



CITY COUNCIL WORK SESSIONS AGENDA

**25 Crescent Road
Municipal Building
Monday, December 03, 2018
7:00 PM**

Work Session Packet

University Square Outfall Restoration Project

Suggested Action: The Prince George's County Department of the Environment is proposing an outfall and stream restoration project northwest of the basketball courts at University Square Apartments. The stream feeds into the recently dredged forebay. The purpose of the project is to restore an outfall and stabilize a stream that is experiencing erosion and contributing sediments to the Greenbelt Lake Forebay.

The project was presented to GreenACES but staff has not received comments to date. Notices of the meeting were sent to Pinecrest Court residents whose back yards are adjacent the project, University Square Management, Charlestowne Village representative and Charlestowne North representative.

Mr. Adeel Malik, Senior Engineer with Prince George's County Department of the Environment will be in attendance to present the project to City Council and address questions.

[Cover_agenda.pdf](#)

[Greenbelt City Council Presentation - Outfall Restoration.pdf](#)

[Greenbelt - Outfall Pictures & Vicinity Map.pdf](#)

[Outfall 60 - Aerial.png](#)

[2018-03-02 Outfall 60 2.pdf](#)

[Outfall 60 grading plan showing trees.pdf](#)

City Council Work Sessions Agenda Item Report

Meeting Date: December 3, 2018

Submitted by: Bonita Anderson

Submitting Department: Administration

Item Type: Work Session Item

Agenda Section: Work Session Packet

Subject:

University Square Outfall Restoration Project

Suggested Action:

The Prince George's County Department of the Environment is proposing an outfall and stream restoration project northwest of the basketball courts at University Square Apartments. The stream feeds into the recently dredged forebay. The purpose of the project is to restore an outfall and stabilize a stream that is experiencing erosion and contributing sediments to the Greenbelt Lake Forebay.

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Attachments:

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**Greenbelt City Council
Work Session**

**University Square Outfall Restoration
Project**

**December 3, 2018
7:00 p.m.**

**Council Room
Greenbelt Municipal Building
25 Crescent Road**

Agenda

- Introductions
- Presentation
 - Adeel Malik, Senior Engineer, Prince George's County Department of the Environment
- Council Discussion
- Questions and Answers
- Other

Greenbelt – Outfall 60

Outfall & Stream Restoration



Greenbelt – Outfall 60 Restoration

- Project Location
 - Greenbelt
 - Prince Georges County
 - 465 Linear feet
- Project Goals
 - Eliminate stream bed and bank erosion
 - Improve water quality in Greenbelt Lake and Anacostia Watershed
 - Reduce sediment supply to Nutrient reduction
 - Private Property Protection
 - Ecological uplift

Site Location



Project Area

Greenbelt – Outfall 60 Restoration

- Design Approach
 - Natural Channel Design
 - Restore ecological functions
 - Stable Structure
 - Aesthetically Pleasing
- Credits
 - 2.3 acres Impervious Acres
 - 935 TN lbs./ yr.
 - 431 TP lbs./ yr.
 - 820,000 TSS lbs./yr.
- General Notes
 - No known rare, threatened, or endangered species on the site.
 - No Known Historic features on the site.
 - Disturbed Area:0.78ac



Greenbelt – Outfall 60 Restoration

- Actively eroding bank and incised bed
- Increasing width of stream and height of banks
- Poorly functioning rip-rapian area
- Trash and refuse in stream and floodplain
- Tree undermining and fall
- High sediment load

