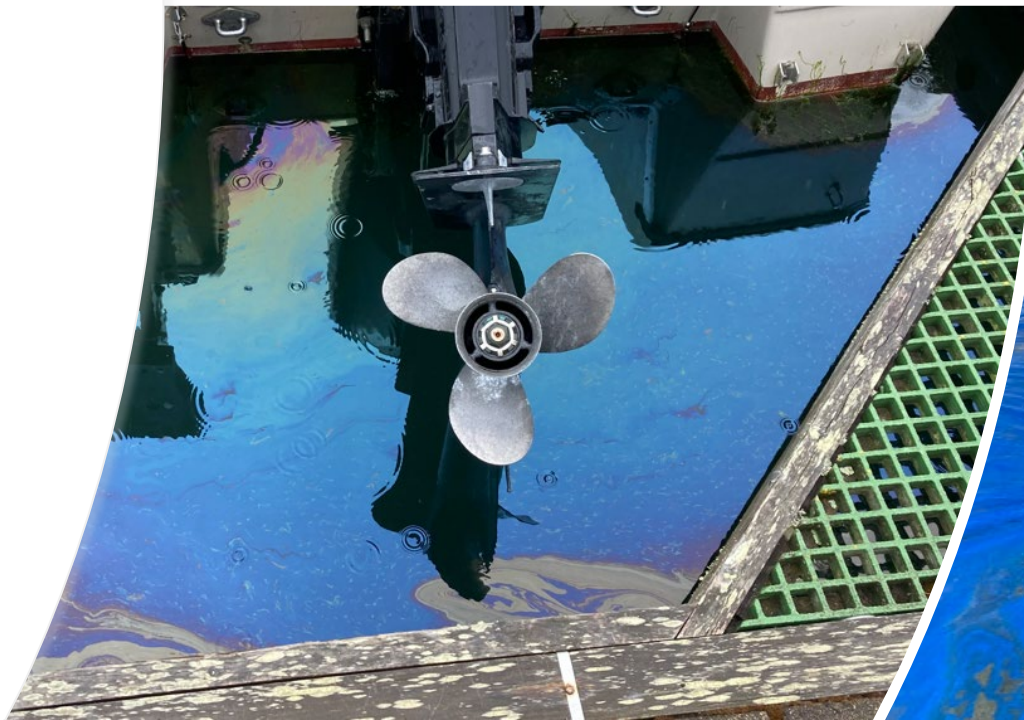


Commissioner's Retreat: BMPs and Environmental Updates 2024



Day-to-day activities

- BMP enforcement
- Stormwater system maintenance
- Hazardous waste collection
- Safety and training



Safety and Training

Training we have completed this year:

- HAZWOPER 8-hr
- Fire extinguisher safety
- First Aid/CPR
- NARCAN administration
- De-escalation/Violence in the workplace





Moderate/Hazardous Waste Management: Dealing with the aftermath

- Working with tenants to come up with a plan for safe disposal
- Maintaining safe storage until disposal
- Education





Boatyard Stormwater

	Copper	Zinc	Turbidity	pH	Oil/Grease	Diesel Petroleum Hydrocarbons
2027						
2022	44 µg/L	90 µg/L	<25 NTU	6-9	0	<10 mg/L
2016	147 µg/L	90 µg/L				
2011	147 µg/L	90 µg/L				
2005	229 µg/L	90 µg/L				

Pressure Wash to POTW

	Copper	Zinc	Lead	pH
2027				
2022	2.4 mg/L	2.61 mg/L	0.69 mg/L	5-9
2016	2.4 mg/L	3.3 mg/L	1.2 mg/L	5-11
2011	2.4 mg/L	3.3 mg/L	1.2 mg/L	5-11
2005	2.4 mg/L	3.3 mg/L	1.2 mg/L	5-11

Boatyard General Permit and Benchmarks

- Current permit expires on August 31, 2027.

