



Ventura Harbor
HOME OF THE CHANNEL ISLANDS NATIONAL PARK

Ventura Harbor Commercial Dock Replacement Project

CMANC Winter Meeting

January 17-19, 2020



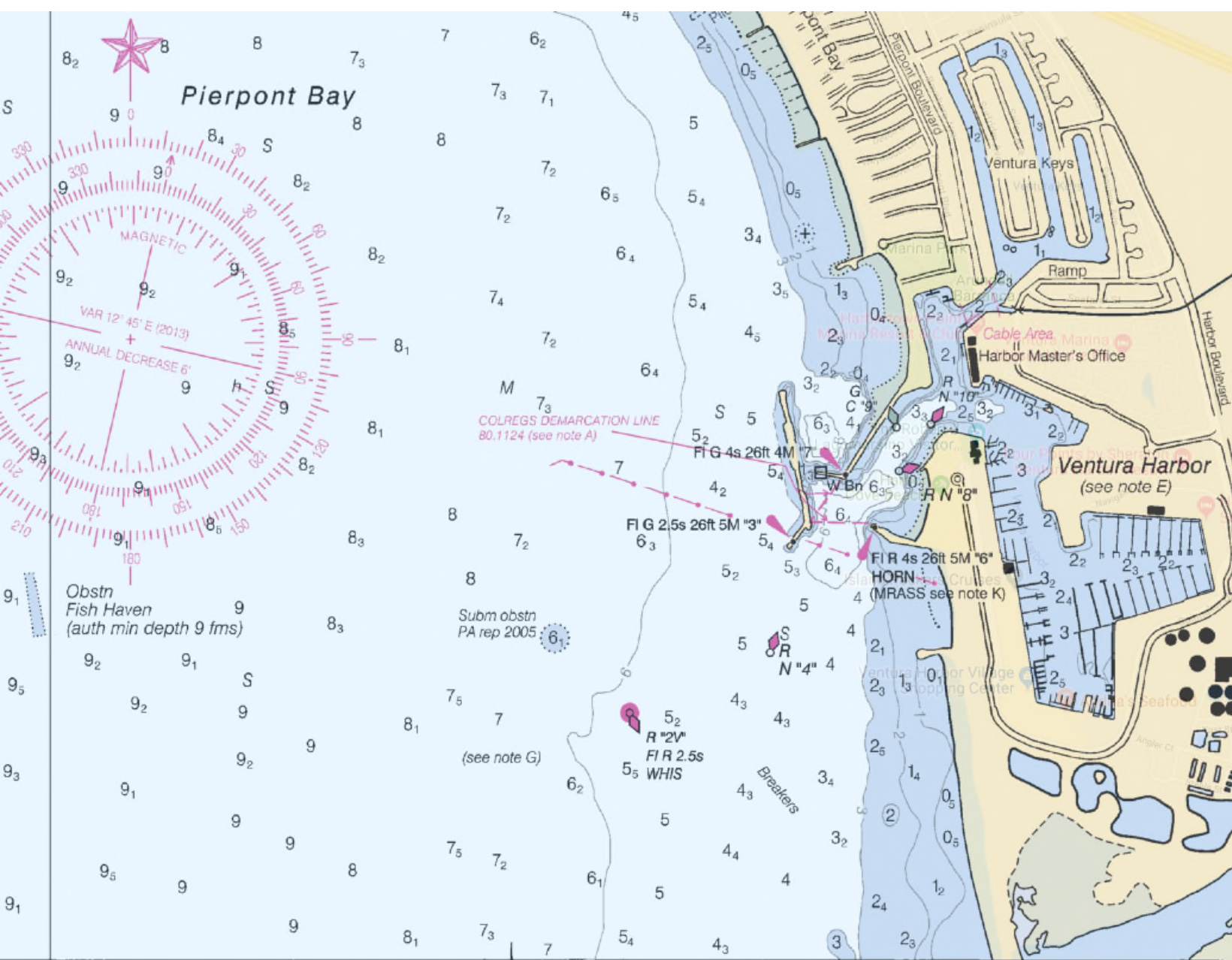
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Key Points

- Why the dock replacement
- Key considerations
- Design
- Construction
- Challenges
- Lessons Learned



Ventura Harbor



Ventura Harbor's Entrance channel is designed to be maintained at -20' MLLW water depth.

The Port District maintains the inner harbor at approx. -17' to accommodate the commercial fishing fleet of ~57 Purse Seiner fishing vessels which draw up to -16' when loaded.



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Why the Dock Replacement was required

- Years ago, the Ventura Port District made a commitment to the commercial fishing industry to help justify the Federal interest in maintaining the channel.
- Since then, Ventura has become a leading commercial fishing harbor on the Pacific Coast
- Ventura Port District continues to try to provide a premiere working waterfront for our commercial fishing businesses both large and small



