.

☑	27. Regional and Case-by-Case Conditions	The maintenance activities comply with regional conditions.
☑	28. Use of Multiple Nationwide Permits	Multiple NWP will not be used for this project.
☑	29. Transfer of Nationwide Permit Verifications	The sale or transfer of the property is not anticipated.
☑	30. Compliance Certification	The permittee will provide a signed certification documenting completion of the authorized activity.
☑	31. Activities Affecting Structures or Works Built by the United States	See Box 10 above.
☑	32. Pre-Construction Notification	This Pre-Construction Notification will be filed with the other required documents.

12. Compliance with NWP Regional Conditions (see Instructions)

Check	Regional Condition	Rationale for Compliance with Regional Condition
☑	1. Revoked Permits	Maintenance activities do not fall under Revoked Permits.
☑	2. Limited Use Areas	Sasa Bay Marine Protected Area is approximately 1 mile south of the project site.
☑	3. Acreage Limitation	There will be no loss of wetlands or waters of the U.S. associated with this project.
☑	4. Stream Channelization and Impoundment Restriction	No stream channelization or the building of dams will occur in this project.
☑	5. NWP Verification	No activities will be carried out until a NWP verification has been received.
☑	6. Pre-Construction Notification	This PCN will be filed jointly with other required documents.
☑	7. Additional PCN Information	There will be no in-water work during this project.
☑	8. Best Management Practices	BMPs will be implemented throughout the project.
☑	9. Bank Stabilization	No bank stabilization is planned for this project.

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Department of the Army Permit Application

SUPPLEMENTAL QUESTIONNAIRE

A complete Department of the Army Permit Application consists of the application form (ENG Form 4345, http://usace.army.mil/CECW/Documents/cecwo/reg/eng4345a.pdf), drawings and environmental information necessary to determine a project's probable impact on the public interest (33 CFR Part 325.1 (d)(1) and Part 325.3(a)). Based on our experience, the environmental information necessary to make the public interest determination is often inadequate when only the ENG Form 4345 form is submitted by applicants. Project managers must then request additional information from applicants, resulting in delays in project evaluation. In order to provide more efficient processing of your application, this questionnaire has been developed to supplement the information required in ENG Form 4345 and to simplify your submittal of environmental assessment information.

A. LOCATION (supplement to Blocks 15-16 of ENG Form 4345):

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the Port Authority of Guam F-1 Fuel Pier Facility in Cabras Island, Piti, Guam. The Port is located off Route 11 in Apra Harbor on the western coast of Guam (Exhibit A, Site Location and Vicinity Maps). The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing Breasting Dolphin H that Tristar Terminals Guam, Inc. (Tristar) currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

1. **Please provide the Tax Map Key number(s) for the project site**: Not applicable.
2. **Please provide the Latitude and Longitude.**

TABLE 1. LATITUDE AND LONGITUDE OF BREASTING DOLPHIN H

Latitude	Longitude
13°27'34.21"N	144°39'43.39"E

3. **Please provide the watershed in which work is proposed:** Apra Watershed, which drains west into the Philippine Sea (Pacific Ocean).

B. PROPOSED ACTION (supplement to Block 18 of ENG Form 4345).

1. **Please provide a detailed description of the scope of work, especially those activities that may adversely impact the aquatic environment, including the following pertinent information:**
   a. **Construction method(s) highlighting those methods requiring in-water work**

General Scope of Work

During a July 2017 vessel berthing incident, the surface and sub-surface areas of the breasting dolphin and supporting piles were damaged. On behalf of Tristar, DCA performed a surface and sub-surface inspection of the dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles.

Based on the surface and sub-surface inspections, Tristar proposes the following repairs to the surface areas of the dolphin.

Concrete spalls. The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust. The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

Concrete cracks. All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will occur in waters of the U.S. and no repairs are proposed to the sub-surface piles or the Rubber Fender System.

Work in Marine Waters of the U.S.

No in-water work is planned for this project; all work would be over the water. There would be work directly under the pier that may require either a floating or fixed work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific means and methods will be the Contractor's prerogative as long as they meet the permit conditions. All work would be carried out above-water and during daytime hours; no night work is proposed.

1. **Machinery/equipment necessary to complete construction**

Apra Harbor: In addition to a hanging scaffold attached to the pier, the Contractor would likely use either a floating or fixed work platform where necessary. The platform would be used to stage a small container recommended by the epoxy manufacturer as the epoxy mixing

vessel. A power drive (air or spark-proof) propeller-type blade would be used for mixing, whereas manual mixing would be carried out for small batches. Hand tools would be used to perform the repair work. A pressure washer would be used for the cleaning of cracks and pneumatic or cordless power tools would be used for the chipping of concrete.

2. **Construction sequence**
   The construction period is very brief (30 days) and would be dictated by weather conditions. No phasing is proposed for the work.

3. **Construction scheduling (begin & end dates)**
   Depending on the weather conditions, construction is estimated to begin immediately upon receipt of the required permits. Above-water work in Apra Harbor would take approximately thirty days.

4. **Location of stockpiling of material. (Be advised, stockpiling of materials in waters of the U.S. is discouraged. If unavoidable, stockpiling of materials in waters of the U.S. will require prior authorization from this office as it constitutes a temporary discharge of fill material.)**
   N/A, there will be no stockpiling of materials in waters of the U.S. or at the project site. All debris will be disposed of by the Contractor, who will haul the debris to an approved hardfill site, e.g. the Layon Landfill in Inarajan.

5. **Please provide the location of borrow and upland disposal sites for construction materials and any excess materials not utilized to complete the project.**
   All the removed or excess material will be properly disposed of at an approved hardfill. Excess epoxy will be properly disposed in accordance with USEPA regulations.

6. **Please provide a description of Best Management Practices i.e., silt fence/curtain, sheet pile, sandbags, etc., proposed for implementation throughout the project site as a measure to prevent degradation of the aquatic environment. Include a diagram showing placement of BMPs relative to the project site with the Best Management Practices (BMPs).**
   The specific Best Management Practices will be the Contractor's prerogative so long as the work is compliant with permit conditions. The Environmental Protection Plan presents anticipated BMPs that will be used in the repairs, such as a tarpaulin beneath the pier to capture falling debris (Exhibit B).

C. DISCHARGE OF DREDGED AND/OR FILL MATERIAL (Blocks 20-22 of ENG Form 4345 also pertain to discharges of dredged and/or fill material).

1. **State the source of the dredged or fill material.* Provide type of equipment required.**
   Not applicable (N/A), there will be no dredging or placement of fill material in waters of the U.S. All work would be above waters of the U.S.
2. **State the method of discharge. Provide type of equipment/machinery required.**
   N/A.

3. **Indicate the location of the discharge within the project site.**
   N/A.

4. **What types of structures or facilities would be constructed on the fill area? (Show on drawings their dimensions, layout, etc.)**
   N/A.

***Note that Blocks 21 and 22 of ENG Form 4345 require both the volume (usually given in cubic yards) *and* surface area (square feet, acres, etc.) of fill.**
****Please submit any drawings on 8 ½ x 11" paper whenever possible.**

D. DREDGING PROJECTS

1. **Please provide plans showing the dredging footprint within the project site. Include cross-sectional views depicting the existing and proposed contours. Also include a location/vicinity map and plan view (if appropriate) of the area(s) where dredge spoil will be stockpiled, processed, and disposed.**
   Design plans are presented in Exhibit D. There will be no dredging for this project.

2. **What is the type and composition of the material to be dredged?**
   N/A.

3. **How much time will be required to complete the dredging (construction window)? Will the dredging project be accomplished in phases? If so, please describe. Is maintenance dredging proposed, and, if so, what is the timeframe of the dredging cycle?**
   N/A. Maintenance dredging is not proposed for this project.

4. **How much material will be dredged?**
   a. **Volume:** N/A.
   b. **Surface area:** N/A.

5. **State what dredging method(s) will be used, and indicate why that method(s) is proposed.**
   N/A.

6. **Where will the dredged material be de-watered?**
   N/A.

7. **Do you plan to transport dredged material for the purpose of disposing it in the ocean?**
   N/A, there are no plans to dispose of any material at an ocean dump site.
   - Where do you plan to dispose of the dredged material? N/A.
   - How much material (volume) will be disposed? N/A.
   - What is the type and composition of the material? N/A.
   - How long do you plan to dispose of the material? N/A.
   - How will you transport the material to the ocean dump site? N/A.

E. STRUCTURES IN NAVIGABLE WATERS

Be advised that the Corps considers and as such, regulates, some BMPs as structures.

1. **What specific structures will be constructed (type and size) and with what machinery and/or equipment?**
   Tidal waters. It is anticipated that the Contractor would likely use either a floating or fixed work platform that may be moored for up to four weeks in Apra Harbor tidal waters for the repair of Breasting Dolphin H at the F-1 Fuel Pier. No new structures would be permanently constructed in navigable waters; the work would repair an existing structure in navigable waters.

2. **Is in-water work required? If yes, describe.**
   No in-water work will be carried out in Apra Harbor.

3. **What will the structures be used for?**
   The stationary fixed or floating work platform will be used in Apra Harbor to serve as a support platform for the Contractor. BMPs will be deployed for the duration of construction to protect the marine environment.
4. **Describe support and/or anchoring systems, where appropriate.**
   The Contractor's means and methods will dictate whether the platform will be anchored into the substrate or attached to the pier.

F. EXISTING ENVIRONMENT

Please submit photos when possible!
Project site photographs are presented in the Structural Report in Exhibit C.

1. **PHYSICAL ENVIRONMENT**
   a. **How would you generally describe the project area and surrounding area?**

(1) Level of development:
The present level of development can be described as industrial, as the project site is located within the Commercial Port of Guam. The repair site at F-1 Fuel Pier lies in the northwestern section of Apra Harbor just west of Piti Channel.

(2) Existing land and water use:
Among the existing uses Apra Harbor are Commercial Port shipping activities, charter boat operations, fuel, oil and liquid petroleum gas transfer operations, recreational boating and limited swimming/beach activities within the Port Authority Beach area. Atlantis Submarine Tour operators frequent Piti Channel on a daily basis.

(3) Other general features: The pile support system was not damaged in the vessel berthing incident that led to the damage of the breasting dolphin, but during the 2017 site inspection there was a significant amount of debris around the piles on the seafloor, such as old discarded cut off piles (Exhibit C).

b. What kind of substrate (i.e., rock, rubble, soil, etc.) is found at the project site?
The breasting dolphin piles are buried in unconsolidated sediment consisting of coarse grained and uncolonized sand (Exhibit C).

c. What is the range of water levels which occur (during normal tides and during storm or flood periods)?
The hydrology is characterized by an average tide level of 1.3 ft. during neap tides and 2.1 ft. during spring tides. Edward K. Noda and Associates, Inc. (1990) calculated storm tidal ranges for the west coast of Guam to be 23.6 ft. high with period of 16 seconds (5-year significant wave) and 46.5 ft. high with period of 22 seconds (100-year significant wave).

d. Describe the water currents and water circulation patterns at the project site.
The Breasting Dolphin H repair location is located above water and is fairly protected from open ocean wave energy. Waves are mostly created by the wakes of passing vessels. Water circulation in the general area was studied by Amesbury et al. (1977) with the use of fluorescein dye. The study showed the dye moved west during ebbing and flooding tides, the explanation being that the Piti Channel discharges a large amount of water into the Commercial Port basin, which eventually flows out into Apra Harbor. Additionally, the prevailing easterly to northeasterly winds create a westward surface current along the shoreline. Average current velocities during ebb tides were measured to be 0.1 m/s and 0.08 m/s during flooding tides (Amesbury (1977).

e. What is the salinity (salt, brackish, or fresh) of the water at the project site?
The Apra Harbor site contains saline marine waters.

f. What is the quality of the water at the project site? For instance, in Hawaii a stream may be listed as a 303(d) Impaired Water by the State of Hawaii's Department of Health (DOH).
The water at Apra Harbor is classified by the Guam Environmental Protection Agency (Guam EPA) as "M3" (Fair) marine waters (Guam EPA, 2001). This category is intended for general, commercial, and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact.

Apra Harbor is on the list of Guam 303(d) Listed Waters for Reporting Year 2016 issued by Guam EPA. "PCB(s) in fish tissue" is listed as the cause of impairment for this water body (www.epa.gov). Apra Harbor is a heavily travelled waterway for commercial vessels, including Atlantis Submarine, and private vessels moored in the Harbor of Refuge.

g. Is this area a groundwater recharge area?
No. The repair site is not located over an aquifer recharge area (U.S. EPA, 2012).

h. What is the history or possibility of contaminants/pollutants in the substrate (soil) at the source of fill material?
N/A, there will be no filling of material in waters of the U.S.

i. **Have there been problems with erosion at or near the project site?**
No. Because there is no soil at the project site, there is no risk of erosion. The entire project site is paved with concrete and located over the water.

j. **Is the project site located in or near a drainage way or flood plain? If yes, describe.**
YES. The Federal Emergency Management Agency (FEMA) Flood Rate Insurance Maps designates the F-1 Fuel Pier in Apra Harbor as Flood Zone A. Zone A encompasses those areas for which no base flood elevation has been determined. The sites lie in areas susceptible to the 1 percent annual flood, meaning that for any given year, there is a 1 in 100 chance for the area to experience the effects of a 100-year flood (FEMA, 2007). The project would not disturb the original contours of the seabed; therefore, there are no anticipated impacts to Flood Zone A.

k. **What is the quality of the air at the project site? Will the proposed project have an adverse, or insignificant, effect on air quality at the site? Will the impacts to air quality be temporary or permanent?**
Fair. Documented air quality monitoring at the project site is limited; however, the F-1 Fuel Pier is downwind and within the 3.5-kilometer radius of the Cabras and Piti Power Plants, which is designated as a non-attainment area for sulfur dioxide by Guam EPA. Power plants and motor vehicles are sources of sulfur dioxide when they burn sulfur-containing fuels, especially diesel. Guam Power Authority is charged with controlling the potential impacts of pollutants by switching fuel type consumed by the power plants depending on the wind direction. Under normal conditions, high sulfur content fuel is burned when winds carry the emissions away from the island and over the ocean; low sulfur fuel is used when winds carry emissions inland. Vehicular traffic from Route 1 to the south and Route 11 to the north is a minor mobile emissions source.

The proposed repair of Breasting Dolphin H would not use heavy equipment or marine vessels that are potential mobile sources of sulfur dioxide; therefore, there would be little to no impacts to air quality at the project site. If there are low impacts to air quality, it would be temporary and insignificant given the short duration of construction and few numbers of vehicles that will be operating at the site. Any additional impact to the air quality will be temporary as the project is expected to last approximately thirty days.

l. **What are the existing noise levels at the project site? Will the proposed project have an adverse, or insignificant, effect on noise levels at the site? Will the impacts to noise levels be temporary or permanent?**
The noise levels vary depending on the situation. The Commercial Port can be noisy when container ships are loading and unloading, and Breasting Dolphin H is frequented by regular boat traffic from ocean freight vessels for delivery of fuel onto the island. The impact to noise levels will be of temporary nature.

2. **<u>BIOLOGICAL ENVIRONMENT</u> (attach biological survey reports if available)**

a. **Biological survey reports from a qualified environmental professional can provide much of the necessary information for evaluating a project's potential to impact aquatic resources. If not available, a general characterization of the plants and animals at the site should be provided.**

The benthic habitat at F-1 Fuel Pier is mapped entirely as uncolonized sand (90-100%) (Burdick, 2005); no seagrass is present in the vicinity of the project site. The sub-surface inspection of the piles at the breasting dolphin carried out by DCA confirmed the presence of 90-100% uncolonized sand.

Avian and Marine Fauna

Birds

No avian fauna was detected during incidental sightings by DCA biologists in the vicinity of the project site. Due to F-1 Fuel Pier being consistently used, there is only a low possibility of native or migratory birds utilizing the project site.

Marine community

The marine community at the project site consisted of a few single corals growing on the piles, such as cauliflower coral (*Pocillopora damicornis*), interspersed with sponges and a low density of small fish. The environment in the direct vicinity of F-1 Fuel Pier was highly disturbed and mostly depauperate of marine life.

Please list any plants and animals found within or near the project area that are listed as threatened or endangered under the Endangered Species Act of 1973. *http://fws.gov/pacificislands/teslist.html*.

The threatened green (*Chelonia mydas*) and endangered hawksbill (*Eretmochelys imbricata*) sea turtles are the only species listed under the Endangered Species Act (ESA) that may potentially occur in the vicinity of the F-1 Pier. Because the project site is located within Apra Harbor it is unlikely for any marine mammals or pelagic turtles to be affected by the above-water repair work. In 2014, NOAA listed 22 coral species as threatened under the ESA of 1973, of which three species occur in Guam waters, i.e., *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*. These species were not observed within the project site, based on observations by DCA's biologists during sub-surface inspections of the dolphin conducted in September 2017. During the inspections, the substrate in the vicinity of the dolphin was confirmed as 90-100% uncolonized sand.

3. **SPECIAL AQUATIC SITES Is the project site located at or adjacent to any of the following areas? (Show on vicinity drawings the extent of the special sites, if they are present, clearly labeling each type.) Are any of these sites proposed for impact as a result of this project?**

Special Aquatic Site:	Dredge Site	Discharge Site	Construction Site
Wetlands (swamps, marshes, bogs)	No	No	No
Mudflats	No	No	No

Vegetated Shallows/Seagrass beds	No	No	No
Coral Reefs	No	No	No
Riffle & Pool Complexes (streams)	No	No	No

The closest special aquatic site is the Sasa Bay MPA, which was declared a marine protected area (MPA) in 1997 by the Government of Guam and is currently managed by the Division of Aquatic and Wildlife Resources (DAWR) of the Guam Department of Agriculture (NOAA 2009). The breasting dolphin repair site is located approximately one mile to the northwest of the Sasa Bay MPA boundary.

4. PUBLIC INTEREST REVIEW

a. What is the existing land use zoning for the site and its vicinity?

Breasting Dolphin H is located at the F-1 Fuel Pier Facility within the Guam Commercial Port in Apra Harbor and is used for industrial and commercial purposes.

b. What is on the land (including dwellings, facilities, etc.) at or near the site?

The F-1 Fuel Pier is situated within the Commercial Port and its facilities, and is approximately 2 miles (3.2 km) away from the Piti Power Plant. Within Apra Harbor lies the Harbor of Refuge area, which includes the Aqua World Marina (Atlantis Submarine Tours) and several other marine sport related operators with accompanying docking facilities. Other facilities include the Port Authority of Guam Beach and the Marianas Yacht Club.

c. Do any of the following occur at or near the site?

Characteristic	Dredge Site	Discharge (fill) Site	Construction Site
Local fresh water supply	No	No	No
Fishing (recreational, commercial)	No	No	No
Scenic areas	No	No	No
Agriculture (small garden plots)	No	No	No
Aquaculture (type)	No	No	No
Historic sites (type)	No	No	No
Other cultural resources (type)	No	No	No
Parks, monuments, preserves, etc.	No	No	No
Other (type)	None	None	None

Fishing. Recreational/subsistence fishing is not presumed to occur along the F-1 Fuel Pier, as only restricted access to the project site is permitted.

Scenic Areas. The project would not permanently obstruct or degrade natural scenic views. The repair site does not provide a significant view corridor or vista, although Piti Channel could be considered scenic.

Agriculture and aquaculture. No agriculture or aquaculture operations occur near the breasting dolphin repair site.

Historic sites or other cultural resources. Monitoring of these resources is not necessary since repair work will be limited to Breasting Dolphin H, which has had previous repairs carried out in the past. Since the breasting dolphin has been installed and in use since 1941, and repairs have occurred in the past, it is unlikely that historic or cultural resources will be newly discovered. The site is adjacent to the well-traveled Apra Harbor channel, which supports regular vessel traffic.

F. ENVIRONMENTAL EFFECTS OF PROPOSED PROJECT

Briefly describe the environmental effects which may be expected as a result of your proposal, referring to the items listed in Section E above. Please don't answer "none", all projects have some effects.

1. Physical environment (effects on land, water, air, soil, etc.)

No in-water work is planned for this project; all work would be over the water. As no in-water work is being proposed, repair work is not likely to result in any type of turbidity and sedimentation of the nearby substrate.

The repair site will experience disturbance in the form of a high pressure washer in order to clean the concrete cracks of the breasting dolphin so that they are clearly visible and clean for repair, and measures will be implemented to minimize this disturbance. Once the cracks have been cleaned, they would need to dry before being repaired with a pressure epoxy injection. Pressure washing of the repair sites on the surface of the pier would generate only insignificant discharges of attached barnacles, algae, etc. given the small surface area involved. There is a potential for debris or construction materials to enter the marine environment if BMPs are not properly installed. The Contractor may use plastic sheeting attached to scaffolding to prevent particles of the epoxy from getting deposited into the ocean.

Ambient noise levels in the vicinity of the project sites are mostly attributed to port docking activities and vehicle traffic. The proposed construction activities are expected to temporarily increase the noise levels.

Air quality may be temporarily affected by the generation of dust or particles during repairs, such as chipping of concrete. Breasting Dolphin H is located within the 3.5 km sulfur dioxide non-attainment radius of the Piti Power Plant. The proposed Tristar repair construction activity is not expected to release significant levels of sulfur dioxide into the environment. The Contractor will be required to operate and maintain construction vehicles per the applicable regulations governing air pollutant emissions. All vehicles used in construction shall have properly functioning and maintained air emission controls. This project would only have a short-term impact on the area, as the repair is scheduled to take approximately thirty days.

2. **Biological environment (effects on plants, animals, and habitats)**
   There is no designated or proposed critical habitat in the vicinity of the Breasting Dolphin H at the F-1 Fuel Pier, although the nearby Sasa Bay MPA is a hawksbill foraging area. There is the potential of the threatened green and endangered hawksbill sea turtles to occur within the action area; however it would be very unlikely as the breasting dolphin at F-1 Fuel Pier has remained an active fueling area. Fish, birds and mammals may be temporarily displaced in order to avoid the work zones during construction.

3. **Special aquatic sites (effects on wetlands, coral reefs, etc.)**
   All construction would be confined to the vicinity of Breasting Dolphin H, which is not within any special aquatic sites in Apra Harbor.

4. **Human use (how existing human activities would be affected)**
   Other than at the F-1 Fuel Pier, no disturbance to human use is anticipated at Apra Harbor during the breasting dolphin repair, since activities such as maritime, commercial and transportation vessel operators and private boat owners could continue with their regular schedules. The repair should last approximately thirty days and there will be no requirement for creation of a "no wake zone".

5. **Historical/Cultural resources. The Corps must evaluate permit applications pursuant to Section 106 of the National Historic Preservation Act. In many cases, the Corps must coordinate its determination of a project's potential to adversely affect historic sites with the local Historic Preservation Officer. The Corps encourages applicants to contact their local Historic Preservation Officer as soon as possible in the project planning process to address any issues relevant to Section 106.**
   There would be no adverse effect on historic or archaeological sites, as the repair work will be limited to the existing breasting dolphin within the disturbed Apra Harbor. Since the construction of F-1 Pier and four breasting dolphins in 1941, F-1 Pier has undergone several repairs; therefore, it is unlikely that historic or cultural resources will be affected.

6. **Indirect impacts (will the project eventually encourage or discourage residential, agricultural, urban, industrial or resort activities?)**
   As this work deals with the necessary repair of a damaged structure, it is unlikely that it will have any long-term effect on agricultural, urban, industrial or resort activities. The proposed breasting dolphin improvements would not change or restrict public access to the nearby coastal areas of Sasa Bay or Apra Harbor, for instance. There is currently no public access to the project site at F-1 Fuel Pier.

7. **Cumulative impacts (Is this project similar in purpose, characteristics, and location compared to previous projects? Will this project lead to or be followed by similar projects? Are there other activities in the area similar to your proposed activity?)**
   There have been previous repair projects that have been carried out in the same location as Tristar's current repair site.

Under Tristar's management, the breasting dolphin repair with high-strength non-shrink epoxy concrete mortar material is estimated to be a minor repair designed to last a minimum of ten to fifteen years before new applications are needed. No further improvements are planned in this area in the near future; however, similar fuel pier improvement projects are to be anticipated, as these structures could require repairs or maintenance every couple of years. These improvement projects also have the potential to impact waters of the U.S. The projects would be carried out under the imposed environmental protection measures and conditions of the respective permits.

8. Other impacts

No other impacts are anticipated than those discussed above.

ALTERNATIVES

1. **List other sites which may be suitable for this proposal and indicate whether these are or could become available to you. If none, explain why.**
   Since this is the repair an existing structure, i.e., damaged Breasting Dolphin H, there are no other suitable sites for the proposed project. Surface and sub-surface inspections of the structure in 2017 revealed the need for immediate and long-term repairs to ensure safety to Port Authority of Guam and Tristar personnel, as well as the environment.

2. **If your project involves the discharge of fill material to convert wetlands or submerged areas to fastland (dry land), list any existing fastland sites which are or could become available to you. If none, clearly explain why.**
   N/A, there will be no discharge of fill material involved in this project.

3. **List other methods or project designs which would fulfill the basic purpose of your proposal. Which ones are reasonable for you? If none, explain why.**
   No other alternative methods were suggested for this repair work, as the type of damage observed can only be repaired in the described manner.
4. **If your permit application were denied, what other alternatives would you have?**
   If the proposed permit application is denied, the issues which caused the denial will be examined in detail. Additional environmental issues that can be mitigated will be identified and integrated into the environmental protection plan until the regulatory agencies are satisfied. Alternative designs and construction methods suggested by the regulatory agencies would be assessed in detail in terms of overall costs, available technology, and logistics. The no action alternative is unacceptable. The structural defects observed on Breasting Dolphin H are a safety issue that need to be addressed and repaired as soon as possible.

MITIGATION

What can you do to avoid or minimize adverse effects of your proposal on the environment?
For instance, a project might be relocated to a non-aquatic site, the footprint of fill or dredging can be

minimized to only that which is necessary to achieve project purpose, a project footprint might be moved within a site to avoid aquatic resources, and/or different construction methods could be used.

Physical Environment

Best management practices would be required to be implemented by the Contractor during demolition and construction activities. The Contractor must prevent any construction debris from entering the water, and may install temporary scaffolding fitted with a tarpaulin or similar BMP to ensure this is achieved. The project may result in temporary increases in noise during the daytime, but these would be negligible given the project's location among industrial activities.

Biological Environment

There will be no in-water work for this project. The Contractor would monitor prior to construction activities to detect the presence of any listed threatened or endangered species, particularly marine ESA-listed species or migratory birds. If any protected species are observed in the vicinity of the work site, work would not commence until the species voluntarily leaves the area. The Contractor will refer to the NMFS Protected Resources Division's BMPs, which are recommended for general in- and near-water work including boat and diver operations to reduce potential adverse effects on protected marine species. However, due to the high level of activity at the Port, it would be unlikely for any ESA-listed species or migratory birds to frequent the project site.

Human Use

The general public will not be inconvenienced by this project, as the project site is located within a restricted access area within the Guam Commercial Port. There will be no need for the creation of a "no wake zone" or traffic control plan.

Please see the Honolulu District's Compensatory Mitigation and Monitoring Guidelines on-line on our web site (http://www.poh.usace.army.mil/regulatory.asp), or contact the Corps office listed below to request a hard copy. Thank you for your cooperation in this manner. If you have any questions, please contact the Corps of Engineers, Regulatory Branch at (808) 438-9258 in Honolulu or at (671) 339-2108 in Guam.

SUPPLEMENTAL INFORMATION

A. COORDINATION WITH OTHERS

U.S. Federal Government
Ms. Karen Urelius, U.S. Army Corps of Engineers (USACE)

Government of Guam
Mr. Ray Calvo, Guam Environmental Protection Agency
Mr. Brent Tibbatts, Division of Aquatic and Wildlife Resources, Dept. of Agriculture

B. REFERENCES

Amesbury, S.S., Birkeland, C., Chernin, M.I. 1977. Marine environmental baseline report commercial port, Apra Harbor, Guam. University of Guam Marine Laboratory Technical Report (34). 96pp.

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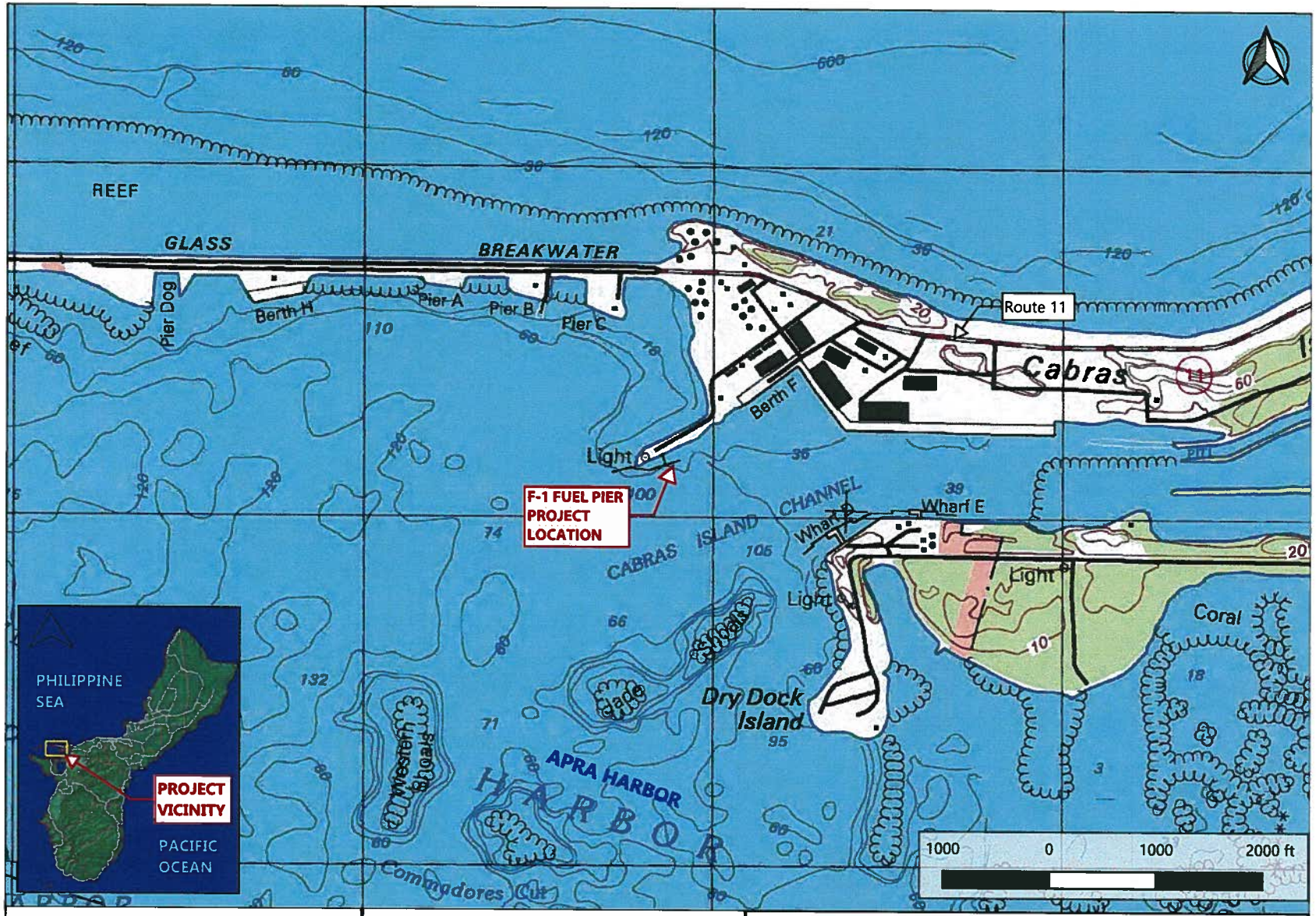
EXHIBIT A

Site Location and Vicinity Maps



SITE LOCATION MAP (2000 USGS APRA HARBOR 7.5'' QUADRANGLE)

Datum: MSL
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 1 of 2
May, 2018

DCA DUENAS · CAMACHO

SATELLITE IMAGERY (2016 DIGITALGLOBE)

Datum: MLLW
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112
Tristar Terminals Guam, Inc.
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Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 2 of 2
May, 2018

DCA DUENAS · CAMACHO

EXHIBIT B

Environmental Protection Plan

ENVIRONMENTAL PROTECTION PLAN:

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Prepared for

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Sta. Rita Industrial Drive
PO Box 8210,
Agat, Guam 96928

Prepared by

Duenas Camacho & Associates
238 E. Marine Corps Drive, Suite 201
Hagatna, Guam 96910

May 2018

Table of Contents

EXHIBITS

1 Purpose

The objective of this Environmental Protection Plan (EPP) is to establish general environmental protection procedures for a Contractor (yet to be chosen), to follow during the above-water repairs of Breasting Dolphin H along F-1 Fuel Pier in Cabras Island, Piti, Guam. The EPP will ensure compliance with laws and regulations of the U.S. Environmental Protection Agency and the Guam Environmental Protection Agency (Guam EPA).

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the Port Authority of Guam F-1 Fuel Pier Facility in Cabras Island, Piti. The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing breasting dolphin that Tristar Terminals Guam, Inc. (Tristar) currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

2 Project Information

2.1 Project Location

The project is located within the Guam Commercial Port, which is located off Route 11 in Apra Harbor on the western coast of Guam, in the Municipality of Piti. See attached site maps in Exhibit A for location.

2.2 Project Description

During a July 2017 vessel berthing incident, the surface and sub-surface areas of the breasting dolphin and supporting piles were damaged. On behalf of Tristar, DCA performed a surface and sub-surface inspection of the dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles.

Concrete spalls. The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust. The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

Concrete cracks. All cracks in the areas resulting from the berthing vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy

injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will occur in waters of the U.S. and no repairs are proposed to the sub-surface piles or the Rubber Fender System.

No in-water work is planned for this project; all work would be over the water. There would be work directly under the dolphin that may require either a floating or fixed work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific means and methods will be the Contractor's prerogative as long as they meet the permit conditions. All work would be carried out above-water and during daytime hours; no night work is proposed.

3 Protection of Natural and Cultural Resources

3.1 Air Pollution

Particulates and exhaust gases (hydrocarbons and carbon monoxide) will be the primary potential sources of degradation of air quality during construction. The Contractor shall be required to keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the Contractor shall be in accordance with Public Health Standards and Federal Emission and Performance Laws and Standards. Ambient Air Quality standards set by the Guam EPA shall be maintained for all construction operations and activities.

3.1.1 Particulates

Dust particles, aerosols and gaseous by-products from all construction activities shall be controlled at all times including weekends, holidays, and hours when work is not in progress.

3.1.2 Smoke

There shall be no burning of solid or liquid wastes at the site during construction. After construction, there shall be no incineration of wastes.

3.1.3 Motor Vehicle Emissions

All emissions from motorized machinery shall be controlled to stay within Federal and Guam EPA limits at all times. No gasoline-powered vehicle or machine shall be operated which emits visible smoke. No diesel powered vehicle or machine shall be operated which emits visible smoke for a period of more than five consecutive seconds. All machinery shall be kept in good repair.

3.1.4 Standby Generator

The Contractor may use a small (i.e., 5 kW or smaller), portable standby generator with a self-contained fuel supply in order to run the pressure washer and power drive propeller blade for the mixing of epoxy. The generator will be placed on the top deck of the dolphin, and must not be placed on any fixed or floating work platform over the water. The Contractor will ensure that the generator is properly permitted through GEPA. The portable generator would be smaller than 25kW, therefore, the Contractor would not need to apply for an EPA air emissions permit.

3.2 Noise Control

The noise levels vary depending on the situation. The Commercial Port can be noisy when container ships are loading and unloading, and Breasting Dolphin H is frequented by regular boat traffic from ocean freight vessels for delivery of fuel onto the island. The impact to noise levels will be of a temporary nature.

3.3 Biological Resources

3.3.1 Federally-Listed Species

The project area is located adjacent/over a natural, but artificially altered marine and aquatic habitat. The Contractor shall minimize habitat loss and degradation as much as possible. All work would be above and not in the water, and visual water quality monitoring would be performed.

The threatened green (*Chelonia mydas*) and endangered hawksbill (*Eretmochelys imbricata*) sea turtles are the only species listed under the Endangered Species Act (ESA) that may potentially occur in the vicinity of the F-1 Pier. Because the project site is located within Apra Harbor it is unlikely for any marine mammals or pelagic turtles to be affected by the above-water repair work. In 2014, NOAA listed 22 coral species as threatened under the ESA of 1973, of which three species occur in Guam waters, i.e., *Acropora globiceps, Acropora retusa, and Seriatopora aculeata*. These species were not observed within the project site, based on observations by DCA's biologists during sub-surface inspections of the dolphin conducted in September 2017. During the inspections, the substrate in the vicinity of the dolphin was confirmed as 90-100% uncolonized sand.

Migratory birds may visit the project site during construction activities, although this is very unlikely due to the high levels of activity at the Commercial Port. These species are protected under the Migratory Bird Treaty Act (MBTA). Daily pre-construction surveys for migratory birds will be conducted by a the Contractor. If migratory birds are present, work will not begin until the migratory birds have voluntarily left the site.

3.3.2 Invasive Species

The Contractor shall implement regular training for its employees to educate them on the pathways for invasive species introduction and the control measures that will prevent their introduction.

3.3.3 Aquatic Species

The marine community at the project site consisted of a few single corals growing on the piles, such as cauliflower coral (*Pocillopora damicornis*), interspersed with sponges and a low density of small fish. The environment in the direct vicinity of F-1 Fuel Pier was highly disturbed and mostly depauperate of marine life during DCA's September 2017 site inspections. The Contractor shall not cause construction activities to impact the marine environment; there will be no in-water work.

3.4 Water Resources and Essential Fish Habitat

Given that the construction has the potential to impact marine receiving waters, the Contractor shall take care in the protection of these water resources and avoid impacts to areas that may be considered Essential Fish Habitat (EFH). It would be the Contractor's prerogative to choose which BMP's are suitable at the repair site. Above-water work could result in the incidental and unintentional discharge of material, such as construction debris. Protection measures may include BMPs such as the installation of temporary scaffolding fitted with a tarpaulin; visual monitoring of water quality parameters would confirm the effectiveness of these BMPs.

Per communication with Ray Calvo of Guam Environmental Protection Agency, a Water Quality Monitoring Plan will not be submitted with this permit application, as no in-water work is required for this project. Visual monitoring would be the method of detection during above-water activities to monitor whether there are any water quality issues such as debris in the marine environment, for instance. Work would immediately cease upon visual detection of any issue, and would commence only upon successful correction of the problem. The Contractor is responsible for maintaining the BMPs, such as plastic sheeting.

Visual monitoring shall also be performed after a rain event. The visual inspections shall focus on discharges to the water body from the construction area. Corrective actions will be taken immediately should discharges be observed.

Similarly, if construction debris is observed in the water body, it will be immediately removed manually by construction personnel in a manner that causes the least disturbance practicable. The Contractor will cease construction activity in the vicinity until the source of the debris has been identified, and corrective measures have been installed to prevent any future incidents.

Washing and decontamination of equipment and tools shall take place off-site to the maximum extent practicable. This is a control measure intended to prevent the inadvertent introduction of non-native invasive species from the job site into other areas. If washing is determined to be necessary, a designated bermed wash area shall be used to contain all wash water and prevent its contact with marine or surface water bodies.

3.5 Archaeological Resources

Since the breasting dolphin has been installed and in use since 1941, and repairs have occurred in the past, it is unlikely that historic or cultural resources will be newly discovered. All work would be to the surface of the existing dolphin structure; no excavation activities are proposed.

4 Erosion and Sediment Control Measures

4.1 Temporary Erosion and Sedimentation Control Measures

This EPP provides the general conditions and requirements which will be employed before and during construction for this project. This includes all phases of construction, mobilization, and demobilization. Because there are no exposed soils located anywhere near the project site, it is very unlikely that erosion or sedimentation could become an issue. The Guam Soil Erosion and Sedimentation Control Manual published by the Guam Environmental Protection Agency in 1986, and the *CNMI and Guam Stormwater Management Manual* (Horsely Witten Group, Inc., 2006) are hereby adopted as reference specifications for the implementation of erosion and sedimentation control measures on this project.

Furthermore, the Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water.

4.1.1 Maintenance Procedures

The Contractor must inspect each of these sediment control measures daily to assure performance and effectiveness. At a minimum, the Contractor must:

- Visually inspect turbidity curtains daily and remove any accumulated debris surrounding them.

Sediment or dirt trails are not anticipated in the project area, as the entire work zone consists of paved surfaces.

These temporary sediment/ESC maintenance measures are listed and a daily checklist is attached to this EPP.