Boatyard Stormwater Results for 2023

What we test for:

Copper

Zinc

Turbidity

Diesel

pH

	DMR Reporting	
2023	Cu	Zn
January	26	33
March	32	34
April	39.8	52.8
May	39.7	18.8
October	232.9	121.3
November	20	34.1

Benchmark
Cu 44
Zn 90

What can influence results:

Precipitation levels

Number and type of boat work

BMP violations

Treatment system performance

State of gravel

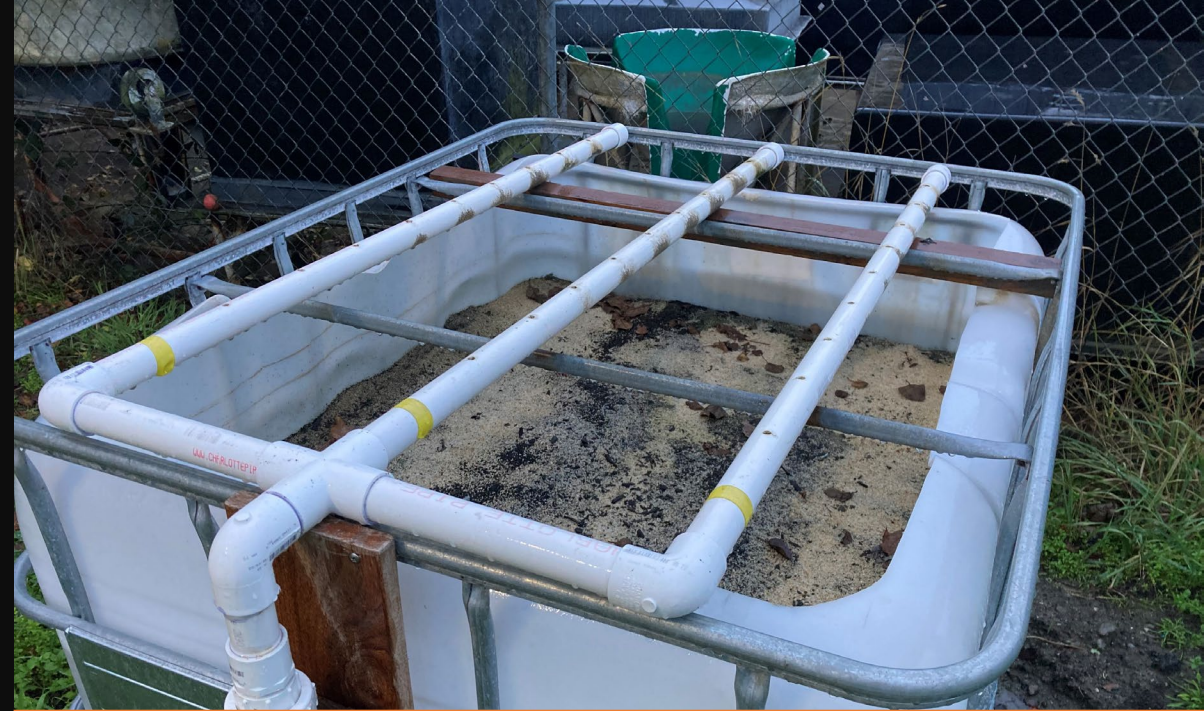
Stormwater Treatment Issues

- Access to vaults and Rx units
- Media replenishment
- Media replacement every three years
- Dirty vaults
- Particle size
- Lab results turnaround times



Stormwater Pilot Test

- Testing different medias and their filtration capabilities
- Planning for the future



Stormwater project planning: What we are considering

- Adaptability
- Ease of use and maintenance
- Cost
- Impact to businesses



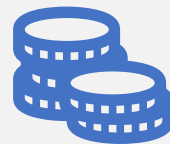
Funding as it Stands Now



Anticipating **\$3,000,000** of additional funds in the State's Capital Budget



Current Port budget programmed **\$2,000,000** in ARPA funds administered through the WA State Department of Commerce.