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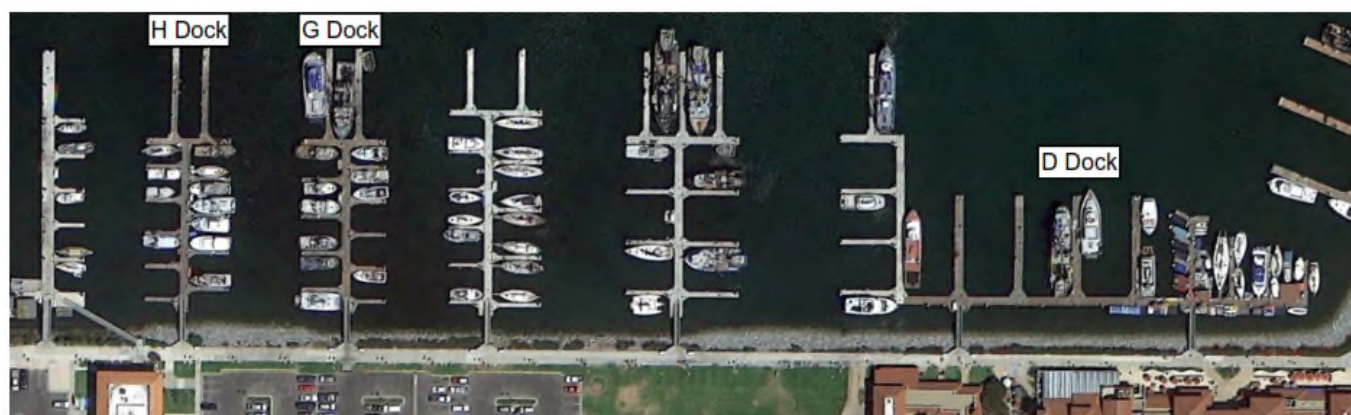
Why the Dock Replacement was required

- Ventura Harbor serves >50 Purse Seiner commercial fishing vessels
 - 58' x 19' to 72' x 26' with drafts ranging from 9' to 16' when loaded
 - 120 to 200 tons when loaded
- Harbor also serves numerous smaller commercial fishing vessels



Why the Dock Replacement was required

- 2013 an assessment of D, G, H docks by Noble Consultants identified a need to address the condition of the existing timber docks (~35 years old)
- The existing docks would require either:
 - repair and replacement of all dock framing members and hardware
 - or replacement with docks more suitable for commercial operations





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Key Considerations

- Repair work was an uncertain solution in terms of scope and duration that repairs would be effective
- Designed to accommodate exclusively commercial fishing
- The cost of repairs was estimated at ~\$0.8M
- The cost of total replacement was estimated at ~\$3.5M



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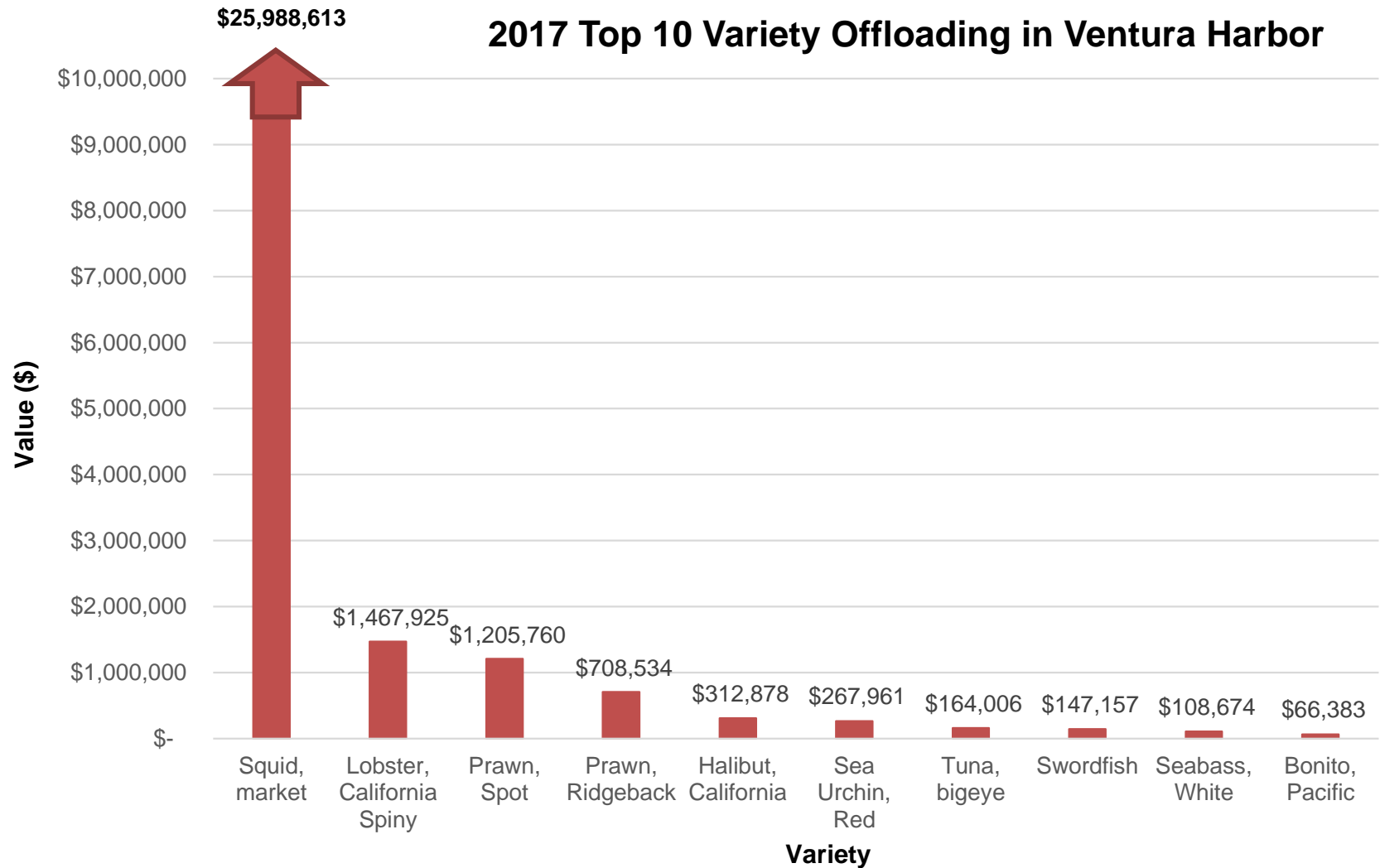
Key Considerations

