



**US Army Corps
of Engineers.**
Philadelphia District
Wanamaker Building
100 Penn Square East
Philadelphia, PA 19107-3390
ATTN: CENAP-OP-R

Public Notice

Public Notice No.

Date

CENAP-OP-R-2013-490-83

OCT 13 2015

Application No.

File No.

In Reply Refer to:

REGULATORY BRANCH

This District has received an application for a Department of the Army permit pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 U.S.C. 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

APPLICANT: Rachel Morrell
H&H Fisheries, LLC
103 Bates Avenue
Rio Grande, NJ 08242

WATERWAY: The H&H marina is located in and along Mill Creek and Skunk Sound, in Lower Township, Cape May County, New Jersey.

LOCATION: The site is identified as H&H Seafood and Cape Kayaks, Lot 7.02, Block 822.03, Lower Township, Cape May County, New Jersey.

ACTIVITY: The applicant has applied for a Department of the Army authorization to authorize existing structures, including modifications to the previous development, at the subject site along Mill Creek and Skunk Sound within the Township of Lower, Cape May County, New Jersey. The subject site has been developed as a marina for over 50 years. During this timeframe, marina structures have been reconfigured numerous times over the years. Additionally, the once predominantly recreational marina has become a port facility for a commercial fishing operation.

Today, the marina currently services and operates as both a recreational and commercial facility dependant on season. During the winter, spring and fall seasons the entire commercial fishing fleet is moored at the site. During the summer season, this marina is used in connection with seafood processing and as a seafood market; recreational boating and kayak rentals are most prevalent, with the commercial fishing operations acting as a secondary use. During the summer, the H&H Fisheries crabbing fleet operates out of a marina in Bidwell Creek on the Delaware Bay side of Cape May County in order to more easily access their summer crabbing grounds in the Delaware Bay. The crab is off-loaded and trucked to the on-site seafood processing and market building. Two (2) commercial vessels that fish sea bass and lobster are also moored at the facility during the summer months. The entire six (6) vessel fleet returns to the site in the winter, spring and fall seasons when the crabbing grounds in the Atlantic Ocean are fished. The commercial fishing fleet also catches conch in the spring season.

The attached project plans (Enclosure 1) proposes to authorize structures that have been previously reconstructed or reconfigured on site. These structures include: approximately two hundred (~ 200 LF) linear feet of vinyl replacement bulkhead; existing floating docks measuring 4.5' x 48', 6' x 95.5', 6' x 28', 6' x 130' and 6' x 27.5'; five (5) finger docks each measuring 3' x 11'; one (1) 8' x 16.5' kayak float; one (1) 2.5' x 16' ramp; one (1) 4' x 20' ramp associated with the ongoing use of this site for recreational boating slips. In addition to the recreational docking structures, the applicant is seeking authorization for one (1) 19' x 50' fixed pier and one (1) 35'-long irregular shaped pier for use in their commercial fishing operations.

The project plans also propose to authorize approximately three hundred and fourteen (~ 314 CY) cubic yards of fill placed behind the currently serviceable bulkhead. The fill was placed prior to the applicant's purchase of the marina when the historic/natural shoreline was reinforced through the placement of approximately two hundred (~ 200 LF) linear feet of vertical bulkhead. No additional fill is proposed at this time.

The applicant is proposing to utilize materials which were previously utilized as part of the prior docking facilities. The previously existing piles that were in contact with the water and recreational floating docks were reconfigured and installed in their current locations. New creosote piles were not installed as part of the reconstruction project. All free standing creosote pilings will be removed and replaced. All creosote pilings which provide critical support for existing structures will be encapsulated by an agency-approved product; the applicant has identified two (2) potential products (Enclosures 2-3). With the exception of the fixed piers that are subject to high intensity use as part of the commercial fishing operation, new non-polluting materials were used. The applicant states that untreated timber is neither practicable nor cost effective to be used as part of commercial use. Furthermore, the reconstructed bulkhead utilized vinyl sheathing and polymer wrapped whalers. All future repair and maintenance to the recreational structures will be constructed with non-polluting materials.

No dredging is required or anticipated at this time.

PURPOSE: The applicant's stated purpose is to provide continued use of the marina's facilities for both commercial and recreational water dependent uses.

A preliminary review of this application indicates that the proposed work is not likely to adversely affect threatened and endangered species. While Atlantic Sturgeon (Acipenser oxyrinchus), Kemp's ridley sea turtle (Lepidochelys kempii), loggerhead sea turtle (Caretta caretta), green sea turtle (Chelonia mydas), leatherback sea turtle (Dermochelys coriacea) and hawksbill sea turtle (Eretmochelys imbricate), Red knot (Calidris canutus rufa), Northern Long-eared Bat (Myotis septentrionalis) and Seabeach amaranth (Amaranthus pumilus) may be in the vicinity, due to the projects location, water depths, boating activity, historical use and past land practices these species are not likely present. As required under Section 7 of the Endangered Species Act, this office will coordinate with the National Marine Fisheries Service and U.S. Fish and Wildlife Service to ensure impacts to these species will be minimal.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect

the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Comments on the proposed work should be submitted, in writing, within 30 days to the District Engineer, U.S. Army Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

A preliminary review of the National Register of Historic Places indicates that no registered properties or properties listed as eligible for inclusion therein are located within the permit area of the proposed work. The permit area has been so extensively modified that little likelihood exists for the proposed project to impact a historic property. A determination of "No potential to cause effects" will be coordinated with the SHPO and the tribes for their review and concurrence.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary assessment of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, indicates that the project may adversely affect EFH. In order to avoid or minimize impacts to EFH species and their habitats, the use of seasonal restrictions may be incorporated into this permit decision. The U.S. Army Corps of Engineers will be coordinating with the National Marine Fisheries Service to ensure that any action taken by this office will not have a substantial effect to EFH species and/or their habitats.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with

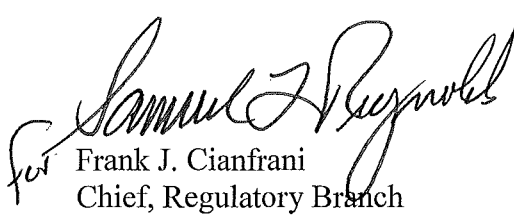
and will be conducted in a manner that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Comments concerning the impact of the proposed and/or existing activity on the State's coastal zone should be sent to this office, with a copy to the State's Office of Coastal Zone Management.

In accordance with Section 401 of the Clean Water Act, a Water Quality Certificate is necessary from the State government in which the work is located. Any comments concerning the work described above which relate to Water Quality considerations should be sent to this office with a copy to the State.

The evaluation of the impact of the work described above on the public interest will include application of the guidelines promulgated by the Administrator, U.S. Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by calling Mr. Robert M. Deems at (215) 656-5733, via email at Robert.M.Deems@usace.army.mil, or writing this office at the above address.


for Frank J. Cianfrani
Chief, Regulatory Branch

GENERAL NOTES

1. SITE

TAX BLOCK 822.03, TAX LOT 7.02, TOWNSHIP OF LOWER, CAPE MAY COUNTY, N.J. (SHOWN ON SHEET 11 OF THE CURRENT OFFICIAL TAX MAP OF THE TOWNSHIP OF LOWER) AND COMMONLY KNOWN AS STREET ADDRESS 956A OCEAN DRIVE, CAPE MAY, NJ 08204.

2.

OWNER/APPLICANT:
H & H FISHERIES, LLC
680 WEEKS LANDING ROAD
CAPE MAY, NJ 08204

3. ZONING DISTRICT

THE PROJECT SITE IS LOCATED IN THE MARINE DEVELOPMENT/COMMERCIAL (MD-2) DISTRICT.

4. AREA

TOTAL DEED LOT AREA = 0.43 Acres (18,803± s.f.)

TOTAL UPLAND LOT AREA = 0.30 Acres (13,100± s.f.)

5. EXISTING

THE EXISTING USE OF THE PROPERTY CONSISTS OF A SEAFOOD MARKET (INCLUDING TABLES FOR OPTIONAL ON-SITE CONSUMPTION, KAYAK RENTAL FACILITY AND BOAT SLIP RENTALS. THE COMMERCIAL FISHING BOAT SLIPS ARE ASSOCIATED WITH THE SEAFOOD MARKET AS THESE BOATS SUPPLY THE SEAFOOD FOR THE RETAIL MARKET. THE PROJECT SITE IS CURRENTLY OCCUPIED BY THREE (3) FRAME BUILDINGS (seafood market, restroom & storage), ONE COVERED (OPEN) CRAB HOLDING TANK STRUCTURE AND FOUR (4) REFRIGERATORS/FREEZERS. THE TWO FREEZERS AT THE NORTH END OF THE PROPERTY ARE USED FOR BAIT STORAGE, WHILE THE TWO REFRIGERATORS ADJACENT TO THE SEAFOOD MARKET ARE USED FOR FOOD STORAGE. FOURTEEN (14) TRANSIENT BOAT SLIPS. THREE (2) COMMERCIAL FISHING SLIPS AND APPROXIMATELY THREE (3) COMMERCIAL/PATRON MOORING SLIPS ARE PROVIDED AT THE SITE.

6. PROPOSED

THE APPLICANT RECEIVED MINOR SITE PLAN APPROVAL FROM THE LOWER TOWNSHIP PLANNING BOARD IN JANUARY, 2012 FOR THE PROVISION OF A 11.8'x14.3' "FOOD PREPARATION" BUILDING, THE PRE-FABRICATED BUILDING WAS PREVIOUSLY DELIVERED TO THE SITE AND IS IN PLACE. THE APPLICANT HAS SINCE ABANDONED THE PROPOSED USE AND NOW PROPOSES THAT THE SUBJECT BUILDING BE UTILIZED FOR FISHING EQUIPMENT STORAGE. THE APPLICANT ALSO PROPOSES TO MAINTAIN THE EXISTING STRUCTURES AND SIGNAGE AS SHOWN HEREON. THE PROJECT ALSO INCLUDES THE CONSTRUCTION OF A 7'x7' TRASH/RECYCLING ENCLOSURE, RELOCATION OF BAIT STORAGE REFRIGERATORS/FREEZER AND DIESEL FUEL STORAGE TANK AND DISPENSER, CONSTRUCTION OF ASPHALT PAVING AND ELIMINATION OF THE BOAT SLIPS FOR RENT USE.

7. SOILS

SOILS AT THE SITE ARE Urban land-Psamments (USPSAS) PER THE SOIL SURVEY OF CAPE MAY COUNTY.

8. STORMWATER

THE TOTAL RUNOFF ASSOCIATED WITH WITH WATER QUALITY DESIGN STORM (1.25" RAINFALL OVER 2 HOURS) FOR NEW BITUMINOUS PAVING IS BEING INFILTRATED ON SITE VIA STONE RESERVOIR BED BENEATH POROUS PAVING WITHIN THE VEHICULAR PARKING AREAS.

