MONTGOMERY COUNTY PLANNING DEPARTMENT
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB
Item No.: 12B
Date: 02-18-21

Grosvenor BiPPA Improvements, Mandatory Referral, MR2021010

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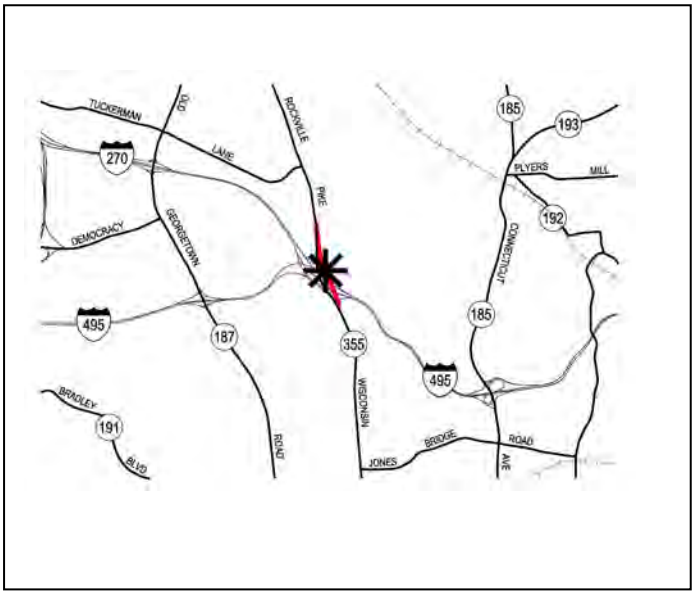
Completed: 02-11-21

Description

Construction of sidewalk and sidepath improvements on MD 355 between Pooks Hill Road and Tuckerman Lane (south intersection) in North Bethesda, Maryland. The project elements are a 5-foot wide sidewalk with new ADA access ramps along the east side of MD 355 between Pooks Hill Road and Grosvenor Lane, a 10-foot wide sidepath on Grosvenor Lane between Beach Drive and MD 355, a 10-foot-wide sidepath on MD 355 between Grosvenor Lane and Tuckerman Lane (south intersection), and minor intersection improvements at the MD355/Grosvenor Lane and Beach Drive/Grosvenor Lane intersections.



- Applicant: Montgomery County Department of Transportation
- Grosvenor-Strathmore Minor Master Plan (2017), North Bethesda/Garrett Park Master Plan (1992), Kensington/Wheaton Master Plan (1990), and Bethesda-Chevy Chase Master Plan (1990)

Staff Recommendation: Approval to Transmit Comments

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Summary

The Montgomery County Department of Transportation (MCDOT) is proposing to design and construct sidewalk and sidepath improvements generally along MD 355 between Pooks Hill Road and Tuckerman Lane in North Bethesda. The project includes the following improvements:

- Five-foot wide sidewalk on the east side of MD 355 from Pooks Hill Road to the MD 355 overpass of the I-495 inner loop,
- Ten-foot wide sidepath along Grosvenor Lane between Beach Drive and MD 355,
- Ten-foot wide sidepath along MD 355 between Grosvenor Lane and Tuckerman Lane (south intersection,
- Modifications to westbound Grosvenor Lane approach at MD 355 to eliminate a channelized right-turn lane,
- Modifications to Grosvenor Lane connection to Beach Drive to provide a sidepath connection to the existing trail along Beach Drive to the south,

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. P501532. This CIP project represents an ongoing program for design and construction of bicycle and pedestrian improvements in designated Bicycle and Pedestrian Priority Areas. The Grosvenor project is estimated to cost $800,000, which includes final design cost, utility modification/relocation, easement cost, as well as construction cost. In the current FY 21 CIP budget, this project is slated for construction in FY21.

The 70 percent design plan drawings are provided as Attachment A to this report.

