

MCPB Item No.: 6 Date: 04-08-21

Dennis Avenue Bridge (M-0194) Replacement, Mandatory Referral, MR2021011

Stephen Aldrich, Master Planner, <u>Stephen.Aldrich@montgomeryplanning.org</u>, 301-495-4528

Jason Sartori, Chief, CP&P, <u>Jason.Sartori@montgomeryplanning.org</u>, 301-495-2172

Completed: 03-31-21

Description

Construction of a replacement bridge on Dennis Avenue in Silver Spring, Maryland. The project elements are a 59-foot-wide bridge along Dennis Avenue across Wheaton Branch, a tributary of Sligo Creek, and the construction of a temporary bicycle/pedestrian bridge on the north side of the existing bridge during construction.

- Applicant: Montgomery County Department of Transportation
- Kensington/Wheaton Master Plan (1989)

Staff Recommendation: Approval to Transmit Comments



Summary	2
Mandatory Referral Review	3
Recommendations	4
Proposed Design	4
Project Description	4
Existing Road	7
Proposed Bridge Cross Section	9
Proposed Plan View	9
Typical Cross Sections – Dennis Avenue	12
Proposed Traffic Detour During Construction	13
Transportation Analysis	14
Master Plan Conformance – Transportation	14
Design Elements – Transportation	14
Net Impact of Recommended Design Changes	15
Historic Resources Analysis	15
Environmental Guidelines	15
Forest Conservation	16
Community Outreach and Notification	17
Conclusion	17
Attachment	17



Summary

The Montgomery County Department of Transportation (MCDOT) is proposing to replace the existing bridge on Dennis Avenue over Wheaton Branch in Silver Spring. The project includes the following improvements:

- Removal of the existing structure,
- Reconstruction of the roadway approaches limited to 116 feet on the west approach to the structure and 87 feet on the east approach (improvements will be transitioned to the existing closed section roadway),
- Construction of a new 59-foot-wide, 80-foot-long bridge structure in the same location as the existing bridge,
- Construction of a 13-foot-wide sidepath on the north side of the bridge,
- Construction of a seven-foot-wide sidewalk on the south side of the bridge,
- Two 11-foot-wide travel lanes,
- Two 2-foot-wide paved buffers between the travel lanes and the bicycle compatible shoulder,
- Two 5-foot-wide bicycle compatible shoulders,
- Construction of a temporary sidepath and bridge (8-foot-wide) during bridge construction.

The project location is depicted in Figure 1. The current project, which includes full design and construction cost funding, is listed as CIP Project No. P501701. It is estimated to cost \$5.6 million, which includes final design cost, utility modification/relocation, easement cost, as well as construction cost. In the current FY21-FY26 CIP, this project is slated for construction in FY22 and FY23.

The 35 percent design plan presentation drawings are provided as Attachment A to this report. The submittal is labeled as a Type, Size & Location (TS&L) submission which is a specific process used for bridge design.



Figure 1: Project Limits and Site Vicinity

Mandatory Referral Review

This proposal for the construction of bridge improvements is required to undergo the Mandatory Referral review process under the Montgomery County Planning Department's Uniform Standards for Mandatory Referral Review. State law requires all federal, state, and local governments and public utilities to submit proposed projects for a Mandatory Referral review by the Commission. The law requires the Planning Board to review and approve the proposed location, character, grade and extent of any road, park, public

way or ground, public (including federal) building or structure, or public utility (whether publicly or privately owned) prior to the project being located, constructed or authorized.

Planning staff acknowledges that the implementation of master plan transportation recommendations is a challenge faced by the applicant in developing design plans to convert desired master plan recommendations into engineering design drawings. The design process up to 35 percent design typically brings clarity with considerably more detail than considered during a master plan, and issues such as environmental impacts, historical impacts, and construction costs may introduce new factors that need to be weighed in developing a final design solution. It is hoped that the Mandatory Referral process aids in this process to develop an optimal or at least an improved design solution.

Recommendations

Staff recommends **approval** to transmit the following comments to the Montgomery County Department of Transportation:

- 1. The total bridge travelway width should be reduced from 36 feet to 30 feet. This will require the following changes:
 - a. The shoulders should be reduced from 5-feet-wide to 4-feet-wide to provide bikeable shoulders within the project limits, and
 - b. The 2-foot-wide buffers should be eliminated.
- 2. The sidepath on the north side of Dennis Avenue should be increased to 14 feet (providing a 10-foot-wide clear width).
- 3. The sidewalk on the south side of Dennis Avenue should be increased to 10 feet (providing a 6-foot-wide clear width).

Proposed Design

Project Description

The Montgomery County Department of Transportation (MCDOT) is proposing to replace a structurally deficient roadway bridge that carries Dennis Avenue over Wheaton Branch, a tributary of Sligo Creek. The bridge is located on Dennis Avenue approximately 1,600 feet east of Georgia Avenue (MD 97) and between Evans Parkway and Glenhaven Drive.

The existing Dennis Avenue Bridge, built in 1961, is a 34'0" long single-span prestressed concrete void slab beam structure with metal railings on both sides carrying a 36'0" clear roadway for two lanes with twoway traffic plus a 4'8" sidewalk on both sides and is supported by concrete abutments. The 2019 biennial bridge inspection revealed that the prestressed concrete void slab beams and concrete abutments have severe spalls and exposed reinforcement. The bridge is posted for a weight restriction of 52,000 lbs. for single unit truck and 80,000 lbs. for combination unit trucks. The bridge is in need of replacement.

The 2019 Master Plan of Highway and Transitways Functional Classification designates Dennis Avenue as Minor Arterial (MA-17) for two lanes with a minimum right-of-way of 80 feet. The 2018 Bicycle Master Plan proposes a shared use path (sidepath) on the north side.

The bridge is not listed in the Maryland Inventory of Historic Properties (MIHP) nor eligible for National Register.

The bridge has an estimated average daily traffic (ADT) of 14,614 in 2019. The Dennis Avenue has a posted speed limit of 30 MPH.

The proposed Dennis Avenue Bridge will be a three-cell three-sided precast concrete arch culvert carrying two 11-foot travel lanes, two 5-foot bicycle compatible shoulders (bike lanes) and a 2-foot striped buffer between the compatible shoulder and travel lane in each direction for a total clear roadway width of 36', plus a 13-foot shared use path on the north side, a 7-foot sidewalk on the south side and a 1'7"-wide parapet on both sides for an out-to-out width of 59'2". The proposed roadway section complies with the AASHTO's minimum requirement of clear roadway width for a reconstructed two-lane bridge that is funded by Federal Aid.

Adjacent residential houses along Glenhaven Drive and Dennis Avenue and nearby streets are frequently flooded. Montgomery County Department of Environmental Protection (MCDEP) is currently conducting the Wheaton Branch Flood Mitigation project that will work together with the Dennis Avenue Bridge Replacement to mitigate the flooding problem. The scope of the Wheaton Branch Flood Mitigation includes stream channel widening at the upstream and downstream of the Dennis Avenue Bridge and modifications of the existing stormwater management ponds at the downstream. All flood mitigation work will be performed within properties owned by Montgomery County. Please see Figure 2 for the Wheaton Branch Flood Mitigation Site Map. Note that this MCDEP project is not a part of this Mandatory Referral submission.

The Maryland Department of Transportation (MDOT), State Highway Administration (SHA) has approved the 30% design. Currently, MCDOT is working on the post-30% design up to the advertisement and bid opening (100% design completion) that provides for the preparation of final plans, specifications, engineer's cost estimates and permit approvals.



Figure 2: Wheaton Branch Flood Mitigation Site Map

The bridge will be closed to traffic within summer school break during the construction while maintaining vehicular traffic with a detour. The vehicular traffic will be detour through Dennis Ave – University Blvd (MD 193) – Veirs Mill Rd (MD 586) southbound – Georgia Ave (MD 97) – Dennis Ave, approximately 5 miles. This detour route will be selected to comply with the county's policy to only use similar or higher-level classified roads as suitable detour roads. MDOT SHA District 3 Offices has concurred with the proposed detour. Accelerated bridge construction techniques will be utilized to minimize the disruption to the traveling public and local community. MCDOT has been coordinating with the Montgomery County Police Department, Montgomery County Fire and Rescue Services, Montgomery County RideOn Bus and Montgomery County Public School Bus for the bridge closure and traffic detour during the construction. WMATA Metrobus does not run service on Dennis Avenue. The pedestrian/bicycle traffic will be detoured through a temporary 8' shared use path via an 8' wide temporary pedestrian bridge crossing Wheaton Branch located approximately 150' north of the Dennis Avenue Bridge at the upstream.

The project limits are mostly within Montgomery County-owned property, and no work is proposed within M-NCPPC property boundaries. Per the Montgomery Parks, a park construction permit is not required for the Dennis Avenue Bridge Replacement or the Wheaton Branch Flood Mitigation as the project sites are not within a parkland.

Based on the current Dennis Avenue Bridge Replacement project schedule, the design is expected to be completed in the summer of 2021 and the construction is scheduled to start in the spring of 2022 and be completed in the fall of 2022 for approximately six months. The estimated cost for the construction and construction management for the Dennis Avenue Bridge Replacement is \$5.6M, including \$3.6M funded by federal funds and \$2.0M funded by county funds. The schedule and cost estimates are subject to change as the project progresses. The construction for the Wheaton Branch Flood Mitigation is currently projected from the spring of 2022 to the winter of 2022.

The M-NCPPC's Forest Conservation Plan Exemption (FCPE) approval was granted on February 6, 2020. This satisfies the NRI/FSD requirements.

MCDOT and MCDEP together held a virtual public meeting on December 16, 2020 to present the Dennis Avenue Bridge Replacement and the Wheaton Branch Flood Mitigation on the project scope, preliminary design for the replacement bridge, flood mitigation, maintenance of traffic during construction, estimated project costs and schedules; and to obtain community input and answer questions.

Existing Road

Currently, Dennis Avenue is generally characterized as a two-lane (12-foot-wide travel lanes) Minor Arterial road with little to no shoulders. The posted speed limit along Dennis Avenue is 30 mph. Figures 3 through 6 displays a view of the road at different locations along Dennis Avenue.



Figure 3: Dennis Avenue on Existing Bridge (Looking West)



Figure 4: Dennis Avenue west of Project Site (Looking East)



Figure 5: Dennis Avenue approaching existing bridge (Looking East)



Figure 6: Dennis Avenue west of Project area (Looking West)

Proposed Bridge Cross Section

The proposed 60-foot-wide bridge will provide two 11-foot-wide travel lanes, two 5-foot wide bicycle comparable shoulders (bike lanes), a 2-foot-wide paved buffer between the travel lanes and the shoulders, a 13-foot-wide sidepath, a 7-foot-wide sidewalk, and two 1'7"-wide parapet bridge railings as shown below in Figure 7.



Figure 7: Bridge – Proposed Cross Section

Proposed Plan View

The project includes a fairly tight limit of disturbance about the proposed bridge structure. Figure 8 shows the plan view of the proposed design improvements.



Figure 8: Plan View of Proposed Design Improvements

Temporary Pedestrian/Bicycle Bridge

The project design includes the construction of a temporary 12-foot-wide pedestrian bridge with an 8-foot-wide sidepath on the north side of the existing structure to allow pedestrian and bicycle traffic to continue during the proposed six-month construction schedule. The alignment of the temporary bridge and new sidewalk is shown below in Figure 9 in blue shading.



Figure 9: Proposed Temporary Pedestrian/Bicycle Bridge and Sidepath Connections

Figure 10 displays the proposed cross section of a temporary pedestrian and bicycle bridge structure typically used by MCDOT. A temporary bridge cross section was not provided in the design submission. This bridge will have a width of 8 feet for pedestrians and bicycles to use.



Figure 10: Typical MCDOT Temporary Bridge Cross Section

Typical Cross Sections – Dennis Avenue

Figures 11 through 14 show the proposed typical cross sections on Dennis Avenue. This project is introducing shoulders within the project limits to provide additional travelway width over the bridge structure. For most of the design limits, a 5-foot-wide shoulder (bike lane) and a 2-foot paved buffer would be provided on each side of the street within the project limits. These shoulders are not called for within the Bicycle Master Plan and do not exist on Dennis Avenue outside the project limits. Dennis Avenue would likely be classified as a Neighborhood Connector in the draft Complete Streets Design Guidelines, and this street type does not have shoulders when curbing is present.

Figure 11 shows the westernmost cross section which starts just east of the intersection of Dennis Avenue with Evans Parkway and Medical Center Drive. Note the existing raised median which is located at an existing crosswalk. This cross section is maintained for a distance of 51 feet.



Figure 11: Proposed Typical Cross Section – Western End

Figure 12 shows a transitional cross section with a painted median that reduces from a 6-foot width at the end of the raised median to zero feet, as it approaches the western edge of the bridge. This cross section is maintained over a distance of 91 feet.



Figure 12: Proposed Typical Cross Section – Western Transition

Figure 13 presents the last cross section on the west side of the structure, and this cross section matches the bridge cross section at least per the road design elements. This cross section is maintained over a distance of 103 feet.



Figure 13: Proposed Typical Cross Section Design – Western Bridge Approach

Figure 14 shows a cross section on the eastern side of the proposed bridge – a transitional section to the project's eastern limit. This cross section is maintained over a length of 91 feet.



Figure 14: Proposed Typical Cross Section – Eastern End

Proposed Traffic Detour During Construction

During bridge construction, vehicular traffic will not be able to cross Wheaton Branch at this location, and MCDOT has proposed a detour signage plan, as shown below in Figure 15, that will divert traffic onto MDOT SHA roadways, including University Boulevard, Veirs Mill Road and Georgia Avenue.



Figure 15: Proposed Traffic Detour During Construction

Transportation Analysis

Master Plan Conformance – Transportation

The 2018 Bicycle Master Plan recommends a sidepath (north side) on Dennis Avenue between Schuylkill Road and the Rock Creek Trail. The proposed design is consistent with this master plan recommendation.

Design Elements – Transportation

<u>Roadway Design</u>: Dennis Avenue would likely be classified as a Neighborhood Connector in the draft Complete Streets Design Guidelines and therefore calls for a travel lane width of 11 feet and no shoulder when curbing is present. We recognize that bridges often have minimum travelways widths as specified by MDOT SHA. The minimum bridge width in this case is 32 feet. The proposed design calls for 36 feet. Staff recommends that the proposed 5-foot-wide shoulder widths be reduced to 4 feet and that the proposed 2-foot wide paved buffers be eliminated. This would result in a 30-foot-wide travelway, which would require the applicant to obtain a design exception from MDOT SHA.

<u>Sidepath Design</u>: In general, the **minimum** sidepath width required is 10 feet clear width, not including buffers from adjacent obstructions such as bridge railings and curbs, which require an additional 2 feet clearance. This is consistent with the approved Bicycle Master Plan and the draft Complete Streets Design Guidelines. Sidepaths are also recommended in both the Bicycle Master Plan and the draft Complete Streets Design Guidelines with 6' minimum vegetated buffers to protect pedestrians and cyclists from motoring traffic. While the proposed cross section includes a 6-foot-wide shoulder between the travel

lanes and the sidepath, this is not a true buffer. Staff recognizes that buffers are not typically provided on bridge structures between the road surface and sidewalks and sidepaths.

The proposed 13'-wide sidepath on the bridge structure does not meet the design specifications required by the draft Complete Streets Design Guidelines. A total sidepath width of 14 feet is needed in order to provide the standard 10-foot-wide sidepath with two-foot wide clearance along both the bridge railing and the curb. Therefore, the addition of one foot is needed for this sidepath.

<u>Sidewalk design</u>: In the draft Complete Streets Design Guidelines, the county is proposing to adopt six feet as the new minimum sidewalk width for most street types. In addition, this width should not include clearance distance, whenever possible. This includes a two-foot lateral clearance from adjacent obstructions, including bridge railings, curbs, trees and utility poles. The proposed seven-foot wide sidewalk is therefore three feet short of meeting county minimum standards, which require a six-footwide sidewalk plus two feet of clearance adjacent to both the bridge railing and the curb.

Net Impact of Recommended Design Changes

Figure 16 includes a cross section demonstrating the net effect of staff recommendations, which would narrow the overall bridge structure by approximately two feet while narrowing the travelway width from 36 feet to 30 feet. The recommended cross section is more consistent with the draft Complete Streets Design Guidelines and the Bicycle Master Plan.



Figure 16: Recommended Cross Section

Historic Resources Analysis

There are no historic resources within the project area.

Environmental Guidelines

The Bridge M-0194 on Dennis Avenue crosses Sligo Creek, in the Wheaton Branch watershed and includes the replacement of the existing bridge and the addition of a sidepath. Most of the project is located in the floodplain and stream valley buffer associated with Sligo Creek. There is no forest within the project area.

