Public Notice

U.S. Army Corps of Engineers

Baltimore District
PN-25-09

In Reply to Application Number NAB-2007-66063-M35 (Waldorf Crossing Property/Western Parkway Phases 2 & 3)

Comment Period: February 3, 2025, to March 06, 2025

THE PURPOSE OF THIS PUBLIC NOTICE IS TO INFORM INTERESTED PARTIES OF THE PROPOSED ACTIVITY AND TO SOLICIT COMMENTS. NO DECISION HAS BEEN MADE AS TO WHETHER OR NOT A PERMIT WILL BE ISSUED AT THIS TIME.

This District has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 USC 1344),as described below:

APPLICANT:

WRI West Land Development, Inc.
12480 Mattawoman Drive
PO BOX 548
Waldorf, Maryland 20601

Charles County Government
P.O. Box 2150
La Plata, Maryland 20646

WATERWAY AND LOCATION OF THE PROPOSED WORK:

The proposed work is located in the tributaries to Mattawoman Creek, at the site located near the intersection of Mattawoman Drive and U.S. Route 301, Waldorf, Charles County, Maryland. (Latitude 38.821667; Longitude -76.835833).

OVERALL PROJECT PURPOSE:

To redevelop the 140-acre Waldorf Crossing property into a mixed use residential, office and retail project and to construct the Phase 2 and 3 extensions of Western Parkway

PROJECT DESCRIPTION:

The proposed project involves construction of Western Parkway extension, road crossings, and mixed-use development temporarily impacting 871 square feet (sq. ft.) nontidal wetlands and 48 Linear feet (lf.) of stream and permanently impacting 52,770 sq. ft. nontidal wetlands and 4,460 sq. ft. of streams. The proposed project includes temporary nontidal wetlands impacts and stream channel impacts for the sewer pipe installation. Proposed permanent impacts to stream and wetlands would be due to multiple road crossings. Additional proposed permanent wetland impacts would be due to the deceleration lane, parking areas, and CMP culvert replacement.

EFFECTS ON AQUATIC RESOURCES:

Impact	Wetlands (sf)		Streams sf/lf	
	Temporary	Permanent	Temporary	Permanent
Western Parkway (Road Crossing 1)		34,848 sq. ft.		1,082 sq. ft.
Road Crossing #2	0	0	0	1,170 sq. ft.
Road Crossing #3	0	11,235 sq. ft.	0	2,133 sq. ft.
Culvert Replacement	0	4,995 sq. ft.	0	75 sq. ft.
Sewer Pipe Installation	871 sq. ft.	0	48 lf.	0
Parking Area	0	1,692	0	0
Total Impacts	871 sq. ft.	52,770 sq. ft.	48 lf.	4,460 sq. ft.

LEAD FEDERAL AGENCY:

The United States Army Corps of Engineers (Corps), as the lead federal agency, is responsible for all coordination pursuant to applicable federal authorities.

APPLICANT'S PROPOSED AVOIDANCE, MINIMIZATION, AND COMPENSATORY MITIGATION:

As part of the planning process for the proposed project, steps were taken to ensure the avoidance and minimization of impacts to aquatic resources to the maximum extent practicable based on the existing site conditions and previously authorized work. The applicant has purchase of 2.62 credits from the Port Tobacco II Consolidated Wetland Mitigation Site as part of the previous permit action for this project. The applicant proposes to additional onsite mitigation for project impacts through a combination of on-site and off-site measures. The applicant is proposing to create approximately 0.66 acres of nontidal wetlands onsite and to restore approximately 1,185 linear feet of streams.

CORPS EVALUATION REQUIREMENTS:

This project will be evaluated pursuant to Corps Regulatory Program Regulations (33 CFR Parts 320-332). The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonable may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors, which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economic, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, and consideration of property ownership and in general, the needs and welfare of the people. The evaluation of the impact of this project will also include application of the Clean Water Act Section 404(b)(1) Guidelines promulgated by the Administrator, United States Environmental Protection Agency.

ENDANGERED SPECIES:

A preliminary review of this application indicates that the proposed work will have no effect federally listed threatened or endangered species or their critical habitat, pursuant to Section 7 of the Endangered Species Act, as amended. The project activities are proposed in non-tidal waters, which has the potential to have no effect for National Marine Fisheries Service (NMFS) NMFS-PRD protected species. The project location and vicinity is not mapped as critical habitat for any known federally-listed threatened or endangered species under USFWS' jurisdiction. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

ESSENTIAL FISH HABITAT:

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), as amended by the Sustainable Fisheries Act of 1996 (Public Law 04-267), requires all federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH), including species of concern, life cycle habitat, or Habitat Areas of Particular Concern. The project site lies in or adjacent to EFH as described under MSFCMA for managed species under the MSFCMA.

The Baltimore District has made a preliminary determination that the project will have no effect on EFH and that mitigative measures are not required to minimize adverse effects on EFH at this time. This determination may be modified if additional information.

HISTORIC RESOURCES:

Pursuant to Section 106 of the National Historic Preservation Act of 1966 and applicable guidance, the Corps has reviewed the latest published version of the National Register of Historic Places and initially determined that no registered properties listed as eligible for inclusion, therein, are located at the site of the proposed work. The Corps has made the preliminary determination that the proposed project has no potential to cause effects on historic properties. The Corps final eligibility and effect determination will be based on coordination with the State Historic Preservation Office as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on historic properties within the Corps' identified permit area.

TRIBAL RESOURCES:

Section 106 of the National Historic Preservation Act also requires federal agencies to consult with federally recognized American Indian tribes that attach religious and cultural significance to historic properties that may be affected by the agency's undertaking. Corps Tribal Consultation Policy mandates an open, timely, meaningful, collaborative, and effective deliberative communication process that emphasizes trust, respect, and shared responsibility. The policy further emphasizes that, to the extent practicable and permitted by law, consultation works toward mutual consensus and begins at the earliest planning stages before decisions are made and actions taken. The Corps final eligibility and effect determination will be based on coordination with interested tribes, in accordance with the Corps current tribal standard operating procedures as appropriate and required, and with full consideration given to the proposed undertaking's potential direct and indirect effects on tribal resources.

MODIFICATION OF CIVIL WORKS PROJECTS: 33 USC 408 (SECTION 408):

All Section 408 proposals will be coordinated internally at the United States Army Corps of Engineers. The Section 408 decision will be issued along with the Section 404 decision. Please see the following link for more information regarding Section 408: https://www.nab.usace.army.mil/Missions/Regulatory/Section-408-Requests/.

WATER QUALITY CERTIFICATION:

The applicant is required to obtain a water quality certification in accordance with Section 401 of the Clean Water Act.

COASTAL ZONE MANAGEMENT PROGRAMS:

Where applicable, the applicant has certified in this application that the proposed activity complies with and will be conducted in a manner consistent with the approved Coastal Zone Management Program. By this public notice, we are requesting the State concurrence or objection to the applicant's consistency statement.

The applicant must obtain any state or local government permits which may be required.

SUBMISSION OF COMMENTS:

The Corps of Engineers is soliciting comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments provided will become part of the public record for this action and are subject to release to the public through the Freedom of Information Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Written comments concerning the work described above related to the factors listed above or other pertinent factors must be received by the United States Army Corps of Engineers, Baltimore District within the comment period specified above through postal mail at the address below or electronic submission to the project manager email address below. Written comments should reference the Application Number NAB-2007-66063-M35. We also encourage you to use the Regulatory Request System to submit comments by visiting rrs.usace.army.mil.

PUBLIC HEARING REQUESTS:

Any person who has an interest which may be adversely affected by the issuance of this permit may request a public hearing. The request, which must be in writing, must be received within the comment period as specified above to receive consideration. Also, it must clearly set forth the interest which may be adversely affected by this activity and the manner in which the interest may be adversely affected. The public hearing request may be submitted by electronic mail or mailed to the following address:

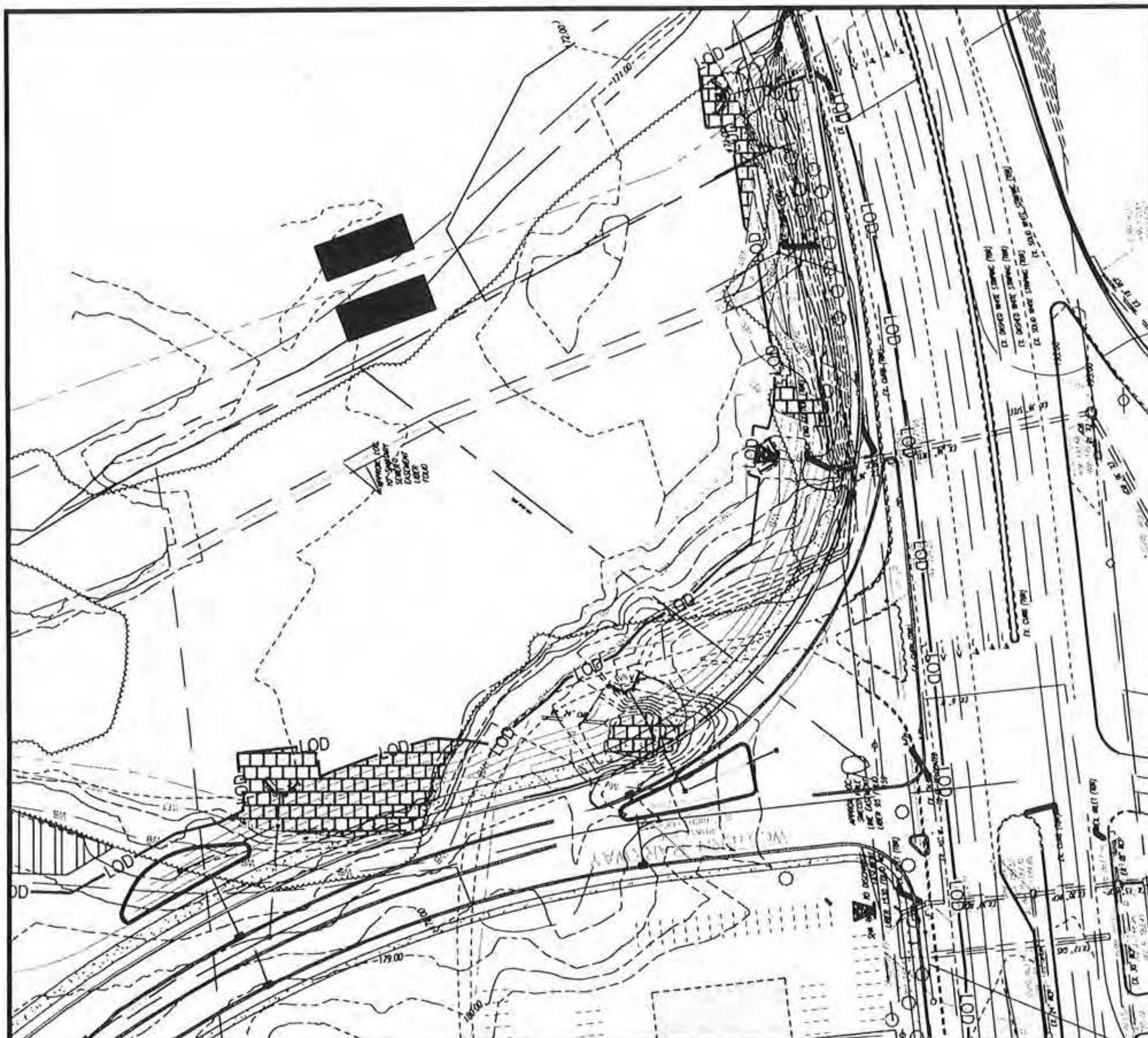
Ms. Lamuelle L. Coleman
Lamuelle.L.Coleman@usace.army.mil
U.S. Army Corps of Engineers, Baltimore District
Regulatory Branch
2 Hopkins Plaza
Baltimore, Maryland 21201-2930

It is requested that you communicate this information concerning the proposed work to any persons known by you to be interested, who did not receive a copy of this notice.

General information regarding the Corps' permitting process can be found on our website at https://www.nab.usace.army.mil/Missions/Regulatory.aspx. This public notice has been prepared in accordance with Corps implementing regulations at 33 CFR 325.3. If you have any questions concerning this specific project or would like to request a paper copy of this public notice, please contact Lamuelle Coleman at 443-853-2051 and/or at Lamuelle.L.Coleman@USACE.Army.mil. This public notice is issued by the Chief, Regulatory Branch.

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north
Scale 1"=120'



IMPACTS:

Impacts shown above associated with the proposed Western Parkway will result in 12,319 SF of non-tidal wetland impacts, 21,356 SF of impacts to non-tidal wetland buffer, 50,252 SF of impacts to the floodplain and 1,105 SF of impacts to a man made pond.

