



Masonville Dredged Material Project and Mitigation

Background and Status Report

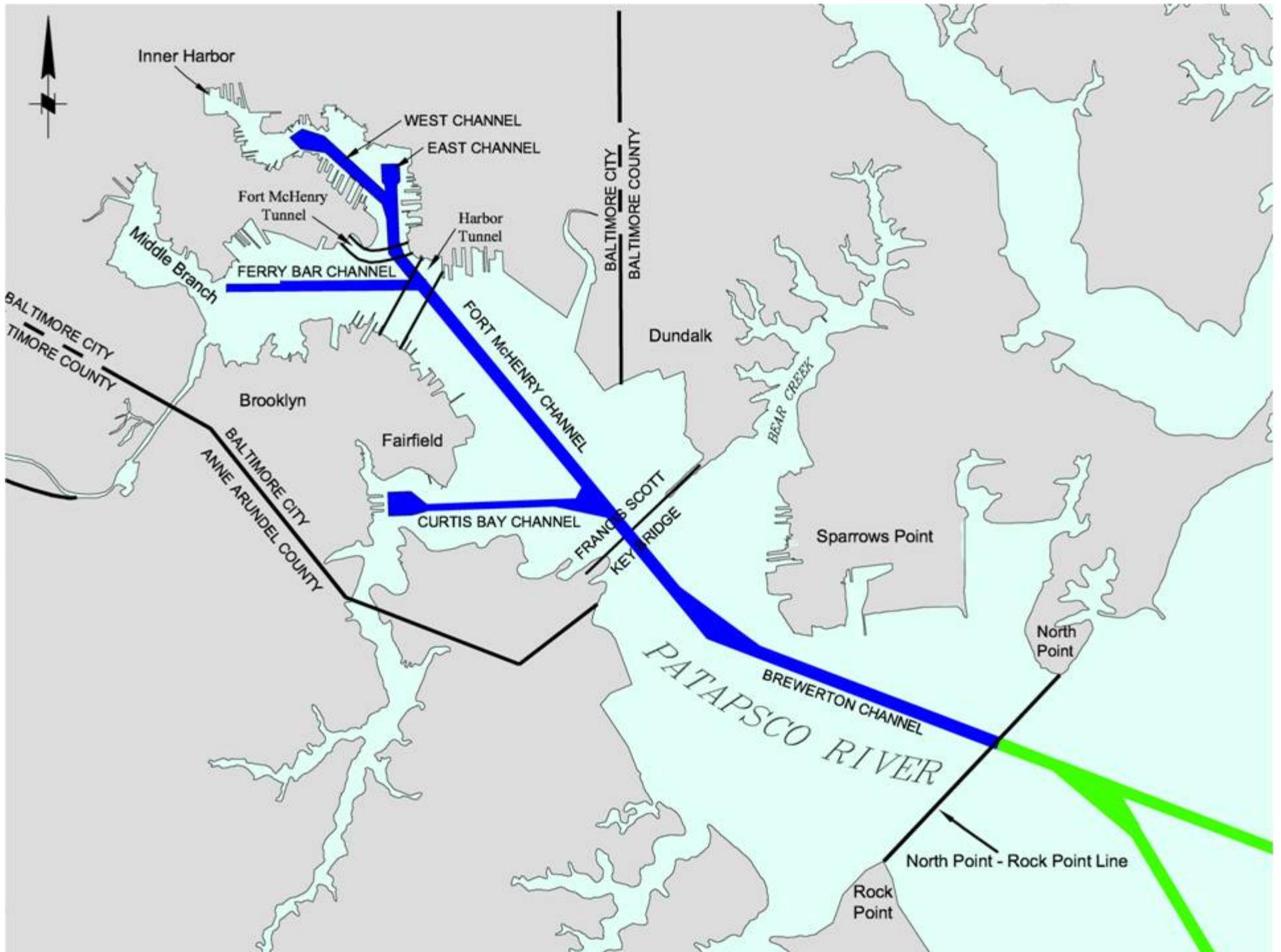
Presented To:

AAPA HNE Seminar, June 7th, 2006



Presentation Overview

- Dredging Challenges
- Recommendations
- Masonville Proposal
- Mitigation
- Next Steps





What Is Dredging?

- Removal of Sediment from Shipping Channels

DREDGE NO. 53



DREDGE NO. 52





Millions of Tons of Sediment Flow into the Bay Each Year



Sources of Sediment in Channels:

- **Natural processes**
 - *Freezing and thawing*
 - *Flowing water / storm events*
 - *Wind and wave action*
 - *Redistribution within Bay*
- **Land Use Practices**
 - *Development*
 - *Agriculture*
 - *Construction*



**Channels Are Dredged to Provide Safe Passage
and to Allow Vessels to Continue to Use the Port**



Why Dredge?