Existing Conditions



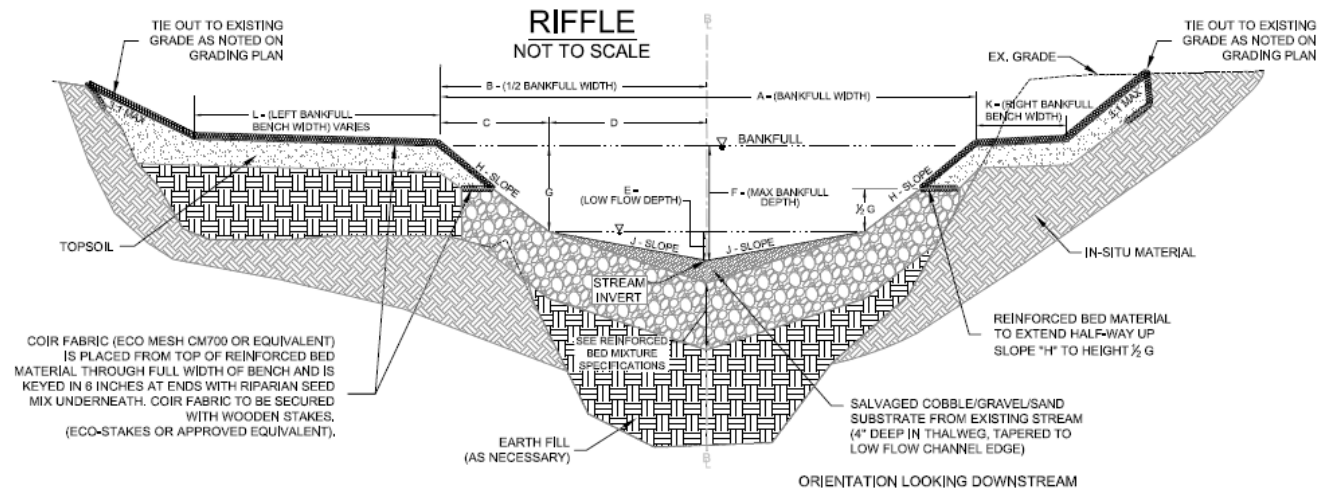
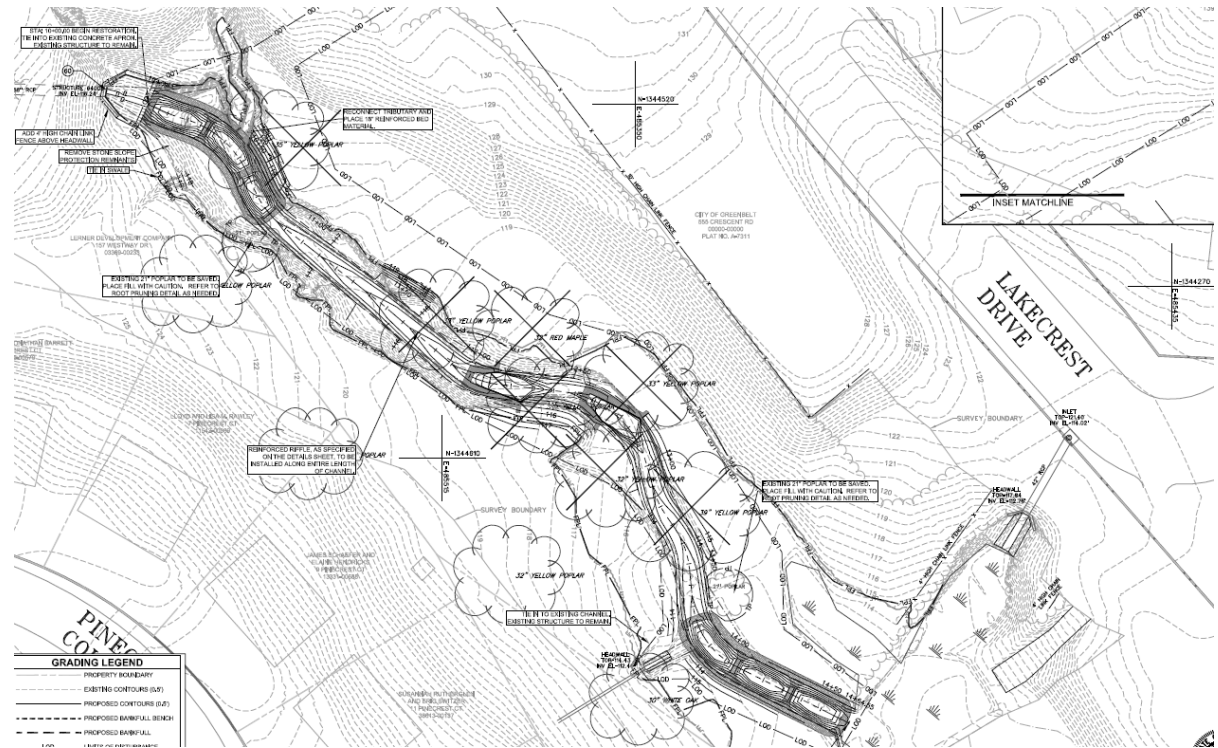
Greenbelt – Outfall 60 Restoration