Revised Impact Sheet #1

WALDORF CROSSING PROPERTY
and WESTERN PARKWAY, PHASE III

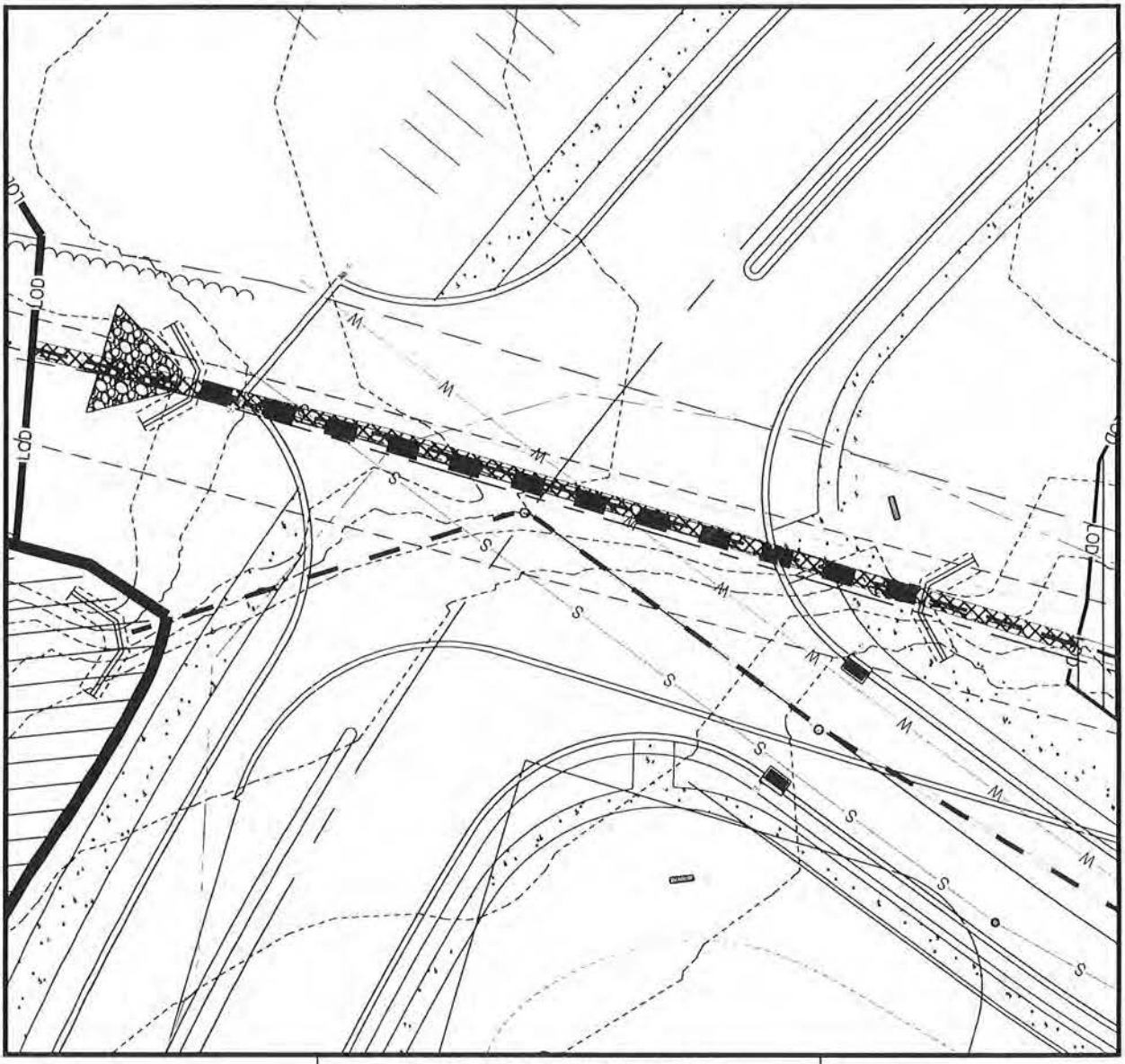
Charles County, Maryland
June 2008, Revised July 2010, August 2012, September 2013

= WETLAND IMPACT/ OPEN WATER IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=40'



IMPACTS:

Impacts shown above associated with the proposed Western Parkway will result in 268 LF (1,074 SF) of impact to intermittent stream.

Revised Impact Sheet #2

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

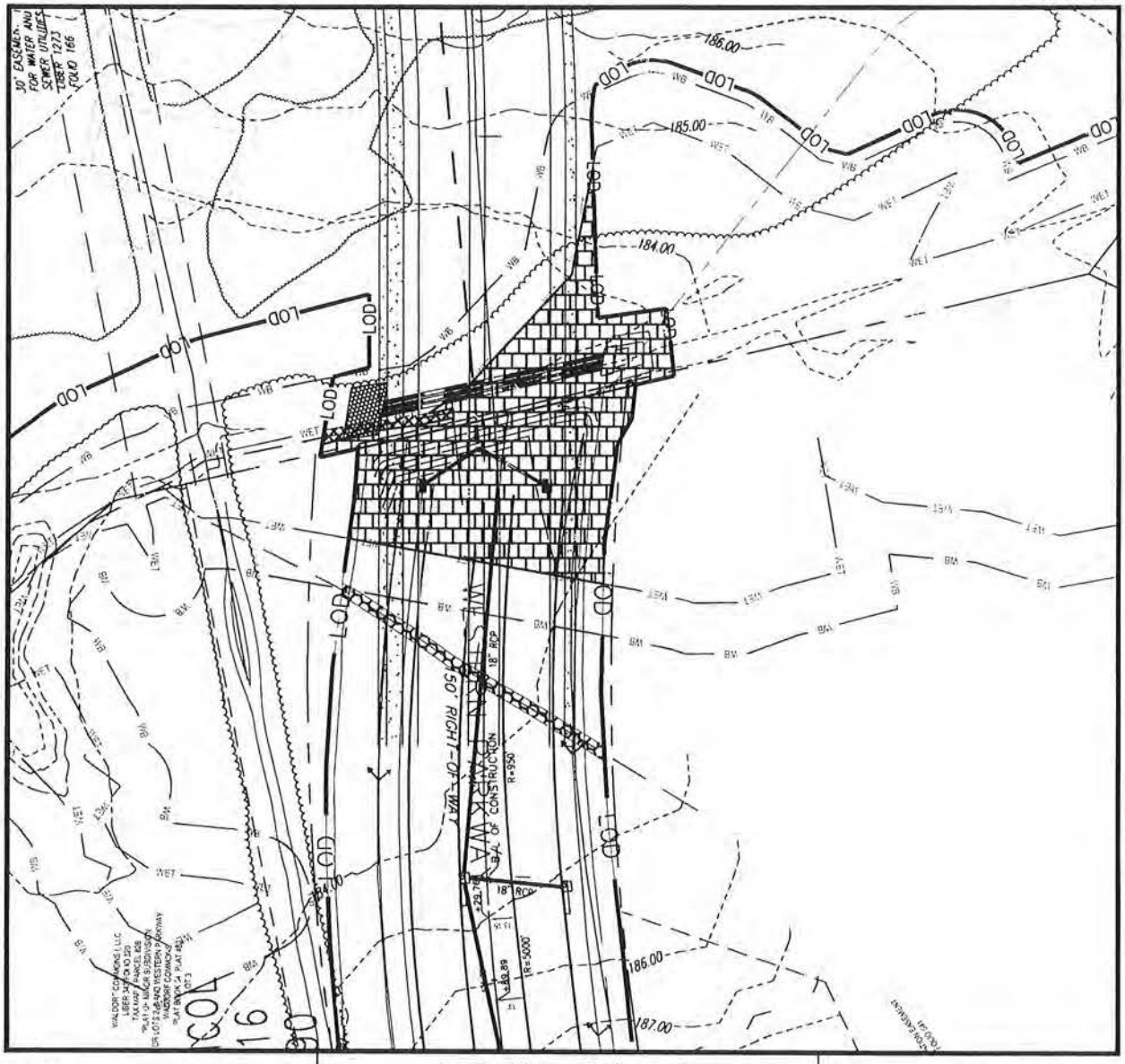
Charles County, Maryland
June 2008, Revised July 2010, August 2012, September 2013

= STREAM IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=80'



IMPACTS:

Impacts shown above associated with the proposed Western Parkway will result in approximately 14,040 SF of impact to wetlands, 8,450 SF of impact to wetland buffer, and 63 LF (330 SF) of intermittent stream. There will also be approximately 153 LF (918 SF) of ephemeral channel impacted by the construction of Western Parkway.

Revised Impact Sheet #4

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

= WETLAND IMPACT/ OPEN WATER IMPACT

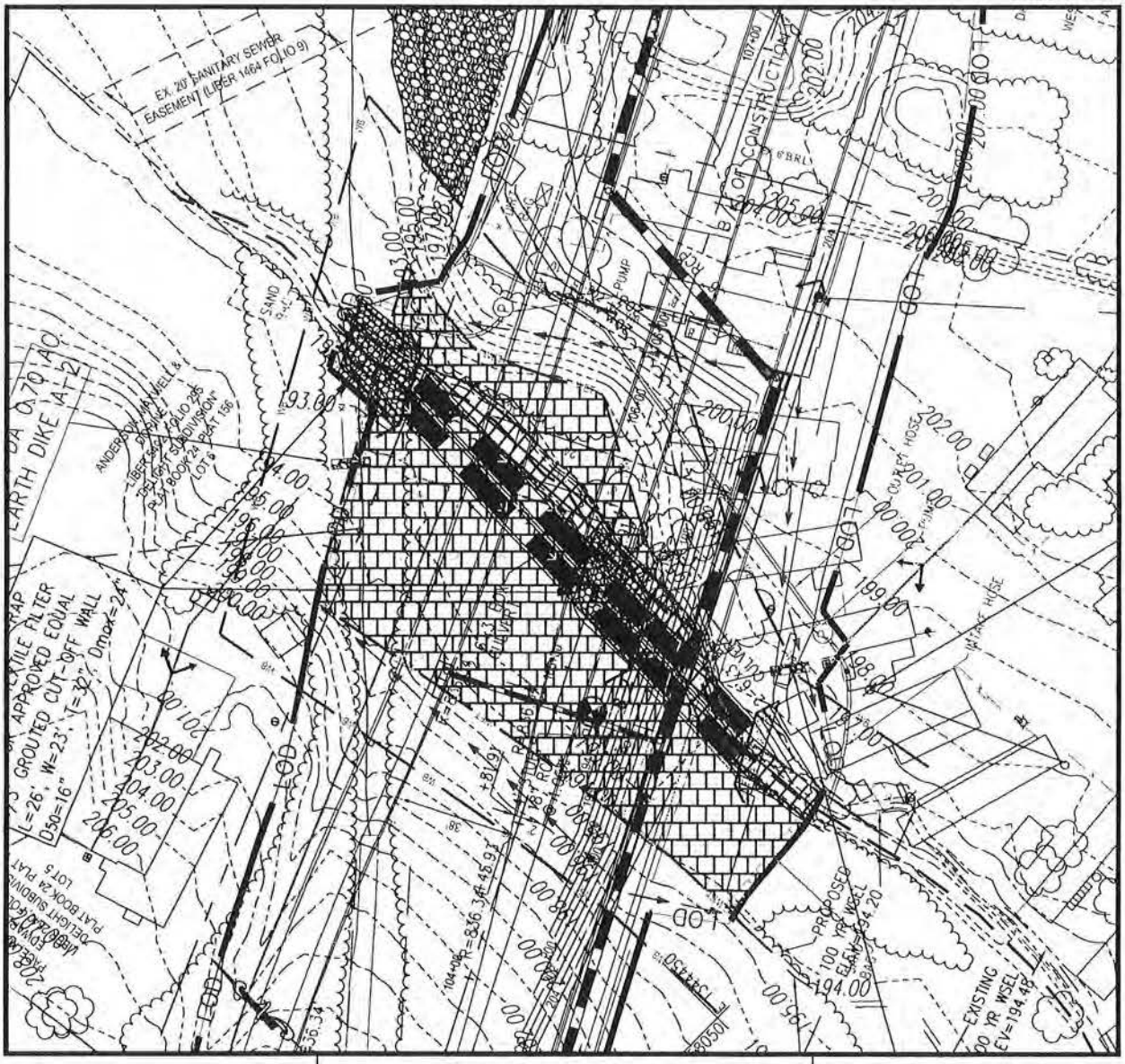
= STREAM IMPACT

= EPHEMERAL CHANNEL

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=50'



IMPACTS:

Impacts shown above associated with the proposed Western Parkway will result in 11,235 SF of impact to wetlands, 22,521 SF of impact to wetland buffer, 214 LF (2,133 SF) of impact to perennial stream.

Revised Impact Sheet #5

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

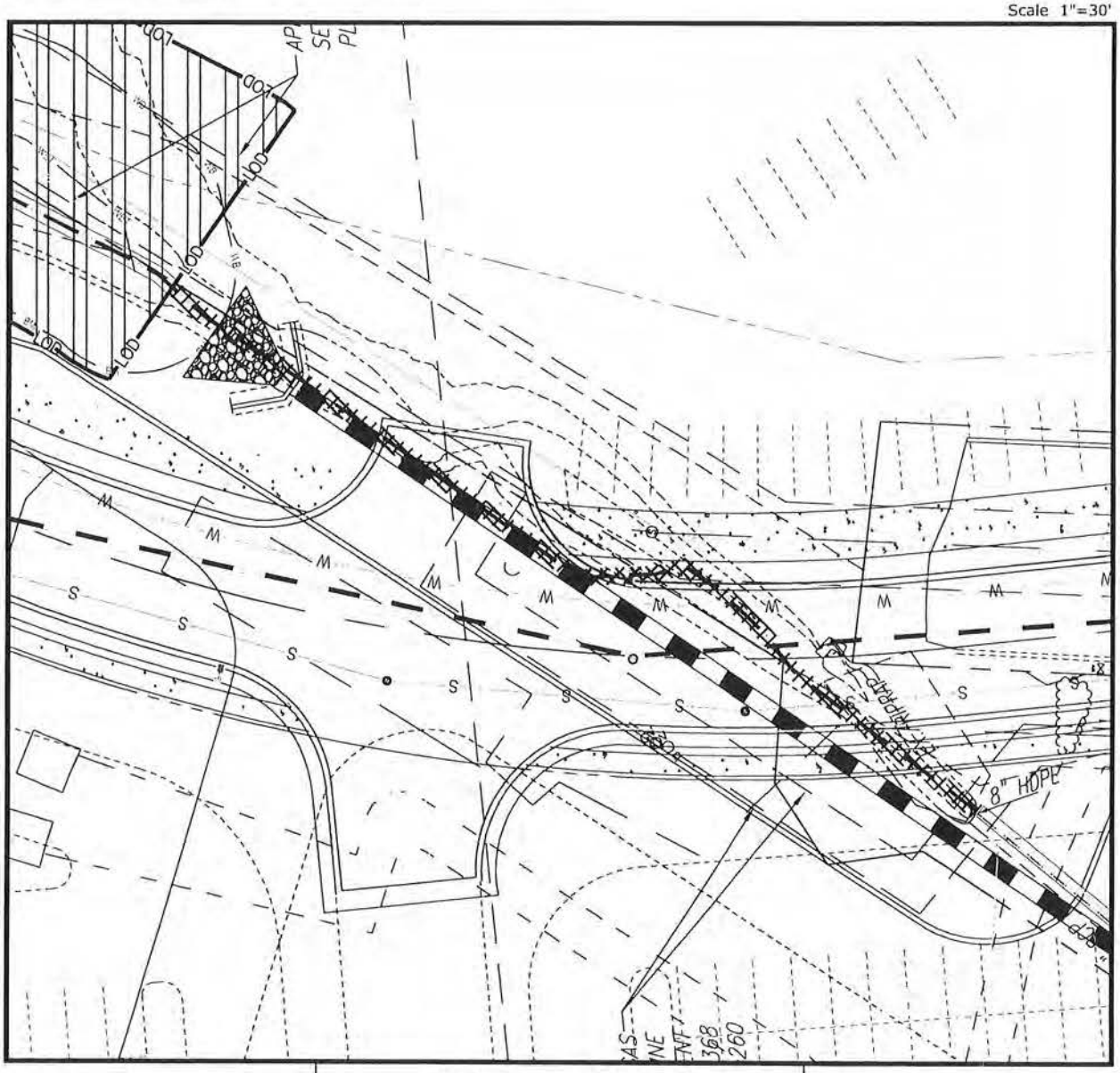
= WETLAND IMPACT/ OPEN WATER IMPACT

= STREAM IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=30'



IMPACTS:

Impacts shown above are associated with the proposed Matawoman Drive extension will result in impacts to 447 SF of nontidal wetland buffer and 246 LF (983 SF) of interemittent stream.