9. UTILITIES

THE EXISTING BUILDINGS, SEAFOOD PROCESSING & MARKET BUILDING WILL CONTINUE TO BE SERVED BY THE EXISTING ON-SITE SEWAGE LIFT STATION AND POTABLE WELL. SEWAGE IS PUMPED VIA A SMALL DIAMETER FORCE MAIN TO THE EXISTING SEWER MAIN IN OCEAN DRIVE.

10. SURVEYING

A. EXISTING CONDITIONS SHOWN HEREON BASED ON FIELD SURVEYS PERFORMED BY HYLAND DESIGN GROUP, INC. ON MAY 11, 2011 AND OCTOBER 4, 2012. THE PROPERTY OUTBOUND AS SHOWN HEREON IS BASED ON THE DEED CONVEYING THE PROPERTY FROM JAMES AND JOANNE HORN TO H & H FISHERIES, LLC DATED NOVEMBER 1, 2004 AND RECORDED IN THE CAPE MAY COUNTY CLERK'S OFFICE ON NOVEMBER 9, 2004 (DEED BOOK 3117, PAGE 659).

B. ADJACENT TAX LOTS/TAX BLOCK AS SHOWN HEREON SHOWS APPROXIMATE OUTBOUNDS PER SHEET 11 OF THE CURRENT OFFICIAL TAX MAP OF THE TOWNSHIP OF LOWER, PREPARED BY AERO SERVICE CORPORATION, DATED FEBRUARY 27, 1957 (Last Revised 06.19.02).

11. ELEVATION DATA

REFERENCE DATUM: NAVD 88

12. FLOOD ZONE

THE SUBJECT PROPERTY LIES IN FLOOD ZONE 'A7' (EL. 10) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP COMMUNITY PANEL No. 340153 0007 B, EFFECTIVE FEBRUARY 2, 1983, SEA LEVEL DATUM 1929 (NGVD). BASE FLOOD ELEVATION EQUALS EL. 8.70 WHEN CONVERTED TO NAVD 88 DATUM UTILIZED AS TOPOGRAPHICAL DATUM FOR THIS PLAN.

THE SUBJECT PROPERTY IS ALSO WITHIN FLOOD ZONE 'AE' (EL. 10 - 1988 NAVD DATUM) AS SHOWN ON FEMA'S 'CAPE MAY COUNTY, NJ PRELIMINARY WORK MAP', PANEL No. 0284 OBTAINED FROM http://content.femadata.com/Public/PreliminaryWorkMaps/NJ/CapeMay/Workmaps/pdf/CapeMay_Workmap_0284_compressed.pdf

HABITABLE STRUCTURES (MARKET, PROCESSING/EQUIPMENT STORAGE, AND RESTROOMS) ARE TO BE WET FLOOD PROOFED IN ACCORDANCE WITH NJAC 7:13-11.5 TO AN ELEVATION OF +11.0'. FLOOD VENTS ARE TO BE PROVIDED AS SHOWN ON THESE PLANS AND THE STRUCTURAL INTEGRITY OF THESE BUILDINGS WILL REMAIN INTACT DURING THE DESIGN STORM.

REQUESTED WAIVERS

Per Ordinance Section § 400-77 this application is seeking waivers from the following regulations governing the application for site plan review:

§ 400-77G15: Indicate locations of all utility structures and lines, existing and proposed stormwater drainage on-site and off-site and from buildings and structures, as well as telephone, power and light, water hydrant locations, sewer, gas, etc., whether privately or publicly owned, with manholes, inlets, pipe sizes, grades, inverts and directions of flow.

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

Prepared for: H & H FISHERIES, LLC

DRAWN BY: RDS
CHECKED BY: JEH

No.	DATE	ISSUED / REVISED
1.	07.07.15	INITIAL RELEASE

PROJECT No:

3724.01

SHEET TITLE:
GENERAL NOTES

C3.0

SHEET 1 OF 13

John E. Halbruner

John E. Halbruner

NJ PROFESSIONAL ENGINEER No. 42918
NJ REGISTERED ARCHITECT No. 15952



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F 609.398.7366

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ENCLOSURE

1

PROPOSED ZONING CONFORMANCE SCHEDULE

§ 400-21 Marine Development/Commercial (MDC-2)			Existing		Proposed	
No.	Item	Ordinance Section	Required/Permitted	Block 822.03, Lot 7.02	Conformance	Block 822.03, Lot 7.02
1	Permitted Principal Uses	§ 400-21.A	Rental of Boats, Commercial Fishing, Fish and Seafood Processing and Packing	Commercial Fishing, Fish and Seafood Processing	Yes	Rental of Boats, Commercial Fishing, Fish and Seafood Processing
2	Permitted Accessory Uses	§ 400-21.B	Retail Sales of Goods Permitted to Marine-Related Use, Off-Street Loading and Parking, Storage Buildings, Fences, Piers, Bulkheads, Signs	Retail Sales of Goods (Seafood Market), Off-Street Loading and Parking, Storage Buildings, Fences, Piers, Bulkheads, Signs	Yes	Retail Sales of Goods (Seafood Market), Off-Street Loading and Parking, Storage Buildings, Fences, Piers, Bulkheads, Signs
3	Maximum Building Height	§ 400-21.C	65'	10.03' (Storage Building) 10.04' (Seafood Market) 9.20' (Restrooms) 11.20' (Covered Holding Tanks)	Yes Yes Yes Yes	10.03' (Storage Building) 10.04' (Seafood Market) 9.20' (Restrooms) 11.20' (Covered Holding Tanks)
2	Minimum Lot Area (1)	§ 400-21.D.(1)	3 Acres (130,680 s.f.)	0.43 Acres (18,803± s.f., Deed) 0.30 Acres (13,100± s.f., Upland)	E.N.C. (2)	0.43 Acres (18,803± s.f., Deed) 0.30 Acres (13,100± s.f., Upland)
3	Minimum Lot Frontage (3)	§ 400-21.D.(1)	200'	20.55'	E.N.C.	20.55'
4	Minimum Lot Width (4)	§ 400-21.D.(1)	200'	105.39'	E.N.C.	105.39'
5	Minimum Lot Depth (5)	§ 400-21.D.(1)	200'	194.69'	E.N.C.	194.69'
6	Minimum Yard Requirements					
	Side Yard	§ 400-21.D.(2)	10'	Framed storage/processing building 34.46' (To Eastern Property Line) 12.07' (To Bulkhead) 0.00' (Crab Holding Tanks To Western Property Line) 0.23' (Refrigerator To Southern Property Line) 5.88' (To Freezer)	Yes E.N.C. E.N.C. E.N.C.	Boat Freezer/Refrigerator 43.70' (To Eastern Property Line) 4.0' (To Bulkhead) 0.00' (Crab Holding Tanks To Western Property Line) 0.23' (Refrigerator To Southern Property Line) 4.0' (To Freezer)
	Front Yard (6)	§ 400-21.J	200'	152.47' (To Storage Building) 8.9% (1,680 s.f., wooded area) 12.8% (1,680 s.f., upland area)	E.N.C. Yes	152.47' (To Storage Building) 8.9% (1,680 s.f., wooded area) 12.8% (1,680 s.f., upland area)
7	Maximum Building Coverage (7)	§ 400-21.D.(4)	40%			
8	Minimum Off-Street Loading					
	Minimum Number	§ 400-21.F.(1)	1	1	Yes	1
	Minimum Space Size	§ 400-21.F.(1)	15' by 40'	15'x40'	Yes	15'x40'
9	Refuse Storage (8)	§ 400-21.F.(2)	1 (Screened and/or Enclosed)	1 (Open)	E.N.C.	1 (Enclosed)
10	Minimum Off-Street Parking	§ 400-21.F.(2)	SEE PARKING SCHEDULE, SHEET C1.1	22	Yes	21 / 23
8	Permitted Signs					
	Maximum Number	§ 400-21.H.(1)	1 sign per enterprise	3 (H & H Fisheries, LLC) 4 (Cape Kayaks)	E.N.C. E.N.C.	3 (H & H Fisheries, LLC) 4 (Cape Kayaks)
	Maximum Area (Building Mounted)	§ 400-21.H.(1)	11.4 s.f. (5% of the area of the front wall of the principal building or 100 s.f. max.)	83± s.f. (H & H Fisheries, LLC)	E.N.C.	83± s.f. (H & H Fisheries, LLC)
	Maximum Area (Freestanding)	§ 400-21.H.(1)	100 s.f.	53.1± s.f.	Yes	53.1± s.f.
	Maximum Height (Freestanding)	§ 400-21.H.(1)	10'	12'± (Cape Kayaks) 14.5'± (H & H Seafood)	E.N.C.	12'± (Cape Kayaks) 14.5'± (H & H Seafood)
	Minimum Setback (Freestanding)	§ 400-21.H.(1)	10' from property line	1.1'± (Cape Kayaks)	E.N.C.	1.1'± (Cape Kayaks)

ZONING CONFORMANCE SCHEDULE NOTES

1. LOT AREA
Ordinance §400-8 defines Lot Area as "the area contained within the lot lines of a lot not including any portion of a street right-of-way".
Deed Lot Area as shown hereon measured along property lines per deed between James Horn and Joanne Horn, h.w., to H & H Fisheries, LLC, dated November 1, 2004 and filed in the Cape May County Clerk's office on November 9, 2004 in Deed Book 3117, Page 659. Upland Lot Area as shown hereon measured along property lines and face of bulkhead/mean high water line.

2. "ENC"
ENC = Existing Non-Conforming

3. LOT FRONTAGE
Ordinance §400-8 defines Lot Frontage as "the horizontal distance between side lot line measured along the street line. The minimum lot frontage shall be the same as the lot width except that, on curved alignments with an outside radius of less than 500 feet, the minimum distance between the side lot lines measured at the street line shall not be less than 75% of the required minimum lot width. The lot width at the building setback line and at the rear property line shall not be less than the lot frontage requirement in the district".
Ordinance §400-8 defines Street Line as "the edge of the existing or future street right-of-way, whichever would result in the widest right-of-way, as shown on the adopted Master Plan or Official Map, forming the dividing line between the street and a lot.
Lot frontage shown hereon as measured along the northeast property line along the right-of-way as described in "Superior Court of New Jersey, Chancery Division, Cape May County, Judgment of Settlement" (Docket No. C-17-97) dated July 16, 1999 and recorded in the Cape May County Clerk's Office in Deed Book 2841, Page 967.

4. LOT WIDTH
NOTE REMOVED.

5. LOT DEPTH
Ordinance §400-8 defines Lot Depth as "the shortest horizontal distance between the front lot line and a line drawn parallel to the front lot line through the midpoint of the rear lot line".

6. FRONT YARD
Ordinance §400-8 defines Front Yard as "an open space extending across the full width of the lot and lying between the street line and the closest point of any building on the lot. The depth of the front yard shall be measured horizontally and at right angles to either a straight street line or the tangent lines of curved street lines".

