

**THE NORTHWEST SEAPORT ALLIANCE**  
**MEMORANDUM**

**MANAGING MEMBERS**  
**STAFF BRIEFING**

**Item No.** 5D  
**Date of Meeting** July 2, 2020

**DATE:** June 23, 2020

**TO:** Managing Members

**FROM:** John Wolfe, Chief Executive Officer

**Sponsor:** Tong Zhu, Chief Commercial Officer & Chief Strategy Officer

**Project Manager:** Emma Del Vento, Capital Program Leader, Port of Seattle

**SUBJECT:** Terminal 5 Modernization Program Quarterly Update

**A. BRIEFING REQUESTED**

Regular Terminal 5 Modernization Program Update.

**B. SYNOPSIS**

COVID-19 – Construction impacts were managed early and aggressively. Contractor has performed exceptionally at maintaining schedule while implementing health and safety requirements.

Permit Conditions' schedule of some projects could be impacted by SDOT staff availability due to West Seattle Bridge response work.

Lease Obligations are in design and mostly on schedule. Marine Building final budget is available and has increased (details below).

Community outreach: met with Pigeon Point neighborhood (June 8th).

Recent Stochastic Analysis and Risk Register updates indicate the program has an 85% probability of being sufficient with a value of \$333M. The \$340M program budget has a near 97% probability of being sufficient.

**C. BACKGROUND**

The Northwest Seaport Alliance (NWSA) entered a long-term lease in April 2019 for the redevelopment of Terminal 5 in the North Harbor to create a modern international container terminal for ultra-large container ships. Once the Terminal 5 Modernization Program is completed, the facility will have the capability to handle the largest vessels currently calling

the west coast, allowing the NWSA to compete for the super post-Panamax vessels, increasing current container volumes, supporting economic development and both creating and securing current jobs in the region for the next thirty years and likely beyond.

#### **D. CURRENT STATUS**

##### Milestones:

Orion Marine Contractors are moving forward with:

- Above-water dock construction - on schedule
- Landside crane rail - pile driving almost complete
- Electrical Substation - preparing for Seattle City Light work 7/15
- Utility: sewer, water, and electrical duct bank - on schedule

As discussed in the previous presentation, the Contractor's revised construction schedule shows substantial completion of Phase 1 on March 15, 2021, versus the contract milestone of substantial completion for Phase 1 for turnover to the NWSA by December 31, 2020. This delay has been shared with the Tenant and turnover is agreed to be April 15, 2021. The March 15, 2021 date is improved by one week since the previous quarterly update.

Major milestones for Permit Conditions and Lease Obligations Q2 and early Q3 are:

- Marine Building bid set (July 2020)
- Stormwater Treatment System 60% Design (July 2020)
- Finalized Channelization (striping) plans for the T7 Access Road and restriping of access bridge
- Finalized design for the implementation of Spokane Street signalization
- Reefer Infrastructure Study (July 2020)

**E. BUDGET (TO MAY 31, 2020)**

Budget numbers are updated to the end of the full month prior to the meeting. Numbers include overhead which is posted the 10<sup>th</sup> of every month.

- Program currently within overall budget; primary construction contract budget increased due to pile-related site conditions, steel tariffs and some COVID-19 costs.
- Construction is 34% spent and 25% complete

2020 Q2 Program Budget (\$M)	Original Budget	Quarter 2 Changes	Updated Budget	Spent to Date	Forecast at Completion	Remaining Authorized Budget
Design, Construction, Project Management	279.9	+3.2*	283.1	82.7	276.1	197.2
Permit Conditions	14.0		14.0	3.2	14.0	10.8
Stormwater Treatment	30.0		30.0	0.9	30.0	29.1
Management Reserve	16.1	-3.2*	12.9	-	12.9	16.1
<b>Total</b>	<b>340.0</b>	<b>-</b>	<b>340.0</b>	<b>86.8</b>	<b>333.0</b>	<b>253.2</b>

\*\$3.2M moved out of Management Reserve this quarter and into construction include:  
 \$3,145,000 for Marine Building budget  
 \$20,000 for Reefer Study

Marine Building budget has increased from \$3,800,000 presented in April 2019 to \$6,945,000. The three main drivers that generated the increase are:

1. Initial estimate was based on two 2,000 SF buildings. Building areas are now 2,424 SF.
2. Initial estimate was based on a building shell.
3. Site conditions related to utilities were not known. Connection to water and sewer for the north berth building are the major driver of cost increase, some of which is impacted by other stormwater and shorepower infrastructure upgrades.