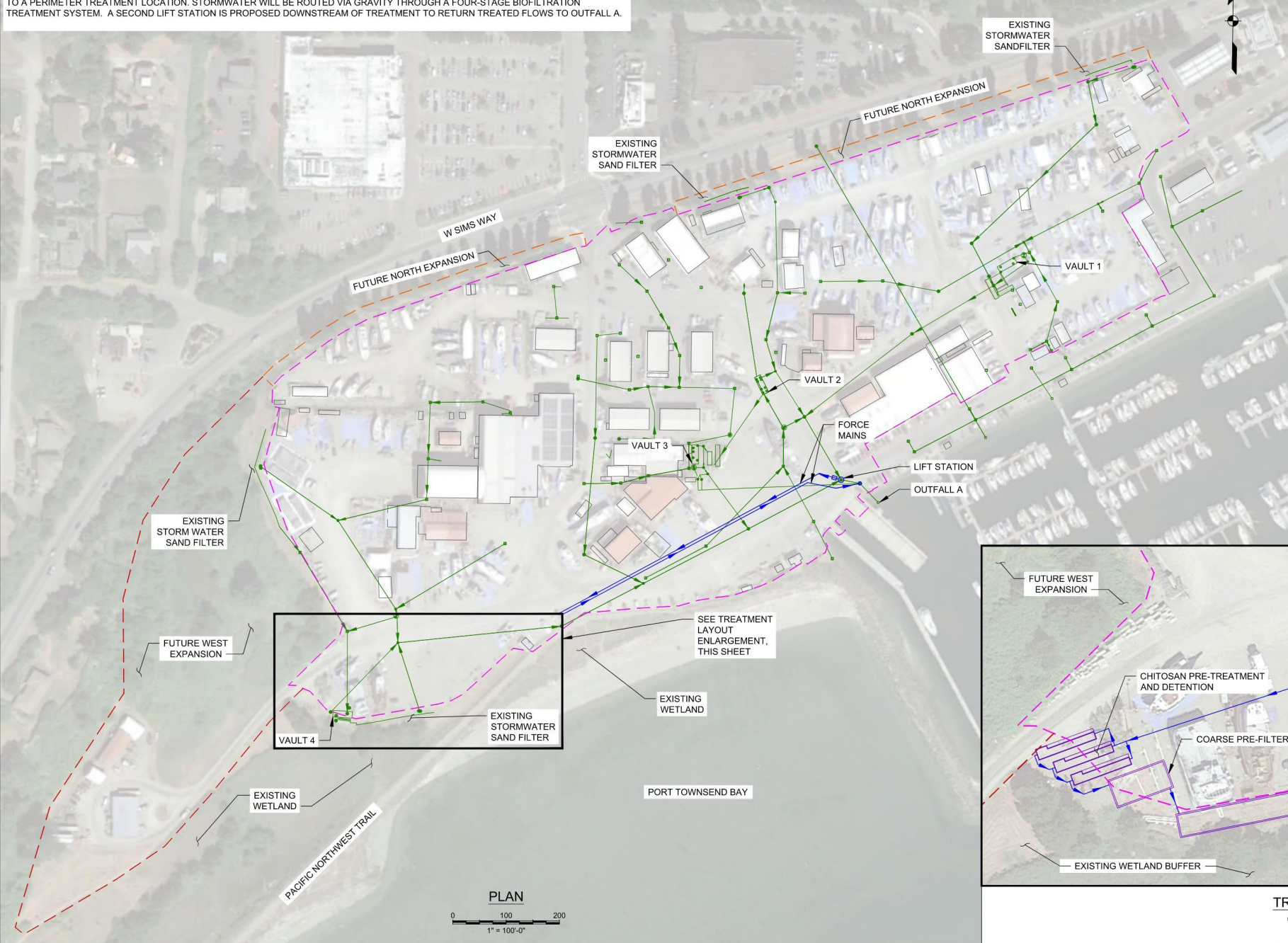
Total Project Funding = \$5,000,000

TO A PERIMETER TREATMENT LOCATION. STORMWATER WILL BE ROUTED VIA GRAVITY THROUGH A FOUR-STAGE BIOFILTRATION TREATMENT SYSTEM. A SECOND LIFT STATION IS PROPOSED DOWNSTREAM OF TREATMENT TO RETURN TREATED FLOWS TO OUTFALL A.

