

UNION SHIP CANAL PUBLIC OPEN SPACE

*Presentation to the
NRGC Ecological Fund Standing Committee*

Tuesday, August 11, 2009

**MALCOLM
PIRNIE**



*Mayor Byron W. Brown,
Chairman*



Presentation Outline

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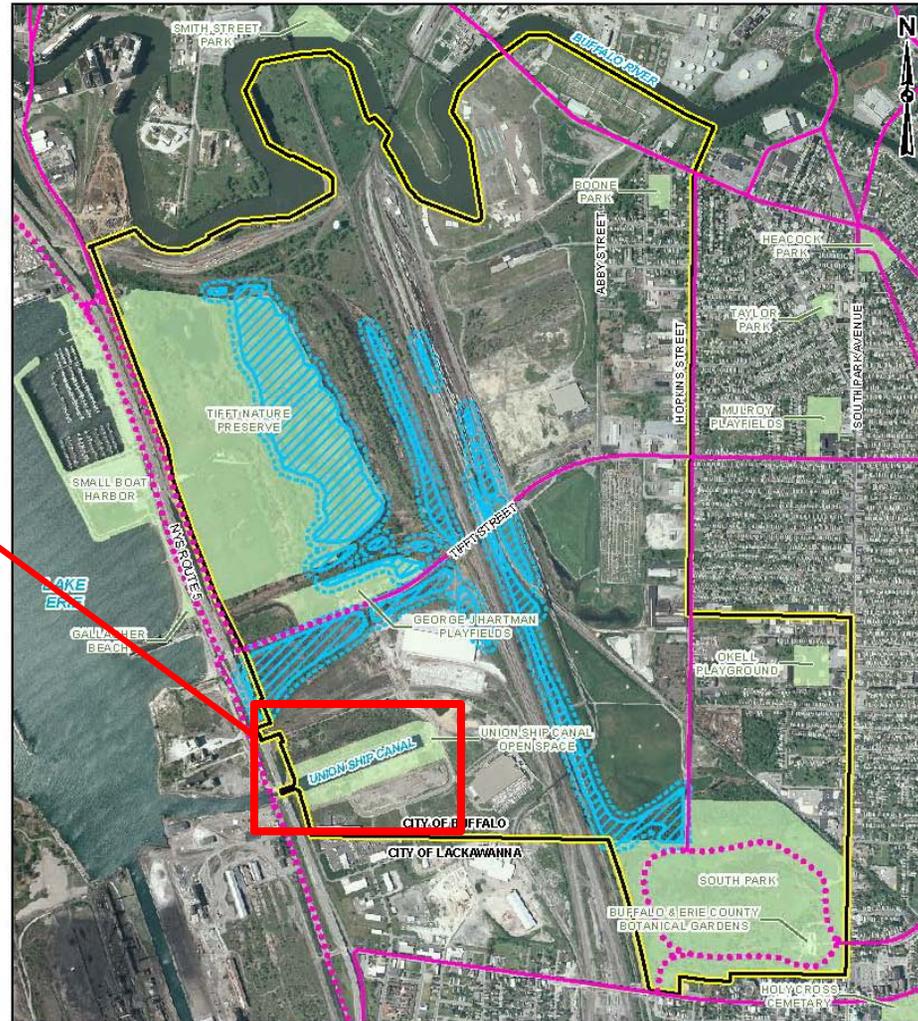
- Park Vision and Purpose –
David Stebbins - BUDC
- Environmental Remediation/Eco-Restoration –
Kent McManus – MP
- Park Elements & Design Vocabulary –
David Kenyon - WD
- Funding Request

Site Location

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Union Ship Canal
Project Location at
Buffalo Lakeside
Commerce Park

Map 10 Parks and Open Spaces



Source: NYSDEC Freshwater Wetlands, 2006; GRINTC Bicycle Route Guide, 2006

LEGEND

- MULTI-USE TRAIL
- ON-STREET BICYCLE NETWORK
- PROJECT BOUNDARY
- 100-FOOT STATE FRESHWATER WETLANDS BUFFER
- STATE FRESHWATER WETLANDS
- PARKS / OPEN SPACES

Project Purpose

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- ❑ Create a new urban public open space
 - ❑ Recreational use
 - ❑ Enjoyment of fish and wildlife in naturalized setting
- ❑ Restore ecosystem to attract new fish and wildlife
- ❑ Enhance connectivity to other parks and trails in the region
- ❑ Create accessibility to waterfront
- ❑ Create amenity for adjacent business park

Union Ship Canal Public Open Space

VISION STATEMENT

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Design and implement ...

- an integrated and sustainable remediation and restoration plan that will enhance and diversify the functions and values of aquatic habitat within the canal*
- a creative waterfront park that respects the historic integrity of the site and complements the regions park network and greenway system*

... in a manner that creates a rewarding passive recreational experience for the public.

Project Goals

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- ❑ Environmental & Eco-System Restoration
- ❑ Creation & Restoration of Natural Habitat
- ❑ Historic Interpretation
- ❑ Recreation

Involved Agencies

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- ❑ NYS Dept. of Environmental Conservation (NYSDEC)
- ❑ NYS Dept. of Transportation (NYSDOT)
- ❑ NYS Historic Preservation Office (SHPO)
- ❑ City of Buffalo
- ❑ County of Erie
- ❑ Buffalo Urban Development Corporation (BUDC)
- ❑ Buffalo Olmsted Parks Conservancy
- ❑ Erie County Industrial Development Agency

Funding Sources

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- ❑ NYSDEC Environmental Restoration Program (ERP)
 - ❑ \$6,030,000

- ❑ NYSDOT Transportation Enhancements Program (TEP)
 - ❑ \$1,400,000

- ❑ Local Match – Erie County
 - ❑ \$995,000

Project Status – Phase I

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- ❑ Record of Decision (ROD) for remedial action work plan
- ❑ SEQRA – Completed
- ❑ Niagara River Greenway Commission Consistency Approval
- ❑ City of Buffalo Planning Board approval

Project Status – Phase I

(cont.)