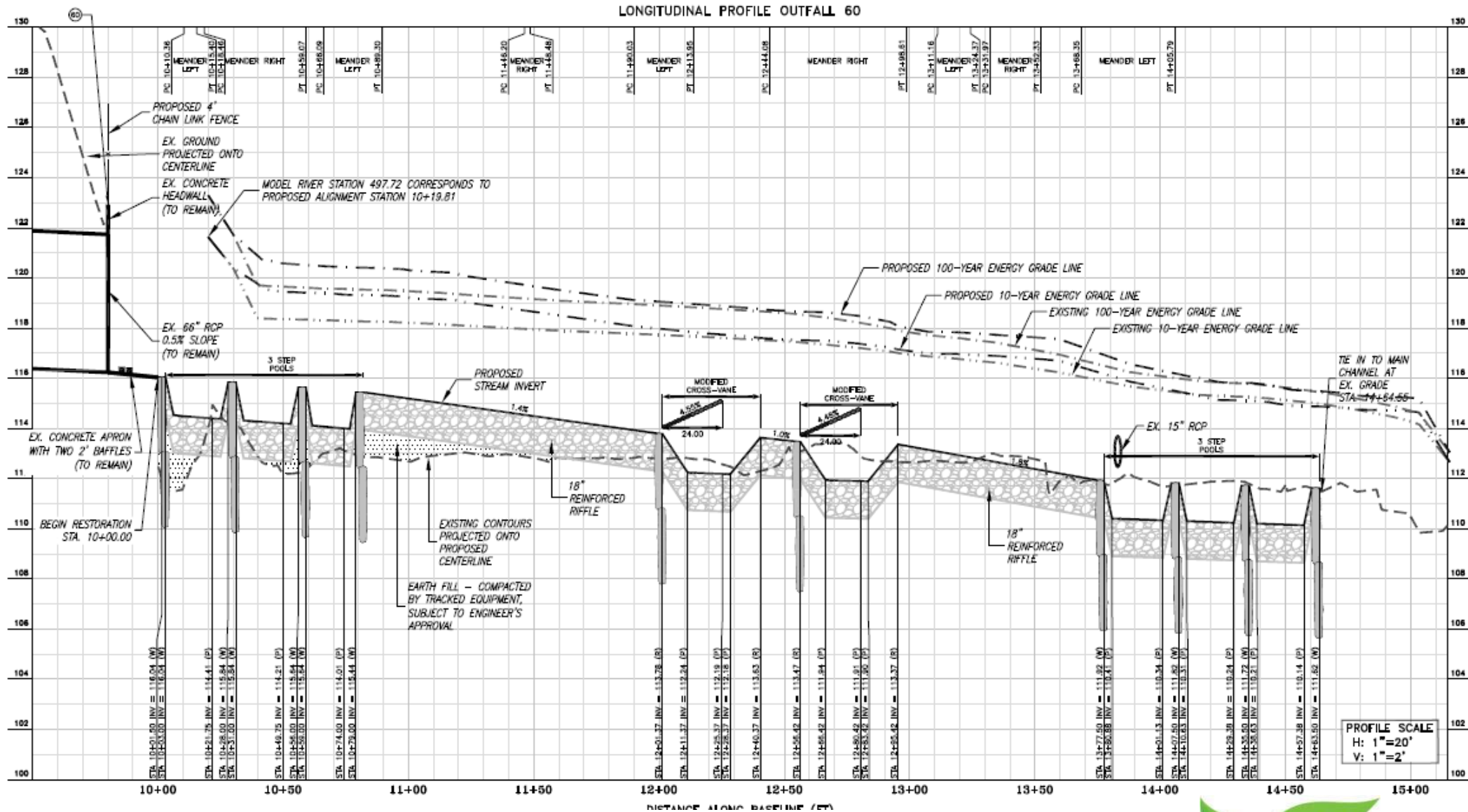
Restoration Design Approach

Greenbelt – Outfall 60 Restoration

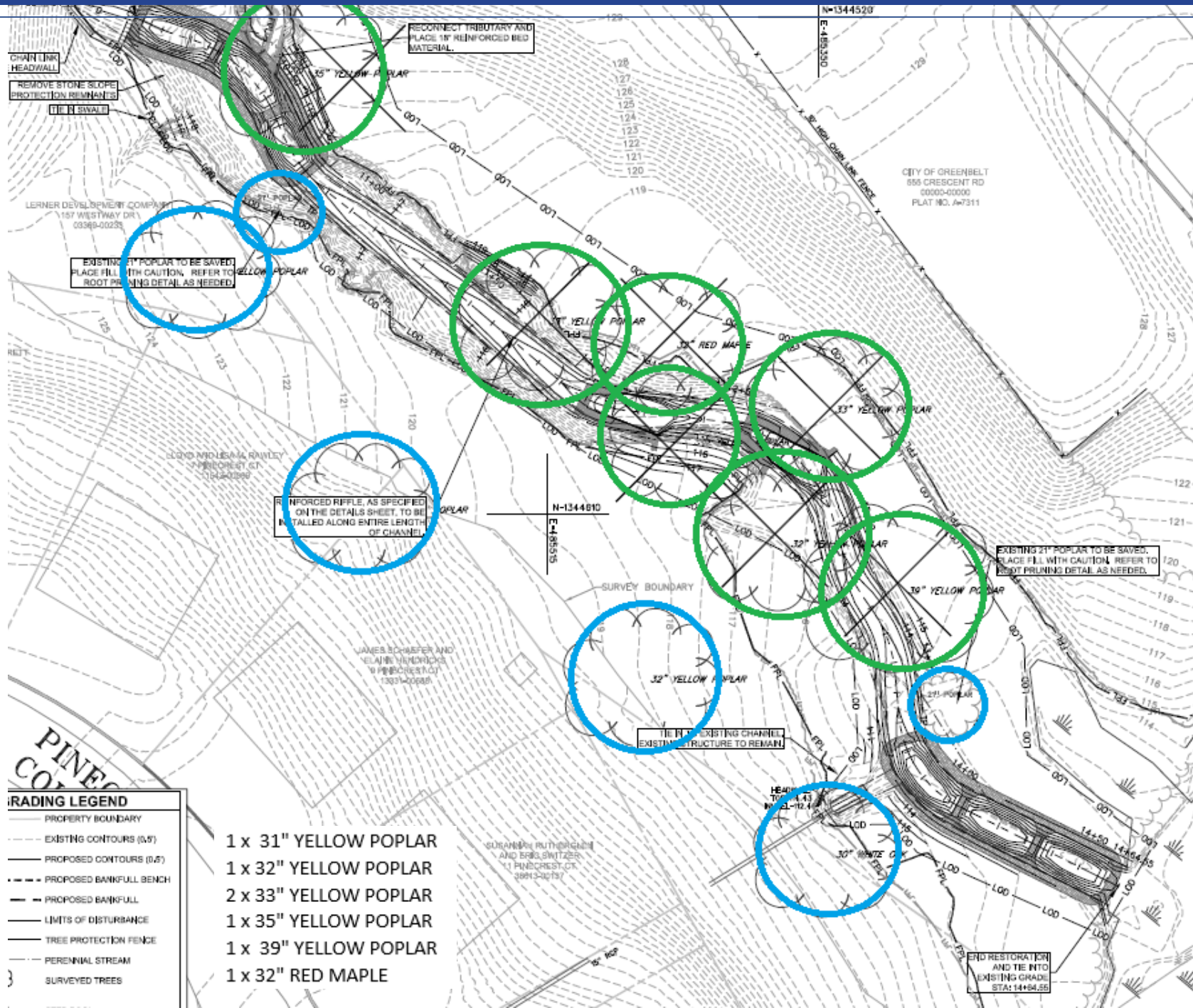
- Floodplain reconnection
 - Lowered 100-yr water surface elevation
- Re-use woody debris
- Create habitat
- Tree and Shrub planting
- Ecological Uplift