7. MAXIMUM BUILDING COVERAGE
Maximum Building Coverage shown hereon includes storage building, seafood market building, covered crab holding tanks, restrooms and freezer/refrigerators.

8. REFUSE STORAGE
Recyclable/trash cans are located near the roofed crab holding tanks and is removed from the property at the end of the business day. The proposed project includes the provision of a 7'x7' trash/recycling enclosure.

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

Prepared for: H & H FISHERIES, LLC



HYLAND DESIGN GROUP, Inc.

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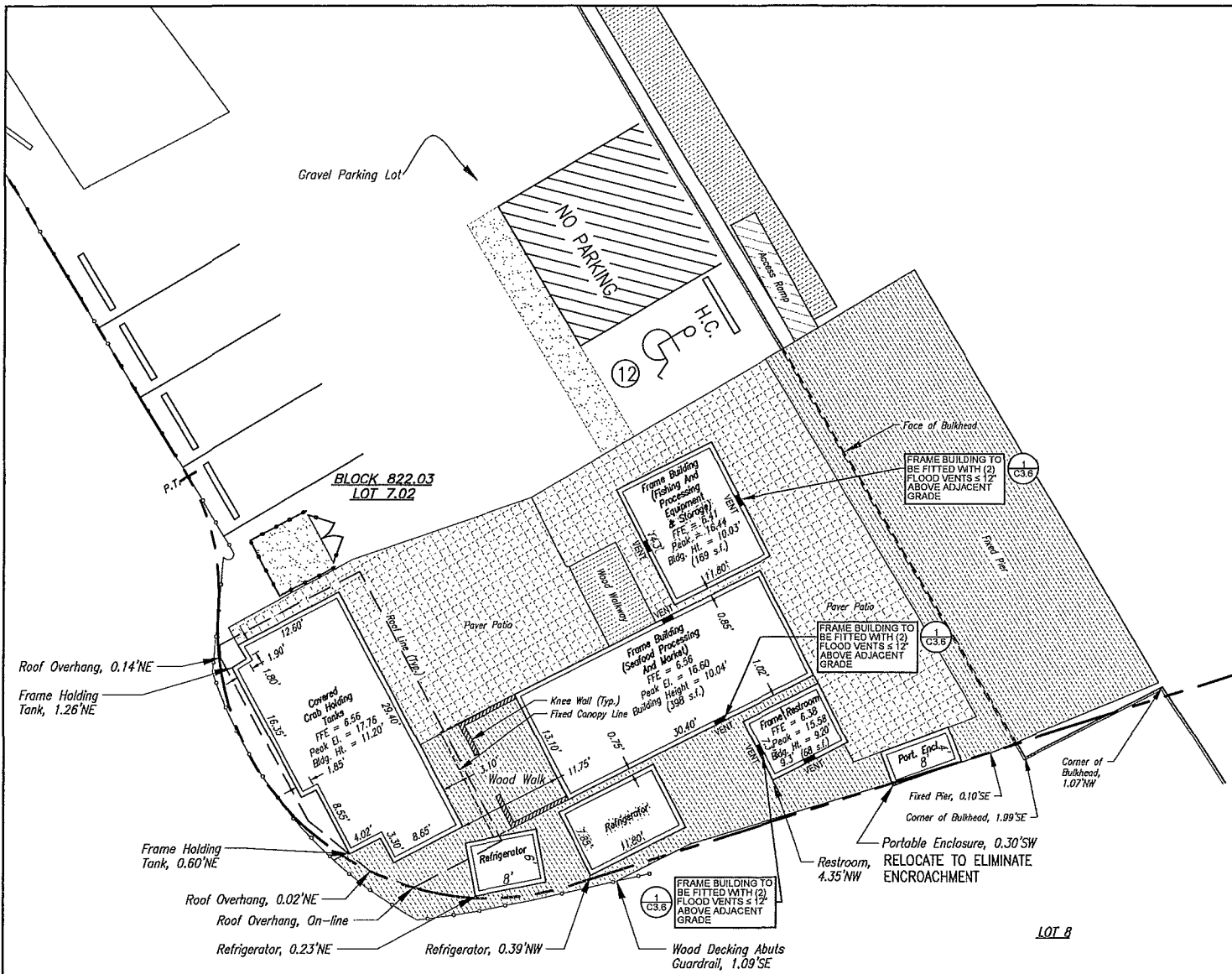
SHEET TITLE:
ZONING
CONFORMANCE

C3.1

SHEET 2 OF 13

John E. Halbruner

John E. Halbruner
NJ PROFESSIONAL ENGINEER No. 42918
NJ REGISTERED ARCHITECT No. 15952



SOUTHWEST PROPERTY LINE DETAIL

SCALE: Not To Scale

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

Prepared for: H & H FISHERIES, LLC

DRAWN BY:		RDS
CHECKED BY:		JEH
No.	DATE	ISSUED / REVISED
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PROJECT No:

3724.01

SHEET TITLE:
SW PROPERTY
LINE DETAIL

C3.3

SHEET 4 OF 13

John E. Halbruner

John E. Halbruner

NJ PROFESSIONAL ENGINEER No. 42918
NJ REGISTERED ARCHITECT No. 15952



HYLAND DESIGN GROUP, Inc.

www.HylandDesignGroup.com

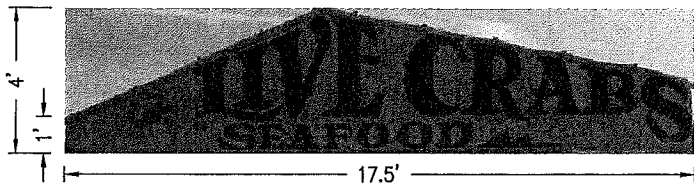
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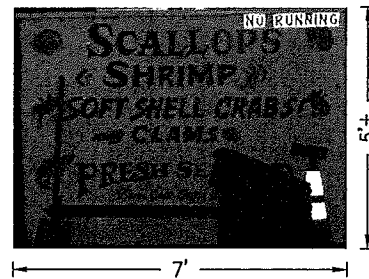
Ocean View:
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Cape May Court House
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Your Single Source Advantage

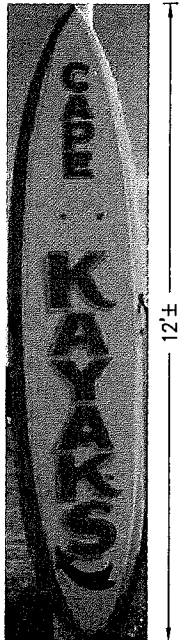
Engineers • Architects • Land Surveyors • Planners • Environmental Consultants • Interior Designers



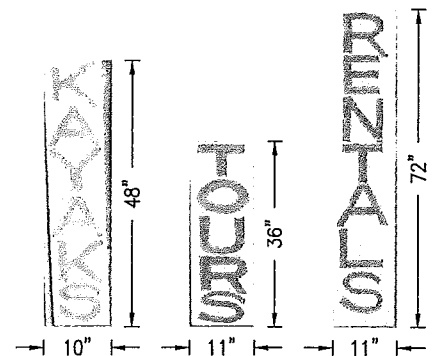
H & H Fisheries, LLC "Live Crabs Seafood" Sign Mounted on Roof (48± s.f.)



H & H Fisheries, LLC "Seafood" Sign Mounted on Knee Wall (35± s.f.)



"Cape Kayaks" Signs Mounted on Post (19± s.f.)



Cape Kayaks Signs Mounted on Fence (11.6± s.f.)

EXISTING SITE SIGNAGE DETAILS

SCALE: Not To Scale

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

Prepared for: H & H FISHERIES, LLC

DRAWN BY:		RDS
CHECKED BY:		JEH
No.	DATE	ISSUED / REVISED
1.	07.07.15	INITIAL RELEASE

PROJECT No:

3724.01

SHEET TITLE:
EXISTING SITE
SIGNAGE
DETAILS

C3.5

SHEET 6 OF 13

John E. Halbruner

John E. Halbruner

NJ PROFESSIONAL ENGINEER No. 42918
NJ REGISTERED ARCHITECT No. 15952

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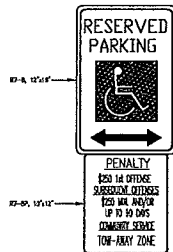
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PARKING SIGNS

SCALE: NONE



H.C. PARKING SYMBOL

SCALE: NONE

FLOOD VENT CALCULATIONS

SEAFOOD PROCESSING AND MARKET BUILDING AREA: 399 SF
NET FREE AREA REQUIRED: 399 SQIN

(2) 14 1/2"x8 1/2" SMARTVENT FOUNDATION "FLOOD VENT" (MODEL 1540-570)
(8) 200 SQIN NET FREE AREA EACH EQUALS 400 SQIN NET FREE AREA
400 SQIN (NET FREE AREA PROVIDED) > 399 SQIN (NET FREE AREA REQUIRED)

RESTROOM BUILDING AREA: 68 SF
NET FREE AREA REQUIRED: 68 SQIN

(2) 14 1/2"x8 1/2" SMARTVENT FOUNDATION "FLOOD VENT" (MODEL 1540-570)
(8) 200 SQIN NET FREE AREA EACH EQUALS 400 SQIN NET FREE AREA
400 SQIN (NET FREE AREA PROVIDED) > 68 SQIN (NET FREE AREA REQUIRED)

FISHING AND PROCESSING EQUIPMENT STORAGE BUILDING AREA: 169 SF
NET FREE AREA REQUIRED: 169 SQIN

(2) 14 1/2"x8 1/2" SMARTVENT FOUNDATION "FLOOD VENT" (MODEL 1540-570)
(8) 200 SQIN NET FREE AREA EACH EQUALS 400 SQIN NET FREE AREA
400 SQIN (NET FREE AREA PROVIDED) > 169 SQIN (NET FREE AREA REQUIRED)

"Smart Vent"
20 Warwick Ave.
Blairstown, NJ 08028
1-800-529-1115

Smart VENT
877-441-8368
www.smartvent.com

DETAIL DIAGRAM
MODEL 1540-570
14.5" WOOD WALL INSULATED

Smart VENT
877-441-8368
www.smartvent.com

INSTALLATION INSTRUCTIONS & DETAILS
MODEL 1540-570
14.5" WOOD WALL INSULATED

INSTALLATION INSTRUCTIONS
(SEE ORDER INSTRUCTIONS PAGE 1 OF 2)

- For each vent cut a CLEAN, SQUARE, and LEVEL 14 1/2" x 8 1/2" opening in the outside sheathing. Ensure that the bottom of the opening is no more than 12" above the finished floor grade.
- Remove Vent from Vent Frame. Turn up the door, cross bottom of door inward and slide out of frame slot.
- Position the vent frame in the opening, with VENT L, NUMBER LABEL, on the BOTTOM and ensure that it is square and level. Apply a coat of polyurethane adhesive to the frame and use three 3/8\"/>

NOTES: The vent will not be secure until the door is properly secured. Ensure the door is blocked from opening and is facing downward.