4.2 Permanent Erosion and Sedimentation Control Measures

N/A.

5 Control of Waste

5.1 Solid Waste

Solid waste consists of rubbish, soils, debris, tree and plant material, and other discarded soil materials resulting from land clearing and grubbing activities. While no soils or plant materials are anticipated, other construction waste generated during the repairs shall be placed such that it will not pose a hazard to personnel. No debris shall be allowed to encroach beyond the property boundaries or beyond the limits of the construction within the property. The burning of solid waste is not permitted. No marine debris is anticipated during this construction activity.

Demolition waste must be properly and promptly disposed of at an approved hardfill and may not be disposed of at a solid waste disposal facility. The Contractor shall keep the hardfill waste disposal tickets for the project record. The Contractor shall identify pathways for the introduction of invasive species and implement control measures to prevent such introductions.

5.2 Sanitary Waste

Sanitary waste consists of domestic sanitary sewage and garbage such as refuse and scraps resulting from the preparation and consumption of food. Garbage material will be stored in closed containers that cannot be opened by stray animals. All breaks and meals shall be taken at a designated area of the job site. The Contractor will police the area and maintain a litter-free eating area to minimize the attraction of pests. Rubbish containers shall be promptly emptied at the end of each work day and cleaned to remove food residues. The Contractor shall follow a Litter Control and Prevention Program and HACCP plan to control sanitary waste and minimize the introduction and movement of pests to and from the job site.

The Contractor shall be required to provide portable, temporary toilet facilities in sufficient numbers to accommodate all construction personnel until such a time as permanent facilities are available. These portable toilets shall be a type approved by Guam EPA. They shall be secluded from public observation, emptied periodically in a manner acceptable to Guam Waterworks Authority (GWA), and maintained at all times without nuisance. Upon completion of the work, they shall be removed from the premises.

6 Pest Control

The Contractor is required to discourage the breeding or attraction of pests on the job site. There shall be no open containers of stagnant water, which will act as a breeding area for mosquitoes. Food or other organic matter shall not be left in the open to attract flies, rats or stray animals. The Contractor shall maintain a clean job site, keep rubbish bins firmly closed, and promptly empty rubbish bins at the end of the work day. The Contractor shall follow a HACCP plan to minimize the introduction and movement of pests to and from the job site.

7 Public Safety

The general public will not be endangered by this project, as the project site is located within a restricted access area within the Guam Commercial Port. There will be no need for the creation of a "no wake zone" or traffic control plan.

8 Motorized Equipment

All equipment shall be kept in a good state of repair. Equipment shall meet OSHA noise regulations. Operators shall be trained to operate equipment in a safe and lawful manner. Equipment exhaust shall meet Guam EPA air quality standards. Equipment shall not leak oil or fuel onto the ground.

9 Typhoon Contingency Plan

The Contractor is responsible for assuring that unnecessary environmental damage does not occur during periods of extreme bad weather. The Contractor shall be responsible for the security and safety of the construction work and site when warnings of winds of gale force (34 knots or more) are issued. Satisfactory day-to-day cleanup of the jobsite in accordance with other provisions of this EPP is essential in order to be properly prepared for inclement weather conditions.

9.1 Condition of Readiness (COR) 4 (Normal Conditions)

The regular provisions of the EPP are essential in order to be properly prepared for inclement weather conditions. It is especially important that the jobsite be kept free of accumulations of debris and materials loosely scattered about.

9.2 Condition of Readiness (COR) 3 (48-Hour Warning)

The Contractor shall commence all securing operations necessary for a storm. If the condition is set during holidays or weekends, the securing operations shall proceed regardless.

9.3 Condition of Readiness (COR) 2 (24-Hour Warning)

The Contractor shall cease routine activities to allow maximum securing effort. Any fuel drums, paint, or other potentially dangerous materials shall be secured.

9.4 Post-Storm Requirements

Cleanup after typhoons and/or tropical storms shall proceed immediately as conditions permit. Of special importance is the rapid cleanup of storm debris and material with the potential for damage to ground waters.

10 Removal of Construction Structures

All temporary construction structures shall be removed, and all temporary facilities such as roadways, security fences, etc. shall be obliterated and shaped to original condition, or to such condition as specified by the contract specifications.

11 Traffic Control

This project is not expected to have an impact on the traffic patterns along Route 11 or the interior of the Commercial Port. A Traffic Control Plan or Highway Encroachment Permit is not required.

End of EPP

EXHIBIT C

Structural Assessment Report for the

PAG F-1 Dock Breasting Dolphin

Cabras Island, Piti, Guam

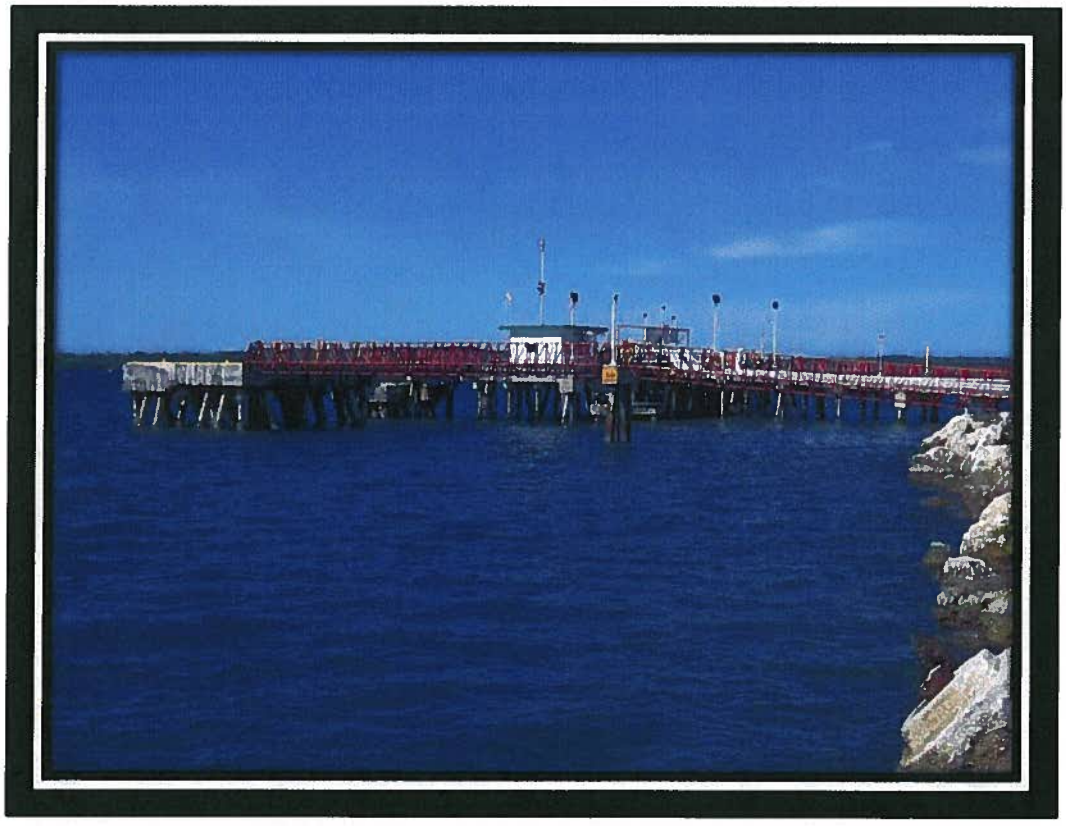
(Duenas, Camacho & Associates, Inc., 2017)

Structural Assessment Report

For The

PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

October 5, 2017



PREPARED BY:

DC&A
DUEÑAS · CAMACHO & Associates, Inc.

Website: www.dcaguam.com
Email: dca@dcaguam.com

October 5, 2017

Heather Komiyama
Operations Clerk
Tristar Terminals Guam, Inc.
P.O. Box 8210, Agat Guam 96928

Subject: **Structural Assessment Report for Breasting Dolphin**
F-1 Dock, Cabras Island, Piti, Guam

Hafa Adai Heather:

Duenas Camacho & Associates has completed the structural assessment of the breasting dolphin on F-1 Dock within the Cabras Island Facility located in Piti, Guam. The assessment included both a surface and sub-surface /underwater investigation of the breasting dolphin and supporting piles for damages sustained during a recent vessel berthing incident and to provide repair recommendations.

The Scope of Work involved the following Tasks:

TASK 1: Conduct surface and subsurface investigation of the breasting dolphin to identify damages on the breasting dolphin both above and below the waterline that can potentially be directly attributed to the vessel berthing incident.

TASK 2: Provide a detailed report outlining our finding and highlighting the damages directly attributed to the vessel berthing incident. The report shall include recommendations for the required work to correct these damages.

TASK 3: Provide drawings and technical specifications for the required repair work necessary to address the damages.

Each of the Task items will now be discussed below.

TASK 1: Surface and Subsurface Inspection Findings

DCA conducted both a surface inspection and in-water and underwater inspection of the concrete Breasting Dolphin on F-1 Dock and the supporting piles. The filed finding were documented with photos that can be found in **APPENDIX A** for the Surface and In-Water Inspection and in **APPENDIX B** for the In-Water and Underwater Inspection. An Underwater video was digitally filmed and is provided as a separate attachment to this report in a Flash Drive labeled **APPENDIX G**.

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Based on discussions with TriStar Personnel on site, the ship made contact with the top right corner of the concrete breasting dolphin resulting on concrete cracks and spalling at the top surface and front right corner face. The damage was evident on the top right corner of the dock surface as depicted in **APPENDIX A** Photos 7-8, 12, 15, 17, 20, 24,-5, 27-8, and 30-36. There was also evidence of some damage to the opposite corner of the breasting dolphin or the top left corner. The top surface appears to be existing damage or concrete spalling not directly related to the ship coming in contact with the breasting dolphin. However, the face has concrete spalling which appear to be fresh and may be directly associated with the ship coming in contact with the breasting dolphin. The damage area is shown in **APPENDIX A** Photos 6, 9, 12-14, and 22.

The In-Water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin and also along the bottom right side of the breasting dolphin. The damage area is shown in **APPENDIX A** Photos 7-8, 15, and 27 and in APPENDIX B Photos 2-7, 22, and 62. Concrete spalls and cracks could also be seem at the bottom right front and rear side of the breasting dolphin along the supporting piles. The damage areas are shown in **APPENDIX B** Photos 2 thru 15. Concrete spalls and cracks could also be seen at the bottom left front and rear sides of the breasting dolphin along the supporting piles. The damage areas are shown in **APPENDIX B** Photos 16 thru 25. In most cases, the concrete spalling looks fresh and may be directly related to the ship coming in contact with the breasting dolphin. It is our understanding that a majority of the cracks on the breasting dolphin existed prior to the vessel impact. Though not caused by the vessel impact, the cracks within or adjacent to the impact zone may have expanded as a result of the vessel impact.

The In-Water inspection also revealed that the Fender system is severely damaged. The bottom lateral rubber brace has sheared off for the plate bolted to the breasting dolphin and is resting at the base of the concrete breasting dolphin. The fender damage appears to be existing and not directly related to the ship coming in contact with the breasting dolphin. The damage areas are shown in **APPENDIX B** Photos 1, 4, 9, 12, 16-19, 21, and 23-25.

The underwater inspection was conducted to the full depth of piles and did not show any indication of damage to the existing pile support system. There did not appear to be any displaced, warped or buckled piles in any of the support pile clusters. There was a significant amount of debris at the sea floor around the piles themselves. Old discarded cut off piles also lay on the sea bed. Refer to the **APPENDIX B** Photos 25-83 for underwater photos of the steel circular piles.

It should be noted that several of the fiberglass wraps at the top of the piles were splitting and damaged. This damage is not related to the ship coming in contact with the breasting dolphin but appears to be more a result of corrosion expansion at the top of the piles right below the concrete surface of the breasting dolphin. The damage areas are shown in **APPENDIX B** Photos 3-7, 11, and 13-25.
Sincerely,

TASK 2: Damages Attributed to the Vessel Berthing Incident and Recommendations for Repair

The damages attributed to the vessel berthing incident were discussed in Task 1 and include the following:

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- Concrete cracks and spalling at the top surface and front right corner face of the concrete breasting dolphin.

- Concrete spalling on the left corner face of the concrete breasting dolphin.

- Concrete cracks on the right bottom corner and right vertical face of the breasting dolphin and also along the bottom right side of the breasting dolphin.

- Concrete spalls and cracks at the bottom right front and rear side of the breasting dolphin along the supporting piles.

These damaged areas are shown in the **APPENDIX C** Sketches. *(It should be noted that the damages identified in Task 1 that were not, in my opinion, related to the vessel berthing incident include the Damaged Rubber Fender System and the Damaged Fiberglass Wraps at the Top on the Round Steel Piles.)*

The damages on the right side of the breasting dolphin are believed to have been caused by the direct impact of the vessel to the right corner of the breasting dolphin. The concrete spalled areas along the right side, rear, and the left face of the breasting dolphin were likely caused by the impact force of the vessel which knocked or jolted off previously damaged or cracked concrete surfaces on the breasting dolphin. It is my professional opinion that these damages can be repaired and that the impact of the vessel to the breasting dolphin has not adversely affected the structural integrity or capacity of the breasting dolphin and the supporting round steel piles.

REPAIR RECOMMENDATIONS:

Concrete Spalls – All loose concrete shall be removed from the concrete spalled areas and the surfaces cleaned of all impurities dirt and dust. The prepared areas shall then be repaired with a high strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical, and overhead applications. Concrete spall repair details are shown in **APPENDIX D**. If reinforcement is exposed when the loose concrete is removed, the reinforcement shall be completely exposed and the d and concrete chipped around the reinforcement bars before applying the patch material. Further, if the exposed reinforcement is corroded, the corrosion shall be removed and the remaining steel measured to determine loss of area. If loss of area is more than 85%, new reinforcement shall be added to the repair area prior to applying the patch material.

Concrete Cracks – All cracks in the areas identified as resulting from the vessel impact shall be cleaned as much as possible with a high pressure washer. The cracks shall be allowed to dry and then repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment. The pressure epoxy repair details are shown in **APPENDIX D**.

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In addition to the repairs related to the vessel incident, we highly recommend the removal and replacement of the Rubber Fender System in its entirety. Further, the damage fiberglass wraps on the piles should be removed, the steel pipe piles cleaned and prepared, and replaced with new fiberglass wraps.

TASK 3: Repair Drawings and Technical Specifications

The concrete spall and crack repair details and technical specifications for these repair methods are included in **APPENDIX E**.

COST ESTIMATE:
The estimated costs for the repair to the Breasting Dolphin at F-1 Dock amounts to approximately Fifteen Thousand and no/100 Dollars ($15,000.00). See **APPENDIX F** for the detailed estimate breakdown.

GENERAL LIMITATIONS:

The findings and conclusions contained in this report are based on various quantitative factors as they existed on or near the date of field investigations. Changes or modifications to facilities and/or conditions at the subject site made after the site visit are not reflected in this report.

The assessments and evaluations are limited to visual observations and are not the result detailed analyses or independent calculations. Statements regarding code compliance and life safety issues are based purely on our knowledge of current building code and life safety requirements and are not necessarily an interpretation of the earlier codes.

Dueñas Camacho & Associates, Inc. is responsible for the accuracy of the report, subject to what is stated elsewhere in these limitations. However, we recommend that the report be used only for the purposes for which it was intended. The report may be unsuitable for other uses. No changes to the form or content of the report may be made by any party without the express written approval of Dueñas Camacho & Associates, Inc.

Prepared By: _____

Thomas P. Camacho, SE
Chief Structural Engineer

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Structural Assessment Report

For The

PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

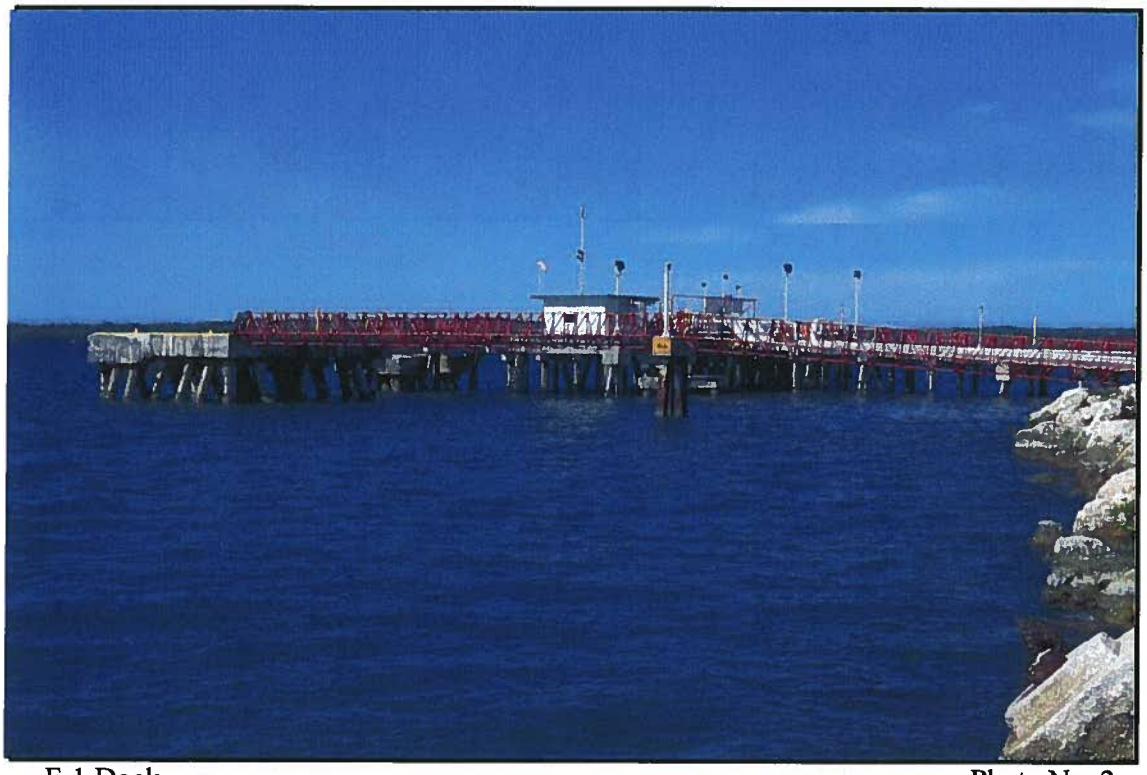
APPENDIX A
SURFACE & IN-WATER PHOTOS

October 5, 2017

PREPARED BY:

DUEÑAS · CAMACHO & Associates Inc

Dive Preparation for F-1 Dock Underwater Inspection Photo No. 1



F-1 Dock Photo No. 2

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F-1 Dock Photo No. 3

Dive Preparation for F-1 Dock Underwater Inspection Photo No. 4

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Dive Preparation for F-1 Dock Underwater Inspection Photo No. 5

Dive Preparation for F-1 Dock Underwater Inspection Photo No. 6

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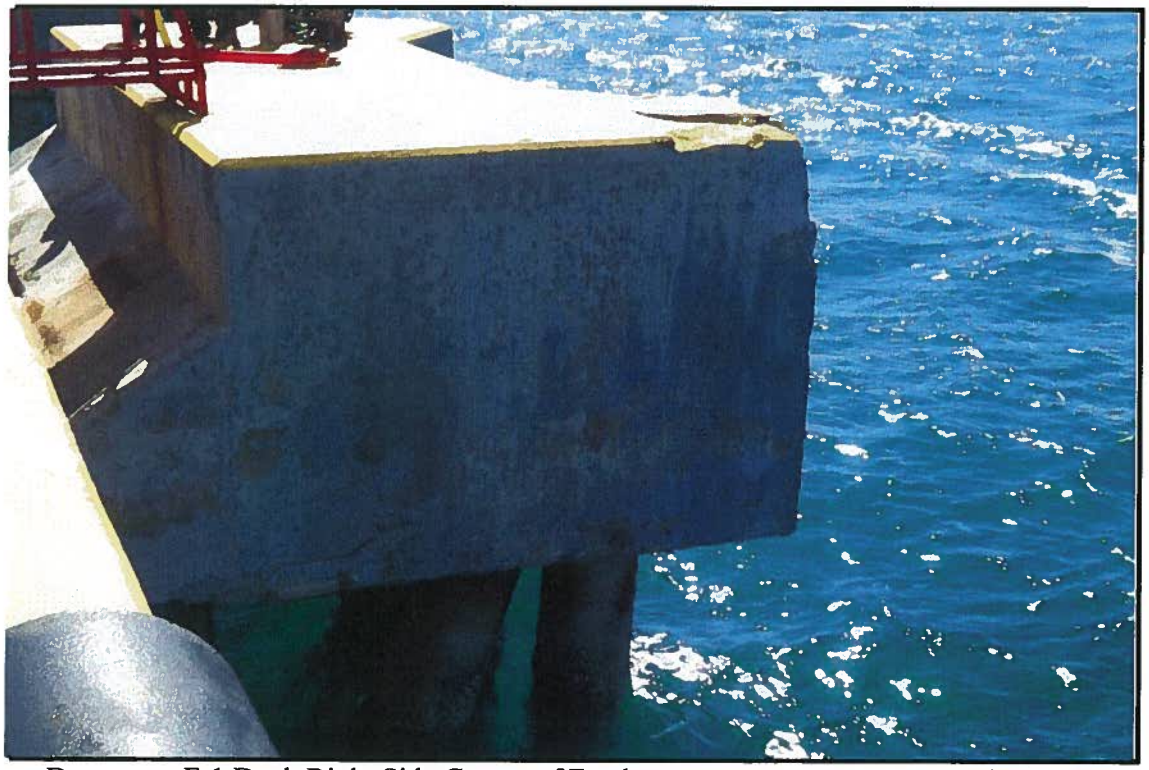
Dive Preparation for F-1 Dock Underwater Inspection Photo No. 7



Damage at F-1 Dock Right Side Corner of Fender Photo No. 8

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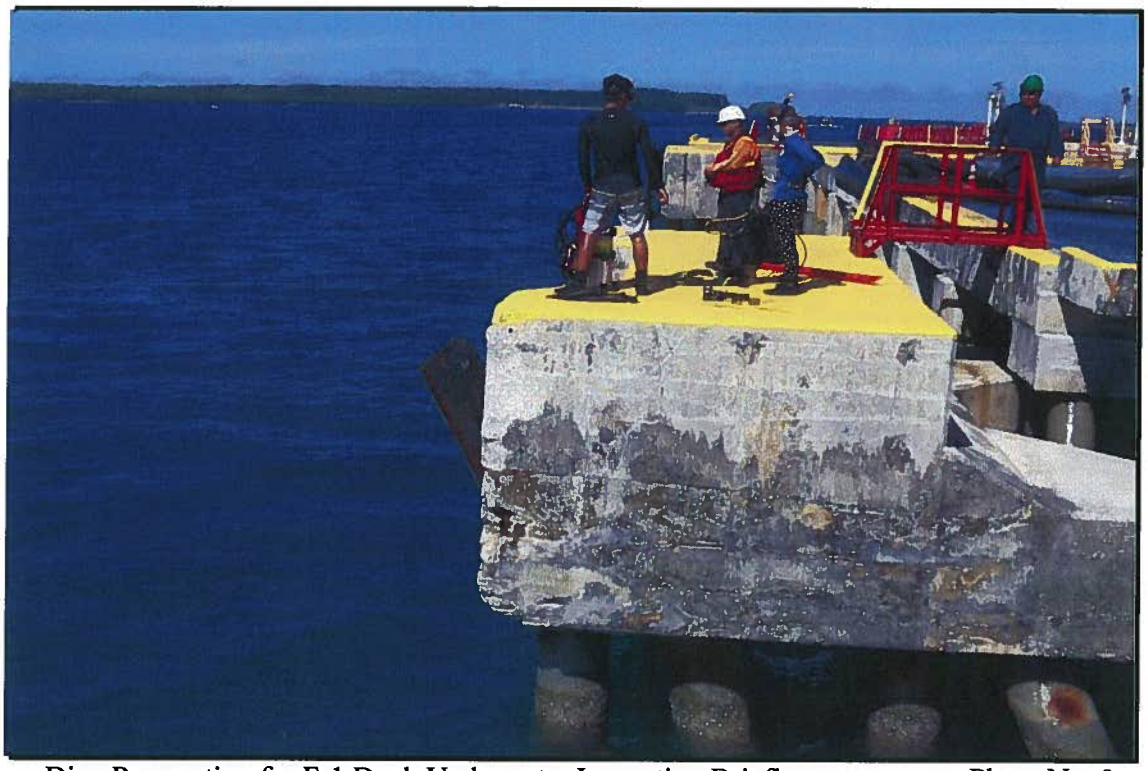

Dive Preparation for F-1 Dock Underwater Inspection Briefing Photo No. 9

F-1 Dock Underwater Inspection Divers Photo No. 10

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F-1 Dock Underwater Inspection Divers Photo No. 11

F-1 Dock Underwater Inspection Surface Monitoring Photo No. 12

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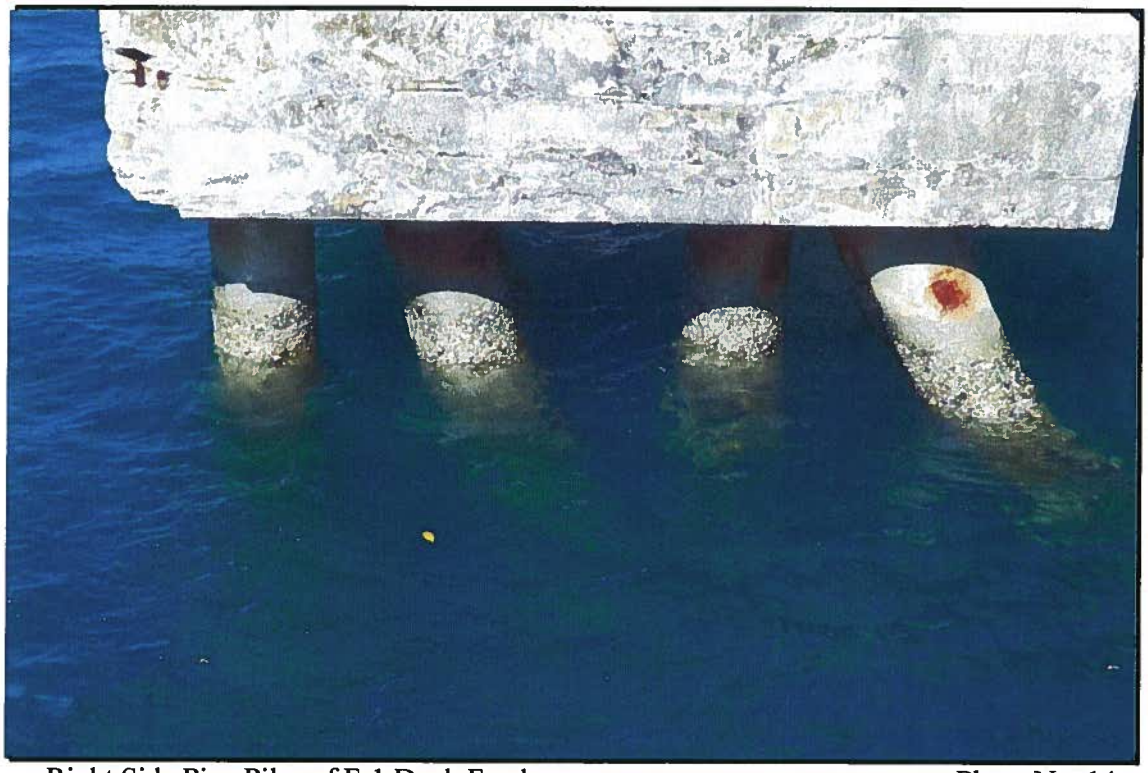
Right Side Elevation of F-1 Dock Fender Photo No. 13



Right Side Pipe Piles of F-1 Dock Fender Photo No. 14

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Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 15

Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 16

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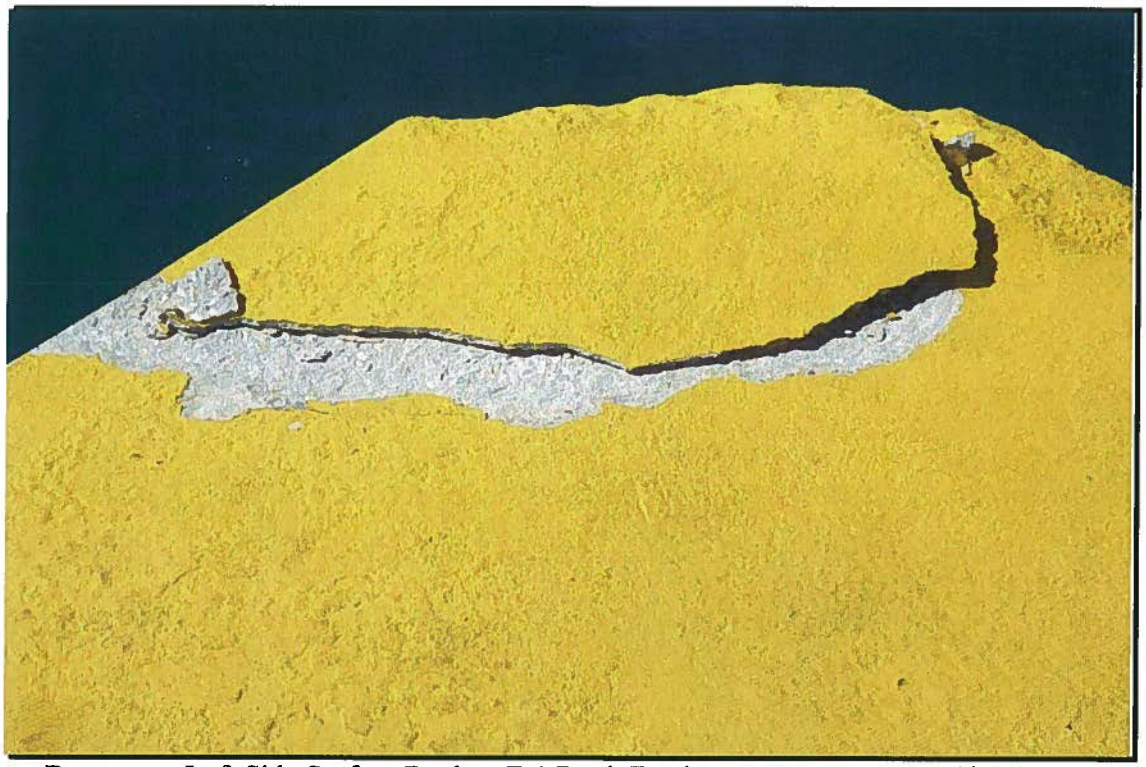
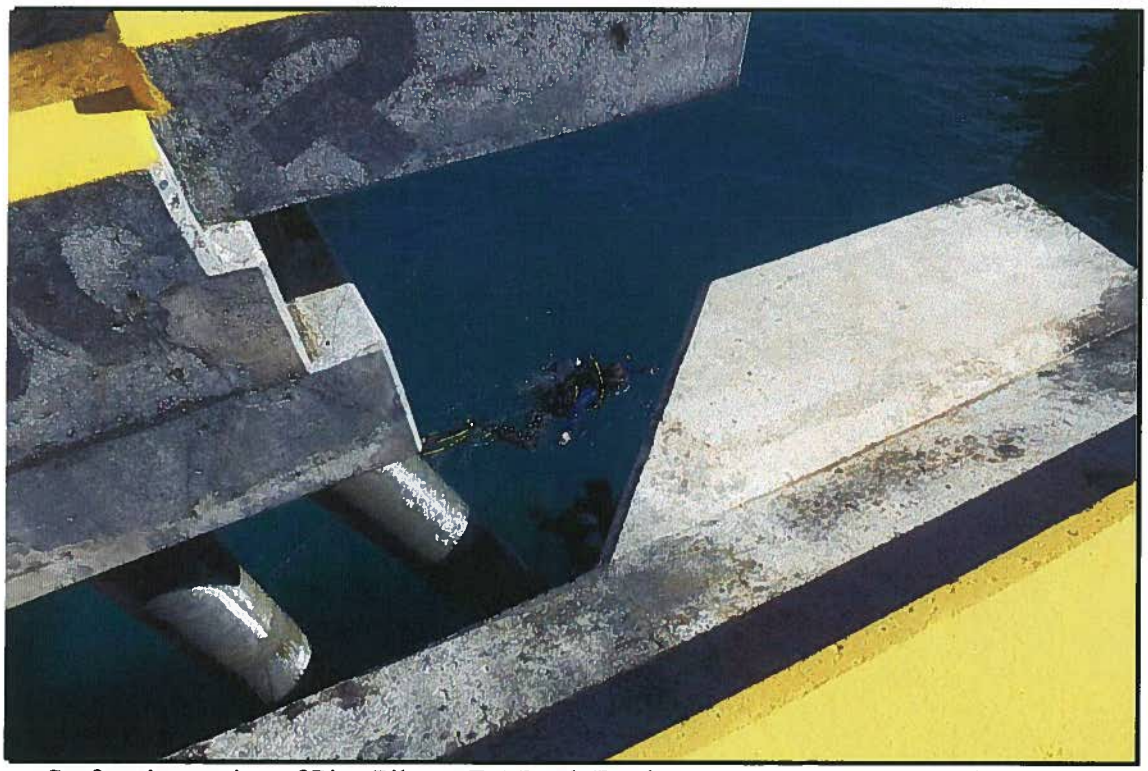


Damage to Left Side Surface Deck at F-1 Dock Fender Photo No. 17



Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 18

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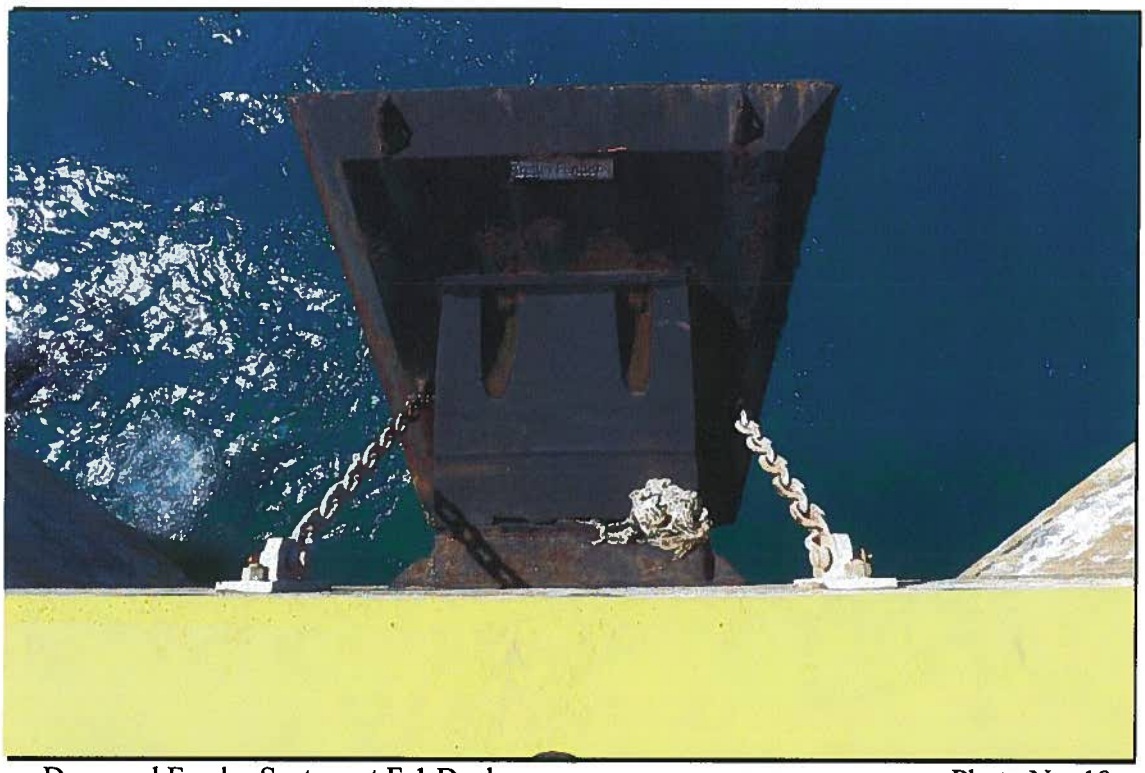

Damaged Fender System at F-1 Dock Photo No. 19

Damage to Left Side Surface Deck at F-1 Dock Fender Photo No. 20

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Far Left Side Fender System at F-1 Dock (Undamaged) Photo No. 21

Damage to Right Side Corner Surface Deck at F-1 Dock Fender Photo No. 22

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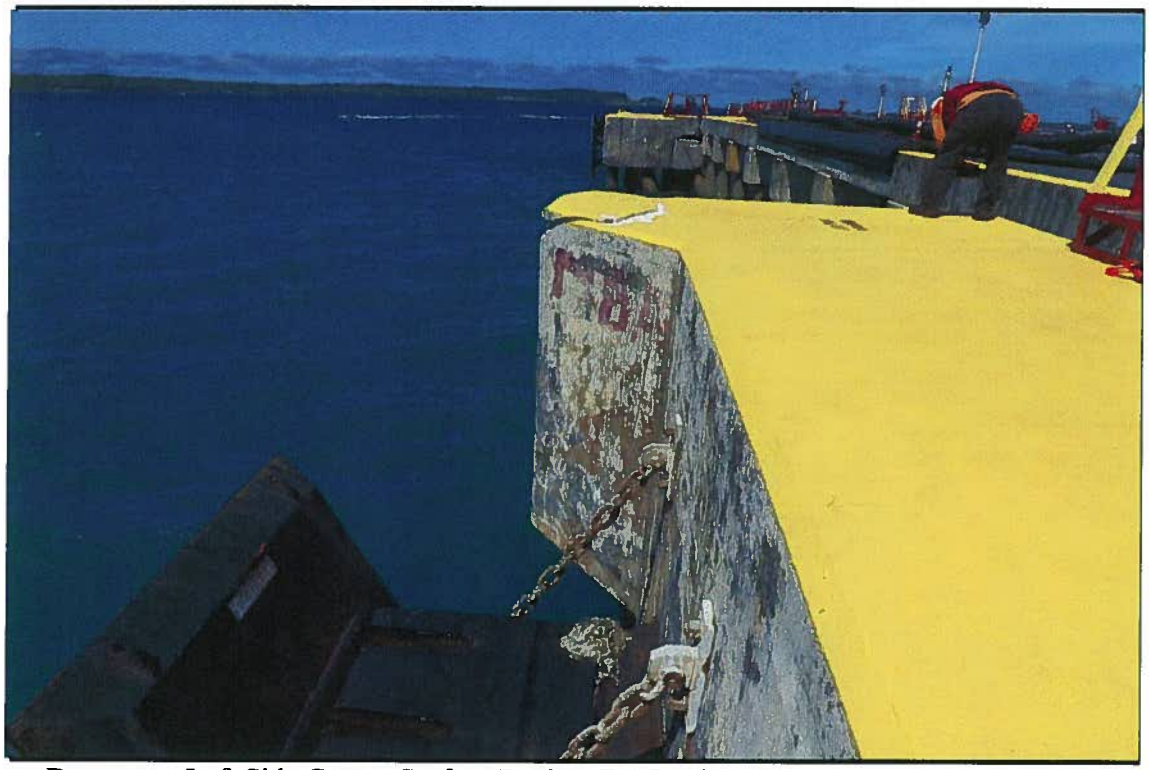
Damaged Fender System at F-1 Dock Photo No. 23



Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 24

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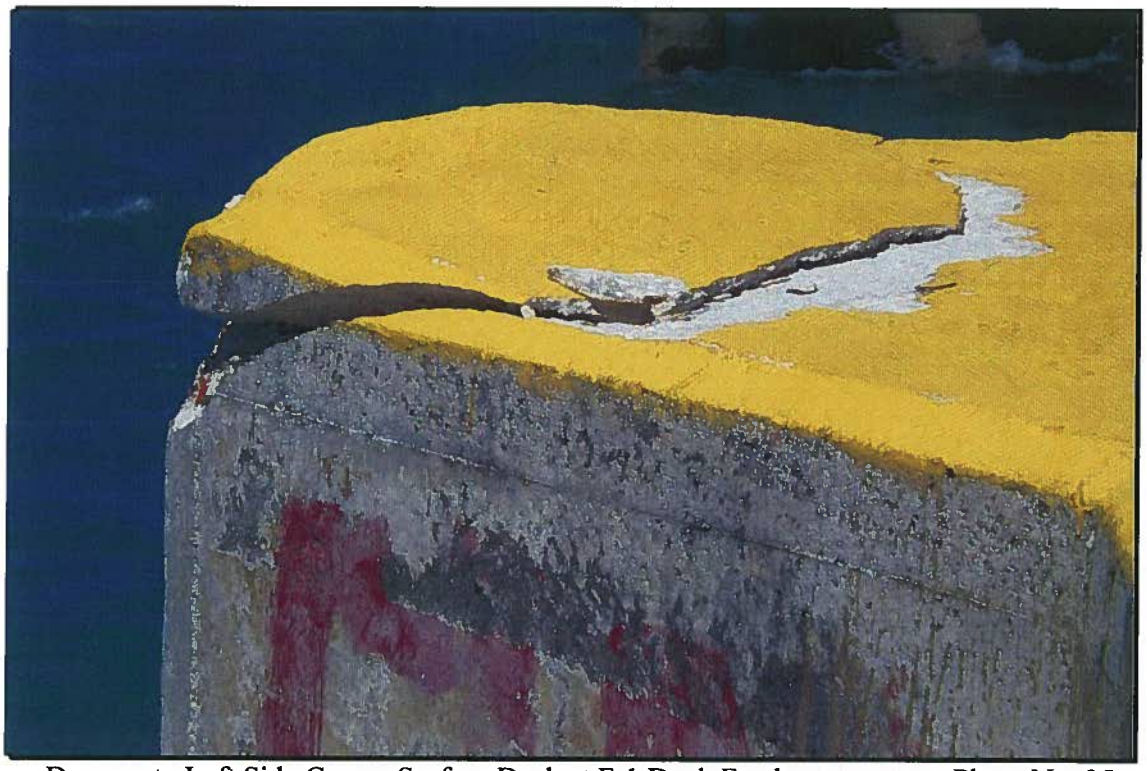
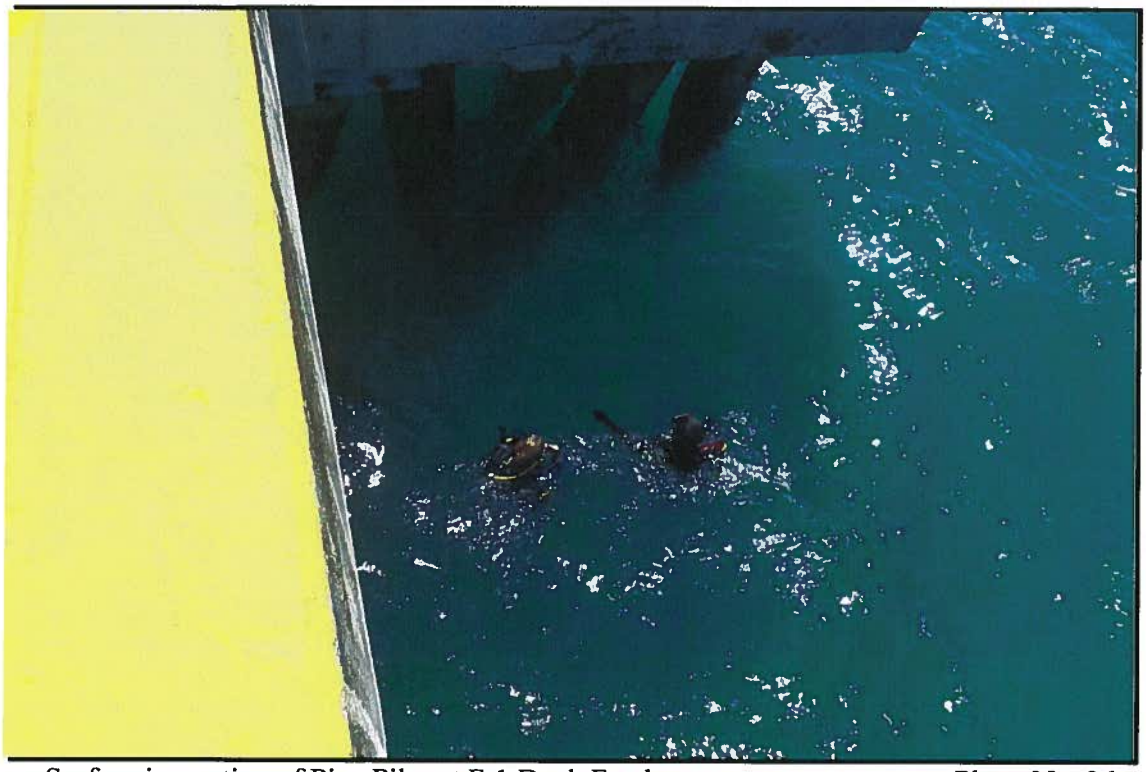


Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 25



Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 26

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Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 27

Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 28

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Surface inspection of Pipe Piles at F-1 Dock Fender Photo No. 29

Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 30

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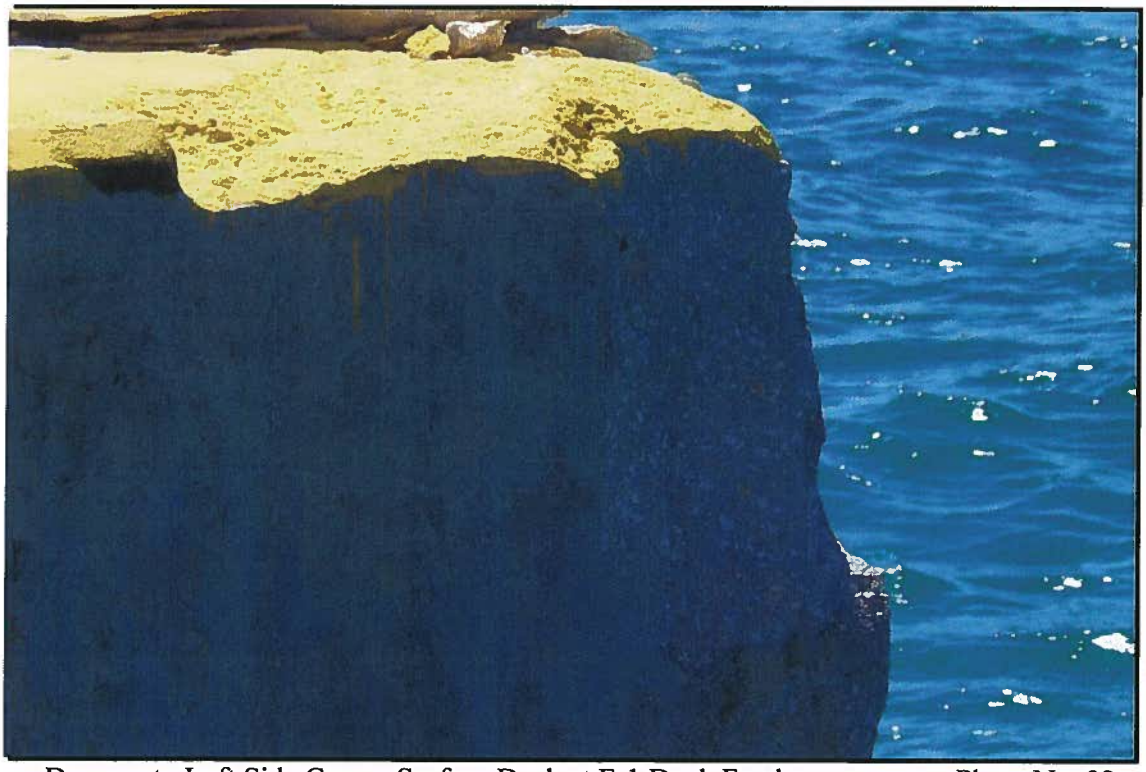
Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 31



Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 32

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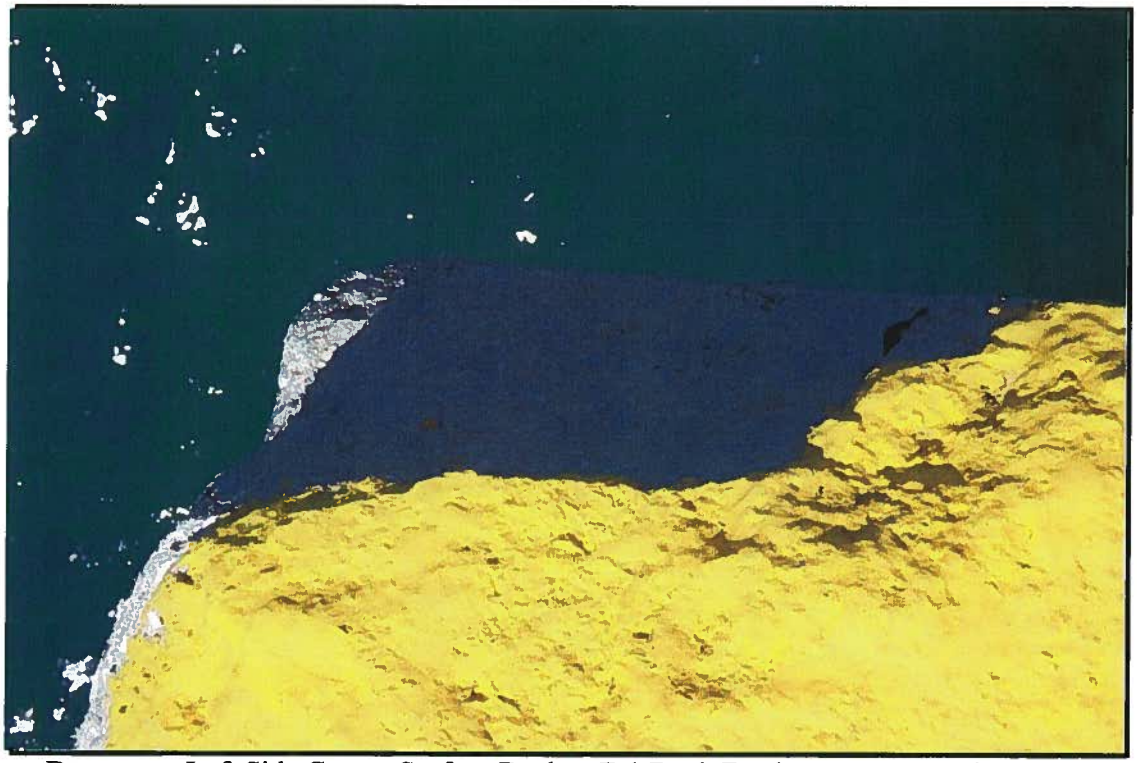
Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 33



Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 34

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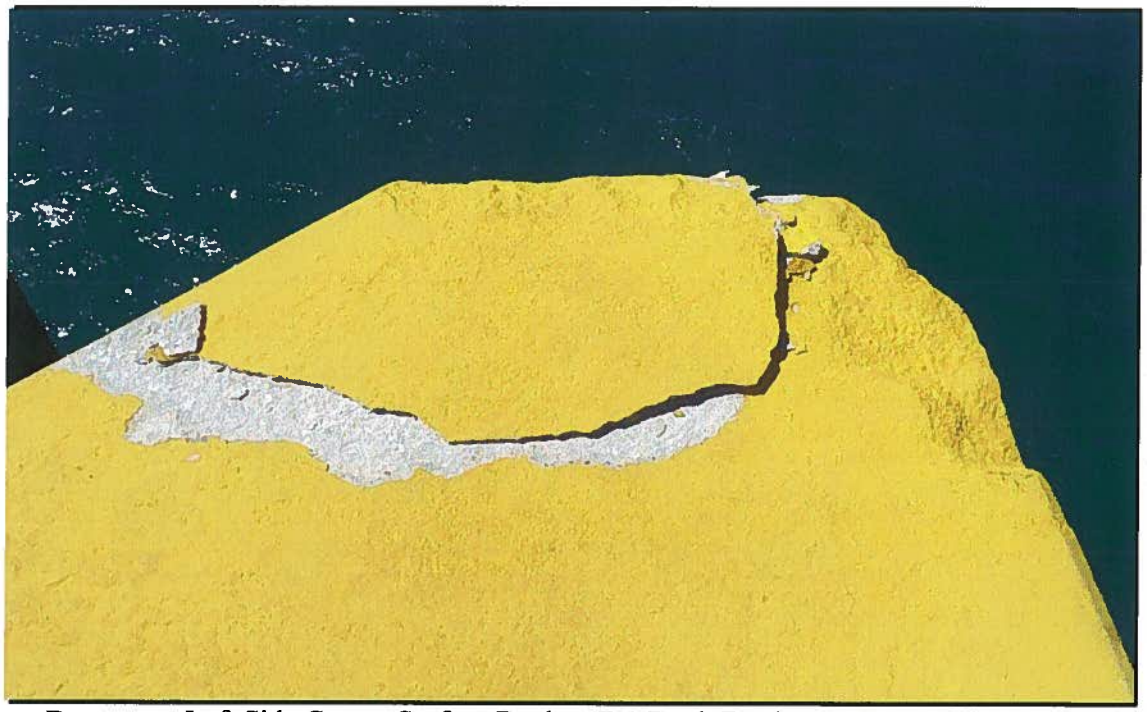

Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 35

Damage to Left Side Corner Surface Deck at F-1 Dock Fender Photo No. 36

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Structural Assessment Report

For The

PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

APPENDIX B
IN-WATER & UNDERWATER PHOTOS

October 5, 2017

PREPARED BY:

DUEÑAS · CAMACHO & Associates Inc

F-1 Dock Piles with Damage to Fender System Photo No. 1

F-1 Dock Piles with Damage to Concrete Cap Photo No. 2

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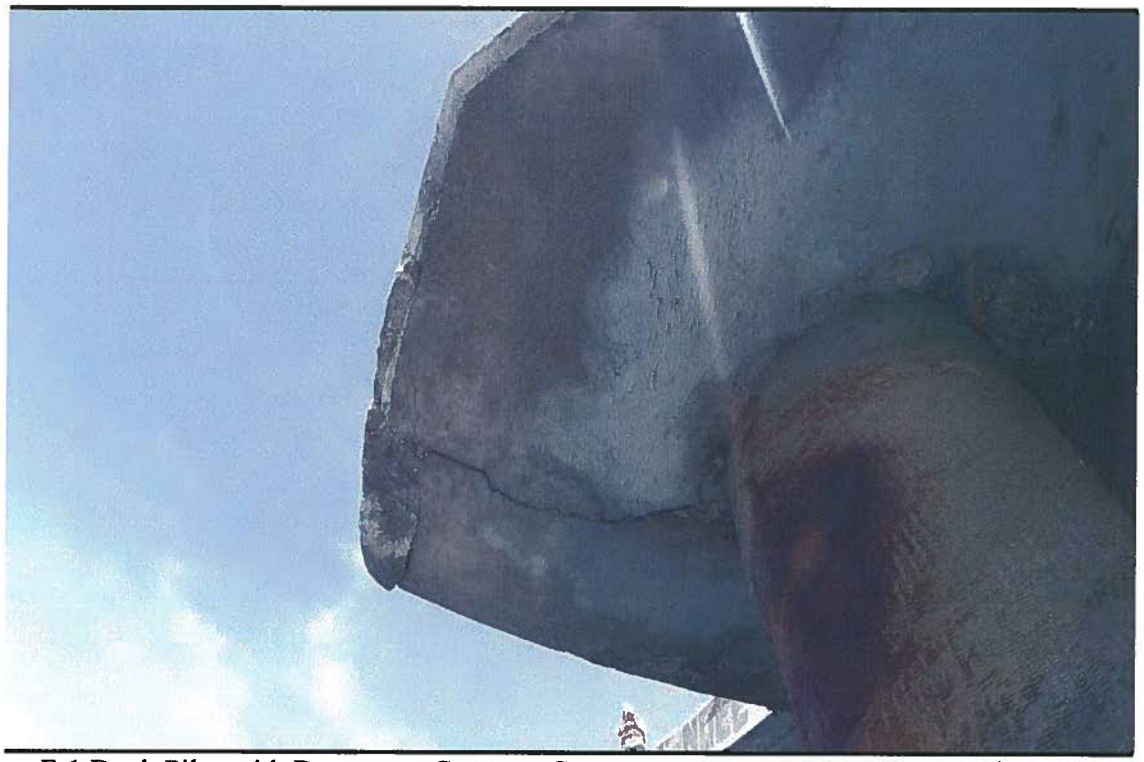

F-1 Dock Piles with Damage to Concrete Cap Photo No. 3

F-1 Dock Piles with Damage to Fender and Concrete Cap Photo No. 4

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F-1 Dock Piles with Damage to Concrete Cap Photo No. 5

F-1 Dock Piles with Damage to Concrete Cap Photo No. 6

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F-1 Dock Piles with Damage to Concrete Cap Photo No. 7

F-1 Dock Piles with Damage to Concrete Cap Photo No. 8

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F-1 Dock Piles with Damage to Concrete Cap Photo No. 9

F-1 Dock Piles with Damage to Concrete Cap Photo No. 10

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F-1 Dock Piles with Damage to Concrete Cap Photo No. 11

F-1 Dock Piles with Damage to Concrete Cap Photo No. 12

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F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Cap Photo No. 13

F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Photo No. 14

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F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Photo No. 15

F-1 Dock Piles with Damage to Fiberglass Wrap and Fender System Photo No. 16

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F-1 Dock Piles with Damage to Fiberglass Wrap and Fender System Photo No. 17

F-1 Dock Piles with Damage to Fiberglass Wrap and Fender System Photo No. 18

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F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Cap Photo No. 19

F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Cap Photo No. 20

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F-1 Dock Piles with Damage to Fiberglass Wrap Photo No. 21

F-1 Dock Piles with Damage to Fiberglass Wrap and Concrete Cap Photo No. 22

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F-1 Dock Piles with Damage to Fender System and Concrete Cap Photo No. 23

F-1 Dock Piles with Damage to Concrete Cap Photo No. 24

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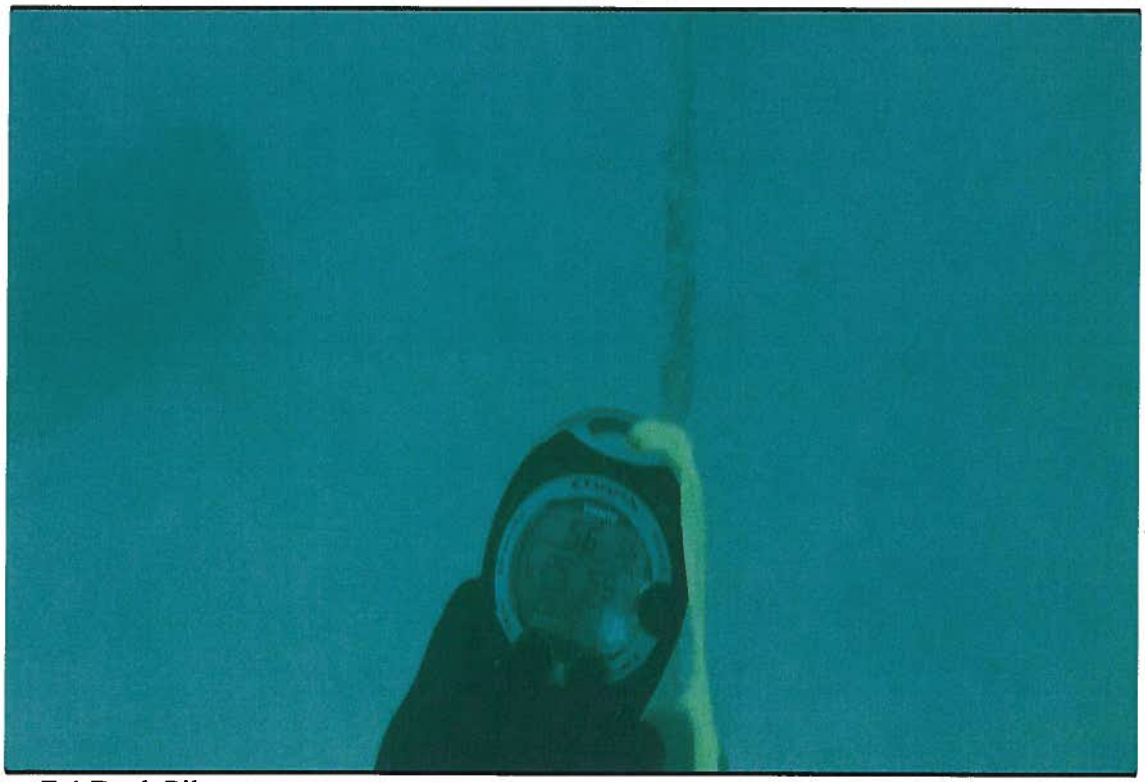
F-1 Dock Piles with Damage to Fender System and Concrete Cap Photo No. 25



F-1 Dock Piles Photo No. 26

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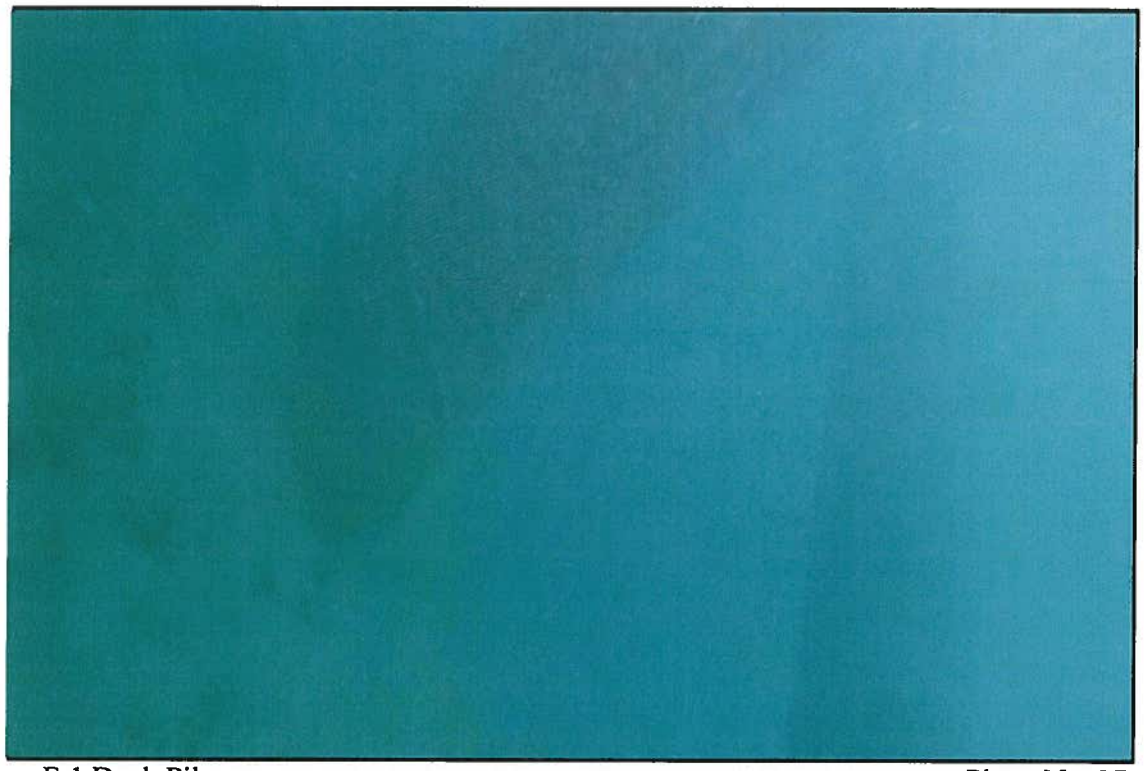
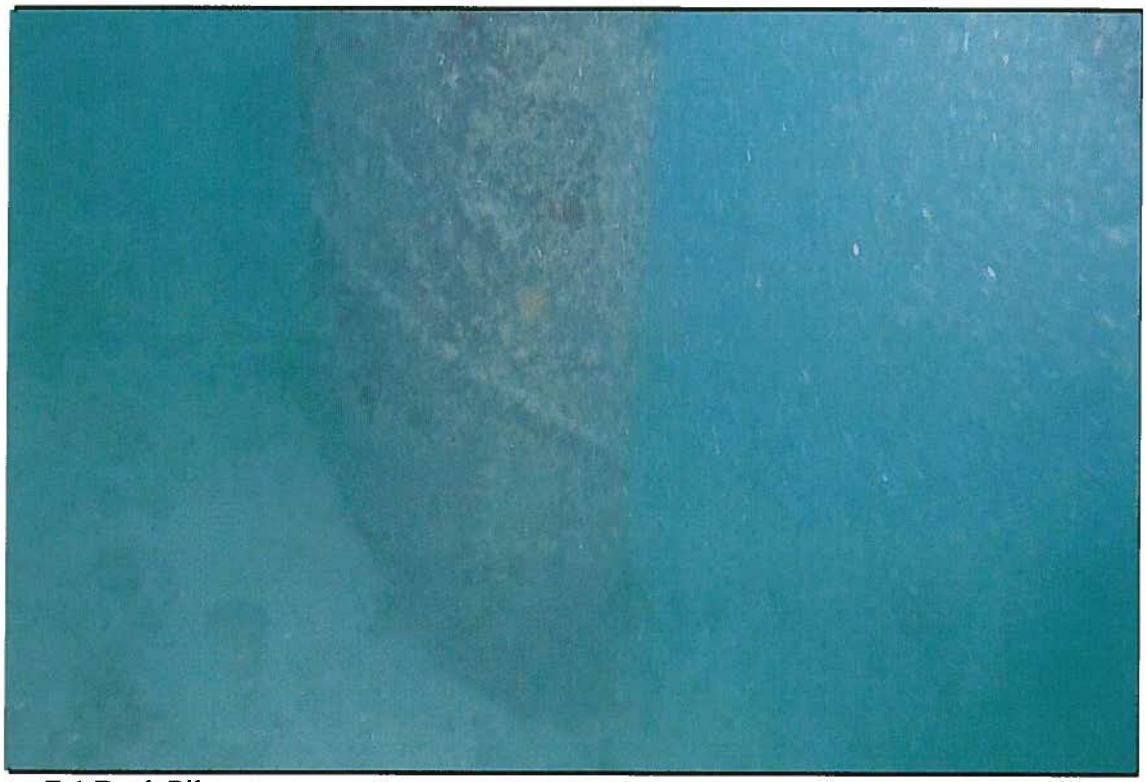


F-1 Dock Piles Photo No. 27



F-1 Dock Piles Photo No. 28

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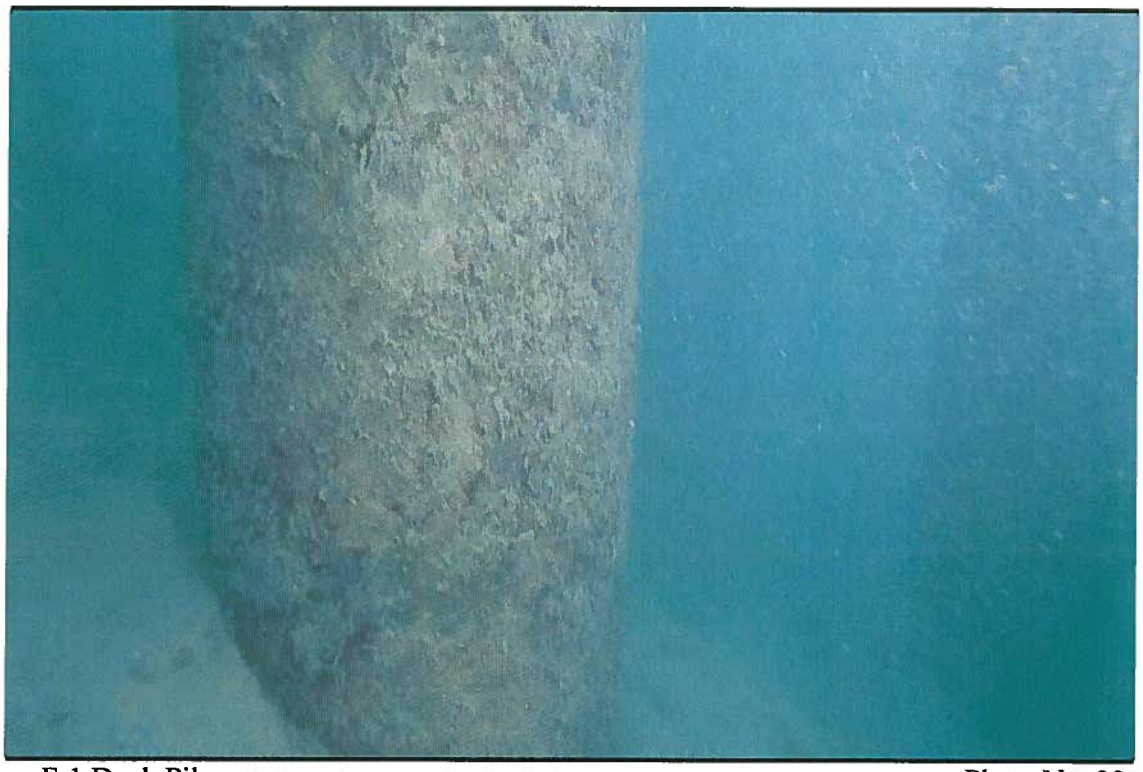
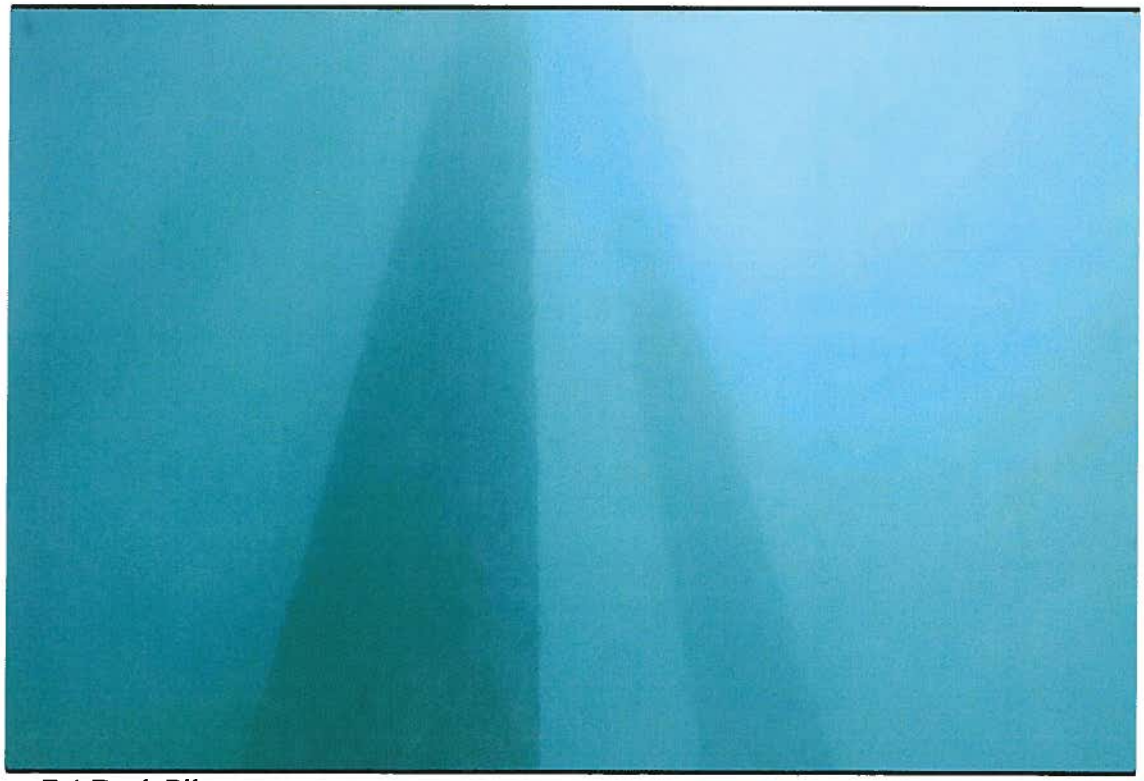


F-1 Dock Piles Photo No. 29



F-1 Dock Piles Photo No. 30

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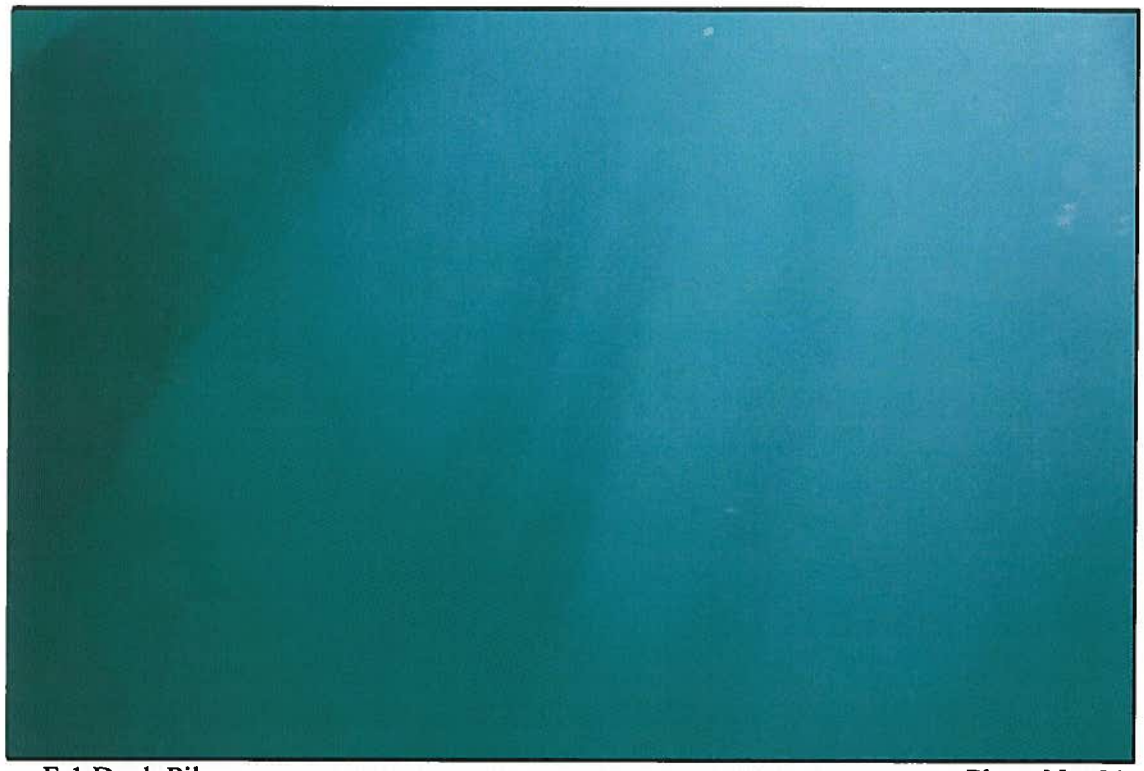
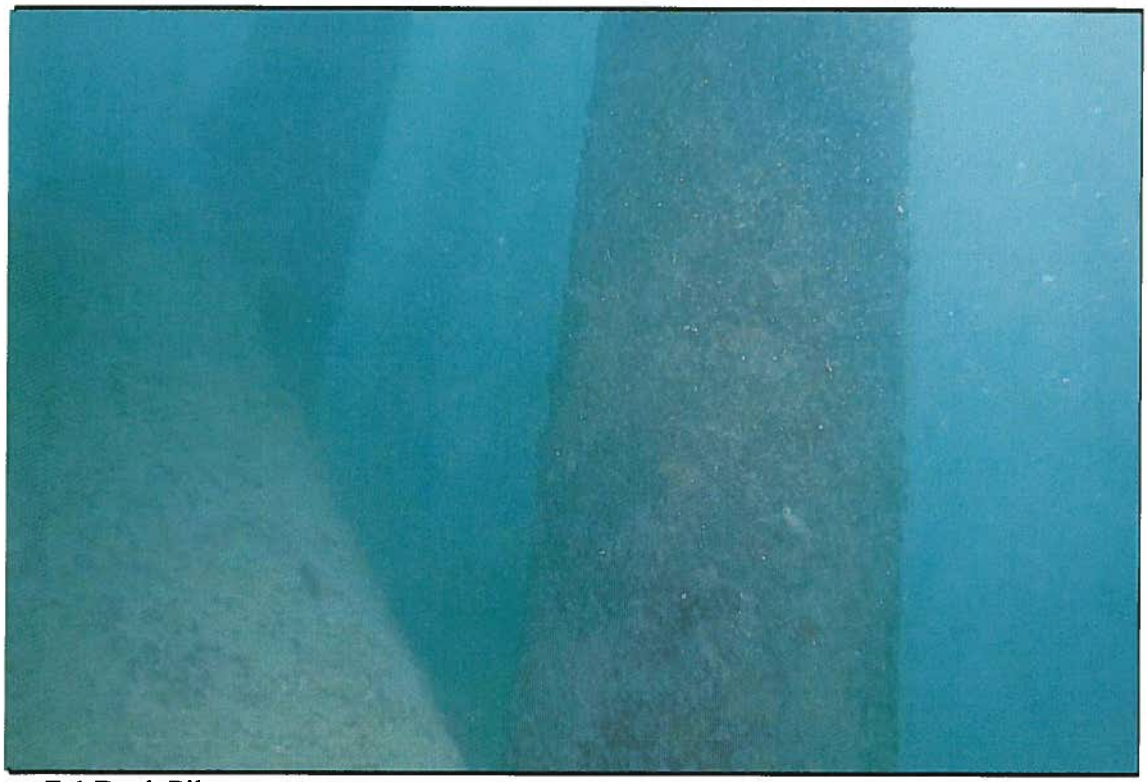


F-1 Dock Piles Photo No. 31



F-1 Dock Piles Photo No. 32

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F-1 Dock Piles Photo No. 33

F-1 Dock Piles Photo No. 34

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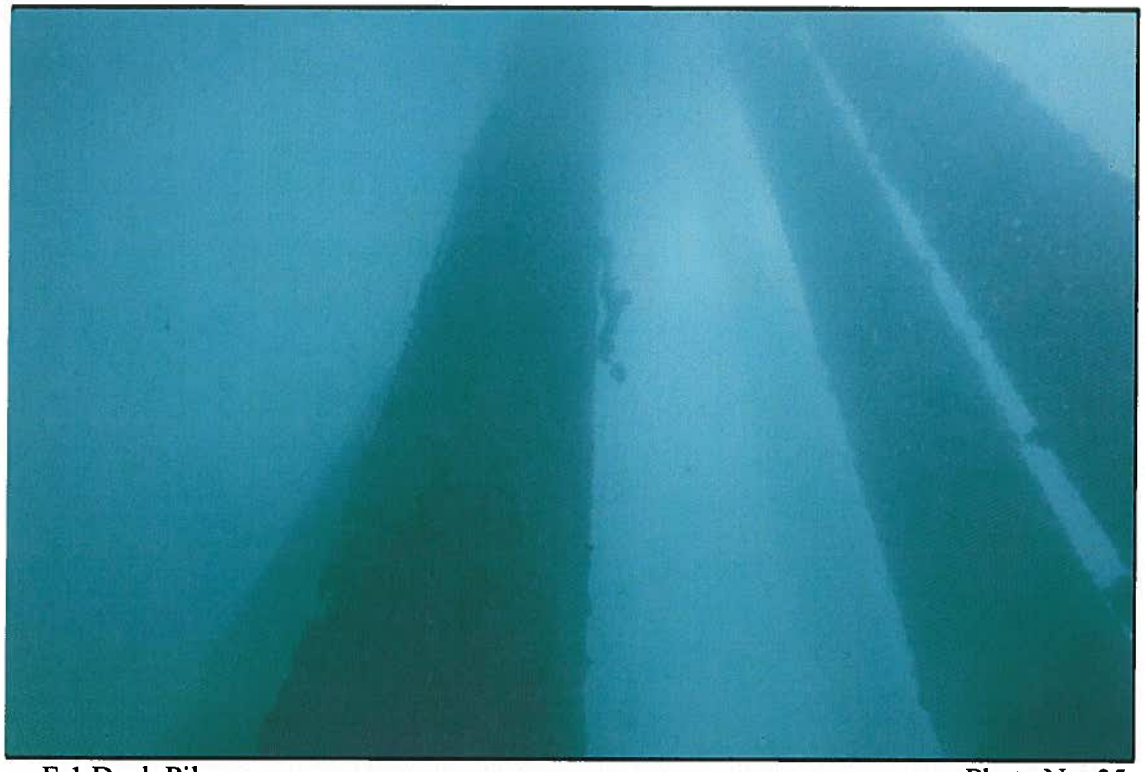
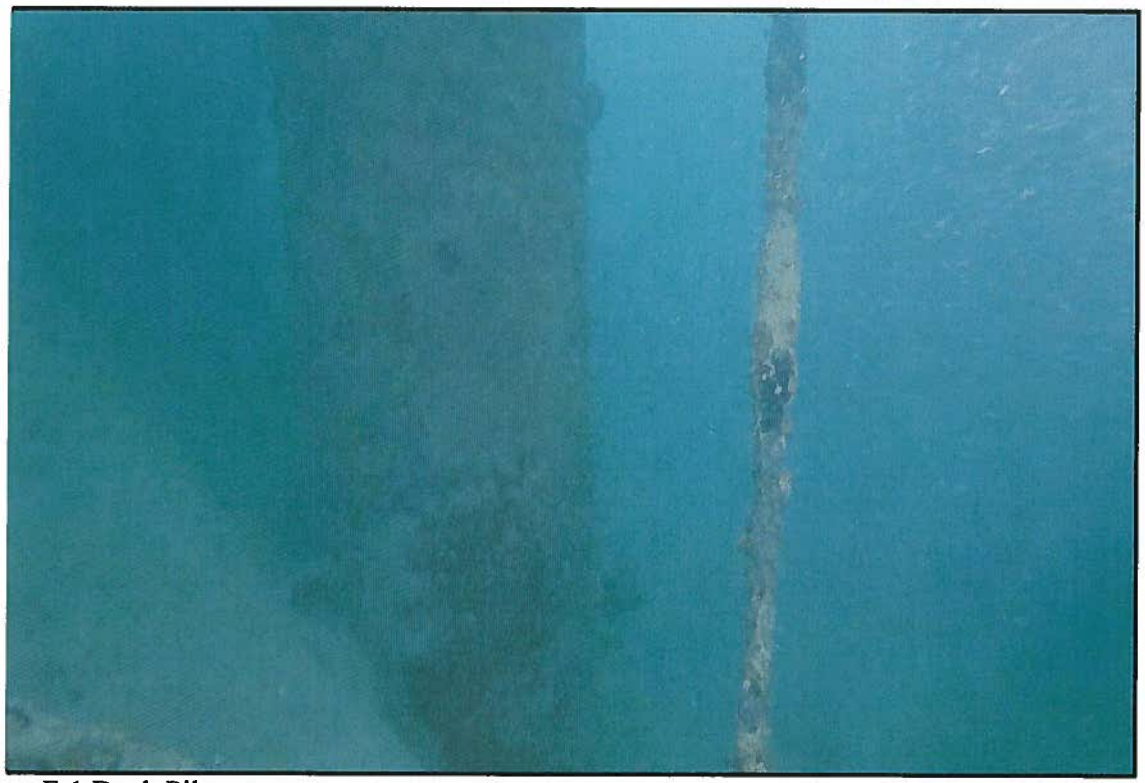