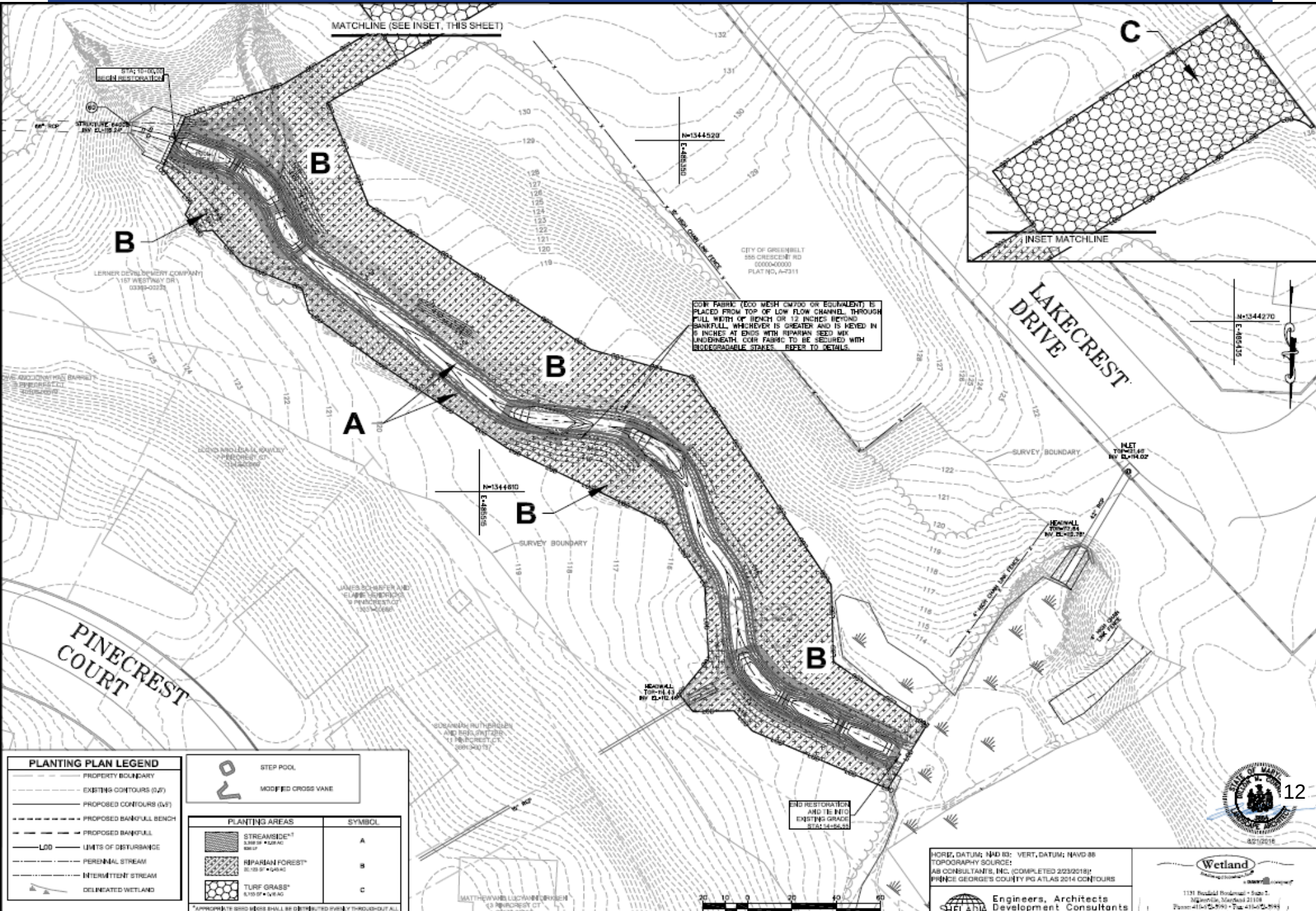
Greenbelt - Outfall 60 Restoration



Tree Clearing



Planting Plan



NOT TO SCALE

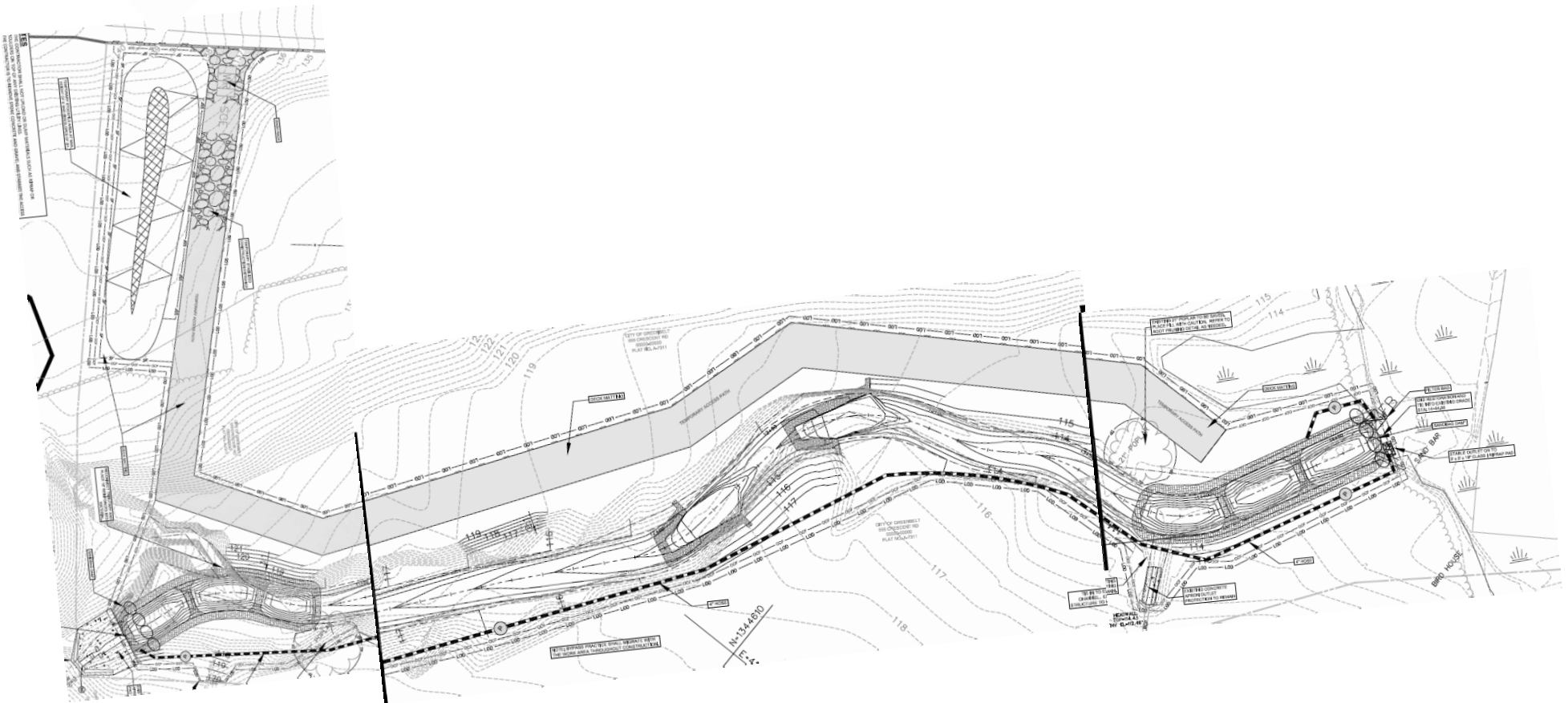


Planting Schedule

VEGETATION SCHEDULE - OUTFALL 60													
PLANTING SCHEDULE												PLANTING	
CONTAINER PLANTING ZONE	SPECIES GROUP ^{1,2}	SPECIES ²	INDICATOR STATUS	WILDLIFE VALUE				PLANT SPACING ³	CONTAINER SIZE, RATE, AND QUANTITY ⁴		AREA (SF): AREA (AC): LENGTH (LF):	A 3,368 0.08 936	B 20,123 0.46
				FUNCTIONS	PRIMARY SPECIES	PLANT PART	SEASON		PLANTS PER ACRE	# OF PLANTS			
RIPARIAN FOREST	TREE LAYER	QUERCUS BICOLOR (SWAMP WHITE OAK)	FACW+	Food	Blue jays, woodpeckers, turkey, deer, fox, raccoons, squirrels, other small mammals	Nuts	Fall, Winter	SEE NOTE #3	300 ONE-GAL -- or -- 600 TUBELINGS -- or -- MIX AT 1:2 RATIO (SEE NOTE #4)	138 (BASED ON ONE-GALLON)		-	138
		QUERCUS ALBA (WHITE OAK)	FACW										
		QUERCUS PALUSTRIS (PIN OAK)	FACW										
		QUERCUS PHELLOS (WILLOW OAK)	FAC+										
		QUERCUS RUBRA (NORTHERN RED OAK)	FACU-										
		ACER NEGUNDO (BOX ELDER)	FAC+	Food	Finches, chickadees, squirrels, robins, goldfinches, other birds	Seeds, buds, flowers, plant	Spring, summer	SEE NOTE #3	150 ONE-GALLON -- or -- 300 TUBELINGS -- or -- MIX AT 1:2 RATIO (SEE NOTE #4)	69 (BASED ON ONE-GALLON)		-	69
		ACER RUBRUM (RED MAPLE)	FAC	Food	Finches, chickadees, squirrels, robins, goldfinches, other birds	Seeds, buds, flowers, plant	Spring, summer						
		BETULA NIGRA (RIVER BIRCH)	FACW	Food, cover	Songbirds	Seeds, plant	All						
		LIQUIDAMBAR STYRACIFULA (SWEET GUM)	FAC	Food	Finches, cardinals, chickadees, sparrows, squirrels	Seed	Summer, fall, winter						
		PLATANUS OCCIDENTALIS (AMERICAN SYCAMORE)	FACW-	Food	Raccoons, opossum, wood duck, pileated and other woodpeckers	Hollow trunks	All						
	ILEX OPACA (AMERICAN HOLLY)	FACU+	Food, cover, reproductive areas	Robins, bluebirds, mockingbirds, hermit thrush	Fruit, plant	All	SEE NOTE #3	100 ONE-GALLON -- or -- 200 TUBELINGS -- or -- MIX AT 1:2 RATIO (SEE NOTE #4)	46 (BASED ON ONE-GALLON)		-	46	
	SHRUB LAYER	AMELANCHIER CANADENSIS (CANADIAN SERVICEBERRY)	FAC	Food, cover	Songbirds, small mammals	Fruit, plant	All	SEE NOTE #3	150 ONE-GALLON -- or -- 300 TUBELINGS -- or -- MIX AT 1:2 RATIO (SEE NOTE #4)	69 (BASED ON ONE-GALLON)		-	69
		CERCIS CANADENSIS (EASTERN REDBUD)	FACU-	Food	Honeybees, butterfly caterpillars	Flowers, leaves	Spring, summer						