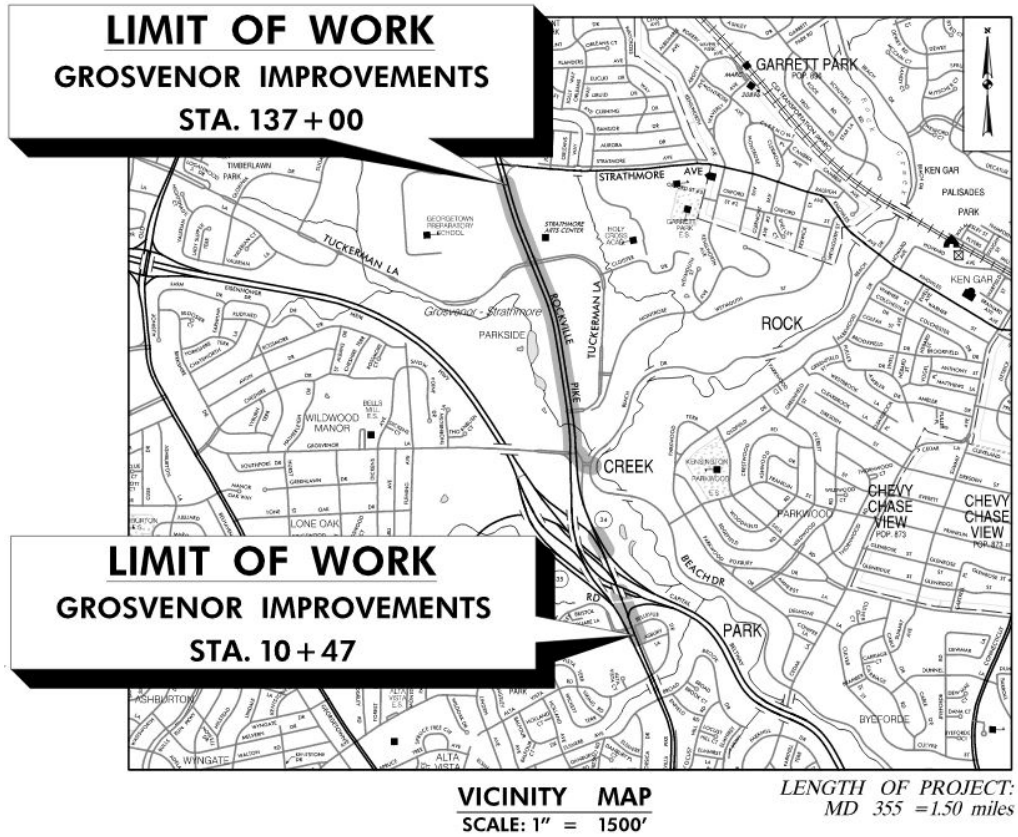


Figure 1: Project Limits and Site Vicinity

Mandatory Referral Review

This proposal for the construction of sidewalk and sidepath 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 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. Construction plans must be submitted to the M-NCPPC Department of Parks for review as part of the Park Construction Permit process to ensure that all work is performed in accordance with M-NCPPC standard details, specifications, and policies. No work on parkland may occur until an approved Park Construction Permit is issued for the project.

2. If necessary, final easement agreements and any related compensation for the loss of parkland must be agreed to and finalized between MCDOT and M-NCPPC before the issuance of a Park Construction Permit.

3. MCDOT will continue to coordinate with M-NCPPC on the design of the intersection improvements at the parkland entrance at Grosvenor Lane and Beach Drive with a focus on safety and decreasing unnecessary impervious surface.

4. Mitigation for impacts to Park trees (with a 6" DBH or greater) damaged or removed, shall either be (1) replacement planting on parkland at a rate of one inch to one inch diameter or (2) a monetary per inch caliper basis at the rate of $100/diameter inch, to be paid to Montgomery Parks prior to completion of construction.

5. The sidewalk portion of this project should not be constructed. The existing sidewalk on the I-495 bridges is highly substandard without buffers and with high speed traffic on northbound MD 355. Encouraging pedestrian and bicycle travel on this facility without providing an acceptable Level of Comfort and Bicycle Level of Traffic Stress, including grade separated or pedestrian signal-controlled crossings, is counter to Vision Zero principles. MDOT SHA in their Managed Lanes project has proposed a grade-separated sidepath connection through this area as part of their recently agreed (per the current Managed Lanes DEIS effort) bicycle and pedestrian mitigation. While staff is hopeful that Managed Lanes on this section of I-495 will never materialize, this does point to what the ultimate solution should be. The MD 355 interchange was built to near-freeway standards, and bicycles and pedestrians are not safe within this environment as it exists today. In the interim, the bicycle and pedestrian connectivity between Bethesda and the Grosvenor area will continue to provided on the Bethesda Trolley Trail and along Beach Drive.