- Ventura Port District derives approximately 12-14% of its revenue from commercial fishing operations in Ventura Harbor
- Ventura Harbor fish landings have generated between \$12M and \$31M (commercial market value) per year in the past 10 years



Ventura Harbor

2017 Top 10 Variety Offloading in Ventura Harbor

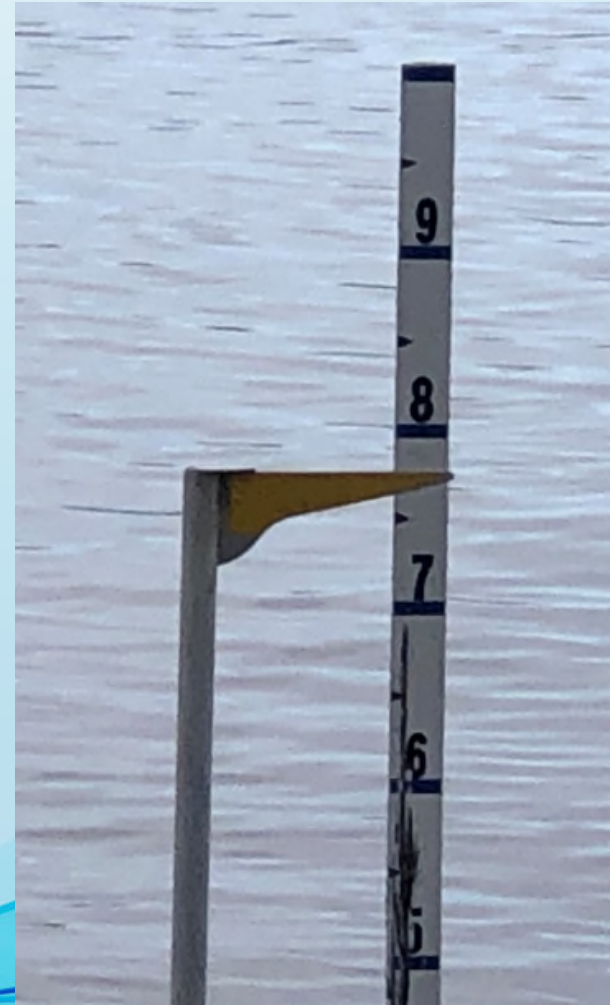




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Key Considerations

- Modernized docks would address:
 - Improved facilities to support commercial fishing
 - Concrete docks with longer service life and more resiliency for commercial operations
 - Sea level change/storm surge considerations
 - Tsunami considerations





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Design

- In January 2017, Noble Consultants-G.E.C. was retained to provide the following for the demolition and replacement of Docks C, D, G, and H:
 - Site Survey
 - Historical data gathering
 - Geotechnical engineering evaluation
 - Design criteria development
 - Utilities & gangway design
 - Contracting documentation preparation
 - Consultation