F-1 Dock Piles Photo No. 35



F-1 Dock Piles Photo No. 36

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F-1 Dock Piles Photo No. 37

F-1 Dock Piles Photo No. 38

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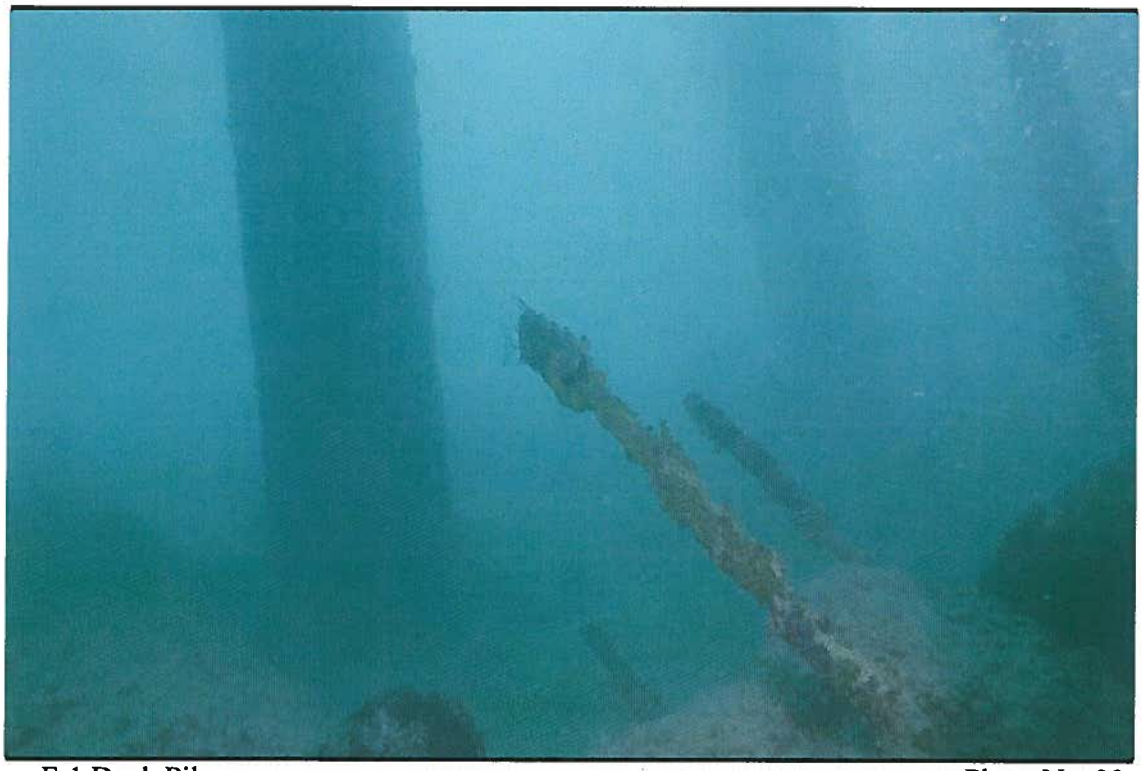
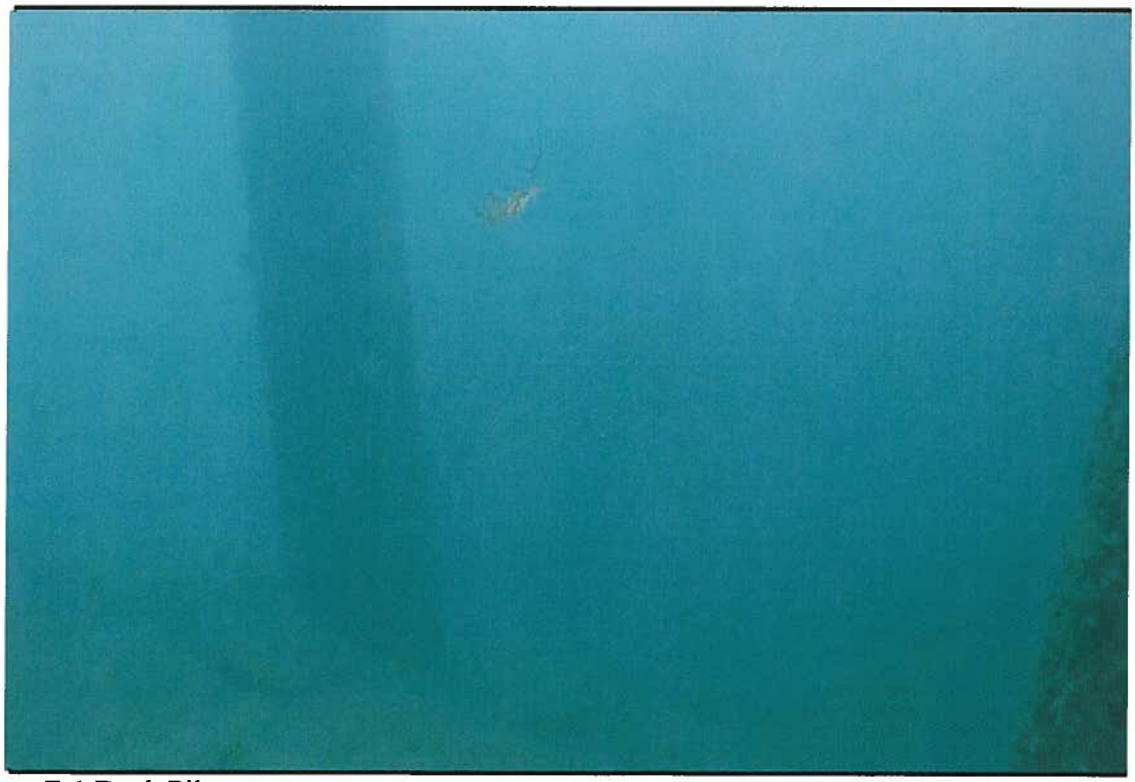


F-1 Dock Piles Photo No. 39



F-1 Dock Piles Photo No. 40

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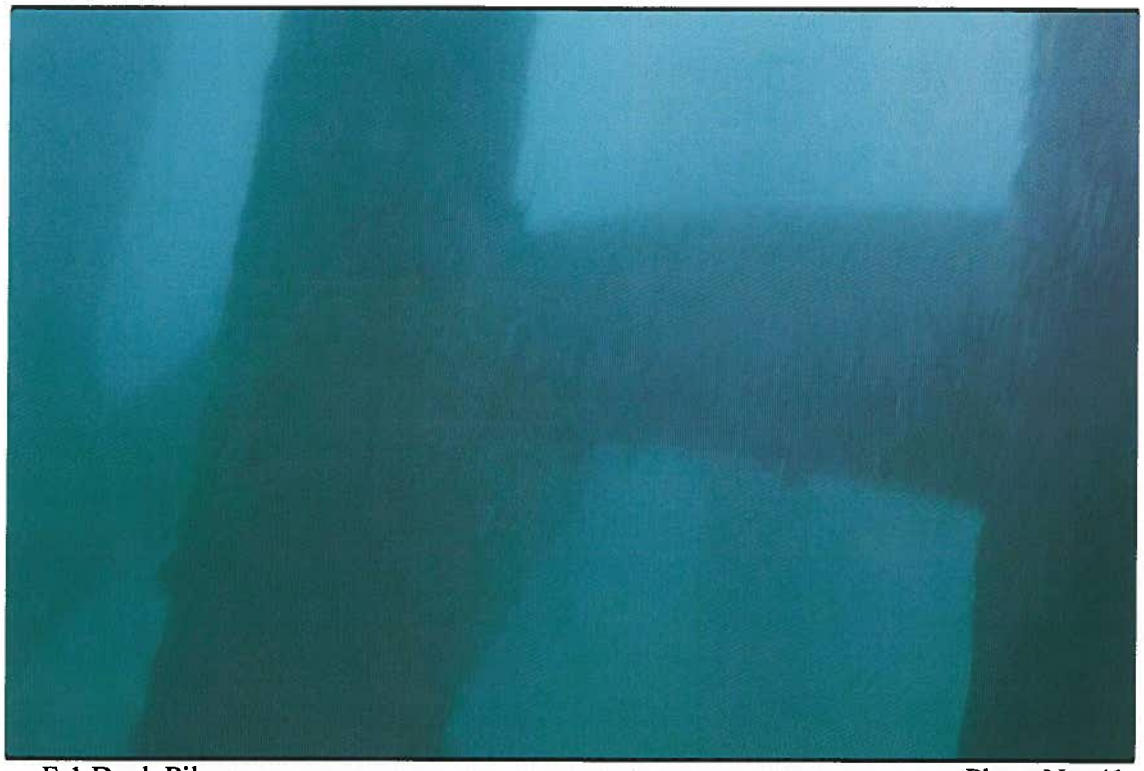
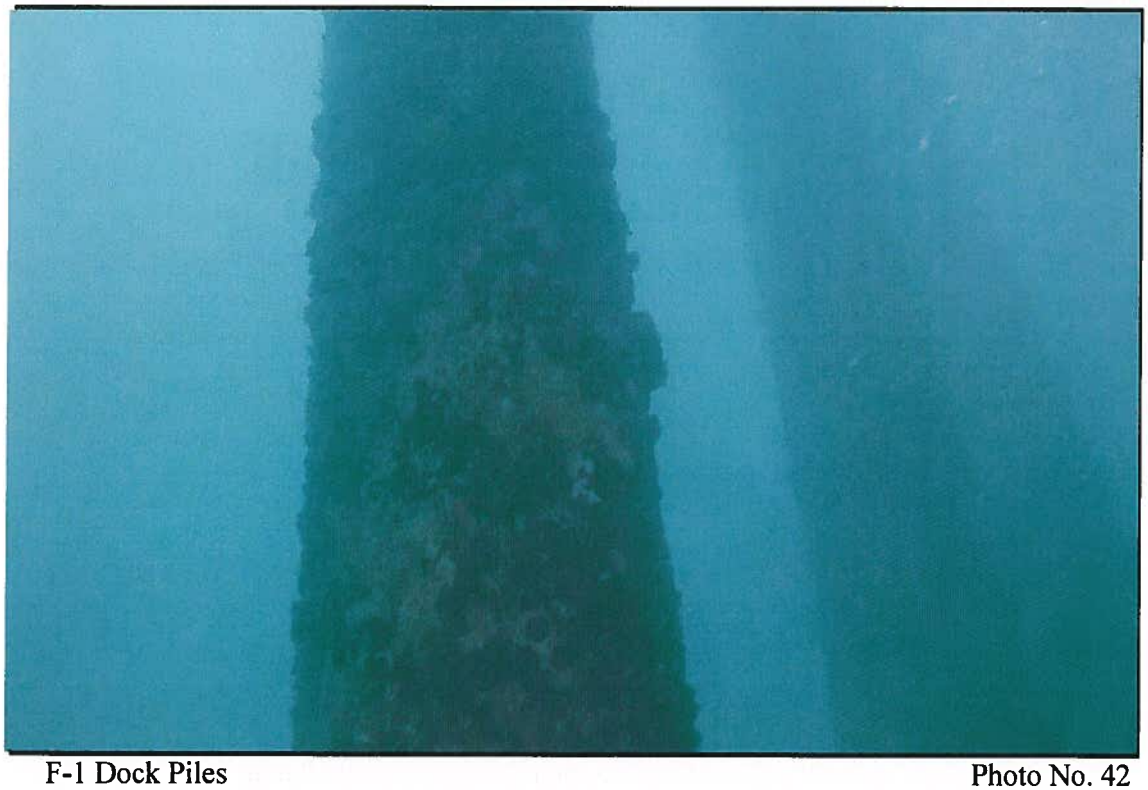


F-1 Dock Piles Photo No. 41



F-1 Dock Piles Photo No. 42

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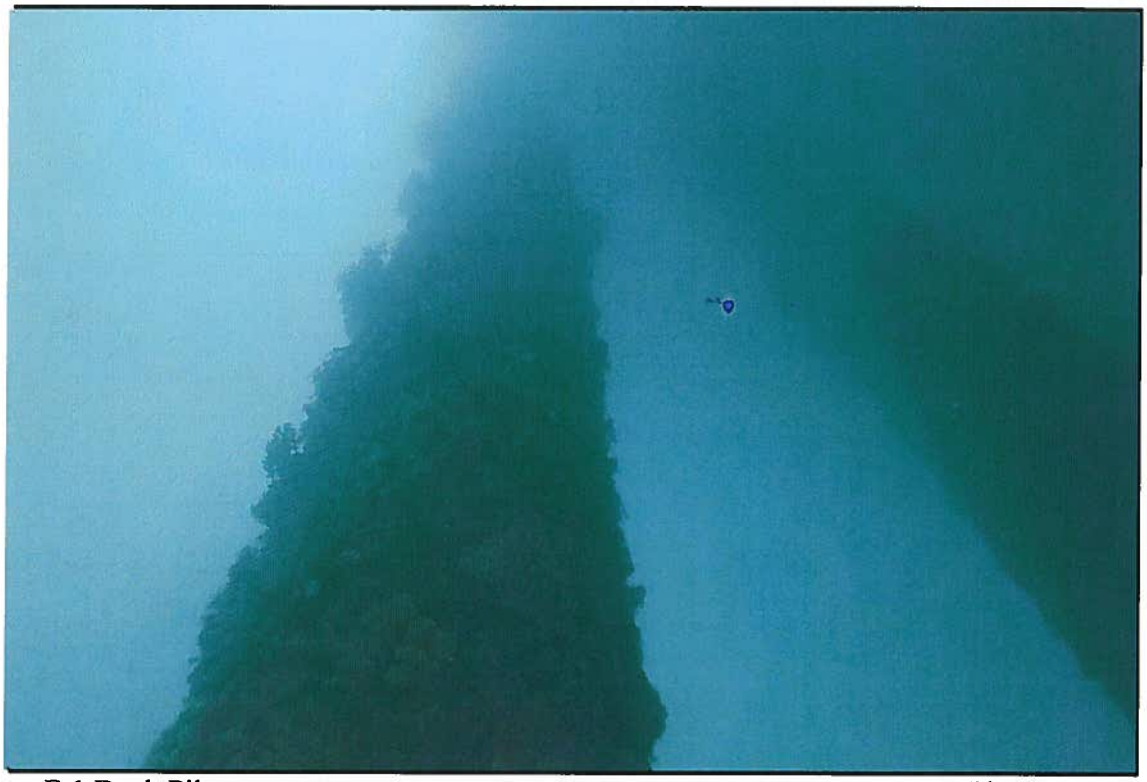
F-1 Dock Piles Photo No. 43



F-1 Dock Piles Photo No. 44

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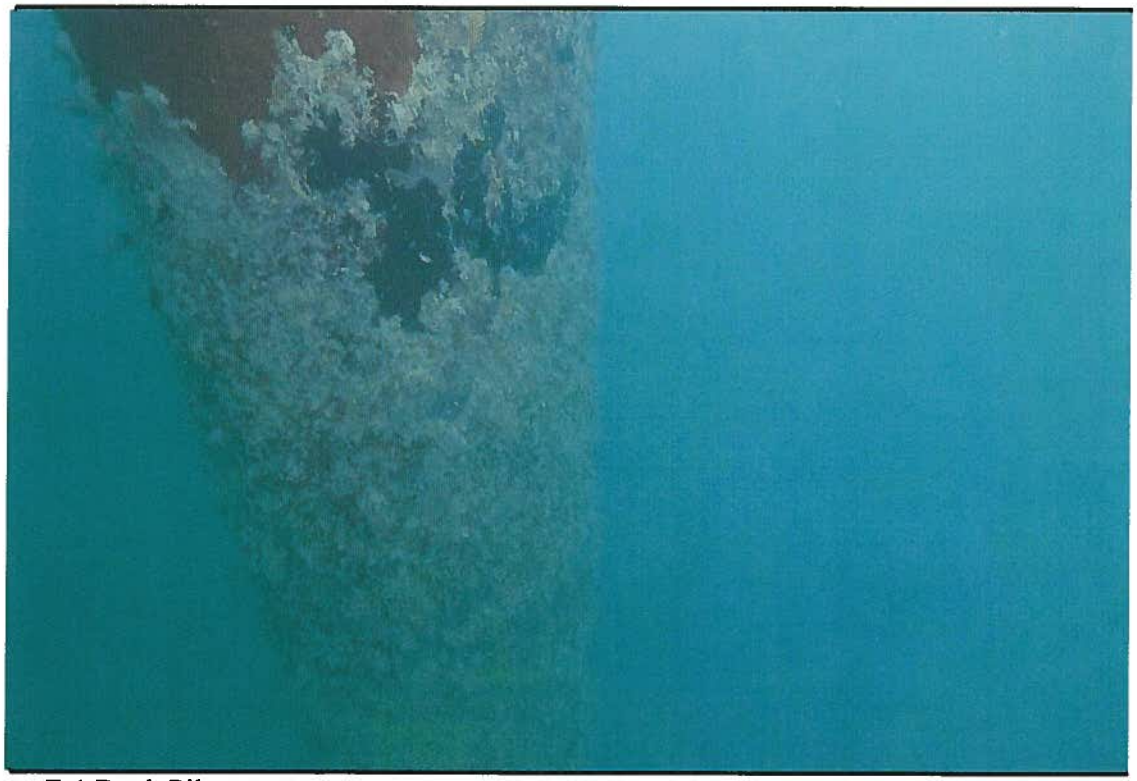
F-1 Dock Piles Photo No. 45



F-1 Dock Piles Photo No. 46

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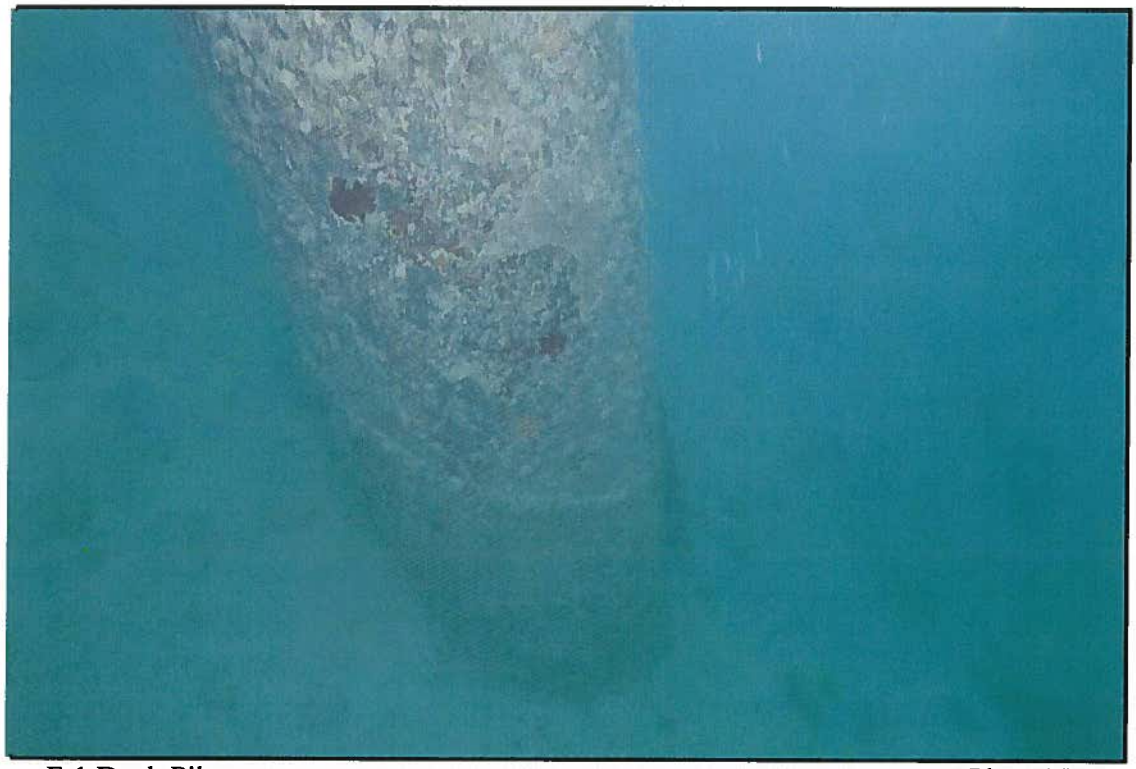
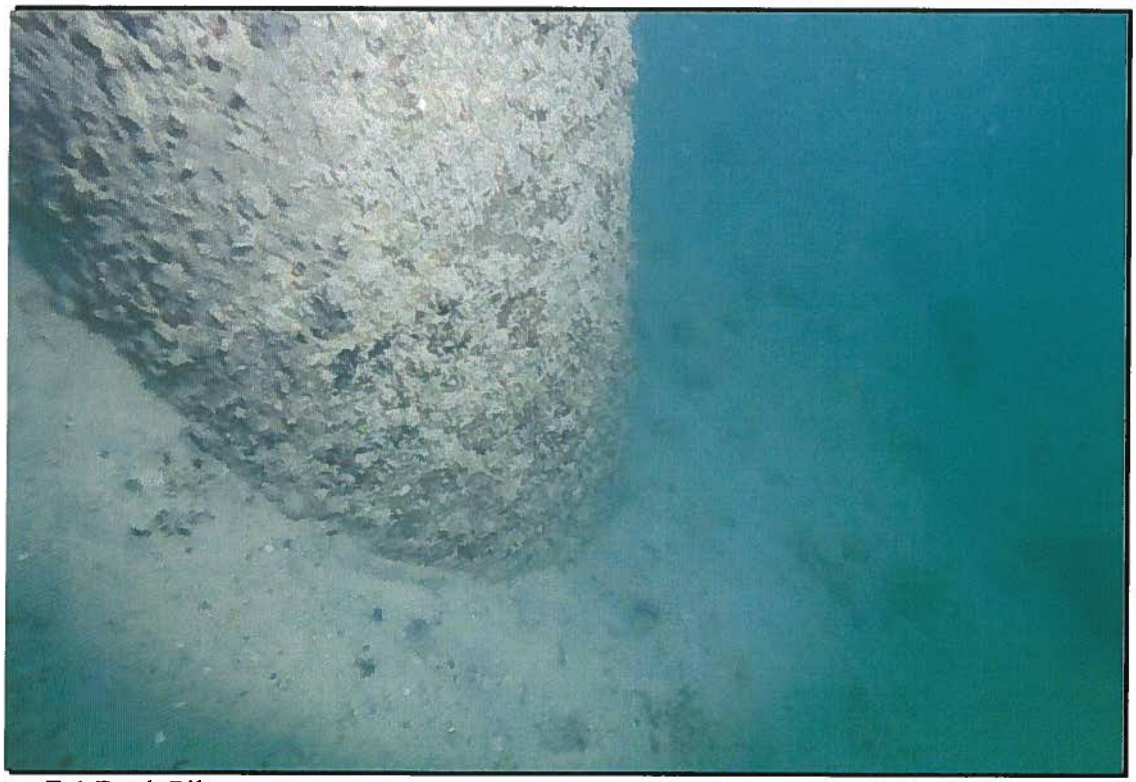


F-1 Dock Piles Photo No. 47



F-1 Dock Piles Photo No. 48

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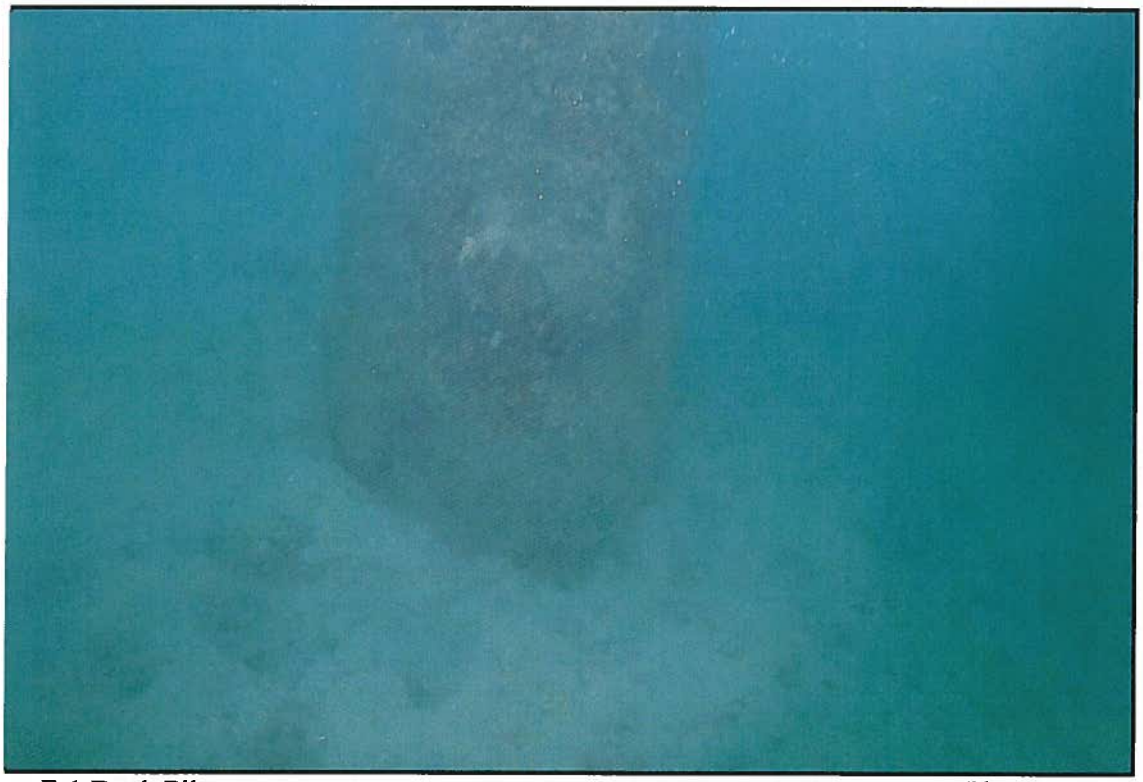
F-1 Dock Piles Photo No. 49



F-1 Dock Piles Photo No. 50

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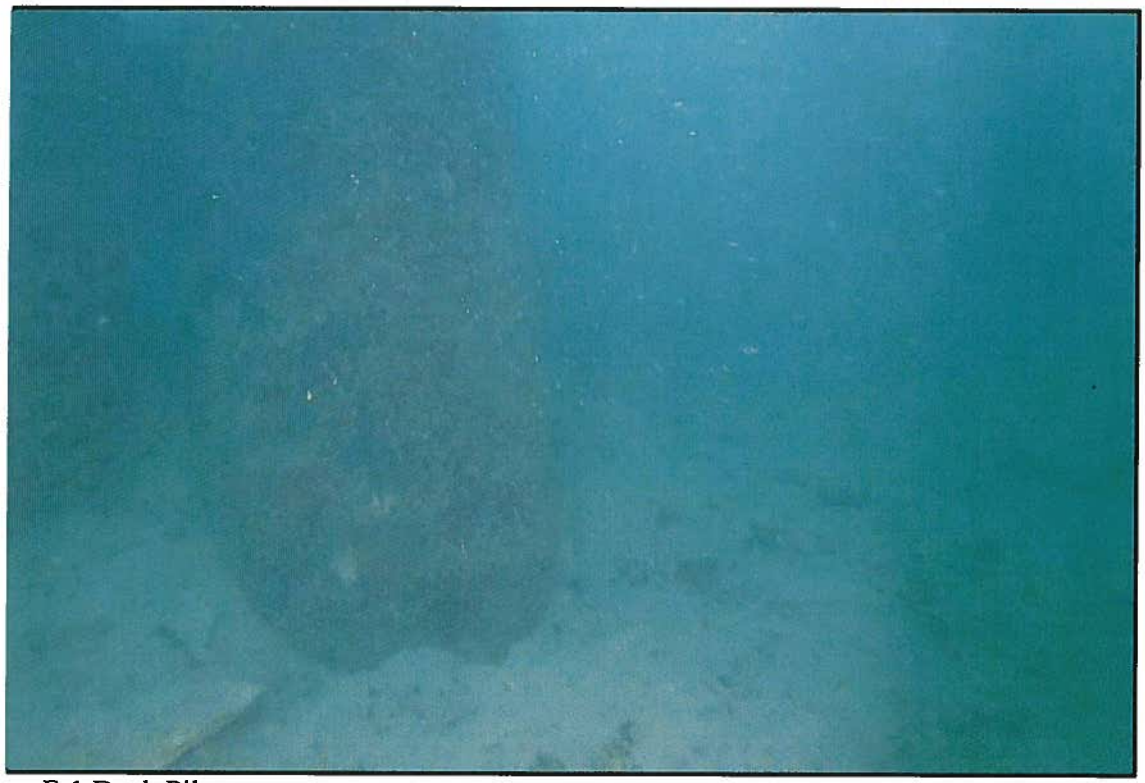
F-1 Dock Piles Photo No. 51



F-1 Dock Piles Photo No. 52

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F-1 Dock Piles Photo No. 53

F-1 Dock Piles Photo No. 54

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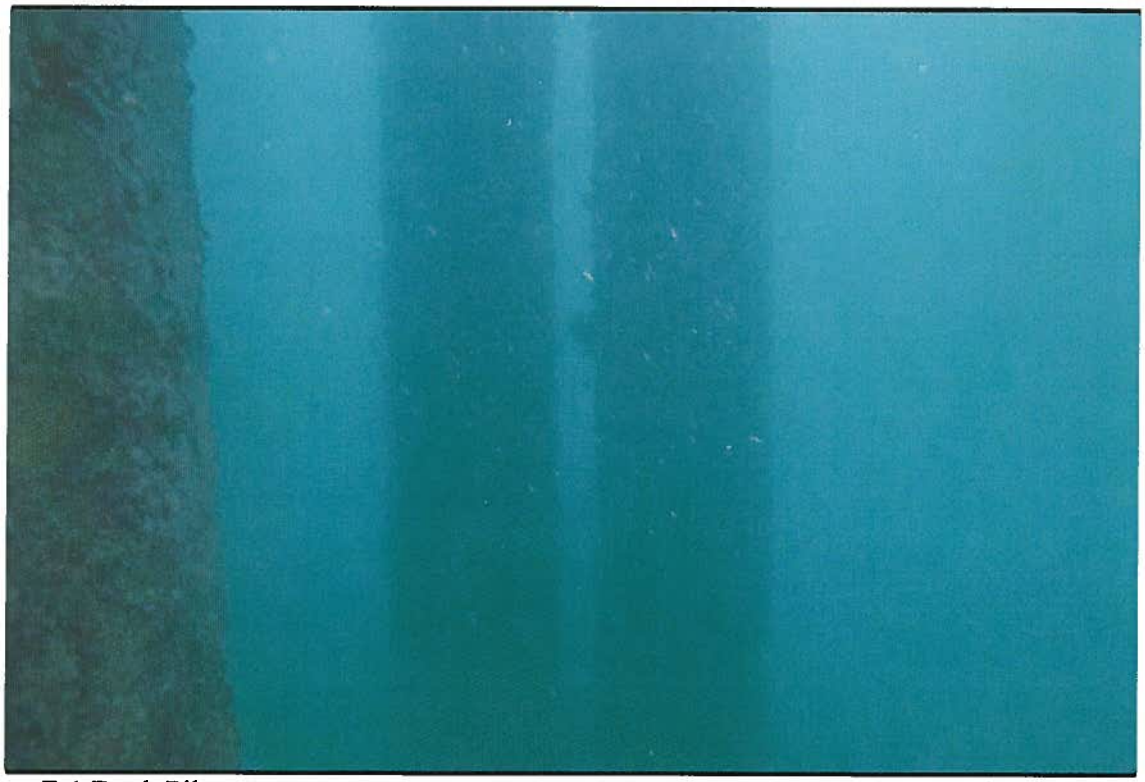
F-1 Dock Piles Photo No. 55



F-1 Dock Piles Photo No. 56

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F-1 Dock Piles Photo No. 57

F-1 Dock Piles Photo No. 58

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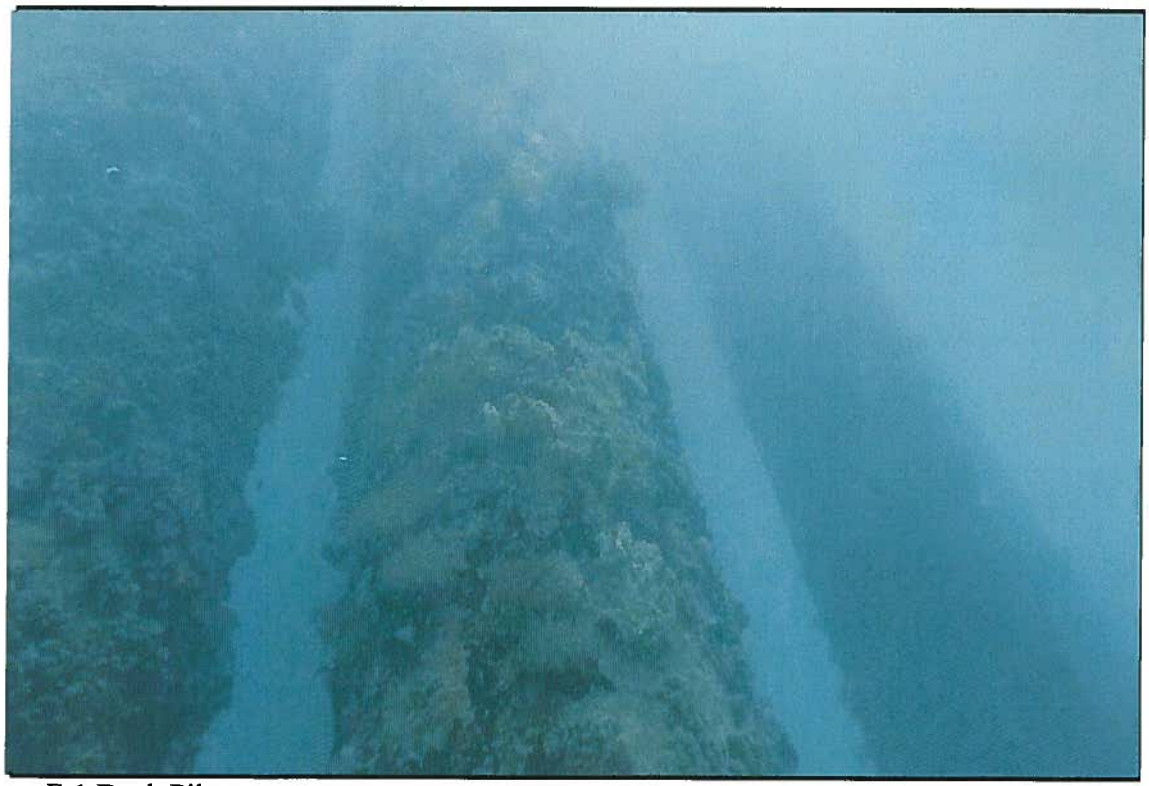
F-1 Dock Piles Photo No. 59



F-1 Dock Piles Photo No. 60

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F-1 Dock Piles Photo No. 61

F-1 Dock Piles & Concrete Cap Photo No. 62

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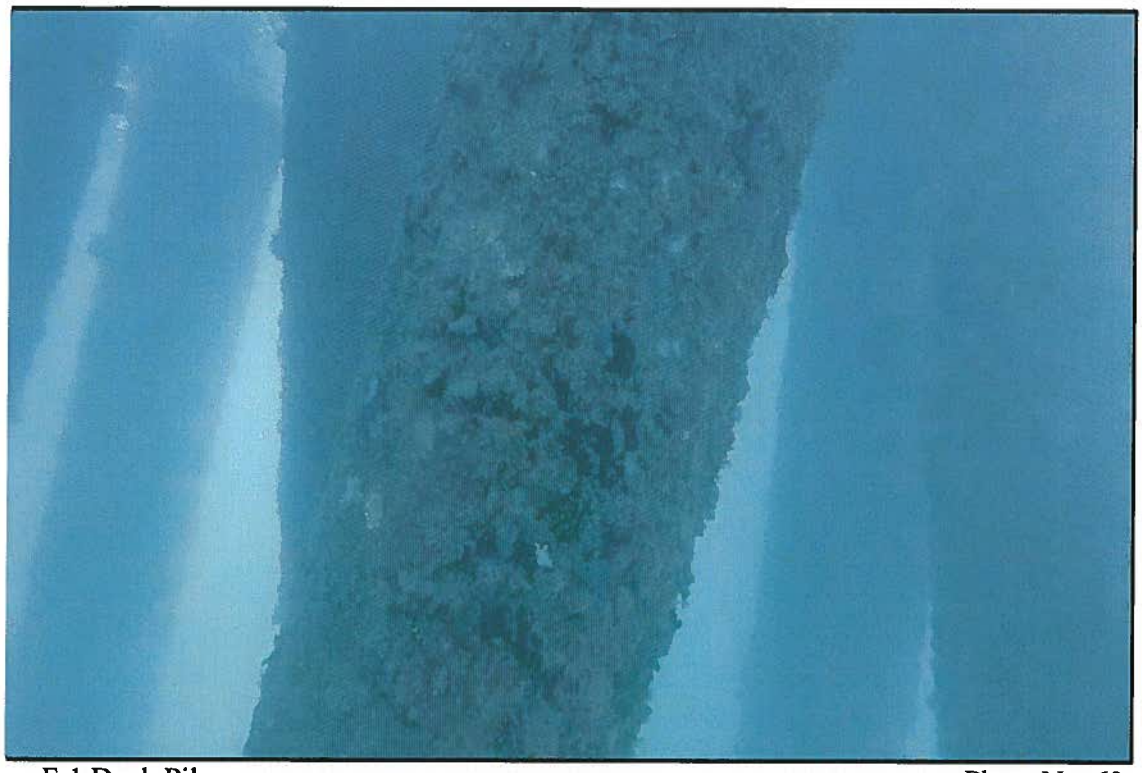
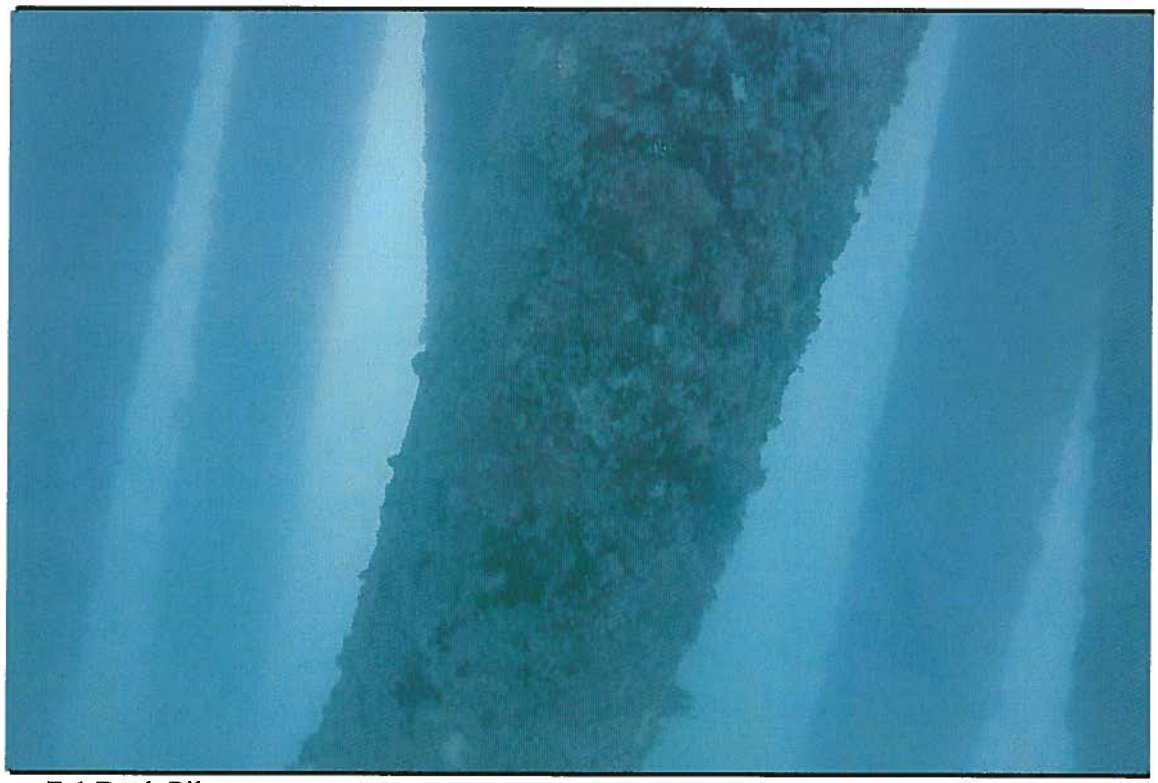