Revised Impact Sheet #6

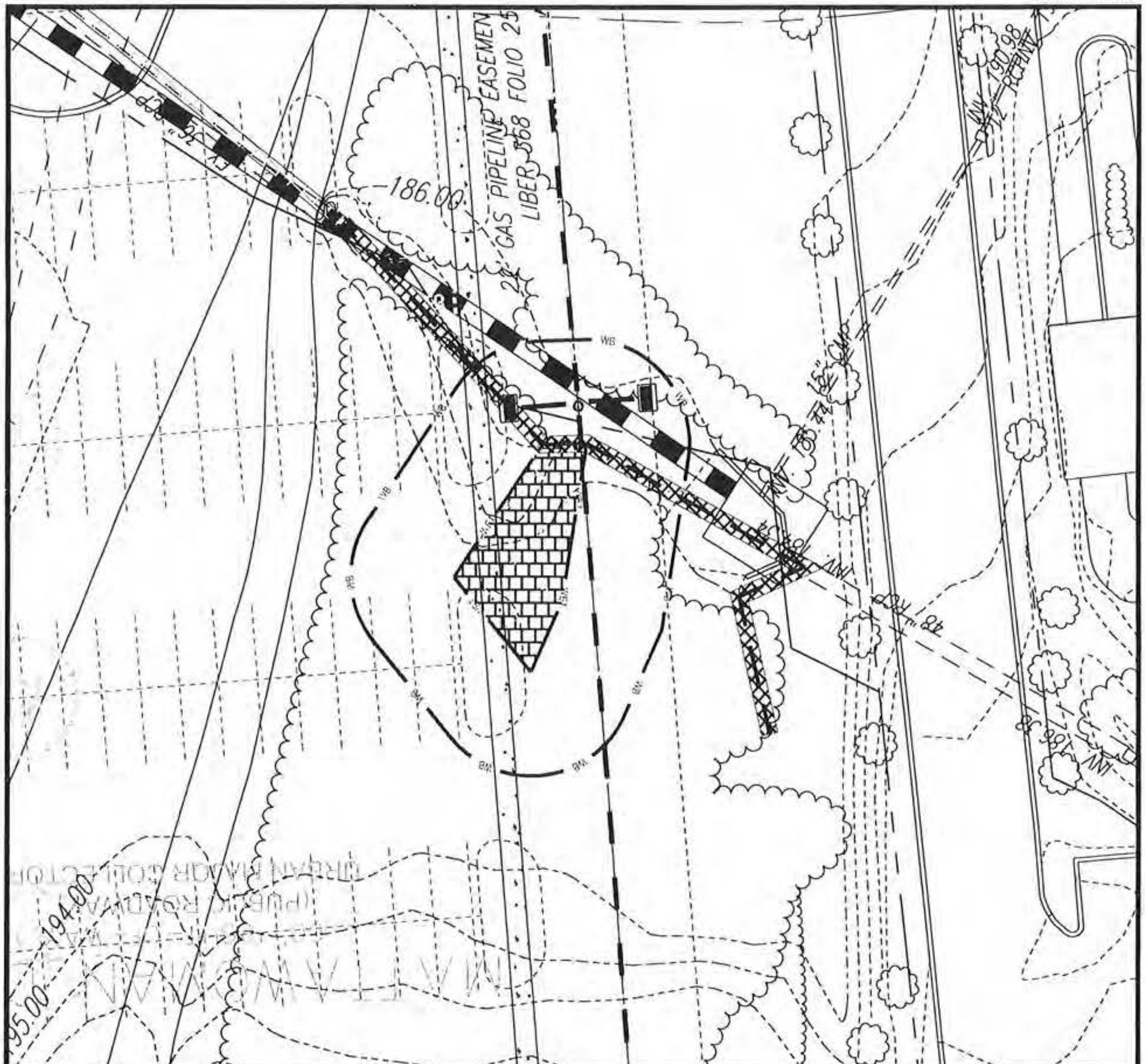
WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

= STREAM IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north
Scale 1"=40'



IMPACTS:

Impacts shown above are associated with the proposed unnamed road will result in impacts to 937 SF of nontidal wetlands, 5,151 SF of nontidal wetland buffer, and 195 LF (781 SF) of interemittent stream.

Revised Impact Sheet #7

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

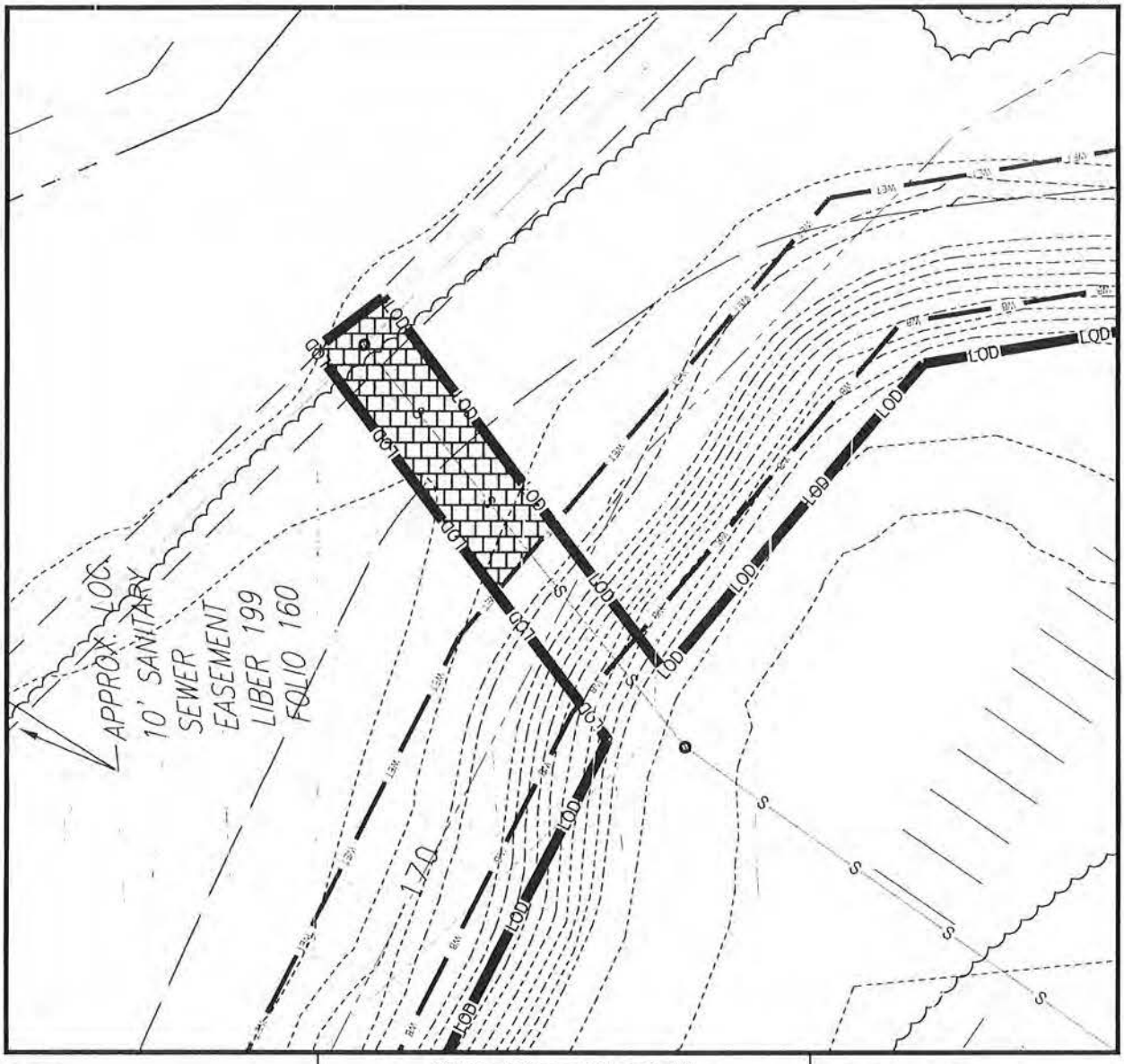
= WETLAND IMPACT/ OPEN WATER IMPACT

= STREAM IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=30'



IMPACTS:

Impacts shown above associated with connecting into an existing sewer line will result in temporary impacts to 871 SF of nontidal wetlands, 410 SF of nontidal wetland buffer, and 507 SF of floodplain.

Revised Impact Sheet #8

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

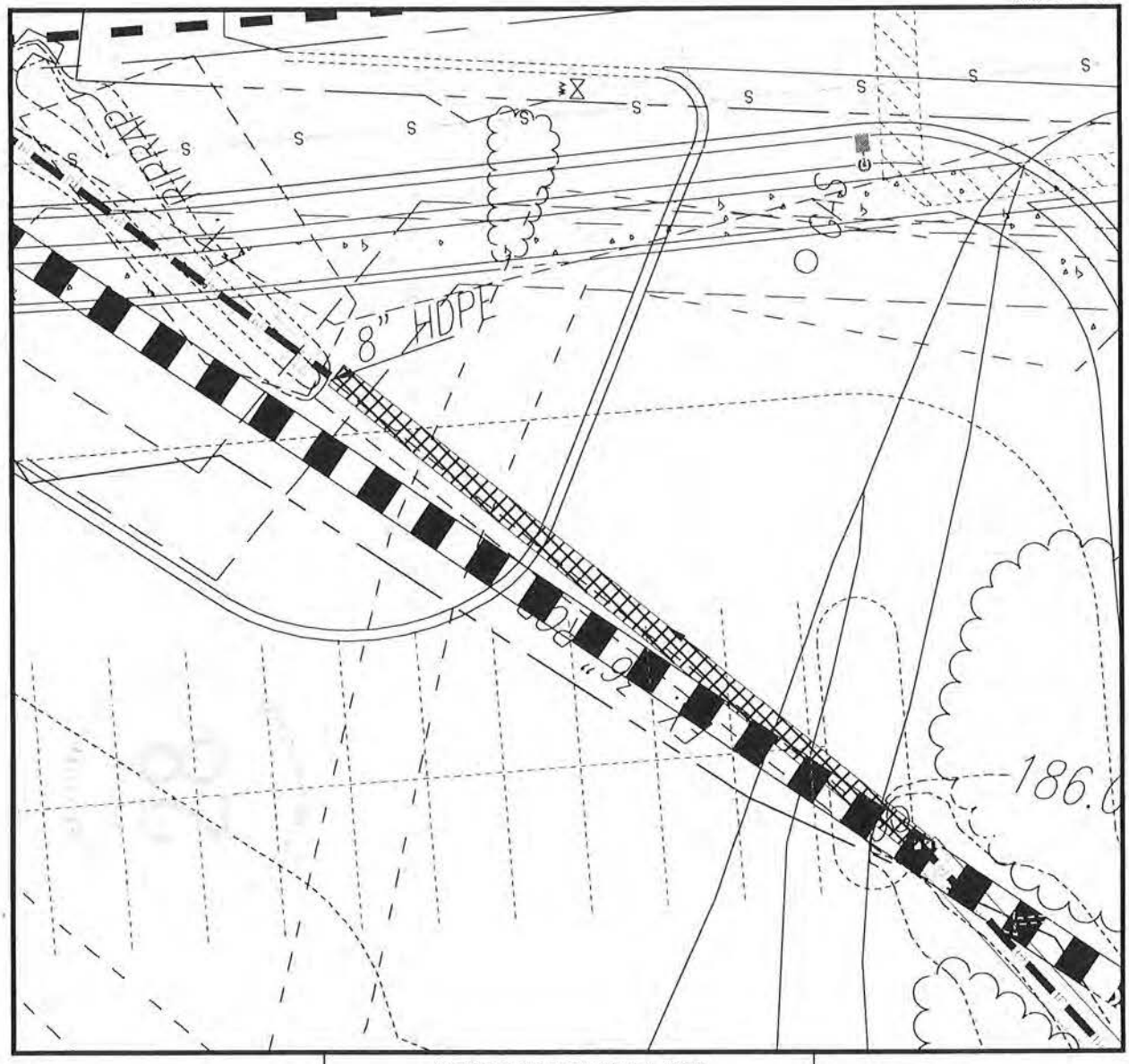
Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

= WETLAND IMPACT/ OPEN WATER IMPACT

AMERICAN LAND CONCEPTS
238 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410)-526-2688

north

Scale 1"=20'



IMPACTS:

Impacts shown above associated with proposed Waldorf Crossings Development will result in impacts to 94 LF (290 SF) of previously impacted intermittent stream. **This impact currectly exists as a 36" culvert.**