- Local Economic Benefits (2004 Statistics)
 - Approximately 42,400 Jobs Maryland Jobs Are Port Generated
 - Approximately 79,500 Other Port Related Jobs
 - \$2.4 Billion in Personal Wages and Salaries
 - \$2.0 Billion in Business Revenues
 - \$1.2 Billion in Local Business Purchases
- \$507 Million in Federal U.S. Customs Receipts

2004 Statistics Taken from MPA Report to MD General Assembly.



Masonville Required Timeline

(1.5 Mcy/Yr Dredging Need)

Calendar Years

2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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HART-MILLER ISLAND

2.7 MCY/YR	CAP/COVER	CLOSED
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COX CREEK

*0.5 MCY/YR	CLOSED
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MASONVILLE

0.5 MCY/YR

NEW OPTION

0.5-1.0 MCY/YR

* Operational Life May Be Reduced by Required Overloading.



State DMMP Option Identification



- Long History of Option Study (Since 1969)
- Dredged Material Management Act 2001
 - MPA to Provide Plan for 20 yrs of Dredged Material Placement Capacity
- Community/Stakeholder Involvement
 - Citizens Advisory Committee
 - Management Committee
 - Executive Committee
 - Harbor Team



Harbor Team

- Created Because:
 - Needed to Identify Citizen Supported Options
 - Baltimore County Executive Jim Smith's Letter
 - MPA Change in Approach
- Charge: Options for 1.5 mcy/yr Harbor Material That Benefit Communities
- Created in Spring 2003
 - First meeting in March 2003
 - Recommendations issued in October 2003



Harbor Team Members

Anne Arundel County

Ms. Betty Dixon, Anne Arundel County Government

Dr. Lester Ettlinger, Marley Neck

**Mr. Ed Garcia, North County Land Trust Cox Creek
Citizens Committee**

Baltimore City

Ms. Karen S. Hilton, Baltimore City Government

**Mr. Phillip Lee, Baltimore Harbor Watershed
Association**

Ms. Carol Eshelman, Brooklyn and Curtis Bay

**Mr. Gene Q. Eng, Domino, The American Sugar
Refining Company**

**Mr. Scott Raymond, Living Classrooms Foundation
Captain Mark Adams, Maryland Pilots Association**

Mr. Glenn Page, National Aquarium in Baltimore

Mr. Rick Wolfe, Rukert Terminal

Mr. Stephen M. Dyer, W.R. Grace & Co.

Ms. Larisa Salamacha, Baltimore Dev Corp

Baltimore County

**Mr. David A. C. Carroll, Baltimore County
Government**

Mr. Edie Schuman, Dundalk Area Citizen

**Mr. H. Edward Parker, Dundalk
Renaissance Corporation**

**Ms. Carolyn Jones, Greater Dundalk
Alliance**

**Mr. Thomas Kroen, Greater Dundalk
Community Council**

**Mr. Francis Taylor, North Point Peninsula
Community Council**

**Mr. Jack Anderson, Patapsco Back Rivers
Tributary Team**



Policy Recommendations

- Partnership of jurisdictions
- Protect Human Health and Environment
- Add value to communities
- Provide water access
- Maximize local tax benefits
- Protected by easements
- Innovative Reuse



