

Ocean Outfall Condition Assessment and Scoping Study, Project No. PS18-09

Valerie Ratto
Engineering
Supervisor

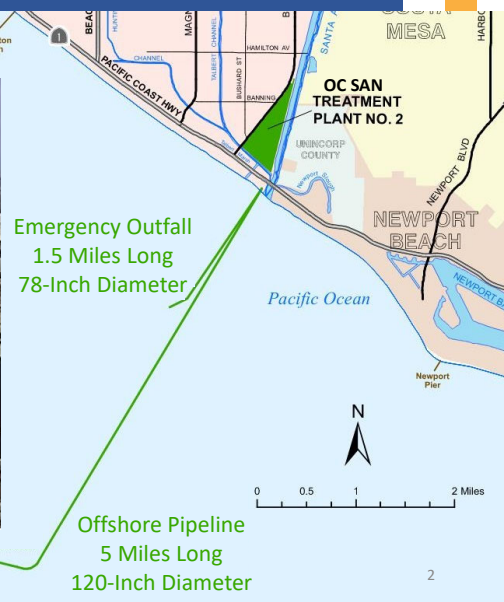
Operations
Committee

February 1, 2023

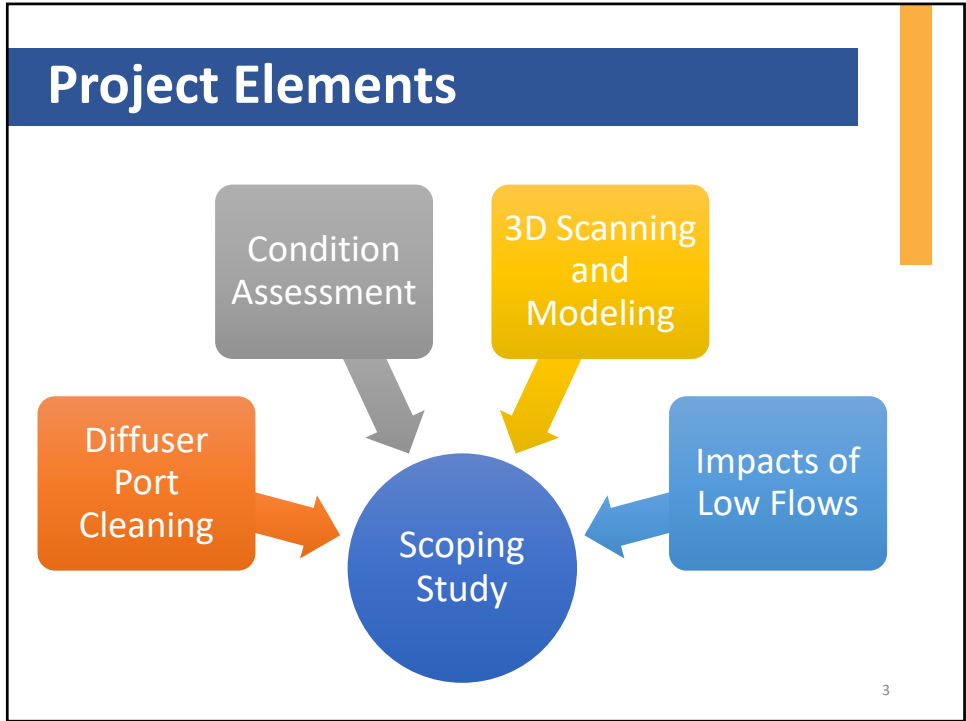


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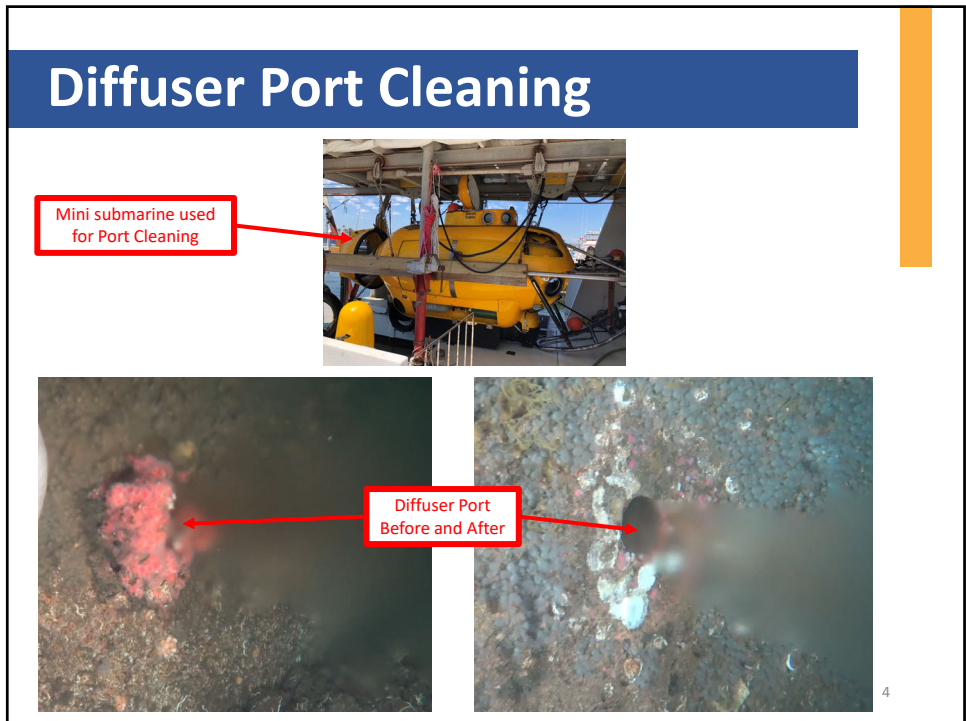
Overview of Outfall



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Barnacle Cleaning Clip



• Full Video: <https://web.microsoftstream.com/video/7a9d8402-8e45-4981-ab5f-66dbd423f68c>

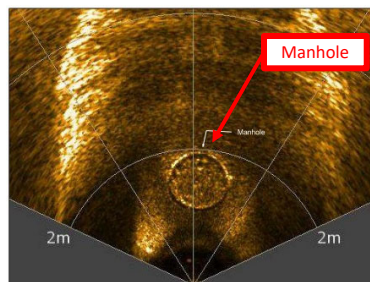
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Interior Condition Assessment



ROV used for Inspection



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Hands On Inspection (Divers)