Plot Date: 10/24/2024

User: SAMANTHA KARPA

pw bentley.com\\jcae-pw\\Documents\\Clients\\Port Townsend, Port of WA\\Projects\\Boat Haven Marina Stormwater Phase 1_2297020.00\\10-Design\\10.06-Drawings\\Civil\\0000000.00-C-001



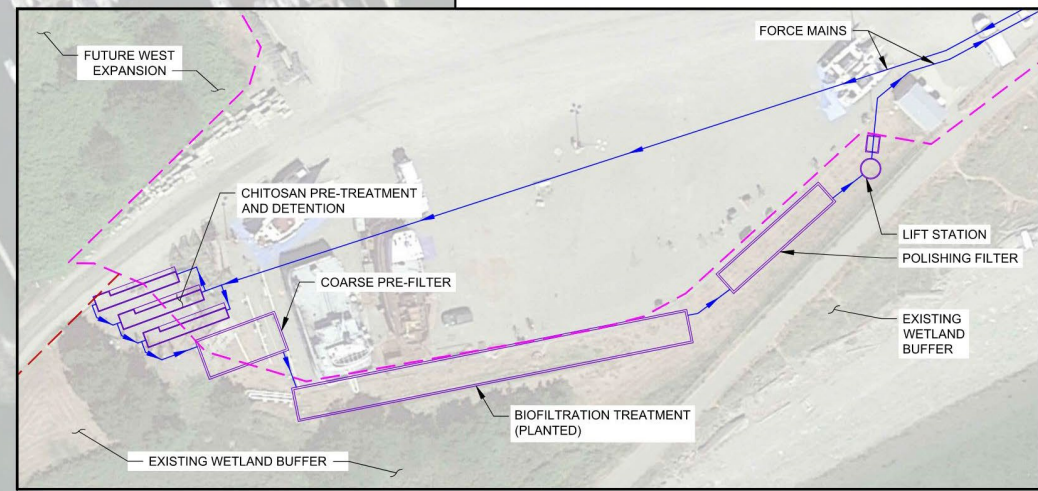
2. FIELD VERIFICATION OF CONCEPTUAL HYDROLOGIC AND HYDRAULIC MODELING WAS PERFORMED TO EVALUATE CONCEPTUAL ALTERNATIVE FEASIBILITY AND IS NOT SUFFICIENT FOR DETAILED DESIGN AND CONSTRUCTION PURPOSES. CONVEYANCE AND TREATMENT SYSTEM HYDROLOGIC AND HYDRAULIC MODELING IS RECOMMENDED DURING DETAILED DESIGN OF THE SELECTED ALTERNATIVE.
3. POTENTIAL UTILITY CONFLICTS EXIST AND WILL BE FURTHER INVESTIGATED IN SUBSEQUENT PHASES OF DESIGN.
4. GEOTECHNICAL INVESTIGATION WILL BE REQUIRED FOR FINAL DESIGN INCLUDING, BUT NOT LIMITED TO, SUBSURFACE EVALUATIONS FOR SHORING, TRENCHING, DEWATERING, SUBGRADE, PREPARATION, FOUNDATION SUPPORT, AND EXCAVATION BACKFILL AND COMPACTION.