- Insert the door by inserting the side pins into the slots in the door frame. Ensure the block from pins are facing downward.
- Let the bottom of the vent door sit on the 1/2\"/>

CAUTION: The vent door is not to be used as a door. The vent door is not to be used as a door. The vent door is not to be used as a door.

NOTES: The vent door is not to be used as a door. The vent door is not to be used as a door. The vent door is not to be used as a door.

FLOOD VENT DETAIL

SCALE: NONE

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

Prepared for: H & H FISHERIES, LLC

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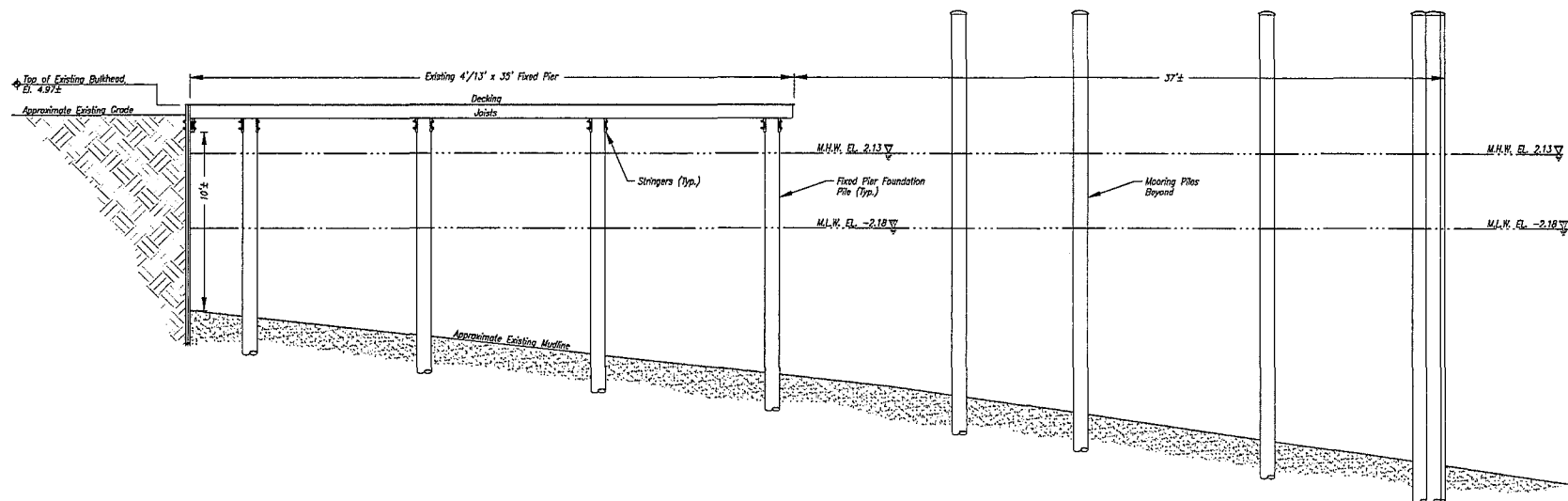
John E. Halbruner
NJ PROFESSIONAL ENGINEER No. 42918
NJ REGISTERED ARCHITECT No. 15952

PROJECT No:
3724.01

SHEET TITLE:
**SIGNAGE &
FLOOD VENT
DETAILS**

C3.6

SHEET 7 OF 13



EXISTING FIXED PIER SECTION

SCALE: Not To Scale

H & H SEAFOOD/CAPE KAYAKS

956A OCEAN DRIVE

TAX BLOCK 822.03 TAX LOT 7.02

TOWNSHIP OF LOWER, CAPE MAY COUNTY, NEW JERSEY

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PROJECT No:

3724.01

SHEET TITLE:

EXISTING FIXED
PIER SECTION

C3.7

SHEET 8 OF 13

John E. Halbruner

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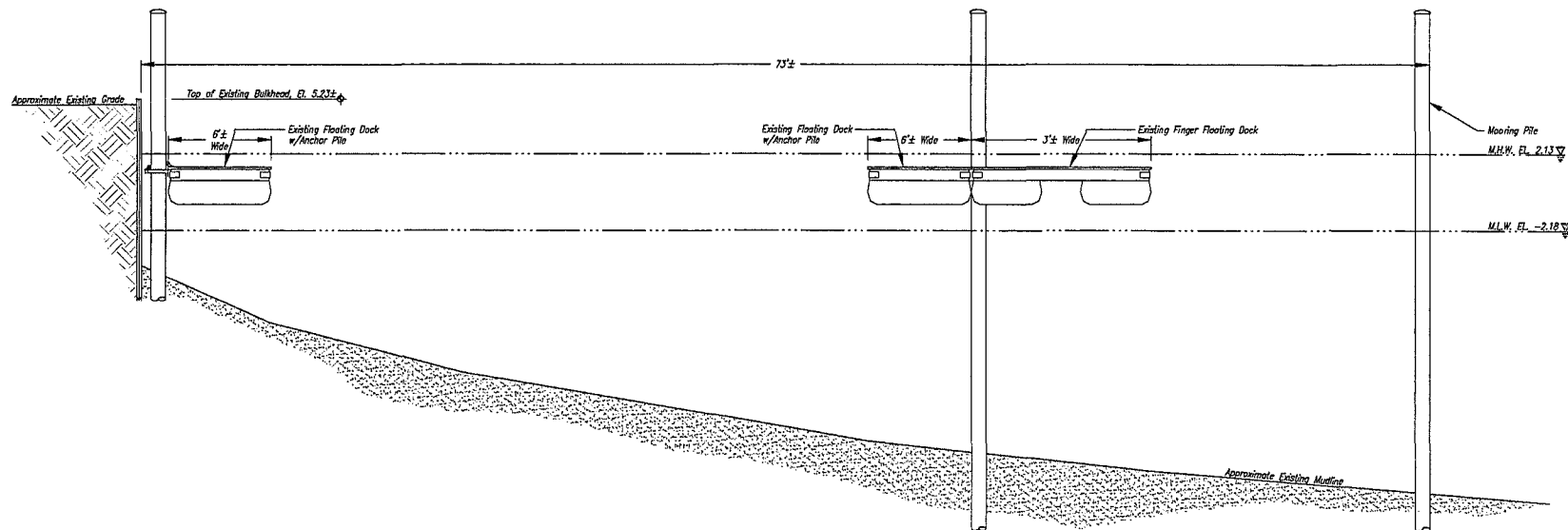
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TYPICAL FLOATING DOCK SECTION

SCALE: Not To Scale

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SHEET TITLE:
TYP. FLOATING
DOCK SECTION

C3.8

SHEET 9 OF 13

John E. Halbruner

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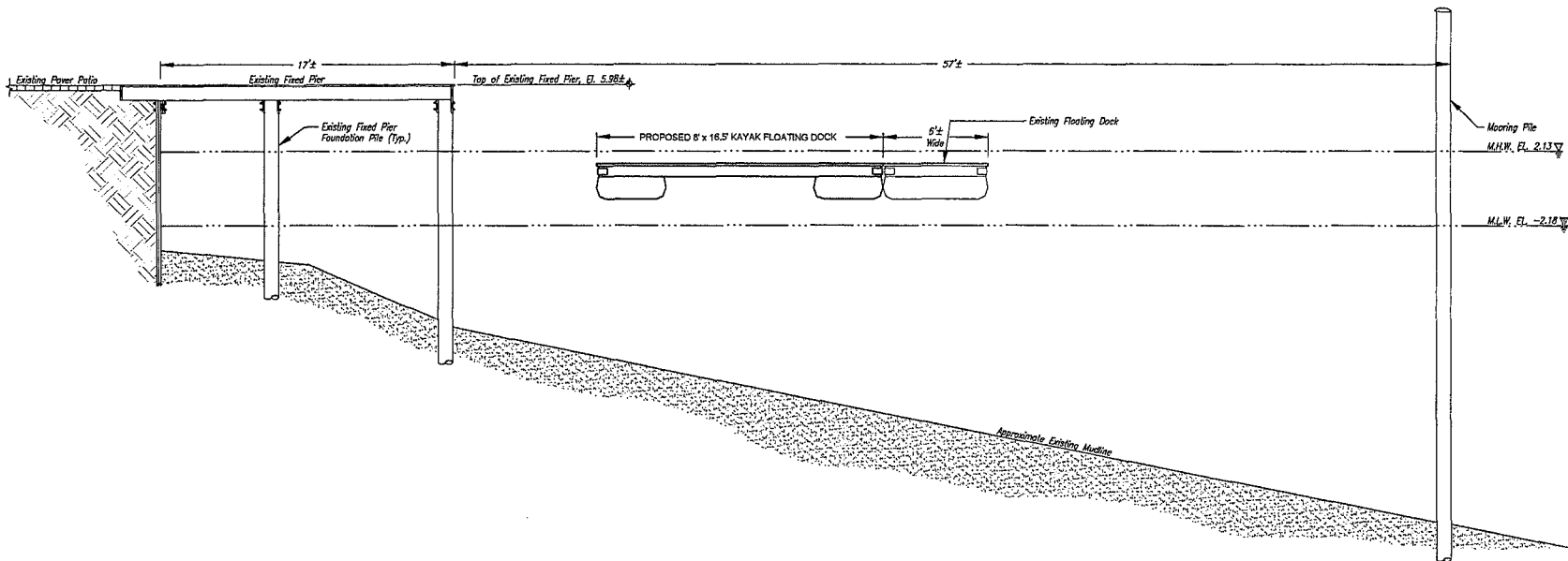
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PROPOSED KAYAK FLOATING DOCK SECTION