Harbor Team

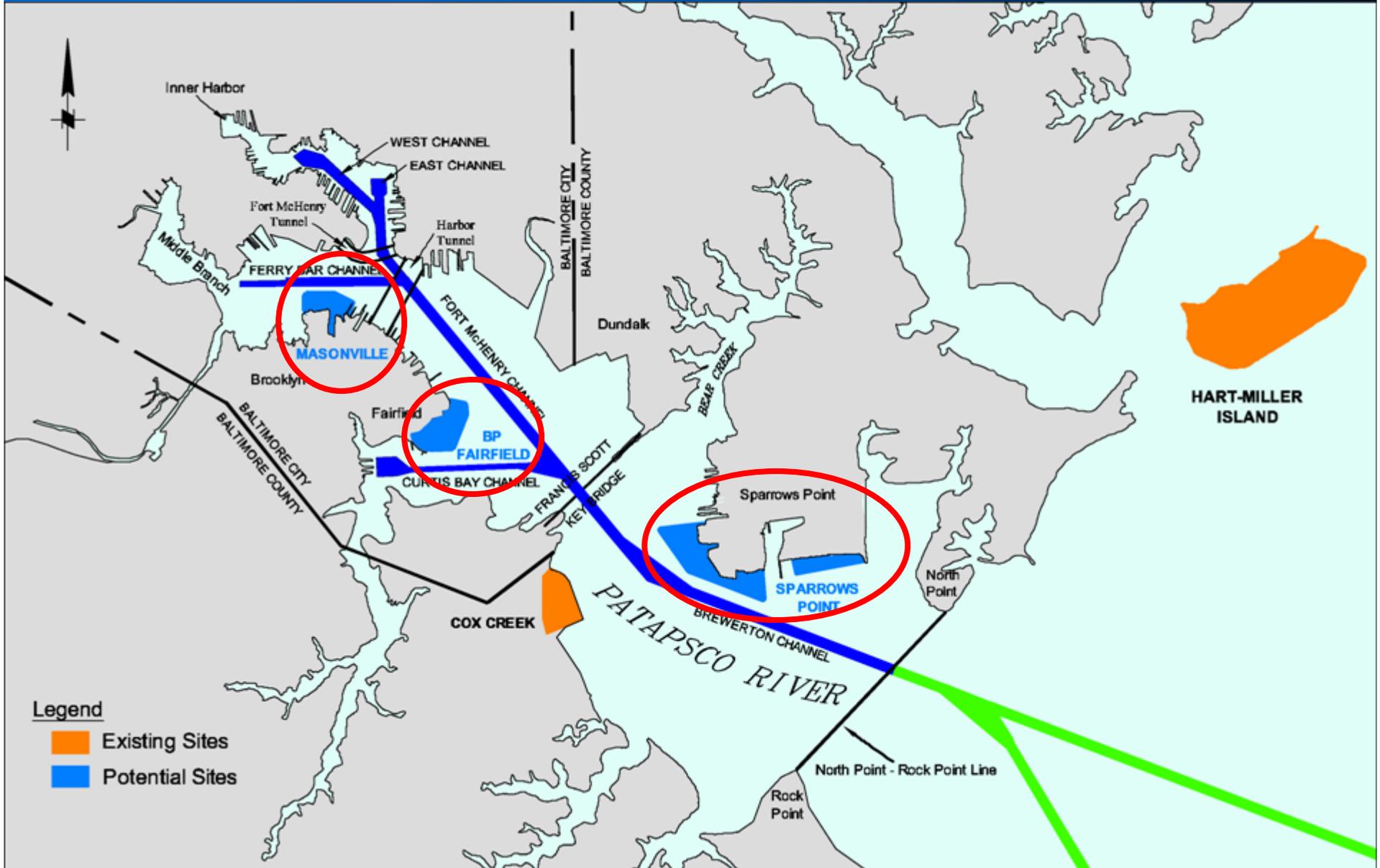


Recommendations for Harbor Material

- Renovation and Operation of Cox Creek
- Further Studies:
 - Masonville, Sparrows Point, BP
Fairfield
- Community Enhancements Included
- Legislative Modification for Sparrows Point
- Innovative Reuse of Dredged Material