Measuring Joint Thickness

Inspection Hatch Pre/Post Cleaning and Thickness Testing

New Concrete Core

Measuring Joint Thickness

Testing Concrete Soundness

Hand Clearing Port Obstructions

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3D Scanning and Modeling

UCSD Research Vessel

ROV used for Scanning

Example of 3D Model

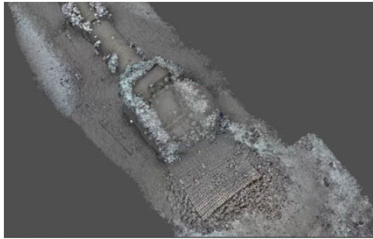

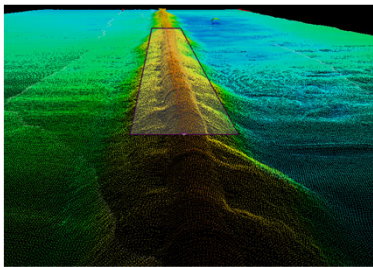
Outfall Cross Section

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Future Rehabilitation Project

- **CIP Rehab project – 2027-2030 (Construction)**
 - Replace all metal hardware
 - Flap Gate
 - Manhole Covers
 - Inspection Port Covers
 - Fasteners
 - Ballast Addition
 - Sediment Removal