While the Environmental Guidelines are designed to protect environmental features by the restriction of development in stream valley buffers, disturbance is allowed for unavoidable road and utility crossings. In this case, the bridge is replacing an existing bridge and disturbance has been minimized in the addition of the sidepath directly adjacent to the traffic lanes. This allows the proposed project to meet the Environmental Guidelines even though additional disturbance is required for the increased bridge width due to the sidepath.

The Dennis Avenue Bridge replacement is being coordinated with a Montgomery County Department of Environmental Protection (MCDEP) project to alleviate flooding in the area. The Wheaton Branch Flood Mitigation will work together with the Dennis Avenue Bridge Replacement to mitigate the flooding problem that occurs in adjacent residential houses along Glenhaven Drive and Dennis Avenue and nearby streets. The scope of the Wheaton Branch Flood Mitigation includes stream channel widening at the upstream and downstream of the Dennis Avenue Bridge and modifications of the existing stormwater management ponds at the downstream. All flood mitigation work will be performed within properties owned by Montgomery County.

Forest Conservation

The proposed project is subject to the Montgomery County Forest Conservation Law (Chapter 22A of the County Code) but has received an exemption from Article II from the requirements of preparing a forest conservation plan under Section 22A-5(e). The site is a state or county highway construction activity that is subject to Section 5-103 of the Natural Resources Article of the Maryland Code or Section 22A-9 of the Forest Conservation Law for County Highway Projects, which states:

- a) General
 - 1. This section applies to construction of a highway by the County as part of an approved Capital Improvements Program project.
 - The construction should minimize forest cutting or clearing and loss of specimen or champion trees to the extent possible while balancing other design, construction, and environmental standards. The constructing agency must make a reasonable effort to minimize the cutting or clearing of trees and other woody plants.
- b) If the forest to be cut or cleared for a County highway project equals or exceeds 20,000 square feet, the constructing agency must reforest a suitable area at the rate of one acre of reforestation for each acre of forest cleared.
- c) Reforestation for County highway projects must meet the standards in subsections 22A-12(e), (g) and (h).
- d) Any mitigation requirement for loss of specimen or champion trees must be based on the size and character of the tree.

As there is no forest within the project boundaries and no specimen trees are proposed for removal, no forest planting or specimen tree mitigation is required.

Community Outreach and Notification

This application was noticed in accordance with the Uniform Standards for Mandatory Referral Review. Throughout the project design process, proposed concepts were presented to key stakeholders, as well as the community. The preliminary Type, Size and Location Design (35% design) was presented at a public workshop on December 16, 2020. This meeting included presentations for both the Dennis Avenue bridge project and the Wheaton Branch Flood Mitigation project. Feedback on the alternatives was received through this meeting and was used in refining the proposed design.

Conclusion

Based on information provided by the applicant and the analysis contained in this report, staff concludes that the proposed Dennis Avenue bridge project can be designed with some modifications to meet Master Plan and relevant design standards as specified in the Recommendations section of this staff report.

Attachment

A. Proposed Project Plans

		INDEX OF SHEETS
MCDOT SHEET	D.P.S SHEET	PLAN SHEET
1	1	TITLE SHEET
2		ROADWAY TYPICAL SECTIONS AND DETAILS
3		GEOMETRY PLAN
4	2	ROADWAY PLAN
5		ROADWAY PROFILE
6		TEMPORARY PEDESTRIAN BRIDGE
7		PRELIMINARY DETOUR PLAN
8	3	STORMWATER MANAGEMENT PLAN
9	4	DRAINAGE PROFILES
10	5	STREAM RESTORATION PLAN
11	6	EROSION AND SEDIMENT CONTROL - PHASE 1
12	7	EROSION AND SEDIMENT CONTROL - PHASE 2
13	8	EROSION AND SEDIMENT CONTROL - PHASE 3
14	9	EROSION AND SEDIMENT CONTROL - PHASE 4
15	10	EROSION AND SEDIMENT CONTROL - PHASE 5 & 5A
16	11	EROSION AND SEDIMENT CONTROL NOTES
17	12	EROSION AND SEDIMENT CONTROL NOTES & DETAILS AND SOC
18	13	EROSION AND SEDIMENT CONTROL DETAILS
19	14	EROSION AND SEDIMENT CONTROL PLAN DETAILS
20		GENERAL PLAN AND ELEVATION
21		LONGITUDINAL SECTION
22		CULVERT, ABUTMENT AND PIER DETAILS
23		WINGWALL DETAILS I
24		WINGWALL DETAILS II



DEVELOPER'S /BUILDER'S CERTIFICATION

I HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION AND OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATE OF ATTENDANCE OF A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE

DATE

DATE

BRUCE E. JOHNSTON CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "STORM DRAIN CRITERIA" DATED AUGUST, 1988.

XX/XX/20XX

XXX X. XXX MD. REGISTRATION NO. XXXXX

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO BE 250 CUBIC YARDS OF EXCAVATION, AND 250 CUBIC YARDS OF FILL AND THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 41.421 SQUARE FEET OR 0.95 ACRES.

XX/XX/20XX

XXX X. XXX MD. REGISTRATION NO. XXXXX

I HEREBY C BY ME, AND THE LAWS C LICENSE NO.

XXXX, P.E.

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION BRIDGE REPLACEMENT BRIDGE NO. M-0194 ON NNIS AVENUE CREEK TRIBUTARY C. I. P. NO. XXXXXX SHA CONTRACT NO. MO178ZM1 F.A.P. NO.



DES	SIGN DATA	
YEAR	20XX	20XX
DESIGN SPEED	30 mph	30 mph
24 HR A.D.T.	XXXX	XXXX
% HEAVY TRUCKS A.D.T.	XXXX	XXXX
D.H.V.	XXXX	XXXX
% HEAVY TRUCKS D.H.V.	XXXX	XXXX
D.D.	XXXX	XXXX
FUNCTIONAL CLASSIFICATI	ON <u>MINOR</u>	ARTERIAL

TCQI CIIDAAITTAI

	JANUARY, 202	0	NO	T FO	R CONSTRU	JCTION
DE	DPS PERMIT NO. XXXXXX MONTGOMERY COUNTY, MARYLAND PARTMENT OF PERMITTING SERVICE	SEAL:	MONTO PERMI Stormwater M	GOMERY CO. TTING SERVI anagement:	DEPARTMENT OF CES APPROVED FOR: Sediment Control Technical Requirements:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A <u>MCDPS</u> <u>ACCESS PERMIT.</u> Administrative Requirements
Date BY_	FINAL APPROVAL		Reviewed Approved XXXX SM FILE DPS approval of a sediment cor not create or imply any right to engineer or other responsible pe	Date Date XX # Date Atrol or stormwater mana o divert or concentrate ru rison of professional liabil	Reviewed Date Approved Date gemnt plan is for demonstrated compliance with minin anoff onto any adjacent property without that property ity or ethical responsibility for the adequace of the d	Reviewed Date XXXXXX SEDIMENT CONTROL PERMIT NO. MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED. Num environmental runoff treatment standards and does y owner's permission. It does not relieve the design roingage design as it affects upbill or properties.
DN		MONTGOM DEPARTMENT OF GAITHERSBU	ERY COUNTY F TRANSPORTATIO IRG, MARYLAND	N	TITLE	SHEET
		RECOMMENDED FOR APPROVAL Chief, Design Section APPROVED Chief, Division of Transportation Engi	neering	Date Date	REPLACEMENT OF ON DENNIS AVENU TRIBUTARY (W. SCALE: AS SHOWN	F BRIDGE NO. M–0194 E OVER SLIGO CREEK HEATON BRANCH) DATE: JANUARY 2020

		IJAL JUDIMITIA	-			
DESIGN	DATA	JANUARY, 2020		NOT FO	R CONSTRU	JCTION
YEARC DESIGN SPEEDC 24 HR A.D.TX % HEAVY TRUCKS A.D.TX	DXX 20XX mph 30 mph KXX XXXX KXX XXXX	DPS PERMIT NO. XXXXXX	J	MONTGOMERY CO. PERMITTING SERVI	DEPARTMENT OF CES APPROVED FOR:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A <u>MCDPS</u> ACCESS PERMIT.
D.H.VX % HEAVY TRUCKS D.H.VX D.DX	$\begin{array}{cccc} \underline{xx} & \underline{xxxx} \\ \underline{xx} & \underline{xxxx} \\ \underline{xxx} & \underline{xxxx} \\ \underline{xxxx} \end{array}$	MONTGOMERY COUNTY, MARYLAND DEPARTMENT OF PERMITTING SERVICES	SEAL:	Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements
FUNCTIONAL CLASSIFICATION	MINOR ARTERIAL	FINAL APPROVAL			Reviewed Date	Reviewed Date
		BY		Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
PROFESSIONAL CERTIFICATION		*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.		Approved Date <u>XXXXXX</u> SM FILE #		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
) THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER DF THE STATE OF MARYLAND. XXXXX FXPIRATION DATE XX/XX/XXXX				DPS approval of a sediment control or stormwater mana- not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabil	gemnt plan is for demonstrated compliance with minimu unoff onto any adjacent property without that property c ity or ethical responsibility for the adequacey of the dra	m environmental runoff treatment standards and does owner's permission. It does not relieve the design inage design as it affects uphill or downhill properties.
XX/XX/XXXX DATE	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE		MONTGOM DEPARTMENT OF GAITHERSBU	ERY COUNTY F TRANSPORTATION IRG, MARYLAND	TITLE	SHEET
	240-777-7221		RECOMMENDED FOR APPROVAL		REPLACEMENT OF	BRIDGE NO. M-0194
Engineering Design Planning Construction Management	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION		Chief, Design Section APPROVED	Date	ON DENNIS AVENUE TRIBUTARY (WH	C OVER SLIGO CREEK IEATON BRANCH)
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500	240–777–7210 TRANSPORTATION PLANNING & DESIGN		Chief, Division of Transportation Engi	neering Date	SCALE: AS SHOWN	DATE: JANUARY 2020
Columbia, MD 21044 Tel: 410.880.3055	240-777-7221	NO. REVISION DATE BY	Designed By: <u>BSW</u> Drawn	By: <u>BSB</u> Checked By: <u>XXX</u>	Project No. : <u>M0178ZM1</u>	SHEET 1 OF 24

RELATED REQUIRED PERMITS To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects					
Management plan set for all projects IT IS THE RESPONSIBLITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT:					
TYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District					
MCDPS Sediment Control					
MCDPS Stormwater Management					
WATERWAYS/WETLAND(S)					
a. Corps of Engineers					
b. MDE					
c. MDE Water Quality Certification					
MDE Dam Safety					
DNR Roadside Tree Care Permit				Approval Date	
DPS Roadside Tree Protection Plan				Approval Date	
NPDES					DATE FILED
NOTICE OF INTENT					
OTHERS (Please List):					
a. MNCPPC					
b. WSSC					

GENERAL NOTES

- 1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND STATE HIGHWAY ADMINISTRATION DATED JULY 2019, ALL ERRATA AND ADDENDA THERETO. THE MARYLAND STATE HIGHWAY ADMINISTRATION BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND.
- 2. FOR CONSTRUCTION, ALL HORIZONTAL SHALL BE NAD 83 (83/91) AND VERTICAL CONTROL NAVD 88 DATUM. ENGINEERING PLANS HAVE BEEN DEVELOPED BASED ON EXISTING TOPOGRAPHIC FIELD SURVEY COMPLETED BY MERCADO CONSULTANTS IN NOVEMBER 2018.
- 3. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
- 4. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION. TEST PITS WILL NOT BE MEASURED, BUT SHALL BE INCIDENTAL TO THE ITEMS IN THE CONTRACT.
- 5. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
- 6. CALL "MISS UTILITY" AT 1-800-257-7777 FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING EXCAVATION TO DETERMINE THE EXACT LOCATION OF EXISTING UTILITIES.
- 7. CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
- 8. SLIGO CREEK IS A USE I STREAM AND INSTREAM WORK IS PROHIBITED FROM MARCH 1ST THROUGH JUNE 15TH, INCLUSIVE.
- 9. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
- 10. DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
- 11. THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
- 12. PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 1 OF 14



www.gpinet.com Engineering Design Planning Construction Management Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044 Tel: 410.880.3055	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240-777-7221				
JOINT VENTURE	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240–777–7210 TRANSPORTATION PLANNING & DESIGN				
	240-777-7221	NO.	REVISION	DATE	BY



BASELINE C	ONSTRU
BASELINE	STAT
	POB STA.
DENNIS AVE	POE STA.
	POB STA.I
GLENNAVEN DR	POE STA.

TRAVERSE POINTS					
POINT NO.	NORTH	EAST	ELEVATION		
100	495,084.0786	I,300,687.9657	316.53		
101	495,118.8379	1,300,917.8412	313.22		
102	495,139.8282	1,301,351.2615	317.29		
110	495,012.9157	I,300,860.8865	313.91		
150	495,163.3662	1,300,869.6145	309.26		
151	495,149.8704	1,301,119.9069	313.72		
152	494,924.0260	1,300,859.9116	322,45		
153	495,059.5183	1,300,882.5712	314.43		
154	495,018.2137	1,301,032.4340	308.72		
155	495,275.0491	1,300,580.3138	316.88		
157	495,045.6121	1,300,574.9571	322.46		
158	495,063.5412	1,301,239.0085	319.88		

SCALE: 1" = 30'

	DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240-777-7221					- -
60' www.gpinet.com 60' Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044 Tel: 410.880.3055	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240-777-7210 TRANSPORTATION PLANNING & DESIGN 240-777-7221	NO.	REVISION	DATE	BY	

MONTGOMERY COUNT DEPARTMENT OF TRANSPOR GAITHERSBURG, MARYLA	, TATION ND	GEOME	TRY PLAN
RECOMMENDED FOR APPROVAL Chief, Design Section APPROVED	Date	REPLACEMENT O ON DENNIS AVENU TRIBUTARY (W	F BRIDGE NO. M–0194 JE OVER SLIGO CREEK HEATON BRANCH)
Chief, Division of Transportation Engineering	Date	SCALE: AS SHOWN	DATE: JANUARY 2020
Designed By: Drawn By:	Checked By:	Project No. : <u>M0178ZM1</u>	SHEET3OF24

 \triangle

<u>LEGEND</u>

FULL DEPTH PAVEMENT

PAVEMENT MILLING AND RESURFACING

SIDEWALK

PROPOSED TRAFFIC BARRIER

· D , D , D , D

SHARED-USE PATH

SCALE: 1" = 30'

DRAFT ONLY NOT FOR CONSTRUCTION

	www.gpinet.com Engineering Design Planning Construction Management Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND					
	Columbia, MD 21044 Tel: 410.880.3055	240-777-7221					R
	JOINT VENTURE	CONTACT					
	WBCM	DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION					A
60'	Designing Infrastructure for Tomorrow	240-777-7210 TRANSPORTATION PLANNING & DESIGN					Ī
		240–777–7221	NO.	REVISION	DATE	BY	

			N
N 495260 LINE OF DIVISION	TOFWORK NNIS AVENUE STA. 15 + 25 EET EXISTING)	#10403	
#1803 #1803 =-01097473 LDSA BAUTISTA ET AL 25744/285 SLK. 3, L. 6 PLAT 2215	DICATION LINE	13-01096332 RGUETA ROOSEVELT 38155/379 BLK.B, L.2 PLAT 2302 <i>LINE OF DIVISION</i> #10401 12.01007154	
*1803	CATH	ERINE A. VASS ET AI 12201/342 BLK. B, L. 1 PLAT 2302	
	ис SANG IO' CLA G HH = 313.35' HV N= 500.78' 6+00 HV N= 500.70' 6+00 FEE SIMPLE ARE // FEE SIMPLE ARE		
TYPE 'C' END TREATMENT	→ <u>PEPEO</u> → <u>PEPEO</u> → <u>PEPEO</u> → <u>C</u> → <u>PEPEO</u> → <u>C</u> → <u>C</u>	и	
13–02156421 MONTGOMERY COUNTY, 5861/10 PARCEL F PLAT 13717	MARYLAND	TRAV PT MERI58	
SPAM	STONE RIPRAP	=SEM	
	MONTGOMERY CO. PERMITTING SERVI	DEPARTMENT OF CES APPROVED FOR:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS
SEAL:	Stormwater Management:	Sediment Control Technical Requirements:	AUCESS PERMIT. Administrative Requirements
		Reviewed Date	Reviewed Date
	Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
	Approved Date <u>285550</u> SM FILE #		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF
	DPS approval of a sediment control or stormwater manages not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabili	gemnt plan is for demonstrated compliance with minimur noff onto any adjacent property without that property o ty or ethical responsibility for the adequacey of the drai	INE FROJECT HAS NOT STARTED. n environmental runoff treatment standards and does wner's permission. It does not relieve the design nage design as it affects uphill or downhill properties.
MONTGOME DEPARTMENT OF GAITHERSBUF	RY COUNTY TRANSPORTATION RG, MARYLAND	ROADWA	AY PLAN
RECOMMENDED FOR APPROVAL		REPLACEMENT OF	BRIDGE NO. M–0194
Chief, Design Section APPROVED	Date	ON DENNIS AVENUE TRIBUTARY (WH	OVER SLIGO CREEK EATON BRANCH)
Chief, Division of Transportation Engine Designed By: Drawn By	eering Date Date	SCALE: AS SHOWN Project No. : <u>501701</u>	DATE: NOVEMBER 2020

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 2 OF 14

ROADWAY PROFILE SCALE: 1" = 30' HOR. 1" = 3' VERT.

OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE				MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION GAITHERSBURG, MARYLAND	ROADWAY PROFILE
30' 60' Engineering Design Planning Construction Management	240–777–7221 <u>CONTACT:</u> DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION			RECOMMENDED FOR APPROVAL Chief, Design Section Date APPROVED	REPLACEMENT OF BRIDGE NO. M-0194 ON DENNIS AVENUE OVER SLIGO CREEK TRIBUTARY (WHEATON BRANCH)
3' 6' 3' 6' Columbia, MD 21044 Tel: 410.880.3055	240-777-7210 TRANSPORTATION PLANNING & DESIGN 240-777-7221	NO	REVISION	Chief, Division of Transportation Engineering Date Designed By: Drawn By:	SCALE: AS SHOWN DATE: JANUARY 2020 Project No. : M0178ZM1 SHEET 5_0F 24_

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE			MONTGOMERY COUNTY DEPARTMENT OF TRANSPORT GAITHERSBURG, MARYLAN	TATION ND	TEMPORARY PI	EDESTRIAN BRIDGE
	240-777-7221			RECOMMENDED FOR APPROVAL		REPLACEMENT	OF BRIDGE NO. M-0194
GPI	<u>CONTACT:</u> DIVISION OF TRANSPORTATION ENGINEERING			Chief, Design Section APPROVED	Date	ON DENNIS AVEN TRIBUTARY (UE OVER SLIGO CREEK WHEATON BRANCH)
Greenman-Pedersen, Inc. 30' 60' 11000 Broken Land Parkway	Suite 500 TRANSPORTATION CONSTRUCTION TRANSPORTATION PLANNING & DESIGN			Chief, Division of Transportation Engineering	Date	SCALE: AS SHOWN	DATE: JANUARY 2020
SCALE: 1" = 30' Columbia, MD 21044 Tel: 410.880.3055	240-777-7221	NO. REVISION	DATE BY	Designed By: Drawn By:	Checked By:	Project No. : <u>M0178ZM1</u>	SHEET <u>6</u> 0F <u>24</u>

	<u>TEI</u>	MPORARY TRAFFIC		SIGN	TABLE	
SYMBOL	M.U.T.C.D. DESIGNATION	MESSAGE	SIZE	QUANTITY	COL BACKGROUND	_OR CHARACTERS
1	R11–2	ROAD CLOSED	48" X 30"	2	WHITE	BLACK
2	M4–9		30" X 24"	11	ORANGE	BLACK
3	M4–9R		30" X 24"	3	ORANGE	BLACK
4	M4–9R (MODIFIED ARROW)		30" X 30"	2	ORANGE	BLACK
5	M4-9L		30" X 24"	5	ORANGE	BLACK
6	M4–9L (MODIFIED ARROW)		30" X 30"	3	ORANGE	BLACK
7	M4–8A(A)	END DETOUR	24" X 36"	2	ORANGE	BLACK
8	R11–3A	ROAD CLOSED AHEAD LOCAL TRAFFIC ONLY	60" X 30"	2	WHITE	BLACK
9	W20–3	ROAD CLOSED 1000 FT	36" X 36"	2	ORANGE	BLACK
(10)	W20–3	ROAD CLOSED 500 FT	36" X 36"	2	ORANGE	BLACK
(11)	R11–2A (MODIFIED) SEE DETAIL THIS SHEET	NOTICE DENNIS AVENUE CLOSED AT WHEATON BRANCH FOLLOW DETOUR	60" X 48" (SEE DETAIL 1)	5	ORANGE	BLACK BLACK
(12)	VARIABLE MESSAGE SIGN (VMS)	DENNIS AVENUE ROAD (SCREEN 1)/ TO CLOSE MONTH/DAY (SCREEN 2)	VMS	5	VMS	VMS
	(1) NC DENNI CL AT WHEA FOLLOW DE GENERAL N	60" DTICE S AVENUE S AVENUE OSED TON BRANCH V DETOUR TAIL 1 IOTES FOR DETOUR AND M	2 ["] SPACE 8C 2 ["] SPACE 2 ["] SPACE 6C 2 ["] SPACE 6C 2 ["] SPACE 6C 2 ["] SPACE 6C 4 ["] SPACE	TRAFFIC		
	 ALL MAINTENANCE (COMPLIANCE WITH UNIFORM TRAFFIC (HIGHWAY ADMINISTR APPLICATIONS. NO WORK SHALL BE BARRICADES REQUIF OPERATIONAL. ACCESS SHALL BE M DRIVEWAYS, AND EN COORDINATE ACCES THE PROPERTY OWN INCONVENIENCE TO THE CONTRACTOR S DURING CONSTRUCT TO ENSURE SAFE V CLOSURE AREA AND THE CONSTRUCTION F.B. = TYPE III BARF OF THE ROADWAY A 	OF TRAFFIC AND TRAFFIC (THE LATEST EDITION OF TH CONTROL DEVICES (MUTCD) ATION (SHA) TEMPORARY TF EGIN UNTIL ALL WARNING A RED FOR THE PHASE OF W MAINTAINED AT ALL TIMES T TRANCES WITHIN THE PROJ S FOR THE WORK AT DRIV JERS AND THE ENGINEER II THE OWNERS. HALL UTILIZE FLAGGING OF TON TO MAINTAIN PEDESTI EHICULAR TRAFFIC ALONG O TO ALLOW CONSTRUCTION SITE. AT CLOSURE POINTS AND S	CONTROL DEVICES IE MARYLAND MA AND THE MARYL AFFIC CONTROL ND DETOUR SIGN ORK ARE IN PLAN O ADJACENT ROA ECT AREA. THE C EWAYS AND ENTR N ADVANCE TO IN PERATIONS AS REA RIAN AND BICYCL DENNIS AVENUE ON VEHICLE ACCE SHALL BLOCK TH HALL HAVE FLASH	S SHALL BE NUAL ON AND STATE TYPICAL NS AND CE AND ADWAYS, ONTRACTOP RANCES WI MINIMIZE QUIRED LE TRAFFIC OUTSIDE C SS TO AN HE FULL WI HING WARN	E IN R SHALL TH AND DF THE D FROM D FROM DTH ING 4. PRO 2. TEM PRIC D FROM 3. PLA DEN AND 4. PRO	CE VARIABLE MES URE CLOSURE O ROAD CLOSURE PORARY PEDESTR DR TO IMPLEMEN CE TYPE III BARRI INIS AVENUE RO4 VOR AS DIRECTEI OCEED WITH CON

APPROVED BY MONIGOMERY COUNTY DOT. 7. THE CONTRACTOR SHALL ADJUST THE LOCATION OF THE PVMS SIGNS FOR MAXIMUM VISIBILITY, AS APPROVED BY THE ENGINEER. IN ADDITION, WHERE PVMS IMPEDE PEDESTRIAN OR BICYCLE PATHS, INSTALL CHANNELIZING DRUMS OR CONES AROUND THE PVMS TO ENSURE SAFETY.

8. ALL DETOUR SIGNS SHALL BE MARKED IN ADVANCE BY THE CONTRACTOR FOR APPROVAL BY MONTGOMERY COUNTY DOT.

SEQUENCE OF CLOSURE

E SIGNS (#12 SIGNS) ALERTING THE PUBLIC OF THE ENNIS AVENUE A MINIMUM FOURTEEN (14) DAYS PRIOR TO

BRIDGE, SIDEWALK AND SIGNING MUST BE IN PLACE DENNIS AVENUE CLOSURE.

ES AND TEMPORARY TRAFFIC CONTROL SIGNS FOR THE ETOUR IN ACCORDANCE WITH THE DETOUR PLAN THE ENGINEER.

UCTION OF ALL PROPOSED WORK.

THE WORK, THE CONTRACTOR SHALL REMO ICADES, AND BARRIERS AND OPEN DENNIS

<u>PLAN</u> SCALE: 1" = 1000'

'ORK. R SHALL REMOVE ALL DPEN DENNIS AVENUE TO	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240-777-7221					- - -
www.gpinet.com Engineering Design Planning Construction Management	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING					
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044	240-777-7210 TRANSPORTATION PLANNING & DESIGN					
Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY	

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTAT GAITHERSBURG, MARYLAND	ION	PRELIMINARY DETOUR PLAN				
RECOMMENDED FOR APPROVAL		REPLACEMENT OF BRIDGE NO. M-0194				
Chief, Design Section APPROVED	Date	ON DENNIS AVENUE OVER SLIGO CREEK TRIBUTARY (WHEATON BRANCH)				
Chief, Division of Transportation Engineering	Date	SCALE: AS SHOWN DATE: JANUARY 2020				
Designed By: Drawn By: Ch	ecked By:	Project No. : <u>M0178ZM1</u> SHEET <u>7</u> OF <u>24</u>				

Table 1: Project Site Area and Imperviou	isness
--	--------

	Site Area
Project Limit Area (ac)	2.10
Existing Impervious Area in the Project Limit (ac)	0.66
Existing Imperviousness, I (%)	31

Table 2-ESD Requirement Summary

	POI #1
Project Site Area (ac)	2.10
Post Development Impervious Area (ac)	0.70
Post Development Imperviousness, I (%)	33
ESDv Requirement, Best Case Scenario (CF)	247
ESDv Requirement, Worst Case Scenario (CF)	4,761

Marc Elrich County Executive

Hadi Mansouri Acting Director

COMBINED STORMWATER MANAGEMENT

December 27, 2019 Mr. Houng Li Greenman-Pedersen, Inc. (GPI) 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044

CONCEPT/SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN for Replacement Bridge No. M-0194 on Dennis Avenue Preliminary Plan #: NA SM File #: 285550 Tract Size/Zone: 2.10 Total Concept Area: 2.10 Watershed: Northwest Branch

Dear Mr. Li:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above-mentioned site is acceptable. The stormwater management concept proposes to meet required stormwater management goals via the stream restoration associated with the bridge replacement and scour protection.

Re:

The following items will need to be addressed during the detailed sediment control/stormwater management plan stage:

1. An engineered sediment control plan must be submitted for this development.

This list may not be all-inclusive and may change based on available information at the time. Payment of a stormwater management contribution in accordance with Section 2 of the

Stormwater Management Regulation 4-90 is not required.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

> DPS 255 Rockville Pike, 2nd Floor, Rockville, Maryland 20850 | 240-777-0311 www.montgomerycountymd.gov/permittingservices www.montgomerycountymd.gov/permittingservices

Mr. Huong Li December 27, 2019 Page 2 of 2				
If you have 777-6340_	e any questions regardi	ng these actions, plea	se feel free to contact	Bill Musico at 24
		Sincer	ely,	
		Mark C Water Divisio	C. Etheridge, Manager Resources Section of Land Developme	nt Services
MCE: WJM				
cc: N. Braunst SM File #;	tein 285550			
ESD: Required/Provide PE: Target/Achieved: 0 STRUCTURAL: 0.00 cf WAIVED: 0.00 ac	d 0.00 cf / 0.00 cf 0.00"/0.00"			
WAVED. 0.00 al.				

	www.gpinet.com Engineering Design Planning Construction Management Greenman-Pedersen, Inc. 11000 Broken L and Parkway, Suite 500	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND				
	Columbia, MD 21044 Tel: 410.880.3055	240-777-7221				
60'	Designing Infrastructure for Tomorrow	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240-777-7210 TRANSPORTATION PLANNING & DESIGN				
		240-777-7221	NO.	REVISION	DATE	BY

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 3 OF 14

STORM DRAIN PROFILE EX. MH-2 TO EW1

SCALE: HORIZ. 1" = 30' VERT. 1" = 3'

STORM DRAIN PROFILE MH-3 TO EX. I-13 SCALE: HORIZ. 1" = 30' VERT. 1" = 3'

		DRAINAGE STRUCTURE	SCHEDULE			
NO.	TYPE	LOCATION	INV. IN	INV. OUT	TOP EL. (APPROX.)	DETAIL NO.
MH-I	72" PRECAST MANHOLE	N 495062.9901, E 1300971.1384	305.35/306.61	305.18	313.0	MD 384.05
MH-2	60" PRECAST MANHOLE	N 495143.5746, E 1300925.1128	306.90	305.88	312.0	MD 384.03
MH-3	60" PRECAST MANHOLE	N 495174.4806, E 1300896.1634	307.76/307.21	307.11	312.0	MD 384.03
1-1	STD.COG IO INLET	N 495048.9014, E 1300807.8112	309.60	307.89	315.08	MD 374.31
EW-I	STD.TYPE 'C' END WALL	N 495040.2140, E 1300987.6548	-	305.05	-	MD 355.02
WW-2	WING WALL	N 495017.0374, E 1300862.9345	-	306.95	-	SEE SHTS.

DRAINAGE PIPE SCHEDULE					
FROM STRUCT.	TO STRUCT.	SIZE (IN.)	TYPE	LENGTH (FT.)	
EX MH-2	MH-3	24	RCP CL IV	184	
MH-3	MH-2	24	RCP CL IV	42	
MH-2	MH-I	36	RCP CL IV	93	
MH-I	EW-I	36"×60"	HERCP CL IV	28	
MH-3	EX I-13	24	RCP CL IV	18	
-	WW-2	36	RCP CL IV	50	

STORM DRAIN PROFILE I-1 TO WW-2 SCALE: HORIZ. 1'' = 30'

VERT. 1" = 3'

MONTGOMERY COUNTY, MARYLAND DEPARTMENT OF PERMITTING SERVICES
FINAL APPROVAL
Date
BY

*SUBJECT TO DEDICATION OF RIGHT OF WAY AND EASEMENTS PER COUNTY CODE SECTION 50.

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE					
	240–777–7221					
GPI www.gpinet.com	<u>CONTACT:</u> DIVISION OF TRANSPORTATION ENGINEERING			+		
Engineering Design Planning Construction Management Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500	TRANSPORTATION CONSTRUCTION 240–777–7210 TRANSPORTATION PLANNING & DESIGN					
Columbia, MD 21044 Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY	

	MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:			NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A <u>MCDPS</u> ACCESS PERMIT.	
SEAL:	Stormwater Management:		Sediment Control Technical Requirements:		Administrative Requirements
			Reviewed	Date	Reviewed Date XXXXXX
	Reviewed	Date	Approved	Date	
	Approved XXXXX SM FILE (Date X			MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	DPS approval of a sediment cont not create or imply any right to engineer or other responsible per	rol or stormwater manag divert or concentrate ru son of professional liabili	emnt plan is for demonstrated c noff onto any adjacent property v ty or ethical responsibility for the	compliance with minimum without that property ov a adequacey of the drain	n environmental runoff treatment standards and does mer's permission. It does not relieve the design nage design as it affects uphill or downhill properties.
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION GAITHERSBURG, MARYLAND		DRAINAGE PROFILES			
RECOMMENDED FOR APPROVAL Chief, Design Section APPROVED		Date	REPLACEMENT OF BRIDGE NO. M-0194 ON DENNIS AVENUE OVER SLIGO CRE TRIBUTARY (WHEATON BRANCH)		
Chief, Division of Transportation Engine	eering	Date	SCALE: AS SH	OWN	DATE: JANUARY 2020
Designed By: Drawn By	/: Checke	ed By:	Project No. : <u>M0178Z</u>	м1	SHEET <u>9</u> OF <u>24</u>

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 4 OF 14

NOTE: MCDPS APPROVAL DOES NOT

: Thursday, January 23, 2020 AT 02:37 PM (2017/2017102.00 BCS 2014-21E SHA Hwy Str Eng Services\Task 05 Dennis Avenue Bridge\CADD\pSR-0001_DennisAw