Potential Sites





Masonville Project Area

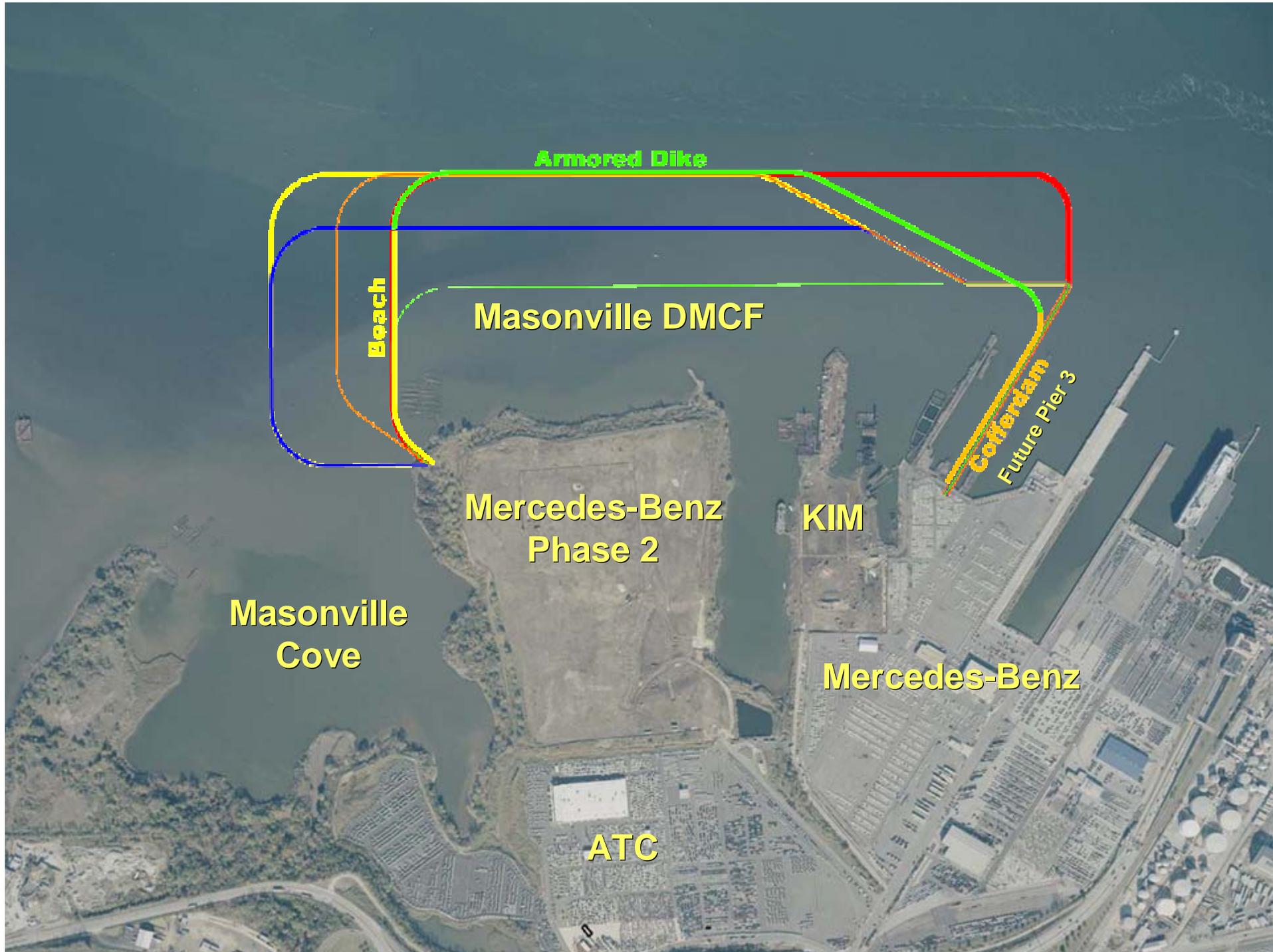




Community Requests for Masonville

Area Providing:

- Limited Public Access
- Clean Shoreline
- Shoreline Trails
- Observation Towers
- Habitat Enhancement
- Passive Recreation
- Bird Sanctuary
- Education Center
- Canoe/Kayak Launch
- Wetlands
- Community Stewardship



Armored Dike

Beach

Masonville DMCF

Cofferdam
Future Pier 3

Mercedes-Benz
Phase 2

KIM

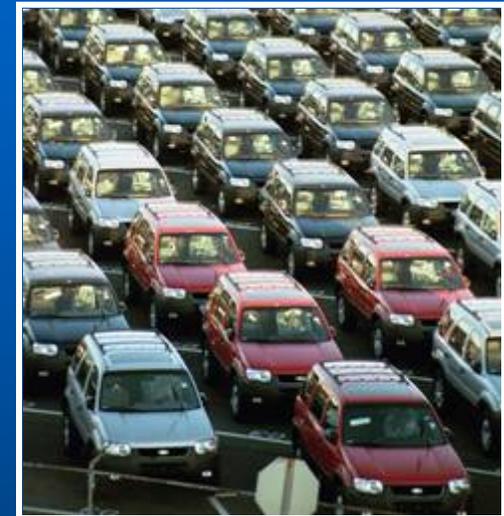
Masonville
Cove

Mercedes-Benz

ATC



End Use Automobile Terminal



*Fairfield-Masonville Terminals
Ultimate Development Concept*



Impacts & Mitigation Plan

- Impacted Area
 - Quantity = 130 Acres of Open Water
 - Footprint Ecological Quality - Degraded Habitat
- Mitigation Plan
 - Focus on Masonville Cove/Environmental Education Center
- Masonville Cove & Vicinity Restoration
 - Initial Habitat Condition vs. Improved Condition
 - 124 Acres of Improved Area (Aquatic & Upland)
 - Unique Opportunities