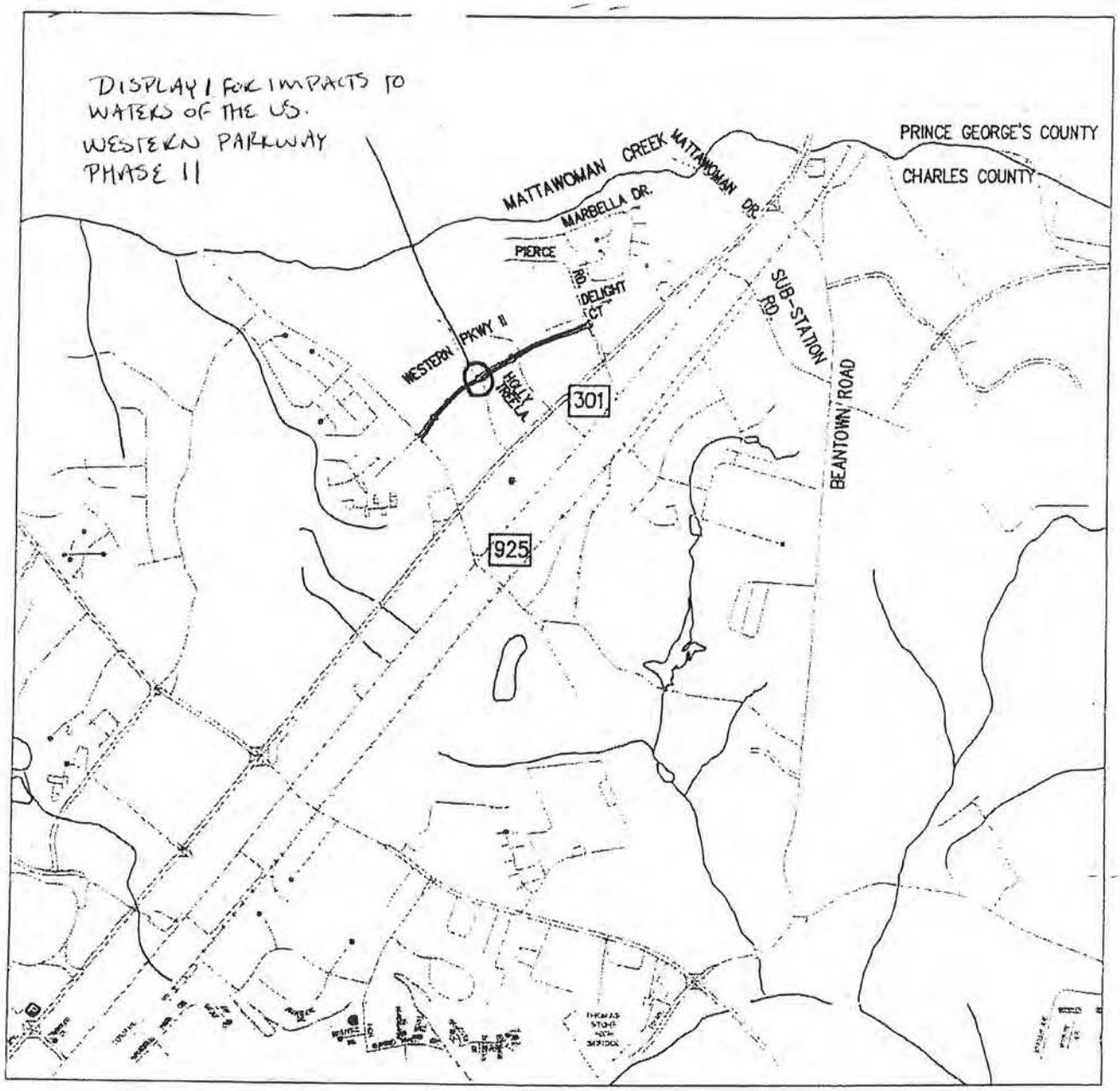
Revised Impact Sheet #13

WALDORF CROSSING PROPERTY and WESTERN PARKWAY, PHASE III

Charles County, Maryland
June 2008, revised July 2010, August 2012, September 2013

= STREAM IMPACT

DISPLAY I FOR IMPACTS TO WATERS OF THE US.
WESTERN PARKWAY
PHASE II



07-NT-0177/200762422

AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

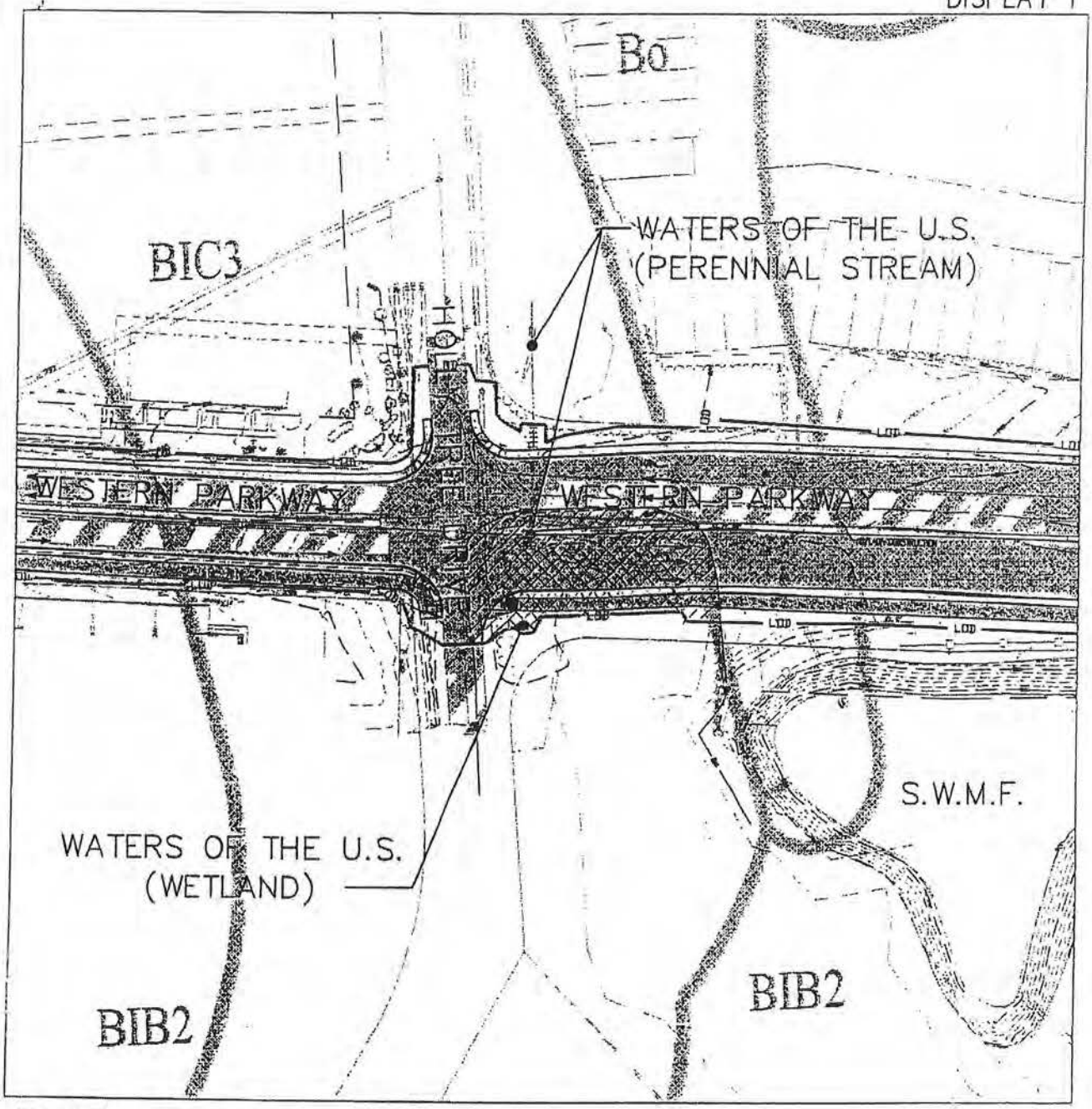
VICINITY MAP FOR

WESTERN PKWY PH.II

SCALE: 1" = 1,000'

IMPACT SHEET 16

DISPLAY 1



IMPACTS TO WETLANDS: 4,995 SF (0.11 AC)

IMPACTS TO WETLAND BUFFERS: 6,222 SF (0.14 AC)

IMPACTS TO STREAMS: 25 LF

AB CONSULTANTS, INC.
9450 ANNAPOLIS ROAD
LANHAM, MARYLAND 20706
PHONE: (301) 306-3091
FAX: (301) 306-3092

DISPLAY FOR IMPACTS TO
WATERS OF THE U.S.
WESTERN PARKWAY
PHASE II
SCALE: 1"=100'

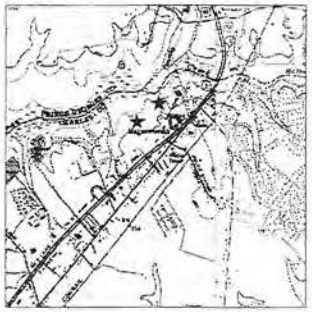
COE# XX-XXXXX-XX

MDE# 07-NT-177/200762422

FINAL STREAM MITIGATION/RESTORATION PLAN FOR THE WALDORF CROSSING/WESTERN PARKWAY PHASE 2 AND 3 PROJECT

Charles County, Maryland
September 2013

TOPOGRAPHIC MAP



Scale: 1" = 2,000'

NORTH

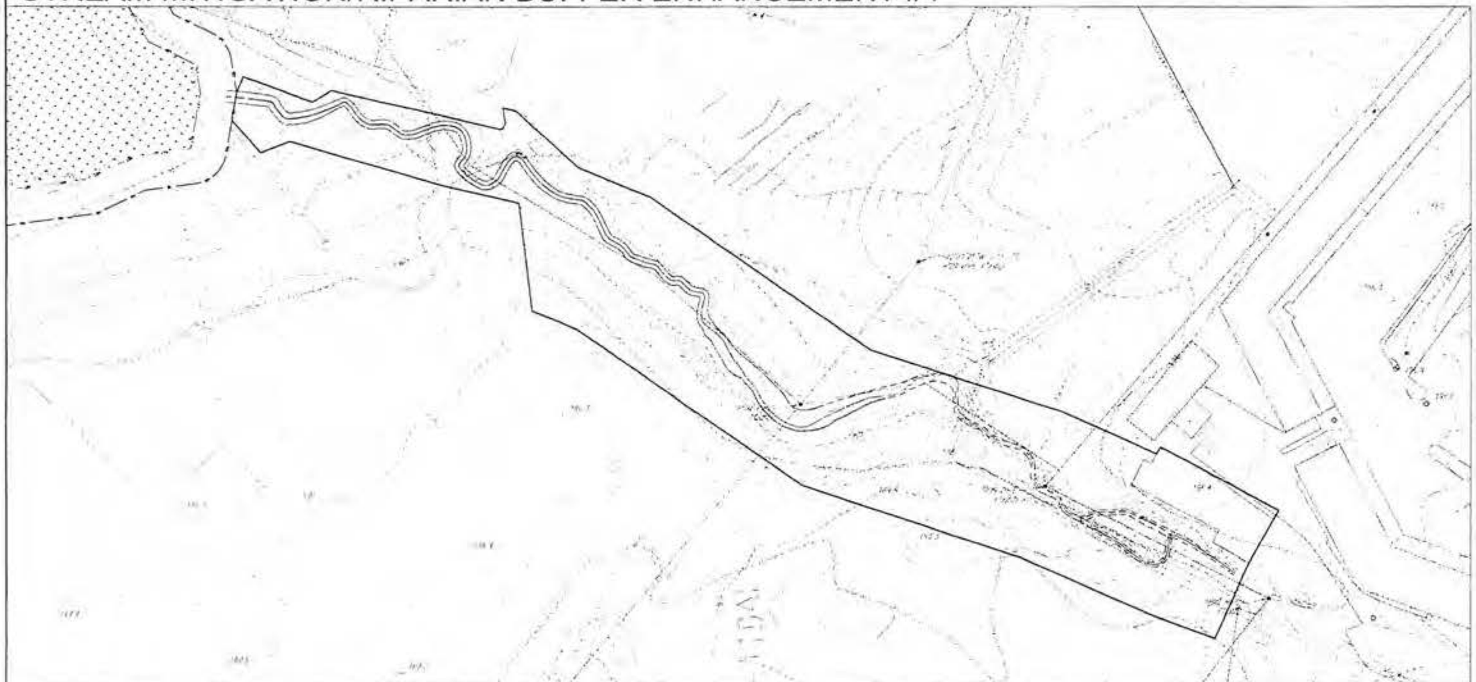
INDEX

Survey provided by:
BOHLER
16701 Melford Boulevard, Suite 310
Bowie, Maryland 20715
301.809.4500

Owner/Applicant
WRI WEST LAND DEVELOPMENT, INC.
12480 MATTAWOMAN DRIVE
WALDORF, MARYLAND 20601
AND
CHARLES COUNTY GOVERNMENT
P.O. BOX 2150
LA PLATA, MARYLAND 20646

PREPARED BY:
AMERICAN LAND CONCEPTS

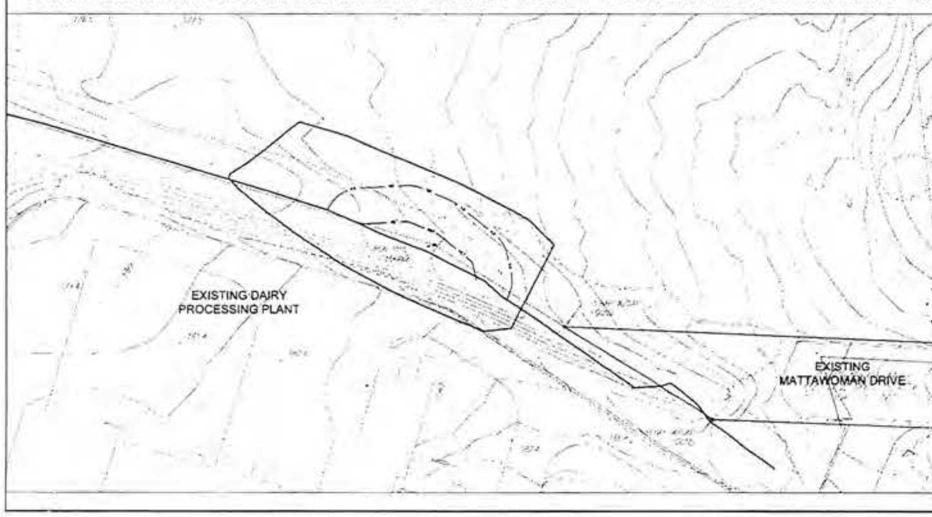
STREAM MITIGATION/RIPARIAN BUFFER ENHANCEMENT #1



LEGEND

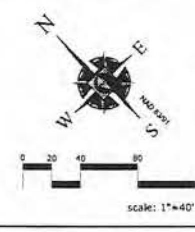
- Property Boundary
- Existing Wetlands w/25FT Buffer
- Treeline
- Existing Stream/Stream Bank
- Existing Contours
- Area For Invasive Species Removal and Supplemental Plantings

STREAM MITIGATION/RIPARIAN BUFFER ENHANCEMENT #2



Stream #1 is a highly degraded channel that receives uncontrolled, untreated stormwater from the culvert located at the stream head and from sheet flow from the adjacent impervious surfaces. The stormwater flows directly into the channel creating downcutting and stream migration. There is also a sewer easement that is located adjacent to and crosses under the channel. In some cases the stream bank is the existing sewer manholes. There are invasive species and debris located throughout the riparian area. The reach of stream to be restored is 1,030 LF and 63,000 SF (1.4 acres) of riparian buffer will be restored/enhanced by removing the debris and invasive species and planting the area with native species to create a highly functioning riparian system.