<u></u>	MIT OF WORK		
DENNIS AV	E OVER WHEATON BR	ANCH	
MEET	EXISTING CONDITIONS	5	
N 495260			
01050		3-	
	^R O	/ BLK. B, L. 2 PLAT 2302	
I3-01097473 I3-01097473 IILDSA BAUTISTA ILDSA BAUTISTA			
25744/285 BLK. 3, L. 6 PLAT 2215	C C C C C C C C C C C C C C C C C C C		
		13-01097154 IERINE A. VASS ET AL 12201/342 BLK. B. L. I	
		PLAT 2302	
		\sim	
		S	
+50	6+00 +50		
NIS AVENUE	FEE STMRLE ARE MONTGOMERY COUNTRY 2830/212 (PARCE		
		TO MD 193	
	P.G.L DENNIS AVE		
	320		
Star (3)	315		
TON REGIONAL			
	MONTGOMERY CO. PERMITTING SERVI	DEPARTMENT OF CES APPROVED FOR:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A <u>MCDPS</u> ACCESS PERMIT
SEAL:	Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements
		Reviewed Date	Reviewed Date
	Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
	Approved Date XXXXXX		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE
	SW FILE # DPS approval of a sediment control or stormwater manage not create or imply any right to divert or concentrate ru	gemnt plan is for demonstrated compliance with minimum noff onto any adjacent property without that property or	THE PROJECT HAS NOT STARTED. n environmental runoff treatment standards and does wner's permission. It does not relieve the design
MONTGOME	engineer or other responsible person of professional liabili RY COUNTY	ty or etnical responsibility for the adequacey of the drai	nage aesign as it affects uphill or downhill properties.
DEPARTMENT OF GAITHERSBUF	IRANSPORTATION RG, MARYLAND	STREAM REST	UKATION PLAN
RECOMMENDED FOR APPROVAL		REPLACEMENT OF	BRIDGE NO. M-0194
Chiet, Design Section APPROVED	Date	ON DENNIS AVENUE TRIBUTARY (WH	OVER SLIGO CREEK EATON BRANCH)
Chief, Division of Transportation Engine	eering Date Date	SCALE: AS SHOWN	DATE: JANUARY 2020
Designed By: Drawn By	y: Checked By:	Project No. : <u>M0178ZM1</u>	SHEET <u>10</u> 0F <u>24</u>

EXIST. FEMA FLOODPLAIN -130 ш EURNS PRAKMARK SIDEWALK LIMIT OF WORK M0178ZM1 DENNIS AVE OVER WHEATON BRANCH 13-01107004 THO T. NGO ET AL 6249/813 BLK. 4, L. 18 PLAT 2347 STA. 11 + 75 MEET EXISTING CONDITIONS 13-01106955 LESLYE WOOLEY ET AL 31047/725 BLK. 4, L. 19 PLAT 2347 TO MD 97 +5Q 10+00 # \ FEE SIMPLE AREA TO MONTGOMERY COUNTY, MARYLAND 2830/212 (PARCEL 3) ____ 91 (Arriter M -----NOTES: 1. SEE SHEET 15 FOR SEQUENCE OF CONSTRUCTION. 2. WHEATON BRANCH IS A USE 1 AND INSTREAM WORK IS PROHIBITED FROM MARCH 1ST THROUGH |3-02|35350 WOODSIDE HOMEOWNERS JUNE 15TH, UNLESS WITH WRITTEN PERMISSION FROM ASSOCIATION, INC. MARYLAND DEPARTMENT OF THE ENVIRONMENT. 29454/494 Block P, Parcel A PLAT 13590 <u>LEGEND</u> |N 494900 LIMIT OF DISTURBANCE SC C STABILIZED CONSTRUCTION ENTRANCE 1999 SUPER SILT FENCE SP SUMP PIT J FB FILTER BAG r ⊸CIP CURB INLET PROTECTION TEMPORARY SIDEWALK _______ 300 ______ PROPOSED CONTOURS

U: Inursday, January 23, 2020 AI 02:37 PM :\2017\2017\2017102.00 BCS 2014-21E SHA Hwy Str Eng Services\Task 05 Dennis Avenue Bridge\CADD\pES-P101_DennisAve

TREE LINES

		/	
XIST. FEMA ELOODPLAIN			
DENNIS AV	M0178ZM1 YE OVER WHEATON BR STA. 15 + 25	ANCH	
MEET	EXISTING CONDITIONS		
N 495260			
13-01097473		I3- / BLK. B, L. 2 PLAT 2302	
HEDSA BAUTISTA ET AL 25744/285 BLK. 3, L. 6 PLAT 2215		13-01097154	
		HERINE A. VASS ET AL 12201/342 BLK. B, L. I PLAT 2302	
		\sim	
+50	6+00 +50 +50	, * *	
DENNIS AVENUE	MONTGOMERY COUNTY, 2830/212 (PARCE	MARYLAND	
		TO MD 193	
	P.G.L DENNIS AVE		
	320		
TON REGIONAL			
R MANAGEMENT POND	MONTGOMERY CO. PERMITTING SERVI	DEPARTMENT OF CES APPROVED FOR:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
SEAL:	Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements
	 Reviewed Date	Reviewed Date Approved Date	XXXXXX SEDIMENT CONTROL PERMIT NO.
	Approved Date XXXXXX		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE
	SM FILE # DPS approval of a sediment control or stormwater manag not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabili	gemnt plan is for demonstrated compliance with minimum noff onto any adjacent property without that property o ty or ethical responsibility for the adequacey of the dra	THE PROJECT HAS NOT STARTED. m environmental runoff treatment standards and does wner's permission. It does not relieve the design inage design as it affects uphill or downhill properties.
MONTGOME DEPARTMENT OF GAITHERSBUF	RY COUNTY TRANSPORTATION RG, MARYLAND	EROSION AND SE PHA	DIMENT CONTROL SE 1
RECOMMENDED FOR APPROVAL		REPLACEMENT OF	BRIDGE NO. M–0194
Chief, Design Section APPROVED	Date	ON DENNIS AVENUE TRIBUTARY (WH	OVER SLIGO CREEK EATON BRANCH)
Chief, Division of Transportation Engine	eering Date Date	SCALE: AS SHOWN Project No. : <u>M0178ZM1</u>	DATE: JANUARY 2020
	MONTGOMERY COUNTY I	DEPARTMENT OF PERMITTING SE	CRVICES (MCDPS) SHEET 6 OF 14

		1	
XIST. FEMA FLOODPLAIN			
<u>LI</u>	MIT OF WORK		
DENNIS AV	E OVER WHEATON BR	ANCH	
MEET	STA. 15 + 25 EXISTING CONDITIONS	5	
\uparrow	SAN -		
N 4952601			
		-	
1301		3- /	
13-01097473		PLAT 2302	
III DIGA BAUTISTA LK. 3, L. 5 ET AL PLAT 2215 25744/285 PLK 2			
PLAT 2215		13-01097154 Herine A. Vass et al	
		I220I/342 BLK. B, L. I PLAT 2302	
		× XI	
		<u> </u>	
+50	6+00 +50		
NIS AVENUE	FEE SHAPLE ARE MONTGOMERY COUNTY, 2830/212 (PARCE	A TO MARYLAND	
312			
	B CONSTRUCTION AND	TO MD 193	
	P.G.L. DENNIS AVE		
	320		
	315		
TON REGIONAL			
MANAGEMENT POND	MONTGOMERY CO.	DEPARTMENT OF	NOTE: MCDPS APPROVAL DOES NOT
SEAL:	PERMITTING SERVI Stormwater Management:	UES APPROVED FOR: Sediment Control Technical	ACCESS PERMIT. Administrative Requirements
		Requirements:	Reviewed Date
		Approved Date	XXXXXX SEDIMENT CONTROL PERMIT NO.
	Approved Date	Αμμισνέα Date	
	XXXXXX SM FILE #		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	DPS approval of a sediment control or stormwater managed not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabili	gemnt plan is for demonstrated compliance with minimu noff onto any adjacent property without that property a ity or ethical responsibility for the adequacey of the dra	m environmental runoff treatment standards and does wner's permission. It does not relieve the design inage design as it affects uphill or downhill properties.
MONTGOME DEPARTMENT OF	RY COUNTY TRANSPORTATION	EROSION AND SE	DIMENT CONTROL
GAITHERSBUR	RG, MARYLAND	PHA	
Chief, Design Section	Date	REPLACEMENT OF	BRIDGE NO. M-0194
APPROVED		TRIBUTARY (WH	IEATON BRANCH)
Chief, Division of Transportation Engine	eering Date	SCALE: AS SHOWN	DATE: JANUARY 2020
vesignea By: Drawn By	r Checked By: MONTGOMERY COUNTY I	Project No. : <u>M0178ZM1</u> DEPARTMENT OF PERMITTING SE	SHEET <u>12</u> OF <u>24</u> CRVICES (MCDPS) SHEET 7 OF 14

TED: Thursday, January 23, 2020 AT 02:37 PM N.\2017\2017102.00 BCS 2014-21E SHA Hwy Str Eng Services\Task 05 Dennis Avenue Bridge\CADD\pES-P301_DennisAve.d

XIST. FEMA FLOODPLAIN	
STA. 15 + 25	
MEET EXISTING CONDITIONS	
Saw -	
N 4952601	
ROAL	I3- / BLK. B, L. 2
13-01097473	PLAT 2302
IIILDSA BAUTISTA I.K. 3, L. 5 ET AL PLAT 2215 25744/285 BLK. 3, L. 6 PLAT 2215	
	13-01097154 HERINE A. VASS ET AL 12201/342
	BLK. B, L. I PLAT 2302
	\sim
	<u>X</u>
+50 6+00 +50	
NIS AVENUE	A TO MARYLAND
	TO MD 193
P.G.L DENNIS AVE	
TON REGIONAL	
MONTGOMERY CO. PERMITTING SERVI	DEPARTMENT OFNOTE: MCDPS APPROVAL DOES NOTCES APPROVED FOR:NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
SEAL: Stormwater Management:	Sediment Control Technical Administrative Requirements Requirements:
	Reviewed Date Reviewed Date
Reviewed Date	Approved Date SEDIMENT CONTROL PERMIT NO.
Approved Date XXXXXX SM FILE #	MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF
DPS approval of a sediment control or stormwater manages not create or imply any right to divert or concentrate rue engineer or other responsible person of professional liability	INE PROJECT HAS NOT STARTED. gemnt plan is for demonstrated compliance with minimum environmental runoff treatment standards and does noff onto any adjacent property without that property owner's permission. It does not relieve the design ty or ethical responsibility for the adequacey of the drainage design as it affects uphill or downhill properties.
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION	EROSION AND SEDIMENT CONTROL
GAITHERSBURG, MARYLAND	PHASE 3
Chief, Design Section Date	REPLACEMENT OF BRIDGE NO. M-0194 ON DENNIS AVENUE OVER SUGO CREEK
APPROVED	TRIBUTARY (WHEATON BRANCH)
Chief, Division of Transportation Engineering Date Designed By: Drawn By: Checked By:	SCALE: AS SHOWNDATE: JANUARY 2020Project No. : M0178ZM1SHFFT 13 OF 24
MONTGOMERY COUNTY I	DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 8 OF 14

		/	
XIST. FEMA FLOODPLAIN			
		/	
	M0178ZM1		
DENNIS AVI	STA. 15 + 25	ANCH	
MEET	EXISTING CONDITIONS	5	
\rightarrow			
N 495200			
13010.		3- /	
D96412 L VILLATORO COBAR		BLK. B, L. 2 PLAT 2302	
13-01097473 0771/403 TILDSA BAUTISTA LK. 3, L. 5 ET AL PLAT 2215 25744/285 PLAT 2215			
PLAT 2215		13-01097154 Herine A. Vass et al	
		I2201/342 BLK. B, L. I PLAT 2302	
		<u>X</u>	
+50 16	+00 +50		
	FEE SHARLE ARE	EA TO	
NIS AVEINUE	MONTGOMERY COUNTR 2830/212 (PARCE	MARYLAND L 3	
	B CONSTRUCTION AND P.G.L DENNIS AVE	TO MD 193	
	320		
MANAGEMENT POND	MONTGOMERY CO.	DEPARTMENT OF	NOTE: MCDPS APPROVAL DOES NOT
SEAL:	PERMITTING SERVI Stormwater Management:	CES APPROVED FOR: Sediment Control Technical	ACCESS PERMIT. Administrative Requirements
		Requirements:	Reviewed Date
	Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
	Approved Date		
F	XXXXXX SM FILE #	gemnt plan is for demonstrated compliance with minimu	MODES AFFROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabili	noff onto any adjacent property without that property ty or ethical responsibility for the adequacey of the dr	owner's permission. It does not relieve the design ainage design as it affects uphill or downhill properties.
MONIGOMEF DEPARTMENT OF GAITHERSBUR	TRANSPORTATION G, MARYLAND	EROSION AND SH PHA	SDIMENT CONTROL ASE 4
RECOMMENDED FOR APPROVAL		ΒΕΟΙ ΛΟΓΝΙΕΝΙ ΨΟΓ	BRIDGE NO M 0104
Chief, Design Section APPROVED	Date	ON DENNIS AVENUE TRIBUTADY AVE	E OVER SLIGO CREEK
Chief, Division of Transportation Enginee	ering Date	SCALE: AS SHOWN	DATE: JANUARY 2020
Designed By: Drawn By:	Checked By:	Project No. : <u>M0178ZM1</u>	SHEET <u>14</u> OF <u>24</u>
	MONTGOMERY COUNTY I	DEPARTMENT OF PERMITTING S	ERVICES (MCDPS) SHEET 9 OF 14

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240-777-7221					
GPI www.gpinet.com	CONTACT:					
Engineering Design Planning Construction Management	DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION					
Greenman-Pedersen, Inc. ଆ1000 Broken Land Parkway, Sଜୀ¢ 500	,240-777-7210 ⁶⁰ TRANSPORTATION PLANNING & DESIGN					
Gelimbia , WD 21 <mark>044</mark> Tel: 410.880.3055SCALE: 1" = 30'	240-777-7221	NO.	REVISION	DATE	BY	

<u>ORK</u>			,
ATON BRANCH			
NDITIONS			
	EXIST. FEMA FLOODPLAIN		
× -			
		LIMIT OF WOI	
	DENN	M0178ZM1 IS AVE OVER WHEATC	DN BRANCH
\searrow		STA. 15 + 25 MEET EXISTING COND	ITIONS
96888 HYLTON /464			
2215			
			24N
I3-01098125 HELMUT E. WINTER ET AL			
3594/640 BLK. 3, L. 8 PLAT 2215	N 495260		
	301050	DAD	13-
			/ BLK. B, L. 2 PLAT 2302
	I3-01097473 J77 DONATILDSA BAUTISTA ET AL 25744/285	JDAR 1/403 3, L. 5 2215	
ROSA DESOUSA I3893/695 BLK. 3, L. 7 PLAT 2215	BLK. 3, L. 6 PLAT 2215		I I3-01097154
WING WALL 3			I2201/342 BLK. B, L. 1 PLAT 2302
	5+00 + 5 0		*
		FEE MONTGOME	STMARLE AREA TO RY COUNTY_MARYLAND
WING WALL 4			D/212 (PARCEL 3)
31 0 512 00 EW			
		P.G.L. DENNIS AVE	AND <u>10 MD 193</u>
		320	
CONFERENCE CONFERENCE			
	LOB Company		315
I3-0215642H MONTGOMERY COUNTY 5861/10 PARCEL F	MARYHAND WHEATON REGIONAL 30		
	STORMWATER MANAGEMENT RO		
SF AL	MONIGOMERY CO. PERMITTING SERVI	CES APPROVED FOR:	NEGATE THE NEED OF A <u>MCDPS</u> ACCESS PERMIT.
	Stormwater Management:	Sediment Control Technical Requirements:	Administrative Requirements
		Reviewed Date	XXXXXX SEDIMENT CONTROL PERMIT NO.
	Reviewed Date	Approved Date	
	XXXXXX SM FILE #		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	DPS approval of a sediment control or stormwater mana- not create or imply any right to divert or concentrate ru engineer or other responsible person of professional liabil	gemnt plan is for demonstrated compliance with minimun noff onto any adjacent property without that property of ity or ethical responsibility for the adequacey of the drai	n environmental runoff treatment standards and does wner's permission. It does not relieve the design nage design as it affects uphill or downhill properties.
MONTGOME DEPARTMENT OF GAITHERSBUR	RY COUNTY TRANSPORTATION C. MARYLAND	EROSION AND SE PHASE	DIMENT CONTROL 5 & 5A
RECOMMENDED FOR APPROVAL			
Chief, Design Section APPROVED	Date	CALE CONTRACT OF ON DENNIS AVENUE	OVER SLIGO CREEK
Chief, Division of Transportation Engine	ering Date	SCALE: AS SHOWN	DATE: JANUARY 2020
Designed By: Drawn By	: Checked By:	Project No. : <u>M0178ZM1</u>	
	1/01/2000	AND A DEDICATION OF A	$\sim \sim $

STANDARD EROSION AND SEDIMENT CONTROL NOTES	27. The permitt
I. The permittee shall notify the Department of Permitting Services (DPS)	of disturbance
unless waived by the Department, shall be required to hold a pre-construction meeting between them or their representative their engineer and an authorized	activities.
representative of the Department.	28. Topsoil must

2. The permittee must obtain inspection and approval by DPS at the following points:

A.At the required pre-construction meeting.

B. Following installation of sediment control measures and prior to any other land disturbing activity. C. During the installation of a sediment basin or stormwater management

structure at the required inspection points (see Inspection Checklist on plan). Notification prior to commencing construction is mandatory.

D. Prior to removal or modification of any sediment control structure(s). E. Prior to final acceptance.

3. The permittee shall construct all erosion and sediment control measures per the approved plan and construction sequence, shall have them inspected and approved by the Department prior to beginning any other land disturbances, shall ensure that all runoff from disturbed areas is directed to the sediment control devices, and shall not remove any erosion or sediment control measure without prior permission from the Department.

