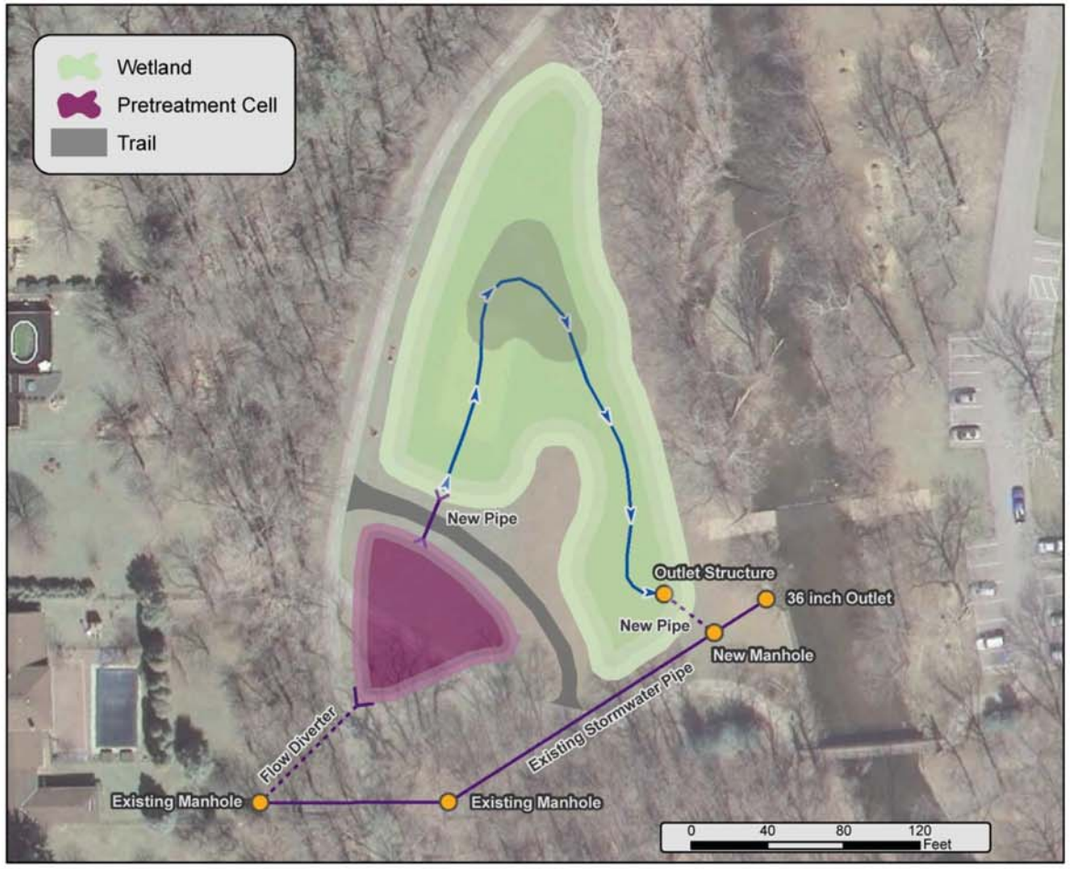
Friends of Big Creek: Big CreekWatershed Stormwater Retrofit and Ranking Project
Conceptual Plan
Site 113 (Cleveland Metroparks Upper Fern Hill - West Bank): Constructed Wetland



Existing Conditions			
Drainage Acres	50.8	TN Load (lbs/year)	136.1
Impervious Acres	15.2	TP Load (lbs/year)	20.2
Flood / Water Quality Treatment	0 / 0 %	TSS Load (lbs/year)	12,945

General Finding: 36 inch pipe enters directly into Big Creek just downstream of the bridge. There is a manhole on private property that would provide access to the pipe.

Proposed Conditions			
Existing Storage Volume (ac-ft)	0	Pretreatment Cell (SF)	5,701
Proposed Storage Volume (ac-ft)	0.77	Wetland (SF)	27,807
Proposed Ohio EPA Water		TSS Load Reduction (lbs/year)	10,744
Quality Volume Met (%)	100%	TN Load Reduction (lbs/year)	35.4
Additional Flood Control		TP Load Reduction (lbs/year)	8.7
Volume (ac-ft)	0.06		

Retrofit Description

Runoff associated with small storm events will be diverted from an existing pipe into a pretreatment cell, which will allow sediment to fall out of suspension. Water will then meander through a constructed wetland, whose depth will be maintained by a flow control structure that empties into the existing stormwater pipe. Vehicle access will be provided to ensure ease of maintenance.

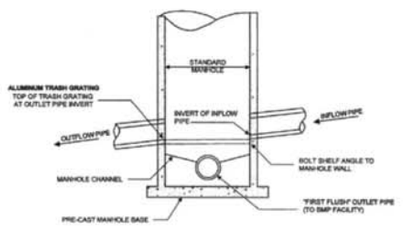
Planning Level Cost Estimate*

	Lower Range	Upper Range
Total Cost	$192,000	$304,000
Cost per Square Foot	$5.73	$9.08

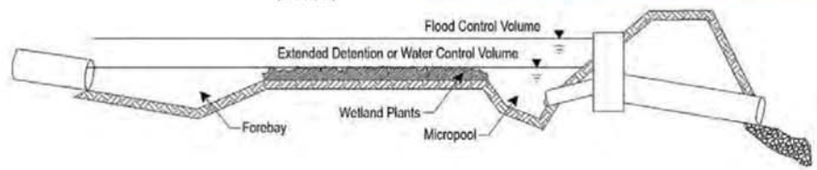
*Includes probable construction costs, design, survey, permitting, sediment testing, and a 25% contingency.

View of the site from trail.

Manhole leading to the underground pipe that will be diverted to treatment areas.



TYPICAL ISOLATION / DIVERSION MANHOLE



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