Stream #2 is a highly degraded channel functioning as a relocated stormwater ditch that conveys uncontrolled, untreated stormwater from developed areas along U.S. RT 301 to the Mattawoman creek. The existing parking lot for the dairy processing plant is located immediately adjacent to the stream and encroaches on the stream banks. The reach of stream to be restored is 155 LF and 12,685 SF (0.3 acres) of riparian buffer will be restored/enhanced by removing all asphalt, trash debris, and invasive species and planting the area with native species to create a highly functioning riparian system.



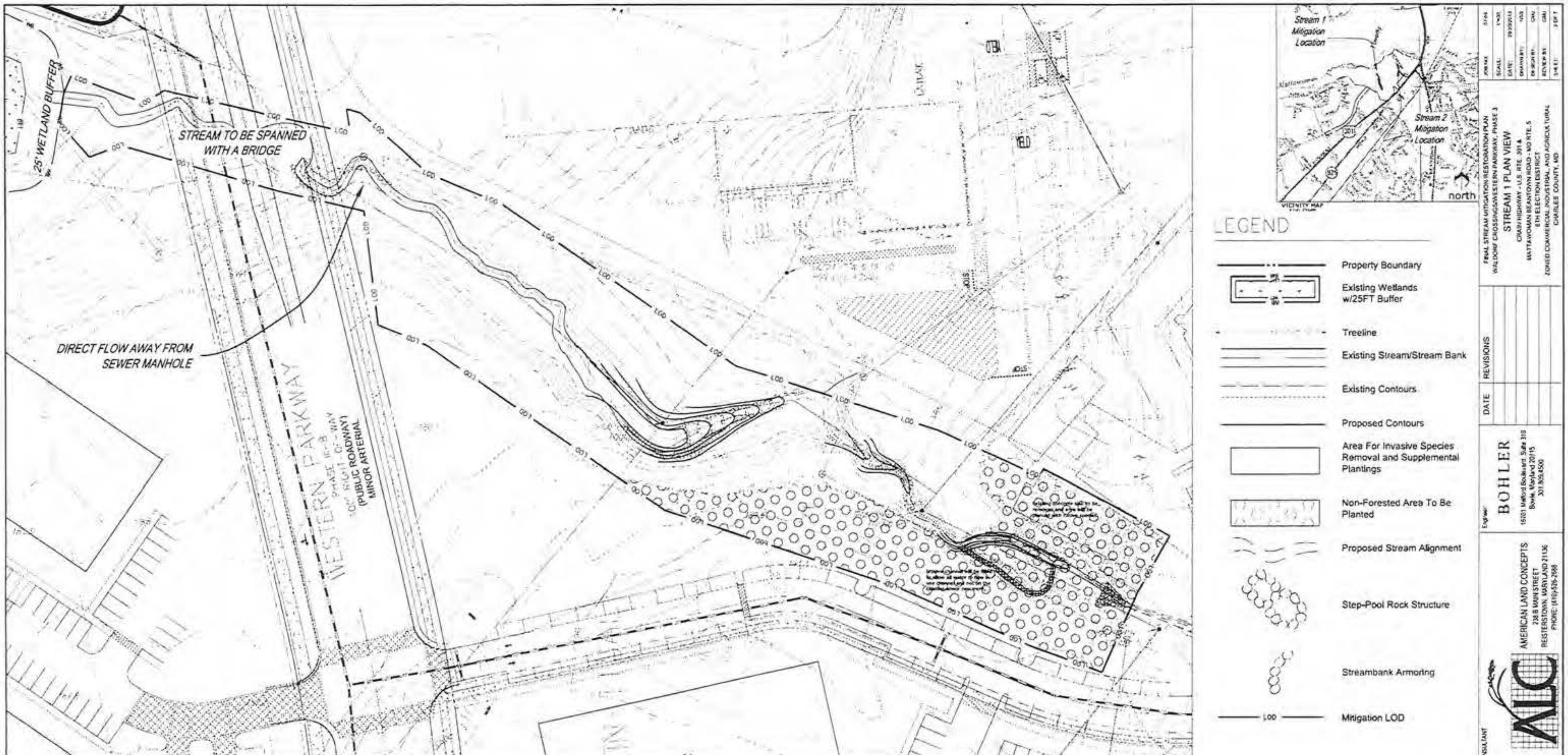
FINAL STREAM MITIGATION RESTORATION PLAN
WALDORF CROSSING/WESTERN PARKWAY, PHASE 3
EXISTING CONDITIONS
CRAIN HIGHWAY - U.S. RTE. 301 &
MATTAWOMAN BEANTOWN ROAD - MD RTE. 5
8TH ELECTION DISTRICT
ZONED COMMERCIAL INDUSTRIAL AND AGRICULTURAL
CHARLES COUNTY, MD

DATE	REVISIONS

Engineer: BOHLER
16701 Melford Boulevard, Suite 310
Bowie, Maryland 20715
301.809.4500

CONSULTANT: AMERICAN LAND CONCEPTS
236 B MAIN STREET
REISTERSTOWN, MARYLAND 21136
PHONE: (410) 526-2688

OWNER/APPLICANT: WRI WEST LAND DEVELOPMENT, INC.
12450 MATTAWOMAN DRIVE
WALDORF, MARYLAND 20601
AND
CHARLES COUNTY GOVERNMENT
P.O. BOX 2150
LA PLATA, MARYLAND 20646



PROPOSED:

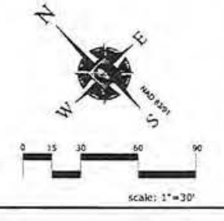
The proposed restoration will begin down gradient of the culvert at the streamhead where the channel splits into two paths. The restoration will continue the length of the stream with either drop structures, streambank armoring, removing debris, concrete pad, invasive species, and revegetate the RPZ associated with the stream with native species. The sewer easement will not be planted and has not been included in the total riparian buffer enhancement acreage.

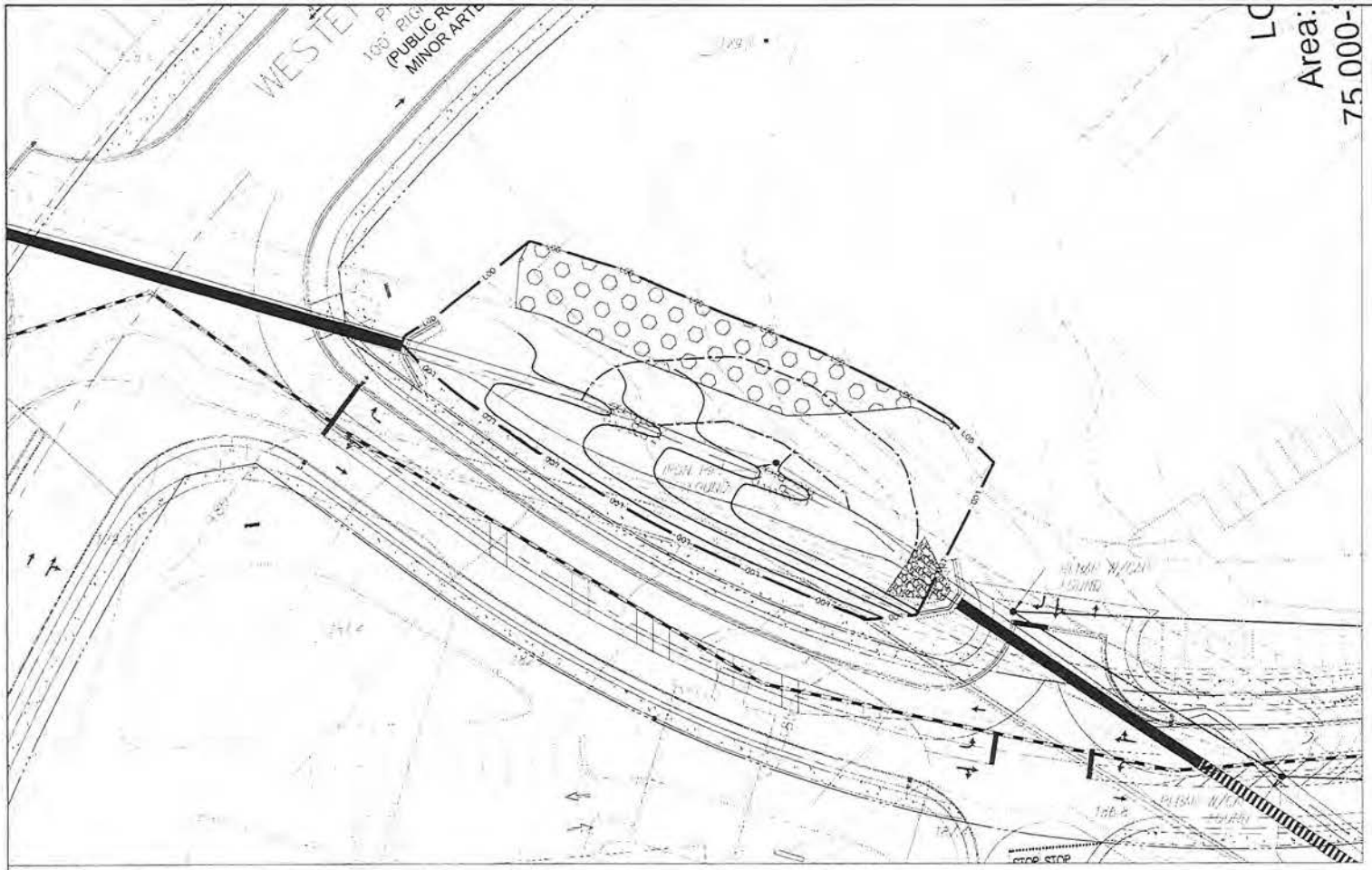
The restoration will utilize three (3) separate step-pool structure within the stream channel. As shown above, the structures will vary in length depending on the location and the stream morphology. The drops will be approximately 6" and pools will range from 6' to 8' in length. The step-pool structures will act as a grade controlling device while creating a natural riffle-pool scenario that dissipates water velocity to minimize sediment movement.

The stream banks will be armored as necessary to prevent future stream migration. A small section of the stream will be realigned in one location to move the stream away for an existing sewer manhole. The stream will be cut and filled as necessary to obtain the proposed elevation to create a natural streambed. The step-pool structures and streambank armoring will be built with armor stone approximately 500 to 1,000 lbs in size.

The total stream/riparian buffer restored will be approximately 1.45 AC. All trash and debris will be removed from the streambanks and riparian area as well as a concrete pad immediately adjacent to the stream head. Invasive species will be removed and all vegetative areas removed to allow access to the stream for construction will be replanted and restored to natural conditions with native species. In addition, approximately 0.46 +/- acres of cleared land will be planted with native species. Again, the sewer easement will not be planted and has not been included in the total riparian buffer enhancement acreage.

These plans are for design and permitting purposed only, not for construction purposes.





LEGEND

- Property Boundary
- Existing Wetlands w/25FT Buffer
- Treeline
- Existing Stream/Stream Bank
- Existing Contours
- Proposed Contours
- Area For Invasive Species Removal and Supplemental Plantings
- Non-Forested Area To Be Planted
- Proposed Stream Alignment
- Step-Pool Rock Structure
- Streambank Armoring
- LOD — Mitigation LOD

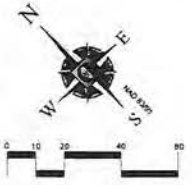
PROPOSED:

The proposed restoration will begin down gradient of the culvert at the streamhead. The restoration will continue approximately 155 LF with either drop structures; removal of debris, existing asphalt parking facility in the RPZ , and invasive species; and revegetate the RPZ associated with the stream with native species. The sewer easement will not be planted and has not been included in the total riparian buffer enhancement acreage.

The restoration will utilize two (2) separate step-pool structure within the stream channel. As shown above, the structures will be approximately 24 FT in length. The drops will be approximately 6" and pools will be approximately 8 FT in length. The step-pool structures will act as a grade controlling device while creating a natural riffle-pool scenario that dissipates water velocity to minimize sediment movement. The step-pool structures will be built with armor stone approximately 500 to 1,000 lbs in size.