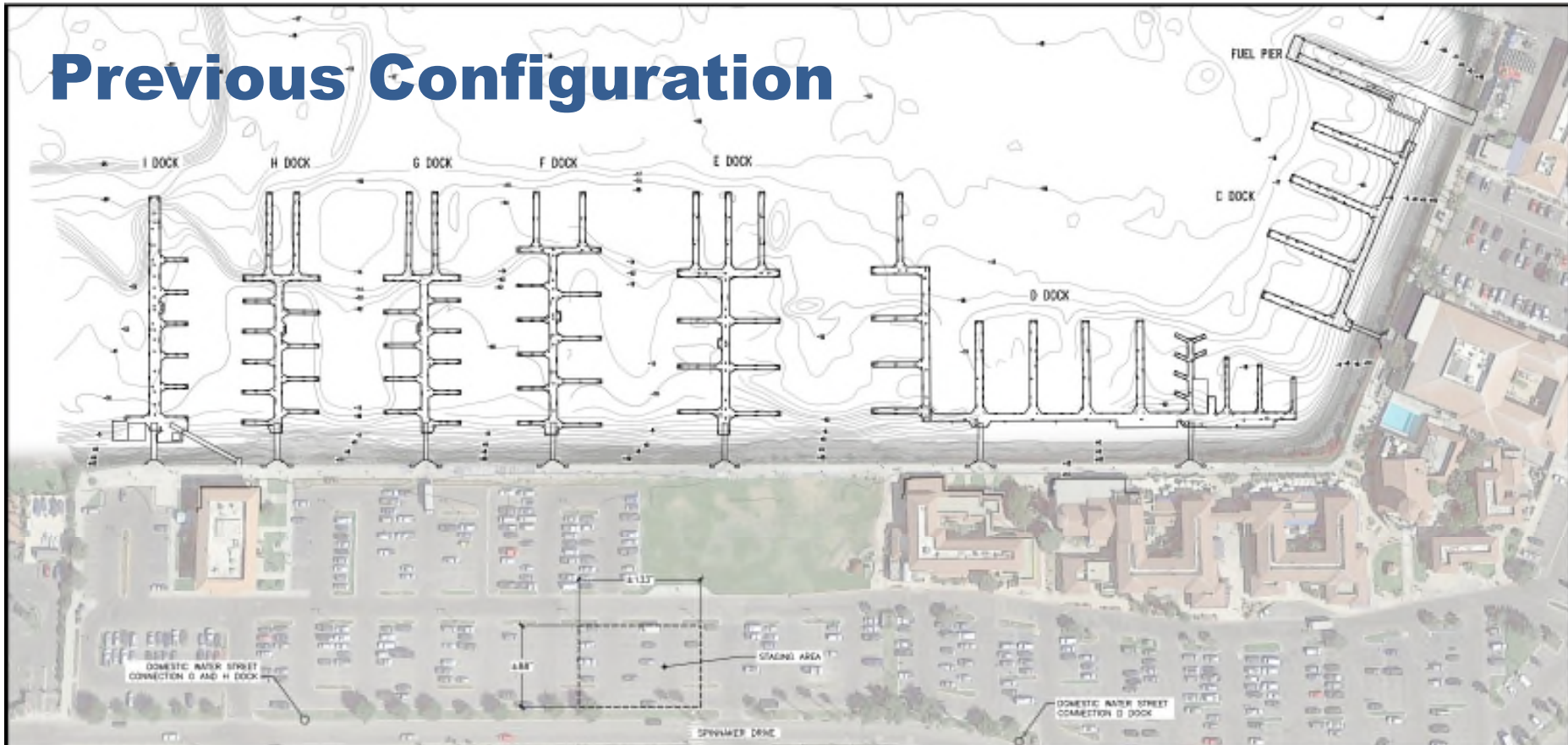


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Design

- Final design was completed in July 2018
- Consisted of 28 plan index sheets describing:
 - Demolition Plans
 - Project Plans
 - Dimensions
 - Guide Piles
 - Electrical & power pedestal schematics
 - Water and fire protection schematics
 - Gangway attachments

Previous Configuration



EXISTING DOCK PLAN
SCALE: 1" = 50'-0"



CONSTRUCTION STAGING AND STORAGE NOTES:

THE CONTRACTOR MAY USE THE VENTURA PUBLIC BOAT LAUNCH RAMP FOR TRANSPORT OF DEMOLISHED GUIDE PILES AND DOCK SECTIONS FROM FLOATING BARGES TO TRUCKS FOR HAUL AWAY AND DISPOSAL AND NEW PILES, DOCK MODULES, AND OTHER CONSTRUCTION MATERIALS FROM TRUCKS TO BARGES FOR DELIVERY TO THE JOB SITE. RAMP USE SHALL BE LIMITED TO THE EASTERN 50'-FT END. BARGES SHALL BE LOADED AND UNLOADED USING CRANES. ROLL-ON AND ROLL-OFF EQUIPMENT, MATERIAL, TEMPORARY SHALL NOT BE ALLOWED. NO OVERNIGHT STORAGE OF DEMOLISHED OR NEW MATERIAL SHALL BE ALLOWED.

- MHW 5.46 FT
- MHH 4.70 FT
- MTL 2.82 FT
- MSL 2.69 FT
- MFL 0.89 FT
- MSL 0.00 FT
- MSL 0.00 FT
- MSL 0.00 FT

RMWP USE IS LIMITED TO ONE WEEKLY PER WEEK. EACH DAY MUST BE SCHEDULED TWO (2) WEEKS IN ADVANCE AS APPROVED BY THE PORT DISTRICT. AT LEAST TWO LAUNCH LANCES ON THE WEST END SHALL REMAIN OPEN AT ALL TIMES DURING RAMP USE. PROVIDE TEMPORARY BARRICADES AND SIGNAGE AS DIRECTED BY THE PORT DISTRICT.

TRUCKING SHALL BE CLOSELY SCHEDULED TO COORDINATE LOADING/UNLOADING DAYS SO AS TO MINIMIZE INTERFERENCE WITH PUBLIC STREET TRAFFIC AND LAUNCH RAMP INGRESS AND EGRESS TO AND FROM THE OPEN LANES.

TIDE DATUMS		NOAA STATION 9411824	
DATUM	RELATIVE ELEVATION (FEET)	DESCRIPTION	
MSL	+1.86	MEAN HIGHER HIGH WATER	
MHH	+1.33	MEAN HIGH WATER	
MFL	-1.50	MEAN SEA LEVEL	
MFL	-1.50	MEAN LOW WATER	
MFL	-1.50	MEAN LOWER LOW WATER	
MFL	-1.50	MEAN LOWER LOW WATER	

NOTE:
HIGHEST ANNUAL WATER LEVEL = 7.8'. LOWEST ANNUAL WATER LEVEL = -2.07'. WATER LEVELS VARY DAILY AND SEASONALLY. LOWEST TIDES DO NOT ALWAYS OCCUR DURING DAYLIGHT HOURS. CONSULT TIDE TABLES AND NOAA TIDE GAGE NO. 9411824 (VENTURA HARBOR) FOR MORE DETAILED INFORMATION.

SURVEY CONTROL

TITLE	NORTHING	EASTING	ELEVATION (FEET NAVIG)	DESCRIPTION
VC-302	3,052,895.80	6,576,146.17	N/A	BRASS CAP ADJUSTMENT BENCHMARK
VM-10	3,054,136.17	6,576,246.27	N/A	BRASS CAP ADJUSTMENT BENCHMARK
TARGET 1	3,054,146.17	6,576,300.58	13.55	SURVEY TARGET POINT
TARGET 2	3,053,188.88	6,576,338.77	13.87	SURVEY TARGET POINT
TARGET 3	3,053,254.01	6,576,396.57	13.80	SURVEY TARGET POINT
TARGET 4	3,053,286.58	6,576,273.47	28.84	SURVEY TARGET POINT
TARGET 5	3,052,146.17	6,580,381.88	13.87	SURVEY TARGET POINT

NOTE:
BENCHMARK VOPD 309 G IS LOCATED AT THE NORTHWESTERLY CORNER OF HARBOR BOULEVARD AND SCHOONER DRIVE, 67.0 FEET NORTHWESTERLY FROM THE CENTER OF SCHOONER DRIVE, 53.00 FEET SOUTHWESTERLY FROM THE CENTER OF HARBOR BOULEVARD, 10.0 FEET EASTERLY FROM THE BC.