F-1 Dock Piles Photo No. 63



F-1 Dock Piles Photo No. 64

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F-1 Dock Piles Photo No. 65

F-1 Dock Piles Photo No. 66

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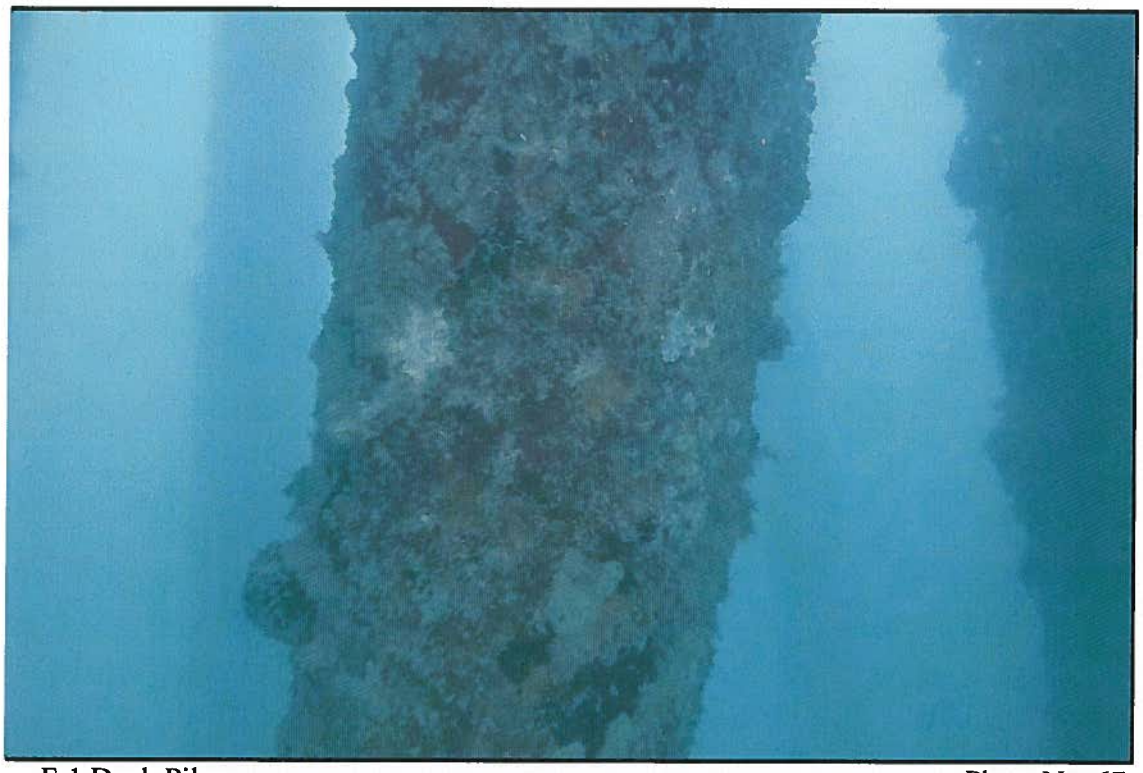

F-1 Dock Piles Photo No. 67

F-1 Dock Piles Photo No. 68

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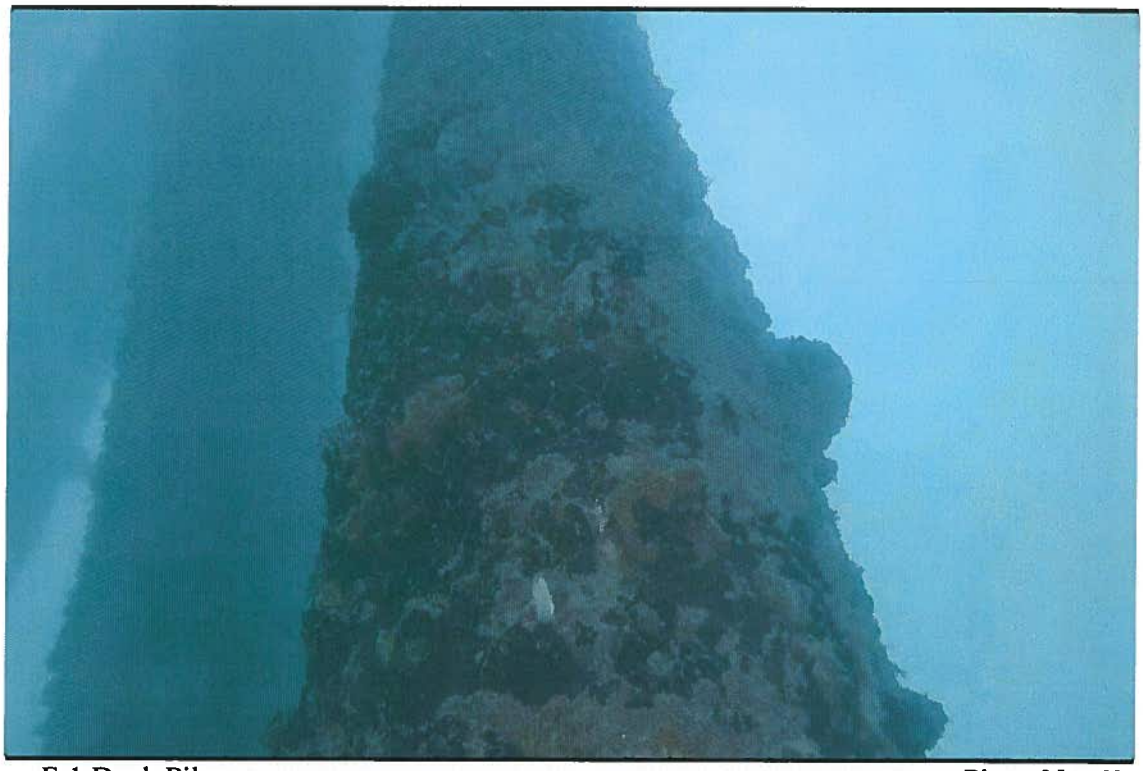
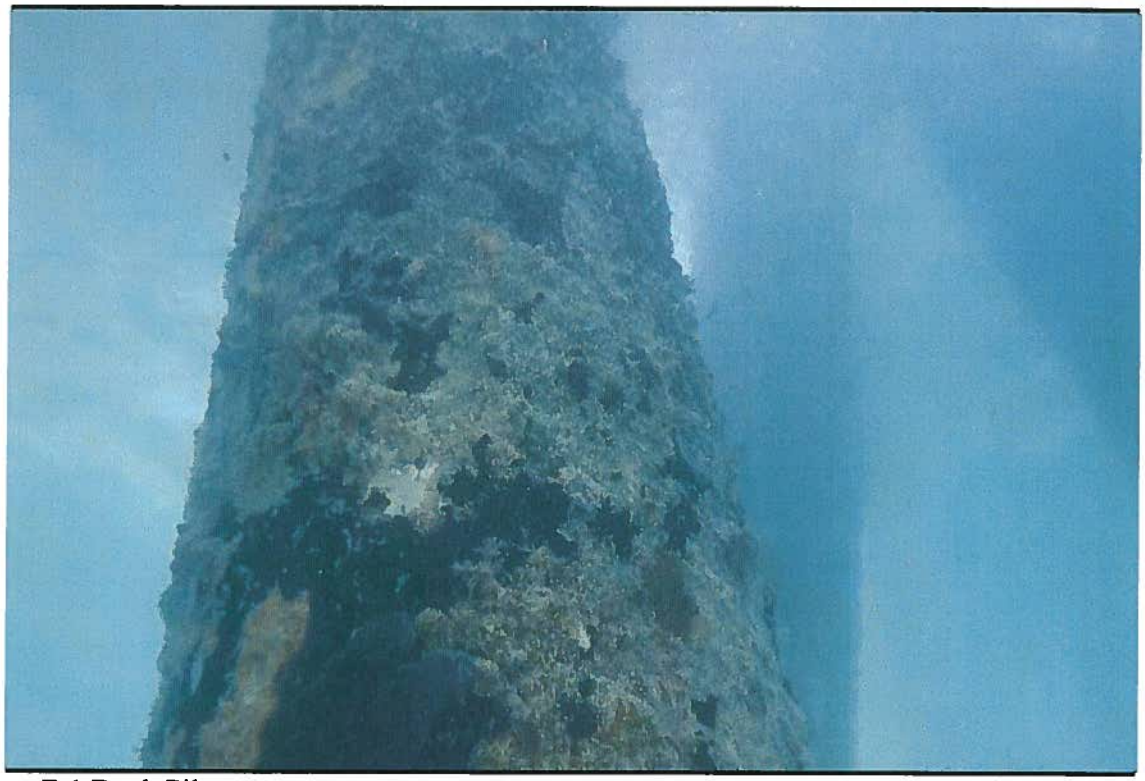


F-1 Dock Piles Photo No. 69



F-1 Dock Piles Photo No. 70

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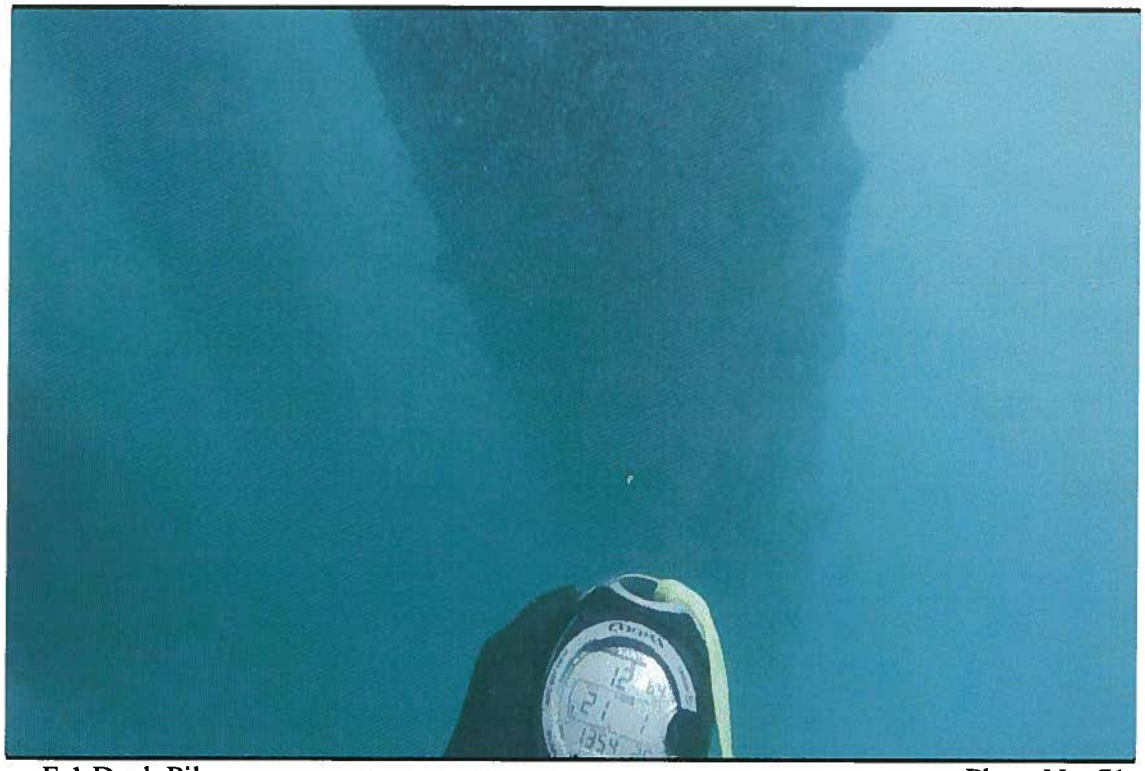
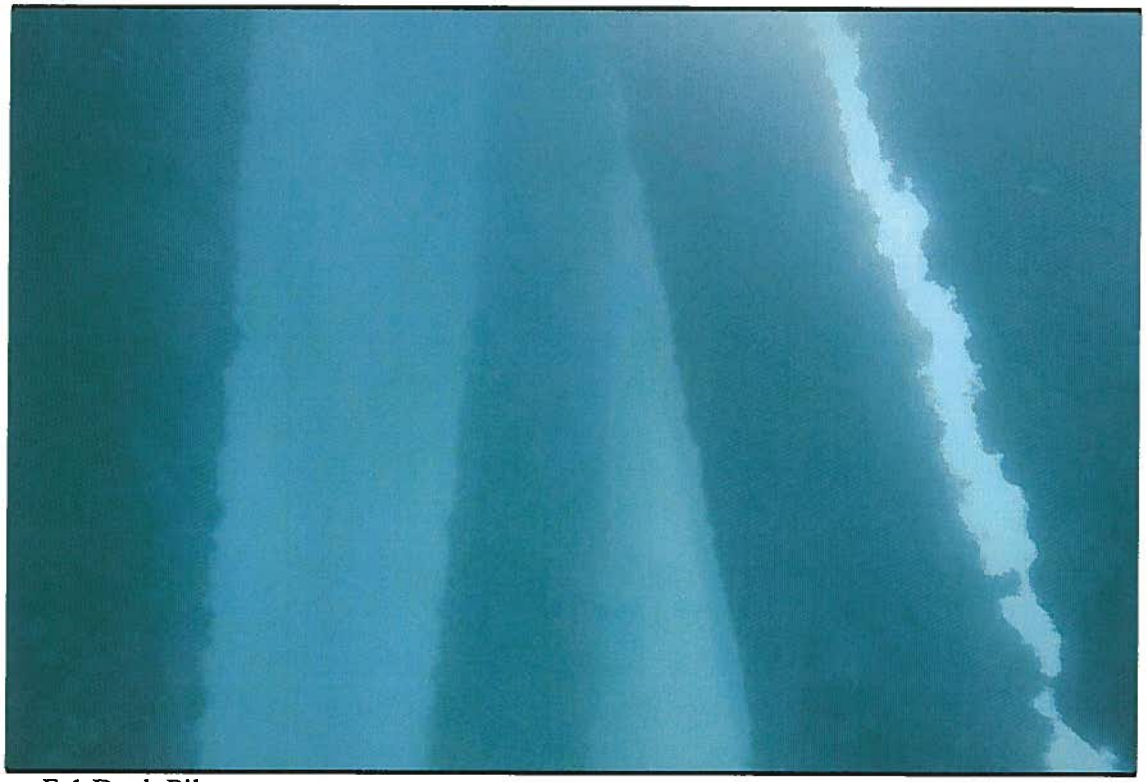


F-1 Dock Piles Photo No. 71



F-1 Dock Piles Photo No. 72

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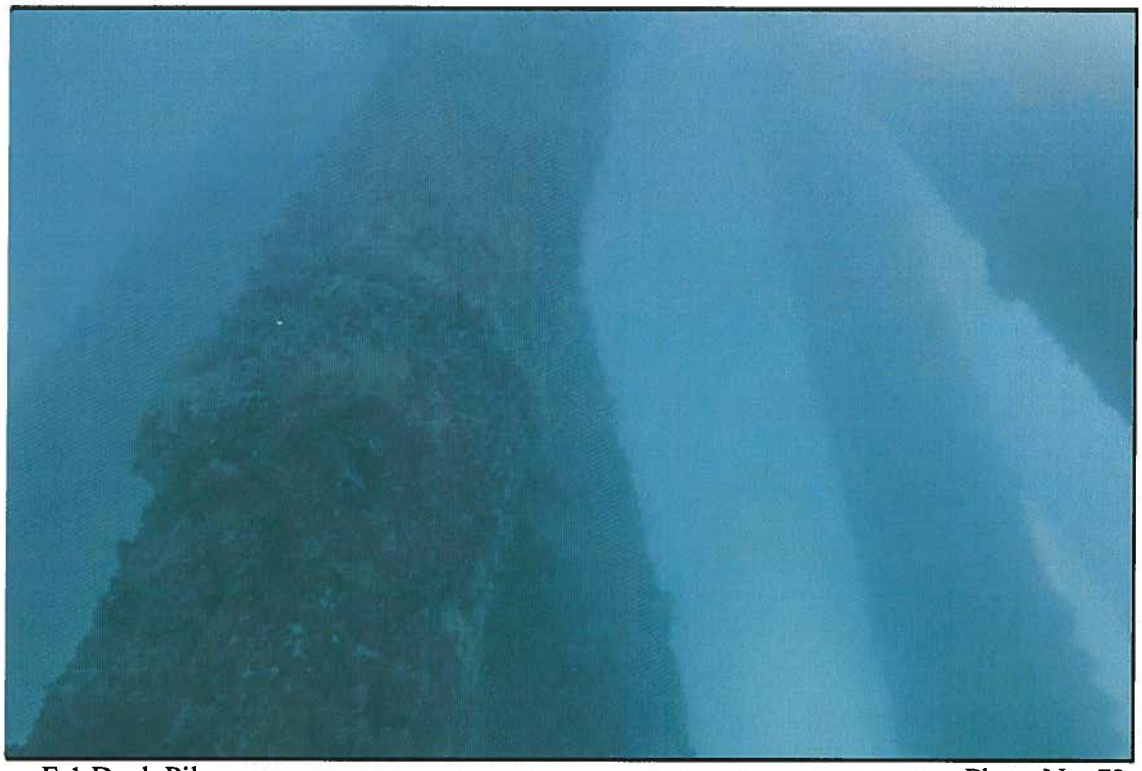
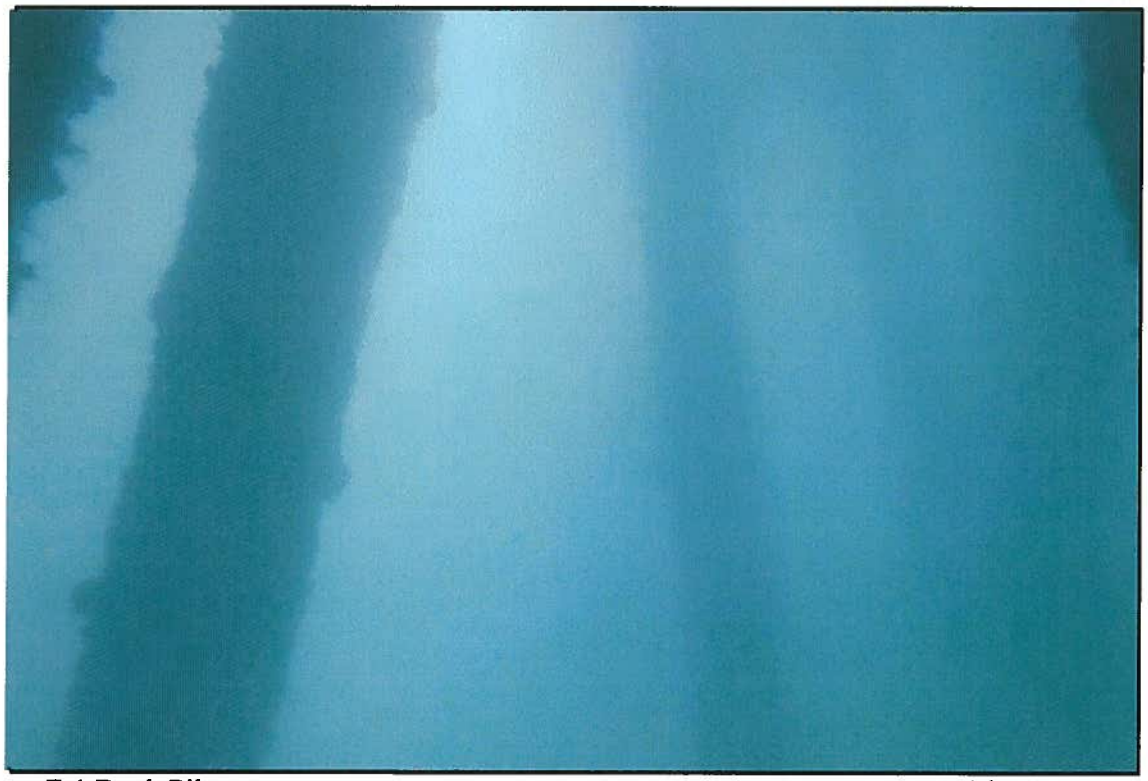


F-1 Dock Piles Photo No. 73



F-1 Dock Piles Photo No. 74

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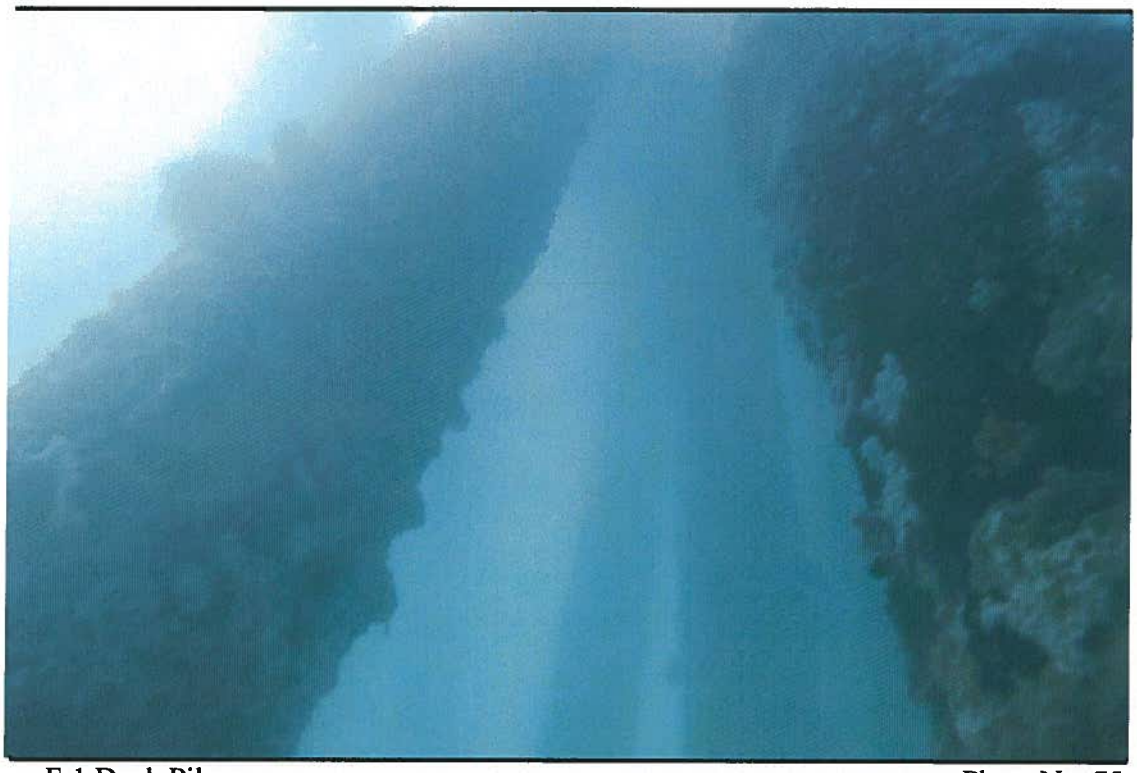
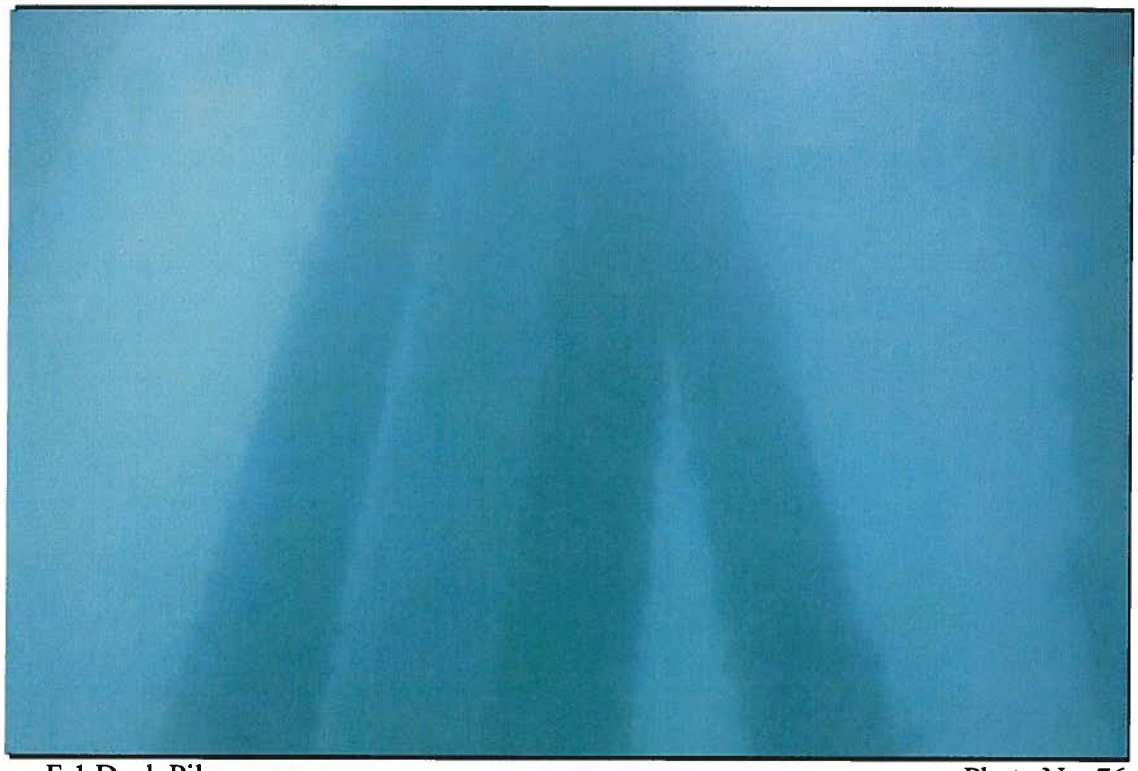


F-1 Dock Piles Photo No. 75



F-1 Dock Piles Photo No. 76

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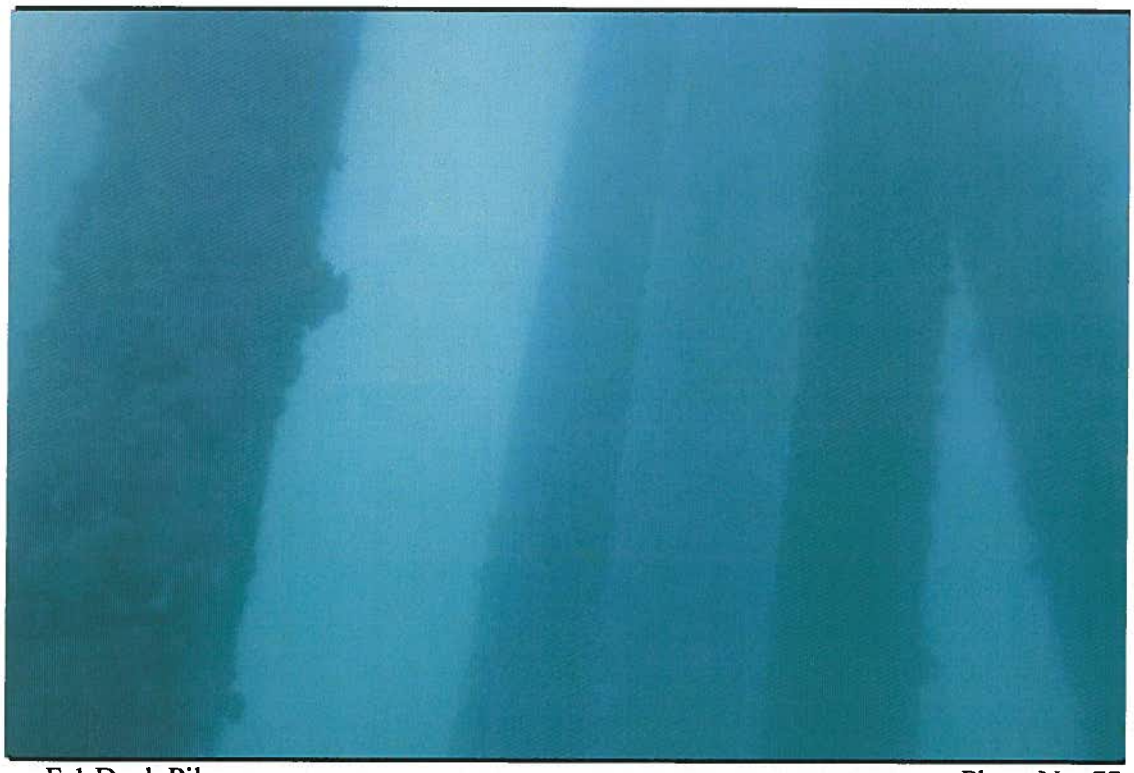
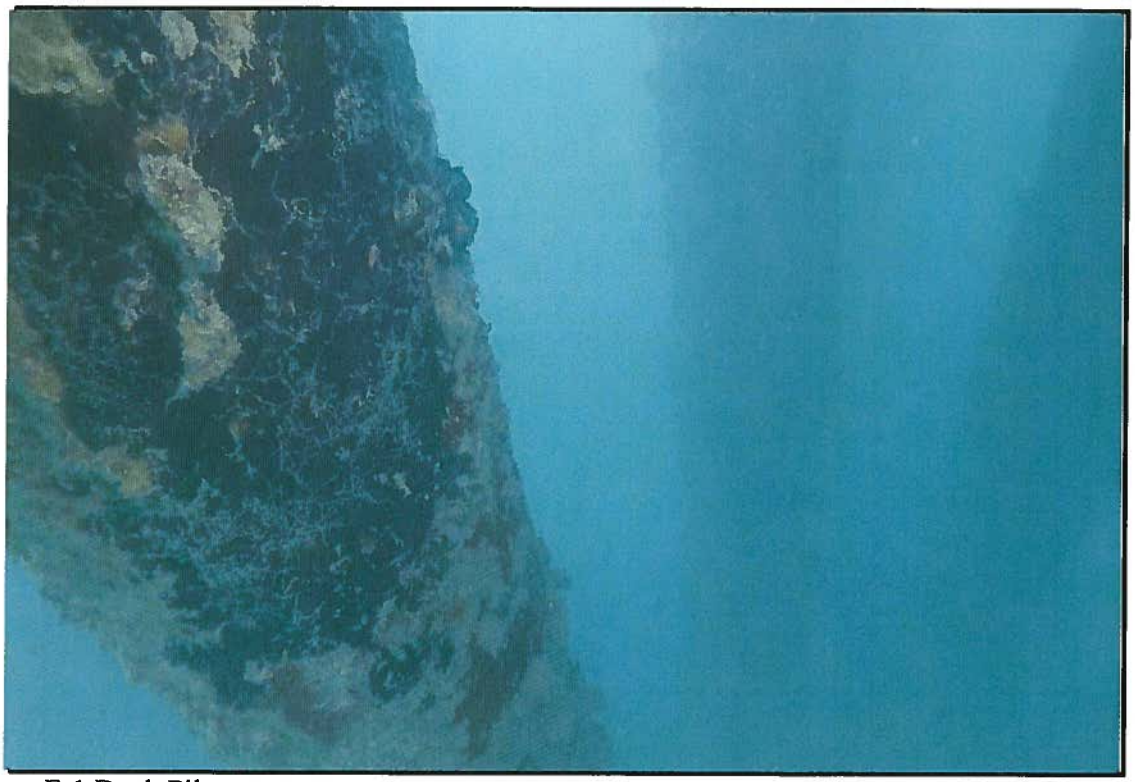


F-1 Dock Piles Photo No. 77



F-1 Dock Piles Photo No. 78

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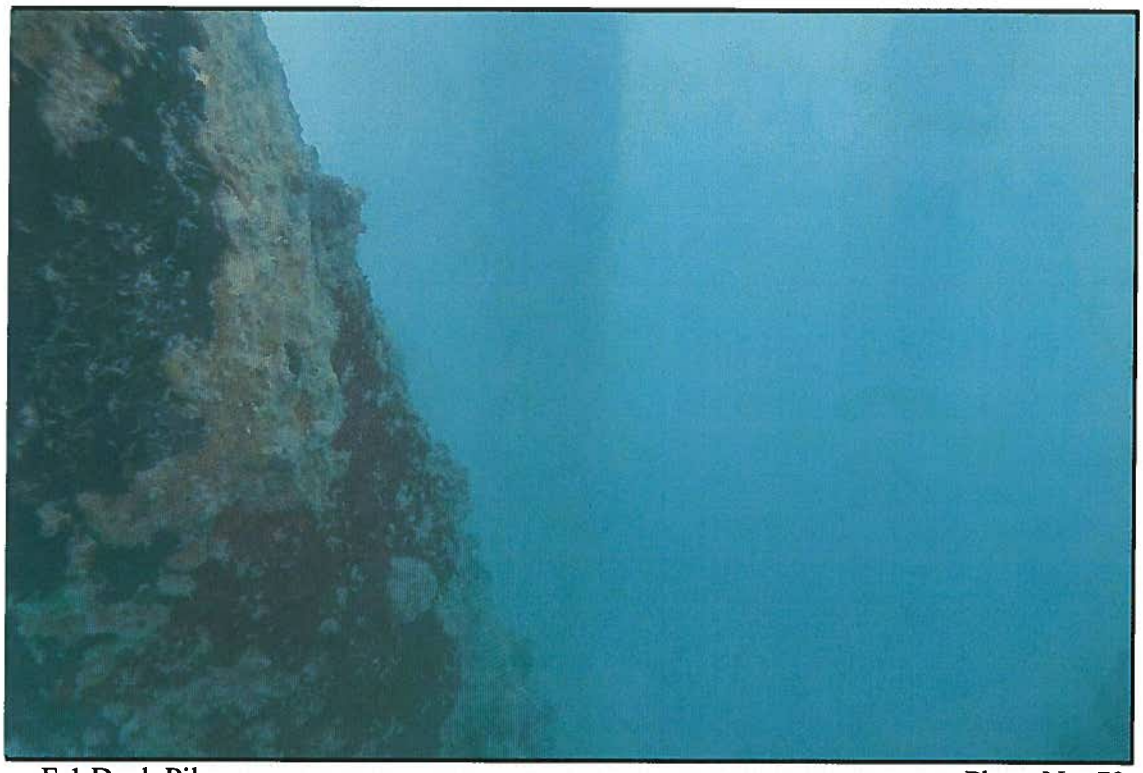
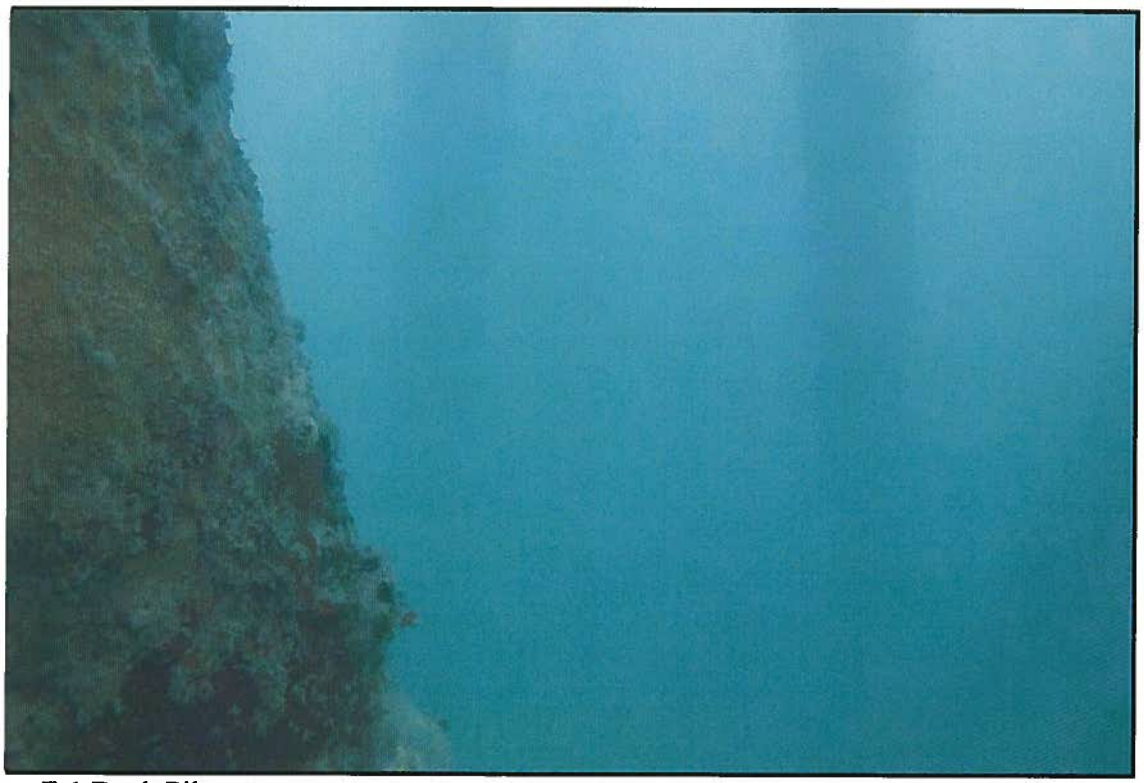
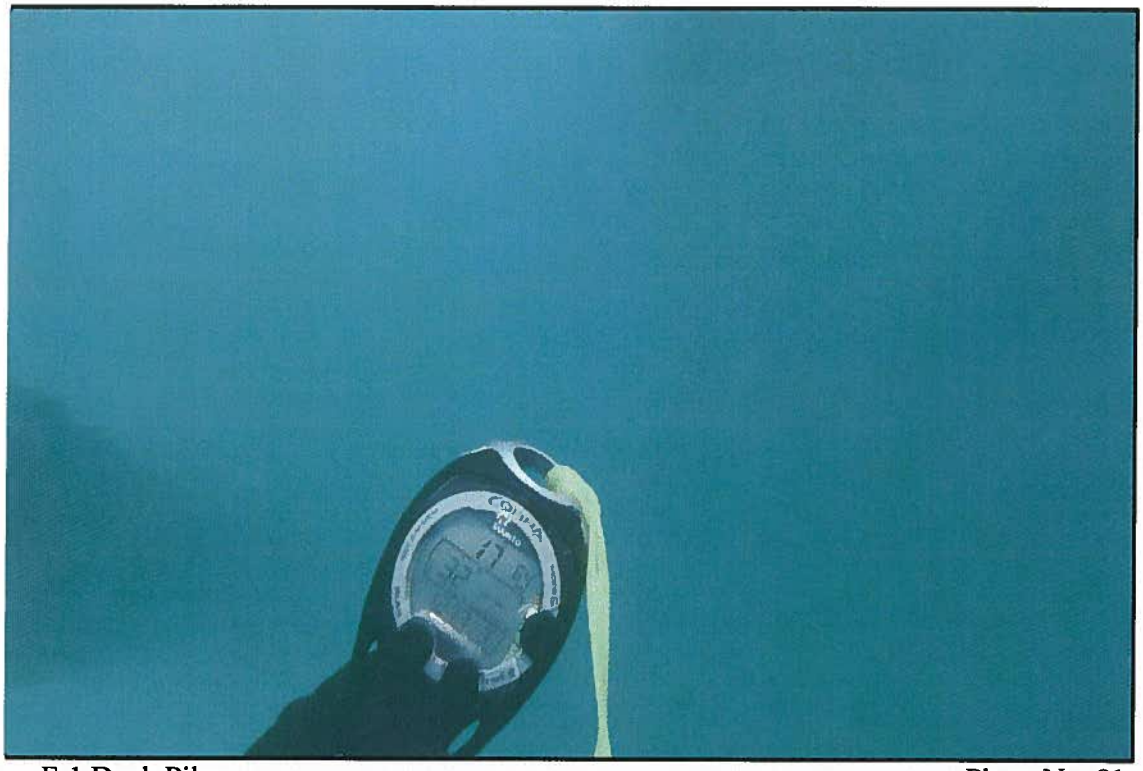