6. The buffer between the northbound MD 355 travel lanes and the proposed sidepath [block between Grosvenor Lane and Tuckerman Lane (south leg)] needs to have a minimum width of six feet. MCDOT should explore with MDOT SHA the shifting of the existing curb by three feet and restriping of northbound MD355 from 36 feet (three 12-foot lanes) to 33 feet (three 11-foot lanes). This should also include a potential speed limit reduction. Retention of the proposed guiderail even with this widening is recommended. In addition, MCDOT should consider the provision of protective backing on the portion of the guiderail facing the sidepath to eliminate sharp edges that could be a safety hazard to pedestrians and bicycles on the sidepath. A similar treatment was developed for Needwood Road by MCDOT; however, this guiderail would likely need to comply with MDOT SHA standards.

7. The ADA ramp located on the southeastern corner at the intersection of MD 355 and Tuckerman Lane (south leg) should be designed to face north-south pedestrian traffic (crossing Tuckerman Lane), as there is no east-west crossing of MD 355 at this intersection and no projected need for this crosswalk into the future.

Proposed Design

Project Description

As a follow-on to a BiPPA planning study conducted in 2015[1] and the Grosvenor-Strathmore Minor Master Plan adopted and approved in 2018, the Montgomery County Department of Transportation (MCDOT) is proposing to design and construct pedestrian and bicycle improvements along MD 355 (Rockville Pike) between Pooks Hill Road and Tuckerman Lane (south leg). The specific project elements are as follows:

- Construction of a 5-foot wide sidewalk on the east side of MD 355 from Pooks Hill Road, connecting to an existing sidewalk located on the bridges over I-495,
- Construction of ADA ramps and crosswalks across the northbound on ramp to the I-495 Inner Loop and the northbound off ramp from the I-495 Outer Loop,
- Construction of a sidepath connecting the Rock Creek Trail on Beach Drive to MD 355 at Grosvenor Lane, including ADA ramps and crosswalks at the intersections of Beach Drive with the Beach Drive connection to Grosvenor Lane and at the Grosvenor Lane intersection with this same connector road,
- Modification of the Grosvenor Lane approach to MD 355 to eliminate the westbound channelized right-turn lane,
- Construction of a 10-foot wide sidepath along the east side of MD 355 between Grosvenor Lane and Tuckerman Lane (south leg).

The design improvements are programmed to be constructed during FY21.

MD 355 (Rockville Pike) is classified as a Major Highway in the Master Plan of Highways and Transitways (MPOHT) and Grosvenor Lane to the west of MD 355 is classified as a Minor Arterial street. Grosvenor Lane to the east of MD 355 is an unclassified road. Tuckerman Lane in the vicinity of the Grosvenor-Strathmore Metro Station is a Business District Street.

Existing Conditions – Sidewalk Portion of Project

The sidewalk portion of this project starts on MD 355 at Pooks Hill Road, provides some at-grade crosswalks at existing ramp junctions to and from I-495, connecting to narrow sidewalks now provided on the I-495 Northbound bridge structure and between the I-495 Outer Loop off ramp and the Grosvenor Lane/Beach Drive connection intersection. Following are a series of Google Map images showing the existing conditions. Staff does not believe this environment is suited for pedestrians at all with high speed travel on MD 355 and the ramps. The posted speed limit along northbound MD 355 is 45 mph; however typical travel speeds appear to be much higher. Figure 2 through 9 display road views along the sidewalk portion of the project. It is important to note that the existing sidewalk is very narrow (barely wide enough for much more than a manhole and poorly maintained. At the intersection of the sidewalk with the on-ramp to the Inner Loop (Figure 4), there may be a sight distance problem which seems to be due to both