BASIS OF DESIGN:

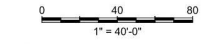
EXISTING DRAINAGE BASIN SIZE:	23.38 ACRES
FUTURE EXPANSION:	7.3 ACRES
FUTURE DRAINAGE BASIN SIZE:	30.68 ACRES
WATER QUALITY FLOWRATE:	1.88 CFS
LIFT STATION SIZE:	10' ID MANHOLE X 10 FEET DEEP
PUMP HORSEPOWER:	7.5 HP
FORCE MAIN SIZE:	10 INCHES
FORCE MAIN LENGTH:	1,760 FEET
FORCE MAIN MATERIAL:	C900 PVC
TREATMENT SYSTEM ENCUMBERED AREA:	19,650 SQUARE FEET
BIOFILTRATION MEDIA SURFACE AREA:	3,400 SQUARE FEET
ENGINEER'S ESTIMATE OF CONCEPTUAL COST:	\$3,617,600 - \$7,752,000
ESTIMATED ANNUAL O&M:	\$39,600

LEGEND:

- EXISTING STORMWATER PIPING
- PROPOSED STORMWATER PIPING
- PROPOSED TREATMENT SYSTEM LOCATION
- EXISTING OUTFALL A DRAINAGE BASIN BOUNDARY
- FUTURE NORTH EXPANSION LIMITS
- FUTURE WEST EXPANSION LIMITS



TREATMENT LAYOUT

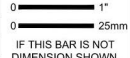


CONCEPTUAL DESIGN

PRELIMINARY DESIGN PHASE
NOT FOR CONSTRUCTION

THIS DOCUMENT IS AN INTERIM DOCUMENT AND NOT SUITABLE FOR

SCALES



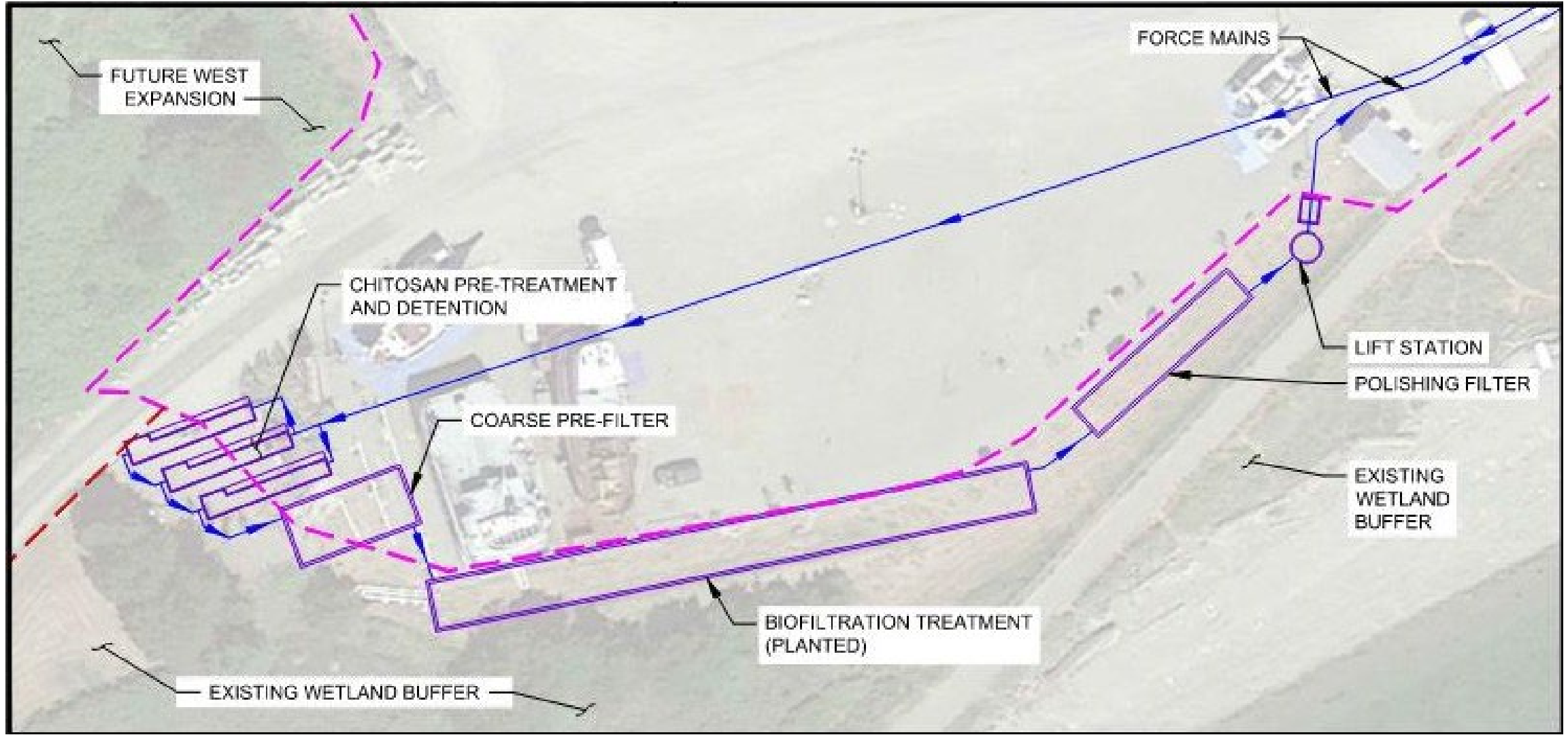
THIS PRELIMINARY DOCUMENT IS NOT FOR CONSTRUCTION. IT IS RELEASED UNDER THE AUTHORITY OF:

DESIGNED	SNK
DRAWN	ASL

PORT OF PORT TOWNSEND
PORT TOWNSEND, WASHINGTON
**BOAT HAVEN MARINA
STORMWATER IMPROVEMENTS**

PROPOSED CONDITIONS

SCALE
JOB NO 2297020.00
DATE NOVEMBER 2023



Design Approach



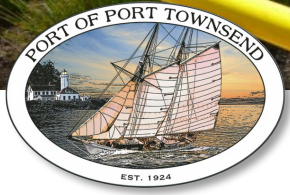
Port of Tacoma



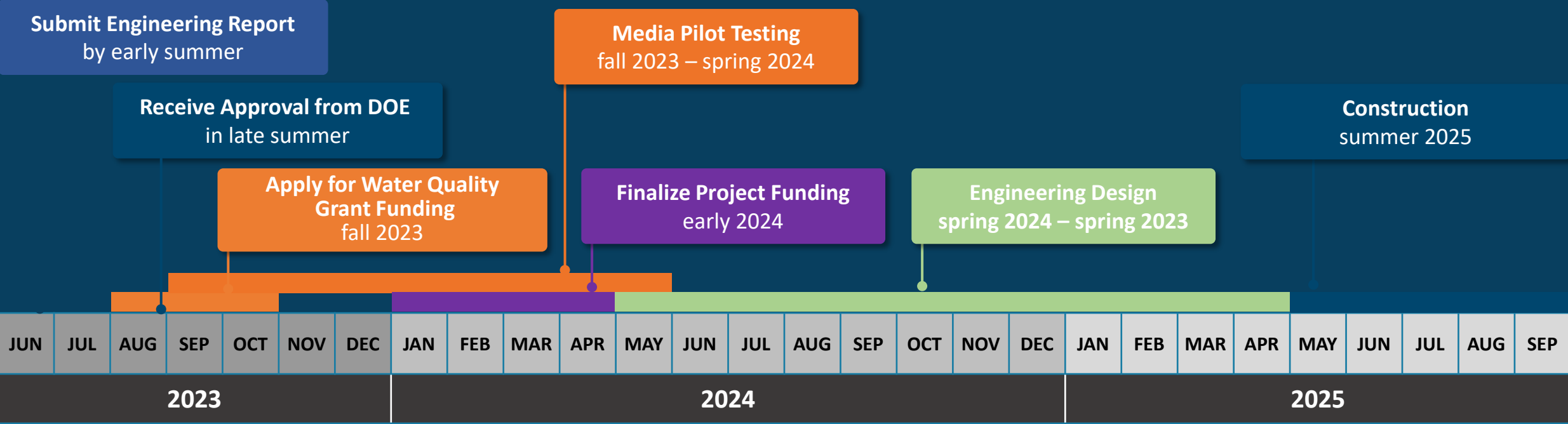
Port of Vancouver



Port of Port Angeles



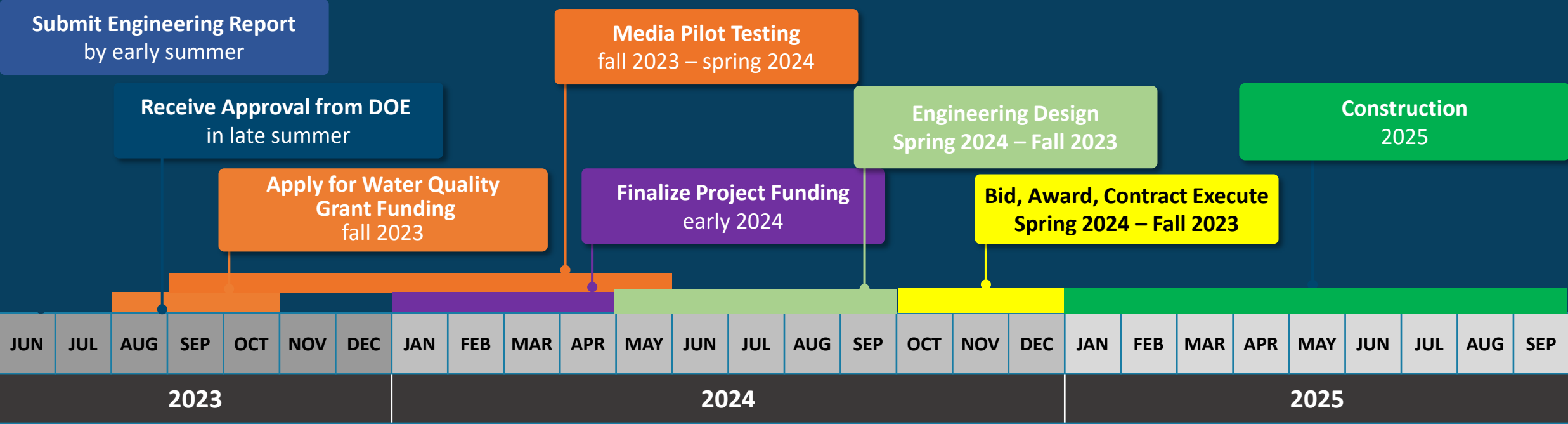
Anticipated Project Schedule (June 2023)



Schedule subject to change based on funding



Anticipated Project Schedule (Updated February 2024)