4. The permittee shall protect all points of construction ingress and egress to prevent the deposition of materials onto traversed public thoroughfare(s). All materials deposited onto public thoroughfare(s) shall be removed immediately.

5. The permittee shall inspect periodically and maintain continuously in effective operating condition, all erosion and sediment control measures until such times as they are removed with prior permission from the Department. The permittee is responsible for immediately repairing or replacing any sediment control measures which have been damaged or removed by the permittee or any other person.

6. Following initial soil disturbance or re-disturbance, permanent or temporary stabilization must be completed within:

a) Three (3) calendar days as to the surface of all perimeter dikes, swales, ditches, perimeter slopes and all slopes steeper than 3 horizontal to 1 vertical (3:1); and

b) Seven (7) calendar days as to all other disturbed or graded areas on the project site not under active grading.

All areas disturbed outside of the perimeter sediment control system must be minimized and stabilized immediately. Maintenance must be performed as necessary to ensure continued stabilization.

7. The permittee shall apply sod, seed, and anchored straw mulch, or other approved stabilization measures to all disturbed areas within seven (7) calendar days after stripping and grading activities have ceased on that area. Maintenance shall be performed as necessary to ensure continued stabilization. Active construction areas, such as borrow or stockpile areas, roadway improvements, and areas within fifty (50) feet of a building under construction may be exempt from this requirement, provided that erosion and sediment control measures are installed and maintained to protect those areas.

8. Prior to removal of sediment control measures, the permittee shall stabilize all contributory disturbed areas with required soil amendments and topsoil, using sod or an approved permanent seed mixture and an approved anchored mulch. Wood fiber mulch may only be used in seeding season when the slope does not exceed 10% and grading has been done to promote sheet flow drainage. Areas brought to finished grade during the seeding season shall be permanently stabilized within seven (7) calendar days of establishment. When property is brought to finished grade during the months of November through February, and permanent stabilization is found to be impractical, an approved temporary seed and straw anchored mulch shall be applied to disturbed areas. The final permanent stabilization of such property shall be completed prior to the following April 15.

9. The site permit, work, materials, approved SC/SM plans, and test reports shall be available at the site for inspection by duly authorized officials of Montgomery County.

10. Surface drainage flows over unstabilized cut and fill slopes shall be controlled by either preventing drainage flows from traversing the slopes or by installing mechanical devices to lower the water down slope without causing erosion. Dikes shall be installed and maintained at the top of cut or fill slopes until the slope and drainage area to it are fully stabilized, at which time they must be removed and final grading done to promote sheet flow Irainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.

II. Permanent swales or other points of concentrated water flow shall be stabilized within 3 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures.

12. Sediment control devices shall be removed, with permission of the Department, within thirty (30) calendar days following establishment of permanent stabilization in all contributory drainage areas. Stormwater management structures used temporarily for sediment control shall be converted to the permanent configuration within this time period as well.

13. No permanent cut or fill slope with a gradient steeper than 3:1 will be permitted in lawn maintenance areas or on residential lots. A slope gradient of up to 2:1 will be permitted in non-maintenance areas provided that those areas are indicated on the erosion and sediment control plan with a low-maintenance ground cover specified for permanent stabilization. Slope gradient steeper than 2:1 will not be permitted with vegetative stabilization.

14. The permittee shall install a splashblock at the bottom of each downspout unless the downspout is connected by a drain line to an acceptable outlet.

15. For finished grading, the permittee shall provide adequate gradients so as to prevent water from standing on the surface of lawns more than twenty-four (24) hours after the end of a rainfall, except in designated drainage courses and swale flow areas, which may drain as long as forty-eight (48) hours after the end of a rainfall.

16. Sediment traps or basins are not permitted within 20 feet of a building which is existing or under construction. No building may be constructed within 20 feet of a sediment trap or basin.

17. All inlets in non-sump areas shall have asphalt berms installed at the time of base paving establishment.

18. The sediment control inspector has the option of requiring additional sediment control measures, as deemed necessary.

19. All trap elevations are relative to the outlet elevation, which must be on existing undisturbed ground.

20. Vegetative stabilization shall be performed in accordance with the Standards and Specifications for Soil Erosion and Sediment Control.

21. Sediment trap(s)/basin(s) shall be cleaned out and restored to the original dimensions when sediment has accumulated to the point of one-half (1/2) the wet volume of the trap/basin (I/4 the wet storage depth for ST-III) or when required by the sediment control inspector.

22. Sediment removed from traps/basins shall be placed and stabilized in approved areas, but not within a floodplain.

23. All sediment basins and traps must be surrounded with a welded wire safety fence. The fence must be at least 42 inches high, have posts spaced no farther apart than 8 feet, have mesh openings no greater the two inches in width and four inches in height, with a minimum of 14 gauge wire. Safety fence must be maintained in good condition at all times.

24. No excavation in the areas of existing utilities is permitted unless their location has been determined. Call "Miss Utility" at 1-800-257-7777, 48 hours prior to the start of work.

25. Off-site spoil or borrow areas must have prior approval by DPS. 26.Sediment trap/basin dewatering for cleanout or repair may only be done with the DPS inspector's permission. The inspector must approve the dewatering method for each application. The following methods may be considered:

A. Pump discharge may be directed to another on-site sediment trap or basin, provided it is of sufficient volume and the pump intake is floated to prevent agitation or suction of deposited sediments; or

B, the pump intake may utilize a Removable Pumping Station and must discharge into an undisturbed area through a non-erosive outlet; or

C. the pump intake may be floated and discharge into a Dirt Bag (12 oz. non-woven fabric), or approved equivalent, located in an undisturbed buffer area.

Remember: Dewatering operation and method must have prior approval by the DPS inspector.

tee must notify the Department of all uction activities within the permitted limits ce prior to the commencement of those

ust be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with MDE "Standards and Specifications for Soil Preparation, Topsoiling, and Soil Amendments".

B.4 STANDARDS AND SPECIFICATIONS FOR VEGETATIVE STABILIZATION Definintion: Using vegetation as cover to protect exposed soil from erosion.

Purpose: To promote the establishment of vegetation on exposed soil.

Conditions Where Practice Applies: On all disturbed areas not stabilized by other methods . This specification is divided into sections on incremental stabilization ; soil preparation, soil amendments and topsoiling; seeding and mulching ; temporary stabilization ; and permanent stabilization.

Effects on Water Quality and Quantity: Stabilization practices are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas.

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Over time, vegetation will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control practices must remain in place during grading, seedbed preparation, seeding, mulching, and vegetative establishment. Adequate Vegetative Establishment:

Inspect seeded areas for vegetative establishment and make necessary repairs, replacements, and reseedings within the planting season. I. Adequate vegetative stabilization requires 95 percent groundcover.

2. If an area has less than 40 percent aroundcover, restabilize following the original recommendations for lime, fellilizer, seedbed preparation, and seeding.

3. If an area has between 40 and 94 percent groundcover, over-seed and fertilize using half of the rates originally specified. 4. Maintenance fertilizer rates for permanent seeding are shown in Table 8.6.

B-4-1 STANDARDS AND SPECIFICATIONS

<u>FOR</u>

INCREMENTAL STABILIZATION

Definition Establishment of vegetative cover on cut and fill slopes.

Purpose

To provide timely vegetative cover on cut and fill slopes as work progresses. Conditions Where Practice Applies

Any cut or fill slope greater than 15 feet in height. This practice also applies to stockpiles. Criteria

Incremental Stabilization - Cut Slopes

- 1. Excavate and stabilize cut slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all cut slopes as the work progresses.
- 2. Construction sequence example (Refer to Figure B.1):
- a. Construct and stabilize all temporary swales or dikes that will be used to convey runoff around
- the excavation.
- b. Perform Phase 1 excavation, prepare seedbed, and stabilize.
- c. Perform Phase 2 excavation, prepare seedbed, and stabilize. Overseed Phase 1 areas as
- d. Perform final phase excavation, prepare seedbed, and stabilize. Overseed previously seeded

areas as necessary. Note: Once excavation has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

Incremental Stabilization - Fill Slopes

- Construct and stabilize fill slopes in increments not to exceed 15 feet in height. Prepare seedbed and apply seed and mulch on all slopes as the work progresses
- 2. Stabilize slopes immediately when the vertical height of a lift reaches 15 feet, or when the grading operation ceases as prescribed in the plans.
- 3. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- 4. Construction sequence example (Refer to Figure B.2): a. Construct and stabilize all temporary swales or dikes that will be used to divert runoff around
- the fill. Construct silt fence on low side of fill unless other methods shown on the plans address this area
- b. At the end of each day, install temporary water conveyance practice(s), as necessary, to intercept surface runoff and convey it down the slope in a non-erosive manner.
- c. Place Phase 1 fill, prepare seedbed, and stabilize.
- d. Place Phase 2 fill, prepare seedbed, and stabilize. e. Place final phase fill, prepare seedbed, and stabilize. Overseed previously seeded areas as
- necessary.

Note: Once the placement of fill has begun the operation should be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

PHASE 3 EXCAVATION
PHASE 2
PHASE 1
REAL PROPERTY AND
DIKE/SWALE EXIS

GROUND PHASE 1 EXCAVATION

-PHASE 2 EXCAVATION -PHASE 3 EXCAVATION

PLACED AT THE END OF EACH WORK DAY TO BE USED UNTIL SLOPE IS COMPLETELY STABILIZED 15 FT MAX

-SILT FENCE /

STING GROUND -

Figure B.2: Incremental Stabilization - Fill

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND AMENDMENTS

Definintion: The process of preparing the soils to sustain adequate vegetative stabilization.

Purpose: To provide a suitable soil medium for vegetative growth. Conditions Where Practice Applies:Where vegetative stabilization is to be established.

Criteria: A. Soil Preparation

I. Temporary Stabilization

a. Seedbed preparation consists of loosening soil to a depth of 3 to 5 inches by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it must not be rolled or dragged smooth but left in the roughened condition. Slopes 3: I or flatter are to be tracked with ridges running parallel to the contour of the slope.

b. Apply fertilizer and lime as prescribed on the plans.

c.Incorporate lime and fertilizer into the top 3 to 5 inches of soil by disking or other suitable means.

2. Permanent Stabilization

a. A soiltest is required for any earth disturbance of 5 acres or more. The minimum soil conditions required for permanent vegetative establishment are:

- i. Soil pH between 6.0 and 7.0.
- ii. Soluble salts less than 500 parts per million (ppm). iii. Soil contains less than 40 percent clay but enough fine grained material (greater than 30 percent silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception: if lovegrass will be planted, then a sandy soil (less than 30 percent silt plus clay)
- would be acceptable. iv. Soil contains 1.5 percent minimum organic matter by weight. v. Soil contains sufficient pore space to pelmit adequate root penetration.

b. Application of amendments or topsoil is required if on-site soils do not meet the above conditions.

c. Graded areas must be maintained in a true and even arade as specified on the approved plan, then scarified or otherwise loosened to a depth of 3 to 5 inches.

d. Apply soil amendments as specified on the approved plan or as indicated by the results of a soil test.

e. Mix soil amendments into the top 3 to 5 inches of soil by disking or other suitable means. Rake lawn areas to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface where site conditions will not permit normal seedbed preparation. Track slopes 3:1 or flatter with tracked equipment leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. Leave the top I to 3 inches of soil loose and friable. Seedbed loosening may be unnecessary on newly disturbed areas.

B. Topsoiling

I. Topsoil is placed over prepared subsoil prior to establishment of permanent vegetation. The purpose is to provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

2. Topsoil salvaged from an existing site may be used provided it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published by USDA-NRCS.

3. Topsoiling is limited to areas having 2:1 or flatter slopes where: a. The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.

b. The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.

c. The original soil to be vegetated contains material toxic to plant growth.

d. The soil is so acidic that treatment with limestone is not feasible.

4. Areas having slopes steeper than 2: I require special consideration and design.

5. Topsoil Specifications: Soil to be used as topsoil must meet the following criteria:

a. Topsoil must be a loam, sandy loam, clay loam, silt loam, sandy clay loam, or loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the appropriate approval authority. Topsoil must not be a mixture of contrasting textured subsoils and must contain less than 5 percent by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than IY: inches in diameter.

b. Topsoil must be free of noxious plants or plant parts such as Bermuda grass, quack grass, Johnson grass, nut sedge, poison ivy, thistle, or others as specified.

c. Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the appropriate approval authority, may be used in lieu of natural topsoil.

6. Topsoil Application

a. Erosion and sediment control practices must be maintained when applying topsoil.

	b. Uniformly distribute topsoil in a 5 to 8 i compact to a minimum thickness of 4 inche performed in such a manner that sodding with a minimum of additional soil preparatio	nch layer and lightly s.Spreading is to be or seeding can proceed n and tillage.Any		I		MON PER	ITGOMERY CO. MITTING SERVIO	DEPARTMENT O CES APPROVED	F FOR:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A <u>MCDPS</u> ACCESS PERMIT.
	operations must be corrected in order to of depressions or water pockets.	m topsolling or other prevent the formation			SEAL:	Stormwater	- Management:	Sediment Control Requiremer	Technical nts:	Administrative Requirements
	c. Topsoil must not be placed if the topsoil frozen or muddy condition, when the subso in a condition that may otherwise be detr grading and seedbed preparation.	or subsoil is in a bil is excessively wet or imental to proper						Reviewed	Date	Reviewed Date
C. S	oil Amendments (Fertilizer and Lime Specificat	ions)				Reviewed	Date	Approved	Date	SEDIMENT CONTROL PERMIT NO.
	. Soil tests must be performed to determine application rates for both lime and fertilized disturbed areas of 5 acres or more. Soil anal by a recognized private or commercial labora for engineering purposes may also be used f	the exact ratios and r on sites having ysis may be performed tory.Soil samples taken for chemical analyses.				Approved XX 	Date XXXXX			
						DPS approval of a sediment not create or imply any rig engineer or other responsibl	t control or stormwater manage ht to divert or concentrate run de person of professional liabilit	emnt plan is for demonstrated com loff onto any adjacent property wit y or ethical responsibility for the a	npliance with minimu hout that property o Idequacey of the dra	n environmental runoff treatment standards and does wner's permission. It does not relieve the design nage design as it affects uphill or downhill properties.
	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE				MONTGOME DEPARTMENT OF GAITHERSBUI	ERY COUNTY TRANSPORTAT RG, MARYLAND	ΓΙΟΝ	EROSI C	ON AN ONTRO	ID SEDIMENT L NOTES
	240–777–7221				RECOMMENDED FOR APPROVAL			REPLACEM	IENT OF	BRIDGE NO. M-0194
neering Design Planning Construction Management	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING				Chief, Design Section APPROVED		Date	ON DENNIS TRIBUT	AVENUE ARY (WH	OVER SLIGO CREEK EATON BRANCH)
→ enman-Pedersen, Inc.)00 Broken Land Parkway, Suite 500	240–777–7210 TRANSPORTATION PLANNING & DESIGN				Chief, Division of Transportation Engin	eering	Date	SCALE: AS SHO	WN	DATE: JANUARY 2020
lumbia, MD 21044 : 410.880.3055	240–777–7221	NO. REVISION	DATE	ΒY	Designed By: Drawn B	ly:Ch	necked By:	Project No. : <u>M0178ZM1</u>		SHEET <u>16</u> 0F <u>24</u>

B.4-2 STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, OPSOILING, AND AMENDMENTS CONT

2. Fertilizers must be uniform in composition, free flowing and suitable for accurate application by appropriate equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers must all be delivered to the site fully labeled according to the applicable laws and must bear the name, trade name or trademark and warranty of the producer.

3. Lime materials must be ground limestone (hydrated or burnt lime may be substituted except when hydroseeding) which contains at least 50 percent total oxides (calcium oxide plus magnesium oxide). Limestone must be ground to such fineness that at least 50 percent will pass through a #100 mesh sieve and 98 to 100 percent will pass

4. Lime and fertilizer are to be evenly distributed and incorporated 5. Where the subsoil is either highly acidic or composed of heavy clays, spread ground limestone at the rate of 4 to 8 tons/acre (200-400 pounds per 1,000 square feet) prior to the placement

suitable means.

Purpose: To protect disturbed soils from erosion during and at the end of construction.

cover.

A. Seeding

I. Specifications

a. All seed must meet the requirements of the Maryland State Seed Law. All seed must be subject to re-testing by a recognized seed laboratory. All seed used must have been tested within the 6 months immediately preceding the date of sowing such material on any project. Refer to Table B.4 regarding the quality of seed. Seed tags must be available upon request to the inspector to verify type of seed and seeding rate. b. Mulch alone may be applied between the fall and spring seeding dates only if the ground is frozen. The appropriate seeding

the inoculant less effective.

d. Sod or seed must not be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phyto-toxic materials.