[1] Grosvenor-Strathmore Bicycle and Pedestrian Priorities Areas, prepared by Stantec for the Montgomery County Department of Transportation, June 2015.

vegetation and a slight downgrade. With northbound vehicles typically accelerating into this interchange area, the presence of pedestrians at an unsignalized crosswalk is likely to be a safety hazard, even if the vegetation is cleared and advance warning signs are posted. Given the existing speeds and volume of traffic using this ramp, grade separation or signalization with a protected crossing seems like the only viable solutions at this location (this may also apply for the off-ramp location). For this entire section between Pooks Hill Road and Grosvenor Lane, it is important to emphasize that these sidewalks will have no buffers and the sidewalk widths (including clear distances from curbs and parapets) do not meet state/Montgomery County or state minimums (5 feet currently, 6 feet with the Complete Streets Design Guidelines.)

Figure 2: Northbound MD 355 at Pooks Hill Road (Looking North)

Figure 3: MD 355 North of Pooks Hill Road (Looking North)

Figure 4: Northbound MD 355 at Inner Loop On Ramp (Looking North)

Figure 5: Northbound MD 355 Bridge over I-495 Inner Loop (Looking North)

Figure 6: Northbound MD 355 Bridge over I-495 Outer Loop (Looking North)

Figure 7: Northbound MD 355 after Outer Loop Off Ramp (Looking North)

Figure 8: Northbound MD 355 at Grosvenor Lane Exit (Looking North)

Figure 9: Grosvenor Lane Exit Approaching Beach Drive Connector Road (Looking North)

<u>Existing Conditions – Sidepath Portion of Project</u>

The sidepath portion of the project starts at the sidepath along Beach Drive that connects to the Rock Creek Trail, travels along the Beach Drive connection to Grosvenor Lane, travels along MD 355 between Grosvenor Lane and Tuckerman Lane (south leg). There is an existing sidewalk along this portion of the project; however, there is significant bicycle use along this sidewalk. The current sidewalk is substandard and per the Bicycle Master Plan, should be replaced with a sidepath. Figures 10 through 16 display road views along the proposed sidepath portion of the project.

Figure 10: Northbound Beach Drive Approaching Connector Road (Looking North)

Figure 11: Northbound Grosvenor Lane Approaching MD 355 (Looking West)

Figure 12: MD 355 at Grosvenor Lane (Looking North)

Figure 13: MD 355 at Grosvenor Lane (Looking South)

Figure 14: Grosvenor Lane Approaching MD 355 (Looking East)

Figure 15: MD 355 North of Grosvenor Lane (Looking North)

Figure 16: MD 355 North Approaching Tuckerman Lane (Looking North)

Proposed Sidewalk Cross Section

The proposed sidewalk will provide a five-foot-wide concrete sidewalk as shown below in Figure 17.