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- ❑ 95% Design Submitted – July 2009
- ❑ Final Design Review and Signoff – August 2009
- ❑ Anticipated Construction Start – Fall 2009
- ❑ Anticipated Construction Completion – Summer 2010

Existing Conditions

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Union Ship Canal Public Open Space







Environmental Remediation/Eco-Restoration – *Kent McManus - MP*

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- ❑ Land Cover
- ❑ Canal Sediment Cover
- ❑ Canal Wall Stabilization Berm
- ❑ Embayment Area
- ❑ Shallow Water Fish Habitat
- ❑ Deep Water Artificial Reef Habitats

Landside Cover

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- 2 Foot Thick Clean Cover Cap Placed Over Existing Soils Preventing Direct Human Contact With Contaminated Soils
 - 18 – Inches Clean Fill
 - 6-Inches Topsoil
- Storm Drainage
 - Existing Outfall Modifications (4 Locations)
 - New Outfall Construction (5 Locations)

Canal Sediment Cover

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- Canal Bottom Sediment Cap
 - Geotextile layer*
 - 1-Foot Thick Gravel Cover*
- Temporary Pre-Cast Concrete Structures to Minimize Tidal Influence on Canal Cover
- Benthic Substrate Enhancement

Canal Wall Stabilization Berm

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- ❑ Underwater Berm to Stabilize Timber Cribbing Below Water Surface
- ❑ North Side of Canal
- ❑ Placement Above Canal Bottom Sediment Cap

Embayment Area

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- ❑ Excavation and Grading
- ❑ Embayment Area Bottom Cover
- ❑ Emergent and Submergent Plantings
- ❑ Inclusion of timber boardwalk connection

Shallow Water Fish Habitat

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- ❑ Integrated with canal wall stabilization berm
- ❑ Coarse sand, gravel, cobble substrate
- ❑ Spawning/feeding opportunities for resident warm-water species
- ❑ Mixed vegetative plantings (emergent, shrub, and tree zones)

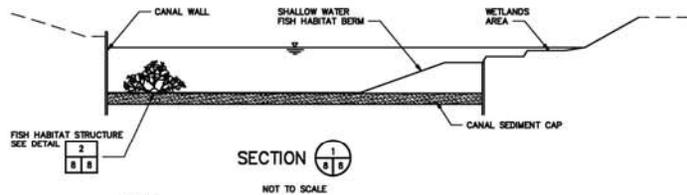
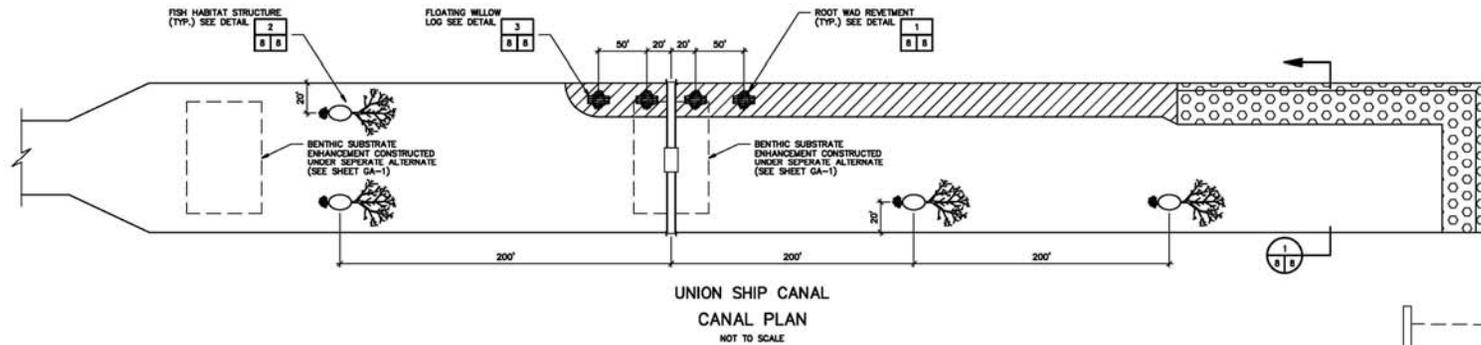


Submerged aquatic plants provide oxygenation to the water and refuge for fish and other aquatic organisms.

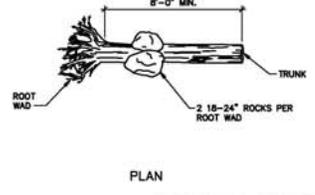


Floating leaved and emergent plants provide shade and habitat for fish, birds, and insects, as well as beauty to the surrounding landscape.