		CORNUS FLORIDA (FLOWERING DOGWOOD)	FACU-	Food	Wild turkey, cardinal, cedar waxwing, robin, brown thrasher, wood thrush, rabbits	Flower, fruit	Spring, fall						
		CORYLUS AMERICANA (AMERICAN HAZELNUT)	FACU-	Food, cover	Songbirds, small mammals	Fruit	Summer, fall						
		LINDERA BENZON (NORTHERN SPICEBUSH)	FACW-	Food	Thrushes vireos, catbird, bluebird, butterfly caterpillars	Fruit, leaves	Spring, summer, fall						
		ROSA PALUSTRIS (SWAMP ROSE)	OBL	Food, cover, reproductive areas	Brown thrasher, catbird, thrushes, pollinators	Flowers, seeds, and foliage	Spring, fall, winter						
		VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	Food	Robins, bluebirds, other thrushes, thrashers, catbirds, vireos	Fruit	Fall						
		VIBURNUM PRUNIFOLIUM (BLACK-HAW)	FACU	Food, cover	Catbirds, thrashers, thrushes, cover and nest sites for songbirds	Fruit, plant	Spring, fall						
RIPARIAN FOREST QUANTITY SUBTOTALS									700	322		-	322
STREAM BANK	TREE AND SHRUB LAYER	CORNUS AMOMUM (SILKY DOGWOOD)	FACW	Food	Catbird, thrasher, thrushes, woodpeckers	Fruit	Summer, fall	SEE NOTE #3 (AVERAGES 3' O.C. FOR ONE-GALLON)	N/A	312 (BASED ON ONE-GALLON)		312	-
		ILEX VERTICILLATA (COMMON WINTERBERRY)	FACW+	Food, cover, reproductive areas	Bluebird, catbird, brown thrasher, robin, yellow bellied sapsucker, mockingbird	Flower, seed, leaves	All						
		SAMBUCUS CANADENSIS (ELDERBERRY)	FACW-	Food, cover	Brown thrasher, catbird, woodpeckers, thrushes	Seed	Spring, fall, winter						
		VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	Food, cover, reproductive areas	Purple finch, goldfinch, robin, junco, bluebird, hermit thrush	Flower, fruit	Spring, summer, fall						
STREAM BANK QUANTITY SUBTOTALS									--	312		312	-
STREAM EDGE	TREE AND SHRUB LAYER	CORNUS AMOMUM (SILKY DOGWOOD)	FACW	Food, cover, reproductive areas	Catbird, thrasher, thrushes, cedar waxwings, rabbits	Flower, fruit	Summer, fall, winter	1' O.C. (SEE NOTES #5, #6)	N/A	936 (TUBELINGS OR LWISTAKES ONLY -- SEE NOTE #5)		936	-
		SALIX NIGRA (BLACK WILLOW)	FACW+	Food, cover	Beaver, porcupine, deer, muskrat, ducks, fish	Seeds, plant, leaves	Spring, summer, fall						
		ALNUS SERRULATA (BROOKSIDE ALDER)	OBL	Food, reproductive areas	Finches, sparrows, doves, yellow warbler, song sparrow, other songbirds	Seeds, buds, stems	Summer, fall, winter						
		VIBURNUM DENTATUM (SOUTHERN ARROWWOOD)	FAC	Food	Robins, bluebirds, other thrushes, thrashers, catbirds, vireos	Fruit	Fall						
STREAM EDGE QUANTITY SUBTOTALS									--	936		936	-