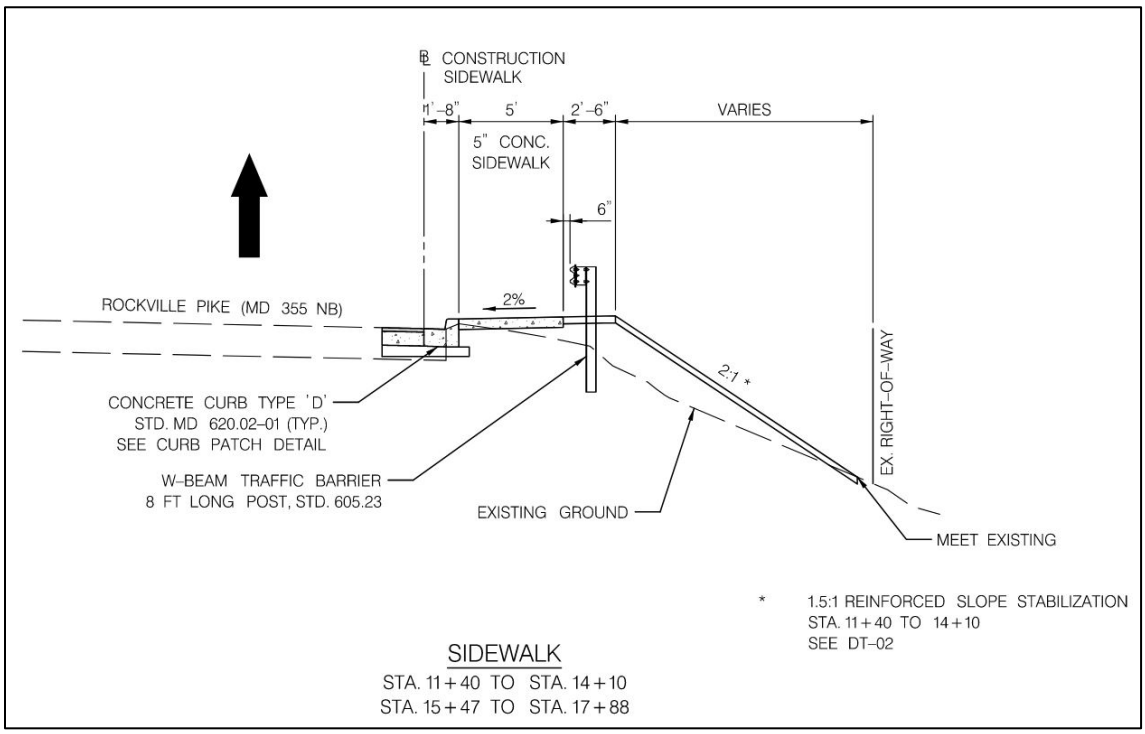


Figure 17: Sidewalk – Proposed Cross Section

Proposed Sidepath Cross Section

The proposed sidepath cross section to be provided along a short section of Grosvenor Lane and the road connection to Beach Drive is shown in Figure 18.

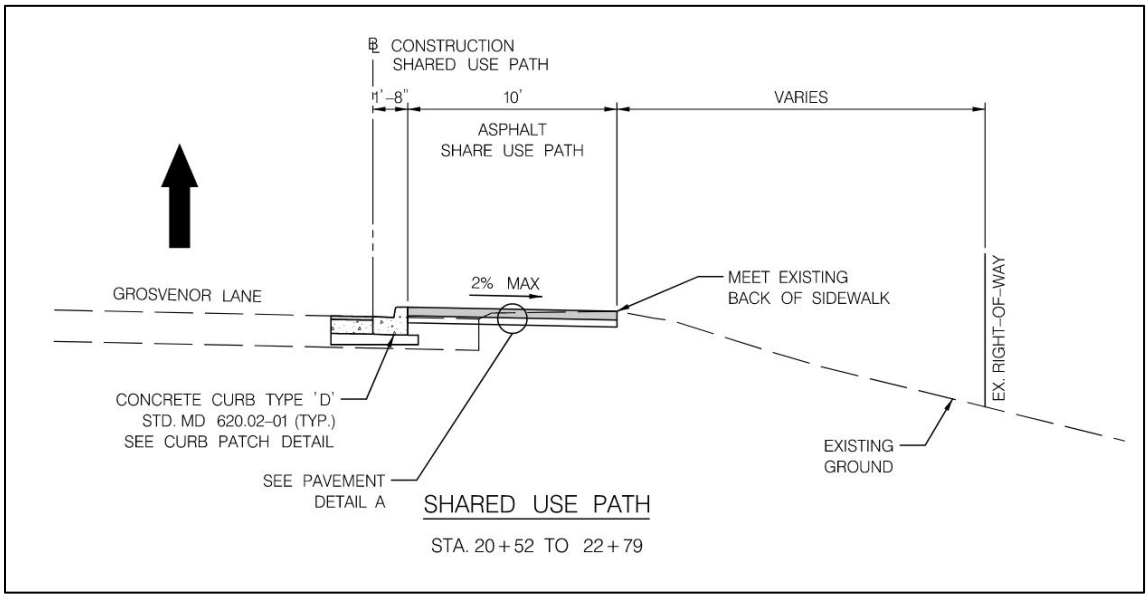


Figure 18: Sidepath along Grosvenor Lane/road Connection – Proposed Cross Section

The proposed sidepath cross section to be provide along MD 355 is shown in Figure 19. Note the proposed guiderail to be located within the buffer to help protect bicycles and pedestrians from vehicular traffic.