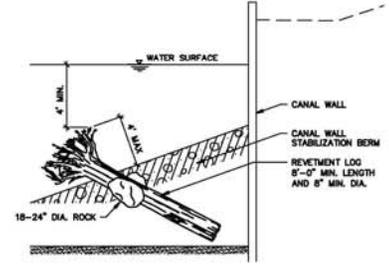
Deep Water "Artificial Reef" Habitat



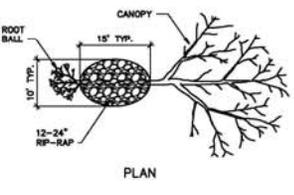
NOTE:
1. ARTIFICIAL BASE MATERIAL SHALL BE PLACED OVER CANAL SEDIMENT CAP AND BENEATH CLUSTERED REEFS (ARTIFICIAL REEF STRUCTURES)



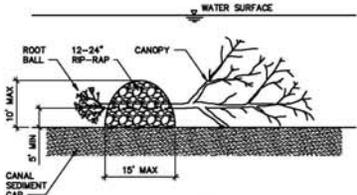
ROOT WAD REVETMENT DETAIL 1/8
NOT TO SCALE



SECTION

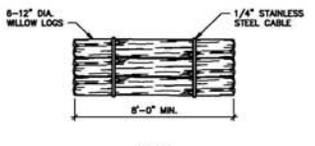


PLAN

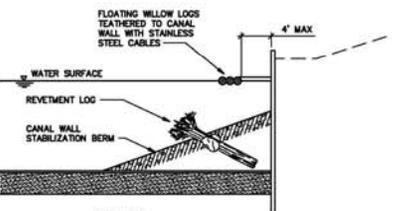


SECTION

FISH HABITAT STRUCTURE DETAIL 2/8
NOT TO SCALE



PLAN



SECTION

FLOATING WILLOW LOG DETAIL 3/8
NOT TO SCALE

PROJECT: 15087 (2009) - 15087-000-000-000
 SHEET: 15087-000-000-000-000
 DATE: 06/01/2009
 DRAWN BY: M.A.W.
 CHECKED BY: B.G.
 PROJECT LOCATION: 15087-000-000-000-000
 SHEET TITLE: AQUATIC HABITAT PLAN AND DETAILS
 SHEET NO.: 8 OF 8
 CAD REF. NO.: 4080GALT-3

WINDLAND CONSULTANTS
MALCOLM PIRNIE
 CONSULTANTS

NO.	BY	DATE	REVISIONS

BUFFALO URBAN DEVELOPMENT CORPORATION
**UNION SHIP CANAL OPEN SPACE
 PARCEL 3 DEVELOPMENT**
 NYSDOT P.I.N. 5757.98

**AQUATIC HABITAT
 PLAN AND DETAILS**
 AS NOTED

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 MALCOLM PIRNIE, INC.
 DATE: JUNE 2009
 GA SHEET 8 OF 8
 CAD REF. NO. 4080GALT-3

Park Program – *Dave Kenyon - WD*

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Park Program Elements

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□ Interpretation

- On-site interpretation of historical use

□ Recreation

- Picnicking
- Strolling, hiking, etc.
- Biking
- Relaxing, sunning, people watching

□ Opportunities For Interaction With Water

- Fishing, viewing
- Car top launching (future)
- Remote control cars and boats

□ Facilities

- Maintenance
- Restrooms (future)
- Concession/Restaurant (future)

Park Program Elements

(cont.)

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□ Connections

- Hierarchy of paths around the canal – Formal promenade, active multi-use, and informal nature trails
- Access points from adjacent businesses
- Connection to adjacent recreational and ecological areas

□ Landscaping

- Large trees
- Xerescape – low maintenance
- Used to create series of events/spaces
- Create potential for entertainment venue / vendors

□ Parking On Site

- For park users
- As trailhead for Riverwalk/Outer Harbor Trail

General SHPO Design Input

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- ❑ Respect historic alignment and elevations
- ❑ A park with an industrial feel/materials
- ❑ Existing canal walls remain, may leave deteriorated walls down
- ❑ Pedestrian bridge with industrial look
- ❑ Additional canals not acceptable
- ❑ Subtle use of cantilevers
- ❑ Limited use of handrails
- ❑ Floating docks are acceptable

Hanna Site Aerial

circa 1920

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Design Vocabulary

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Design Vocabulary

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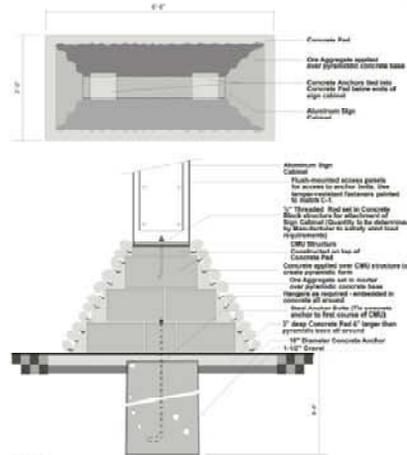
Design Vocabulary



NOTES:

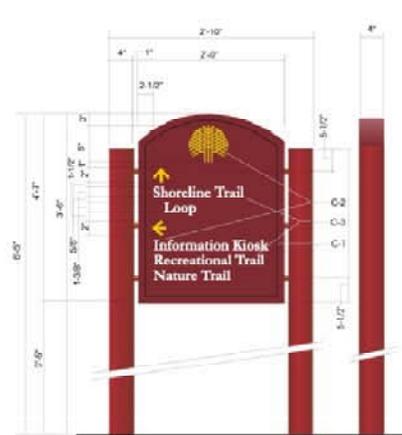
1. Sign panel to be fabricated aluminum painted to match C-1 (Rust) with C-2 and C-3 reflective Scotchlite graphics.
2. See Detail S-10 for mounting and sections.

① SIGN TYPE A-2 SITE IDENTIFICATION SIGN



NOTES:

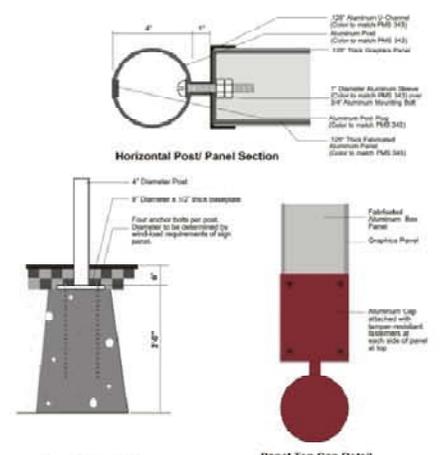
1. Fabricate Aluminum sign cabinet on one aggregate base as shown above for Type A-2 sign.
2. Embed reflective vinyl graphics as described in Technical specifications.
3. Use 3000 PSI Concrete footing under all portions of block and stone base.
4. Contract will include excavation, foundation, stone tiling and installation of sign cabinets.