2. Applicaton

b. Drill or Cultipacker Seeding: Mechanized seeders that apply and cover seed with soil.

i. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least I/4 inch of soil covering. Seedbed must be firm after planting. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. c. Hydroseeding: Apply seed uniformly with hydroseeder (slurry

includes seed and fertilizer).

i. If fertilizer is being applied at the time of seeding, the application rates should not exceed the following: nitrogen, 100 pounds per acre total of soluble nitrogen; P205 (phosphorous), 200 pounds per acre; K2 0 (potassium), 200 pounds per acre.

ii. Lime: Use only ground agricultural limestone (up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any one time. Do not use burnt or hydrated lime when hydroseeding. iii. Mix seed and fertilizer on site and seed immediately and without interruption.

iv. When hydroseeding do not incorporate seed into the soil.

B. Mulching

desired.

through a #20 mesh sieve.

of topsoil. into the top 3 to 5 inches of soil by disking or other

B.4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING

Definintion: The application of seed and mulch to establish vegetative

Conditions Where Practice Applies: To the surface of all perimeter controls, slopes, and any disturbed area not under active grading.

mixture must be applied when the ground thaws.

c.Inoculants: The inoculant for treating legume seed in the seed mixtures must be a pure culture of nitrogen fixing bacteria prepared specifically for the species. Inoculants must not be used later than the date indicated on the container. Add fresh inoculants as directed on the package. Use four times the recommended rate when hydroseeding. Note: It is very important

to keep inoculant as cool as possible until used. Temperatures above 75 to 80 degrees Fahrenheit can weaken bacteria and make

a. Dry Seeding: This includes use of conventional drop or broadcast spreaders.

i. Incorporate seed into the subsoil at the rates prescribed on Temporary Seeding Table B.I, Permanent Seeding

Table B.3, or site-specific seeding summaries. ii. Apply seed in two directions, perpendicular to each other. Apply half the seeding rate in each direction. Roll the seeded area with a weighted roller to provide good seed to soil contact.

I. Mulch Materials (in order of preference)

a. Straw consisting of thoroughly threshed wheat, rye, oat, or barley and reasonably bright in color. Straw is to be free of noxious weed seeds as specified in the Maryland Seed Law and not musty, moldy, caked, decayed, or excessively dusty. Note: Use only sterile straw mulch in areas where one species of grass is

B.4-3 STANDARDS AND SPECIFICATIONS FOR SEEDING AND MULCHING CONT.

b. Wood Cellulose Fiber Mulch (WCFM) consisting of specially prepared wood cellulose processed into a uniform fibrous physical state.

- i. WCFM is to be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry. ii. WCFM, including dye, must contain no germination or growth
- inhibiting factors. iii.WCFM materials are to be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material must form a blotter-like ground cover, on application, having moisture absorption and percolation properties and must cover and
- hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings. iv. WCFM material must not contain elements or compounds at concentration levels that will be phyto-toxic.
- v. WCFM must conform to the following physical requirements: fiber length of approximately 10 millimeters, diameter approximately I millimeter, pH range of 4.0 to 8.5, ash content of 1.6 percent maximum and water holding capacity of 90 percent minimum.

2. Application

a. Apply mulch to all seeded areas immediately after seeding.

b. When straw mulch is used, spread it over all seeded areas at the rate of 2 tons per acre to a uniform loose depth of 1 to 2 inches. Apply mulch to achieve a uniform distribution and depth so that the soil surface is not exposed. When using a mulch anchoring tool, increase the application rate to 2.5 tons per acre.

c. Wood cellulose fiber used as mulch must be applied at a net dry weight of 1500 pounds per acre. Mix the wood cellulose fiber with water to attain a mixture with a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.

3. Anchorina

a. Perform mulch anchoring immediately following application of mulch to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon the size of the area and erosion hazard:

- i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of 2 inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land,
- this practice should follow the contour. ii. Wood cellulose fiber may be used for anchoring straw. Apply the fiber binder at a net dly weight of 750 pounds per acre. Mix the wood cellulose fiber with water at a maximum of 50 pounds of wood cellulose fiber per 100
- gallons of water. iii. Synthetic binders such as Acrylic DLR (Agro-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used. Follow application rates as specified by the manufacturer. Application of liquid binders needs to be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. Use of asphalt
- binders is strictly prohibited. iv.Lightweight plastic netting may be stapled over the mulch according to manufacturer recommendations. Netting is usually available in rolls 4 to 15 feet wide and 300 to 3,000 feet long.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 11 OF 14

SEQUENCE OF CONSTRUCTION	B.4-4 STANDARDS AND	D SPECIFICATIO	NS FOR TEMP	ORARY STABILIZATION		<u>B.4-5 ST/</u>	NDARDS AND	SPECIFICATIONS FO	R PERMANENT	STABILIZATION	CONT.	
I. THE RELOCATION OF THE EXISTING UTILITES (SEWER, GAS, AND WATER) ARE TO TAKE PLACE PRIOR TO THE START OF CONSTRUCTION.	Definintion: To stabilize 6 months.	disturbed soi	ls with vege ⁻	tation for up to			PERMANENT SEED	ING SUMMAR				
2. PRIOR TO THE CLEARING OF ANY TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRECONSTRUCTION MEETING MUST BE CONDUCTED ON-SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT	Purpose: To use fast gr disturbed soils.	rowing vegeta:	tion that pro	ovides cover on	Ha	rdiness Zone	<u>6b</u>		Fertilizer	Rate		
CONTROL INSPECTOR AT 240-777-6210 (48 HOURS NOTICE), THE OWNER'S REPRESENTATIVE, AND THE SITE ENGINEER IN ORDER FOR THE MEETING TO OCCUR, THE APPLICANT MUST PROVIDE ONE PAPER SET OF APPROVED SEDIMENT CONTROL PLANS TO THE MCDPS SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEETING IF NO PLANS ARE PROVIDED. THE MEETING SHALL NOT OCCUR	Conditions Where Practic needed for a period of	ce Applies: Exp f6 months or	oosed soils w less.For lor	here ground cover is ger duration of time,		5e	ed Mixture	<u>+</u>	Sandran	(10-20-2		- Lime Rate
AND WILL NEED TO BE RESCHEDULED PRIOR TO COMMENCING ANY WORK.	permanent stabilization Criteria:	practices ar	e required.			Species	Rate (lb/ac) Dates	Depths	N P ₂ O ₂	K ₂ Ø	
MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.	I. Select one or more Table B.I for the appropriate	of the specie opriate Plant	es or seed m Hardiness Zo Sooding Summ	ixtures listed in one (from Figure B.3), ary below glaps with		Deertongue (Dichanthelium)	15	March 1 to May 15 May 16 to June 15	¹ / ₄ - ¹ / ₂ ¹ n 45	ounds 90 lb/a	- 90 lb/ac	2 tons/ac
4.PER JOINT PERMIT, FOLLOW BEST MANAGEMNET PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, AND IOO-YEAR FLOODPLAINS AS SHOWN ON THIS SHEET.	application rates, see is not put on the pla	ding dates and n and complet	d seeding summ d seeding de red, then Tab	pths.lf this Summary le B.lplus fertilizer		Creeping Red Fescue (Festuca rubra var.rubra	a) 2Ø	March 1 to May 15 May 16 to June 15	$\frac{1}{4} - \frac{1}{2} $ in (1)	rac (2 lb/ lb/ 1000 sf	(2 lb/) 1000 sf)	(90 lb/ 1000 sf)
<u>phase i - relocation of closed storm drain system</u> 5.establish maintenance of traffic on glenhaven drive.	and lime rates must b 2.For sites having soi	e put on the 1 tests perfor	plan. rmed.use an	d show the recommended		Virginia Wild Rye (Elymus virginicus)	5	March 1 to May 15 May 16 to June 15				
6.CLEAR AND GRADE FOR INSTALLATION OF SEDIMENT CONTROL DEVICES.INSTALL PERIMETER CONTROLS, INLET PROTECTION STABILIZED CONSTRUCTION ENTRANCES, SUPER SILT FENCE, SUMP PIT, SAND BAG DIKE, AND FILTER BAG AS SHOWN ON THE PLAN	rates by the testing Seeding,	agency.Soil te	ests are not	required for Temporary								
OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ADDITIONAL CLEARING, GRUBBING, OR GRADING.	3.When stabilization is and mulch or straw m	s required out ulch alone as	tside of a se prescribed i	eeding season, apply seed In Section B-4-3.A.I.b and		B. Sod:	tions					
STABILIZATION AT THE END OF EACH WORK DAY.	maintain until the next	t seeding sea <u>TEMPO</u>	^{son.} I <mark>RARY SEE[</mark>)ING SUMMARY		a.Class of turf	grass sod mu	ust be Maryland S	tate Certified	Sod labels m	ust be made	е
9. INSTALL RIPRARP APRON AT THE OUTFALL OF EW-I.		Seeding Rate	Seeding F	Recommended Seeding Dates b	by Plant Hardiness Zone	available to the	job foremai	n and inspector.		<i></i>	•	
IO.CONSTRUCT PEDESTRIAN TEMPORARY BRIDGE AND TEMPORARY SIDEWALK FOR PEDESTRAIN AND BICYCLE DETOUR.DIRECT PEDESTRIANS AND BICYCLIST TO TEMPORARY BRIDGE AND TEMPORARY SIDEWALK.	Plant Species	lb/ac	(inches)	6Ь		b.Sod must be inch, at the tim thatch Broken	machine cut le of cutting pads and tor	at a unitorm soil 9. Measurement foi 20. or uneven ends	thickness of thickness mu will not be ac	/4 inch, plus st exclude to ceptable	or minus 1/2 p growth a	ind
PHASE 2 - REMOVAL OF EXISTING BRIDGE AND INSTALLATION OF PROPOSED STRUCTURE	Cool-Season Grasses Barley (Hordeum vulgare)	96	1.Ø	Mar 1 to May 15;Aug	g 1 to Oct 15	c.Standard size	sections of	sod must be str	ong enough to	support thei	- own weigh	1†
II.WITH WRITTEN APPROVAL FROM MCDPS INSPECOR, REMOVE PHASE I STABILIZED CONSTRUCTION ENTRANCE FROM DENNIS AVENUE, SUMP PIT, FILTER BAG, AND SANDBAG DIKE AT THE OUTFALL OF THE STORM DRAIN SYSTEM.	Oats (Avena satıva) Wheat (Trıtıcum aestıvum)	72 120	1.Ø 1.Ø	Mar 1 to May 15;Aug Mar 1 to May 15;Aug	g 1 to Oct 15 g 1 to Oct 15	and retain thei upper 10 percer	r size and sh nt of the se	nape when suspend ction.	led vertically	with a firm g	rasp on the	3
12. ESTABLISH VEHICULAR DETOUR AND CLOSE DENNIS AVENUE.	Ceral Rye (Secale cereale) Warm-Season Grasses	112	1.Ø	Mar 1 to May 15; Aug	g 1 to Oct 15	d.Sod must not or wet)may adv	be harveste ersely affec	ed or transplanted at its survival.	l when moistur	e content (e>	cessively d	ry
14. DURING A 3-DAY NOAA FORECAST DRY PERIOD, INSTALL TEMPORARY SHEET PILES FROM STA. 13+10, 52.4' LT. TO STA. 14+28, 136.3', RT. (IN WHEATON REGIONAL SWM POND), TEMPOARY STREAM DIVERSION CHANNEL, 36" CLEAR WATER DIVERSION PIPE, SUMP PIT, AND FILTER BAG. OBTAIN WRITTEN APPROVAL FROM THE MCDPS INSPECTOR BEFORE PROCEEDING WITH ADDITIONAL CLEARING, GRUBBING, OR GRADING.	Foxtail Millet (Setaria italica)	30	Ø . 5	May 16 to J	Jul 31	e.Sod must be transplanted wi prior to its ins	harvested, de thin this per tallation.	elivered, and insto iod must be appro	lled within a p oved by an ag	eriod of 36 h onomist or s	ours.Sod no bil scientist	0†
IS. DEWATER AREA AROUND EXISTING BRIDGE ABUTMENTS AND REMOVE EXISTING BRIDGE ABUTMENTS AND ANY CONCRETE AND RIPRAP WITHIN THE STREAM	<u>B.4-5 ST</u>	ANDARDS AND	SPECIFICATION	NS FOR PERMANENT STABILIZA	ATION	2. Sod Installation						
16. EXCAVATE FOR THE INSTALLATION OF PROPOSED CULVERT FOOTERS AND WING WALL I. REMOVE EXISTING INLET AT STA. 12+72,	Definintion: To stabilize	disturbed soil	s with permo	nent vegetation.		a.During period irrigate the su	s of excessiv osoil immediat	vely high tempera ely prior to layin	ure or in are g the sod.	as having dry	subsoil, ligi	ntly
17. FORM AND POUR FOOTERS FOR THE CULVERT CELLS AND WING WALL I.	Purpose: To use long-live on disturbed soils.	ed perennial gr	rasses and le	egumes to establish permane	ent ground cover	b.Lay the first	row of sod	in a straight line	e with subsequ	ent rows plac	ed parallel	†0
18. CONSTRUCT WING WALL I.	Conditions Where Practic	e Applies: Exp	osed soils wh	nere ground cover is neede	d for 6 months	it and tightly w uniform growth all joints are bu	edged agains and strengt utted tight iv	st each other. Sto h.Ensure that so n order to prever	agger lateral j d is not stret at voids which	ched or over would cause	ote more apped and m nir drving c	that of
19. COSNIRUCT WING WALL 2 AND PROVIDE PERMANENT STABILIZATION IN FORNT OF WING WALL 2. WING WALL 2 CAN BE CONSTRUCTED CONCURRNETLY WITH THE FORMING AND POURING OF THE CULVERT FOOTERS AND WING WALL 1.	or more.					the roots.						
20.GRADE DOWNSTREAM OF CULVERT CELLS INTO WHEATON REGIONAL SWM POND, AND PROVIDE FINAL STABILIZATION.CLEAR WATER DIVERSION PIPE IS TO BE MOVED AS NECESSARY FOR GRADING.	Criteria: A. Seed Mixtures					c.Wherever pos staggering joint stopper Ensure s	sible, lay sod s.Roll and to	I with the long ed imp, peg or otherv	ges parallel to vise secure the	the contour e sod to pre	and with /ent slippag	je on
21. BACKFILL TO INSTALL I-I AND PROPOSED STORM DRAIN PIPE FROM I-I TO WING WALL 2. 22. DRING A 3-DAY NOAA FORECAST DRY PERIOD. INSTALL I-L STORM DRAIN PIPE. AND RIPRAP APRON. FLUSH PROPOSED SYSTEM	I. General Use					d.Water the so	d immediately	following rolling	and tamping u	ntil the under	side of the	,e. ; new
AND CONNECT CLEAR WATER DIVERSION PIPE TO THE STORM DRIAN PIPE. PLACE CIP AROUND 1-1.	a.Select one or m Plant Hardiness Zc on Table B.2.Ente	nore of the s one (from Figu r selected mi	species or mi ure B.3) and b xture(s). appl	xtures listed in Table B.3 fo based on the site condition ication rates, and seeding of	or the appropriate or purpose found dates in the	sod pad and so laying, tamping	I surface bei and irrigating	low the sod are t g for any piece o	horoughly wet f sod within e	.Complete the ight hours.	operations	; of
PHASE 3 - INSTALLATION OF WING WALLS 3 & 4 AND ROADWAY CONSTRUCTION	Permanent Seeding	g Summary. The	e Summary is	to be placed on the plan.	lines stream backs	3.Sod Maintenance						
24. DURING A 3-DAY NOAA FORECAST DRY PERIOD AND WITH WRITTEN APPROVAL FROM MCDPS INSPECTOR, REMOVE TEMPORARY Sheeting From Sta.14+11, 70.4' RT. TO Sta.14+28, 136.3' RT. AND FROM STA.13+10, 52.6' LT. TO STA.13+65, 52.6' LT. REMOVE: CONCRETE BLOCK STREAM DIVERSION FROM STA.13+64, 92.8'LT TO STA.13+10, 52.6' LT. TO STA.13+65, 52.6' LT.	or dunes or for s in USDA-NRCS Tech	special purposi nical Field Off	es such as w ice Guide, Sed	ildlife or aesthetic treatme ction 342 - Critical Area Plar	ent may be found nting.	a.In the absend and sufficiently	e of adequa as necessar	te rainfall, water ry to maintain moi	daily during t st soil to a de	ne first week pth of 4 inch	or as ofte es.Water se	∍n od
24.7'RT. TO STA. 14+35, 62.8'RT. INSTALL SUMP PITS AND FILTER BAGS AS SHOWN ON THE PLAN.	c.For sites having the soil testing ag	g disturbed ar gency.	rea over 5 a	cres, use and show the rat	tes recommended by	during the heat	of the day	to prevent wiltin	g.	ary to mainta	in adequate	2
25. ALLOW STREAM TO FLOW THROUGH CULVERT CELLS. 26. WITH WRITTEN APPROVAL FROM MCDPS INSPECTOR, REMOVE TEMPORARY STREAM DIVERSION CHANNEL AND REMAINING SHEETING;	d.For areas recei per 1000 square f	ving low main eet (150 poun	tenance, appl ds per acre)	y urea form fertilizer (46-) at the time of seeding in (0-0) at 3.5 pounds addition to the soil	moisture conter	nt.	i wareinig is requ				
FROM STA.13+65, 52.6′LT.TO STA.14+11, 70.4′RT. 27.INSTALL WING WALL 3 AND WING WALL 4.BACK FILL AROUND BOTH WING WALLS AND LEFT CULVERT CELL (LOOKING	amendments shown	in the Permo	inent Seeding	j Summary.		c.Do not mow L be removed by	ntil the sod the initial cu	is firmly rooted. N tting or subsequent	lo more than nt cuttings.Ma	/3 of the gro intain a gras	ss leaf mus height of	st at
DOWNSTREAM). 28.Construct roadway. Sidewalk. and parapets from sta.12+41 to sta.14+33.	a. Areas where tur	s rfgrass may t	pe desired in	clude lawns, parks,playgrour	nds, and commercial	least 3 inches L	INIESS OTNERW	ise specified.				
29. INSTALL TRAFFIC BARRIER W-BEAM AT BRIDGE APPROACHES AND ATTACH TO PARAPETS PER PLAN.	sites which will really b.Select one or m	ceive a medium nore of the s	m to high le [,] species or mi	vel of maintenance. xtures listed below based o	on the site							
30. GRADE AND CONSTRUCT ALL BUT THE FINAL PAVEMENT COURSE ALONG DENNIS AVENUE FROM STA.11+75 TO STA.15+25.	conditions or purp the Permanent Sec	pose.Enter se eding Summary	elected mixtu 7. The summar	re(s), application rates, and y is to be placed on the pl	seeding dates in Ian.							
OPEN DENNIS AVENUE TO VEHICULAR AND PEDESTRIAN TRAFFIC.	i. Kentucky B managemen	Bluegrass:Full S nt. Irrigation r	Sun Mixture: required in t	For use in areas that recein he areas of central Marylar	ive intensive nd and Eastern							
33. GRADE IN FRONT OF WING WALL 4 AND PROVIDE PERMANENT STABILIZATION. GRADE IN FRONT OF WING WALL 3, INCLUDING	Shore. Rec 2.0 pounds cultivars v	commended Cer per 1000 squ with each ran	uare feet.Ch ging from 10	cky Bluegrass Cultivars See pose a minimum of three Ke to 35 percent of the totc	ding Rate:1.5 to entucky bluegrass al mixture by weight.							
PHASE 4: IN-STREAM WORK - LEFT BANK	ii. Kentucky B where rap	lluegrass/Pere id establishme	ennial Rye: Ful	I Sun Mixture: For use in fu	ull sun areas aive medium to							
34. WITH WRITTEN APPROVAL OF THE MCDPS INSPECTOR, REMOVE TEMPORARY PEDESTRIAN BRIDGE OVER WHEATON BRANCH, AND SUPER SILT FENCE ON LEFT BANK (LOOKING DOWNSTREAM), REMOVE CONCRETE BLOCK STREAM DIVERSION FROM STA. 13+89,	intensive r Bluegrass	management.Co Seeding Rate:	ertified Pere 2 pounds mix	ennial Ryegrass Cultivars/Cer ture per 1000 square feet.	Choose a minimum							
24.7'RT TO STA.14+35, 62.8'RT AND ASSOCIATED SUMP PIT AND FILTER BAG. 35.DURING A 3-DAY NOAA FORECAST DRY PERIOD, EXTEND CONCRETE BLOCK STREAM DIVERSION UPSTREAM OF DENNIS AVENUE -	of the to	tal mixture by	v weight.									
FROM STA.13+43, 72.1′LT.TO STA.13+03, 168.1′LT. 36.GRADE STREAM BANK PER PLAN AND PROVIDE PERMANENT STABILIZATION PER NOTE B-4-5.	iii.TallFescue/ and/orfor Recommend	/Kentucky Blu r areas recei led mixture in	egrass:Full Su ving low to i icludes;Certit	un Mixture:For use in droug medium management in fullsu Fied TallFescue Cultivars 95	ght prone areas un to medium shade. to 100 percent,							
PHASE 5: IN-STREAM WORK - RIGHT BANK	Certified A per 1000 s	Kentucky Blue square feet. (grass Cultivo)ne or more	rs 0 to 5 percent.Seeding cultivars may be blended.	Rate:5 to 8 pounds							
37. WITH WRITTEN APPROVAL OF THE MCDPS INSPECTOR, AND DURING A 3-DAY NOAA FORECAST DRY PERIOD, REMOVE CONCRETE BLOCK STREAM DIVERSION FROM STA.13+03, 168.14 LT. TO STA.13+78, 30.84 LT., SUMP PIT, AND FILTER BAG.REMOVE SUPER SUIT FENCE ALONG TOP OF LEFT BANK (LOOKING DOWNSTREAM), RELOCATE SUPER SUIT FENCE ON RIGHT BANK	iv.Kentucky B Bluegrass	Bluegrass/Fine lawns.For est	Fescue: Shad tablishment in	e Mixture:For use in areas high quality, intensively ma	with shade in anaged turf area.							
(LOOKING DOWNSTREAM) AND STABILIZED CONSTRUCTION ENTRANCE AS NEEDED TO FACILITATE THE GRADING PER PLAN.	Fine Fescu	ie and 60 to	70 percent.	Seeding Rate: 1.5 to 3 pounds	s per 1000 square feet	•						
STA. 13+02, 30.0' LT., ALONG RIGHT BANK OF STREAM.	Notes: Select tur Maryland P	-fgrass variet Publication, Ag	ties from the ronomy Memo	ose listed in the most curr #77, "Turfgrass Cultivar Re	ent University of commendations for							
STABILIZATION PER NOTE B-4-5.	Maryland". Choose cer	rtified materi	ial Certified	material is the best quaran	tee of cultivar							
40. WITH WRITTEN APPROVAL OF THE MCDPS INSPECTOR AND DURING A 3-DAY NOAA FORECAST DRY PERIOD, RELOCATE CONCRETE	purity. The and Seed S	e certification Section, provi	n program of des a reliable	e means of consumer protect	of Agriculture, Turf ction and assures							
46.8' LT., SUMP PIT, AND FILTER BAG PER PLAN (PHASE 5A INSET).	a pure ger c.ldeal Times of Se	netic line. eeding for Tu	rf Grass Mix	tures								
41. COMPLETE STREAM GRADING, INSTALLATION OF UTILITY STREAM PROTECTION, AND PROVIDE PERMANENT STABILIZATION PER B-4-5. 42. WITH WRITTEN APPROVAL OF THE MCDPS INSPECTOR AND DURING A 3-DAY NOAA FORECAST DRY PERIOD, REMOVE CONCRET	Western MD: Marc Central MD: March Southern MD, Eas	ch 15 to June n I to May 15, tern Shore:Ma	l, August to August 5 to arch to May	o October I(Hardiness Zones October I5 (Hardiness Zone: / I5. August I5 to October	s: 5b, 6a) : 6b) 15 (Hardiness							
BLOCK STREAM DIVERSION FROM STA.13+15,137.0′LT.TO STA.13+73,46.8′LT.SUMP PIT,FILTER BAG, SUPER SILT FENCE, AND STABILIZED CONSTRUCTION ENTRANCE.	Zones: 7a, 7b)			ther approved methods to					г			
43. APPLY FINAL PAVEMENT COURSE ALONG DENNIS AVENUE FROM STA.11+75 TO STA.15+25 AND CONSTRUCT MEDIAN. PERFORM PAVEMENT MARKING.	4 inches, level and debris over 1.5 in	d rake the an nches in diame	reas to prep eter. The res	are a proper seedbed.Remo Jiting seedbed must be in s	ove stones and such condition that					SEAL:		
44.REMOVE TEMPORARY SIDEWALK ALONG GLENHAVEN DRIVE AND PROVIDE PERMANENT STABILIZATION PER NOTE B-4-5. 45.SUBMIT AS-BUILT PLANS TO DPS.IPRAP WITHIN THE STREAM.	future mowing of e.lf soil moisture	t grasses will is deficient, s	pose no dift supply new s	riculty. eedings with adequate water	r for plant growth							-
	(1/2 to linch ever established. This in abnormally dry	ry 3 to 4 day is especially y or hot seas	s depending true when se sons. or on a	on soil texture)until they a eedings are made late in the dverse sites.	re firmly e planting season,							
	Gonormany dry		. _, , or or d			MISS LIT	ILITY					
					Call "Miss Utili	ty" at 1-800-257-7777, 48	nours prior to t	the start of work.	ties			
					in the area of	proposed excavation and	have those fac	cilities located by the))			
					for compliance	es prior to commencing ex with requirements of Chap	ter 36A of the	excavator is responsi Montgomery County	ole Code.			DPS ap not cre enginee
				Γ	OWNER/ADDRESS:						MONT	GOMERY
					DEPARTMENT OF TRANS 100 EDISON PARK DRIV	E				D	LPAR IMEN GAITHEF	I UF TRA RSBURG, 1
					GAITHERSBURG, MARYLA	AND						