SCALE: Not To Scale

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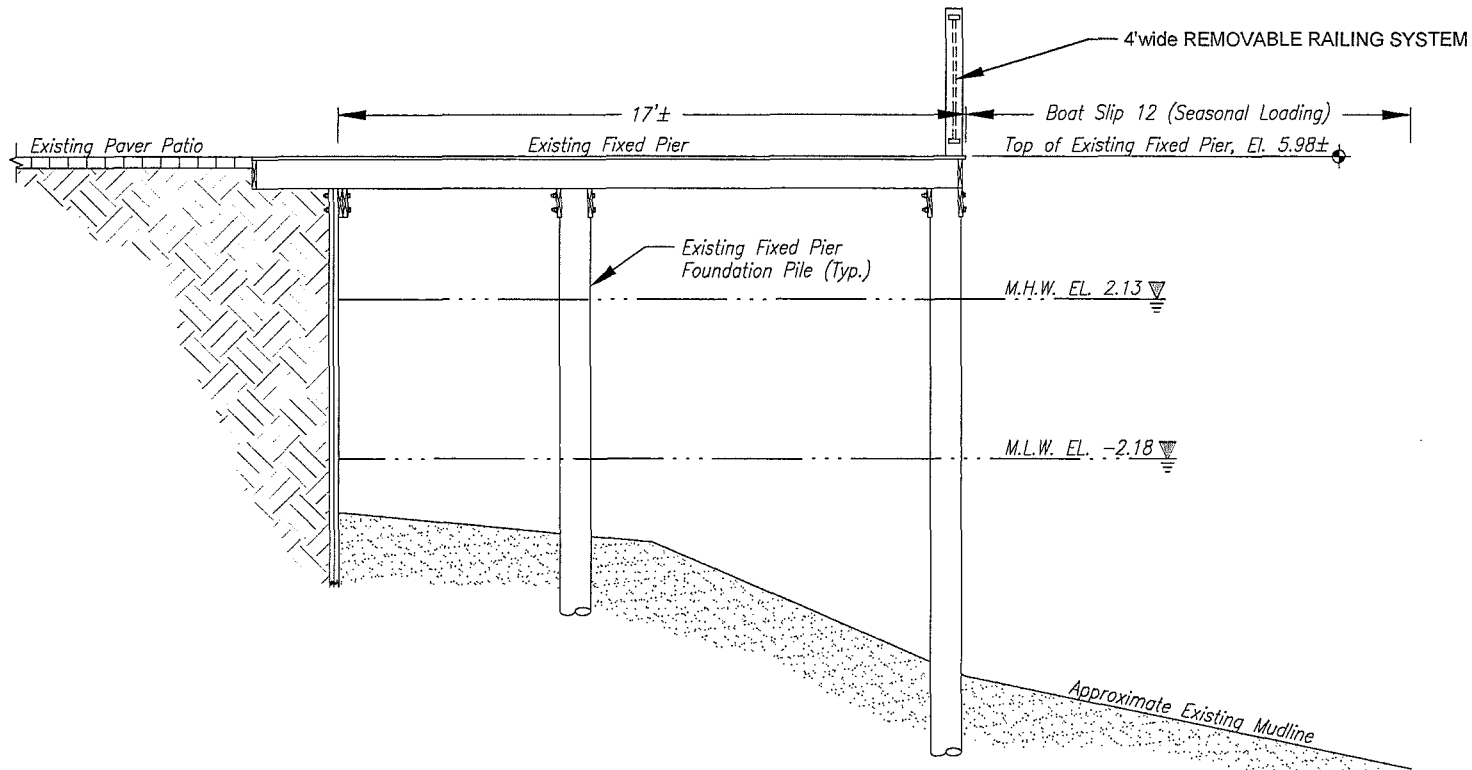
PROJECT No:

3724.01

SHEET TITLE:
**PROP. KAYAK
FLOATING DOCK
SECTION**

C3.9

SHEET 10 OF 13



PROPOSED LOADING/UNLOADING ZONE SECTION

SCALE: Not To Scale

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SHEET TITLE:
PROP. LOADING
ZONE SECTION

C3.10

SHEET 11 OF 13

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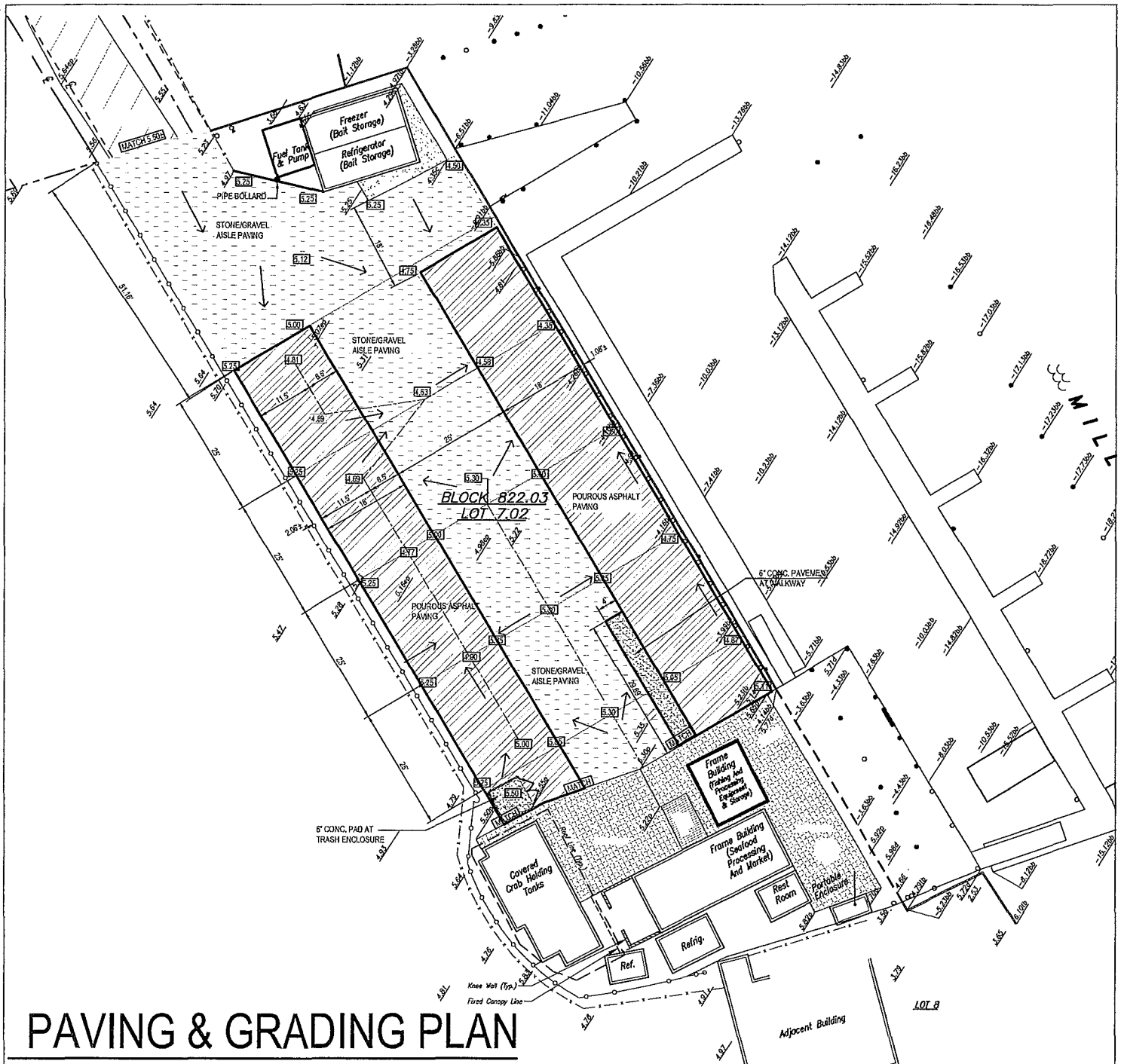
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PAVING & GRADING PLAN

SCALE: Not To Scale

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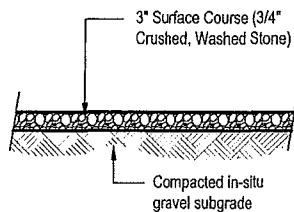
PROJECT No:

3724.01

SHEET TITLE:
PAVING &
GRADING PLAN

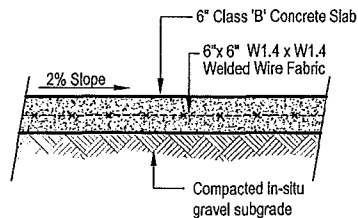
C4.0

SHEET 12 OF 13



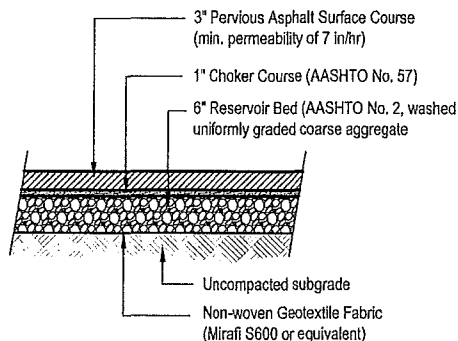
DRIVE AISLE PAVING

SCALE: NONE



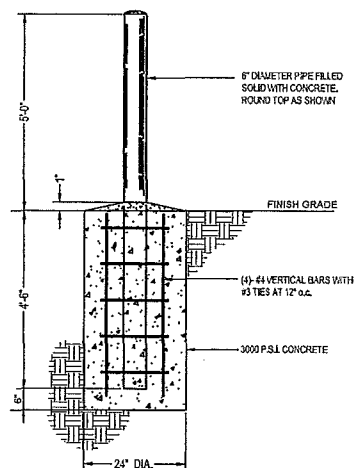
CONCRETE PAVING

SCALE: NONE



POROUS PAVING DETAIL

SCALE: NONE



PIPE BOLLARD DETAIL

SCALE: NONE

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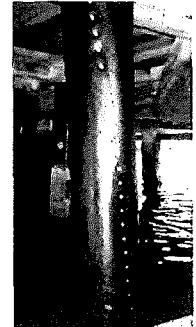
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SHEET TITLE:
DETAILS

C4.1

SHEET 13 OF 13

SeaShield Marine Systems



Features

- Prevents infestation of marine borers
- Prevents leaching of creosote and/or ACZA into the water
- Can accommodate irregular shaped timber piles
- Provides abrasion and puncture resistance in aggressive coastal environments
- Simple design allows for easy installation
- Adds years of service life to piles
- Long, maintenance-free service life
- Proven 75 year history of sealing out oxygen with Denso Petrolatum Tape

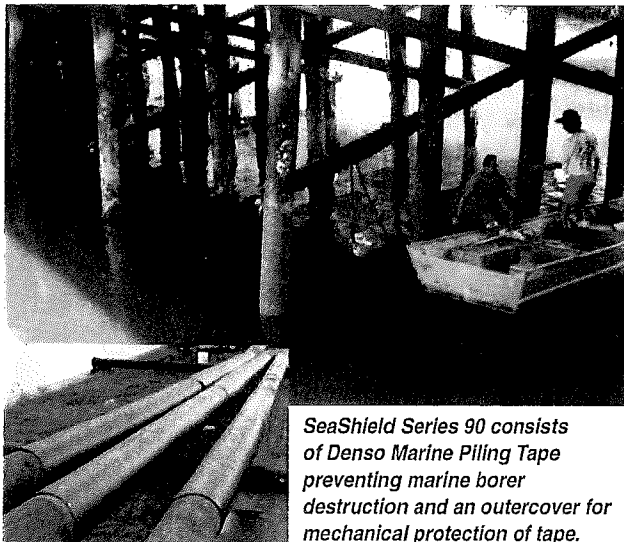
Series 90

Timber pile protection system that includes petrolatum tape and a protective outercover

SeaShield Series 90 System provides timber pile protection against marine borer destruction and deterioration due to weathering. The system eliminates existing marine borers and protects against further infestation. By using Denso Marine Piling Tape and an outercover, the pile is encapsulated, thus removing all oxygen from reaching the timber pile. The system kills the marine borers inside the pile and those outside can not penetrate the barrier. The system also acts as a preservative and eliminates leaching of creosote and/or ACZA into the water.