NOTES:

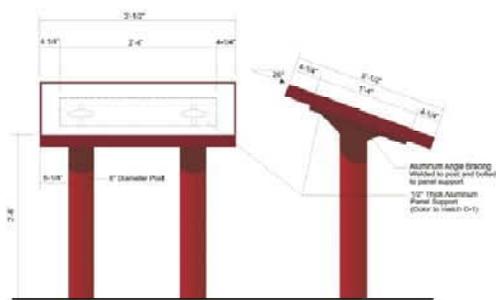
1. Fabrication to include centerline reflector to secure fused resin graphics panels. See Drawing S-2A for fastener connection detail.
2. Colors, signs and typographic same as Type A-1.
3. Owner will provide an on sign of all logos to be used on Directional Signage.
4. See S-2A for installation detail.
5. Arrow installation and message copy to be as specified in the Signage Schedule.

② SIGN TYPE B-1 PEDESTRIAN/BICYCLIST DIRECTIONAL SIGN



Foundation Detail

1. Solid composite phenolic graphics panel to be inserted behind U-Channel on front and back. Panel bottom will include stop for graphics panel assembly. All edges to be finished smooth and painted to match C-1.
2. Aluminum cap to be attached to fabricated aluminum panel with Tamper-resistant fasteners. All exposed edges and fastener heads to be painted to match C-1.



NOTES:

1. Materials, fabrication and end usage same as Type B-1.
2. Fused Resin Graphics Panel to be 24" by 36".
3. Panel art to be furnished on disk by Owner.

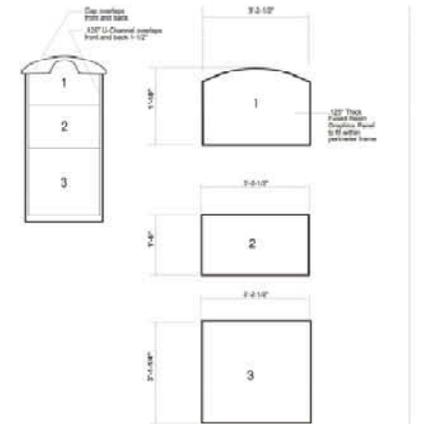
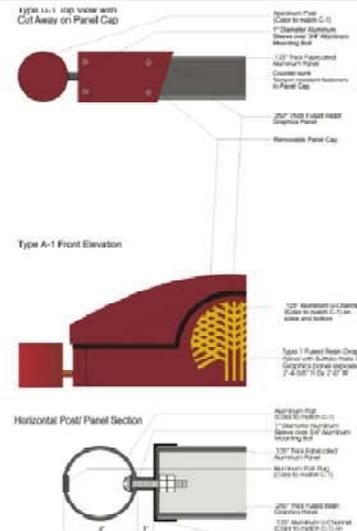
③ SIGN TYPE C-1 POST & PANEL INTERPRETIVE SIGN



NOTES:

1. Fabrication will include aluminum icon panel case. Fused Resin changeable message panels and aluminum posts. Art for logo and map graphics graphics will be furnished by Owner. Remaining graphics will be furnished in substrate form.
2. See drawings S-4A and S-4D for fabrication details.

④ SIGN TYPE D-1 PRIMARY ORIENTATION KIOSK



1. Changeable Panels to be 1/2" Thick Fused Resin Graphics Panel as required above. All Panels will be finished behind U-Channel around perimeter on front and back.