14

LAKECREST
DRIVE



Construction

Greenbelt – Outfall 60 Restoration

- Equipment
 - Track Loaders
 - Dump Trucks
 - Excavators
 - Pumps
- Natural Resources
 - Tree Clearing
 - Temporary Stream Impacts
- Access
 - One Point access at Lake Crest Drive
- Timeline
 - 6 Months
 - Mobilization
 - Clearing
 - Construction
 - Planting



Greenbelt – Outfall 60 Restoration

QUESTIONS?

Photo Exhibits



60-1. 09/28/2017: Outfall 60, facing southeast. Looking at the outfall.



60-2. 09/28/2017: Outfall 60, facing south. Looking at erosion around the end of the concrete channel.



60-3. 09/28/2017: Outfall 60, facing southwest. Looking at stormwater drainage pipes.



60-4. 09/28/2017: Outfall 60, facing northwest. Looking downstream.



60-5. 09/28/2017: Outfall 60, facing northwest. Looking at adjacent basketball court and wooded area behind it.



60-6. 09/28/2017: Outfall 60, facing north. Looking at eroded channel downstream.

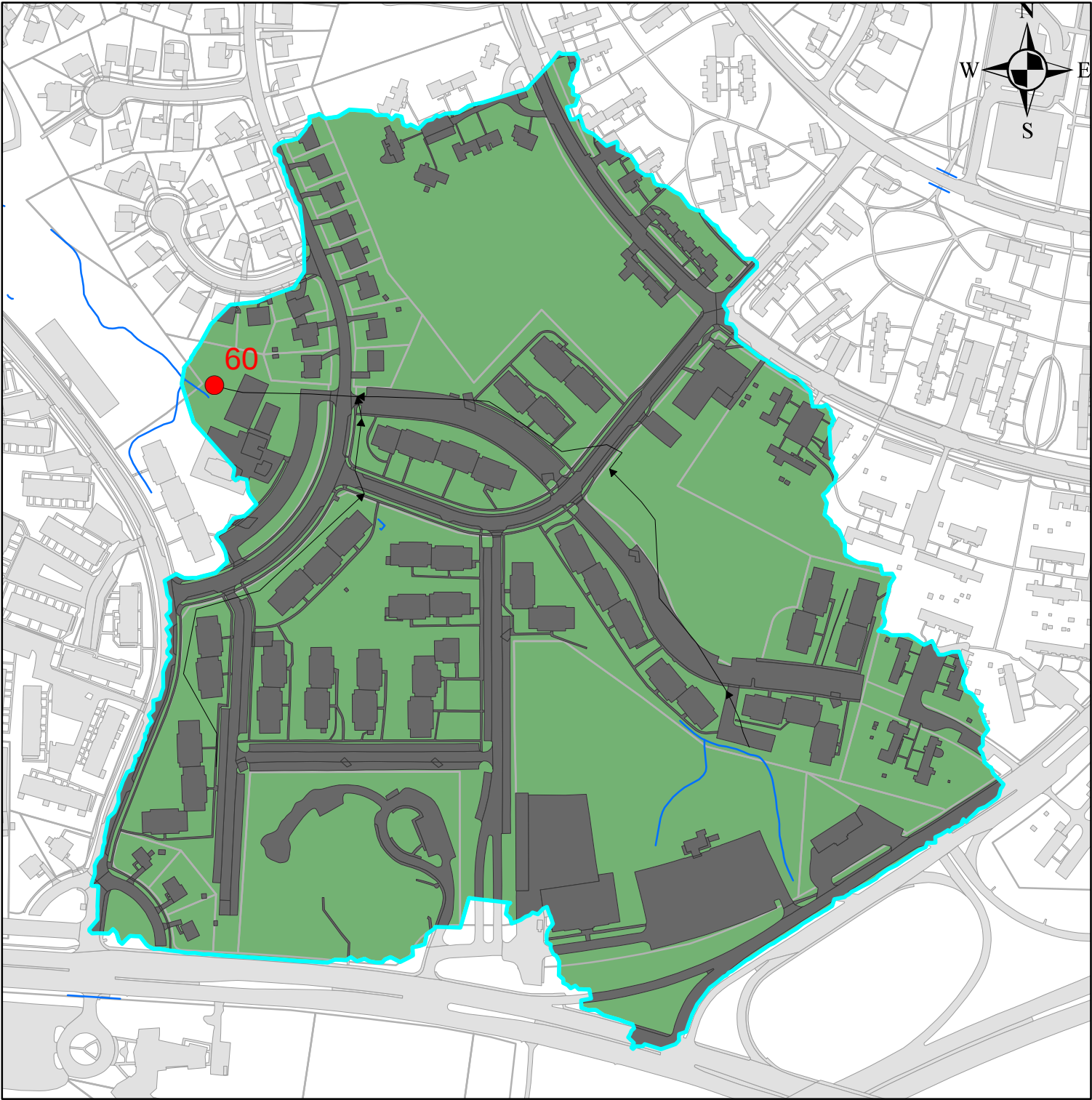
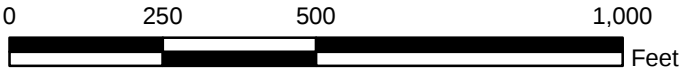