## F. CONTINGENCY AND RISK

The contingency and risk section provides the managing members early visibility to emerging issues and associated costs in T5 modernization program implementation.

The following table shows details of both known costs and future costs, based on actual program implementation. Known costs are broken into two sub-categories of executed (agreed to) and potential (known costs but not final, and not agreed to officially).

Future costs capture issues that currently exist or could exist (the latter are items not always likely but could have a cost should they occur), these are captured early to closely track all issues that could affect delivering the program within the \$340m program authorization.

The future costs are modelled using a three point average intersected with the likelihood of the event occurring to generate the probable cost and a range.

The program has three distinct forms of funding to cover risk:

- 1) typical construction contingency of 15%, which for the \$160M contract results in \$24M.
- 2) a unique management reserve of \$20M was established to cover both program unknowns, like pinch-pile issues, and knowns, such as tenant improvements like marine buildings.
- 3) a fortunate bid variance of \$24M from original engineers estimate of the primary \$160M construction contract.

The program is within its authorization of \$340m but if all the known, potential and future costs occur at the high end of the range, the program costs will reach almost \$340M. While these forecasted costs are designed to be comprehensive, conservative and cover all project phases, final program completion is 2.5 years out and inherent unknown risks can still arise.

<b>Totals: Construction Contingency, Management Reserve, Bid Variance</b>		<b>Change</b>	<b>Balance</b>
		<b>\$36 - \$68,000,000</b>	<b>\$68,000,000</b>
	<b>T5 Berth Modernization Construction Contingency – committed funds</b>		<b>\$24,000,000</b>
<b>Executed</b>	<b>Total to 6/5/2020</b>	<b>-\$7,421,386</b>	<b>\$16,578,614</b>
<i>Potential</i>	<i>Total to 6/5/2020</i>	<i>-13,038,814</i>	<i>\$3,539,800</i>
<i>Future</i>	<i>Remaining Phase 1 and Phase 2</i>	<i>-\$5-10,000,000</i>	
	<b>Original Management Reserve Budget</b>		<b>\$20,000,000</b>
Allocated	Marine Buildings, Clean Truck Gate Equipment, CBP and RPM Power Supply Study, Reefer Study	-\$7,090,000	\$12,910,000
<i>Future</i>	<i>Quiet Zone Property Acquisition, CBP and RPM Power Design and Construction, Seattle City light Variance and New Tax, North and South Reefers Design and Construction, Stormwater, T5 Access Bridge, Reefer Phase 1 Reimbursement, Dredging Overlap</i>	<i>-\$7,250,000- \$28,550,000</i>	
	<b>Bid Variance Budget (Program Contingency)</b>		<b>\$24,000,000</b>

**Stochastic Analysis and Risk Register** (is being updated quarterly in 2020)

T5 key staff meet quarterly with the T5 Program risk consultant to model variables around future T5 risk and update the risk register. Risks are identified by likelihood and impact to generate a score and are modelled into the forecast budget along with the actuals to date.

Recent Stochastic Analysis and Risk Register updates from Q2 2020 indicate:

- The program has P-85 value (85% probability of being sufficient) of \$333M
  - Q1 2020 P-85: \$321M
  - Q4 2019 P-85: \$336.2M
- The \$340M program budget has a near 97% probability of being sufficient
  - Q1 2020 100% probability
  - Q4 2019 95% probability

**T5 Berth Construction Trends:**

- Risk Items are down, there has been a steady decrease in low, likely, and high impacts and probabilities since Q3 2018 to present

<b>Decrease of Impact &amp; Probability on Risk Register Over Time</b>				
	<b>Low</b>	<b>Likely</b>	<b>High</b>	<b>Average of Probabilities</b>
<b>2018 Q3</b>	<b>47.1</b>	<b>76.8</b>	<b>111.4</b>	<b>50%</b>
<b>2019 Q3</b>	<b>27.2</b>	<b>40.7</b>	<b>51.1</b>	<b>36%</b>
<b>2020 Q1</b>	<b>18.8</b>	<b>30.3</b>	<b>37.5</b>	<b>29%</b>
<b>2020 Q2</b>	<b>11.6</b>	<b>21.4</b>	<b>33.5</b>	<b>23%</b>

- Planned values and forecasts are up since last quarter due to missing forecast/budget items

**Programmatic Trends:**

- Lease Obligation planned values are higher as design progresses
- Greater definition of scope and responsibilities -- this increases the ability to forecast final costs.