Conceptual Mitigation Package

Item #	Description	Quantification		Cost			Cumulative Acres
		Quantity	Units	Unit Cost	Item Cost	Cumulative Cost	
Recommended In-Ground Acreage Projects							
1	Wetland Enhancement	2.0	Acres	\$150,000	\$300,000	\$300,000	2
2	Wetland Creation	3.1	Acres	\$155,000	\$480,500	\$780,500	5
3	Non-Tidal Wetland	10.0	Acres	\$100,000	\$1,000,000	\$1,780,500	15
4	Reef and Fish Habitat (subtotal)	92.0	Acres				107
a	<i>Reef and Fish Habitat (Inner Cove)</i>	30.0	Acres	\$31,000	\$930,000	\$2,710,500	
b	<i>Reef and Fish Habitat (Outer Cove)</i>	42.0	Acres	\$31,000	\$1,302,000	\$4,012,500	
c	<i>Shallow Water Substrate Improvement</i>	20.0	Acres	\$20,000	\$560,000	\$4,572,500	
5	Terrestrial Habitat Enhancement and Diversification	10.0	Acres	\$84,000	\$840,000	\$5,412,500	117
6	Beach Creation (in cove)	0.8	Acres	\$140,000	\$112,000	\$5,524,500	127
7	Beach Creation (along dike)*	5.0	Acres	\$40,000	\$200,000	\$5,724,500	132
8	Eel Passage (Bloede/Simpkins Dam, Daniels Dam, Sawmill Creek, Deep Run)	1.0	Project	\$100,000	\$580,000	\$6,304,500	140
9	Shad and Herring Restoration	1.0	Project	\$750,000	\$750,000	\$7,054,500	150
Recommended Additional Projects							
10	Landside and Water- Phase I Cleanup**	25.0	Acres	\$100,000	\$2,500,000	\$9,554,500	175
11	Education Center/Trails (Allocation)	1.0	Project	\$750,000	\$750,000	\$10,304,500	185
12	Education / Research (Allocation)	1.0	Project	\$500,000	\$500,000	\$10,804,500	192
13	Water Quality Monitoring in and Habitat Assessment in Masonville Cove	1.0	Project	\$194,000	\$194,000	\$10,998,500	194
14	Conservation Easement (Approximately 50 Acres in Easement)	25.0	Acres	\$0	\$0	\$10,998,500	219
15	3 Trash Interceptors (including 5 years of maintenance @ \$50,000/year)	3.0	Project	\$500,000	\$1,750,000	\$12,748,500	242
Environmental Benefits from the Masonville DMCF							
16	Sediment/Contaminant Encapsulation	123.0	Acres	\$0			
17	Derelict Vessels (Remediation and Removal)	3.0	Acres	\$3 - \$5 Million			

* The sand beach replaces the otherwise necessary rock armament along the dike. The beach section costs the equivalent of \$40,000 per acre of beach more than the rock.

** These acres are not definite. This option was capped at \$2.5 Million and the current estimate of the number of acres this will cleanup is 25.

Notes:

- 1 Items in blue were recommended by DNR or Baltimore City.
- 2 Items in red indicate options that do not add cost to the mitigation package. However, they are relevant and should be considered when evaluating the package.
- 3 Acreage for items having "Project" units are calculated by dividing the item cost by \$75,000.
- 4 Item number corresponds to the fact sheet number.

Masonville Cove

An aerial photograph of an industrial area, likely a port or refinery. The image shows a large body of water in the upper half, with a cove highlighted by a white circle. The cove contains a small island and a larger landmass. The surrounding area is filled with industrial buildings, storage tanks, and infrastructure. A highway and railway tracks are visible in the lower half of the image.