F-1 Dock Piles Photo No. 79



F-1 Dock Piles Photo No. 80

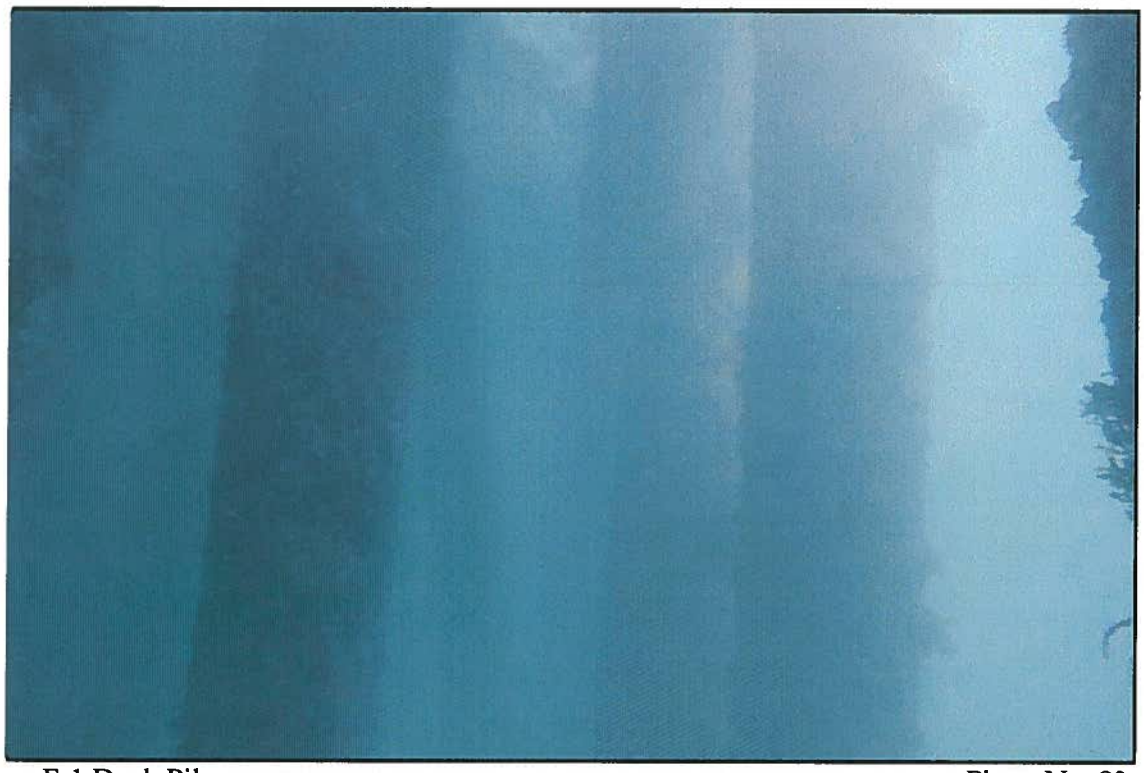
ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 East Marine Corps Drive, Diamond Plaza, Suite 201, Hagatna, Guam 96910 / Tel: (671)477-7991 / Fax: (671)479-6315
SAIPAN Caller Box PPP, Suite 164, Saipan, MP 96950 / Chalan Pale Arnold,, Ada's Building, South Garapan, Saipan 96950 / Tel: (670)234-9017 / Fax: (670)234-3842



F-1 Dock Piles Photo No. 81

F-1 Dock Piles Photo No. 82

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 East Marine Corps Drive, Diamond Plaza, Suite 201, Hagatna, Guam 96910 / Tel: (671)477-7991 / Fax: (671)479-6315
SAIPAN Caller Box PPP, Suite 164, Saipan, MP 96950 / Chalan Pale Arnold,, Ada's Building, South Garapan, Saipan 96950 / Tel: (670)234-9017 / Fax: (670)234-3842



F-1 Dock Piles Photo No. 83

ENGINEERING * PLANNING * SURVEYING * ENVIRONMENTAL SERVICES * GEOGRAPHIC INFORMATION SYSTEM * CONSTRUCTION MANAGEMENT
GUAM P.O. Box 8900, Tamuning, Guam 96931 / 238 East Marine Corps Drive, Diamond Plaza, Suite 201, Hagatna, Guam 96910 / Tel: (671)477-7991 / Fax: (671)479-6315
SAIPAN Caller Box PPP, Suite 164, Saipan, MP 96950 / Chalan Pale Arnold,, Ada's Building, South Garapan, Saipan 96950 / Tel: (670)234-9017 / Fax: (670)234-3842

Structural Assessment Report

For The

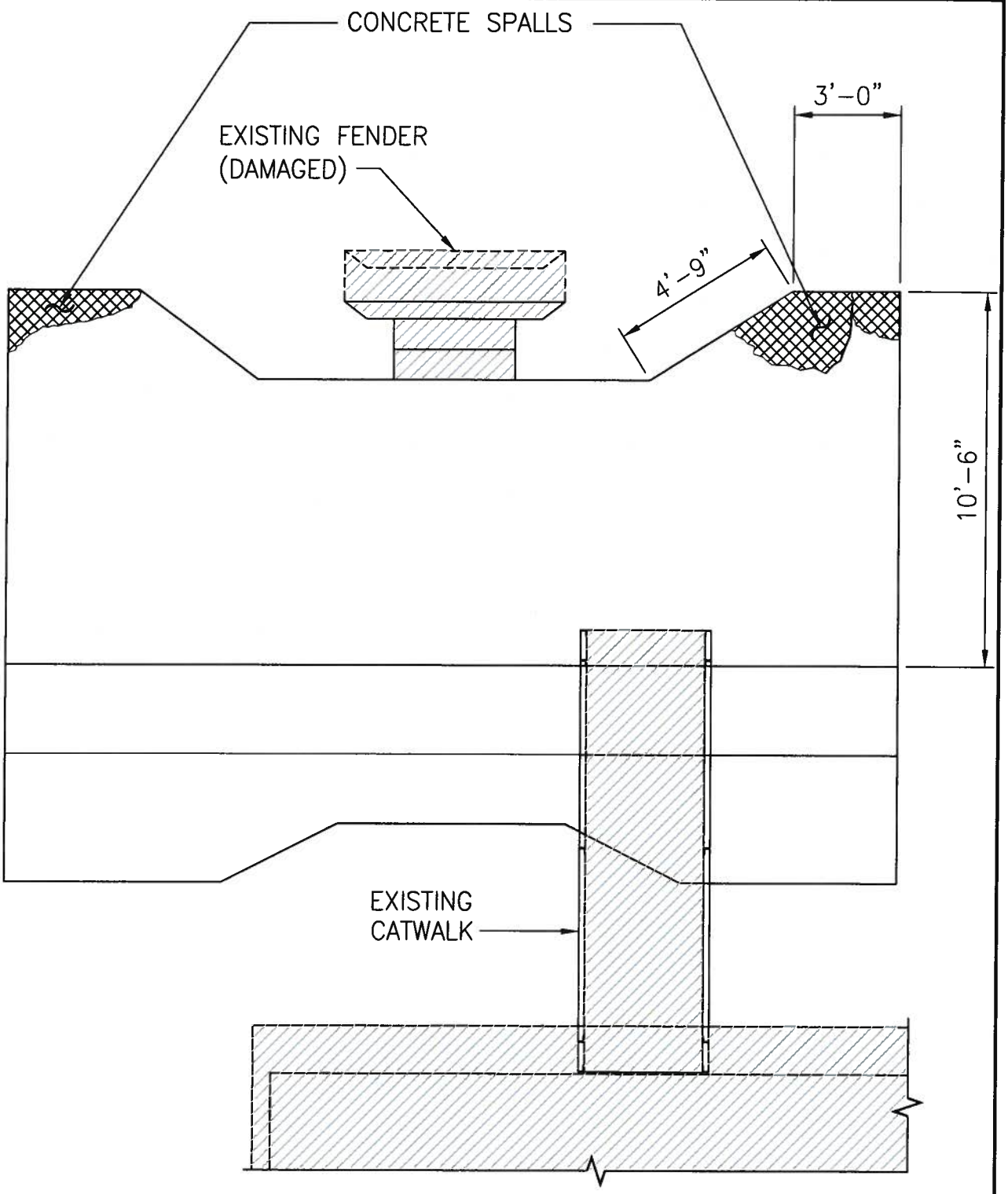
PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

APPENDIX C
SKETCHES
of
Structural Damage

October 5, 2017

PREPARED BY:

DC&A
DUEÑAS · CAMACHO
& Associates, Inc.



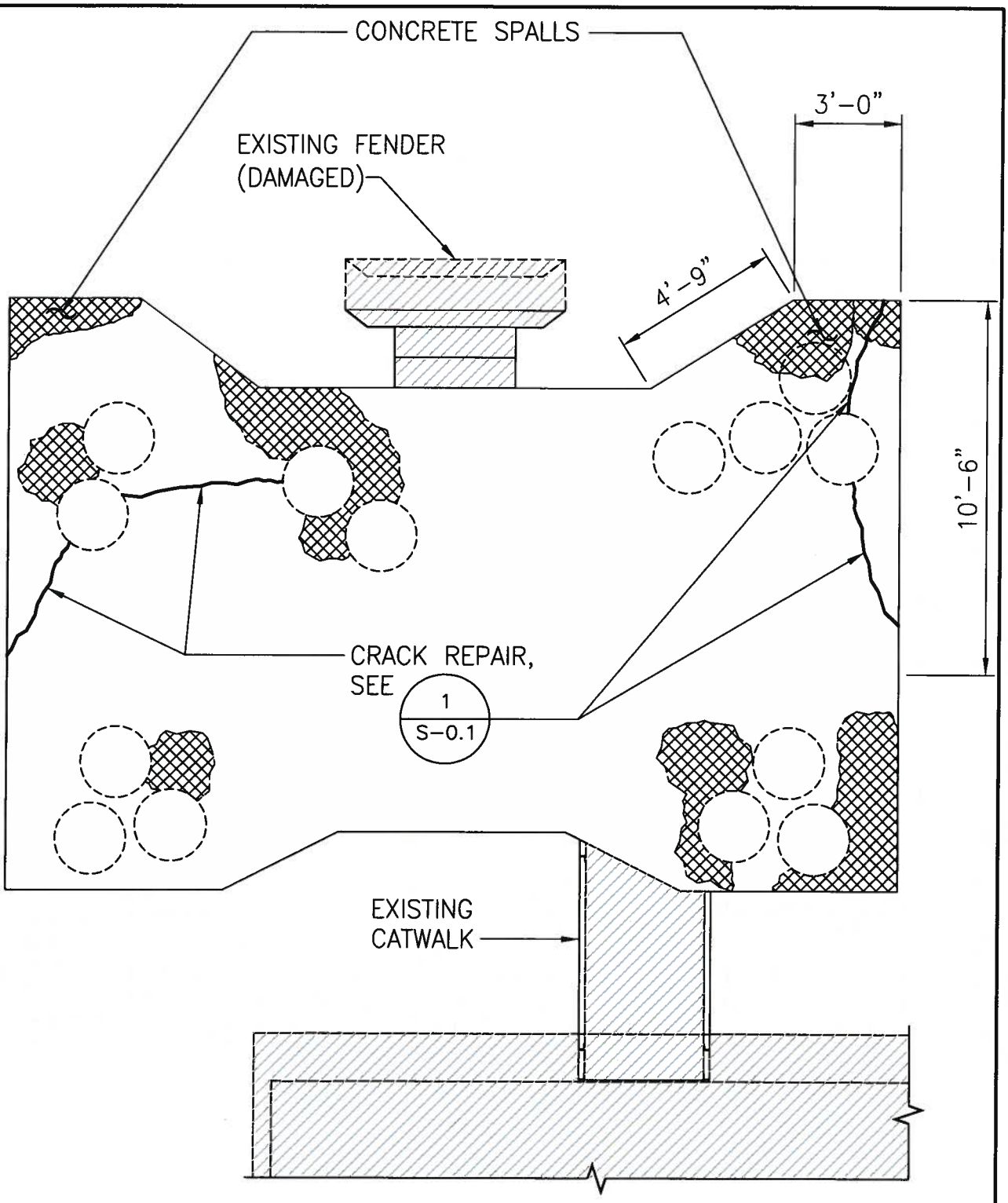
1 PLAN
1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT:
PAG - FI DOCK ASSESSMENT

TITLE:
DAMAGES

Issued By: TPC
Scale: AS SHOWN
Date: SEPT 29, 2017
Drawing No. S-4
Sheet No. 7 of 9



1 PLAN

1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT:

PAG - FI DOCK ASSESSMENT

TITLE:

BOTTOM DAMAGES

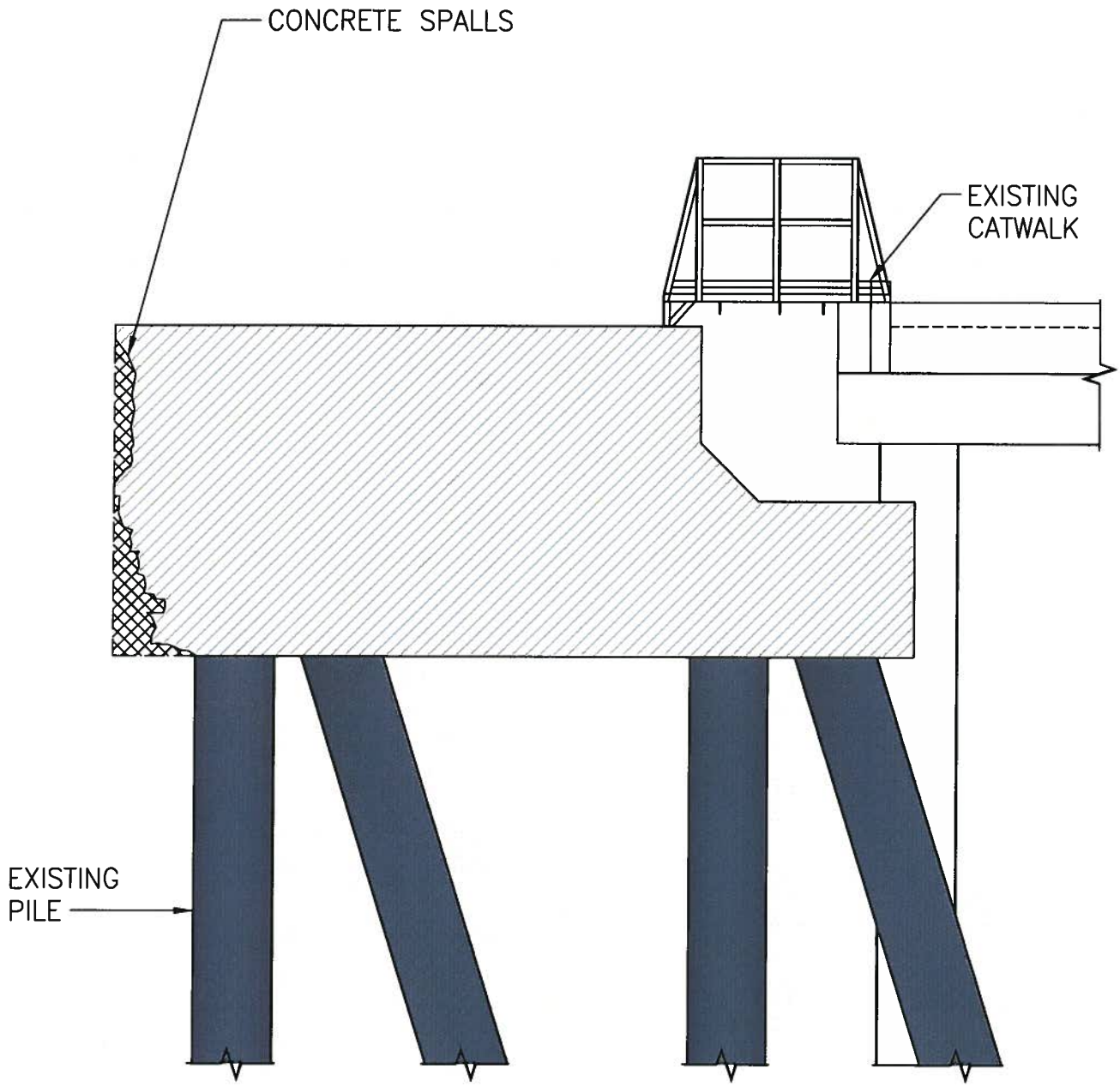
Issued By: TPC

Scale: AS SHOWN

Date: SEPT 29, 2017

Drawing No. S-5

Sheet No. 8 of 9



1 ELEVATION

1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT:
PAG - FI DOCK ASSESSMENT

TITLE:
DAMAGES

Issued By: TPC
Scale: AS SHOWN
Date: SEPT 29, 2017
Drawing No. S-6
Sheet No. 9 of 9

Structural Assessment Report

For The

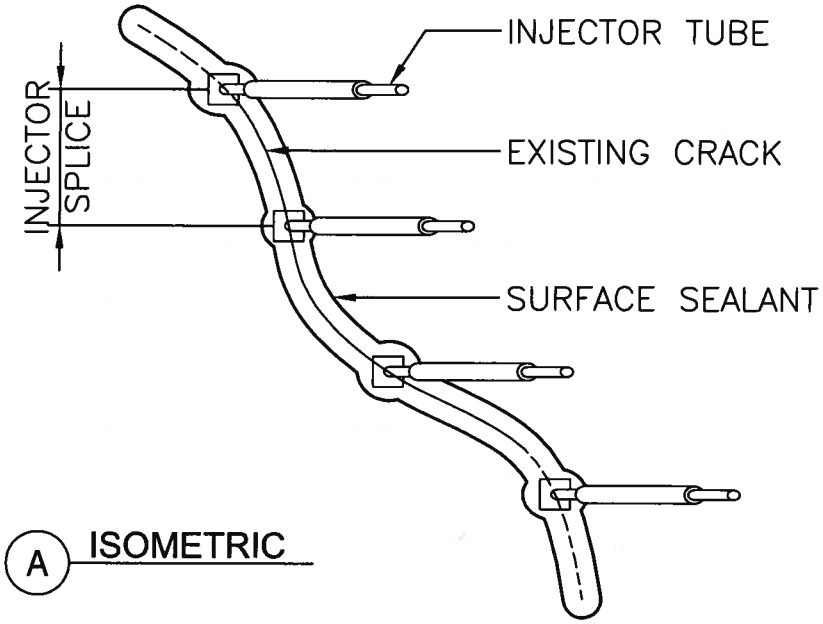
PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

APPENDIX D
REPAIR DETAILS

October 5, 2017

PREPARED BY:

DCA&A
DUEÑAS · CAMACHO
& Associates Inc.



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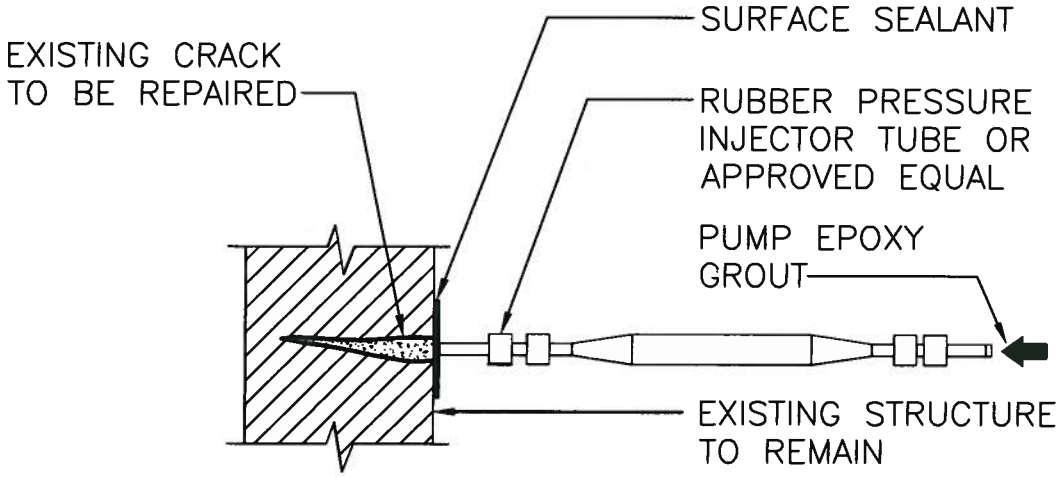


B PLAN

DUEÑAS · CAMACHO & ASSOCIATES INC

PROJECT: PAG - FI DOCK ASSESSMENT

TITLE: CRACK REPAIR W/ PRESSURE INJECTED EPOXY

Issued By: TPC

Scale: AS SHOWN

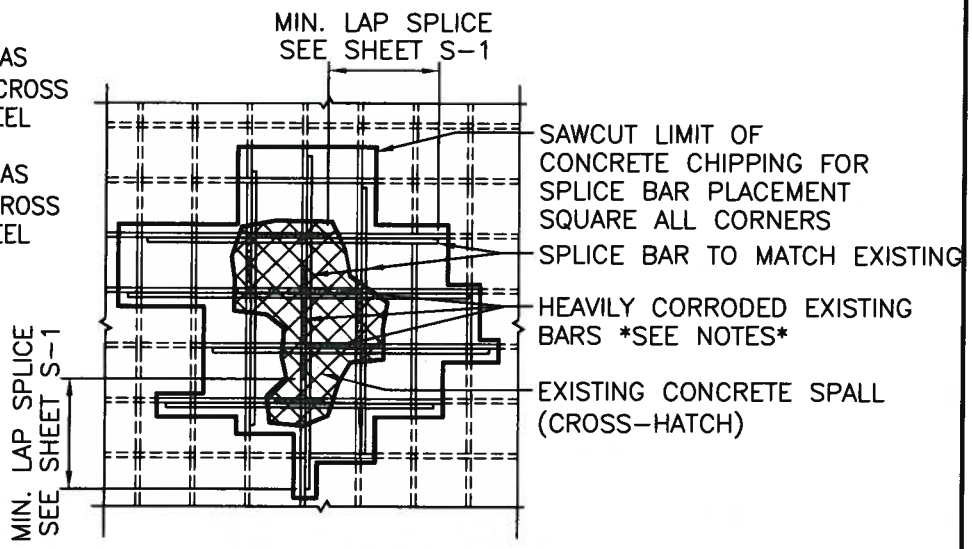
Date: SEPT 29, 2017

Drawing No. S-0.1

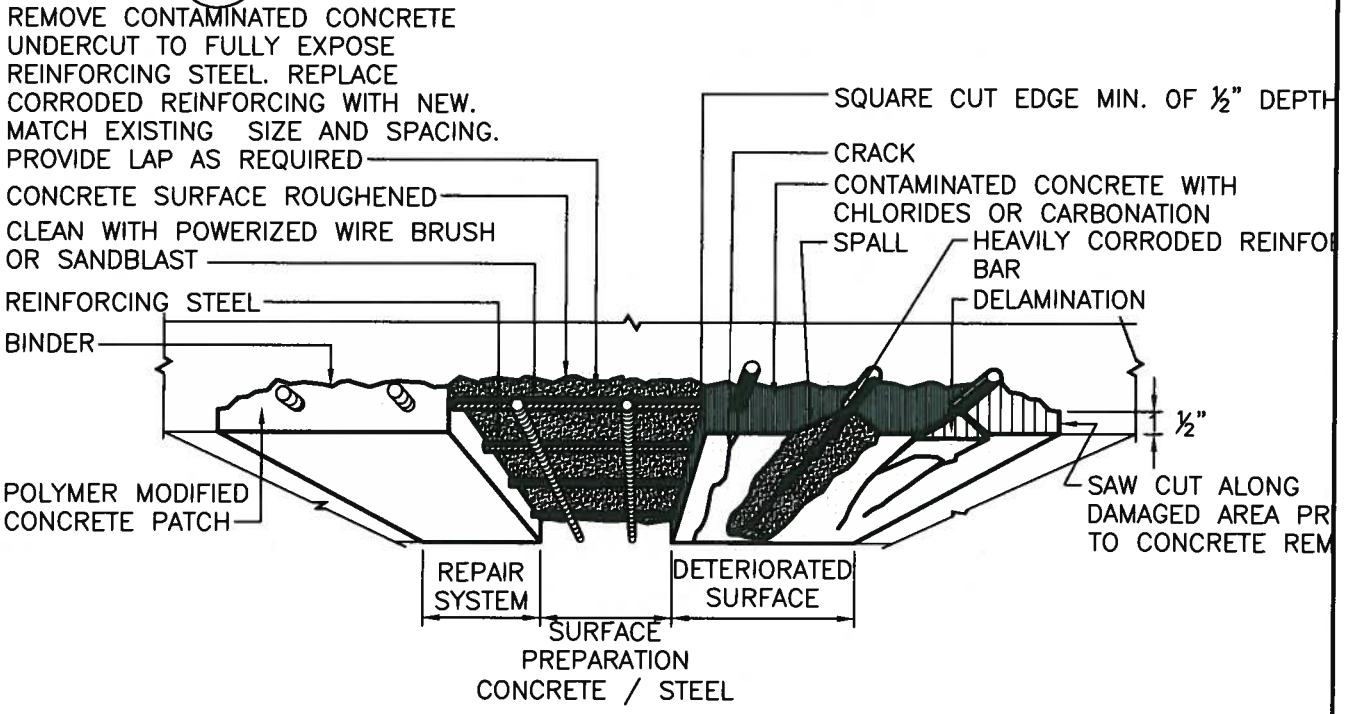
Sheet No. 1 of 9

NOTE:

1. IF THE REINFORCING STEEL HAS LOST MORE THAN 25% OF IT'S CROSS SECTION, THEN REINFORCING STEEL SPLICE BAR IS REQUIRED.
2. IF THE REINFORCING STEEL HAS LOST LESS THAN 25% OF IT'S CROSS SECTION, THEN REINFORCING STEEL SPLICE BAR IS NOT REQUIRED.



1A SPLICE PLAN W/ CORRODED REINF



1B ELEVATION

1 TYP. DAMAGED/REPAIRED SECTION

NOT TO SCALE

DUEÑAS · CAMACHO & Associates Inc

PROJECT: PAG - FI DOCK ASSESSMENT

TITLE: TYP. DAMAGED / REPAIRED DETAIL

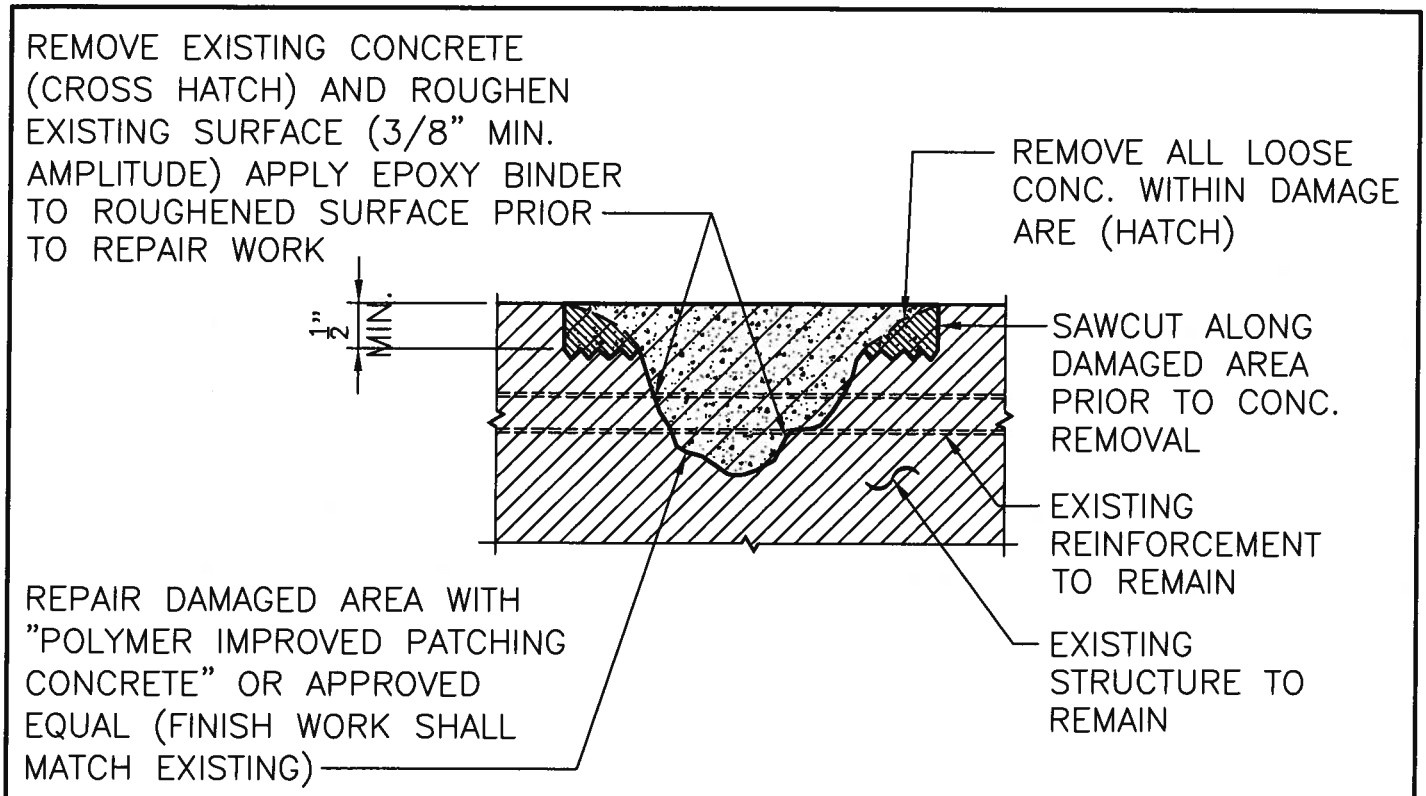
Issued By: TPC

Scale: AS SHOWN

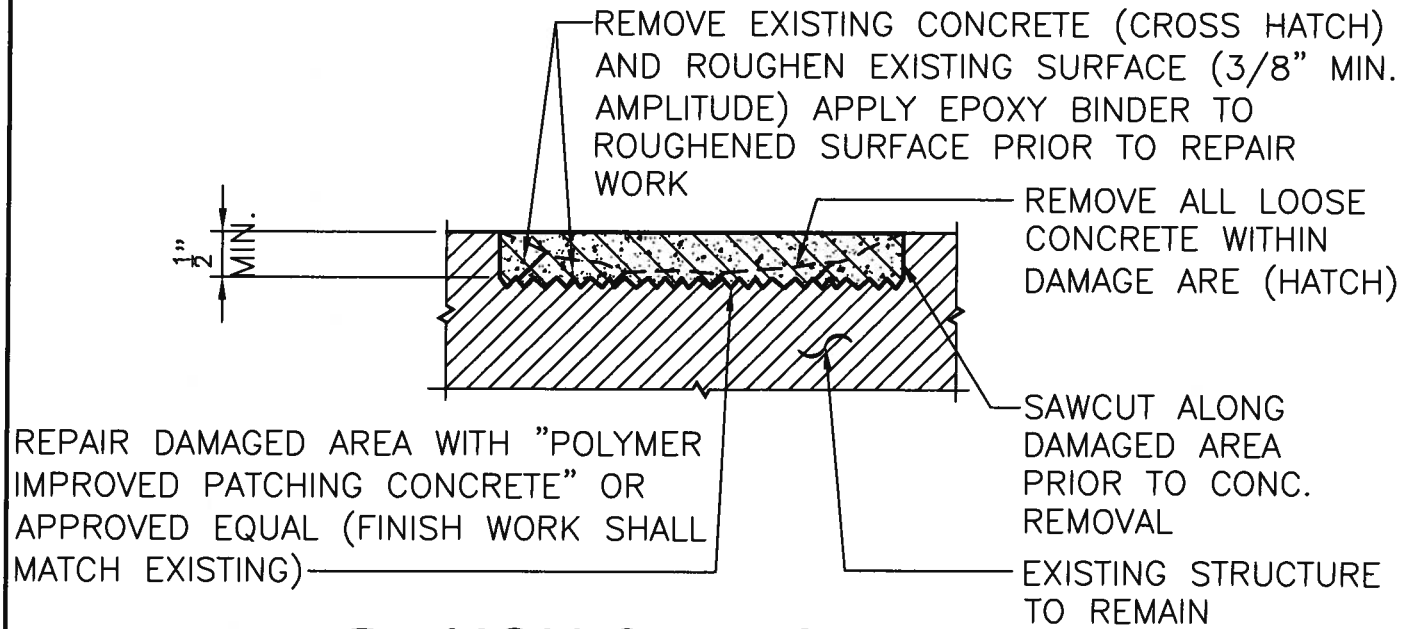
Date: SEPT 29, 2017

Drawing No. S-0.2

Sheet No. 2 of 9



3B STRUCTURAL REPAIR
(1" THICK OR DEEPER)



3A NON-STRUCTURAL REPAIR
(1" THICK OR DEEPER)

DUEÑAS · CAMACHO & ASSOCIATES, INC

PROJECT: PAG - FI DOCK ASSESSMENT

TITLE: SPALL/CHIPPED STRUCTURAL REPAIR DET. W/O CORRODED REINFORCEMENT

Issued By: TPC
Scale: AS SHOWN
Date: SEPT 29, 2017
Drawing No. S-0.3
Sheet No. 3 of 9

Structural Assessment Report

For The

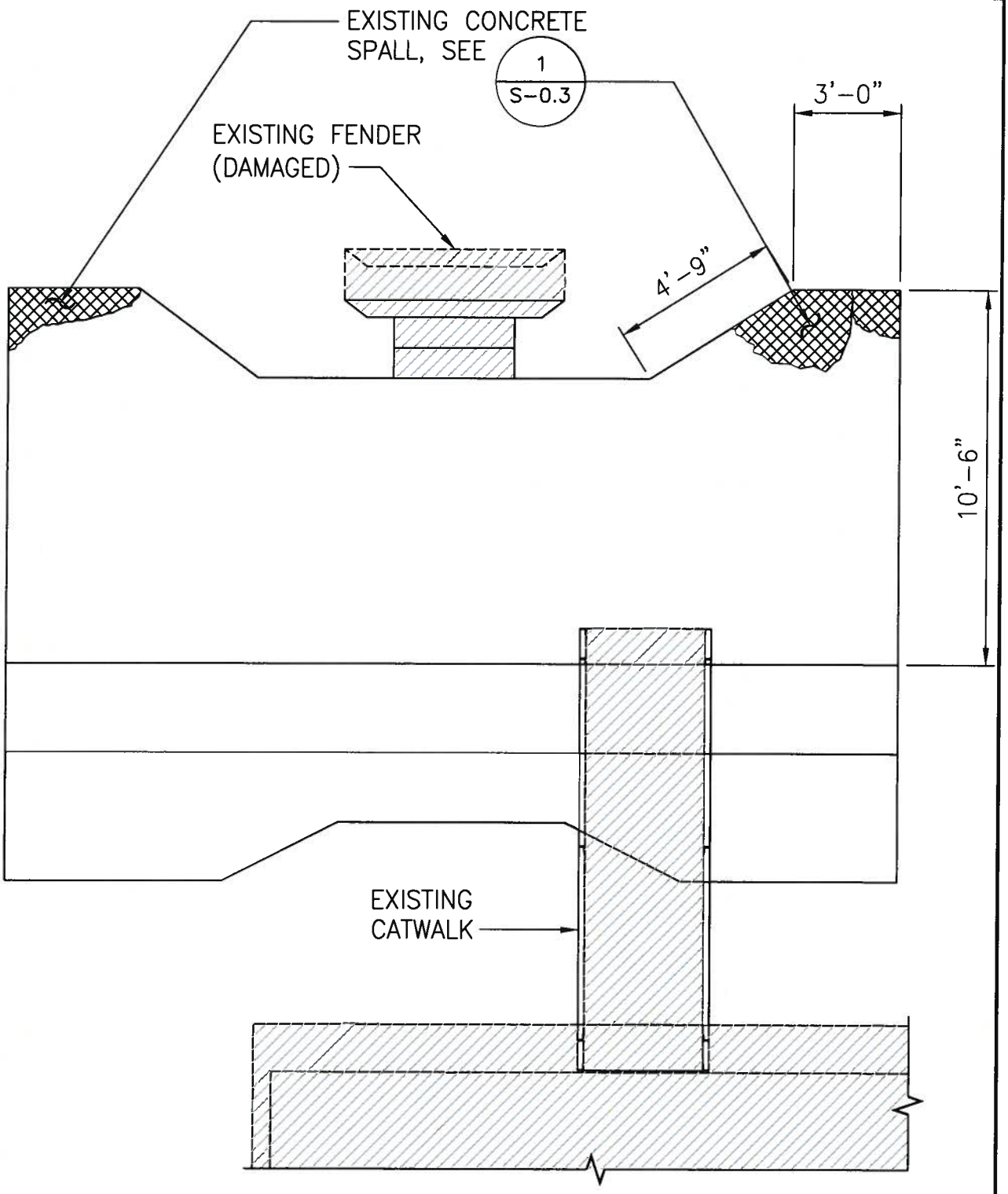
PAG F-1 Dock
Breasting Dolphin
Cabras Island, Piti, Guam

APPENDIX E
REPAIR PLANS & TECHNICAL SPECIFICATIONS

October 5, 2017

PREPARED BY:

DCA&A
DUEÑAS · CAMACHO & Associates Inc



1 PLAN

1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT: PAG - FI DOCK ASSESSMENT