**Future Potential risks:**

- Quiet Zone Property Acquisition (\$1-2M) and schedule delay

Under the Memorandum of Understanding we have with the City of Seattle, we are responsible for all the costs associated with the Quiet Zone. As part of the project, a property acquisition will need to be made by the City and the project will pay the cost; the City will hold the title to the property. Discussions are still underway with stakeholders. Risks are in the finalization of the costs of the acquisition and in the potential impacts to the schedule.

- Stormwater budget (\$29M – \$38M + soft costs) based on Master Plan

NWSA received the Stormwater Masterplan (10% deliverable) in December 2019 where the range of costs were identified. Based on known conditions, and similar projects at neighboring locations,

we agree with the tenant's estimate range. The estimate will continue to be refined as the deliverables progress. No program costs above \$30M have been agreed to currently.

- Reefer Study, design, and construction (\$4M – \$8M) rough order of magnitude

Lease obligations are for NWSA to install electrical infrastructure in the uplands for the reefer plugs.

- Reefer Reimbursement (\$9M) lease condition if Terminal 5 Phase 2 not executed.

Lease obligations are for NWSA to reimburse Tenant for reefer infrastructure should tenant elect Phase 1 Plus.

- T5 Access Bridge (\$0M – \$2.5M) rough order of magnitude

SDOT has responded to the T5 access bridge traffic mitigation plan with additional requests for study. The high end of the risk range shows the inability to meet the City criteria for over legal 2 loads on the T5 bridge and the installation of a gated rail crossing on the at grade roads.

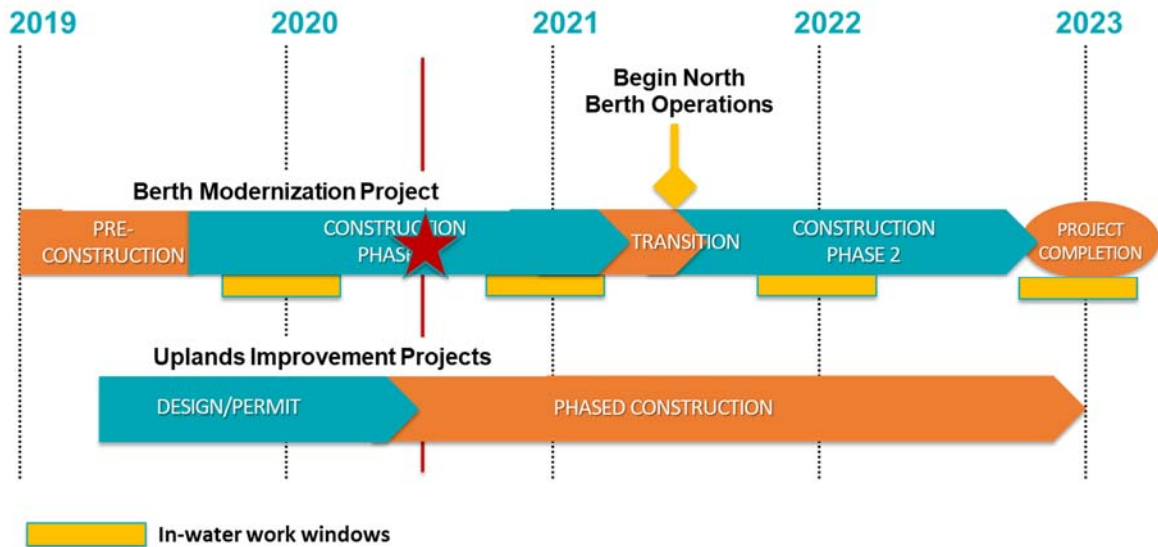
**Retired major risks are:**

- Phase 1 pile driving impacts to schedule and budget
- Structural piles did not encounter sufficient resistance
- Constructability challenges in rebuilding the demolished wharf