54 Acres Land
70 Acres Water

Wetland Creation/Enhancement





Cove Existing Conditions





Planting at Swan Creek



6/19/2003



Cox Creek Wetland



Debris Clean-up





Masonville Cove





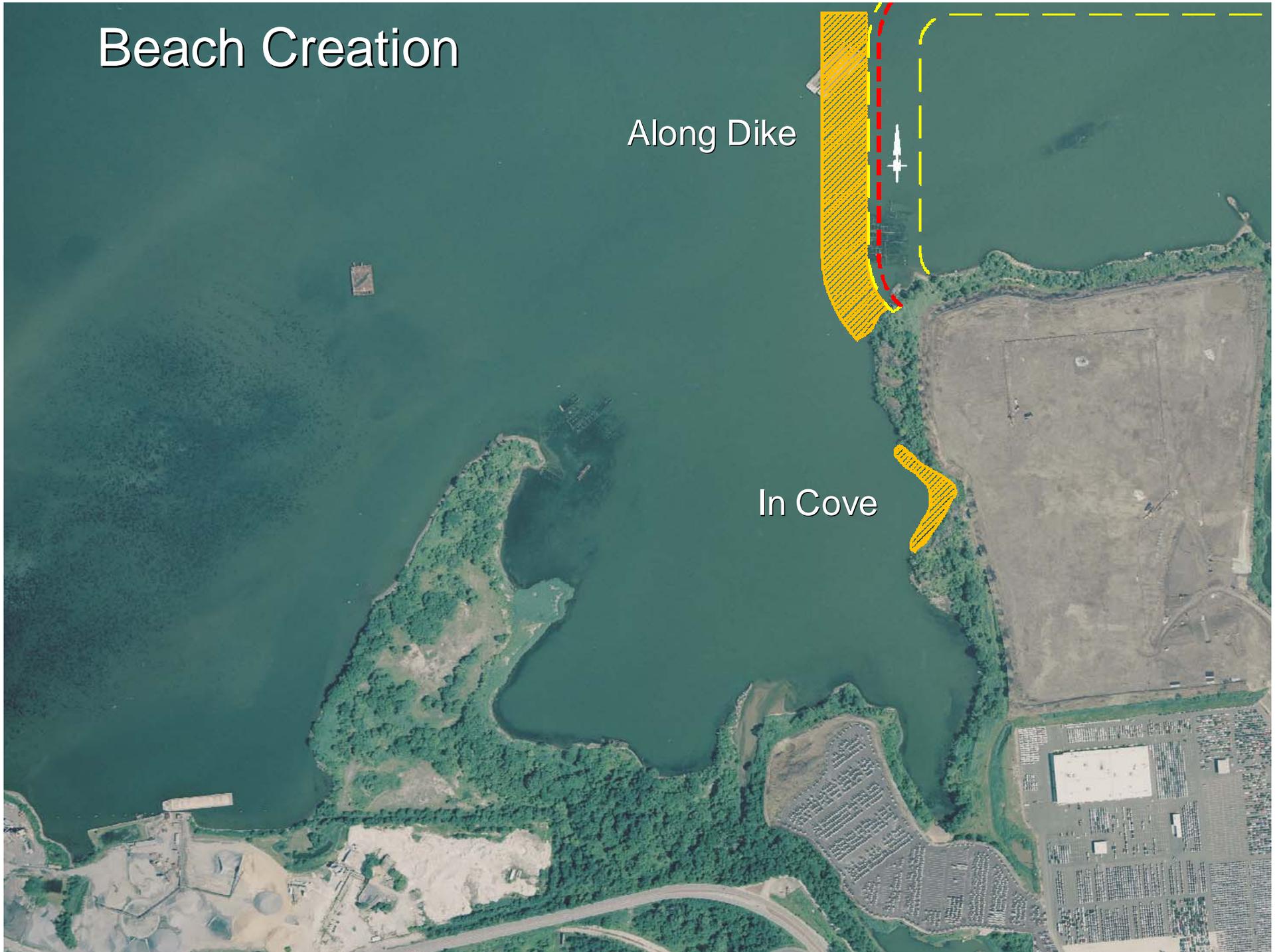
Masonville Cove



Beach Creation

Along Dike

In Cove





Masonville Cove





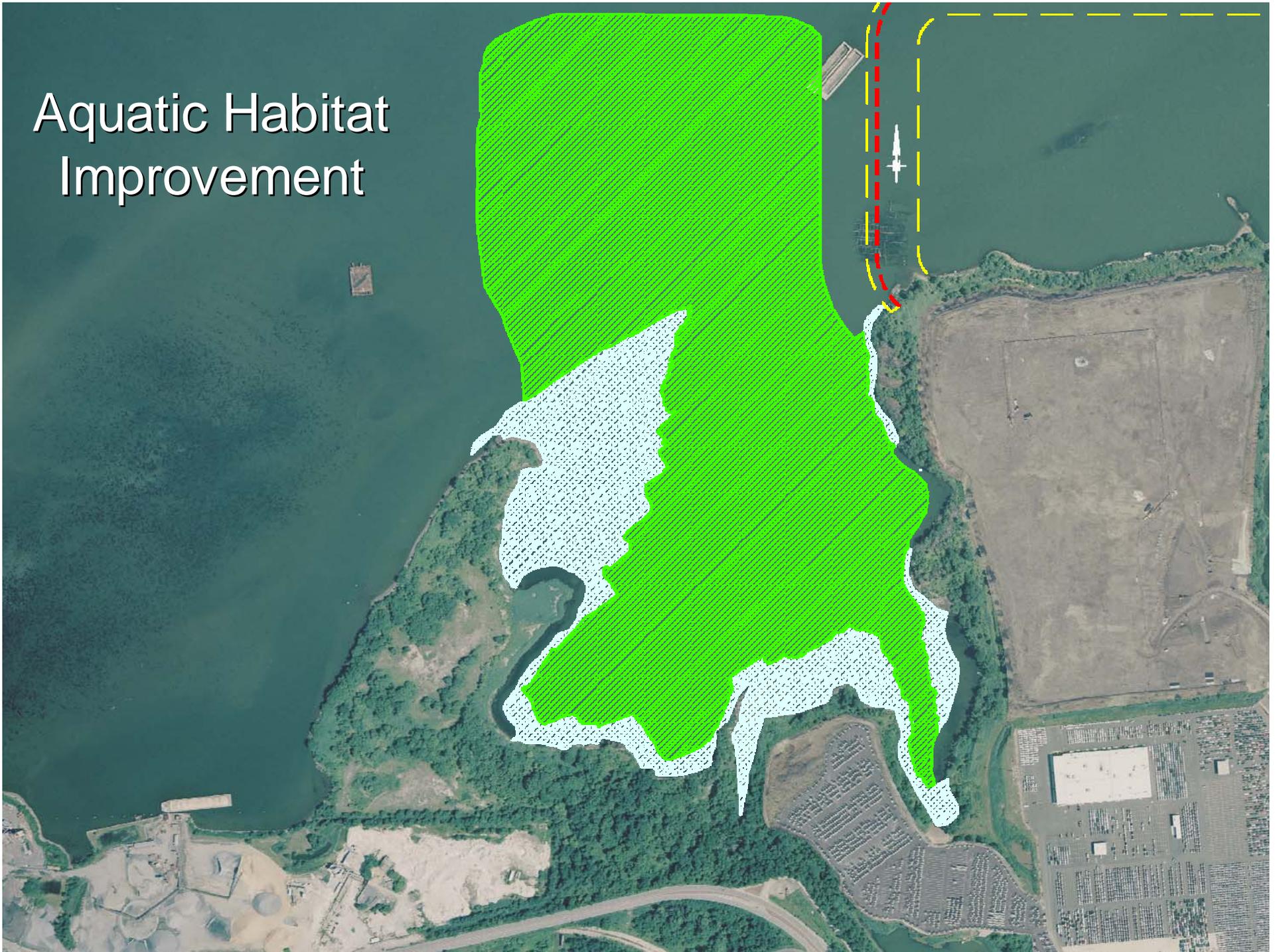
Poplar Island Beach



Proposed Conservation Easement



Aquatic Habitat Improvement