WENDEL DÜCHSCHERER ARCHITECTS
1000 W. 10TH ST. SUITE 200
BUFFALO, NY 14202
TEL: 716.855.1234
WWW.WDARCHITECTS.COM

MALCOLM PIRNIE

NO.	BY	DATE	REVISIONS	APPROVED

BUFFALO URBAN DEVELOPMENT CORPORATION
UNION SHIP CANAL OPEN SPACE
PARCEL 3 DEVELOPMENT
NYS DOT P.I.N. 5757.98

UPLAND IMPROVEMENTS
SIGNAGE DETAILS

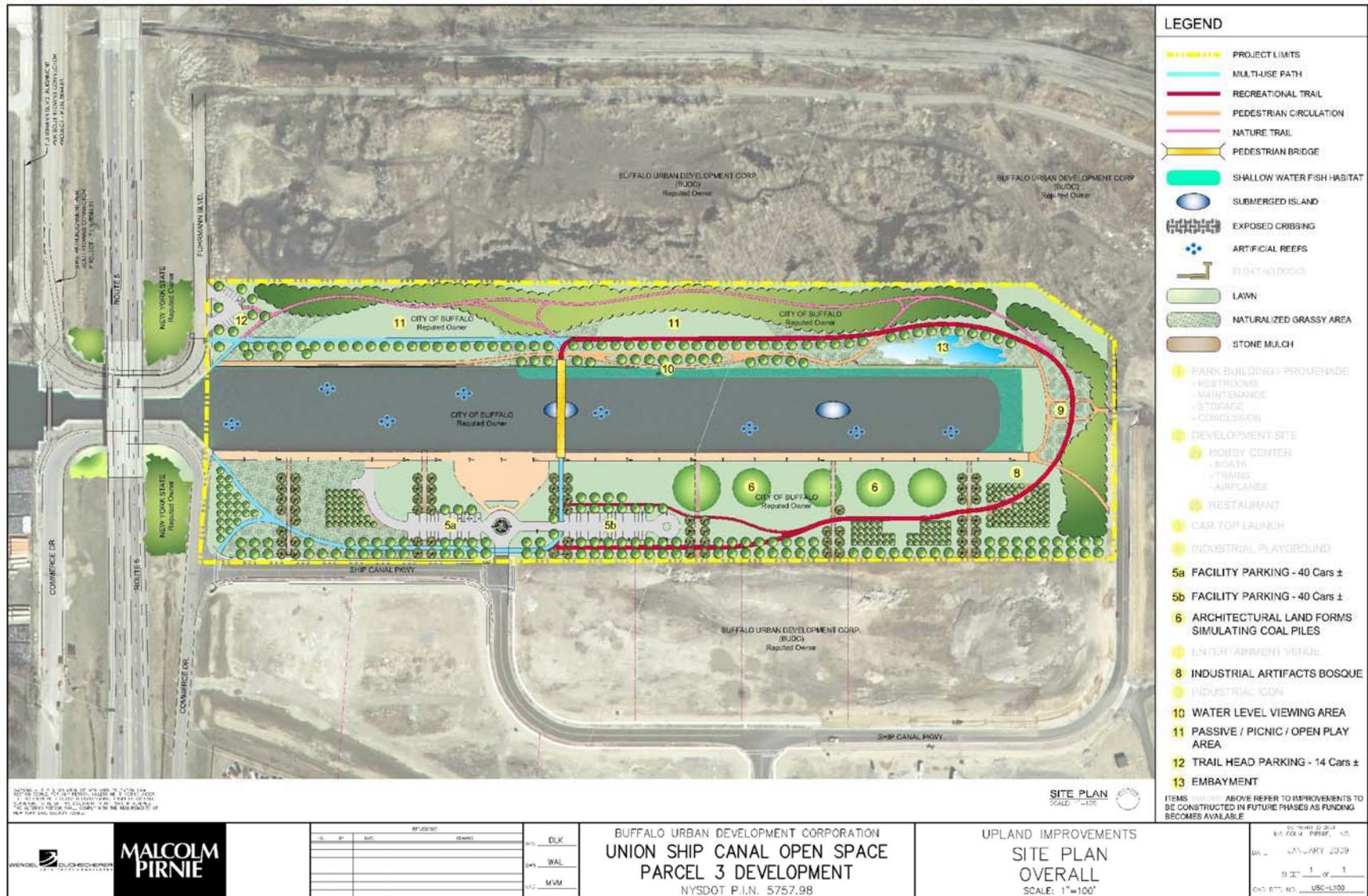
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MALCOLM PIRNIE, INC.
DATE: JUNE 2009
SHEET 16 OF 27
CAD REF. NO. USC-L003

Overall Masterplan



- LEGEND**
- PROJECT BOUNDARY
 - MULTI-USE PATH
 - RECREATIONAL TRAIL
 - PEDESTRIAN CIRCULATION
 - NATURE TRAIL
 - PEDESTRIAN BRIDGE
 - SHALLOW WATER FISH HABITAT
 - SUBMERGED ISLAND
 - EXPOSED CREEPING
 - ARTIFICIAL REEFS
 - FLOATING DOCKS
 - LAWN
 - NATURALIZED GRASSY AREA
 - STONE MULCH
- 1** PARK BUILDING / PROMENADE
 - RESTROOMS
 - MAINTENANCE
 - STORAGE
 - CONCESSION
 - 2** DEVELOPMENT SITE
 - 2a** HOBBY CENTER
 - BOATS
 - TRAINS
 - AIRPLANES
 - 2b** RESTAURANT
 - 3** CAR TOP LAUNCH
 - 4** INDUSTRIAL PLAYGROUND
 - 5a** FACILITY PARKING - 40 Cars ±
 - 5b** FACILITY PARKING - 40 Cars ±
 - 6** ARCHITECTURAL LAND FORMS SIMULATING COAL PILES
 - 7** ENTERTAINMENT VENUE
 - 8** INDUSTRIAL ARTIFACTS BOSQUE
 - 9** INDUSTRIAL ICON
 - 10** WATER LEVEL VIEWING AREA
 - 11** PASSIVE / PICNIC / OPEN PLAY AREA
 - 12** TRAIL HEAD PARKING - 14 Cars ±
 - 13** EMBAYMENT