**Continuing risks:**

- Encountering in-water obstructions for sheet piles and phase 2 in water pile driving
- Further unknown COVID-19 impacts
- Lease Obligations: CBP Booth, RPM location, Reefer delineation
- Quiet Zone Property Acquisition
- Stormwater system estimate refinement
- Over-legal load 2 impacts to W Marginal and compliance with City permits (see note above in T5 Access Bridge)
- Dredging

## G. PROGRAMMATIC SCHEDULE



## H. OPPORTUNITIES

- State budget for shore power infrastructure at Terminal 5 – \$4.4M Budget Proviso
- Dept of Ecology grant for stormwater – funding June 2020
- PIDP & BUILD Grants – submitted May 2020 (Tentative award announcements BUILD Sept. 2020 and PIDP in November 2020)

## I. LOOK AHEAD

- Q3 2020
  - Marine Building Bid Award and Execution
  - BUILD Grant Announcement
  - Dept of Ecology Grant for Stormwater – Funding
  - Completion of Seattle City Light (SCL) work
  - Continued Rail Quiet Zone negotiation
  - Channelization work will be complete
  - Spokane Street signalization will be complete
  - Quiet Zone civil design will be finalized
- Q4 2020
  - Marine Buildings construction

- Stormwater Master Plan 90%
- Permit Conditions in review with Agencies
- PIDP Grant Announcement

**J. ALTERNATIVES CONSIDERED AND THEIR IMPLICATIONS**

No request is being made at this time.

**K. ENVIRONMENTAL IMPACTS / REVIEW**

No environmental impact/review is being made at this time.

**L. ATTACHMENTS TO THIS REQUEST**

- Computer slide presentation.

**M. PREVIOUS ACTIONS OR BRIEFINGS**

<u>DATE</u>	<u>ACTION</u>	<u>Amount</u>
July 02, 2020	T5 Modernization - Program Update	\$0
April 07, 2020	T5 Modernization - Program Update	\$0
January 14, 2020	T5 Modernization - Program Update	\$0
October 1, 2019	T5 Modernization - Program Update	\$0
August 6, 2019	T5 Modernization - Program Update	\$0
June 4, 2019	T5 Program Update	\$0
May 20, 2019	Program Authorization for Construction of Berth Modernization Program	\$0
April 2, 2019	Additional Program Funding and Authorization to Fund T5 Modernization Program	\$314,150,000
February 26, 2019	Authorization to advertise for construction	\$0
February 5, 2019	Pre-authorization Program Briefing	\$0
November 13, 2018	Motion to prepare construction documents for authorization to advertise	\$0
August 1, 2017	Railroad quiet zone funding, tribal payments, and Agreements	\$5,650,000



October 4, 2016	Additional Funding, Seattle City Light Agreement, and Project Labor Agreement	\$8,200,000
June 7, 2016	DEIS Briefing	\$0
November 4, 2015	Additional SEPA and Design Funding	\$2,000,000
October 13, 2015	Test Pile Bids Exceeded Engineer's Estimate	\$0
July 14, 2015	Additional Design Authorization	\$5,000,000
June 3, 2014	Initial Design Authorization	\$4,700,000
May 13, 2014	T5 Berth Modernization Briefing	\$0
March 12, 2014	Additional Pre-Design Authorization	\$150,000
October 27, 2013	Initial Pre-Design Authorization	\$150,000
<b>TOTAL</b>		<b>\$340,000,000</b>