Extensive grading will be completed on the southern side of the streambank to create a natural stream channel. The total stream/riparian buffer restored will be approximately 0.3 AC. All trash and debris will be removed from the streambanks and riparian area as well as a concrete pad immediately adjacent to the stream head. Invasive species will be removed and all vegetative areas removed to allow access to the stream for construction will be replanted and restored to natural conditions with native species. In addition, approximately 0.09 +/- acres of cleared land will be planted with native species. Again, the sewer easement will not be planted and has not been included in the total riparian buffer enhancement acreage.

These plans are for design and permitting purposed only, not for construction purposes.



FINAL STREAM MITIGATION RESTORATION PLAN
WALDORF CROSSINGS/STEIN PARKWAY, PHASE 3
STREAM 2 PLAN VIEW
CRAIN HIGHWAY - U.S. RTE. 301 &
MATTAWOMAN BEANTOWN ROAD - MD RTE. 5
ZONED COMMERCIAL, INDUSTRIAL, AND AGRICULTURAL
CHARLES COUNTY, MD

JOB NO. 3134
SCALE: 1"=20'
DATE: 09/20/13
ENGINEER: NDS
DESIGNER: GMJ
REVIEWER: GMJ
SHEET: 4 OF 7

DATE	REVISIONS

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12480 MATTAWOMAN DRIVE
WALDORF, MARYLAND 20601

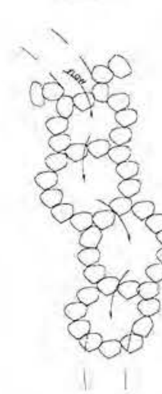
AND

CHARLES COUNTY GOVERNMENT
P.O. BOX 2150
LA PLATA, MARYLAND 20646

TYP. ROCK DROP STRUCTURE PLAN VIEW

RDS TYP

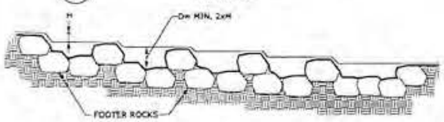
NOT TO SCALE

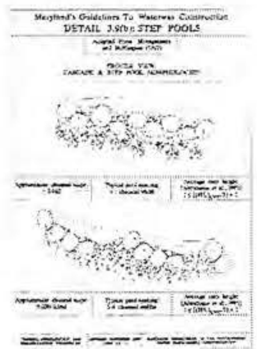


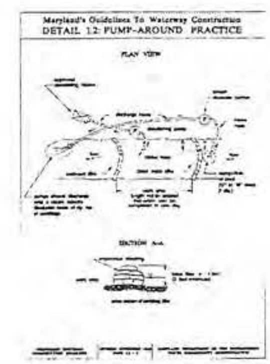
TYP. ROCK DROP STRUCTURE PROFILE VIEW

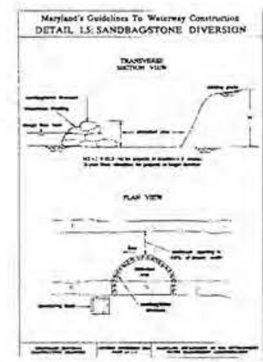
RDS TYP

NOT TO SCALE









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DATE	REVISIONS

FINAL STREAM MITIGATION RESTORATION PLAN
WALDORF CROSSINGS/WESTERN PARKWAY, PHASE 3
CROSS-SECTIONAL VIEWS AND STANDARD DETAILS
CRAIN HIGHWAY - U.S. RTE. 301 &
MATTAWOMAN BEANTOWN ROAD - MD RTE. 5
6TH ELECTION DISTRICT
ZONED COMMERCIAL INDUSTRIAL AND AGRICULTURAL
CHARLES COUNTY, MD

JOB NO.	
SCALE:	
DATE:	
DRAWN BY:	
DESIGN BY:	
REVIEW BY:	
SHEET:	5 OF 7

WALDORF CROSSING/WESTERN PARKWAY STREAM MITIGATION

I. INTRODUCTION

The onsite unnamed tributaries for the proposed mitigation are located on the Waldorf Crossing Property on the western side of U.S. Route 301. The streams are both tributaries to the Mattawoman Creek and are currently in poor condition. There is currently no stormwater management associated with the property causing uncontrolled runoff from surface flow and culverts at the streamheads to not only cause severe erosive stream conditions, but flow directly into the Mattawoman Creek.

STREAM 1 OBJECTIVE AND GOALS: This stream channel has erosive downcutting and channel migration due to the existing sewer line that runs parallel and perpendicular to the stream. The unnamed tributary has become highly degraded due to unmanaged stormwater from a culvert at the stream head and unmanaged overland flow. The existing sewer line has also affected the stream condition. A manhole associated with the sewer line is currently acting as a "bank armor" preventing the stream from migrating further. The erosion has caused downcutting and sidecutting leaving the stream bed severely entrenched, approximately 4 to 6 feet below the stream banks and at the stream head.

The stream is surrounded by a forested and scrub-shrub area; however, this area has invasive species such as Autumn Olive, Japanese Honeysuckle, Microstegium, Multiflora Rosa, and Bradford Pear. There is also trash and debris located within the banks of the stream. There is a concrete pad located immediately adjacent to the stream head. There are some areas adjacent to the stream that appear to have wetlands in the past, however to the erosive stream conditions causing a drop in the water table, these areas are no longer wet.

The stream is located within an area developed prior to stormwater management regulations. The propos[illegible]d redevelopment of the property which incorporates County road Western Parkway i[illegible] design will properly manage the stormwater minimizing future degra[illegible] to the stream. Stabilization will be achieved by filling and constructing step pool structures at different elevations to raise the invert of the stream. One section of the stream will be realigned approximately 10 feet to the southwest away from existing manhole currently in the stream bank. The banks will be armored to prevent future stream migration. Once restoration is complete, the stream will be a stable system allowing it to function to its optimal potential, i.e. maintaining the dimension, pattern, and profile over time allowing it to properly disperse water flow without negative effects of detritus to the watershed.

The restoration will begin down gradient of the culvert at the streamhead where the channel splits into two paths. The restoration will continue the length of the stream with either drop structures, streambank armoring, removing debris, concrete pad, invasive species, and revegetate the RPZ associated with the stream with native species. The project area is entirely within the Waldorf Crossings property. The proposed restoration will utilize three (3) separate step-pool structure within the stream channel. The structures will be of varying lengths and drops depending on the location and the stream morphology. The drops will be approximately 6" and pools will range from 6' to 8' in length. The step-pool structures will act as a grade controlling device while creating a natural riffle-pool scenario that dissipates water velocity to minimize sediment movement. The stream banks will be armored as necessary to prevent future stream migration. A small section of the stream will be realigned in one location to move the stream away for an existing sewer manhole. The stream will be cut and filled as necessary to obtain the proposed elevation to create a natural streambed. The step-pool structures and streambank armoring will be built with armor stone approximately 500 to 1,000 lbs in size.

The total stream/riparian buffer restored will be approximately 1.45 AC. All trash and debris will be removed from the streambanks and riparian area as well as a concrete pad immediately adjacent to the stream head. Invasive species will be removed and all vegetative areas removed to allow access to the stream for construction will be replanted and restored to natural conditions with native species. In addition, approximately 0.46 +/- acres of cleared land will be planted with native species. By utilizing multiple commonly practiced stream restoration techniques, this restoration design will repair the bank and channel erosion, prevent future erosion and will stabilize the urban riparian community.

STREAM 2 OBJECTIVE AND GOALS: This stream channel is an old farm/stormwater ditch that has become vegetated with scrub-shrub. It is a man-made channel that was relocated to the north in the 1950s-1960s to allow adequate parking for the milk processing plant. The asphalt associated with the parking facility currently encroaches on the stream bank. The stream is in poor condition due to the unmanaged stormwater from the the culvert at the stream head and surface flow. A portion of the channel upstream of the proposed mitigation area is a 36" culvert. The unmanaged stormwater has left the stream entrenched, approximately 3-4 feet.

There is a small wetland located adjacent on the northern side of the stream channel and the is surrounded by a scrub-shrub area; however, this area has invasive species such as Autumn Olive, Japanese Honeysuckle, Microstegium, and Multiflora Rosa. There is also trash and debris located within the banks of the stream.

Again, the stream is located within an area developed prior to stormwater management regulations. The proposed redevelopment of the property which incorporates County road Western Parkway and the extension of Mattawoman Drive into the design will properly manage the stormwater minimizing future degradation to the stream. The existing culvert will be replaced and extended to allow the extension of Mattawoman Drive. At this point the restoration will begin. The restoration will continue the length of the stream approximately 155 LF to a culvert that will allow for the construction of Western Parkway. One step pool structure will be constructed to raise the invert and stablized the channel. Raising the invert will prevent the adjacent wetland from losing the hydrology needed to remain a functioning wetland.

The total 2-pool drop structure will be approximately 24 FT in length and the drops will be approximately 6" and pools approximately 8' in length. The step-pool structures will act as a grade controlling device while creating a natural riffle-pool scenario that dissipates water velocity to minimize sediment movement. The step-pool structures will be built with armor stone approximately 500 to 1,000 lbs in size. All concrete/asphalt, debris, and invasive species will be removed from the length of stream channel and approximately 0.3 AC of the riparian buffer. The existing forested riparian buffer will be supplemented with native species planting as well as 0.09 AC of nonforested, cleared land.

Again, once restoration is complete, the stream will be a stable system allowing it to function to its optimal potential, i.e. maintaining the dimension, pattern, and profile over time allowing it to properly disperse water flow without negative effects of detritus to the watershed. By utilizing multiple commonly practiced stream restoration techniques, this restoration design will repair the bank and channel erosion, prevent future erosion and will stabilize the urban riparian community.

CONCLUSION: The streams located on the Waldorf Crossings Property are ideal for stream mitigation work. The streams are severely eroded and flow directly into the Mattawoman Creek. Access to the stream can be achieved with minimal impacts to the riparian vegetation and all temporary access will be replanted and restored. Restoration will involve construction of step-pool structures that will be utilized as grade controlling devices and will create a riffle-pool natural conditions. Step-pools will vary in length and drops depending on the existing stream morphology.

Once restoration is complete, annual monitoring reports of the stream condition will be completed to ensure the restoration construction is functioning properly.

Restoration activities will stabilize the urban riparian community and allow the stream to function to its optimal potential, i.e. maintaining the dimension, pattern, and profile over time allowing it to properly disperse water flow without negative effects of detritus to the watershed.

II. MONITORING PLAN

Monitoring of the stream restoration work will be the responsibility of WRI West Land Development, Inc. and will be conducted annually for 5 years during the month of October. Monitoring will be conducted by American Land Concepts stream specialist or other approved environmental/stream restoration professional. Monitoring reports will fully evaluate the stream conditions and look for and erosion and/or stream migration. Photodocumentation at permanent photostations will be included in the monitoring report. Reports will be submitted to USACE by October 31st of each year after construction is completed.

If during the monitoring any erosion along the restored stream is detected, it shall be properly addressed to prevent sediment transport into the stream. If any changes to the design are necessary, USACE will be contacted before proceeding forward with repairs.

III. SEQUENCE OF CONSTRUCTION

1. Conduct a Pre-construction meeting. Notify Maryland Department of the Environment Water Management Administration Compliance Program (410-537-3510) at least 5 calendar days prior to beginning work. Work may not commence until the permitte or the responsible personnel have met on site with the sediment and erosion control inspector to review the approved plans.
2. Call Miss Utility 1-800-257-7777at least 48 hours prior to beginning work.
3. If applicable, orange high visibility fencing shall be manually installed along the limit of disturbance. This shall be completed by and inspected at, the pre-construction meeting.
4. Clear and grub for installation of perimeter sediment control measures and devices only.
5. Install perimeter sediment and erosion control measures and devices.
6. No more area shall be disturbed than can be completed and stabilized by the end of each work day. Maintain erosion and sediment control measures during the course of construction.
7. Notify sediment control inspector upon completion of said installation.
8. With the approval of sediment control inspector, clear and grub remainder of site.
9. Install pump around practice. The contractor should only dewater each isolated portion of the stream channel which can be completed by the end of the day including grading adjacent to the channel. At the end of each work day, the work area must be stabilized, any sediment accumulated within the work areas should be removed prior to removal of the pump around and restoring stream flow. Work should not be conducted in the channel during rain events.
10. Perform earthwork (rough and final grading) and install step pool structures, as shown on these plans following guidelines set forth in item 8 above.
11. Install vegetative material along restored stream bank.
12. Thoroughly clean the site removing all debris and miscellaneous construction materials.
13. Seed and mulch for permanent upland vegetative stabilization.
14. Upon completion of construction and successful establishment of vegetative cover,with approval of the sediment control inspector, remove erosion and sediment control measures and devices, except as otherwise noted.
15. Stabilize all areas disturbed by cleanup and removal of erosion and sediment control measures and devices.

IV. GENERAL NOTES

1. Miss Utility must be contacted and all utility lines must be located and marked prior to the start of any construction activities.
2. Stream diversion will be achieved by means of a temporary "pump-around" during culvert installation.
3. Refer to "*1994 Maryland Standards and Specifications for Soil Erosion and Sediment Control*" for standard details and detailed specifications of each practice specified herein not shown on this plan.
4. With the approval of the sediment control inspector, minor field adjustments can and will be made to insure the control of any sediment. Changes in sediment control practices require prior approval of the sediment control inspector and the Charles County Soil Conservation District.
5. At the end of each working day, all sediment control practices will be inspected and left in operational condition.
7. Following initial soil disturbance or redisturbance, permanent or temporary stabilization shall be completed within: a.) seven calendar days as to the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than three horizontal to one vertical (3:1), and b.) fourteen days as to all other disturbed or graded areas on the project site which will remain idle over fourteen days.
10. Any variations from the sequence of operations stated on this plan requires the approval of the sediment control inspector and the Charles County Soil Conservation District prior to the initiation of the change.
11. Excess cut or borrow material shall go to, or come from, respectively, a site with an open grading permit.
12. The following item may be used as applicable: Refer to *"Maryland's Guidelines to Waterway Construction"* by the Water Management Administration of the Maryland Department of the Environment, revised November, 2000, for standard details and detailed specifications of each practice specified herein for waterway construction.
14. The disturbed area is to be revegetated with the native species.
15. This project is located along Class I Waters. No construction shall take place during the stream closure dates for Class I waters: March 1 through June 15, inclusive.