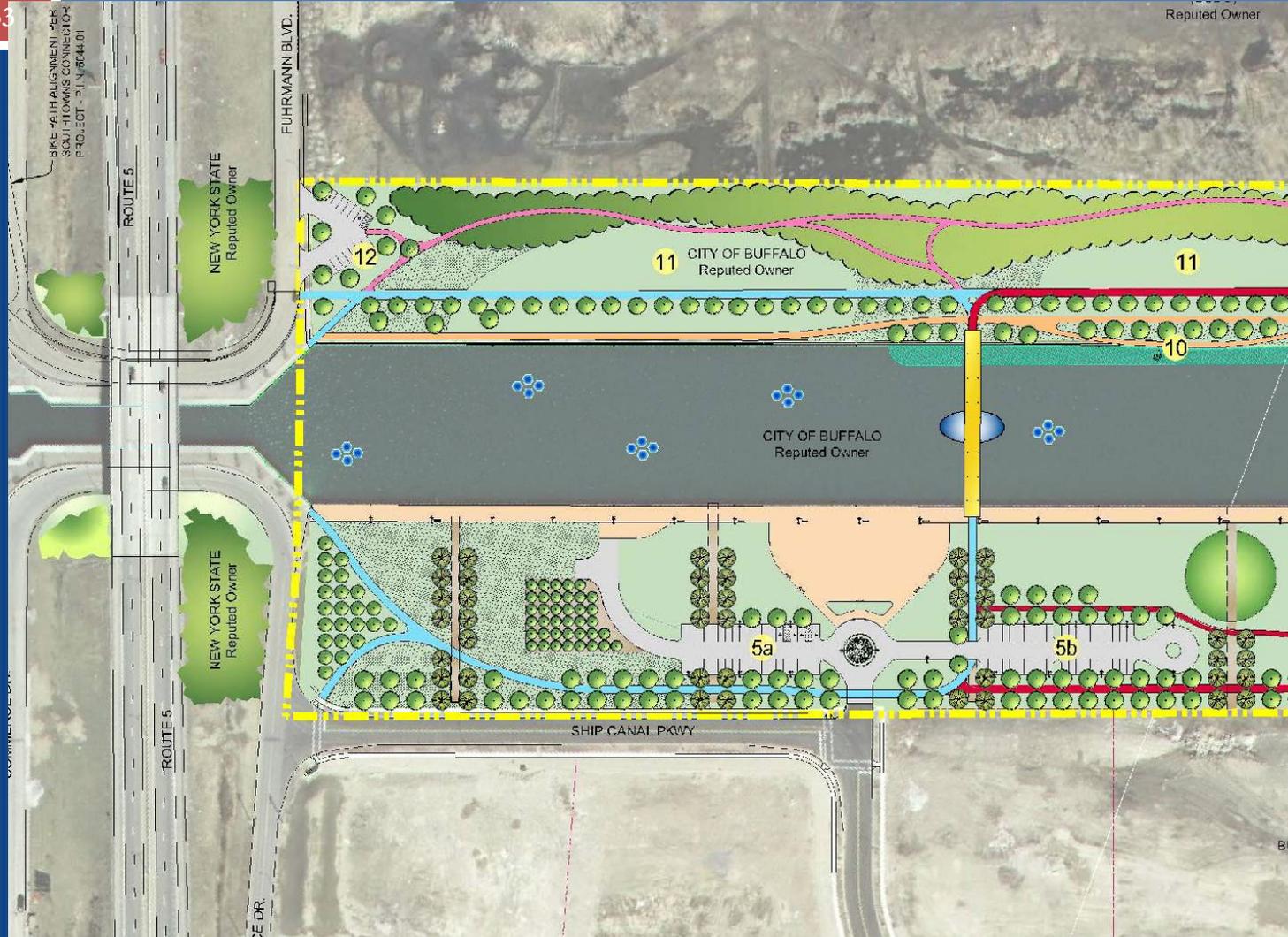
Overall Phase 1 Masterplan



Phase 1

west end enlarged

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LEGEND

- PROJECT LIMITS
- MULTI-USE PATH
- RECREATIONAL TRAIL
- PEDESTRIAN CIRCULATION
- NATURE TRAIL
- PEDESTRIAN BRIDGE
- SHALLOW WATER FISH HABITAT
- SUBMERGED ISLAND
- EXPOSED CRIBBING
- ARTIFICIAL REEFS
- FLOATING DOCKS
- LAWN
- NATURALIZED GRASSY AREA
- STONE MULCH

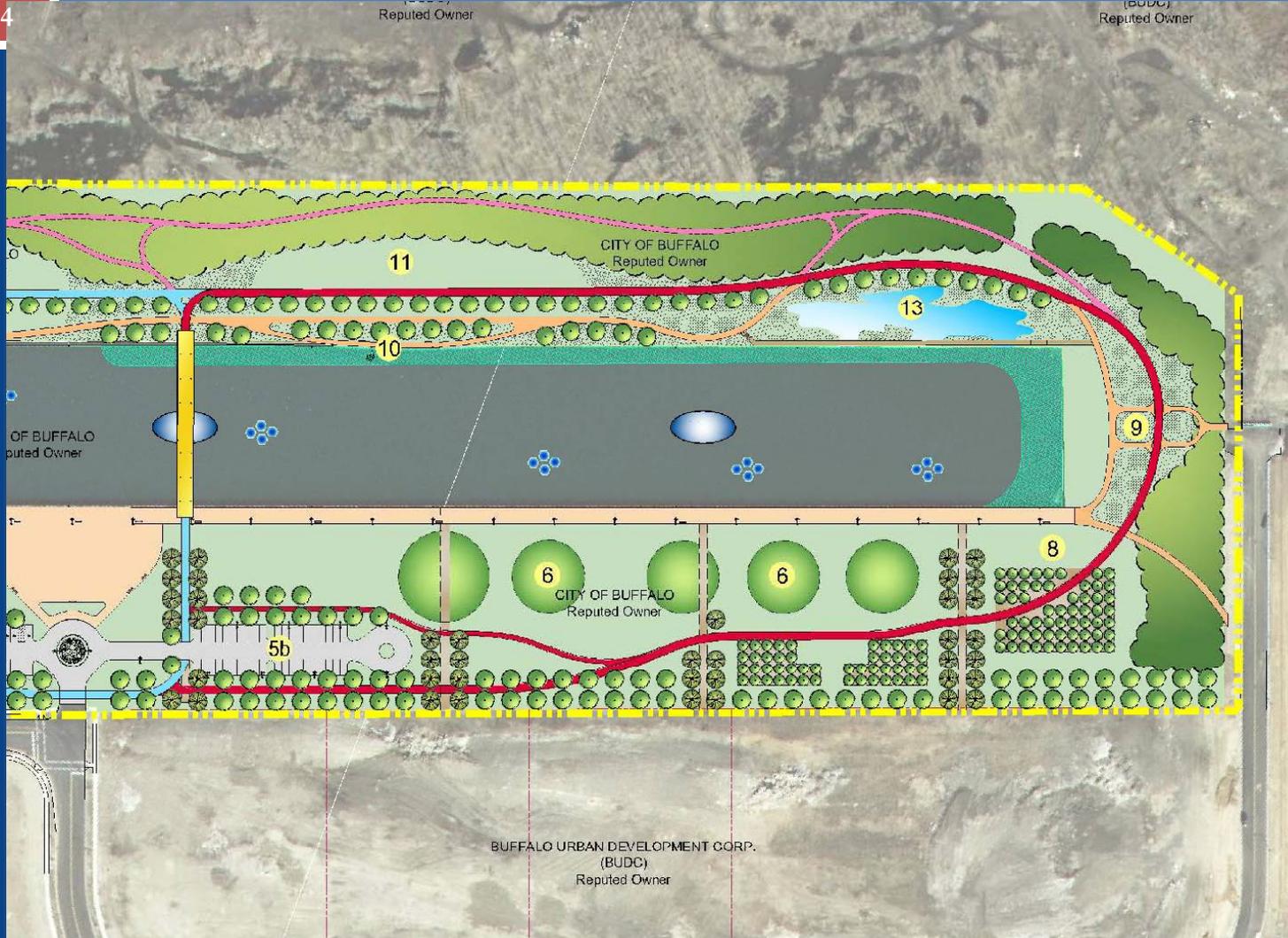
- 1 PARK BUILDING / PROMENADE
 - RESTROOMS
 - MAINTENANCE
 - STORAGE
 - CONCESSION
- 2 DEVELOPMENT SITE
- 3 HOBBY CENTER
 - BOATS
 - TRAINS
 - AIRPLANES
- 4 RESTAURANT
- 5 CAR TOP LAUNCH
- 5a FACILITY PARKING - 40 Cars ±
- 5b FACILITY PARKING - 40 Cars ±
- 6 ARCHITECTURAL LAND FORMS SIMULATING COAL PILES
- 8 ENTERTAINMENT VENUE
- 8 INDUSTRIAL ARTIFACTS BOSQUE
- 8 INDUSTRIAL ICON
- 10 WATER LEVEL VIEWING AREA
- 11 PASSIVE / PICNIC / OPEN PLAY AREA
- 12 TRAIL HEAD PARKING - 14 Cars ±
- 13 EMBAYMENT