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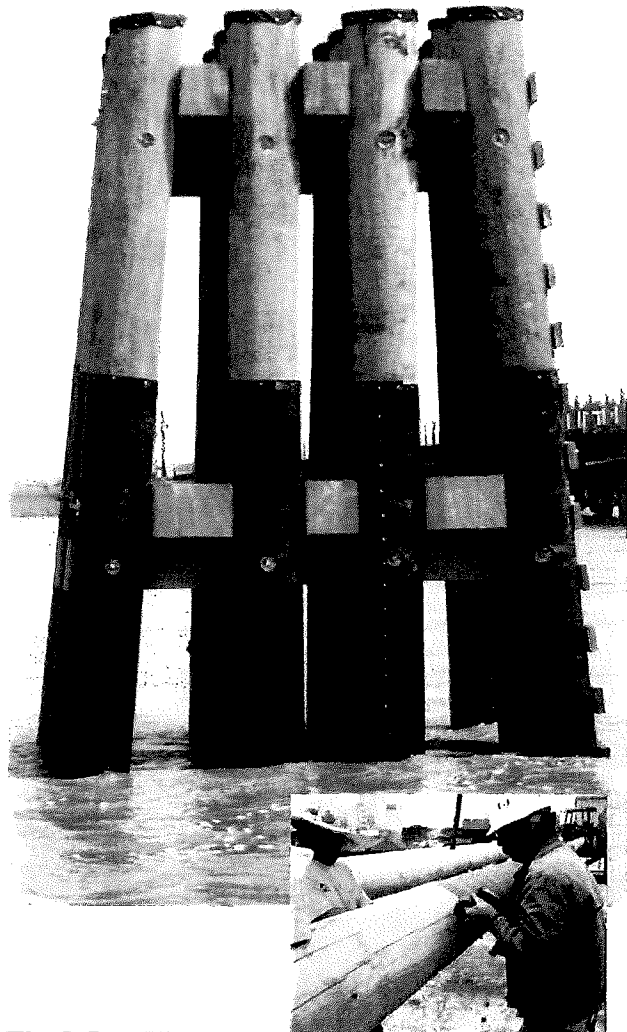
SeaShield Series 90 consists of Denso Marine Piling Tape preventing marine borer destruction and an outercover for mechanical protection of tape.

SeaShield Series 90 System

The Series 90 System can accommodate hour-glassed piles, posting, bracing and other timber support members. This system is easily installed and does not require any special or expensive equipment. It is the most effective, economical and long-term solution to extending the life of new or existing timber piles.

The Series 90 System utilizes the proven Denso Marine Piling Tape for eliminating oxygen from reaching the pile and is highly conformable to all shapes and irregularities of the pile. The outercover is used for mechanical protection of the tape. No seals are required on the outercover, thus eliminating the need for a tight seal of the jacket.

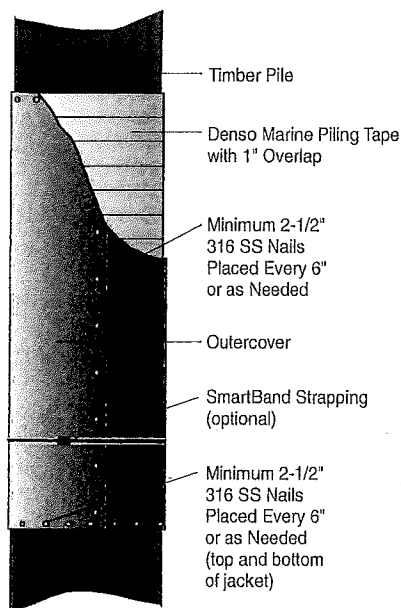
For further details please refer to the engineering specifications for SeaShield Series 90 System.



Find Out More

Contact Denso North America for a complete literature package or a no-cost on-site evaluation of your application:

1-888-821-2300



Denso®

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Tel: 281-821-3355
Fax: 281-821-0304

TORONTO:
90 Ironside Crescent,
Unit 12, Toronto,
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Tel: 416-291-3435
Fax: 416-291-0898

e-mail: info@densona.com

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Engineering Specifications for **SeaShield Series 90** Timber Pile Protection System

1.0 Scope

- 1.1 This specification may be used for the materials and application of Denso SeaShield Series 90 for Timber Pile Protection.
- 1.2 The Engineer shall select appropriate sections of the specification to insure that the specification is comprehensive for specified work.

2.0 General Requirements

- 2.1 Contractor shall comply with all written recommendations of the manufacturer regarding application of the specified system.
- 2.2 The manufacturer of specified materials shall be Denso North America, 9747 Whithorn Drive, Houston, TX 77095, Tel: 281-821-3355 or 90 Ironside Crescent, Unit 12, Toronto, Ontario, Canada M1X1M3 Tel: 416-291-3435. E-mail: info@densona.com

3.0 Materials

3.1 Denso Marine Piling Tape

The Denso Marine Piling Tape shall be comprised of a non-woven synthetic fabric carrier fully impregnated and coated with a neutral petrolatum based compound with water displacing agents and wide spectrum biocides and backed with a thin layer of HDPE.

The Denso Marine Piling Tape shall have a character stable in composition and plasticity over a wide temperature range. The tape shall be non-hardening and non-cracking. The tape shall accommodate vibration and extreme movement of substrate. Highly resistant to mineral acids and alkalis.

The Denso Marine Piling Tape shall meet the physical specifications values listed on the specification sheet.

3.2 Flexible Plastic Outercover

The flexible plastic outercover shall be either High Density Polyethylene (HDPE) or Ethylene Propylene Diene Terpolymer Reinforced (EPDM-R). It shall be new, seamless non-rigid virgin material. Use of reprocessed resin is prohibited. The sheet shall be uniform throughout, free from dirt, oil and other foreign matter and free from cracks, creases, wrinkles, bubbles, pinholes and any other defects that may affect its service. The sheet shall conform to the following mechanical and physical properties.

<u>Physical Properties</u>	<u>ASTM Method</u>	<u>Typical Values</u>
Tensile Strength		
EPDM-R	10 lbf.	ASTM D-7004
HDPE	120 lb/in.	ASTM D-638
Breaking Strength		
EPDM-R	90 lbf (400 N)	ASTM D-7004
Elongation		
EPDM	250% min.	ASTM D-412
HDPE	560% min.	ASTM D-638
Specific Gravity		
EPDM-R	1.10	ASTM D-792
HDPE	0.90-0.96	ASTM D-1505
Low Temperature		
EPDM-R	-49°F	ASTM D-2137
HDPE	-100°F	ASTM D-746
Mil Thickness		
EPDM-R	+15/-10%	ASTM D-412
HDPE	+/-10%	ASTM D-1593

3.3 Nails

Nail shall be of two types:

- a. Type I nails shall be nominal 1-1/2 inches in length, equipped with a neoprene washer 316 stainless steel. Ring Shank diameter shall be .135 inch with + or - 5%. Head diameter shall be 3/8" with + or - 10%.
- b. Type II nails shall be nominal 2 1/2 inches in length, 316 stainless steel. Ring shank diameter shall be .131 inch with + or - 4%. Head diameter shall be .27 inch with + or - 10%.

3.4 Strapping

The nails may be substituted with Denso SmartBand straps and buckles

4.0 Installation

4.1 Cleaning and Surface Preparation

Identify piles to be protected with the outercover between elevations indicated in the drawings.

Remove marine growth, and foreign matter for the entire length which is to be protected with the barrier wrap. All surface projections such as nails, bolts, large splinters, fouling organisms and other surface conditions that would penetrate the outercover shall be removed.

4.2 Application of Denso Marine Piling Tape

The Denso Marine Piling Tape shall be wrapped onto the timber pile using a minimum 1" overlap. Application shall begin at the designated low point indicated in the specifications and drawings and proceed upward to the high point creating a weather board effect.

Hold end of the tape firmly against the starting point and firmly press onto the surface. Unroll the tape, keeping the roll close to the pile. Do not get a long lead of tape as it will tend to fold and gap on the surface being wrapped.

Apply sufficient tension to provide continuous adhesion, but do not stretch the tape. As application proceeds, press out all folds and air pockets that may occur.

Maintain a minimum 6" overlap when overlapping one roll with the end of a new roll.

At the completion of each roll, smooth the overlaps by hand in the direction of the spiral to insure sealing of the overlap.

4.3 Plastic Barrier Outercover

Locate the outercover between the elevations indicated in the specifications and drawings. Wrap the outercover around the pile to form a tight sheath with a minimum 3" overlap. Temporary straps may be used to hold the jacket in place prior to nailing.

4.4 Overlapping Outercover

Where it is necessary to utilize more than one outercover to protect the entire length of a pile, the second outercover shall overlap a minimum of 12 inches (above and or below) the inner cover. Rotate the vertical closure seam of the overlapping outercover 90 degrees from the vertical seam of the units above and or below. Install over-lapping outercovers as described in Part 4.2

4.5 Nailing

The vertical seam shall be secured to the pile with Type II nails every 10" or as needed. Type I nails shall be driven at a minimum of 8" or as needed around the circumference of the pile on the top and bottom of the jacket.

4.6 Strapping (Optional)

The strapping shall be placed every 10 inches on center from top to bottom. The top and bottom straps shall be placed 1" from the top and bottom of the outercover.

4.7 Mud Line Seal

Excavate the soil around the base of the piles so that the outercover extends to a minimum of 2 feet below the mud line. After installation of the outercover, back fill all excavated areas to the original mud line.