FINAL STREAM MITIGATION RESTORATION PLAN
WALDORF CROSSINGS/WESTERN PARKWAY, PHASE 2
NOTES AND DETAILS
CRAIN HIGHWAY - U.S. RTE 301 & MATTAWOMAN BEANTOWN ROAD - MD RTE 5
6TH ELECTION DISTRICT
CHARLES COUNTY, MD

DATE	REVISIONS

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REISTERSTOWN, MARYLAND 21136
PHONE: (410) 526-2668

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AND
CHARLES COUNTY GOVERNMENT
P.O. BOX 2150
LA PLATA, MARYLAND 20646

WALDORF CROSSING/WESTERN PARKWAY STREAM MITIGATION

V. SOIL AND EROSION CONTROL NOTES

1. All erosion and sediment control practices are to be constructed and maintained according to the minimum standards of the Maryland Erosion and Sediment Control Handbook. The Contractor is responsible for being thoroughly familiar with the measures contained within this document that are pertinent to this project.
2. It is the contractors responsibility to inspect all erosion control devices periodically and after every erodible rainfall. Necessary repairs to maintain the effectiveness of the erosion control devices shall be made immediately. This maintenance will include the repair of measures damaged by any subcontractor.
3. All erosion and siltation measures are to be "in place" prior to construction
4. If, during construction, additional erosions control devices are found necessary by either the contractor or the County, they shall be installed.
5. Permanent soil stabilization shall be applied to bare areas within seven days of reaching final grade. No disturbed area will be denuded of more than 28 calendar days.
6. Temporary seeding shall be accomplished within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days.
7. The term Seeding, Final Cover or Stabilization shall include establishment of a stable grass cover according to Specification 1.66, Permanent Seeding, of the Maryland Erosion and Sediment Control Handbook.
8. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After completion of stabilization, all measures are removed within 30 days. Trapped sediment shall be spread and seeded.
9. Minimize the area disturbed to that area only required for construction.
10. Native vegetation will be preserved to the maximum extent possible consistent with the use and development permitted and according to the Maryland Erosion and Sediment Control Handbook.

VI. PLANTING SPECIFICATIONS

Planting shall commence after final grading. All plant material shall be installed between March 1 to May 30 or September 1 to October 30. Planting materials will consist of container grown shrubs and trees. All stock will be planted as received, no pruning will be done at the site. Stock not meeting specifications will be returned. All planting stock shall be protected from sun scald, desiccation, and structural damage during shipment to the site. Delivery of materials will be no sooner than one week prior to planting. Materials held for planting will be moistened and placed in cool, shaded areas until ready for placement.

A. Planting Materials

1. The plant species required are usually not available from standard landscape nursery sources. The Contractor shall make arrangements with competent wetland restoration sources to ensure a supply of the required materials.
2. All plant material shall conform to the current issue of the American Standard for Nursery Stock published by the American Association of Nurserymen, except where otherwise noted.
3. Plant materials must be selected from certified nurseries that have been inspected by appropriate state or federal agencies.
4. Botanical nomenclature is according to Hortus III.
5. Individual plants shall be shipped and planted in containers. Care must be taken to avoid drying out the plants, rhizomes, tubers, or foliage during shipping and staging.
6. Plant material will be inspected by the wetland specialist prior to planting. All plant material deemed unacceptable due to damage or poor health will be required to be replaced with acceptable plant material by the Contractor.

B. Planting

1. The wetland is to be planted with woody plants (tree and shrubs) at a minimum of 435 stems per acre (Approximately 10' on center).
2. Plants shall be planted on 10' center across the gradient. Plants will be categorized by preferred hydroperiod and planted in proper hydrologic zones.
3. Plant material shall be planted in a planting pit excavated to 1 ½ times the width of the entire root mass and tamped to fill all voids and air pockets.
4. The root mass shall be placed in the planting pit and excavated soil shall be placed around the root mass and tamped to fill all voids and air pockets.

C. Cleanup

1. Final cleanup shall be the responsibility of the Contractor and consist of removing all trash and materials incidental to the project and the proper disposal of the material off-site.
2. Cleanup procedure activities shall not damage existing plants.

VII. CONTROL OF INVASIVE PLANTS AND ANIMALS

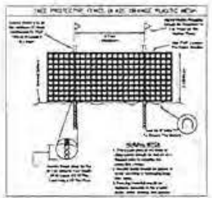
A maintenance program will be implemented to employ proven management techniques and monitor the wetland functions to achieve the goal of 80% cover 5 years from the completion of the planting.

PLANT LIST

REFORESTATION AREA B AND C PLANTING LIST:

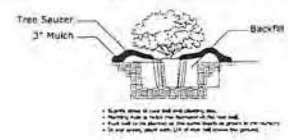
0.55 ACRES @ 435 TREES/ACRE = A MINIMUM OF 240 TREES/SHRUBS

Common Name	Scientific Name	Quantity	Size
White Oak	*Quercus alba*	40	1 gallon containers
Tuip Poplar	*Liriodendron tlipifera*	40	1 gallon containers
Black Locust	*Robinia pseudoacacia*	20	1 gallon containers
Redbud	*Cercis canadensis*	35	1 gallon containers
Staghorn Sumac	*Rhus typhina*	35	1 gallon containers
Red Maple	*Acer rubra*	40	1 gallon containers
Spicebush	*Lindera benzoin*	35	1 gallon containers
	TOTAL	245	



B&B Planting Detail

Container Planting Detail



Plant Community Layout

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DATE | REVISIONS

FINAL STREAM MITIGATION RESTORATION PLAN
WALDORF CROSSINGS/WESTERN PARKWAY, PHASE 3
NOTES AND DETAILS
CRAIN HIGHWAY - U.S. RTE. 301 &
MATTAWOMAN BEANTOWN ROAD - MD RTE. 5
8TH ELECTION DISTRICT
ZONED COMMERCIAL INDUSTRIAL AND AGRICULTURAL
CHARLES COUNTY, MD

FINAL WETLAND MITIGATION PLAN FOR THE WALDORF CROSSING/WESTERN PARKWAY PHASE 2 AND 3 PROJECT

Charles County, Maryland
September 2013

TOPOGRAPHIC MAP

INDEX

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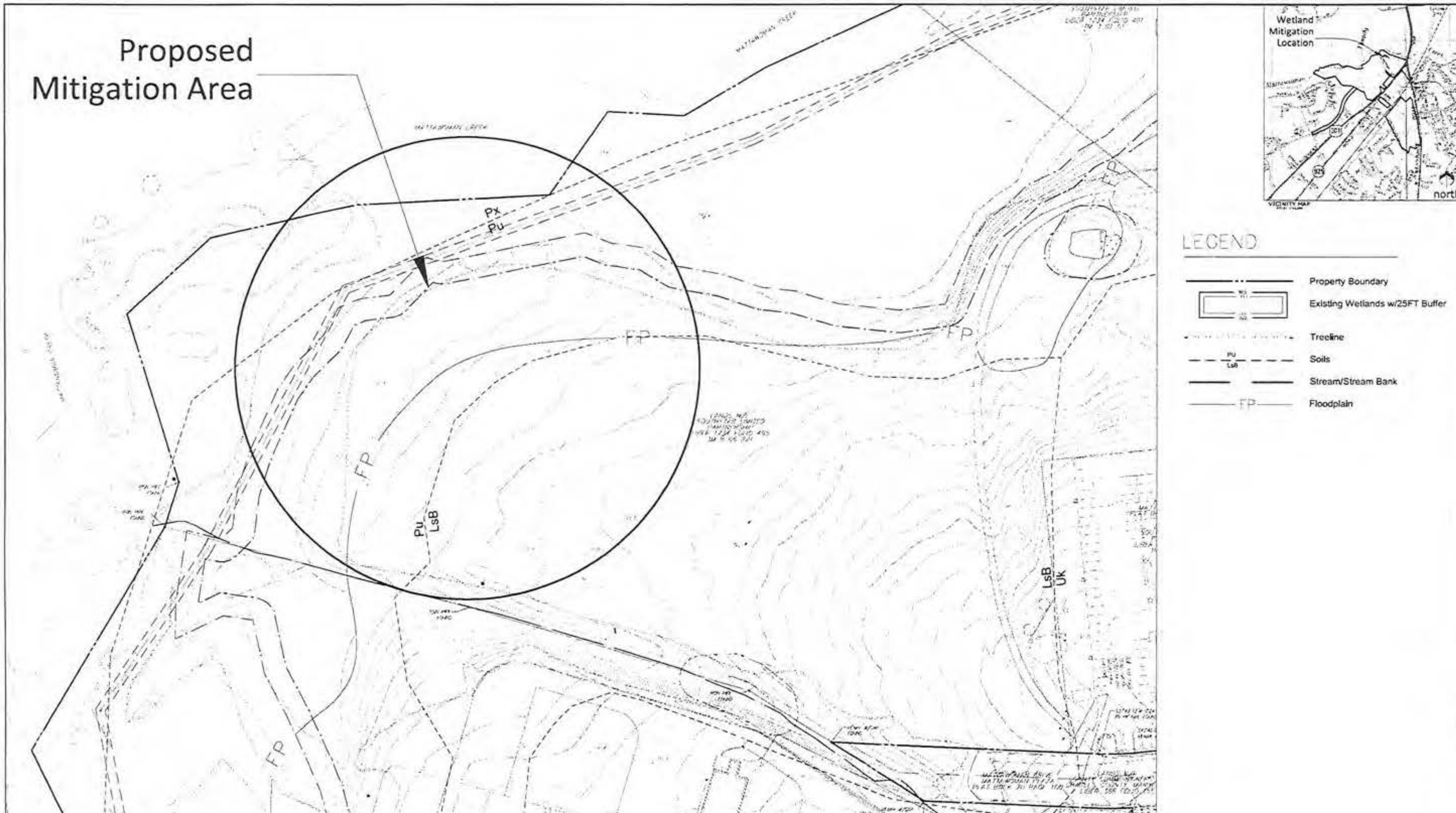
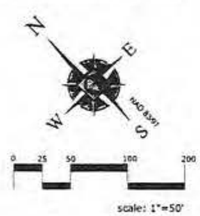
PREPARED BY:
ALC
AMERICAN LAND CONCEPTS



The Wetland Mitigation area is located within the Mattawoman Watershed and 100-year floodplain of the Mattawoman Creek. This area is currently cleared land and maintained as a football field. Nontidal forested wetlands associated with Mattawoman Creek are located immediately adjacent to the proposed wetland creation area. The soils is Potobac-Issue complex which frequently floods and poorly drains.



FINAL WETLAND MITIGATION PLAN
WALDORF CROSSING/WESTERN PARKWAY, PHASE 2 & 3
EXISTING CONDITIONS
CHARLES COUNTY, MD

DATE | REVISIONS

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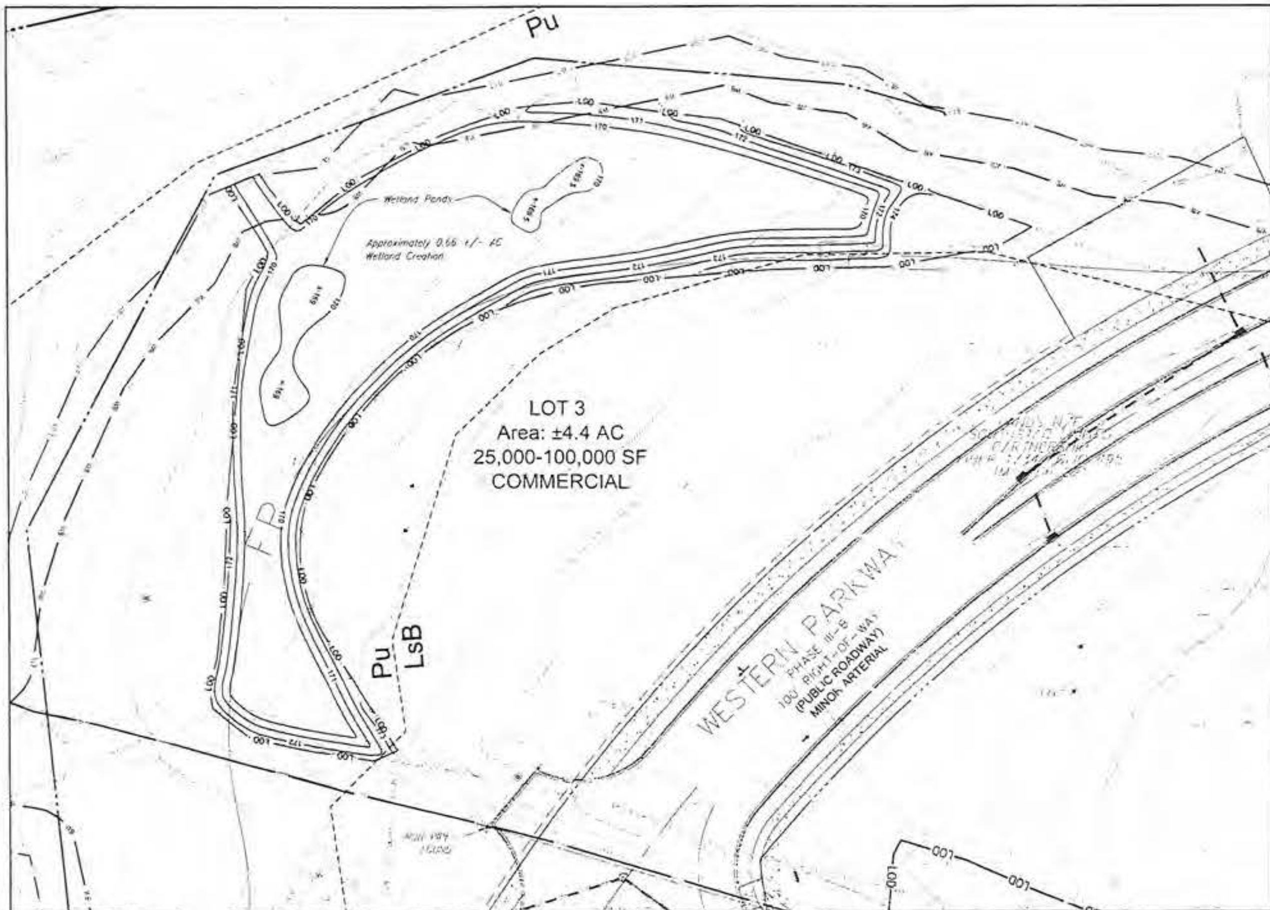


LEGEND

- Property Boundary
- Existing Wetlands w/25FT Buffer
- Treeline
- Soils
- Stream/Stream Bank
- Floodplain
- Existing Contours
- Proposed Contours
- Spot Elevation
- Area To Be Planted
- Development LOD
- Mitigation LOD
- Proposed Mitigation Area Approximately 0.66+/- AC

FINAL WETLAND MITIGATION PLAN
WALDORF CROSSING/WESTERN PARKWAY, PHASE 2 & 3
PROPOSED MITIGATION PLAN
CHARLES COUNTY, MD

BOHLER

AMERICAN LAND CONCEPTS

CHARLES COUNTY GOVERNMENT

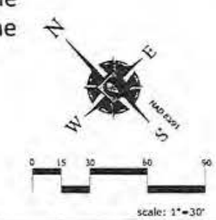
WRI WEST LAND DEVELOPMENT, INC.