- NOTES:
- WATER DEPTHS BY FUGRO PELAGOS, INC. BASED ON MULTIBEAM BATHYMETRIC SURVEY PERFORMED ON JANUARY 2017.
 - AERIAL PHOTOGRAPHIC SURVEY BY GEOSPATIAL PROFESSIONALS, INC. BASED UPON PHOTOGRAPHY FLUOR NOVEMBER 2016. AERIAL TARGETS SET BY VCC SERVICES, INC. PER MAP DATED AUGUST 13, 2017.
 - HORIZONTAL DATUM IS NAD83 CALIFORNIA STATE PLANE, ZONE 5 (U.S. SURVEY FEET).
 - VERTICAL DATUM FOR BATHYMETRY IS MEAN LOWER LOW WATER BASED UPON CORRS OF ENGINEER'S SURVEY BENCHMARK VC-101 (SPD01 2003.5).
 - VERTICAL DATUM FOR AERIAL TOPOGRAPHY IS NAVD83 FOR BENCHMARK VOPD 309.



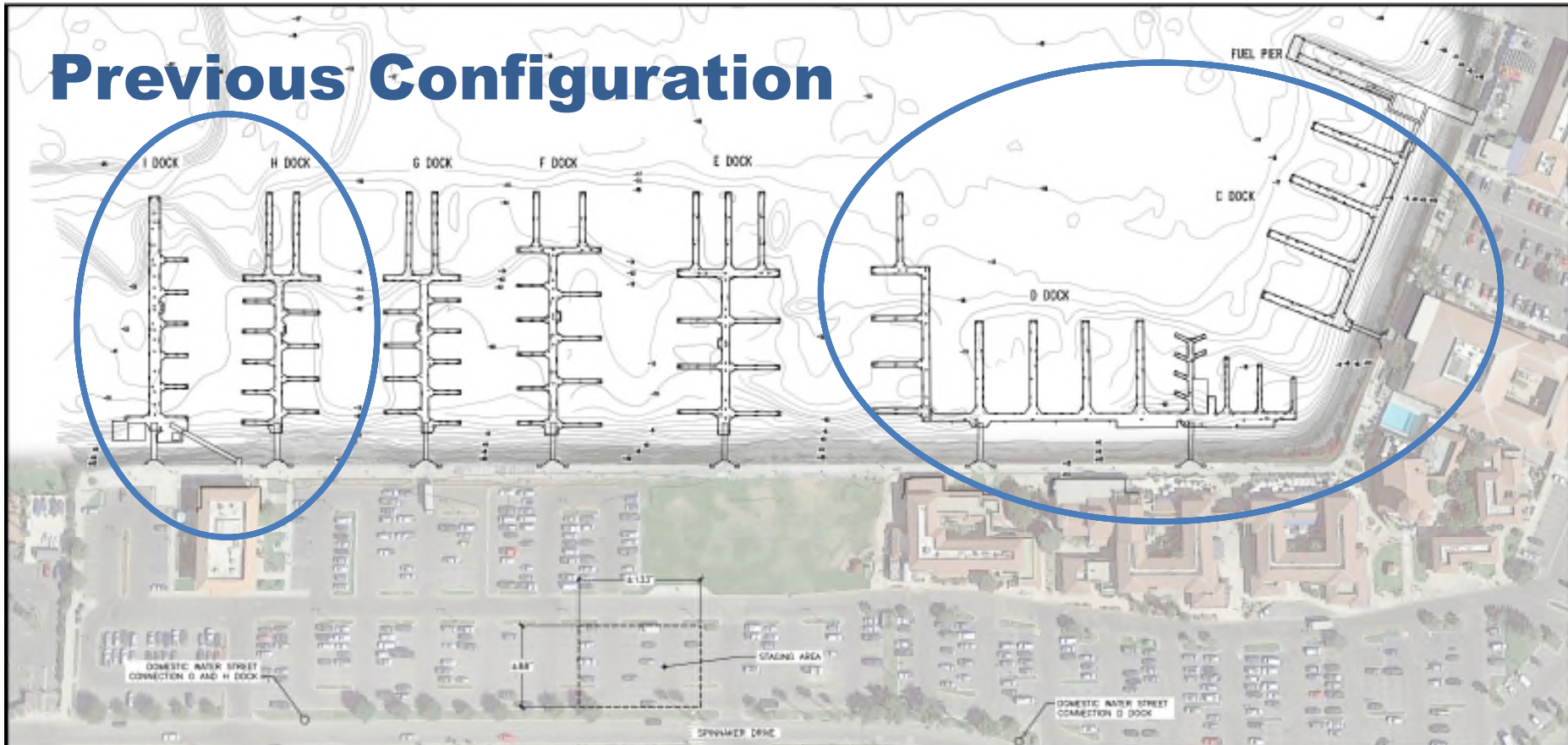
NOBLE CONSULTANTS **GEC**

200 SOUTH MAIN, SUITE 400
VENTURA, CA 93140
805-761-0000
805-761-0000 (FAX)

NO.	DATE	REVISION

DESIGNED BY	JRM	VENTURA PORT DISTRICT EXISTING SITE PLAN VENTURA HARBOUR MARINA DOCK RECONFIGURATION	DATE	5.10.23
DRAWN BY	JRM		PROJECT NO.	1802-17
CHECKED BY	SP		SCALE	AS SHOWN
APPROVED BY	JRM		DATE	7/10/2023

Previous Configuration



EXISTING DOCK PLAN
SCALE: 1" = 50'-0"



NOTES:

1. WATER DEPTHS BY FUGRO PELAGOS, INC. BASED ON MULTIBEAM BATHYMETRIC SURVEY PERFORMED ON JANUARY 2017.
2. AERIAL TOPOGRAPHIC SURVEY BY GEOSPATIAL PROFESSIONALS, INC. BASED UPON PHOTOGRAMMETRY FLAUN NOVEMBER 2016. AERIAL TARGETS SET BY VCC SERVICES, INC. PER MAP DATED AUGUST 13, 2017.
3. HORIZONTAL DATUM IS NAD83 CALIFORNIA STATE PLANE, ZONE 5 (U.S. SURVEY FEET).
4. VERTICAL DATUM FOR BATHYMETRY IS MEAN LOWER LOW WATER BASED UPON CORRS OF ENGINEER'S SURVEY BENCHMARK VC-101 (SPD01 2003.5).
5. VERTICAL DATUM FOR AERIAL TOPOGRAPHY IS NAVD83 FOR BENCHMARK VOPD 399.