TITLE: PLAN

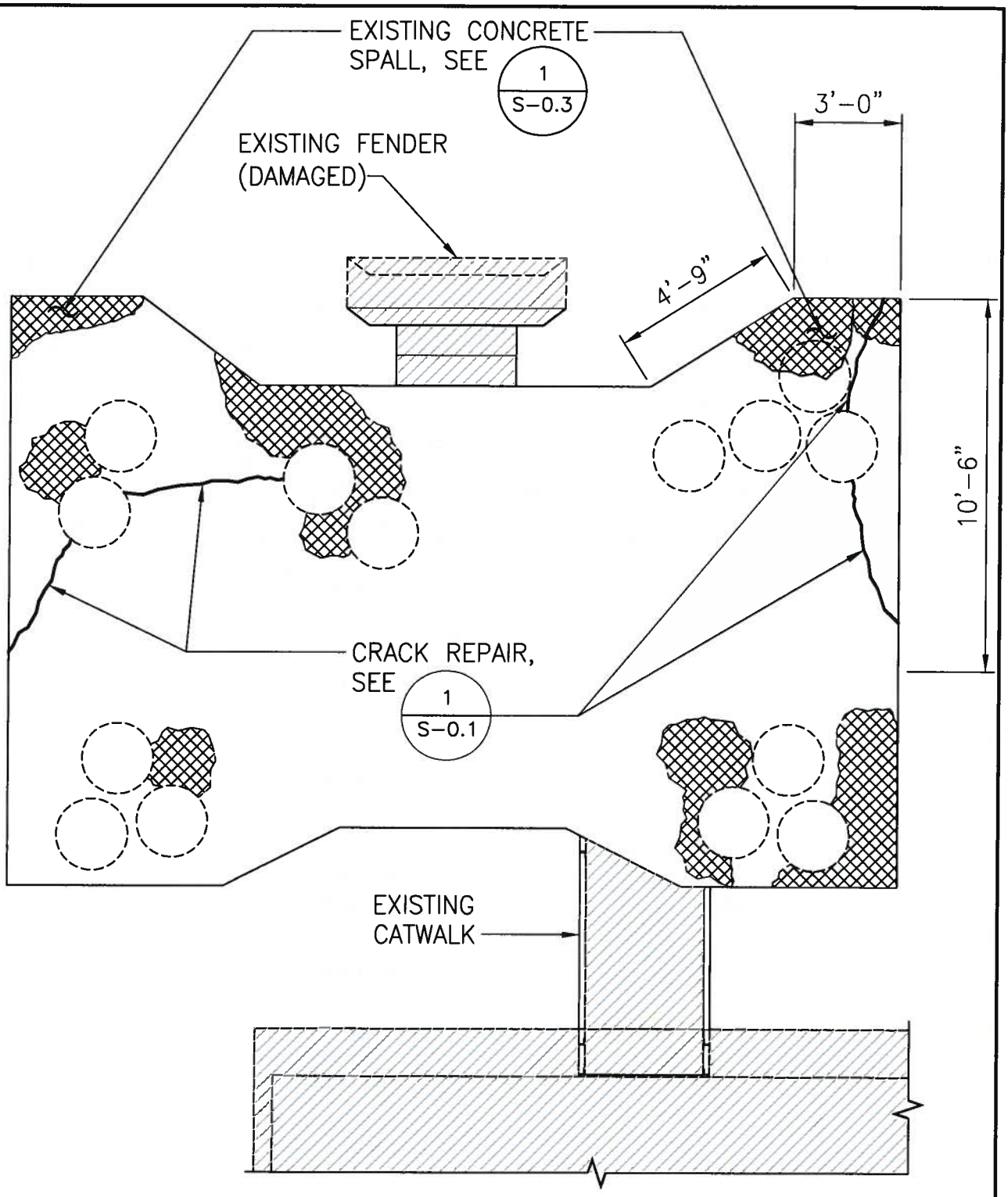
Issued By: TPC

Scale: AS SHOWN

Date: SEPT 29, 2017

Drawing No. S-1

Sheet No. 4 of 9



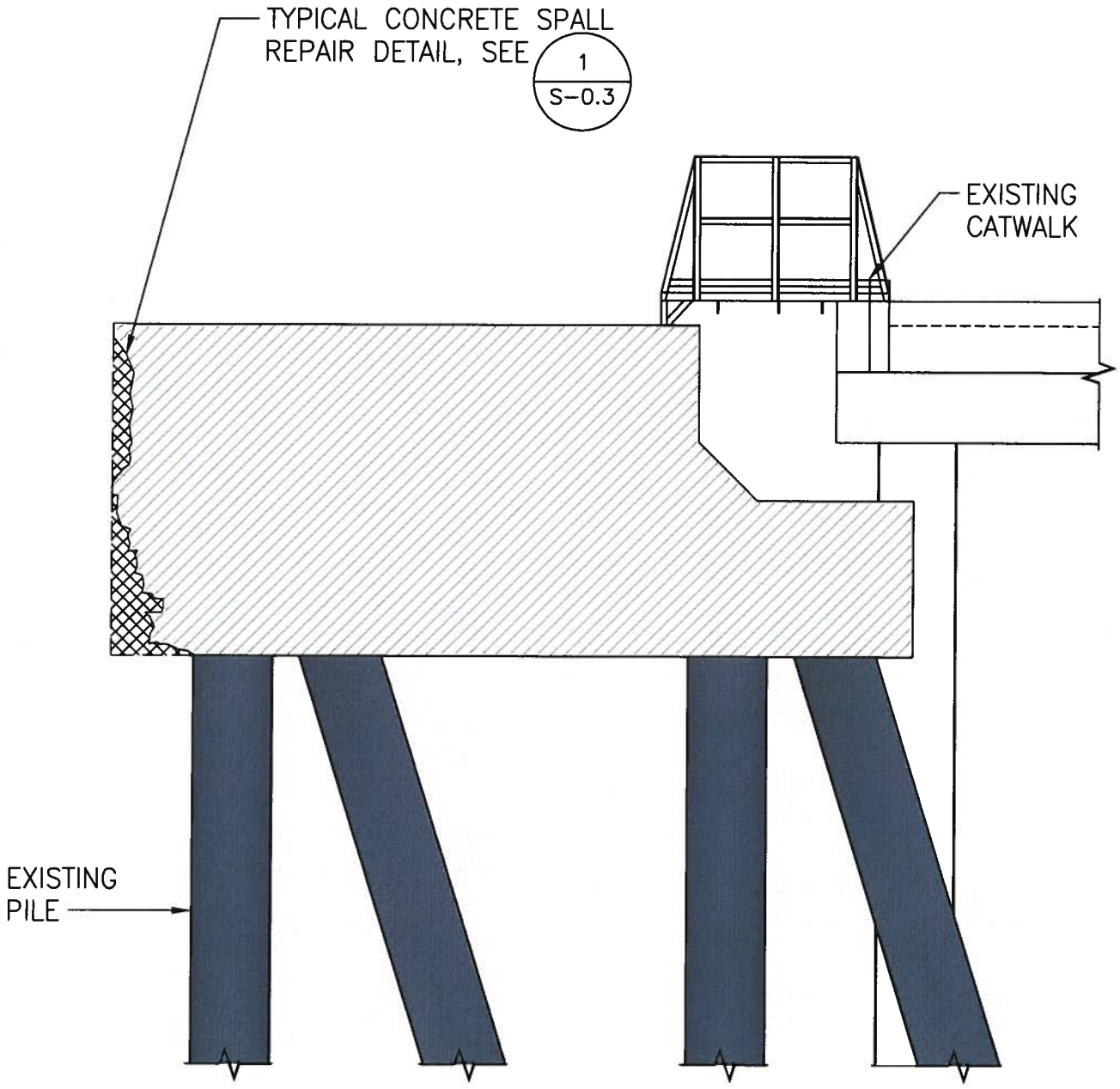
1 PLAN
1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT:
PAG - FI DOCK ASSESSMENT

TITLE:
BOTTOM REPAIRS

Issued By: TPC
Scale: AS SHOWN
Date: SEPT 29, 2017
Drawing No. S-2
Sheet No. 5 of 9



1 ELEVATION

1/4"=1'-0"

DUEÑAS · CAMACHO & Associates Inc

PROJECT: PAG - FI DOCK ASSESSMENT

TITLE: ELEVATION

Issued By: TPC

Scale: AS SHOWN

Date: SEPT 29, 2017

Drawing No. S-3

Sheet No. 6 of 9

SECTION 03930 – CONCRETE REHABILITATION

PART 1 – GENERAL

1.1 REFERENCE

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 31	(1991) Making and Curing Concrete Test Specimens in the Field
ASTM C 33	(1993) Concrete Aggregates
ASTM C 39	(1994) Compressive Strength of Cylindrical Concrete Specimens
ASTM C 117	(1995) Materials Finer than 75-Micrometer (No. 200) Sieve in Mineral Aggregates by Washing
ASTM C 136	(1995; Rev. A) Sieve Analysis of Fine and Coarse Aggregates
ASTM C 144	(1993) Aggregate for Masonry Mortar
ASTM C 881	(1990) Epoxy-Resin-Base Bonding Systems for Concrete

1.2 DEFINITION

A. Epoxy Resin Binder: A two-component epoxy bonding system in low and and medium viscosities used by itself as a primer or for producing epoxy concrete or mortars when mixed with aggregate.

B. Epoxy Concrete: A combination of epoxy resin binder and fine and coarse aggregate used in the repair of spalling along joints or cracks, small surface spalls or "popouts."

C. Epoxy Mortar: A combination of epoxy resin binder and fine aggregate used in the surface repair of non-structural cracks and filling of saw kerfs.

D. Non-Pressure Epoxy Grout: A combination of epoxy resin binder, a mineral filler and a thixotropic agent used in cementing dowels in place and the repair of non-structural cracks.

E. Pressure Grouting Epoxy: A low viscosity epoxy resin system pumped under pressure into structural cracks in walls or pavements.

1.3 SUBMITTALS

Submit the following:

A. Instructions

B. Epoxy repair material

C. Field Test Reports

1. Sieve analysis test for aggregate
2. Epoxy resin binder tests
3. Epoxy grout tests

D. Certificates

1. Epoxy resin binder
2. Epoxy grout

1.4 DELIVERY, STORAGE, AND HANDLING

Inspect materials delivered to site for damage, unload and store with a minimum of handling. Deliver epoxy resin components and aggregate materials in original sealed containers and store in dry covered areas at temperatures below 90 degrees F. Remove from job site unused mixed materials which have reached end of working or pot life.

1.5 WEATHER LIMITATIONS

Halt work when weather conditions detrimentally affect the quality of patching or bonding concrete. Apply epoxy resin materials only when the contact surfaces are completely dry and if the atmospheric and surface temperature ranges are suitable for the specified epoxy material. Follow manufacturer's instructions for weather conditions and temperature ranges.

1.6 MARINE AND PEDESTRIAN TRAFFIC CONTROL

Do not permit marine or pedestrian traffic on the concrete surfaces in the work area during the curing period. At the end of the curing period, light local pedestrian and marine traffic may be permitted on the concrete surfaces if approved by the Engineer.

1.7 EQUIPMENT

Use a container recommended by the epoxy manufacturer as the mixing vessel. Use a power drive (air or spark-proof) propeller type blade for mixing except that hand mixing may be used for small batches. Use equipment specified by epoxy manufacturer for field mixing of aggregates and epoxy resin.

PART 2 – PRODUCTS

2.1 MATERIALS

A. Epoxy

1. Epoxy Resin Binder for Concrete and Mortar.

ASTM C 881, Type III, Grade 1 or 2, Class C without mineral filler. For walls and ceilings use ASTM C 881, Type III, Grade 3, Class C with filler.

2. Non-Pressure Epoxy Grout

ASTM C 881 Type IV, Grade 2 or 3, Class C with or without mineral filler.

3. Crack Sealer for Pressure Grouting

ASTM C 881, Type IV, Grade 1, Class C without filler.

4. Crack Surface Sealer for Pressure Grouting

ASTM C 881, Type IV, Grade 3, Class C with mineral filler.

B. Aggregate

For material passing No. 200 sieve provide a non-plastic material composed of a minimum of 75 percent limestone dust, talc or silica inert filler. Provide dry aggregate.

For epoxy concrete: ASTM C 33, maximum size 1/2 inch. Conform to the following requirements:

Sieve Designation	Percent Passing by Weight
1/2 in.	
3/8 in.	100
No. 4	93-100
No. 8	70-80
No. 16	50-65
No. 30	37-53
No. 50	20-37
No. 100	10-20
No. 200	5-10

For epoxy mortar: ASTM C 144, maximum size ½ inch.

PART 3 – EXECUTION

3.1 PREPARATION

A. Epoxy Concrete

1. Patch Areas

Remove loose concrete from the spalled areas indicated. Inspect the cavity for remaining defective concrete by tapping with a hammer or steel rod and listening for dull or hollow sounds. In areas where tapping does not produce a solid tone, remove additional concrete until testing produces a solid tone. Make the entire cavity at least 25 mm one inch deep. Sawcut edges of cavity to avoid feather edging. Prepare surface of cavity by sandblasting, grinding, or water blasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure cavity surfaces are dry.

2. Spalls at Joints and Cracks

For spalls to be repaired that are adjacent to joints and working cracks insert preformed joint filler to the working faces of the spall. Trim filler to fit shape of the working faces of joint or crack so epoxy material is prevented from bypassing filler. Where practicable, extend filler horizontally and vertically into joint or crack opening. Secure filler strip in place prior to and during placement of epoxy concrete. Apply a bond breaker to working faces at keyed joints. Keep bond breaker off of concrete surface to be bonded. After the epoxy concrete has completely cured, saw out the top 25 mm inch of the preformed joint filler and install liquid joint sealer.

3. Epoxy Mortar for Cracks and Saw Kerfs

Apply epoxy mortar to newly exposed loose and unsound materials. Prepare surfaces by sandblasting, scarifying or waterblasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure surfaces are dry before application of epoxy mortar.

4. Epoxy Grout for Cracks

Apply grout to newly exposed concrete free of loose and unsound materials. Prepare surfaces by sandblasting, scarifying or waterblasting. Remove dust, dirt, and loosely bonded material resulting from cleaning. Ensure surfaces are dry before application of epoxy grout.

3.2 MIXING MATERIALS

Make batches small enough to ensure placement before binder sets. Mix materials in accordance with manufacturer's recommendations.

3.3 PLACEMENT

A. Epoxy Concrete

Prime dry cavity surfaces with epoxy resin using a stiff bristle brush. Make coating approximately 20 mils thick. Place epoxy concrete while primer is still tacky and in layers not exceeding one inch thick. Use vibratory floats, plates, or hand tampers to consolidate the concrete. Level each layer and screed the final surface to match the adjoining surfaces. Remove excess epoxy concrete on adjacent surfaces before the concrete hardens. Do not feather epoxy concrete out onto adjacent surfaces.

B. Epoxy Mortar

Prime surfaces with epoxy resin binder. Scrub prime coat into surface with a stiff bristle brush. Make coating approximately 0.5 mm 20 mils thick. Place epoxy mortar while primer is still tacky. Apply at a thickness recommended by the manufacturer. Work mortar into place and consolidate thoroughly so that contact surfaces are wetted by the mortar. Finish surface of mortar to the required texture. Do not feather edge epoxy mortar onto adjacent surfaces.

C. Non-Pressure Epoxy Grout

1. Cementing Dowels

Immediately prior to placing the dowel, clean hole of dust and other deleterious material with a high pressure air hose. Fill hole halfway with grout. Insert dowel in hole by rotating it at least one complete turn while tapping it down. If necessary add more grout to fill hole.

2. Epoxy Grout for Cracks

Apply epoxy grout at a thickness recommended by the manufacturer. Work grout into place and consolidate thoroughly so that contact surfaces are wetted by the grout. Finish surface of grout to the required texture. Do not feather edge epoxy grout onto adjacent surfaces.

D. Pressure Grouting of Cracks

Clean each crack of dust, dirt, loose concrete and unsound material. Insert a valve at both ends of each crack, at the junction of two cracks, and along the length of each crack at 12-inch intervals. Fill crack between valves with crack surface sealer. After crack surface sealer has hardened and cured, pump crack sealer into valve at one end of crack. For vertical surfaces start at lowest valve and work upwards. As crack sealer appears at next valve, pinch closed pumping valve and move to next valve and commence pumping. Continue procedure until other end of crack is reached. Avoid delays in pumping operation. After crack sealer has hardened and cured grind valves off flush with concrete surface. Coat areas of valves with crack surface sealer and allow to harden and cure.

3.4 CURING

Cure epoxy materials in accordance with manufacturer's recommendations.

3.5 FIELD QUALITY CONTROL

1. Sampling

As soon as epoxy resin and aggregate materials are available for sampling, obtain by random selection a sample of each batch. Clearly identify samples by designated name, specification number, batch number, project contract number, intended use and quantity involved.

2. Testing

At the discretion of the Construction Manager, samples provided may be tested by the OWNER for verification. Test samples by an approved laboratory. If a sample fails to meet specification requirements after two tests, replace the batch represented by the samples tested and retest. Test aggregates in accordance with ASTM C 117 and ASTM C 136.

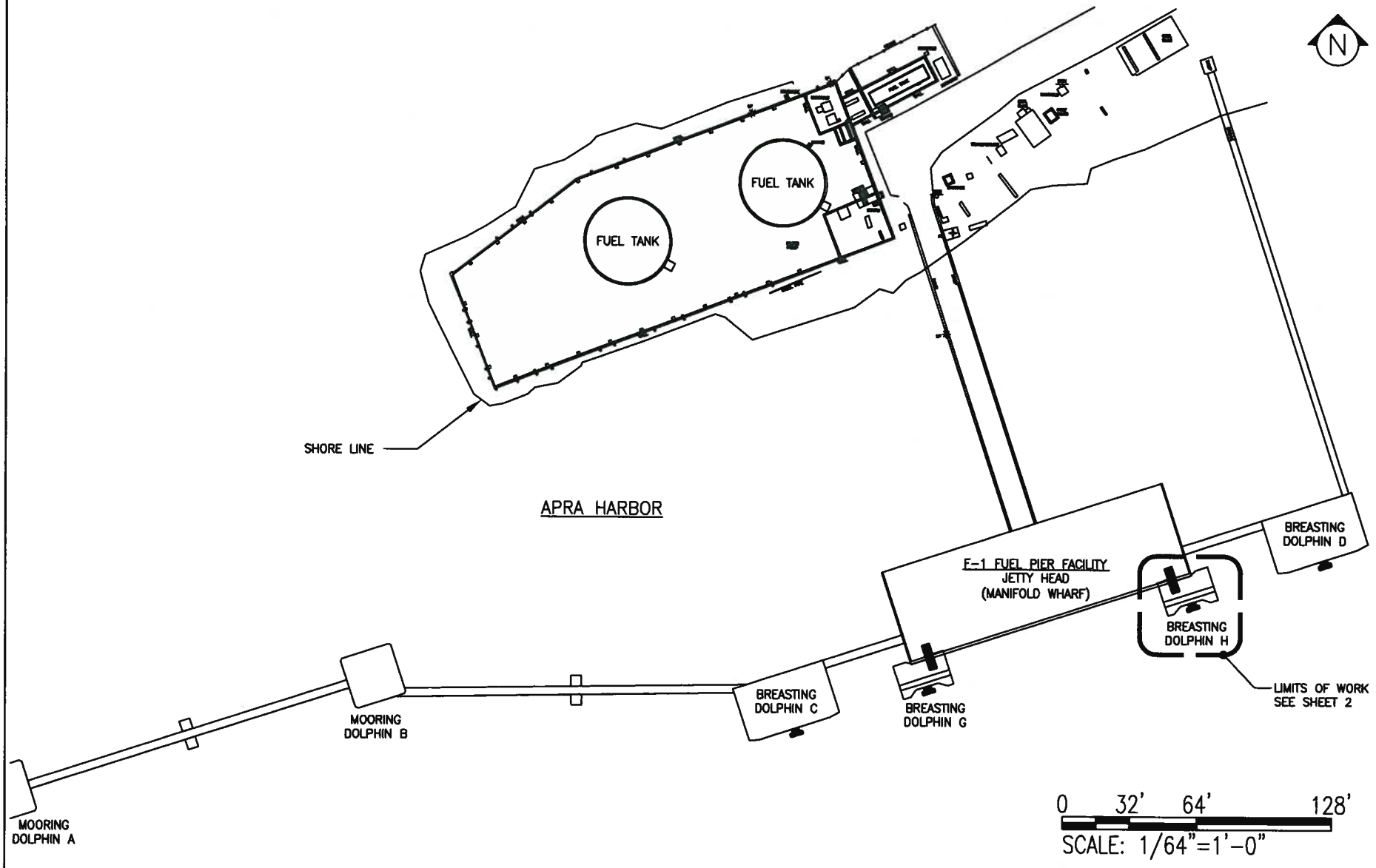
3. Inspection

Check each repaired area for cracks, spalls, pop outs and loss of bond between repaired area and surrounding concrete. Check each repaired area for voids by tapping with a hammer or steel rod and listening for dull or hollow sounds. Immediately repair defects.

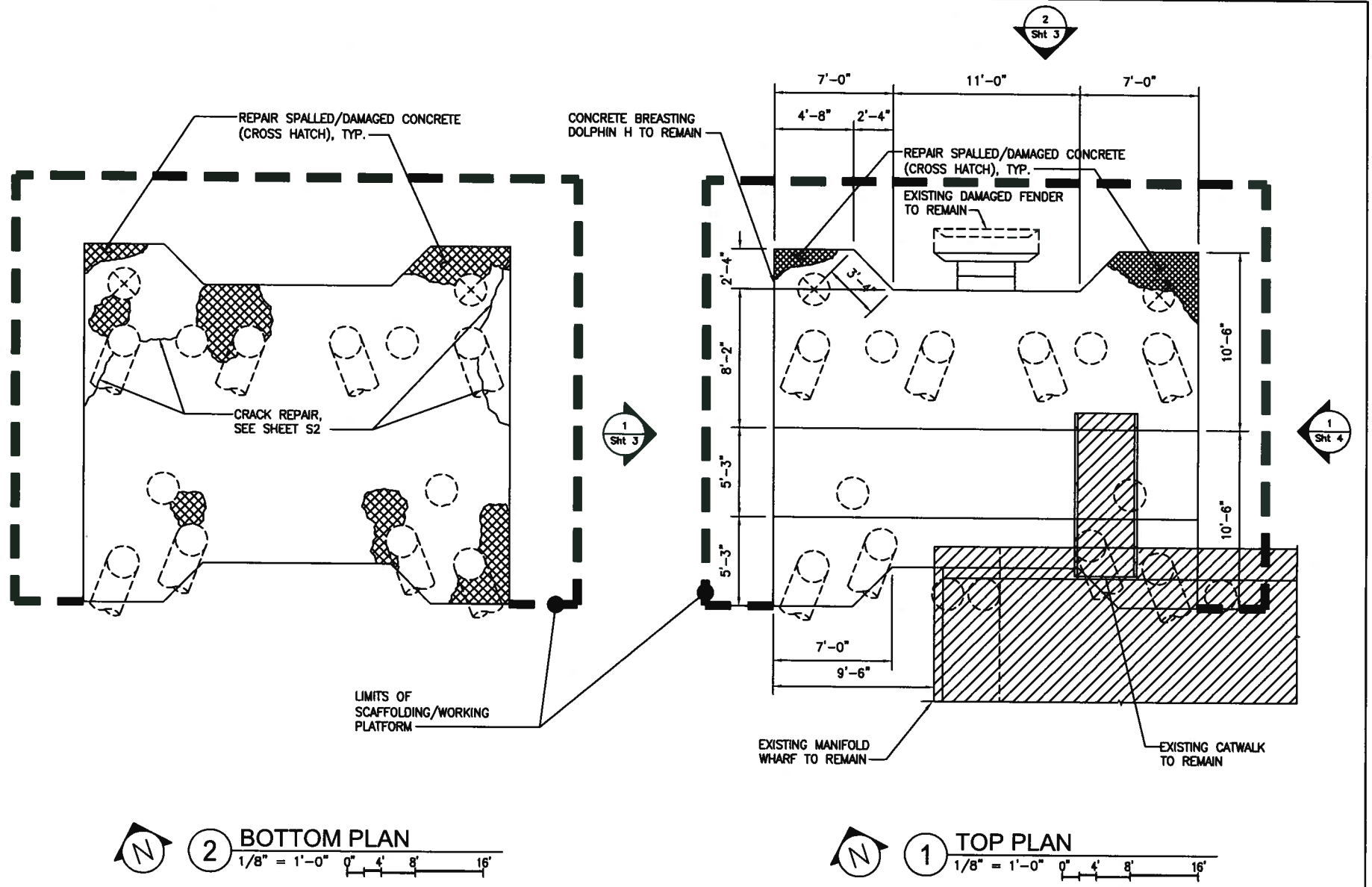
END OF SECTION 03930

EXHIBIT D

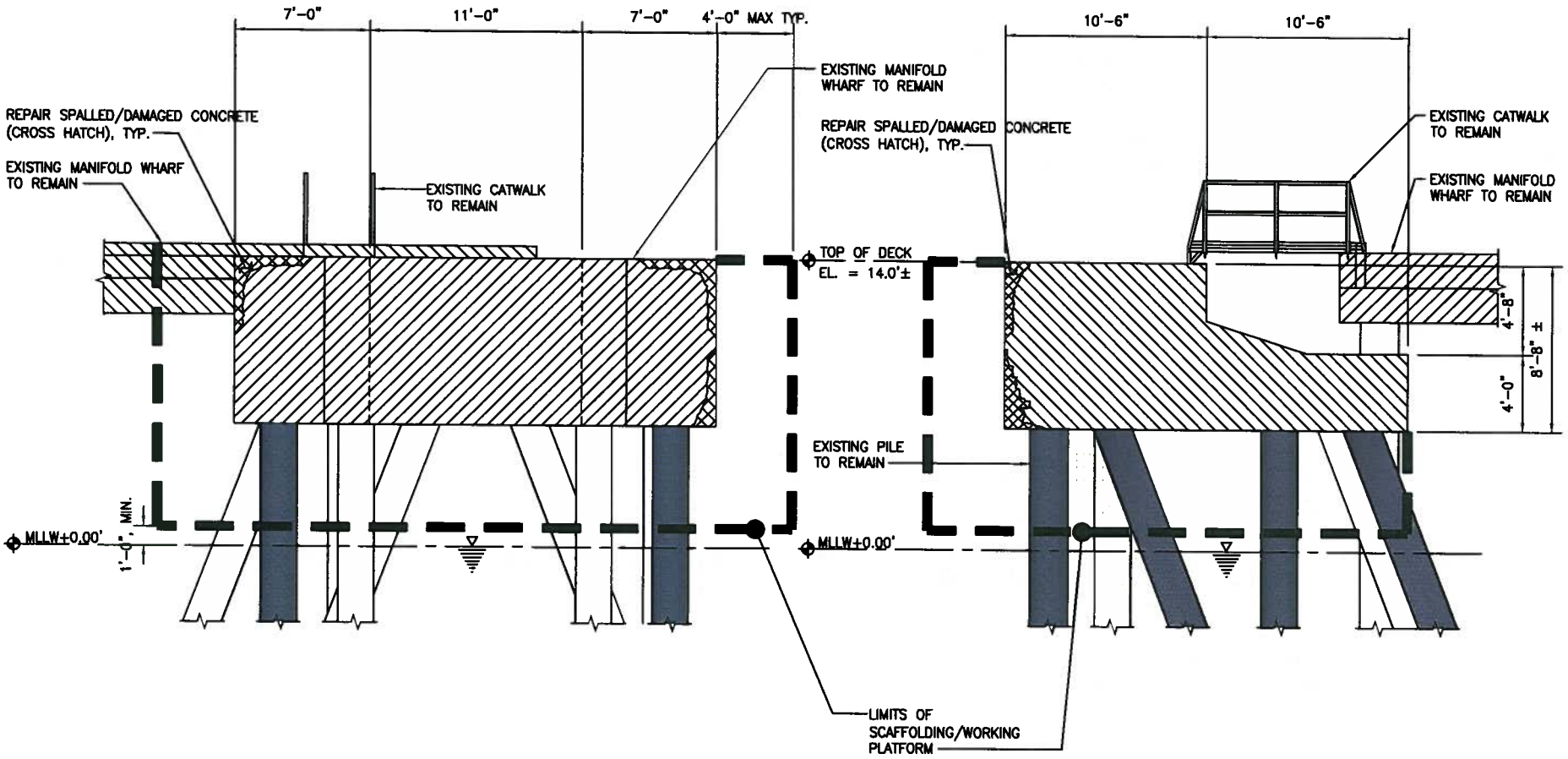
Design Drawings



KEY PLAN	USACE Applicant Reference No. : POH-2018-112	Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti
Datum: MLLW Adj. Properties Owners: Port of Guam Properties	Tristar Terminals Guam, Inc. Agat Terminal Route 2A Santa Rita Industrial Drive P.O. Box 8210 Agat, Guam 96928	Map Sheet 1 of 4 May 2018



TOP AND BOTTOM PLAN Datum: MLLW Adj. Properties Owners: Port of Guam Properties	**USACE Applicant Reference No. : POH-2018-112** Tristar Terminals Guam, Inc. Agat Terminal Route 2A Santa Rita Industrial Drive P.O. Box 8210 Agat, Guam 96928	**Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti** Map Sheet 2 of 4 May 2018 DCA DUEÑAS-CAMACHO



2 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

1 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

ELEVATIONS

Datum: MLLW
Adj. Properties Owners:
Port of Guam Properties

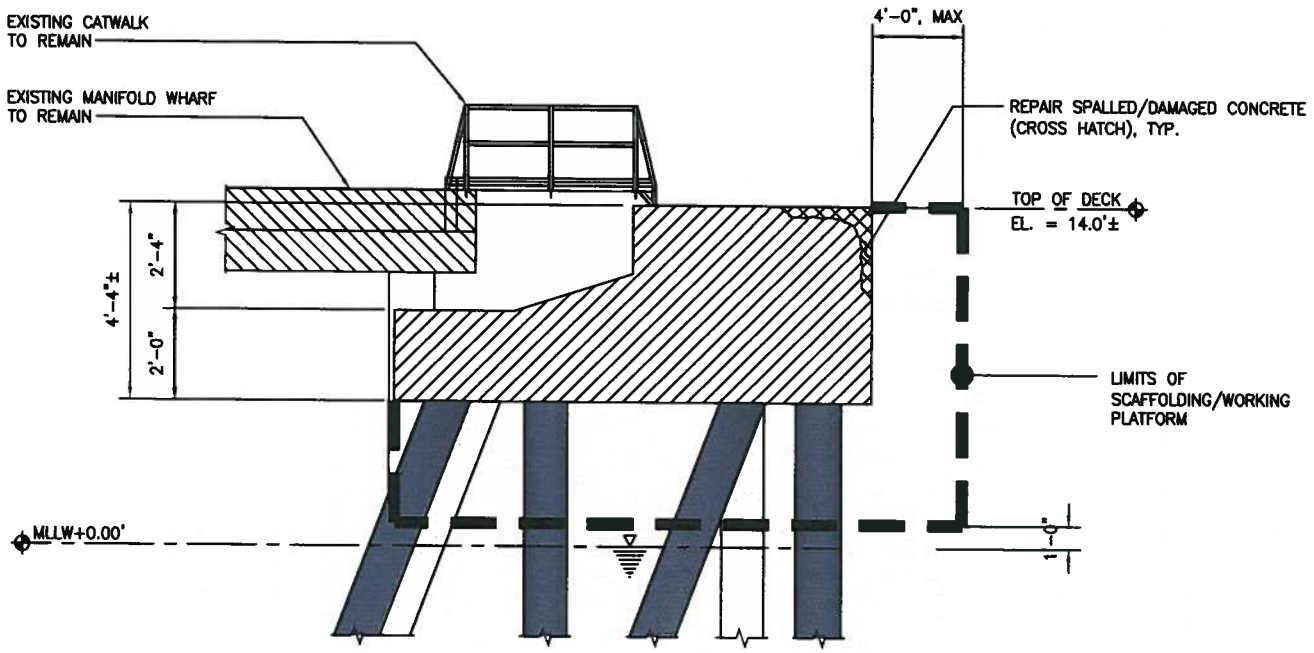
USACE Applicant Reference No. : POH-2018-112

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 3 of 4
May 2018

DCA DUEÑAS-CAMACHO



1 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

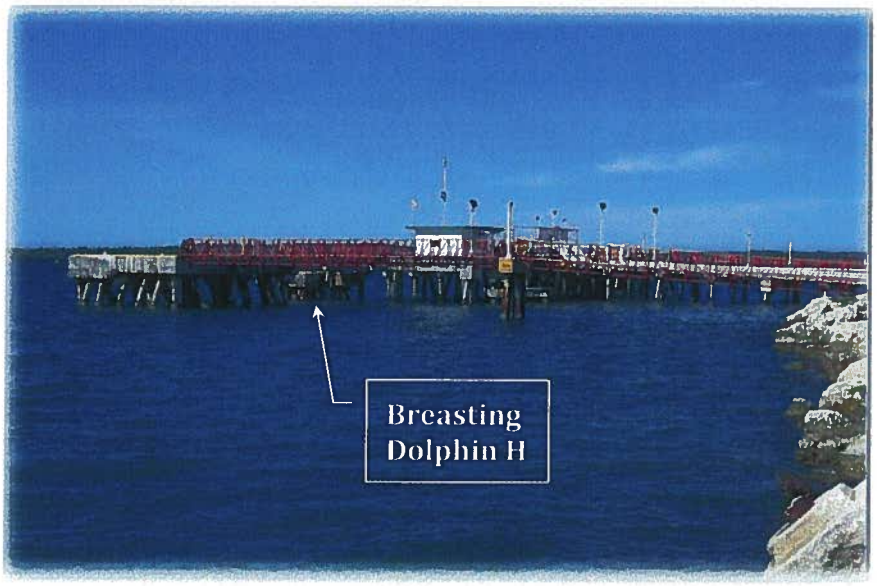
ELEVATION Datum: MLLW Adj. Properties Owners: Port of Guam Properties	**USACE Applicant Reference No. : POH-2018-112** Tristar Terminals Guam, Inc. Agat Terminal Route 2A Santa Rita Industrial Drive P.O. Box 8210 Agat, Guam 96928	**Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti** Map Sheet 4 of 4 May 2018

EXHIBIT B

401 Water Quality Certification Application

401 WATER QUALITY CERTIFICATION APPLICATION:

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H Cabras Island, Piti



Prepared for

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Sta. Rita Industrial Drive
PO Box 8210,
Agat, Guam 96928

Prepared by

Duenas Camacho & Associates
238 E. Marine Corps Drive, Suite 201
Hagatna, Guam 96910

May 2018

Tristar Terminals Guam, Inc.
P.O. Box 8210, Agat, Guam 96928
Rt. 2A Sta. Rita, Industrial Dr., Agat, Guam 96915
Tel. +1 671.565.2300
Fax +1 671.565.3909
www.agilitylogistics.com/www.tristar-transport.com

May 24, 2018

Mr. Walter S. Leon Guerrero
Administrator
Guam Environmental Protection Agency
P.O. Box 22439
GMF - Barrigada, Guam 96921

Subject: Guam 401 Water Quality Certification Application for Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti, Guam *[Dept. of the Army Ref. No. POH-2018-112].*

Dear Mr. Leon Guerrero:

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the F-1 Fuel Pier at the Port Authority of Guam (PAG) on Cabras Island in Piti, Guam. The purpose of the project is to repair minor structural damage, such as spalled and cracked concrete, on the existing breasting dolphin that Tristar currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

During a July 2017 vessel berthing incident, the surface and subsurface areas of the Breasting Dolphin H and supporting piles were damaged. On behalf of Tristar, Duenas, Camacho & Associates, Inc. (DCA) performed a surface and sub-surface inspection of the breasting dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles. The Rubber Fender System appears to not have been damaged by the vessel contact; the rubber brace was found to be sheared off of the plate bolted to the breasting dolphin.

Based on DCA's inspection of the dolphin, the following surface repairs would be performed.

- The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust.
- The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications.

- If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.
- All cracks in the areas resulting from the vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will be made to the supporting piles or the Rubber Fender System, and no repairs will occur in waters of the U.S.

The Environmental Protection Plan (EPP) developed for the project describes the measures that would be implemented prior to construction activities to control debris from entering the water body at the site. Other measures include monitoring for marine and migratory species. No in-water work is planned for this project; however, there would be work directly under the pier that may require a fixed or floating work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific Best Management Practices (BMPs) that are ultimately installed will be the Contractor's prerogative as long as they achieve compliance with permit conditions. All work would be carried out in the daytime.

We assure Guam EPA that there is reasonable assurance that the breasting dolphin repair activities will be conducted in such a manner which will not violate basic water quality criteria and the applicable water quality standards. Please find the enclosed 401 Water Quality Certification Application package. The package contains the application form with supporting documents, including the DCA structural inspection report, and design plans for the repair. Please contact me at (671) 565-2300 or Jessica Gross of Duenas, Camacho & Associates, Inc. at (671) 477-7991 if you need additional information.

Sincerely,

5/25/2016

K.K. Vikraman
General Manager
Tristar Terminals Guam, Inc.

Enclosure: 401 Water Quality Certification Application Package.

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LIST OF EXHIBITS

LIST OF APPENDICES

GUAM ENVIRONMENTAL PROTECTION AGENCY
SECTION 401 WATER QUALITY CERTIFICATION
APPLICATION (401C)

Revised 07/98

FOR OFFICIAL USE ONLY

Prepared By: _____ **Application No.** _____
Title: _____ **Date Received:** _____
Date Prepared: _____

DISCHARGES FROM DREDGED MATERIAL OR FILL IN WETLANDS AND OTHER INLAND SURFACE WATERS

Instructions:

1) Activities covered by this application request form include wetland dredging, filling, construction of bridges, walkways, culverts and other structures in wetlands, streams, or rivers, mitigation/creation projects, restoration activities, utility trenching and pole placements, and other similar activities in wetlands.
2) When addressing the following items, be sure to answer all questions. If the item is not applicable or the response is none, indicate as much as provide a brief explanation why. If there are incomplete items the application will be returned.
3) When references are made to supporting documents, studies, previous permit actions or other information, they must be identified by document name and date. All pertinent references used to support this application request must be provided.
4) The applicant should use this form; however, a similar format may be used and must include each question (item) found in this form.
5) If additional space is required, use extra sheets or the back of this form. This form is available on diskette.

Applicant Information

1. a. Applicant Name & Address:
K.K. Vikraman, General Manager
Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Sta. Rita Industrial Drive
PO Box 8210, Agat, Guam 96928

b. Agent/Representative Name & Address:
Dueñas, Camacho, & Associates, Inc. (DCA)
238 Marine Corps Drive, Suite 201
Hagåtña, Guam 96910

2. **Project Name:** Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H Cabras Island, Piti

Location: Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the Port Authority of Guam F-1 Fuel Pier Facility in Cabras Island, Piti, Guam. The Port is located off of Route 11 in Apra Harbor on the western coast of Guam (Exhibit A, Site Location and Vicinity Map).

3. **Associated Federal Permits or File Nos.**

A Department of the Army (Section 10) Permit application [Dept. of Army Ref. No. POH-2018-112], and Federal Consistency Form application are filed concurrently with this 401 Water Quality Certification application (Appendices A and B).

4. **Provide a copy of the Guam Wetland Development Permit for this project or a statement from the Department of Land Management as to the reasons why a permit was otherwise not required.**

The proposed action involves minor repair work to an existing breasting dolphin in Cabras Island. Cabras Island is exempt from the requirements of the Guam Territorial Seashore Protection Act of 1974, as it was constructed along the shoreline prior to the effective date of the Act. The proposed repair action, therefore, will not require a Seashore Clearance application approval from the Guam Land Use/Seashore Protection Commission.

5. **If this project is mitigation (restoration, enhancement, or creation), explain how existing wetland functions/uses will be improved or maintained. What benefits will result from this project with regard to existing wetland functions (especially water quality)?**

N/A. The project is not a mitigation activity and there will be no in-water work required for the project. The long-term benefit to water quality derived from the proposed repair is the assurance that the required maintenance of Breasting Dolphin H would minimize the potential for debris to enter the marine water body.

6. **Are there any special environmental protection requirements identified at this time?**

Yes. An environmental protection plan is enclosed (Exhibit B) with protection measures that will be implemented and maintained during the anticipated 30-day construction period. These would include the installation of BMPs per the Contractor's means and methods, which may include temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water. Construction would be carried out from above the marine waters by using either a floating or fixed platform for support.

The demolition of the existing damaged sections of the breasting dolphin would be performed with care to prevent and detain all demolition-related debris from falling into the marine water body. Plastic sheeting may be installed underneath the structure as a possible environmental protection measure. Re-fueling of equipment will occur away from the water. Spill response kits will be onsite and readily available for deployment.

Project Description

7. **Describe the structure(s) and/or activity, and proposed dredging, discharge or fill required in wetlands, streams, or rivers. Include an accurate description of the physical, biological, chemical and any other characteristics of the dredging, discharge, or fill and the location(s) where such activities will occur in Guam Waters or wetlands.**

a. description of the structure(s) or activity (provide a facility/project site plan):
N/A, there will be no in-water work or dredging required for this project.

b. description of the construction actions, methodology, and operation of the project:

Maintenance that Crosses Waters of the U.S.
Breasting Dolphin H at F-1 Fuel Pier is located on sub-surface piles over marine waters of Apra Harbor within the Port of Guam; all repair work would be over the water. There would be work directly under the pier that may require either a floating or fixed work platform. No in-water work is required to perform the repairs to the damaged breasting dolphin; all work would be carried out above-water and during daytime hours; no night work is proposed. No repairs would be performed on the sub-surface piles or the Rubber Fender System. The work flow would proceed as follows:

1) The Contractor will approach the site from the F-1 Fuel Pier and stage materials and equipment on the breasting dolphin or on either a floating or fixed work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the marine waterbody; the specific means and methods will be the Contractor's prerogative as long as they meet the permit conditions.

2) **Concrete spalls.** The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust. The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

Concrete cracks. All cracks in the areas resulting from the berthing vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

c. description of physical, biological, chemical, quantity and other characteristics of dredge material, discharge or fill:
N/A.

d. location(s) at which such activities will occur in Guam Waters (Note: Provide in site plan):
N/A.