This wetland mitigation plan has been designed to compensate non-tidal wetland impacts associated with the construction of Waldorf Crossing and Western Parkway, Phase 2 and 3 in Charles County, Maryland. After necessary grading to ensure the created wetland will be successful and function as a highly aquatic resource, the total area converted to palustrine non-tidal forested wetland is approximately 0.66+/- AC.

The goal of the creation of this palustrine forested wetland is to meet the design criteria in the 1987 USACE Wetland Delineation Manual. The proposed site is located adjacent to existing jurisdictional non-tidal palustrine wetlands and the created wetland will be graded to the same elevation of the existing wetland to allow for the hydrology to naturally flow between the created and existing wetlands.

In addition to the wetland being planted with native wetland species, the side slopes of the created wetland will be planted up to the existing forested area to further protect the Mattawoman Creek and the watershed.

Plans are for design and permitting purposes only, not for construction.



NON-TIDAL PALUSTRINE FORESTED WETLAND ESTABLISHMENT

I. INTRODUCTION

This wetland mitigation plan has been designed to compensate for unavoidable adverse non-tidal wetland impacts a ociated with the construction of Waldorf Crossing and Western Parkway, Phase 2 and 3 in arles County, Maryland. After an extensive site redesign and redelineation, total permit i pacts associated with the project are approximately 1.0 +/- AC of emergent and non-tidal palustrine forested wetlands. The proposed mitigation will convert approximately 0.66+/- AC of cleared, floodplain to palustrine forested wetlands.

The proposed mitigation has been designed to effectively mitigate lost wetland functions by utilizing on-site, in-kind mitigation. The goal of the creation of this palustrine forested wetland is to meet the design criteria in the 1987 USACE Wetland Delineation Manual. The proposed site is located adjacent to existing jurisdictional non-tidal palustrine wetlands. The mitigation site will be graded and linked directly to the hydrology of the existing wetlands. The mitigation site will be planted to accelerate natural succession. These plans are for design and permit purposes only, not for construction. As part of the mitigation, the established wetlands will be recorded as a conservation easement to protect the wetlands in accordance with USACE.

A. Site Selection

The on-site mitigation location was selection due to the land being within the boundaries of the floodplain and the close proximity to existing jurisdictional wetlands. The site is cleared land that is maintained as a football field. Existing wetlands, floodplain, and waters of the United States are shown on the plan sheets. The selected mitigation site is within the Mattawoman watershed and the hydrologic unit code (HUC) is 02070011.

B. Adjacent Wetlands

Non-tidal palustrine wetlands are adjacent to proposed mitigation site. Dominant vegetation in the forested wetlands include River Birch, Red Maple, Sweet Gun, Green Ash, Willow Oak and Pin Oak. Soils within the wetlands are nearly flat with slight topographic variations between 1-10% slopes. The source of the wetland hydrology includes surface runoff and the Mattawoman Creek.

II. SEQUENCE OF CONSTRUCTION

1. Call Miss Utility 1-800-257-7777at least 48 hours prior to beginning work.
2. Limit-of-Disturbance delineated and marked.
3. Clear and grub those areas necessary for installation of perimeter controls.
4. Installation of silt fence.
5. Excavation the area in accordance with this Wetland Mitigation Plan. A minimum of 6 inches of existing loam will be removed and replaced with 6 inches of organic topsoil simultaneously.
6. Once topsoil is in place and any microtopographic has been established, a post grading survey will be conducted. The survey shall document spot elevations that are within +/- 0.2 FT of the elevations indicated on page 3 of this Plan.
7. Vegetative planting of wetlands per plant list and planting specifications as shown on this sheet.
8. Removal of sediment and erosion control devices upon the inspector's approval.
9. Clean work site and stabilize any remaining areas.
10. Once stabilized, the silt fence will be removed.

III. SOIL AND EROSION CONTROL NOTES

1. All erosion and sediment control practices are to be constructed and maintained according to the minimum standards of the Maryland Erosion and Sediment Control Handbook. The Contractor is responsible for being thoroughly familiar with the measures contained within this document that are pertinent to this project.
2. It is the contractors responsibility to inspect all erosion control devices periodically and after every erodible rainfall. Necessary repairs to maintain the effectiveness of the erosion control devices shall be made immediately. This maintenance will include the repair of measures damaged by any subcontractor.
3. All erosion and siltation measures are to be "in place" prior to construction
4. If, during construction, additional erosions control devices are found necessary by either the contractor or the County, they shall be installed.
5. Permanent soil stabilization shall be applied to bare areas within seven days of reaching final grade. No disturbed area will be denuded of more than 28 calendar days.
6. Temporary seeding shall be accomplished within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 30 days.
7. The term Seeding, Final Cover or Stabilization shall include establishment of a stable grass cover according to Specification 1.66, Permanent Seeding, of the Maryland Erosion and Sediment Control Handbook.
8. Temporary erosion control measures are not to be removed until all disturbed areas are stabilized. After completion of stabilization, all measures are removed within 30 days. Trapped sediment shall be spread and seeded.
9. Minimize the area disturbed to that area only required for construction.
10. Native vegetation will be preserved to the maximum extent possible consistent with the use and development permitted and according to the Maryland Erosion and Sediment Control Handbook.

IV. GRADING CRITERIA

To effectively establish wetland hydrology, the site requires regrading to allow water to drain to the wetland. The wetland establishment will be graded to elevations indicated on Sheet 3 of this plan. The proposed mitigation area will be rough graded to an elevation of 170'. Final grading including the establishment of required microtopographic variation will range in elevation from 169' to 170.5' to establish wetland hydrology. During excavation, the wetland specialist can alter the grading as needed to allow for proper wetland establishment. Irregularities in the floor of the wetland caused by equipment moving around the site during construction will be left in place to mimic Hummocky microtopography. Hummokcy microtopogry mimics naturally occurring microtopography created by decaying wetland vegetation. A wetlands specialist will be present during the construction to oversee the microtopography variation of the wetland. The mitigation site design includes the creation of ponds and islands to mimic a natural system and provide for bio-diversity.

V. TOPSOIL APPLICATION

The topsoil from the existing wetland should be stockpiled separately from the subsoil and protected for use in the created wetland. That will reduce the need for additional organic amendments. If that is not possible, the site may need to be over excavated 6-12 inches (depending on site hydrology/groundwater inputs) and a comparable amount of high quality topsoil, organic soil, muck, or composted organic material added. Where the site has been graded down to the original subsoil (B or C horizon), sufficient organic matter (topsoil, compost, leaf mold, etc.) should be added to bring soil organic matter content to at least 5% (this could be as much as several inches of material). This will provide a rooting medium and a source of organic material to support the microbial activity necessary to establish a reducing environment. Mulch can be difficult to mix into clayey soils, where disking may be possible to a depth of only 6-8 inches. If mulch is added, it should be mixed into the soil very well and should not be added in such quantities that herbaceous growth will be inhibited.

VI. PLANTING SPECIFICATIONS

Planting shall commence after final grading. All plant material shall be installed between March 1 to May 30 or September 1 to October 30. Planting materials will consist of container grown shrubs and trees. All stock will be planted as received, no pruning will be done at the site. Stock not meeting specifications will be returned. All planting stock shall be protected from sun scald, desiccation, and structural damage during shipment to the site. Delivery of materials will be no sooner than one week prior to planting. Materials held for planting will be moistened and placed in cool, shaded areas until ready for placement.

A. Planting Materials

1. The plant species required are usually not available from standard landscape nursery sources. The Contractor shall make arrangements with competent wetland restoration sources to ensure a supply of the required materials.
2. All plant material shall conform to the current issue of the American Standard for Nursery Stock published by the American Association of Nurserymen, except where otherwise noted.
3. Plant materials must be selected from certified nurseries that have been inspected by appropriate state or federal agencies.
4. Botanical nomenclature is according to Hortus III.
5. Individual plants shall be shipped and planted in containers. Care must be taken to avoid drying out the plants, rhizomes, tubers, or foliage during shipping and staging.
6. Plant material will be inspected by the wetland specialist prior to planting. All plant material deemed unacceptable due to damage or poor health will be required to be replaced with acceptable plant material by the Contractor.

B. Planting

1. The wetland is to be planted with woody plants (tree and shrubs) at a minimum of 435 stems per acre (Approximately 10' on center).
2. Plants shall be planted on 10' center across the gradient. Plants will be categorized by preferred hydroperiod and planted in proper hydrologic zones.
3. Plant material shall be planted in a planting pit excavated to 1 ½ times the width of the entire root mass and tamped to fill all voids and air pockets.
4. The root mass shall be placed in the planting pit and excavated soil shall be placed around the root mass and tamped to fill all voids and air pockets.

C. Cleanup

1. Final cleanup shall be the responsibility of the Contractor and consist of removing all trash and materials incidental to the project and the proper disposal of the material off-site.
2. Cleanup procedure activities shall not damage existing plants.

VII. CONTROL OF INVASIVE PLANTS AND ANIMALS

A maintenance program will be implemented to employ proven management techniques and monitor the wetland functions to achieve the goal of 80% cover 5 years from the completion of the planting.

VIII. MONITORING AND SUCCESS

Monitoring and success will be measured in accordance with the United States Army Corps of Engineers Branch Guidance for Wetlands Compensation Permit Conditions and Performance Criteria (16 November 1995) and Maryland Department of the Environment's Guide to Nontidal Wetland Mitigation Monitoring: Methods Manual. Monitoring Reports are required for the first five years following the end of the first growing season after planting. Hydrologic, vegetative, and soils data will be collected throughout the year. Reports will be provided to the United States Army Corps of Engineers no later than October 31 of the monitoring year. At a minimum each report will include:

1. A site map illustrating the wetland boundary based on hydrology and vegetation data and the calculated acreage based on that data.
2. Photographs showing views of the wetland area taken from permanent stations and corresponding view directions. View direction will show the same area throughout the monitoring period.
3. Surface water depths observed during monitoring.
4. Vegetation data will include density counts for woody plants by species and herbaceous plants by percent cover.
5. Soil will be monitored to ensure hydrological indicators in accordance with the USACE manual such as mottling, oxidized rhizospheres, etc. are present.
6. Identification and location of any invasion of undesirable species of vegetation and/or wildlife will be reported in the Monitoring Report. The report will suggest methods for removal and monitoring of undesirable species of vegetation and wildlife.

PLANT LIST

REFORESTATION AREA A PLANTING LIST:

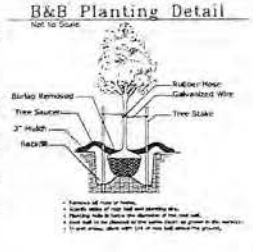
0.82 ACRES @ 435 TREES/ACRE = A MINIMUM OF 357 TREES/SHRUBS

Common Name	Scientific Name	Quantity	Size
Red Maple	*Acer rubra*	50	1 gallon containers
River Birch	*Betula nigra*	40	1 gallon containers
Pin Oak	*Quercus palustris*	40	1 gallon containers
Willow Oak	*Quercus phellos*	40	1 gallon containers
Sweetgum	*Liquidambar straciflora*	50	1 gallon containers
Arrowwood	*Viurnum dentatum*	50	1 gallon containers
Silky Dogwood	*Cornus amonum*	25	1 gallon containers
Buttonbush	*Cephalanthus occidentalis*	20	1 gallon containers
Sweetbay Magnolia	*Magnolia virginiana*	20	1 gallon containers
Highbush Blueberry	*Vaccinium corymbosum*	25	1 gallon containers
	TOTAL	360	

NOTE: Substitutions in plant species, size, quantities, or other materials, shall be made only when plant stock is not available. Comparable substitutions can be made that do not result in a significant change in plant diversity or type.

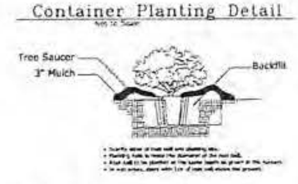
B&B Planting Detail

Not to Scale



Container Planting Detail

Not to Scale



Plant Community Layout

OWNER/APPLICANT: WRI WEST LAND DEVELOPMENT, INC. AND CHARLES COUNTY GOVERNMENT, P.O. BOX 2150, LA PLATA, MARYLAND 20646

CONSULTANT: AMERICAN LAND CONCEPTS, 238 B MAIN STREET, REISTERSTOWN, MARYLAND 21136

Engineer: BOHLER

DATE	REVISIONS

FINAL WETLAND MITIGATION PLAN
WALDORF CROSSINGS/WESTERN PARKWAY, PHASE 2 & 3

NOTES AND DETAILS

CHARLES COUNTY, MD