CONSTRUCTION, LOADING, AND STORAGE NOTES:

THE CONTRACTOR MAY USE THE VENTURA PUBLIC BOAT LAUNCH RAMP FOR TRANSPORT OF DEBRUSHED GUIDE PILES AND DOCK SECTIONS FROM FLOATING BARGES TO TRUCKS FOR HAUL AWAY AND DISPOSAL AND NEW PILES, DOCK MODULES, AND OTHER CONSTRUCTION MATERIALS FROM TRUCKS TO BARGES FOR DELIVERY TO THE JOB SITE. RAMP USE SHALL BE LIMITED TO THE EASTERN 50'-FT END. BARGES SHALL BE LOADED AND UNLOADED USING CRANES. ROLL-ON AND ROLL-OFF EQUIPMENT/VEHICLE TRANSPORT SHALL NOT BE ALLOWED. NO OVERNIGHT STORAGE OF DEBRUSHED OR NEW MATERIAL SHALL BE ALLOWED.

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- MHW 5.46 FT
- MHH 4.70 FT
- MTL 2.82 FT
- MOVD29 2.69 FT
- MLW 0.89 FT
- NAV83 0.09 FT
- MLLW 0.00 FT

TIDE DATUMS NOAA STATION 945210		
DATUM	RELATIVE ELEVATION (FEET)	DESCRIPTION
MSHW	+5.46	MEAN HIGHER HIGH WATER
MHH	+4.70	MEAN HIGH WATER
MFL	+1.50	MEAN SEA LEVEL
MLW	-0.89	MEAN LOWER LOW WATER
MSLWD	-0.89	NORTH AMERICAN VERTICAL DATUM OF 1988
MLLW	-0.00	MEAN LOWER LOW WATER

NOTE:
HIGHEST ANNUAL WATER LEVEL = 7'.8". LOWEST ANNUAL WATER LEVEL = -2.07'. WATER LEVELS VARY DAILY AND SEASONALLY. LOWEST TIDES DO NOT ALWAYS OCCUR DURING DAYLIGHT HOURS. CONSULT TIDE TABLES AND NOAA TIDE GAGE NO. 9411183 (VENTURA HARBOR) FOR MORE DETAILED INFORMATION.

SURVEY CONTROL

TITLE	NORTHING	EASTING	ELEVATION (FEET NAVD83)	DESCRIPTION
VC-302	3,052,995.90	6,576,146.17	N/A	BRASS CAP ADJUTMENT BENCHMARK
VM-10	3,054,136.17	6,576,246.27	N/A	BRASS CAP ADJUTMENT BENCHMARK
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TARGET 2	3,053,189.89	6,576,339.77	13.87	SURVEY TARGET POINT
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TARGET 5	3,052,146.15	6,580,381.88	13.87	SURVEY TARGET POINT

NOTE:
BENCHMARK VOPD 399 IS LOCATED AT THE NORTHWESTERLY CORNER OF HARBOR BOULEVARD AND SCHOONER DRIVE, 67.0 FEET NORTHWESTERLY FROM THE CENTER OF SCHOONER DRIVE, 53.00 FEET SOUTHWESTERLY FROM THE CENTER OF HARBOR BOULEVARD, 10.0 FEET EASTERLY FROM THE BC.