P. 4. 4. CTANDADDO AND ODOUCIOATIONIC FOD TEMPODADY CTADIUZATION

RAE CTANDARDS AND CREDIEICATIONS FOR DERMANENT CTARMUTATION CONT

y 15, August 15 to October 15 (Hardiness Zone pre: March 1 to May 15, August 15 to October	e: 6b) 15 (Hardiness				Г		MOI PER	NTGOMERY CO. RMITTING SERVI	DEPARTMENT OF ICES APPROVED FOF	?:	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED OF A MCDPS ACCESS PERMIT.
diameter. The resulting seedbed must be in s will pose no difficulty.	ove stones and such condition that				ç	SEAL:	Stormwate	r Management:	Sediment Control Tec Requirements:	nnical	Administrative Requirements
ent, supply new seedings with adequate wath 4 days depending on soil texture) until they fally true when seedings are made late in the seasons or on advarse sites	er for plant growth are firmly ne planting season,								Reviewed	Date	Reviewed Date XXXXXX SEDIMENT CONTROL DEPMIT NO
Seusons, or on daverse sires.	MI	SS UTILITY	Y				Reviewed	Date	Approved	Date	
	Call "Miss Utility" at 1–800–257–777 The excavator must notify all public in the area of proposed excavation	7,48 hour utility com and have	s prior to the start of panies with under gro e those facilities loca	work. ound facilities ted by the			Approved s	Date XXXXX M FILE #			MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
	utility companies prior to commenc for compliance with requirements o	ing excava of Chapter 3	ation. The excavator is 36A of the Montgome	s responsible ry County Code.			DPS approval of a sedime not create or imply any ri engineer or other responsi	nt control or stormwater mana ight to divert or concentrate r ble person of professional liabi	gemnt plan is for demonstrated compliance unoff onto any adjacent property without th lity or ethical responsibility for the adequad	with minimum at property ow ey of the drain	n environmental runoff treatment standards and does mer's permission. It does not relieve the design nage design as it affects uphill or downhill properties.
	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE CALTHERSBURG MARYLAND					MONTGOMEI DEPARTMENT OF GAITHERSBUR	RY COUNTY TRANSPORTA CG, MARYLAND	TION	EROSION ANI NOTES SEQUENCE	D SE & D OF	DIMENT CONTROL ETAILS AND CONSTRUCTION
	240-777-7221					RECOMMENDED FOR APPROVAL			REPLACEMEN	T OF	BRIDGE NO. M-0194
Engineering Design Planning Construction Management	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION					Chief, Design Section APPROVED		Date	ON DENNIS AV TRIBUTAR	VENUE Y (WH	OVER SLIGO CREEK EATON BRANCH)
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044	240–777–7210 TRANSPORTATION PLANNING & DESIGN					Chief, Division of Transportation Engine	ering	Date	SCALE: AS SHOWN		DATE: JANUARY 2020
Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY	Designed By: Drawn By:	: C	hecked By:	Project No. : <u>M0178ZM1</u>		SHEET <u>17</u> 0F <u>24</u>

BEST MANAGEMENT PRACTICES FOR WORKING IN NONTIDAL WETLANDS, WETLAND BUFFERS, WATEREWAYS, AND 100-YEAR FLOODPLAIN

I.NO EXCESS FILL, CONSTRUCTION MATERIAL, OR DEBRIS SHALL BE STOCKPILES OR STORED IN NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE IOO-YEAR FLOODPLAIN.

2. PLACE MATERIALS IN A LOCATION AND MANNER WHICH DOES NOT ADVERSELY IMPACT SURFACE OR SUBSURFACE WATER FLOW INTO OR OUT OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE IOO-YEAR FLOODPLAIN.

3. DO NOT USE THE EXCAVATED MATERIAL AS BACKFILL IF IT CONTAINS WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE. IF ADDITIONAL BACKFILL IS REQUIRED, USE CLEAN MATERIAL FREE OF WASTE METAL PRODUCTS, UNSIGHTLY DEBRIS, TOXIC MATERIAL, OR ANY OTHER DELETERIOUS SUBSTANCE.

4. PLACE HEAVY EQUIPMENT ON MATS OR SUITABLY OPERATE THE EQUIPMENT TO PREVENT DAMAGE TO NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR THE IOO-YEAR FLOODPLAIN.

5. REPAIR AND MAINTAIN ANY SERVICEABLE STRUCTURE OR FILL SO THERE IS NO PERMANENT LOSS OF NONTIDAL WETLANDS, NONTIDAL WETLAND BUFFERS, WATERWAYS, OR PERMANENT MODIFICATION OF THE IOO-YEAR FLOODPLAIN IN EXCESS OF THAT LOST UNDER THE ORIGINALLY AUTHORIZED STRUCTURE OR FILL.

6. RECTIFY ANY NONTIDAL WETLANDS, WETLAND BUFFERS, WATERWAYS, OR 100-YEAR FLOODPLAIN TEMPORARILY IMPACTED BY ANY CONSTRUCTION.

7. ALL STABILIZATION IN THE NONTIDAL WETLAND AND NONTIDAL WETLAND VUFFER SHALL CONSIST OF FLOOWING SPECIES:ANNUAL RYEGRASS (Lolium multiflorum), MILLET (Setaria italica), BARLEY (Hordeum sp.), OATS (Uniola sp.), AND/OR RYE (Secale cereale). THESE SPECIES WILL ALLOW FOR THE STABILIZATION OF THE SITE WHILE ALSO ALLOWING FOR THE VOLUNTARY REVEGETATION OF NATURAL WETLAND SPECIES.OTHER NON-PERSISTENT VEGETATION MAY BE ACCEPTABLE, BUT MUST BE APPROVED BY THE NONTIDAL WETLANDS AND WATERWAYS DIVISION. KENTUCKY 31 FDESCUE SHALL NOT BE UTILIZED IN WETLAND OR BUFFER AREAS. THE AREA SHOULD BE SEEDED AND MULCHED TO REDUCE EROSION AFTER CONSTRUCTION ACTIVITITES HAVE BEEN COMPLETED.

8. AFTER INSTALLATION HAS BEEN COMPLETED, MAKE POST-CONSTRUCTION GRADES AND ELEVATIONS THE SAME AS THE ORIGINAL GRADES AND ELEVATIONS IN TEMPORARY IMPACTED AREAS.

9. TO PROTECT AQUATIC SPECIES, IN-STREAM WORK IS PROHIBITED AS DETARMINED BY THE CLASSIFICATION OF THE STREAM:

USE IWATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH I THROUGH JUNE 15, INCLUSIVE, DURING ANY YEAR.

USE III WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD OCTOBER I THROUGH APRIL 30, INCLUSIVE, DURING ANY YEAR. USE IV WATERS: IN-STREAM WORK SHALL NOT BE CONDUCTED DURING THE PERIOD MARCH I

THROUGH MAY 31, INCLUSIVE, DURING ANY YEAR.

IO.STORMWATER RUNOFF FROM IMPERVIOUS SURFACES SHALL BE CONTROLLED TO PREVENT THE WASHING OF DEBRIS INTO THE WATERWAY.

II. CULVERTS SHALL BE CONSTRUCTED AND ANY RIPRAP PLACED SO AS NOT TO OBSTRUCT THE MOVEMENT OF AQUATIC SPECIES, UNLESS THE PURPOSE OF THE ACTIVIITY IS TO IMPOUND WATER.

CONCRETE WASHING NOTES

I.LOOSE PIECES OF DRIED GROUT AND DUST SHALL BE REMOVED FROM THE WORK AREA AFTER CEMENTITIOUS MATERIALS ARE CURED.

2. WASH CURED CEMENTITIOUS SURFACES AND PUMP WASH WATER TO A FILTER BAG SET ON BURLAP BAGS OF WETTED PEAT. FILL BURLAP BAGS WITH PEAT WETTED WITH WATER AT A VOLUMETRIC RATIO THREE PARTS PEAT TO ONE PART WATER. BURLAP BAGS SHALL BE PLACED TO FORM A 4 INCH MINIMUM THICK LAYER OF PEAT.