8. **Describe any alternative(s) considered for the project and the reasons for not selecting those alternatives. Would any of the alternatives pose fewer or less intense environmental impact(s) or consequences?**

Since this is the repair of an existing structure, i.e., damaged breasting dolphin, there are no other suitable sites for the proposed project. Prior surface and sub-surface inspections of the structure revealed the need for immediate and long-term repairs to ensure safety to the working personnel and environment. No other alternatives than the methods described in this document would be suitable for this repair.

Water Quality Maintenance and Treatment

9. **Provide a description of the function(s) and operation of all equipment, measures, or activities employed to treat material being removed or placed in wetlands. Specify the degree or level of treatment or control expected to be attained.**

a. describe the function(s) of equipment, protection measures or facility employed to control or treat dredge or fill material:

N/A, there will be no dredging below the mean high water (MHW) mark; all equipment would be positioned either on a floating or fixed work platform above the water body.

An Environmental Protection Plan (EPP) is included with the Department of Army permit application. The plan contains recommended BMPs for the Contractor to implement. The specific BMPs that are ultimately employed are at the Contractor's discretion, as long as they achieve compliance with permit conditions.

b. specify the degree or level of control, protection, or treatment expected:

With the Contractor's effective deployment and maintenance of the standard BMPs, the quality of the receiving waters is anticipated to remain within Guam water quality standards. The water quality would be closely monitored visually for the project, water sampling is not anticipated as there will be no equipment carrying out in-water work.

10. **Provide the date(s) on which the activity and/or discharge will begin and end (estimate if necessary), and the dates on which discharge or fill will take place (attach a project or construction schedule if available).**

a. date(s) on which the activity will begin and end:

The proposed project is estimated to commence upon the receipt of permits. The estimated duration of the repair is expected take no more than 30 work days.

b. date(s) on which discharges will take place:

N/A.

Water Quality Monitoring

11. Provide a description and location(s) (plan) of the measures being used or proposed to monitor water quality and characteristics of the discharge and the operation of equipment or facilities employed in the treatment, protection and/or control of wastes, erosion sedimentation, or effluent.

a. describe the methods to be used to monitor water quality:

Per communication on May 14, 2018 with Ray Calvo of Guam Environmental Protection Agency, a Water Quality Monitoring Plan will not be submitted with this permit application, as no in-water work is required for this project. Visual monitoring would be the method of detection during above-water activities to monitor whether there are any water quality issues. Work would immediately cease upon visual detection of any issue, e.g., concrete debris, and would commence only upon successful correction of the problem. The Contractor is responsible for maintaining the BMPs, which may include plastic sheeting. The sheeting may be adjusted to ensure it captures all concrete debris.

b. describe measures employed to monitor characteristics of the discharge:

Visual monitoring with photographic documentation will be used throughout the above-water activities.

c. describe the operation of equipment to be used:

In addition to a hanging scaffold attached to the dolphin, the Contractor would likely use either a floating or fixed work platform where necessary. The platform would be used to stage a small container recommended by the epoxy manufacturer as the epoxy mixing vessel. A power drive (air or spark-proof) propeller-type blade would be used for mixing, whereas manual mixing would be carried out for small batches. Hand tools would be used to perform the repair work. A pressure washer would be used for the cleaning of cracks and pneumatic or cordless power tools would be used for the chipping of concrete.

BMPs would be in use throughout the duration of the repair. Fuel would not be stored on the platform and there will not be any stockpiling of construction material near the marine environment.

12. Identify the individual(s) responsible for monitoring plan development, implementation and monitoring:

No individual is identified at this time. This task will be the responsibility of the Contractor who is awarded the project from Tristar Terminals Guam, Inc.

Water Classification, Assurances and Beneficial Uses

13. Describe the classification of the affected Guam waters and associated recreational uses, if any, at the discharge location(s) and state whether the basic water quality criteria and the applicable water quality standards will be met.

a. describe the classification and recreational uses of Guam's water at site of discharge:

N/A, there will be no discharge at the project site. The water at Apra Harbor is classified by Guam EPA as "M3" (Fair) marine waters (Guam EPA, 2001). This category is intended for general, commercial, and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and compatible recreation with limited body contact. During their September 2017 field inspection for the sub-surface assessment of the breasting dolphin, the team of DCA biologists observed an extremely high level of turbidity in the water, which limited the water visibility to one to three meters.

Apra Harbor is on the list of Guam 303(d) Impaired Waters for Reporting Year 2016 issued by Guam EPA. "PCB(s) in fish tissue" is listed as the cause of impairment for this water body (www.epa.gov). Apra Harbor is a heavily travelled waterway for commercial vessels, including Atlantis Submarine, and private vessels moored in the Harbor of Refuge.

b. state whether the basic water quality criteria and applicable water quality standards will or are expected to be met (if criteria and standards will be met complete item 'c' below):

Basic water quality criteria and applicable water quality standards as stipulated in the 2001 Guam Water Quality Standards are expected to be met throughout the proposed construction and demolition activities. In order to achieve this, the Contractor is expected to properly implement and maintain standard BMPs and protection measures.

c. provide a signed assurance statement by the applicant that, "There is reasonable assurance that the activity will be conducted in such a manner which will not violate applicable water quality standards.":

The proposed project and the associated construction methodology represent the most feasible method of accomplishing the objectives while minimizing the expected environmental impacts. A signed statement from Tristar that there is reasonable assurance that the proposed activity will be conducted in such a manner which will not violate applicable water quality standards would be contained in the cover letter of this application.

Supporting Documentation

14. Check and submit all applicable supporting plans and documents as identified below as attachments (*the Agency may require additional documentation prior to Section 401 issuance or as a condition of issuance which may include any of the following*):

- **a)** X Construction Drawing/Plans
- **b)** __ Wetland Delineation Map
- **c)** __ Specifications
- **d)** __ Environmental Baseline Survey
- **e)** X Environmental Protection Plan

f) __ Water Quality Monitoring Plan

g) __ Environmental Impact Assessment/Statement

h) ___ Mitigation/restoration plans

Comments on the status of above documents: See the appropriate exhibits.

15. **Explain any irregularities, recent disturbances (natural or anthropogenic), unique features and/or expected cumulative effects that may influence water quality conditions adjacent to or within the project site:**

Breasting Dolphin H at F-1 Fuel Pier is located within Apra Harbor and is used for industrial and commercial purposes. Cargo vessels and private tour operators frequent Apra Harbor on an hourly basis, which contribute to cumulative effects on water quality conditions in the vicinity of the project site.

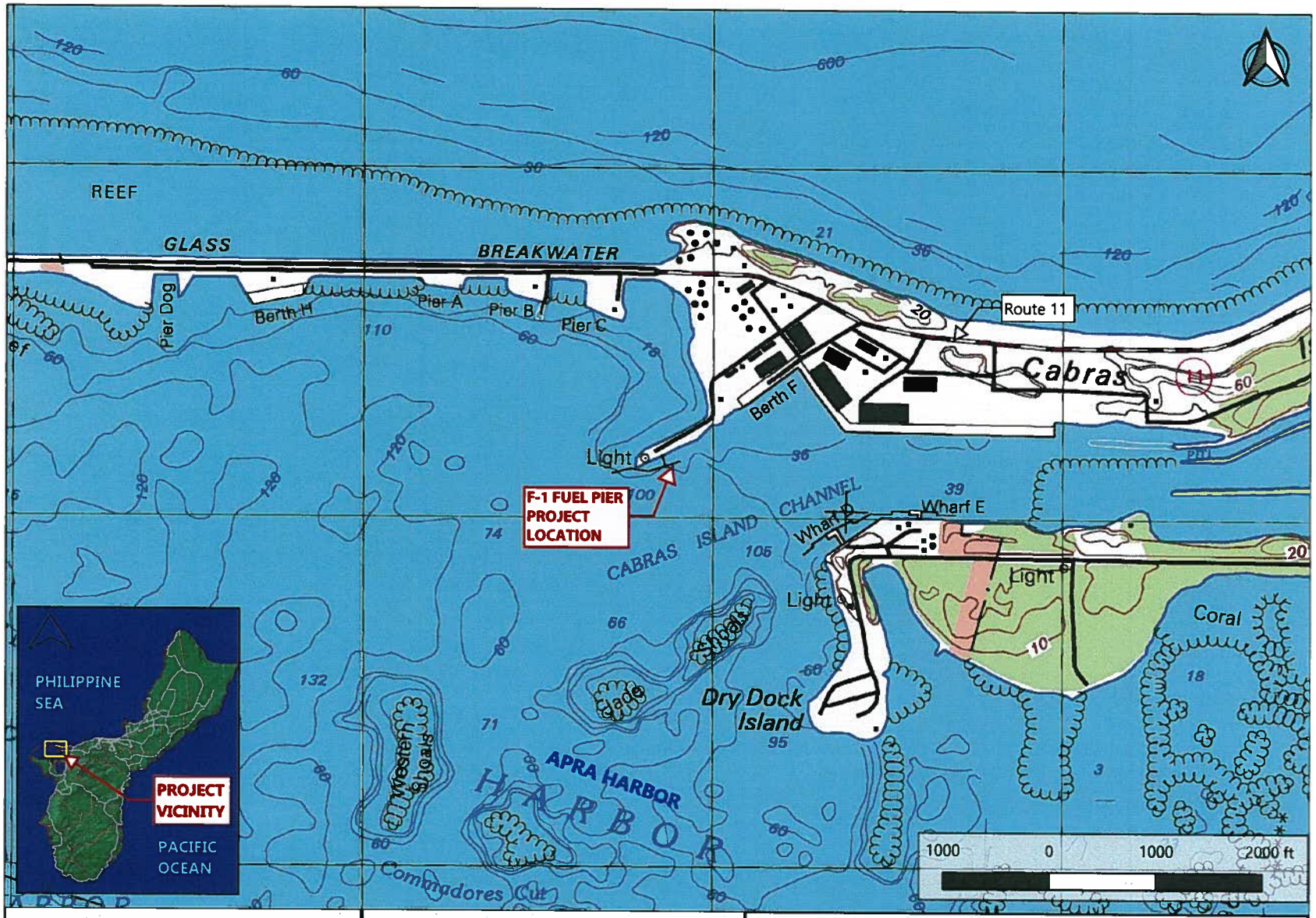
References Cited

Guam Environmental Protection Agency (GEPA). 2001. Guam Water Quality Standards. 126 pp.

Guam Environmental Protection Agency (GEPA). 2016. Guam List of Impaired Waterbodies (Clean Water Act, Section 303 (d)). In: Guam EPA 2016 Integrated Report, Part III Surface Water Monitoring Assessment. 38 pp.

EXHIBIT A

Site Location and Vicinity Maps



SITE LOCATION MAP (2000 USGS APRA HARBOR 7.5" QUADRANGLE)

Datum: MSL
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112
Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 1 of 2
May, 2018

DCA DUEÑAS · CAMACHO

SATELLITE IMAGERY (2016 DIGITALGLOBE)

Datum: MLLW
Adj. Property Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112
Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 2 of 2
May, 2018

DCA DUEÑAS · CAMACHO

EXHIBIT B

Environmental Protection Plan

ENVIRONMENTAL PROTECTION PLAN:

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Prepared for

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Sta. Rita Industrial Drive
PO Box 8210,
Agat, Guam 96928

Prepared by

Duenas Camacho & Associates
238 E. Marine Corps Drive, Suite 201
Hagatna, Guam 96910

May 2018

Table of Contents

EXHIBITS

1 Purpose

The objective of this Environmental Protection Plan (EPP) is to establish general environmental protection procedures for a Contractor (yet to be chosen), to follow during the above-water repairs of Breasting Dolphin H along F-1 Fuel Pier in Cabras Island, Piti, Guam. The EPP will ensure compliance with laws and regulations of the U.S. Environmental Protection Agency and the Guam Environmental Protection Agency (Guam EPA).

Tristar Terminals Guam, Inc. (Tristar) is proposing to repair Breasting Dolphin H, located along the Port Authority of Guam F-1 Fuel Pier Facility in Cabras Island, Piti. The purpose of the project is to repair minor structural damage (i.e., spalled and cracked concrete) to the existing breasting dolphin that Tristar Terminals Guam, Inc. (Tristar) currently uses for the docking of ocean freight vessels for delivery of fuel onto the island. The breasting dolphin is needed to assist in the berthing of vessels and to keep the vessel from coming in contact with the pier structure.

2 Project Information

2.1 Project Location

The project is located within the Guam Commercial Port, which is located off Route 11 in Apra Harbor on the western coast of Guam, in the Municipality of Piti. See attached site maps in Exhibit A for location.

2.2 Project Description

During a July 2017 vessel berthing incident, the surface and sub-surface areas of the breasting dolphin and supporting piles were damaged. On behalf of Tristar, DCA performed a surface and sub-surface inspection of the dolphin in September 2017 and documented concrete cracks and spalling at the top surface and front right corner face. There was also damage in the form of concrete spalling to the opposite/top left corner of the breasting dolphin. The in-water inspection revealed several cracks on the right bottom corner and right vertical face of the breasting dolphin as well as along the bottom right side. Concrete spalls and cracks were also discovered on the bottom right front and rear side of the breasting dolphin along the supporting piles.

Concrete spalls. The proposed action would remove all loose concrete from the concrete spalled areas and the surfaces would be cleaned from all impurities such as dirt and dust. The cleaned areas would then be repaired with a high-strength non-shrink epoxy concrete mortar material made specifically for horizontal, vertical and overhead applications. If reinforcement is exposed during the loose concrete removal, patch material would be applied after complete reinforcement exposure by chipping of concrete around the reinforcement bars. If more than 85% of the reinforcement is corroded, the corrosion shall be removed and new reinforcement would be added.

Concrete cracks. All cracks in the areas resulting from the berthing vessel impact shall be cleaned with a high pressure washer. The cracks need to be dry before they would be repaired with pressure epoxy

injection by an authorized applicator certified by the manufacturer of the epoxy repair product and injection equipment.

No repairs will occur in waters of the U.S. and no repairs are proposed to the sub-surface piles or the Rubber Fender System.

No in-water work is planned for this project; all work would be over the water. There would be work directly under the dolphin that may require either a floating or fixed work platform. The Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water; the specific means and methods will be the Contractor's prerogative as long as they meet the permit conditions. All work would be carried out above-water and during daytime hours; no night work is proposed.

3 Protection of Natural and Cultural Resources

3.1 Air Pollution

Particulates and exhaust gases (hydrocarbons and carbon monoxide) will be the primary potential sources of degradation of air quality during construction. The Contractor shall be required to keep construction activities under surveillance, management, and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the Contractor shall be in accordance with Public Health Standards and Federal Emission and Performance Laws and Standards. Ambient Air Quality standards set by the Guam EPA shall be maintained for all construction operations and activities.

3.1.1 Particulates

Dust particles, aerosols and gaseous by-products from all construction activities shall be controlled at all times including weekends, holidays, and hours when work is not in progress.

3.1.2 Smoke

There shall be no burning of solid or liquid wastes at the site during construction. After construction, there shall be no incineration of wastes.

3.1.3 Motor Vehicle Emissions

All emissions from motorized machinery shall be controlled to stay within Federal and Guam EPA limits at all times. No gasoline-powered vehicle or machine shall be operated which emits visible smoke. No diesel powered vehicle or machine shall be operated which emits visible smoke for a period of more than five consecutive seconds. All machinery shall be kept in good repair.

3.1.4 Standby Generator

The Contractor may use a small (i.e., 5 kW or smaller), portable standby generator with a self-contained fuel supply in order to run the pressure washer and power drive propeller blade for the mixing of epoxy. The generator will be placed on the top deck of the dolphin, and must not be placed on any fixed or floating work platform over the water. The Contractor will ensure that the generator is properly permitted through GEPA. The portable generator would be smaller than 25kW, therefore, the Contractor would not need to apply for an EPA air emissions permit.

3.2 Noise Control

The noise levels vary depending on the situation. The Commercial Port can be noisy when container ships are loading and unloading, and Breasting Dolphin H is frequented by regular boat traffic from ocean freight vessels for delivery of fuel onto the island. The impact to noise levels will be of a temporary nature.

3.3 Biological Resources

3.3.1 Federally-Listed Species

The project area is located adjacent/over a natural, but artificially altered marine and aquatic habitat. The Contractor shall minimize habitat loss and degradation as much as possible. All work would be above and not in the water, and visual water quality monitoring would be performed.

The threatened green (*Chelonia mydas*) and endangered hawksbill (*Eretmochelys imbricata*) sea turtles are the only species listed under the Endangered Species Act (ESA) that may potentially occur in the vicinity of the F-1 Pier. Because the project site is located within Apra Harbor it is unlikely for any marine mammals or pelagic turtles to be affected by the above-water repair work. In 2014, NOAA listed 22 coral species as threatened under the ESA of 1973, of which three species occur in Guam waters, i.e., *Acropora globiceps, Acropora retusa, and Seriatopora aculeata*. These species were not observed within the project site, based on observations by DCA's biologists during sub-surface inspections of the dolphin conducted in September 2017. During the inspections, the substrate in the vicinity of the dolphin was confirmed as 90-100% uncolonized sand.

Migratory birds may visit the project site during construction activities, although this is very unlikely due to the high levels of activity at the Commercial Port. These species are protected under the Migratory Bird Treaty Act (MBTA). Daily pre-construction surveys for migratory birds will be conducted by a the Contractor. If migratory birds are present, work will not begin until the migratory birds have voluntarily left the site.

3.3.2 Invasive Species

The Contractor shall implement regular training for its employees to educate them on the pathways for invasive species introduction and the control measures that will prevent their introduction.

3.3.3 Aquatic Species

The marine community at the project site consisted of a few single corals growing on the piles, such as cauliflower coral (*Pocillopora damicornis*), interspersed with sponges and a low density of small fish. The environment in the direct vicinity of F-1 Fuel Pier was highly disturbed and mostly depauperate of marine life during DCA's September 2017 site inspections. The Contractor shall not cause construction activities to impact the marine environment; there will be no in-water work.

3.4 Water Resources and Essential Fish Habitat

Given that the construction has the potential to impact marine receiving waters, the Contractor shall take care in the protection of these water resources and avoid impacts to areas that may be considered Essential Fish Habitat (EFH). It would be the Contractor's prerogative to choose which BMP's are suitable at the repair site. Above-water work could result in the incidental and unintentional discharge of material, such as construction debris. Protection measures may include BMPs such as the installation of temporary scaffolding fitted with a tarpaulin; visual monitoring of water quality parameters would confirm the effectiveness of these BMPs.

Per communication with Ray Calvo of Guam Environmental Protection Agency, a Water Quality Monitoring Plan will not be submitted with this permit application, as no in-water work is required for this project. Visual monitoring would be the method of detection during above-water activities to monitor whether there are any water quality issues such as debris in the marine environment, for instance. Work would immediately cease upon visual detection of any issue, and would commence only upon successful correction of the problem. The Contractor is responsible for maintaining the BMPs, such as plastic sheeting.

Visual monitoring shall also be performed after a rain event. The visual inspections shall focus on discharges to the water body from the construction area. Corrective actions will be taken immediately should discharges be observed.

Similarly, if construction debris is observed in the water body, it will be immediately removed manually by construction personnel in a manner that causes the least disturbance practicable. The Contractor will cease construction activity in the vicinity until the source of the debris has been identified, and corrective measures have been installed to prevent any future incidents.

Washing and decontamination of equipment and tools shall take place off-site to the maximum extent practicable. This is a control measure intended to prevent the inadvertent introduction of non-native invasive species from the job site into other areas. If washing is determined to be necessary, a designated bermed wash area shall be used to contain all wash water and prevent its contact with marine or surface water bodies.

3.5 Archaeological Resources

Since the breasting dolphin has been installed and in use since 1941, and repairs have occurred in the past, it is unlikely that historic or cultural resources will be newly discovered. All work would be to the surface of the existing dolphin structure; no excavation activities are proposed.

4 Erosion and Sediment Control Measures

4.1 Temporary Erosion and Sedimentation Control Measures

This EPP provides the general conditions and requirements which will be employed before and during construction for this project. This includes all phases of construction, mobilization, and demobilization. Because there are no exposed soils located anywhere near the project site, it is very unlikely that erosion or sedimentation could become an issue. The Guam Soil Erosion and Sedimentation Control Manual published by the Guam Environmental Protection Agency in 1986, and the *CNMI and Guam Stormwater Management Manual* (Horsely Witten Group, Inc., 2006) are hereby adopted as reference specifications for the implementation of erosion and sedimentation control measures on this project.

Furthermore, the Contractor may install temporary scaffolding fitted with a tarpaulin to avoid any construction debris from entering the water.

4.1.1 Maintenance Procedures

The Contractor must inspect each of these sediment control measures daily to assure performance and effectiveness. At a minimum, the Contractor must:

- Visually inspect turbidity curtains daily and remove any accumulated debris surrounding them.

Sediment or dirt trails are not anticipated in the project area, as the entire work zone consists of paved surfaces.

These temporary sediment/ESC maintenance measures are listed and a daily checklist is attached to this EPP.

4.2 Permanent Erosion and Sedimentation Control Measures

N/A.

5 Control of Waste

5.1 Solid Waste

Solid waste consists of rubbish, soils, debris, tree and plant material, and other discarded soil materials resulting from land clearing and grubbing activities. While no soils or plant materials are anticipated, other construction waste generated during the repairs shall be placed such that it will not pose a hazard to personnel. No debris shall be allowed to encroach beyond the property boundaries or beyond the limits of the construction within the property. The burning of solid waste is not permitted. No marine debris is anticipated during this construction activity.

Demolition waste must be properly and promptly disposed of at an approved hardfill and may not be disposed of at a solid waste disposal facility. The Contractor shall keep the hardfill waste disposal tickets for the project record. The Contractor shall identify pathways for the introduction of invasive species and implement control measures to prevent such introductions.

5.2 Sanitary Waste

Sanitary waste consists of domestic sanitary sewage and garbage such as refuse and scraps resulting from the preparation and consumption of food. Garbage material will be stored in closed containers that cannot be opened by stray animals. All breaks and meals shall be taken at a designated area of the job site. The Contractor will police the area and maintain a litter-free eating area to minimize the attraction of pests. Rubbish containers shall be promptly emptied at the end of each work day and cleaned to remove food residues. The Contractor shall follow a Litter Control and Prevention Program and HACCP plan to control sanitary waste and minimize the introduction and movement of pests to and from the job site.

The Contractor shall be required to provide portable, temporary toilet facilities in sufficient numbers to accommodate all construction personnel until such a time as permanent facilities are available. These portable toilets shall be a type approved by Guam EPA. They shall be secluded from public observation, emptied periodically in a manner acceptable to Guam Waterworks Authority (GWA), and maintained at all times without nuisance. Upon completion of the work, they shall be removed from the premises.

6 Pest Control

The Contractor is required to discourage the breeding or attraction of pests on the job site. There shall be no open containers of stagnant water, which will act as a breeding area for mosquitoes. Food or other organic matter shall not be left in the open to attract flies, rats or stray animals. The Contractor shall maintain a clean job site, keep rubbish bins firmly closed, and promptly empty rubbish bins at the end of the work day. The Contractor shall follow a HACCP plan to minimize the introduction and movement of pests to and from the job site.

7 Public Safety

The general public will not be endangered by this project, as the project site is located within a restricted access area within the Guam Commercial Port. There will be no need for the creation of a "no wake zone" or traffic control plan.

8 Motorized Equipment

All equipment shall be kept in a good state of repair. Equipment shall meet OSHA noise regulations. Operators shall be trained to operate equipment in a safe and lawful manner. Equipment exhaust shall meet Guam EPA air quality standards. Equipment shall not leak oil or fuel onto the ground.

9 Typhoon Contingency Plan

The Contractor is responsible for assuring that unnecessary environmental damage does not occur during periods of extreme bad weather. The Contractor shall be responsible for the security and safety of the construction work and site when warnings of winds of gale force (34 knots or more) are issued. Satisfactory day-to-day cleanup of the jobsite in accordance with other provisions of this EPP is essential in order to be properly prepared for inclement weather conditions.

9.1 Condition of Readiness (COR) 4 (Normal Conditions)

The regular provisions of the EPP are essential in order to be properly prepared for inclement weather conditions. It is especially important that the jobsite be kept free of accumulations of debris and materials loosely scattered about.

9.2 Condition of Readiness (COR) 3 (48-Hour Warning)

The Contractor shall commence all securing operations necessary for a storm. If the condition is set during holidays or weekends, the securing operations shall proceed regardless.

9.3 Condition of Readiness (COR) 2 (24-Hour Warning)

The Contractor shall cease routine activities to allow maximum securing effort. Any fuel drums, paint, or other potentially dangerous materials shall be secured.

9.4 Post-Storm Requirements

Cleanup after typhoons and/or tropical storms shall proceed immediately as conditions permit. Of special importance is the rapid cleanup of storm debris and material with the potential for damage to ground waters.

10 Removal of Construction Structures

All temporary construction structures shall be removed, and all temporary facilities such as roadways, security fences, etc. shall be obliterated and shaped to original condition, or to such condition as specified by the contract specifications.

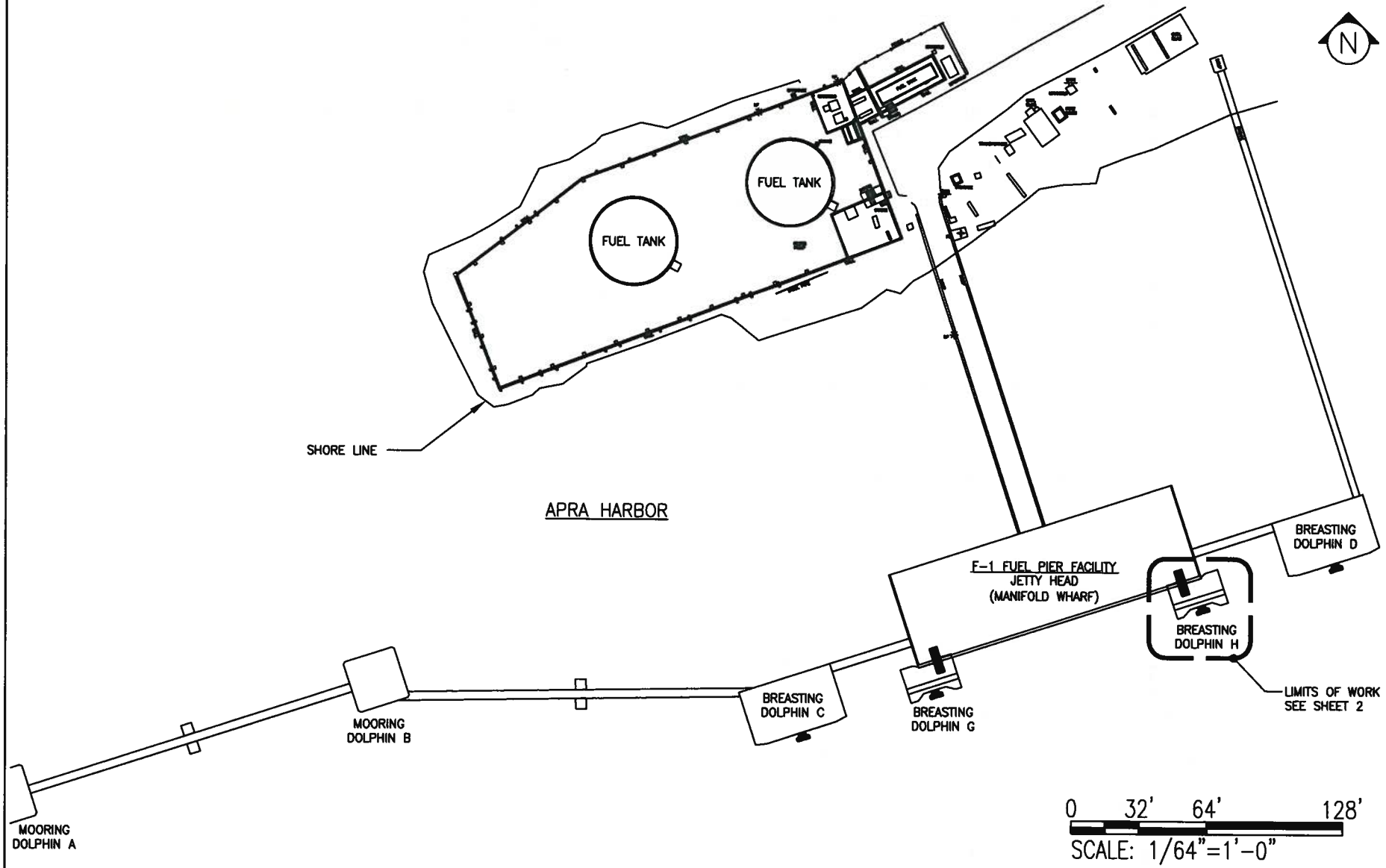
11 Traffic Control

This project is not expected to have an impact on the traffic patterns along Route 11 or the interior of the Commercial Port. A Traffic Control Plan or Highway Encroachment Permit is not required.

End of EPP

EXHIBIT C

Design Drawings



KEY PLAN

Datum: MLLW
Adj. Properties Owners:
Port of Guam Properties

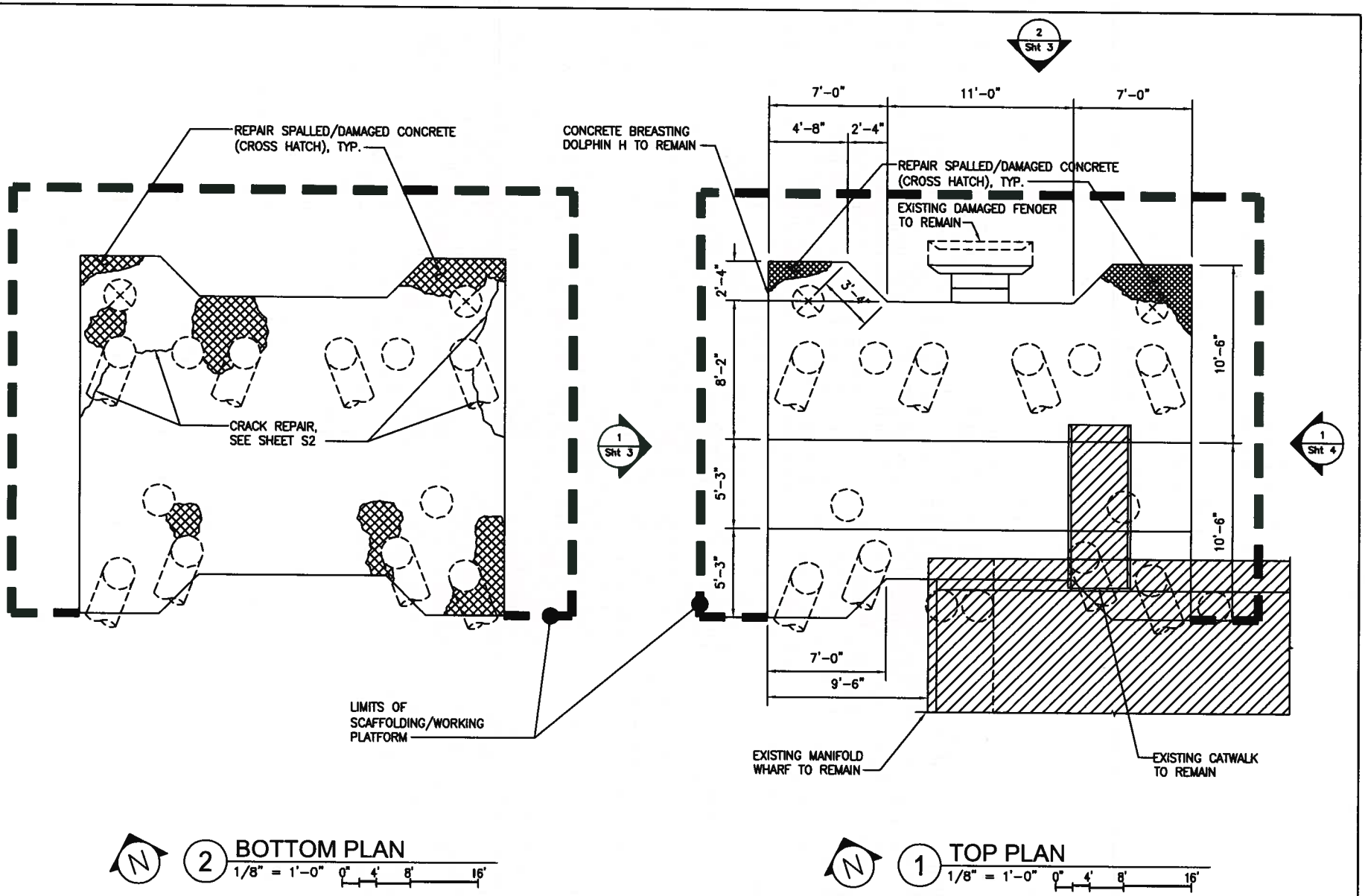
USACE Applicant Reference No. : POH-2018-112

Tristar Terminals Guam, Inc.
Agat Terminal Route 2A
Santa Rita Industrial Drive
P.O. Box 8210
Agat, Guam 96928

Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 1 of 4
May 2018

DCA DUEÑAS · CAMACHO



TOP AND BOTTOM PLAN

Datum: MLLW
Adj. Properties Owners:
Port of Guam Properties

USACE Applicant Reference No. : POH-2018-112

Tristar Terminals Guam, Inc.
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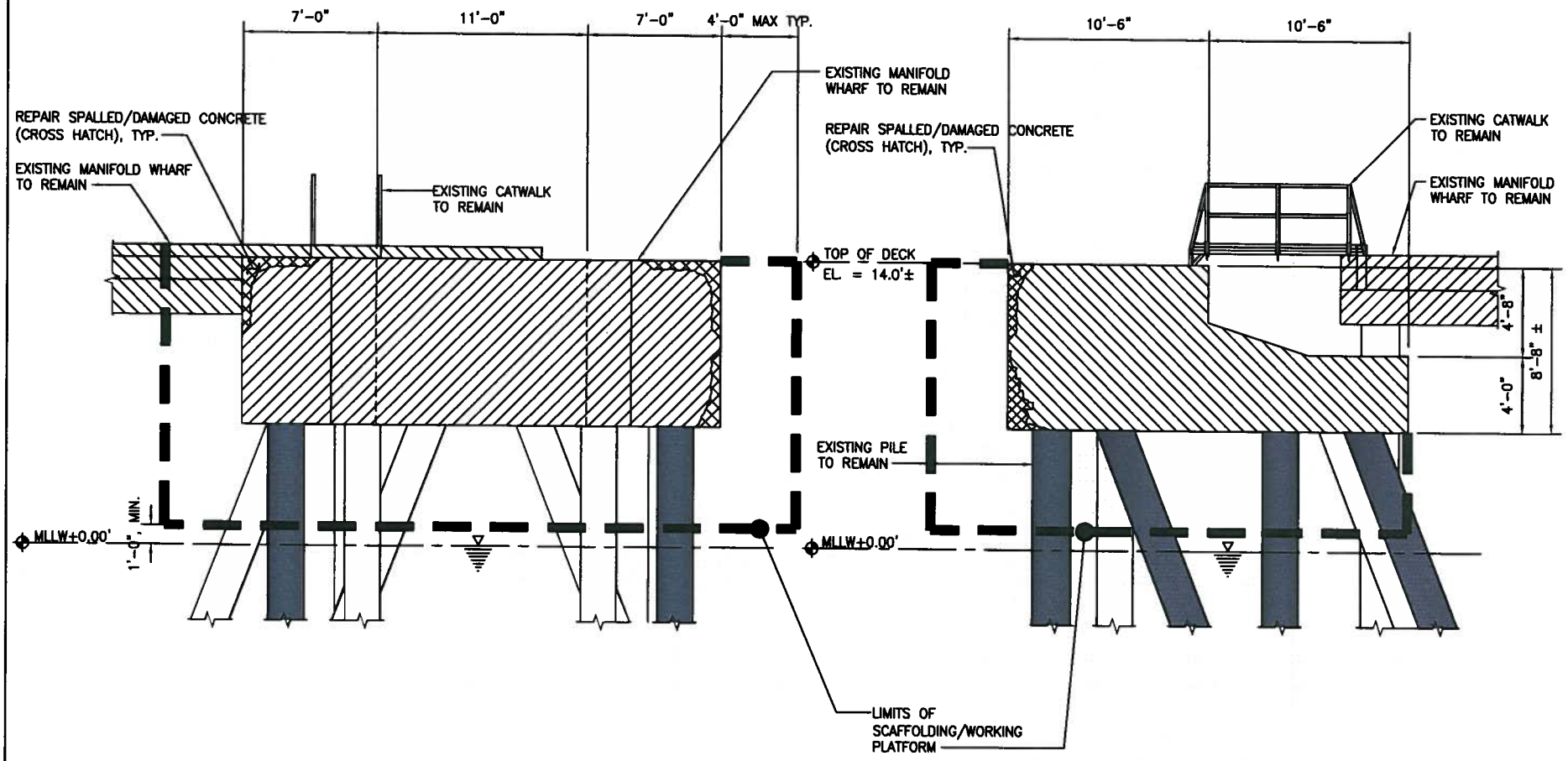
Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti

Map Sheet 2 of 4
May 2018

DCA DUENAS · CAMACHO



2 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

1 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

ELEVATIONS

Datum: MLLW
Adj. Properties Owners:
Port of Guam Properties

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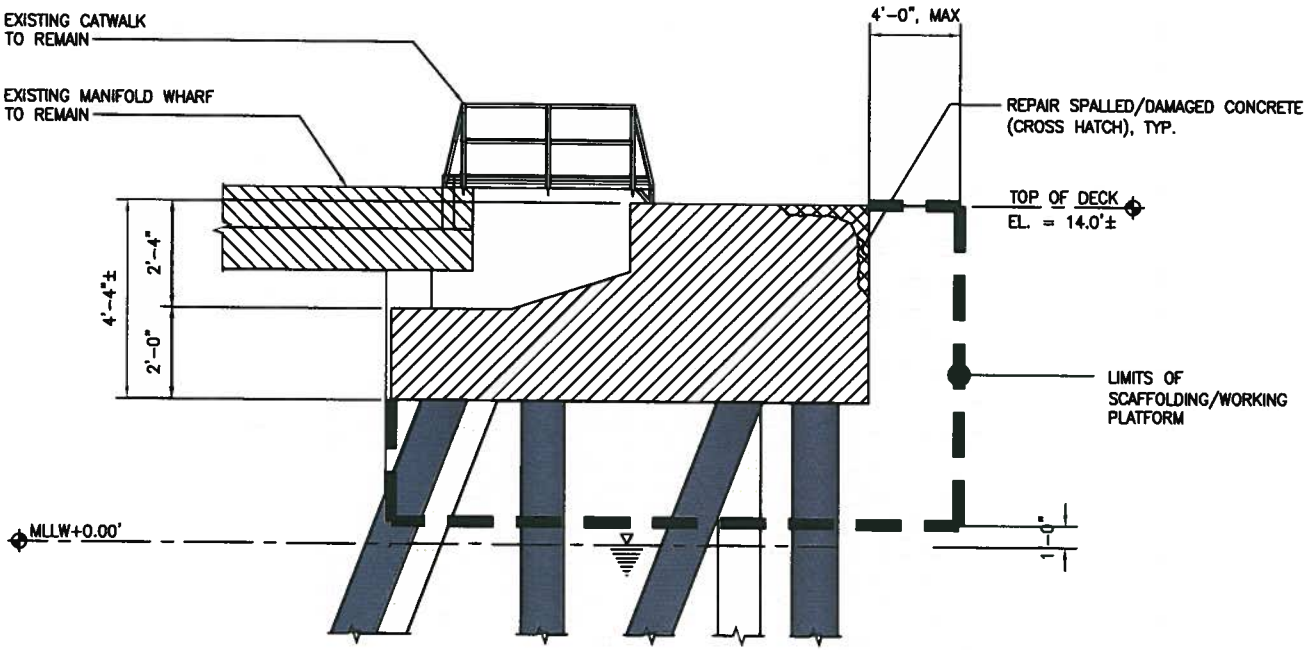
Map Sheet 3 of 4
May 2018

DCA DUEÑAS · CAMACHO



1 ELEVATION
1/8" = 1'-0" 0" 4' 8' 16'

ELEVATION Datum: MLLW Adj. Properties Owners: Port of Guam Properties	**USACE Applicant Reference No. : POH-2018-112** Tristar Terminals Guam, Inc. Agat Terminal Route 2A Santa Rita Industrial Drive P.O. Box 8210 Agat, Guam 96928	**Port Authority of Guam F-1 Fuel Pier Facility Minor Damage Repairs at Breasting Dolphin H, Cabras Island, Piti** Map Sheet 4 of 4 May 2018 DCA DUBRAS-CAMACHO