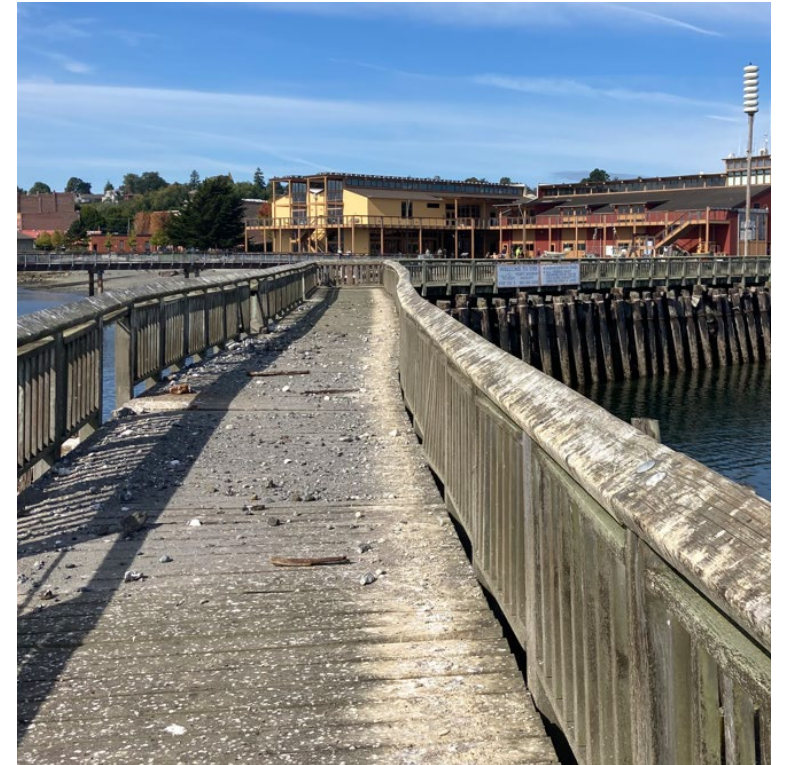


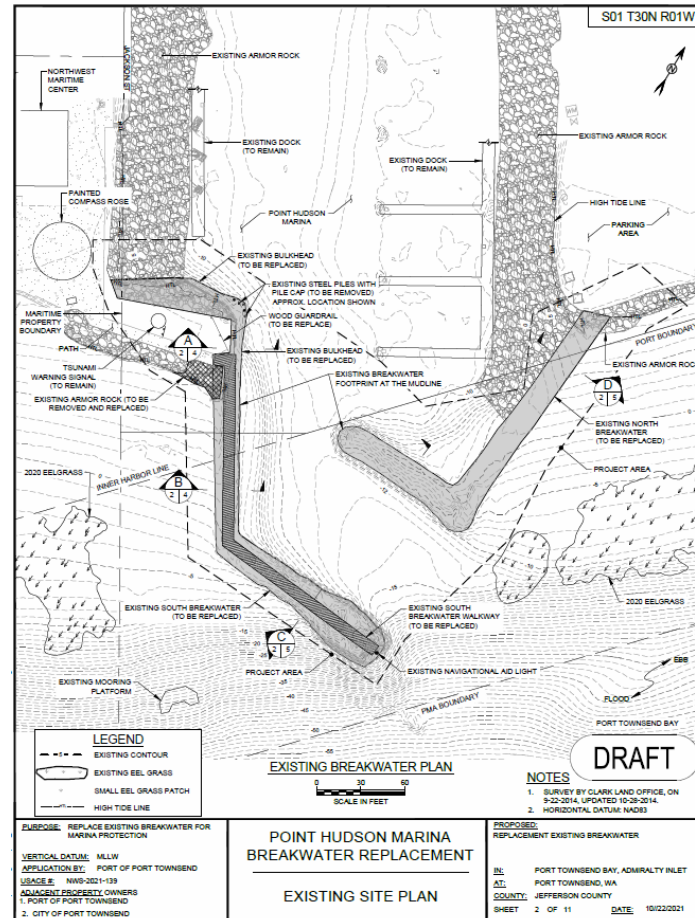
Schedule subject to change based on funding



Point Hudson South Jetty

- **Phase II of the jetty replacement project:**
- September 15, 2023 – February 2024
- Unearthed a lot of history
- Preceded by “critter relocation”





Point Hudson South Jetty: My role

Environmental monitoring:

- mammal and protected bird monitoring
- water quality testing
- ensuring protection of rock nursery and eel grass
- pollution prevention

Additional environmental measures taken to protect environment

- Vibratory hammer
- Vegetable-based hydraulic oil
- Buoys to mark critical areas
- Wildlife checks
- Nearly constant monitoring
- Complete work before salmon migration



Misc. Projects and Collaborations

- Bats at Mats Mats (WDFW)
- Responding on behalf of USCG
- Launch of the pump-out boat for WBF
- WPPA conference
- JeffCo emergency planning (DEM)
- Brownfield coaching (ECY)





The End