**THE NORTHWEST  
SEAPORT ALLIANCE**  
Gateway to Solutions

Item No:5D  
Date of Meeting: July 02, 2020

# Quarterly Program Update Terminal 5 Modernization

Presenter: Emma Del Vento  
Capital Program Leader

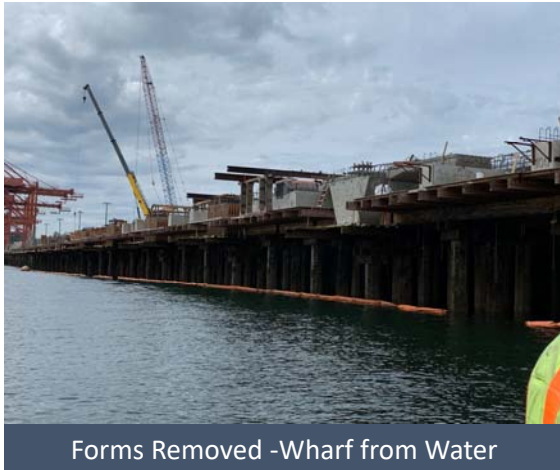
## Terminal 5 – Program Overview

### Primary Elements of Scope

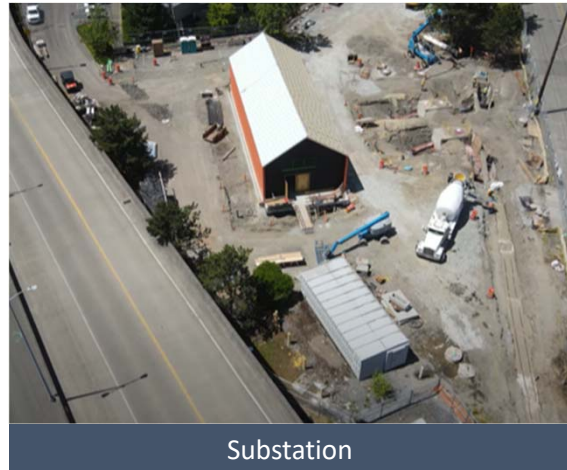
- **Berth Modernization**
  - Crane Rails
  - Dock Rehabilitation
  - Slope Stabilization
  - Berth Deepening
  - Power Supply/  
Distribution
- **Uplands Improvements**
  - Stormwater
  - Marine Buildings
  - Permit Conditions
  - Lease Obligations



## Terminal 5 – Construction Progress



Forms Removed -Wharf from Water

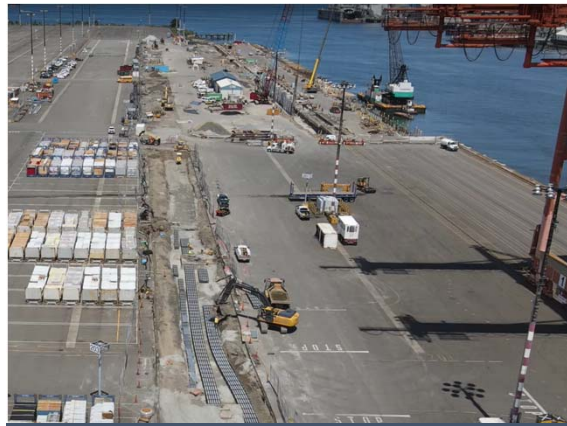


Substation

## Terminal 5 – Construction Progress



Waterside Crane Rail



Main Electrical Conduit

## Terminal 5 – Q2 2020 Progress

- **Berth Modernization Project**

- **In Construction**

- Concrete pours for wharf reconstruction
- Landside crane rail: driving upland steel piles
- Substation – preparing for Seattle City Light work 7/15
- Utility: electrical duct bank, and water branch line installation

- **Uplands Improvements Projects**

- Permit Condition Progress
- Lease Obligations
  - Stormwater Treatment: 60% Design July 2020
  - Marine Buildings:
    - Bid July 06, 2020
  - Reefer Study, Crane, Paving, Gate