Patapsco River



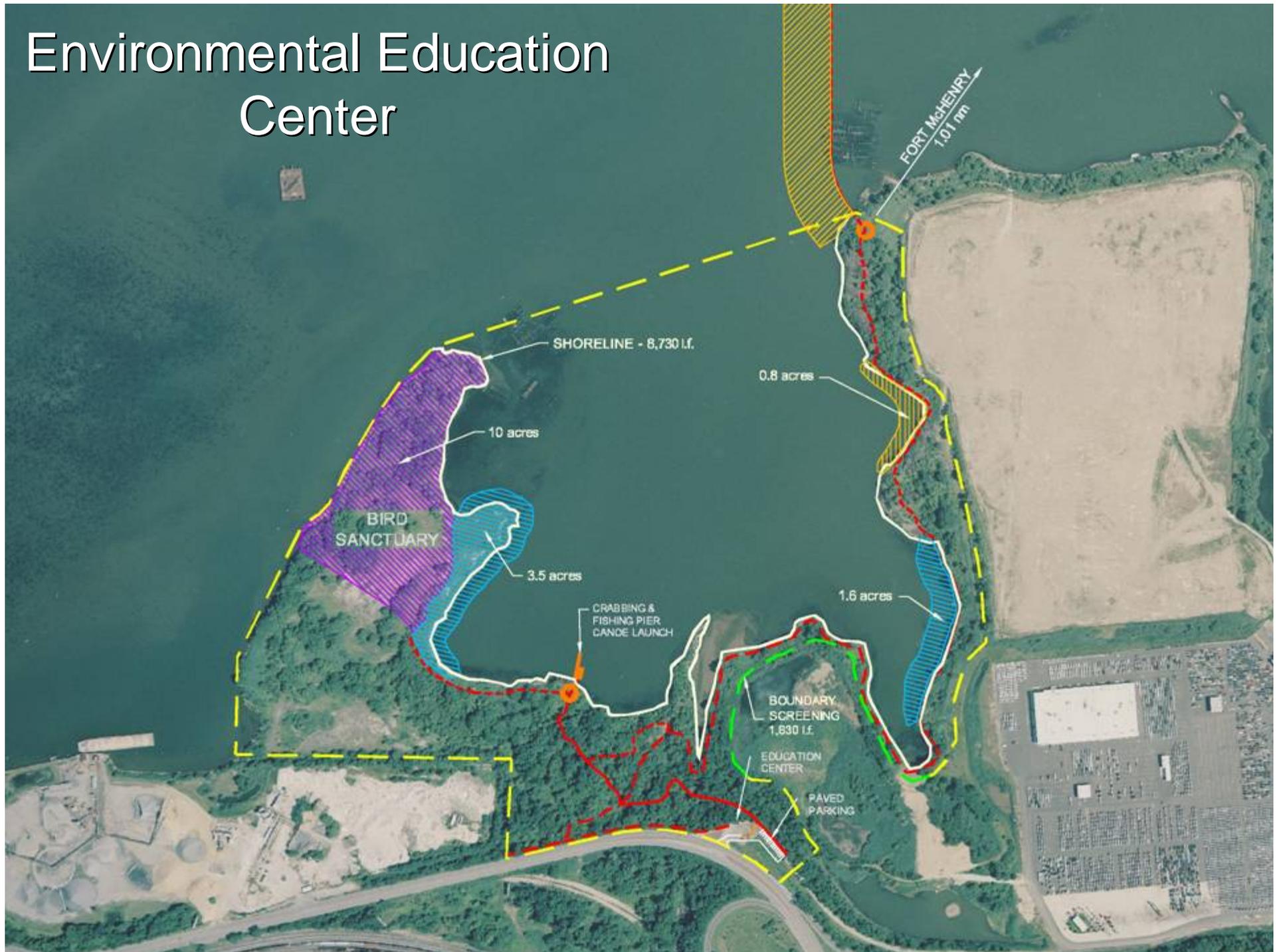


Poplar Island

Aquatic Habitat



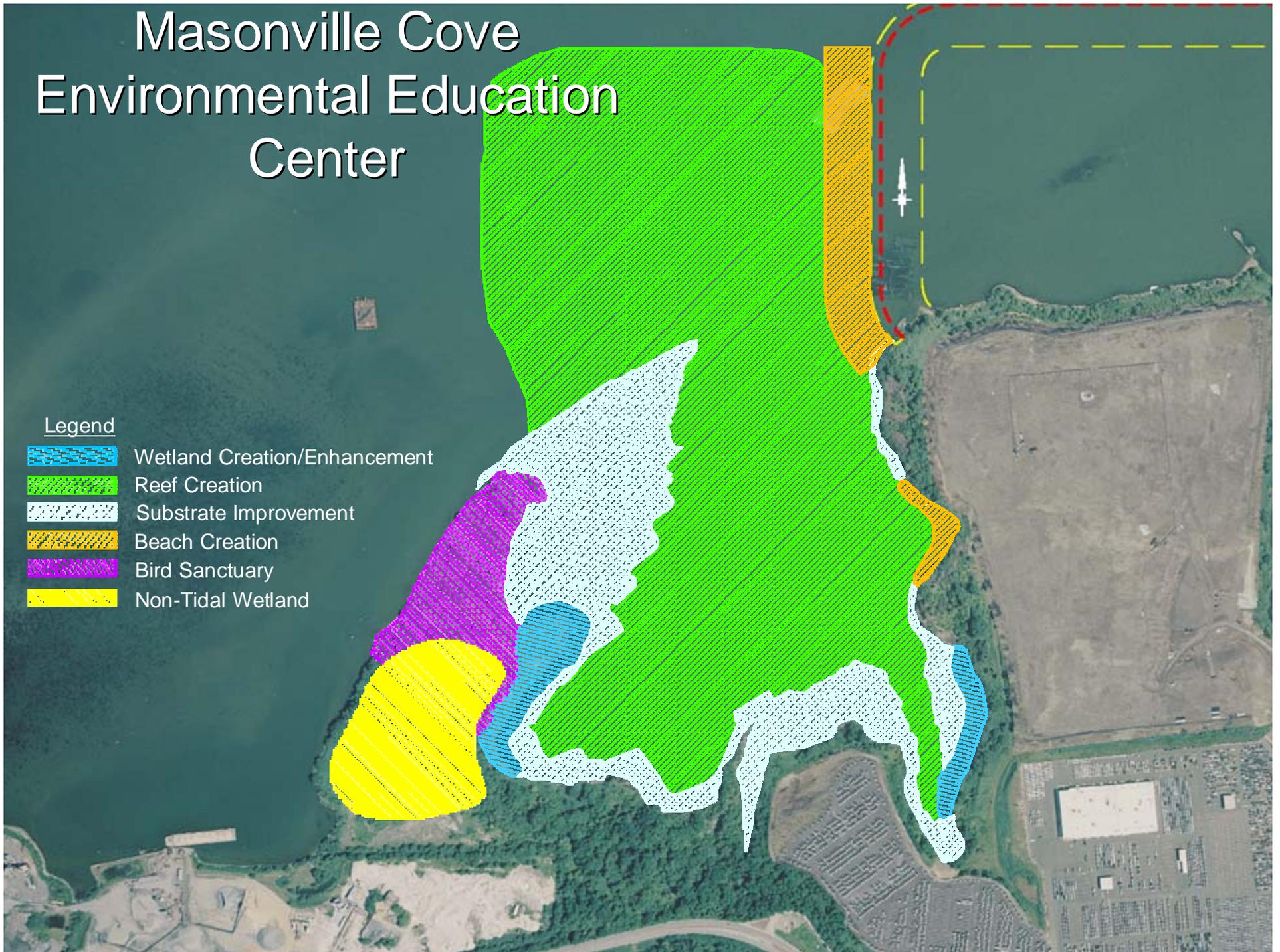
Environmental Education Center



Masonville Cove Environmental Education Center

Legend

-  Wetland Creation/Enhancement
-  Reef Creation
-  Substrate Improvement
-  Beach Creation
-  Bird Sanctuary
-  Non-Tidal Wetland





Debris within Facility Footprint





Whirly Crane

Tug (Catherine), sunken

Steel Dry Dock

Barge #4

Seawitch

Timber hull, sunken

5 Timber Barges

Timber Dry Dock

1 Crane Barge

Pilsch

sailboat, sunken

Beverley

Barge #3

Ferry

Barges #1 & #2

Timber float

Timber Barge, sunken



Kurt Iron Debris





Next Steps

- **Public Hearing** (June 21st 2006)
- **Review of the Masonville Draft Environmental Impact Statement**
- **Permit in October 2006**
- **Begin Mitigation, Enhancement, and DMCF Construction November 2006**