GENERAL RESPONSIBILITY NOTES

- 1. THE DEVELOPER IS RESPONSIBLE FOR THE ACQUISITION OF ALL REQUIRED EASEMENTS, RIGHT, AND/OR RIGHT-OF-WAY PURSUANT TO THE DISCHARGE FROM THE SEDIMENT AND EROSION CONTROL PRACTICES, STORMWATER MANAGEMENT PRACTICES AND THE DISCHARGE OF STORM WATER ONTO OR ACROSS AND GRADING OR OTHER WORK TO BE PERFORMED ON ADJACENT OR DOWNSTREAM PROPERTIES AFFECTED BY THIS PLAN.
- 2. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: A.) THREE CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) AND B.) SEVEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THE INPLACE SEDIMENT CONTROL MEASURES WILL BE MAINTAINED ON A CONTINUING BASIS UNTIL THE SITE IS PERMANENTLY STABILIZED AND ALL PERMIT REQUIREMENTS ARE MET.
- 3. ON ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES, APPROVAL OF THE INSPECTION AGENCY SHALL BE REQUESTED UPON COMPLETION OF INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. OTHER BUILDING OR GRADING INSPECTION APPROVALS MAY NOT BE AUTHORIZED UNTIL THIS INITIAL APPROVAL BY THE INSPECTION AGENCY IS MADE; AND
- 4. APPROVAL SHALL BE REQUESTED UPON FINAL STABILIZATION OF ALL SITES WITH DISTURBED AREAS IN EXCESS OF 2 ACRES BEFORE REMOVAL OF CONTROLS.
- 5. DISTURBED SURFACE AREA = 1.49 AC VOLUME OF SPOIL MATERIAL = XX CY VOLUME OF BORROW MATERIAL = XX CY
- 6. SOIL TYPES: GLENELG-URBAN LAND COMPLEX,Ø TO 8% SLOPES,HSG B HATBORO SILT LOAM,Ø TO 3% SLOPES,FREQUENTLY FLOODED,HSG D * THE COMPUTED VALUES SHOULD NOT BE USED FOR BIDDING PURPOSES.

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SHEET 12 OF 14

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE				
	240-777-7221				
GPI www.gpinet.com	CONTACT:				
Engineering Design Planning Construction Management Greenman-Pedersen, Inc.	TRANSPORTATION CONSTRUCTION				
11000 Broken Land Parkway, Suite 500 Columbia, MD 21044	TRANSPORTATION PLANNING & DESIGN				
Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY

	DETAIL B-4-6-A TEN STA	ADINIEL ADDILICATION	SYMBOL • Id/ft² EAR STRESS)	DETAIL D-1 PIP	E SLOF	PE DRAIN	STANDARD SYMBOL PSD - 12 DESIGNATION PSD-12 REFER	ERS TO	DETAIL D-	1 PIPE SLOPE	DRAIN	STANDARD SYMBOL PSD - 12 DESIGNATION PSD-12 REFERS TO 2 NU DEC SLODE DATE	
	 OVERLAP OR ABUT ROLL EDGE (TYP.) 6 IN MIN. OVERLAP AT ROLL END (TYP.) 7 CONSTRUCTION SPECIFICATIONS 1. USE MATTING THAT HAS A DESIGN V STRESS DESIGNATED ON APPROVED F 2. USE TEMPORARY SOIL STABILIZATION OR MAN-MADE FIBERS (MOSTLY ORGA FIBERS THROUGHOUT AND BE SMOLD AND NON-TOXIC TO VEGETATION AND NETTING MUST BE EXTRUDED PLASTI BONDED OR SEWN ON 2 INCH CENTEF SEPARATION OF THE NET FROM THE 3. SECURE MATTING USING STEEL STAP BE 'U' OR 'T' SHAPED STAPLES MUST AVERAGE I T 6 INCHES LONG. 'T' SHAPED STAPLES SECONDARY LEG, AND A MINIMUM 4 1 24 INCHES IN LENGTH, 1×3 INCH IN C 4. PERFORM FINAL GRADING, TOPSOIL AI ACCORDANCE WITH SPECIFICATIONS. P OPERATIONS UNLESS END OF WORKD/ SEDIMENT CONTROL PLAN. 5. UNROLL MATTING IN DIRECTION OF W CENTERLINE. WORK FROM CENTER OF FIRMLY ON THE SEEDED SURFACE. AND 6. KEY-IN UPSTREAM END OF EACH MAT END OF THE MATTING, PLACING THE THE EXCAVATED MATERIAL, AND TAM 7. OVERLAP OR ABUT THE ROLL EDGES INCHES (MINIMUM), WITH THE UPSTREA 	ANNEL APPLICATION (Include shi Include shi	E SHEAR JM) NATURAL ION OF N-LEACHING PRESENT, JFFICIENTLY ENT CH OD, 12 TO DING IN N AND OTHLY AND PSTREAM REPLACING ENDS BY 6 1 MAT.	DISCHARGE INTO A STABILIZED CHANNEL, SEDIMENT TRAPPING DEVICE, OR INTO A STABLE AREA AT A NON-EROSIVE VELOCITY. DISCHARGES TO TRAPS AND BASINS MUST ENTER AT OR ABOVE WET POOL ELEVATION 4 FT MINIMUM LENGTH AT LESS THAN 1% SLOPE	FL	OW 2.5 FT 2.5 FT ANCHORS EVERY 10 FT NETRIC VIEW S FT HEIGHT = PIPE DIAMET 12 IN NONWOVEN A TO 7 IN PROFILE	TER X 2 (MAX. 4 FT)	DN CC I. 2. 3. 4. 5. 6. 7. 8. 9.	INSTRUCTION SPECIFICA THE HEIGHT OF THE PIPE, EXTE INTERCEPTS THE TOP OF T FLEXIBLE PIPE IS PREFERRI USED. ALL CONNECTIONS MI ATTACH A FLARED END SE INLET OF THE PIPE SLOPE PLACED 12 INCHES IN DEPT ALL DIRECTIONS. PROVIDE NONWOVEN GEOTE: ALONG SIDES OF ALL RIPR. SECURELY ANCHOR THE PIF HAND TAMP THE SOIL AROUT THE EARTH DIKE. UPON COMPLETING INSTALL AND TACK. INSTALL OUTLET PROTECTI KEEP POINTS OF INFLOW A POSITIVE DRAINAGE. REMOV	TIONS DIKE MUST BE AT LEAS AD THE TOP ELEVATION THE ADJOINING EARTH DIKI ED. HOWEVER, CORRUGATED JST BE WATERTIGHT. COTION TO THE INLET ENE DRAIN, INSTALL 4 TO 7 TH ON NONWOVEN GEOTEX XTILE, AS SPECIFIED IN S AP. 20 SLOPE DRAIN (PSD) TO JND AND UNDER THE PIPE ATION OF THE PSD, STAE ON AS SPECIFIED ON APP ND OUTFLOW FREE OF EF E ACCUMULATED SEDIMEN	T 2 TIMES THE PIPE OF DIKE AT ZERO PI E.) METAL PIPE OR EC) OF PIPE WITH A W/ INCH STONE OR EQUI TILE AND EXTEND OL ECTION H-I MATERIAL THE SLOPE. SPACE E AND END SECTION 3ILIZE ASSOCIATED DI 'ROVED PLAN. ROSION. MAINTAIN WA IT AND DEBRIS.	E DIAMETER MEASURED FROM THE ERCENT GRADE UNTIL IT DUIVALENT PVC PIPE CAN BE ATERTIGHT CONNECTION. AT THE IVALENT RECYCLED CONCRETE JT 5 FEET FROM THE INLET IN S, UNDER THE BOTTOM AND THE ANCHORS EVERY 10 FEET. IN 4 INCH LIFTS TO THE TOP OF ISTURBANCES WITH SEED, MULCH, TER TIGHT CONNECTIONS AND	
	 STAPLE/STAKE MAT IN A STAGGEREI 2 FOOT (MAXIMUM) CENTERS ALONG S ESTABLISH AND MAINTAIN VEGETATION 	D PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT SEAMS, JOINTS, AND ROLL ENDS. N SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE	AND	NONWOVEN GEOTEXTILE PROVIDE ROCK OUTLET PROTECTION AS REQUIRED ON PLAN.									
_OCKS	ESTABLISHMENT ARE CONTINUOUSLY MARYLAND STANDARDS AND	MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STAB	BILIZATION.	MARYLAND STANDARDS AND	SPECIFICATION	IS FOR SOIL EROSION AND	I OF	F 2	MARYLAND STAND	ARDS AND SPECIFICATIONS F	OR SOIL EROSION AND	2 OF 2 SEDIMENT CONTROL	
						SEAL:		M Pl Stormwa Reviewed Approved 	ONTGOMERY CO ERMITTING SERV ater Management: Date Date XXXXXX SM FILE #	. DEPARTMENT ICES APPROVE Sediment Co Requir Reviewed Approved	FOF DFOR: Introl Technical rements: Date Date	NOTE: MCDPS APPROVAL NEGATE THE NEED OF A ACCESS PERMIT. Administrative Requir Reviewed XXXXXX SEDIMENT CONTROL PE MCDPS APPROVAL OF THIS PLA TWO YEARS FROM THE DATE OF THE PROJECT HAS NOT STARTE	DOES NOT <u>MCDPS</u> rements Date ERMIT NO. IN WILL EXPIRE F APPROVAL IF D. dards and does
		OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION				DE	MONTGOMERY PARTMENT OF TR	create or imply ar ineer or other resp COUNTY RANSPORT	y right to divert or concentrate of onsible person of professional liab	runoff onto any adjacent prop ility or ethical responsibility fo EROSION	arty without that propert r the adequacey of the AND S	ty owner's permission. It does not relieve drainage design as it affects uphill or down EDIMENT CON	the design hhill properties. NTROI
		100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240–777–7221				RECOMMENDED FO	GAITHERSBURG, DR APPROVAL	MARYLA	٩D	REPLAC	CEMENT O	F BRIDGE NO M-0)194
GP Engineering	www.gpinet.com Design Planning Construction Management	CONTACT: DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION				Chief, Design Sec APPROVED	tion		Date	ON DENI TRIE	NIS AVENU BUTARY (W	JE OVER SLIGO C	REEK
Greenma 11000 Bro Columbia Tel: 410.8	n-Pedersen, Inc. ken Land Parkway, Suite 500 MD 21044 80.3055	240-777-7210 TRANSPORTATION PLANNING & DESIGN 240-777-7221	NO.	REVISION DATE	BY	Chief, Division of Designed By:	Transportation Engineering Drawn By:	ng	Date Checked By:	SCALE: AS S Project No. : <u>M01</u>	SHOWN 78Zм1	DATE: JANUARY SHEET19OF	[′] 2020
								MONT	GOMERY COUNTY D	EPARTMENT OF I	PERMITTING S	ERVICES (MCDPS) SHEET	14 OF 1

	<u>GENERAL NOTES</u>	
SPECIFICATIONS:	MDOT SHA STANDARD SPECIFICATIONS FOR CON DATED JULY 2019.	NSTRUCTION AND MATERIALS,
DESIGN:	AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS,	DATED 2017.
LOADING:	HL-93	
CONCRETE:	CONCRETE COMPRESSIVE STRENGTH FOR DESIGN f'c = 3,000 psiFOR ELEMENTS USING MIX NO f'c = 4,000 psiFOR ELEMENTS USING MIX NO	N SHALL BE: .3 .6
	ALL CONCRETE FOR PARAPETS AND MOMENT S AND RETAINING WALLS WITHIN IO FT.OF PAVED MIX NO.6 (4,500 psi) CONTAINING SYNTHETIC F 902.15).	ELABS ON WING WALLS, ROADWAY SHALL BE FIBERS (SEE SECTION
	ALL CONCRETE FOR PRECAST ARCH CULVERT SELF -CONSOLIDATING MIX NO.6 (4,500 psi). CONCRETE FOR FOUNDATIONS SHALL BE MIX NO	SHALL BE ALL CAST-IN-PLACE D.3 (3,500 psi).
REINFOCRCING STEEL:	REINFORCING STEEL SHALL CONFORM TO ASTM WITH A YIELD STRENGTH FOR DESIGN OF fy =	A 615 GRADE 60, 60 ksi.
	ALL SPLICES, NOT SHOWN, SHALL BE LAPPED CHARTS.	AS PER BAR LAP
	REINFORCING STEEL SHALL BE EPOXY COATED AN EP IN THE PLANS.	WHEN NOTED WITH
	MINIMUM CLEAR COVER FOR REINFORCING STEE FOR THE FOLLOWING LOCATION:	L SHALL BE 2" EXCEPT
	LOCATION	CLEAR COVER
	BOTTOM AND SIDES OF ALL FOOTINGS	3 IN.
EXISTING STRUCTURE:	FOR TIES AND STIRRUPS, STANDARD ACIBENDIN MODIFIED TO (+) ZERO INCHES, MINUS (-) NORMA TOLERANCES. ALL DIMENSIONS AFFECTED BY THE GEOMETRY THE STRUCTURE(S): EXISTING STRUCTURE(S) SHA THE FIELD BY THE CONTRACTOR BEFORE ANY OR FABRICATED OR CONSTRUCTION BEGINS.	NG TOLERANCES ARE AL ACIVENDING AND/OR LOCATION OF ALL BE CHECKED IN MATERIAL IS ORDERED

www.gpinet.com Engineering Design Planning Construction Management Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044 Tel: 410.880.3055	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND 240-777-7221					
JOINT VENTURE	<u>CONTACT:</u> DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION 240-777-7210 TRANSPORTATION PLANNING & DESIGN					
	240-777-7221	NO.	REVISION	DATE	BY	

<u>SECTION B-B</u> SCALE: 1/4" = 1'-0"

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE					MONT DEPARTMEN GAITHER
	240-777-7221					RECOMMENDED FOR APPROVAL
www.gpinet.com Engineering Design Planning Construction Management	<u>CONTACT:</u> DIVISION OF TRANSPORTATION ENGINEERING TRANSPORTATION CONSTRUCTION					Chief, Design Section APPROVED
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500	240–777–7210 TRANSPORTATION PLANNING & DESIGN					Chief, Division of Transportation
Columbia, MD 21044 Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY	Designed By: <u>BSW</u> D

	OWNER/ADDRESS: DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE GAITHERSBURG, MARYLAND					
	240-777-7221				+	
GPI www.gpinet.com	CONTACT:					-
Engineering Design Planning Construction Management	DIVISION OF TRANSPORTATION ENGINEERING					
Greenman-Pedersen, Inc. 11000 Broken Land Parkway, Suite 500 Columbia, MD 21044	240-777-7210 TRANSPORTATION PLANNING & DESIGN				+	
Tel: 410.880.3055	240-777-7221	NO.	REVISION	DATE	BY	1

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION GAITHERSBURG, MARYLAND	WING WALL DETAILS I
RECOMMENDED FOR APPROVAL	REPLACEMENT OF BRIDGE NO. M-0194
APPROVED	ON DENNIS AVENUE OVER SLIGO CREEK TRIBUTARY (WHEATON BRANCH)
Chief, Division of Transportation Engineering Date	SCALE: AS SHOWN DATE: JANUARY 2020
Designed By: <u>BSW</u> Drawn By: <u>BSB</u> Checked By:	Project No. : <u>M0178ZM1</u> SHEET <u>23</u> OF <u>24</u>

<u>WING WALL IV</u> SCALE: 1/4" = 1'-0"

DEPARTMENT OF TRANSPORTATION 100 EDISON PARK DRIVE					DEPARTMENT OF TRANSPORTATI GAITHERSBURG, MARYLAND	ON	WING WALL DETAILS II			
240-777-7221					RECOMMENDED FOR APPROVAL					
www.gpinet.com Engineering Design Planning Construction Management CONTACT: DIVISION OF TRANSPORTATION ENGINEER TRANSPORTATION CONSTRUCTION					Chief, Design Section APPROVED	Date	REPLACEMENT OF I ON DENNIS AVENUE TRIBUTARY (WHE	BRIDGE NO. M–0194 OVER SLIGO CREEK ATON BRANCH)		
Greenman-Pedersen, Inc. 240–777–7210 11000 Broken Land Parkway, Suite 500 TRANSPORTATION PLANNING & DESIGN					Chief, Division of Transportation Engineering	 Date	SCALE: AS SHOWN	DATE: JANUARY 2020		
Columbia, MD 21044 Tel: 410.880.3055 240–777–7221	NO.	REVISION	DATE	ΒY	Designed By: <u>BSW</u> Drawn By: <u>BSB</u> Che	ecked By:	Project No. : <u>M0178ZM1</u>	SHEET <u>24</u> OF <u>24</u>		

<u>TYPICAL SECTION – CONCRETE WALL</u> SCALE: 1/2" = 1'-0"