NOBLE CONSULTANTS **GEC**

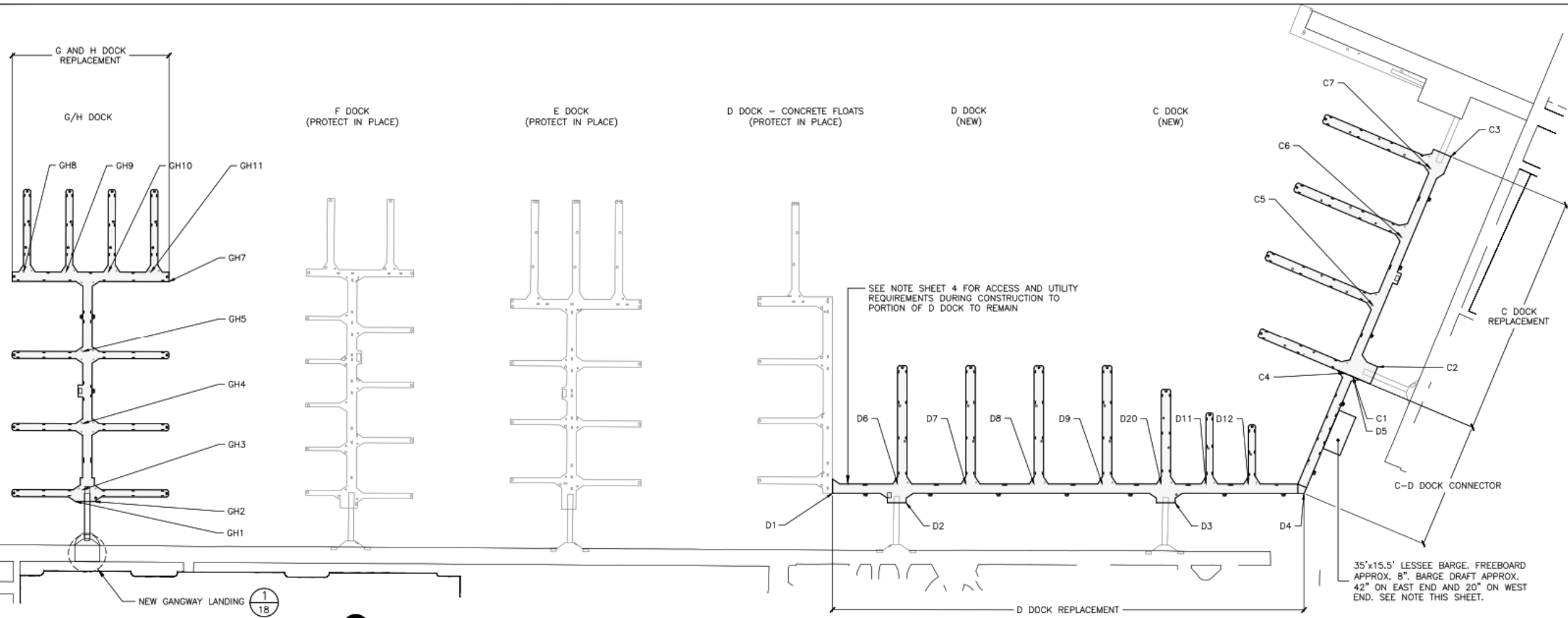
200 SOUTH MAIN, SUITE 400
VENTURA, CA 93401
805-761-0000
805-761-0000 (FAX)

NO.	DATE	REVISION

DESIGNED BY	JRM	VENTURA PORT DISTRICT EXISTING SITE PLAN VENTURA PUBLIC BOAT LAUNCH	DATE	5.10.23
DRAWN BY	JRM		PROJECT NO.	1807-17
CHECKED BY	SP		SCALE	AS SHOWN
APPROVED BY	JRM		DATE	7/10/2023



New Configuration: C, D, G, & H Docks



1
7 PROJECT PLAN
SCALE: 1" = 40'-0"



DOCK CONSTRUCTION NOTES:

1. THE FLOATING DOCKS SHALL BE DESIGNED AND MANUFACTURED BY A FIRM HAVING A MINIMUM OF TEN (10) YEARS EXPERIENCE IN THE DESIGN, MANUFACTURE AND INSTALLATION OF DOCKS.
4. THE MINIMUM WALL THICKNESS FOR ANY CONCRETE MODULE SHALL BE 2 1/2 INCHES TOP AND 1 1/2 INCHES SIDES, ENDS, AND BOTTOM. CONTRACTOR SHALL DETERMINE REQUIRED WALL THICKNESS FOR ALL CONCRETE FLOATS, BARGE WALLS.
10. MINIMUM THRU-ROD DIAMETER SHALL BE 3/4 INCH. ALL THRU-RODS SHALL BE ENCASED BY PVC SLEEVES NO LARGER THAN 7/8 INCH ID. ALL TOP THRU-RODS SHALL BE HDG OR GALV.