ITEMS ABOVE REFER TO IMPROVEMENTS TO BE CONSTRUCTED IN FUTURE PHASES AS FUNDING BECOMES AVAILABLE

Phase 1

east end enlarged

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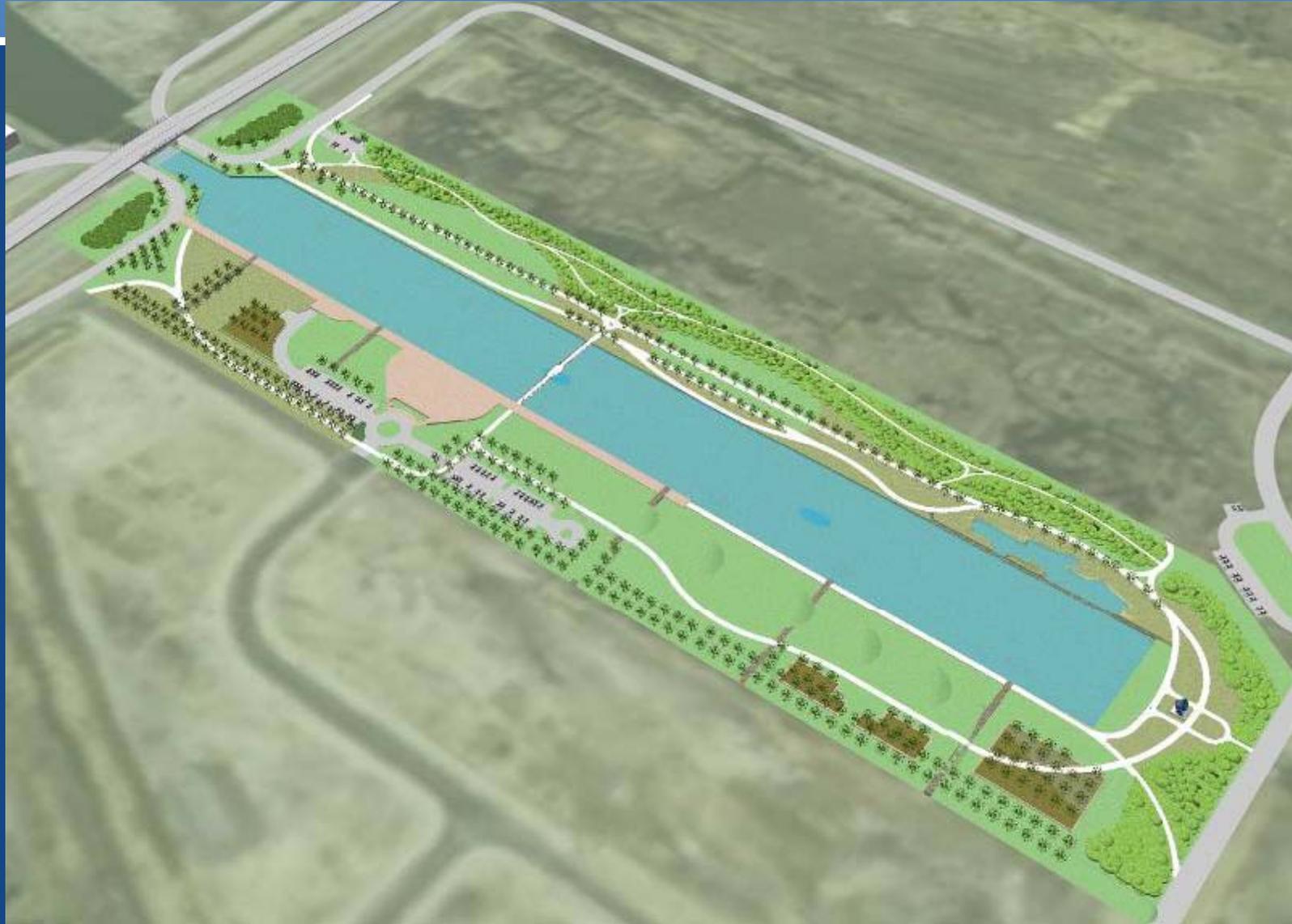
LEGEND