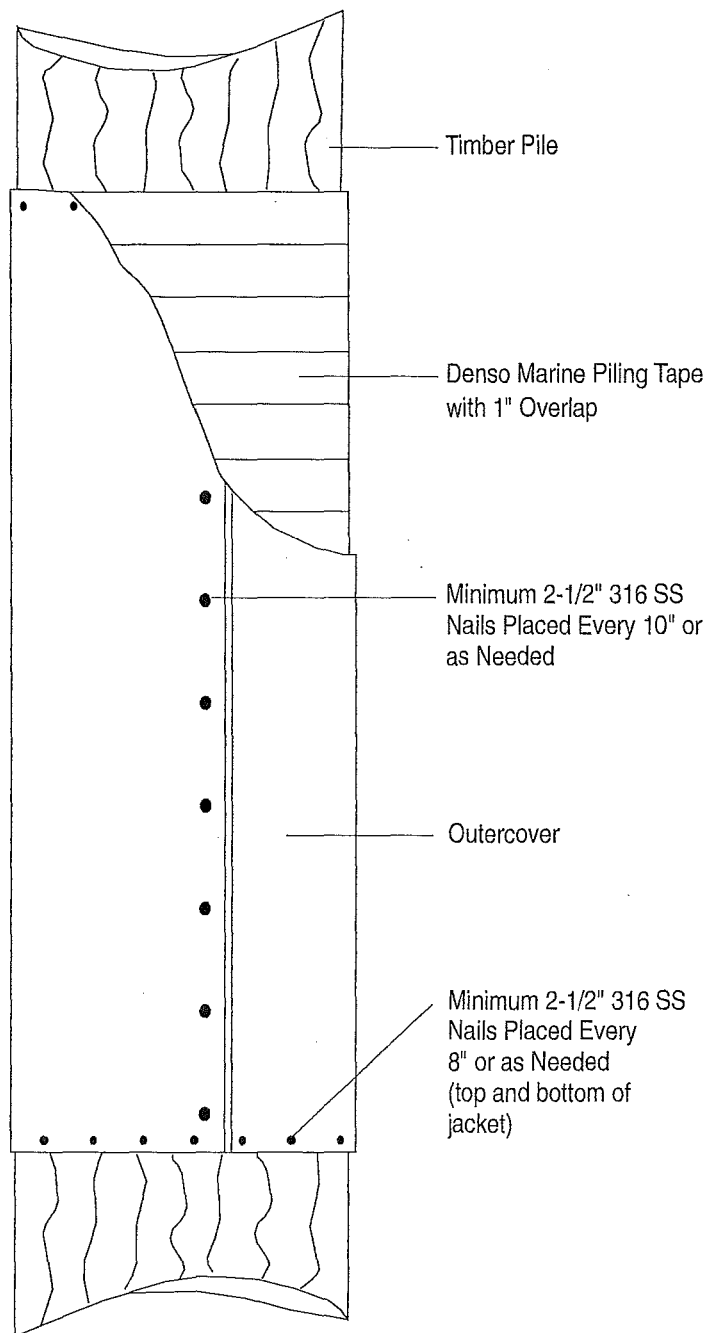
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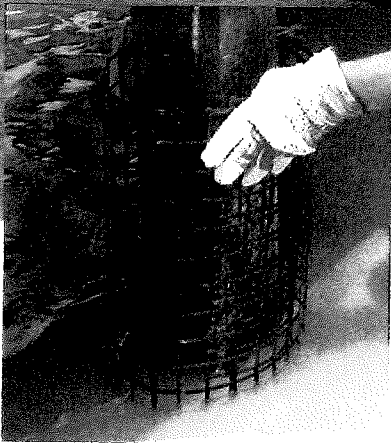
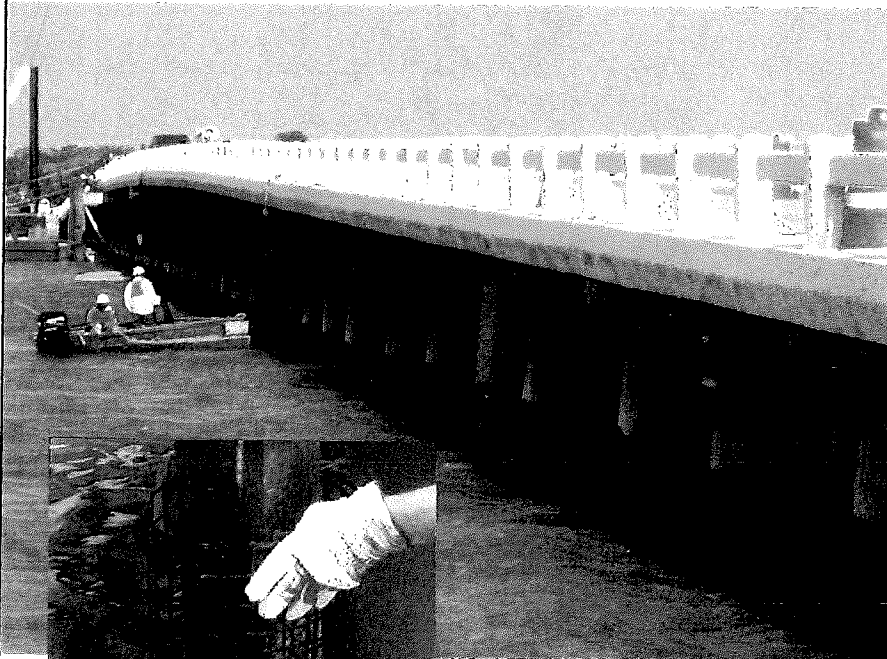
Elevation View

Sheet 1
(Not to Scale)

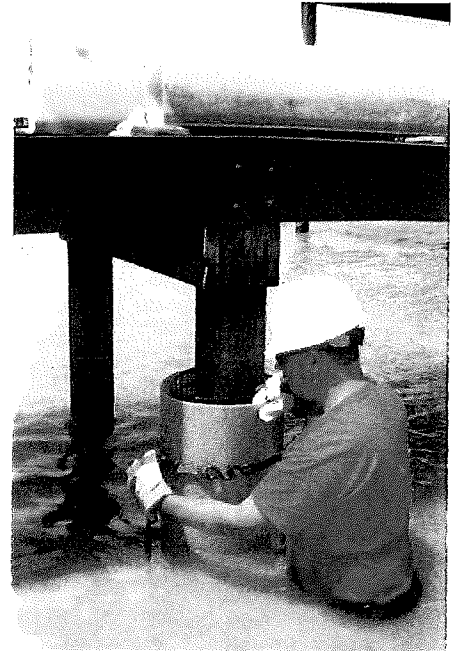
SeaShield Series 90 Timber Pile Protection System

Denso[®]
DENSO NORTH AMERICA

SeaShield Marine Systems



The SeaShield Series 400 System has been independently tested by Texas A&M University, Department of Civil Engineering, Structural and Materials Testing Laboratory.



Series 400

Structural repair system that doubles the strength of the original timber pile

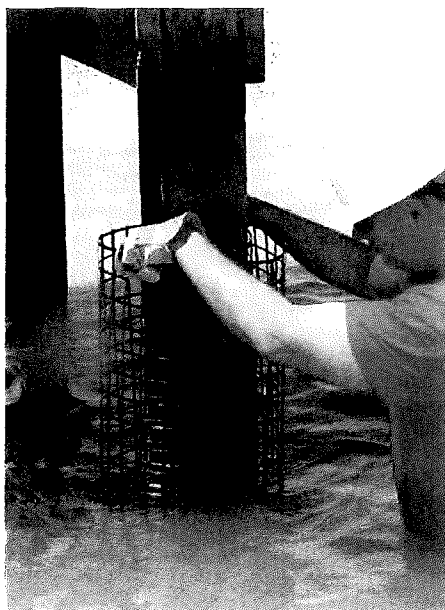
SeaShield Series 400 System is comprised of the SeaShield Fiber-Form Jacket, C-GRID® 450 and SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout. The Series 400 is a revolutionary encapsulation system that not only protects timber piles from aggressive saltwater environments and marine borers, but also strengthens deteriorated piles with a durable, lightweight and non-corrosive reinforcement.

Features

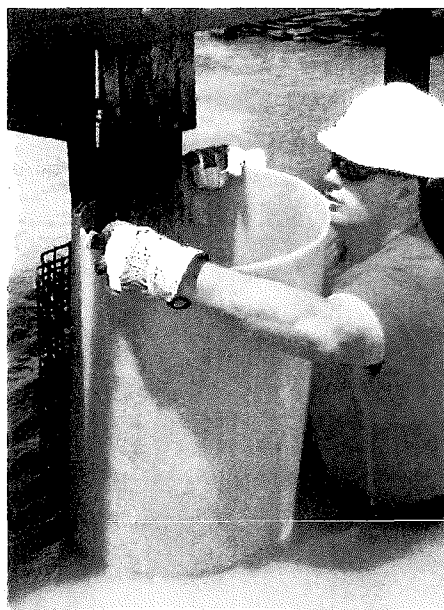
- Provides double the strength of the original timber pile
- Non-corrosive reinforcement
- Reduced weight when compared to steel reinforcement
- Requires inexpensive pumping equipment
- Flowable non-shrink grout
- Manufactured to be translucent with clear gel coat
- High impact resistance
- UV resistant
- Long maintenance-free service life



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The lightweight and non-corrosive C-GRID® 450 is installed around the pile.



The SeaShield Fiber-Form jacket is then snapped in place around the C-GRID® 450.



Grout can be pumped as soon as the SeaShield Fiber-Form jacket is secured in place.

SeaShield Series 400 System

The SeaShield Series 400 System is comprised of a SeaShield Fiber-Form Jacket, C-GRID® 450, and either SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout. The complete system doubles the strength of the original timber pile.

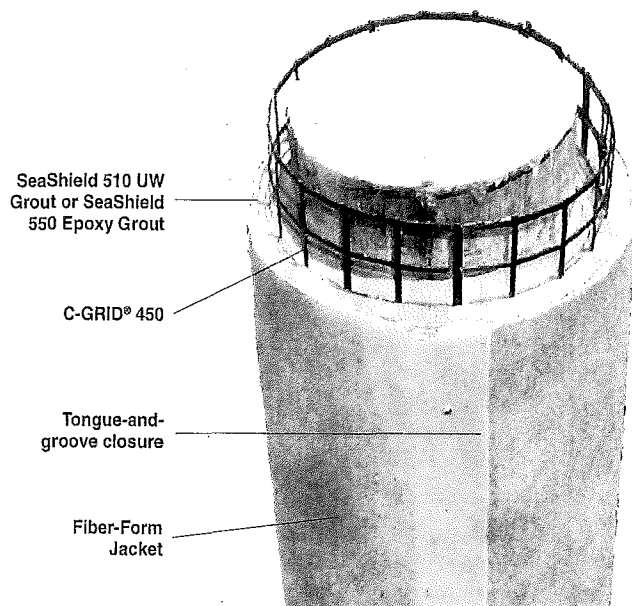
The C-GRID® 450 should be unrolled and cut using tin snips or other suitable method. The cut width of C-GRID® 450 is determined by including enough material to be imbedded within the grout and a 6" overlap along vertical seam. Locate the C-GRID® 450 between the elevations indicated in the specification and drawings. Then, the SeaShield Fiber-Form Jacket is installed around the pile and C-GRID® 450. A foam seal should be installed at the bottom of each jacket to prevent any grout from leaching out of the bottom of the jacket during in-

stallation. Once jacket is in place, inject grout approximately 6" to 12" into the bottom port and allow it to cure before proceeding with subsequent lifts. The injection process should be continuous, except when the injection hose is moved from port to port.

For further information please refer to the technical data sheets for the SeaShield Fiber-Form Jacket, C-GRID® 450 and SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout. Complete details can be found on the SeaShield Series 400 Engineering Specifications.

C-GRID® 450 utilized by Denso North America in the SeaShield Series 400 System is protected under the following US and European Patents: 6,263,629; 5836,715; 6,123,879; 6,454,889; 6,632,309; 0861353; 1094171.

C-GRID is registered trademark of Chomarat North America, LLC.