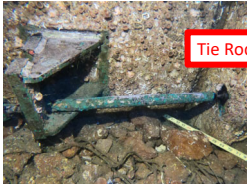




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Immediate Required Repairs



Concrete Core Crack Repair

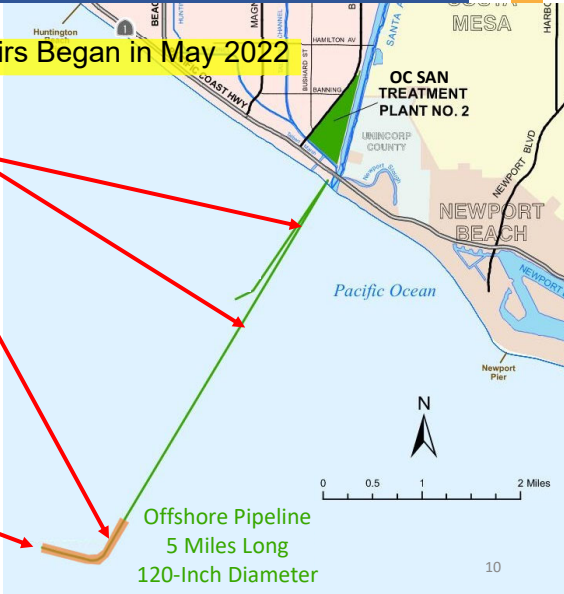


Tie Rod Repair



Flap Gate Crack Repair

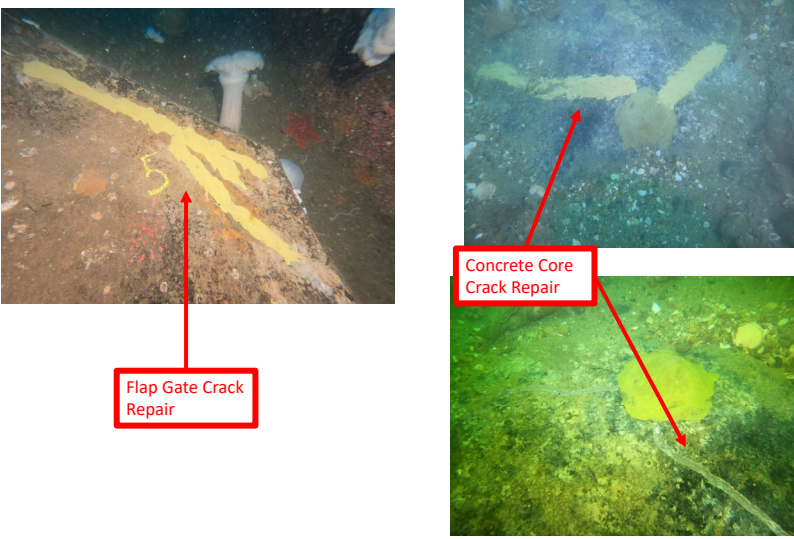
Repairs Began in May 2022



Offshore Pipeline
5 Miles Long
120-Inch Diameter

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Crack Repair



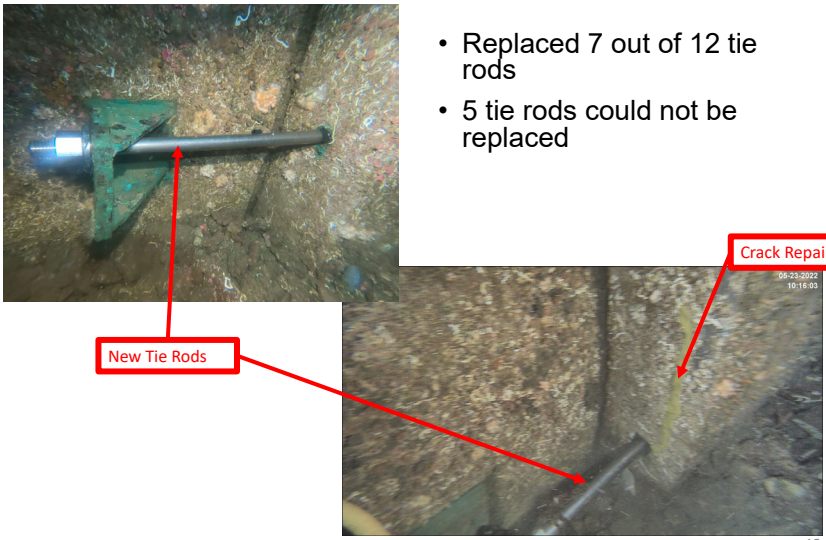
Flap Gate Crack Repair

Concrete Core Crack Repair

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Tie Rod Replacement and Crack Repair



- Replaced 7 out of 12 tie rods
- 5 tie rods could not be replaced

New Tie Rods

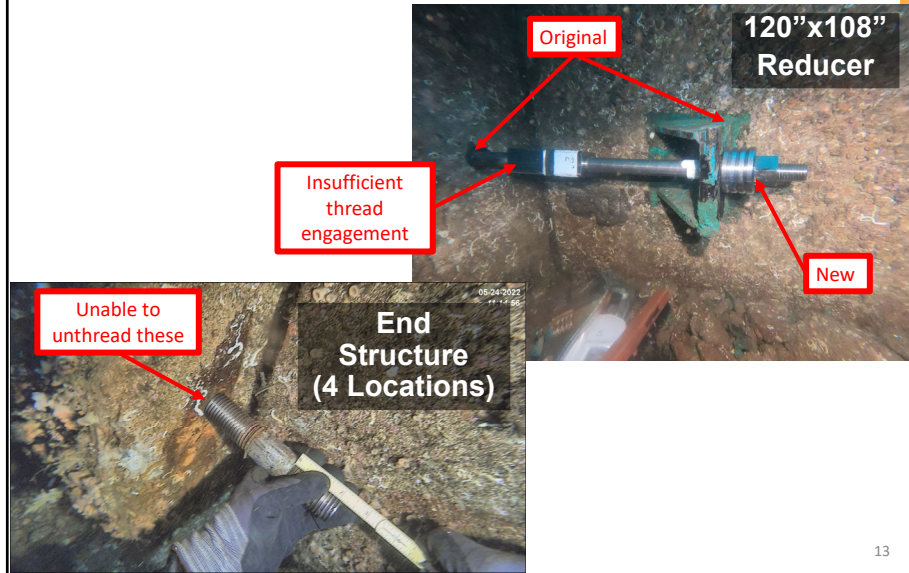
Crack Repair

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Stuck Tie Rod Repair Plan



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Next Steps

- Once work is authorized:
 - Dry run and wet run
 - Dive team will mobilize and complete the repairs
 - 9 dive days are planned
 - Up to an additional 11 days are budgeted
 - 30 days of dive time reserved
 - Dry Season 2023



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Budget for Remaining Repairs

Item	Change Value
Engineering Services	\$152,000
Dive Services*	\$957,000
Parts and Permits	\$14,000
Total	\$1,123,000

*Dive Services consist of \$540,000 in planned work and \$420,000 in additional diving days if required to complete repairs

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Contingency Status

	Contract	Contingency	Total
Original Design Contract	\$2,744,000	\$274,400 (10%)	\$3,018,400
Previous Increase		\$823,200 (30%)	\$823,200
Contingency Increase Request		\$1,097,600 (40%)	\$1,097,600
		\$2,195,200 (80%)	\$4,939,200

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Recommendation

Recommend to the Board of Directors to:

Approve a contingency increase of \$1,097,600 (40%) to the Professional Services Agreement with Carollo Engineers, Inc. for Ocean Outfall Condition Assessment and Scoping Study, Project No. PS18-09, for a total contingency of \$2,195,200 (80%).

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Questions



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