- - - - - PROJECT LIMITS
 - MULTI-USE PATH
 - RECREATIONAL TRAIL
 - PEDESTRIAN CIRCULATION
 - NATURE TRAIL
 - PEDESTRIAN BRIDGE
 - █ SHALLOW WATER FISH HABITAT
 - SUBMERGED ISLAND
 - █ EXPOSED CRIBBING
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 - 9 INDUSTRIAL ICON
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 - 12 TRAIL HEAD PARKING - 14 Cars ±
 - 13 EMBAYMENT

ITEMS WITH DASHED BOUNDARIES ABOVE REFER TO IMPROVEMENTS TO BE CONSTRUCTED IN FUTURE PHASES AS FUNDING BECOMES AVAILABLE

Proposed Images

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Proposed Images

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Industrial Artifact Search

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Funding Request – NRGEC Ecological Fund Standing Committee

Ecological Fund Standing Committee

Requested Amount	\$649,000	Phase II Spring 2010 - Summer 2010
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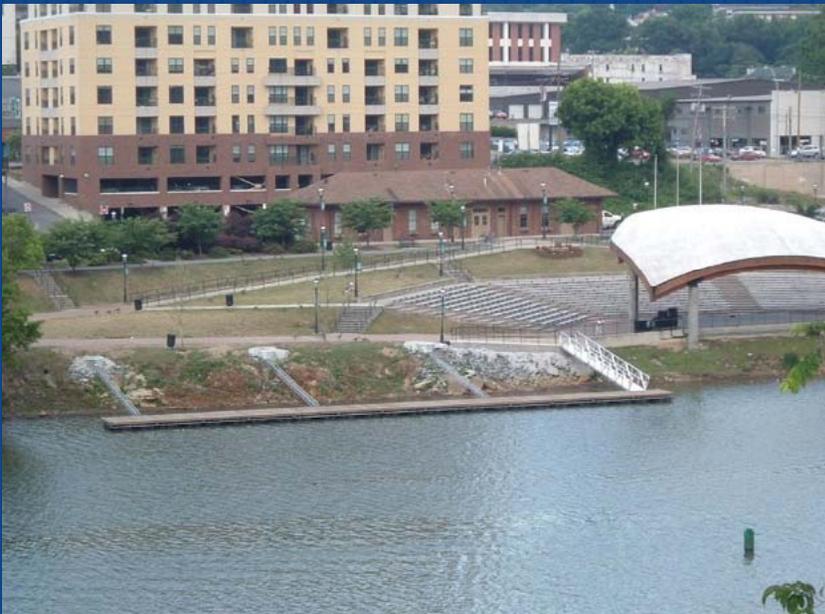
Estimated Costs

Planning/Design	\$103,950	
Design and Const. Documents		\$49,550
Const. Administration & Inspection		\$54,400
Floating Dock /Car Launch	\$297,500	
Timber Deck over Lagoon	\$106,000	
Habitat Improvements	\$92,000	
<i>Sub-Total</i>	\$599,450	
Contingency	\$49,550	
<i>Total Estimated Cost</i>	\$649,000	<i>Ecological Fund</i>

Floating Dock System

40

- ❑ Access point to canal and lake for non-motorized watercraft
- ❑ Brings park guests closer to water for fishing and other ecological activities



Timber Deck over Lagoon Embayment

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- ❑ Continues path around canal and maintains linearity of canal wall for SHPO requirements
- ❑ Brings guests closer to natural shallow water habitats
- ❑ Encourages human interaction with the renewed ecosystem



Habitat Improvements

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- ❑ Inclusion of additional plantings
- ❑ Helps to provide a natural setting and habitat to attract native species of wildlife
- ❑ 3,000 native seedlings from NYSDEC's Saratoga nursery:
 - ❑ Poplar, Tamarack, White Oak, Red Oak, Dogwood, Bayberry and Cranberry.
- ❑ 200 - 2 1/2" caliper native trees including:
 - ❑ Autumn Blaze Maple, Seviceberry English Oak and Norway Spruce.

Future Request – NRGCC Buffalo/Erie County Standing Committee

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Buffalo and Erie County Fund Standing Committee

Requested Amount \$1,253,200 Phase II Spring 2010 - Summer 2010

Estimated Costs

Planning /Design	\$154,300	
Design and Const. Documents		\$99,900
Const. Administration & Inspection		\$54,400
Promenade	\$155,000	
Industrial Icon	\$90,000	
Industrial Relic	\$36,000	
Industrial Playground	\$72,000	
Maintenance Shed	\$15,000	
Signage	\$44,000	
Safety Rails	\$195,500	
Lights and Associated Costs	\$345,000	
WiFi Feed to Shed	\$46,500	
Sub-Total	\$1,153,300	
Contingency	\$99,900	
Total Estimated Cost	\$1,253,200	<i>Buffalo & Erie County Fund</i>

Open Discussion & Questions