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Engineering Specifications for **SeaShield Series 400** Timber Pile Rehabilitation

1.0 Scope

- 1.1 This specification may be used for the materials and application of SeaShield Series 400 Timber Pile Rehabilitation System.
- 1.2 The engineer shall select appropriate sections of the specifications to ensure that the specification is comprehensive for specified work.

2.0 General Requirements

- 2.1 Contractor shall comply with all written recommendations of the manufacturer regarding application of the specified system.
- 2.2 The manufacturer of specified materials shall be Denso North America, 9747 Whithorn Drive, Houston, TX 77095, Tel: 281-821-3355 or 90 Ironside Crescent, Unit 12, Toronto, Ontario, Canada M1X1M3 Tel: 416-291-3435. E-mail: info@densona.com
- 2.3 All materials used to comprise the SeaShield Series 400 System must be purchased from the same manufacturer. These include SeaShield Fiber-Form Jackets, C-GRID® 450, SeaShield 525 Epoxy, and either SeaShield 510 UW Grout (Cementitious) or SeaShield 550 Epoxy Grout.

3.0 Materials

3.1 Fiberglass Jacket (SeaShield Fiber-Form)

- 3.1.1 The fiberglass jacket thickness shall be a minimum of 1/8 inch (3 mm) constructed of layers of woven roving and mat.
- 3.1.2 The jacket shall be translucent to provide visual inspection during the injection of the grout.
- 3.1.3 The jacket shall have minimum one inch injection ports spaced at intervals not to exceed five feet. To provide even distribution of the grout, the injection ports shall be placed on alternate sides.

3.1.4 The jackets shall have adjustable stand-offs inserted through the jacket to maintain the specified annulus between the pile and the jacket. A UV gel coat shall be applied to the outside of the completed fiberglass jacket.

3.1.5 The fiberglass jackets shall have the following properties:

Ultimate Tensile Strength	ASTM D638	15,000 PSI
IZOD Impact Strength	ASTM D256	20 ft.-lb/in.
Barcol Hardness	ASTM D2583	35
Water Absorption	ASTM D570	1% Max
UV Stability	ASTM G23	500 Hr. Pass

3.1.6 The fiberglass jacket may be manufactured as either a single unit or as two pieces that shall be joined in the field. The jackets can be placed one above the other via bell and spigot.

3.2 Carbon-Fiber Grid

3.2.1 The Carbon-Fiber Reinforcement shall be C-GRID® 450 as provided by Denso North America.

3.2.2 Please refer to the C-GRID® 450 data sheet for complete property specifications.

3.2.3 All C-GRID® 450 shall be stored in a sheltered area to prevent degradation of the epoxy resin due to UV exposure.

3.3 Grout

3.3.1 The grout shall consist of either SeaShield 510 UW (Cementitious) Grout or SeaShield 550 Epoxy Grout as manufactured by Denso North America. For detailed grout specifications, please refer to the SeaShield 510 UW (Cementitious) Grout or SeaShield 550 Epoxy Grout product data sheets.

3.3.2 All grout shall be stored in a sheltered area away from rain and water.

3.4 Marine Epoxy

3.4.1 The SeaShield 525 Epoxy shall be used

to adhere the fiberglass vertical seams. The 525 Epoxy may also be used to finish the tops of the encapsulation.

4.0 Equipment

- 4.1 The grout shall be pre-mixed and pumped through a peristaltic pump or other suitable pump. The equipment shall be capable of delivering mixed grout through hoses into the jackets at a rate 1 GPM or greater.
- 4.2 Prior to using the pump, all lines shall be primed by circulating 1 gallon of the SeaShield Hose Lubricant.

5.0 Surface Preparation

- 5.1 Prior to application, thoroughly clean and remove marine growth, oil, grease and any other deleterious material which might prevent proper bonding between the pile and grout. Surface preparation shall be accomplished by water blasting to provide a clean surface.

6.0 Installation

- 6.1 Installation of C-GRID® 450 and Fiberglass Jacket
 - 6.1.1 The inside surface of the jacket shall be lightly roughened to remove residue and contamination.
 - 6.1.2 Adjustable stand-offs shall be inserted through the jacket at 18" to 48" intervals (depending on diameter size, length and thickness of jacket) along entire length of jacket.
 - 6.1.3 All longitudinal and transverse seams shall be sealed with SeaShield 525 Epoxy as described in Section 3.3.1 and fastened with 3/16" diameter stainless steel hex screws that shall not exceed 6" spacing.
 - 6.1.4 The C-GRID® 450 shall be unrolled and cut using tin snips or other suitable method. The cut width of C-GRID® 450 shall be determined by including enough material to be imbedded within the grout and a 6" overlap along vertical seam. The grid will require a minimum of ¼" grout cover.
 - 6.1.5 Locate the C-GRID® 450 between the elevations indicated in the specification and drawings. The C-GRID® 450 shall be wrapped around the timber pile with a minimum 6" overlap along the vertical seam. Use nylon zip ties, plastic clips or other plastic accessories to secure vertical seam and maintain the position of the grid during the pumping of grout. On long length repairs which require more than one panel of grid, the C-GRID® 450 shall be overlapped 6" above or below the first panel of grid.

6.1.6 The fiberglass jacket shall be installed around the pile and C-GRID® 450. The jacket shall be supported by temporary nylon straps or other means to assure that the jacket or C-GRID® 450 will not move or distort during placement of grout.

6.1.7 A foam seal shall be installed at the bottom of each jacket to prevent any grout from leaching out of the bottom of the jacket during installation. A ratcheting strap shall be placed on outside of jacket to compress the foam seal.

6.2 Grout Placement

6.2.1 Once jacket is in place, inject grout approximately 6" to 12" into the bottom port and allow it to cure before proceeding with subsequent lifts.

6.2.2 Grout injection shall begin at the bottom injection port and proceed upwards. As the jacket is filled to each port, the lower port shall be capped off and repeated until the top of the jacket is reached.

6.2.3 The injection process shall be continuous, except when the injection hose is moved from port to port.

6.3 Completion

6.3.1 After the injection process is completed and the epoxy grout has cured, all temporary supports shall be removed.

6.3.2 The top of each fiberglass jacket may be finished with the SeaShield 525 Epoxy described in Section 3.4.1.

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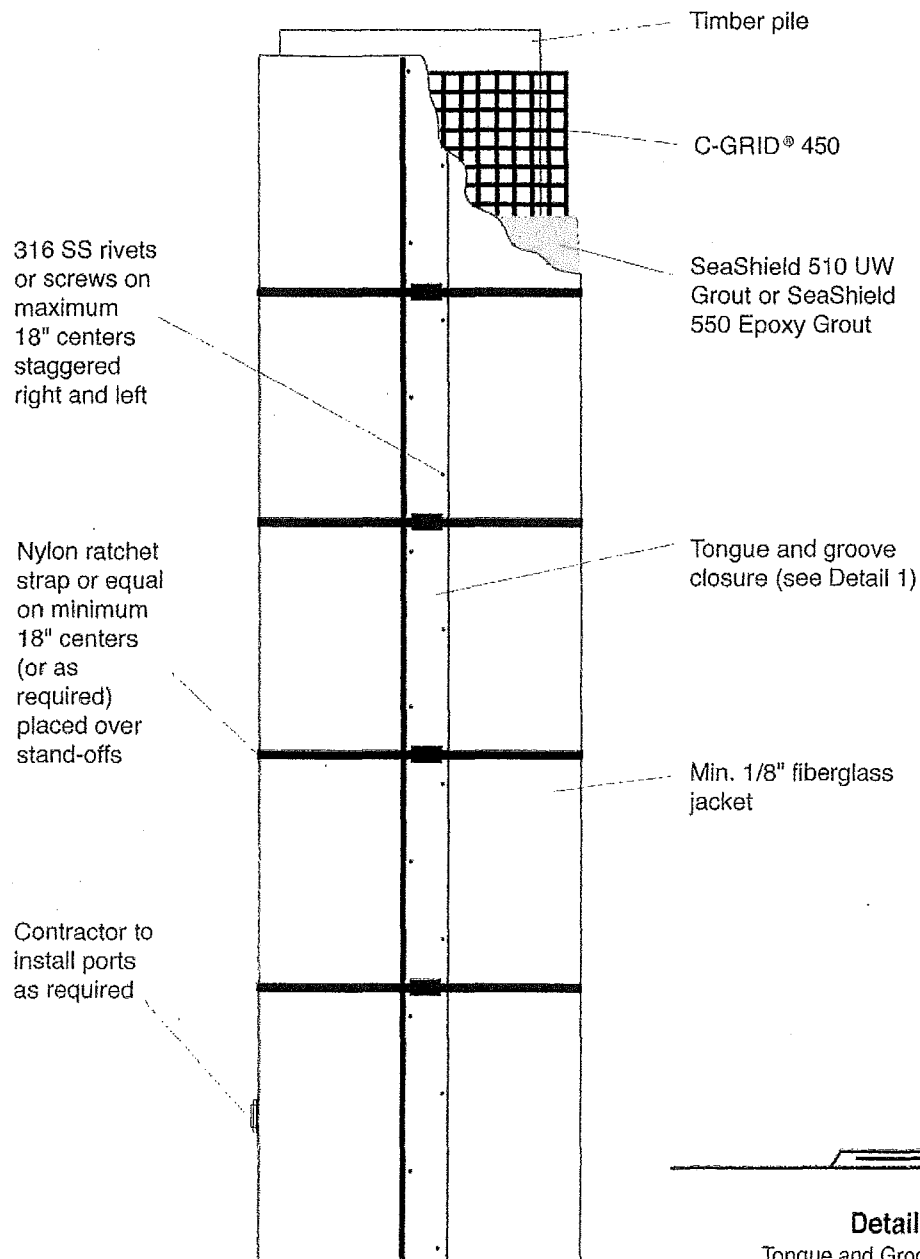
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Elevation View

Detail 1
Tongue and Groove Closure

SeaShield Series 400 Detail Drawing

Sheet 1
(Not to Scale)

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Step 1

Position SeaShield Fiber-Form Jacket around pile/ C-GRID® 450 and seal longitudinal seams.



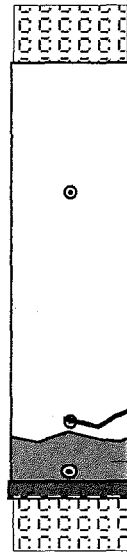
Step 2

Affix bottom seal gasket with select strapping.



Step 3

Connect grout hose to lower injection port and pump SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout. Visually check for leaks. Plug upper port(s) and pump grout until it reaches top of jacket. (Upper ports are used only if pumping from lower ports becomes difficult.)



Step 4

(Alternate Pumping Method)

Contractor may choose to inject approximately 6" of SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout and let cure before moving grout hose to next higher port and pumping remainder of grout. Pumping would then continue until grout reaches top of jacket.

Cured SeaShield 510 UW Grout or SeaShield 550 Epoxy Grout

Sheet 2

(Not to Scale)

SeaShield Series 400 Grout Placement Sequence