Exhibit . Drainage Area and Impervious Cover for Outfall 60

Outfall No	PG County ID	Drainage Area [acres]	Impervious Area [acres]	Impervious Area [percent]
60	64008	62.57	22.60	36.1

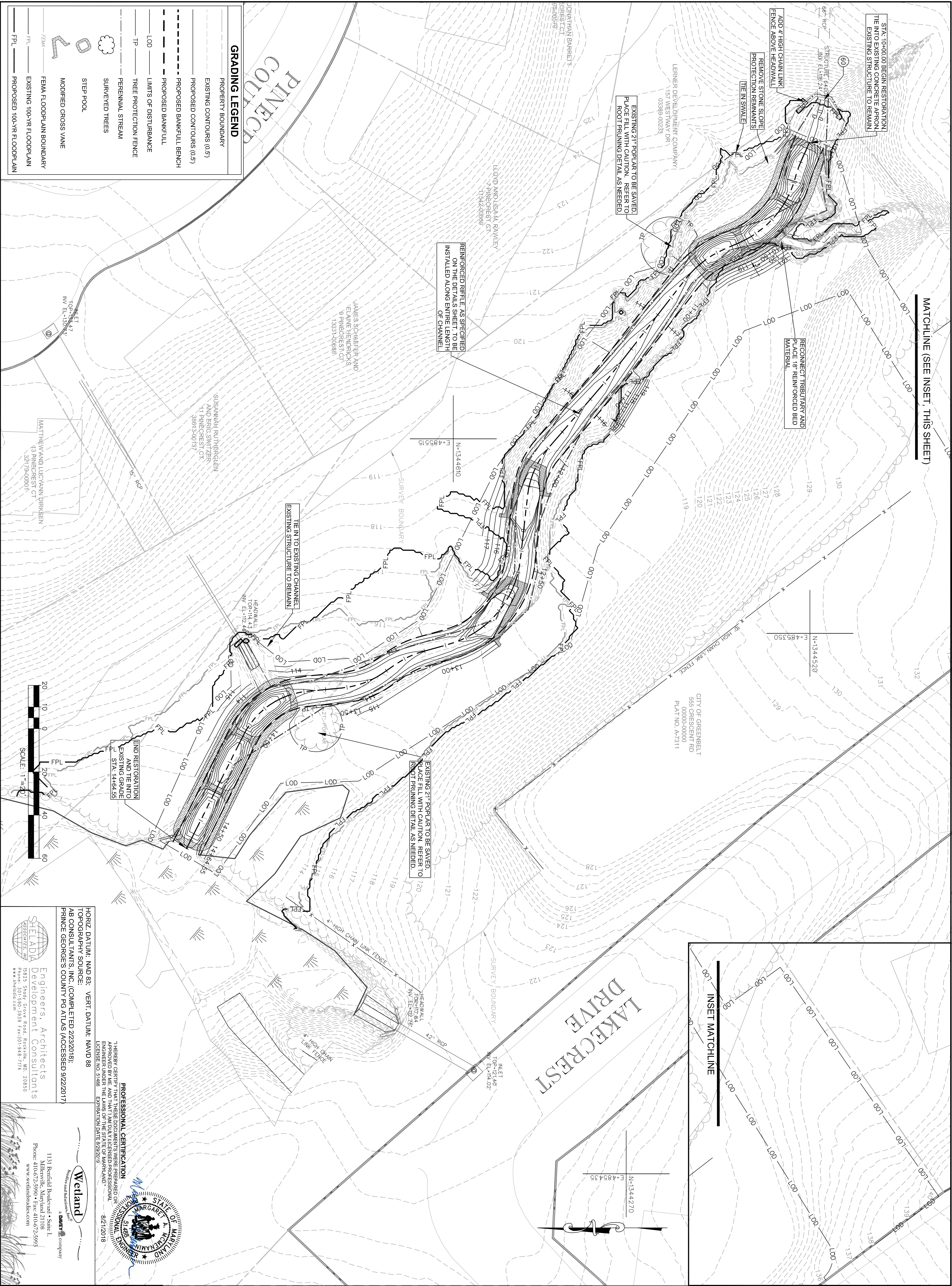
Legend

- Outfalls
- BMP
- Stormwater Network
- Impervious Area
- Impervious Outside DA
- Drainage Area
- Streams



(Source: Prince George's County Digital Data)

MATCHLINE (SEE INSET, THIS SHEET)



DEPARTMENT OF THE ENVIRONMENT (D-4E)
PRINCE GEORGES COUNTY, MARYLAND
PEER REVIEW APPROVAL STAMP
I, hereby certify that I have successfully completed participation in DPE's Peer Review Program. I have with the County's Code, General Specifications and Standards.
APPROVAL DATE: _____
PEER REVIEWER'S NAME: MICHAEL WAGNER
PEER REVIEWER'S SIGNATURE: _____
COMPANY NAME: SOLITEZ
LICENSE NUMBER: 12270
PERMIT NUMBER: 10182-2018

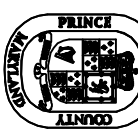
DEPARTMENT OF THE ENVIRONMENT
OF
THE ENVIRONMENT
STORMWATER MANAGEMENT DIVISION
PRINCE GEORGES COUNTY, MARYLAND

ASSOCIATE DIRECTOR
SCALE: 1" = 20'
APPROVED
DESIGNED: AWC
DRAWN: AWC
CHECKED BY: AWC

DATE
DWG. 2 OF 14
DATE

JOANNA SMITH, PRINCIPAL ENGINEER
PROJECT MANAGER
SHEPHERD
CONTRACT NO.