- **Grants**

- BUILD/PIDP May 15, 2020
- Stormwater
- Shorepower June 05, 2020



Construction on the wharf

## Terminal 5 – Construction Progress



Substation with switchgear installed



Under wharf repairs

## Terminal 5 – Budget (May 31, 2020)

Program currently on budget  
Construction is 34% spent and 25% complete

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- *Marine Building Final budget*
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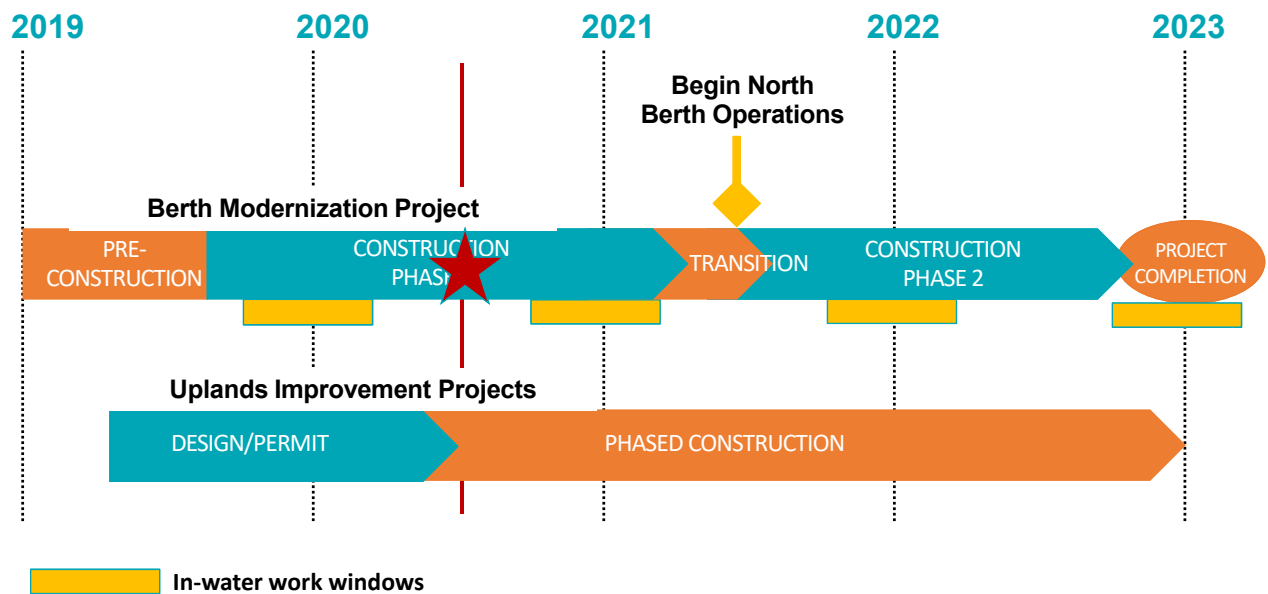


## Detail of Contingency

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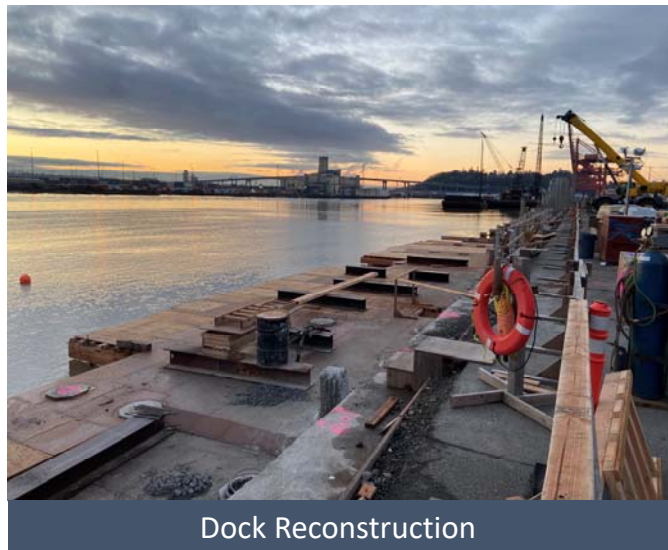
# Terminal 5 – Programmatic Schedule

Construction 25% complete and 27% time elapsed



## Terminal 5 – Opportunities

- **State budget for shore power infrastructure at Terminal 5 – \$4.4M Budget Proviso**
- **Dept of Ecology Grant for Stormwater – Funding June 2020**
- **PIDP & BUILD Grants – submitted May 2020**



Dock Reconstruction

**PIDP = Port Infrastructure Development Program**

**BUILD = Better Utilizing Investments to Leverage Development**

## Terminal 5 – Community Outreach

- **June 08: Pigeon Point Neighborhood**



Landside Crane Rail - Drilling into the casings before vibrating the piles

## Terminal 5 – Look Ahead

- **Q3 2020**
  - Marine Building Bid
  - Stormwater Master Plan 90% Design
  - PIDP Grant Announcement (Port Infrastructure Development Program)
  - Dept of Ecology Grant for Stormwater – Funding
  - Completion of Seattle City Light (SCL) work
  - Continued Rail Quiet Zone negotiation
- **Q4 2020**
  - Marine Buildings construction
  - Stormwater Master Plan 90%
  - Permit Conditions in review with Agencies