18" diameter concrete guide piles

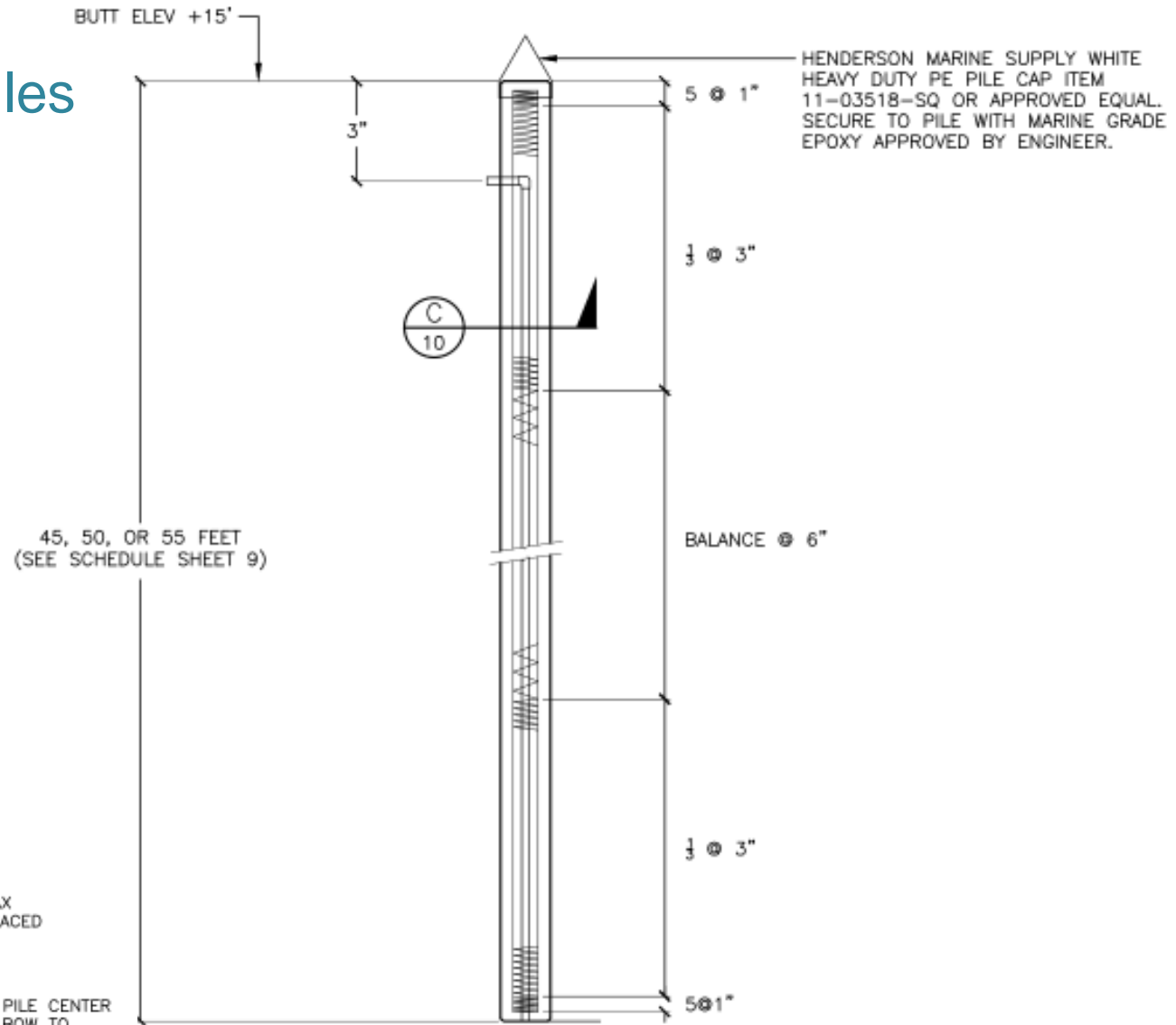
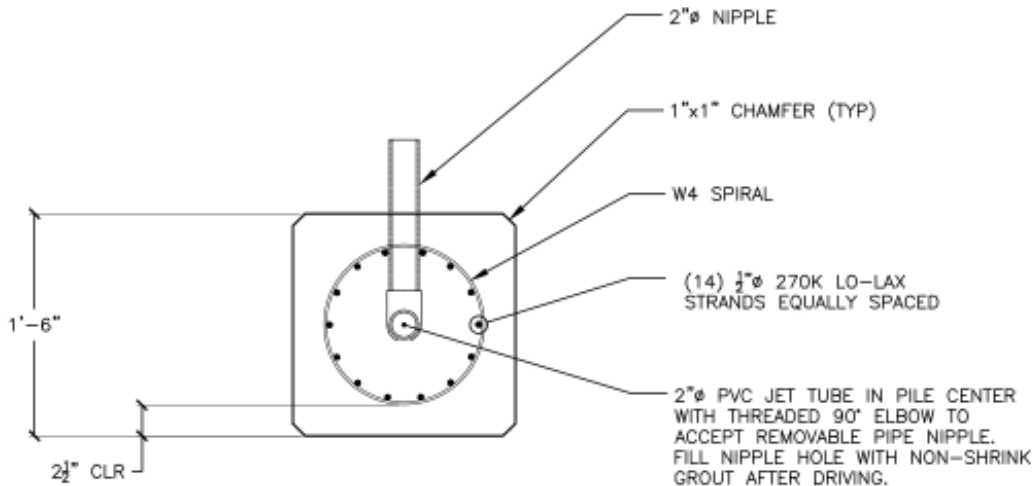
45' to 55' total length

Tip elevations: -30' to -40'

Butt elevations (top): 15'

(King tides ~6.5' to 7')

(Storm surges >7')





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Construction

- Project went to open bid July 2018
- One contractor responded with a bid of \$4.3M with concrete piles
- Bid was accepted by District Board September 2018
- Notice to proceed provided October 2018





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Construction

- Four change orders were executed:
 1. \$6,900 for power pedestal modification
 2. \$867 for Fire Department Permit
 3. \$11,189 for location of underground utilities
 4. \$119,986 for 40 additional power pedestals to be installed on the existing docks
(this last phase to be completed Q1 2020)



New C & D Docks



New C & D Docks



New G & H Docks





Challenges

- It required 18 months to obtain Coastal Commission permission to proceed
- Providing staging area/working area required more than ½ acre impacting boat launching, guest parking, pedestrian access, and green space
- Dock replacement would have major impacts to fishing fleet operations if conducted during season
- Conversely, lull in fishing season occurs during summer – our highest tourist season



Challenges

- Pedestals:
 - VPD obtained the specified pedestals before contracting
 - The pedestals were modified by the manufacturer (new supplier for some components) which resulted in two pedestal design flaws
 - Manufacturing flaw with connectors
 - Connector panel plastic instead of steel
 - Some pedestals installed with incorrect connectors
 - Older fishing vessels had grounding issues with new NEC compliant power pedestals (required isolation transformers)

Electrical Pedestals



1/16" offset in plug pin and 1/8" thickness in plate created connection issues





Challenges

- Abandoned oil lines and buried utilities not properly mapped
- Fishermen were eager to return to the harbor and management of their return with construction incomplete was challenging to maintain good two-way communication
- Insufficient cleats available held up the return of vessels
- Contractor activities largely took place during the summer, impacting visitor experience to harbor (but essential to avoid fishing season)



Lessons Learned

- District loans were well invested while awaiting milestone payments to reduce interest burden
- Rigorous, diligent project management was essential to keeping project on time and schedule
- Advance communication and education with stakeholders crucial to get support and acknowledge needs
- Giving the contractor's PM office space helped both sides with communication and logistics



Lessons Learned

- Patience and flexibility for both marina staff and vessels was essential for slip assignment and reassignment
 - Vessel size but also politics played a roll in slip assignments
 - Billing slip tenants was challenging while moving vessels
- Ensure manufacturer does not change product for your project.
 - We don't want to be the Guinea pigs for new designs
- Sub-contractor accountability is always a challenge

Ready For Business!





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Thank you for your time.

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Richard Parsons
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