DEPARTMENT OF ENVIRONMENTAL RESOURCES



CAPITAL PROJECTS SECTION STORMWATER
MANAGEMENT DIVISION
C.I.P. PRIORITY II PROJECT

OUTFALLS RESTORATION ASSESSMENT AND
DESIGN - ANACOSTIA RIVER WATERSHED
PRINCE GEORGES COUNTY, MARYLAND

OUTFALL 60
GRADING PLAN

HORIZ. DATUM: MGD 83; VERT. DATUM: NAVD 88
TOPOGRAPHY SOURCE:
AB CONSULTANTS, INC. (COMPLETED 2/23/2018);
PRINCE GEORGES COUNTY PG ATLAS (ACCESSED 9/22/2017)

PROFESSIONAL CERTIFICATION
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO. 51488 EXPIRATION DATE 03/31/2018
8/21/2018



Engineers, Architects
Development Consultants
SHELDA
5555 S. GREENBELT RD., SUITE 100
GREENBELT, MD 20850
Phone: 301-390-3839 Fax: 301-348-7174
www.sheldac.com

1131 Benfield Boulevard • Suite 1
Millersville, MD 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlandinc.com

Wetland
a DAVEY company

DATE

DATE

DATE

MATCHLINE (SEE INSET, THIS SHEET)

STA: 10+00.00 BEGIN RESTORATION
TIE INTO EXISTING CONCRETE APRON
EXISTING STRUCTURE TO REMAIN.

66" RCP
STRUCTURE 64.00'
INV. EL: 19.24'

ADD 4" HIGH CHAIN LINK
FENCE ABOVE HEADWALL

REMOVE STONE SLOPE
PROTECTION REMNANTS
TIE IN SWALE

RECONNECT TRIBUTARY AND
PLACE 18" REINFORCED BED
MATERIAL.

LERNER DEVELOPMENT COMPANY
157 WESTWAY DR.
03369-00233

EXISTING 21" POPLAR TO BE SAVED.
PLACE FILL WITH CAUTION. REFER TO
ROOT PRUNING DETAIL AS NEEDED.

JONATHAN BARRETT
EGREST CT
05-00579

LLOYD AND LISA M. RAWLEY
7 PINECREST CT.
11542-00060

REINFORCED RIFFLE, AS SPECIFIED
ON THE DETAILS SHEET, TO BE
INSTALLED ALONG ENTIRE LENGTH
OF CHANNEL

JAMES SCHAEFER AND
ELAINE HENDRICKS
19 PINECREST CT.
13331-00688

SUSANNAH RUTHERGLEN
AND ERIG SWITZER
11 PINECREST CT.
38613-00137

MATTHEW AND LUCYANN DIRKSEN
43 PINECREST CT.
32179-00001

CITY OF GREENBELT
555 CRESCENT RD
00000-00000
PLAT NO. A-7311

LAKECREST
DRIVE

INLET
TOP: 121.40'
INV. EL: 114.02'

HEADWALL
TOP: 117.84'
INV. EL: 112.76'

EXISTING 21" POPLAR TO BE SAVED.
PLACE FILL WITH CAUTION. REFER TO
ROOT PRUNING DETAIL AS NEEDED.

TIE IN TO EXISTING CHANNEL
EXISTING STRUCTURE TO REMAIN

HEADWALL
TOP: 114.43'
INV. EL: 112.44'

END RESTORATION
AND TIE INTO
EXISTING GRADE
STA: 14+64.55

GRADING LEGEND

- PROPERTY BOUNDARY
- EXISTING CONTOURS (0.5')
- PROPOSED CONTOURS (0.5')
- PROPOSED BANKFULL BENCH
- PROPOSED BANKFULL
- LOD — LIMITS OF DISTURBANCE
- TP — TREE PROTECTION FENCE
- PERENNIAL STREAM
- SURVEYED TREES
- STEP POOL
- MODIFIED CROSS VANE
- FEMA — FEMA FLOODPLAIN BOUNDARY
- FPL — EXISTING 100-YR FLOODPLAIN
- FPL — PROPOSED 100-YR FLOODPLAIN

SCALE: 1" = 20'

HORIZ. DATUM: NAD 83; VERT. DATUM: NAVD 88
TOPOGRAPHY SOURCE:
AB CONSULTANTS, INC. (COMPLETED 2/23/2018);
PRINCE GEORGE'S COUNTY PG ATLAS 2014 CONTOURS

Engineers, Architects
Development Consultants
15825 Shady Grove Road, Rockville, MD 20850
Phone: 301-590-3939 Fax: 301-948-7174
www.sheladia.com

PROFESSIONAL CERTIFICATION
"I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR
APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL
ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."
LICENSE NO. 51488 EXPIRATION DATE 8/29/2019



Wetland
Studies and Solutions, Inc.
a DAVEY company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlandstudies.com

DEPARTMENT OF THE ENVIRONMENT (DoE)

PRINCE GEORGE'S COUNTY, MARYLAND

PEER REVIEW APPROVAL STAMP

"I hereby certify that I have successfully completed
participation in DPE's Peer Review Program. I have
reviewed these plans in Detail and they are in conformance
with the County's Code, General Specifications and
Standards."

APPROVAL DATE: _____

PEER REVIEWER'S NAME: MICHAEL WAGNER

PEER REVIEWER'S SIGNATURE: _____

COMPANY NAME: SOLTESZ

LICENSE NUMBER: 12270

PERMIT NUMBER: 10193-2018

DEPARTMENT
OF
THE ENVIRONMENT
STORMWATER MANAGEMENT DIVISION
PRINCE GEORGE'S COUNTY, MARYLAND

ASSOCIATE DIRECTOR _____ DATE _____

SCALE: 1" = 20' DWG. 2 OF 14

APPROVED _____ SECTION HEAD _____ DATE _____

DESIGNED: AMC
DRAWN: AMC
CHECKED BY: MAM

JOANNA SMITH, PRINCIPAL ENGINEER
PROJECT MANAGER

C.I.P.

S10-073A
CONTRACT NO.

DEPARTMENT OF ENVIRONMENTAL RESOURCES



CAPITAL PROJECTS SECTION STORMWATER
MANAGEMENT DIVISION
C.I.P. PRIORITY II PROJECT

OUTFALLS RESTORATION ASSESSMENT AND
DESIGN - ANACOSTIA RIVER WATERSHED
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OUTFALL 60
GRADING PLAN