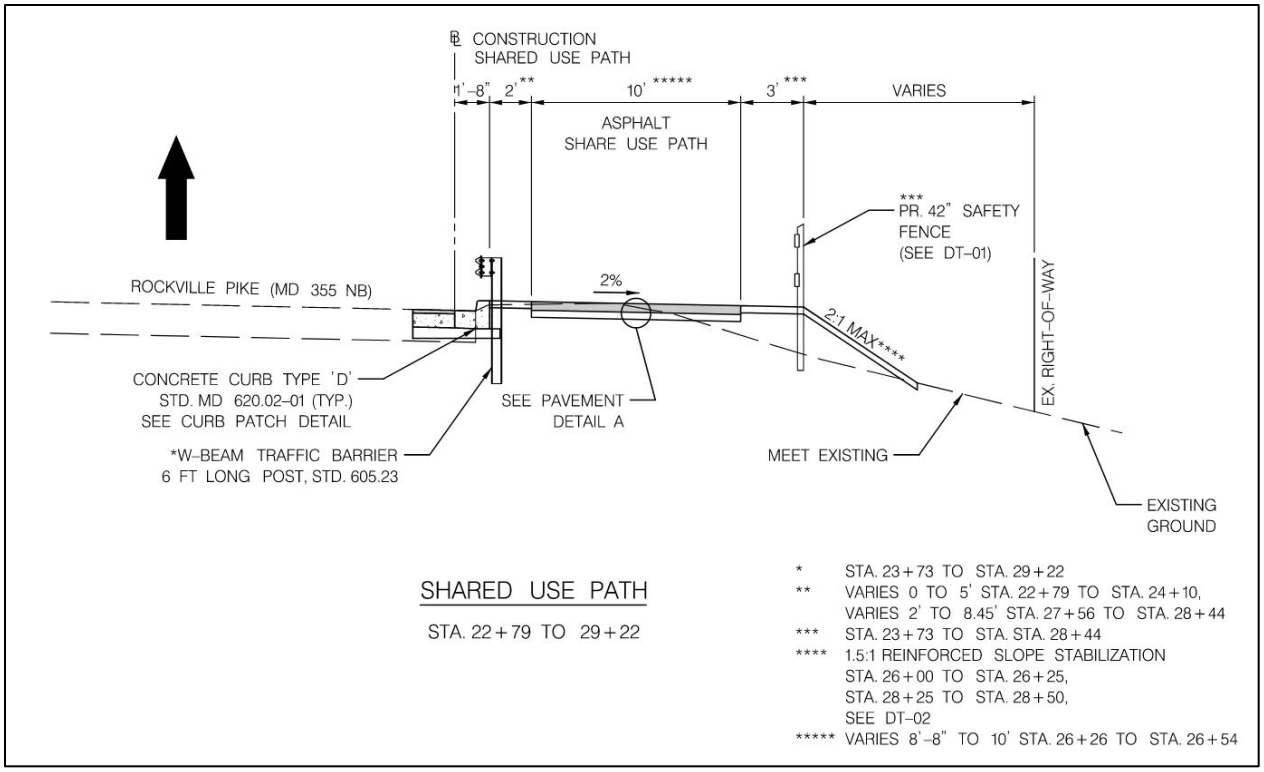


Figure 19: Sidepath along MD 355 – Proposed Cross Section

Proposed Plan View

The proposed signing and marking plans are provided in Figures 20 through 22 for the sidewalk portion of the project and Figures 23 through 25 for the sidepath portion of the project. The sidewalk portion is essentially filling in a missing gap between Pooks Hill Road to the north side of the Northbound On-Ramp to the Inner Loop, then adding a crosswalk (now missing) on the Northbound Off Ramp from the Outer Loop.

The sidepath portion of the project is providing a sidepath starting at Beach Drive along the north side of the road connection, extending along Grosvenor Lane to its intersection with MD 355. The sidepath then turns right alongside MD 355 between Grosvenor Lane and Tuckerman Lane (south leg).

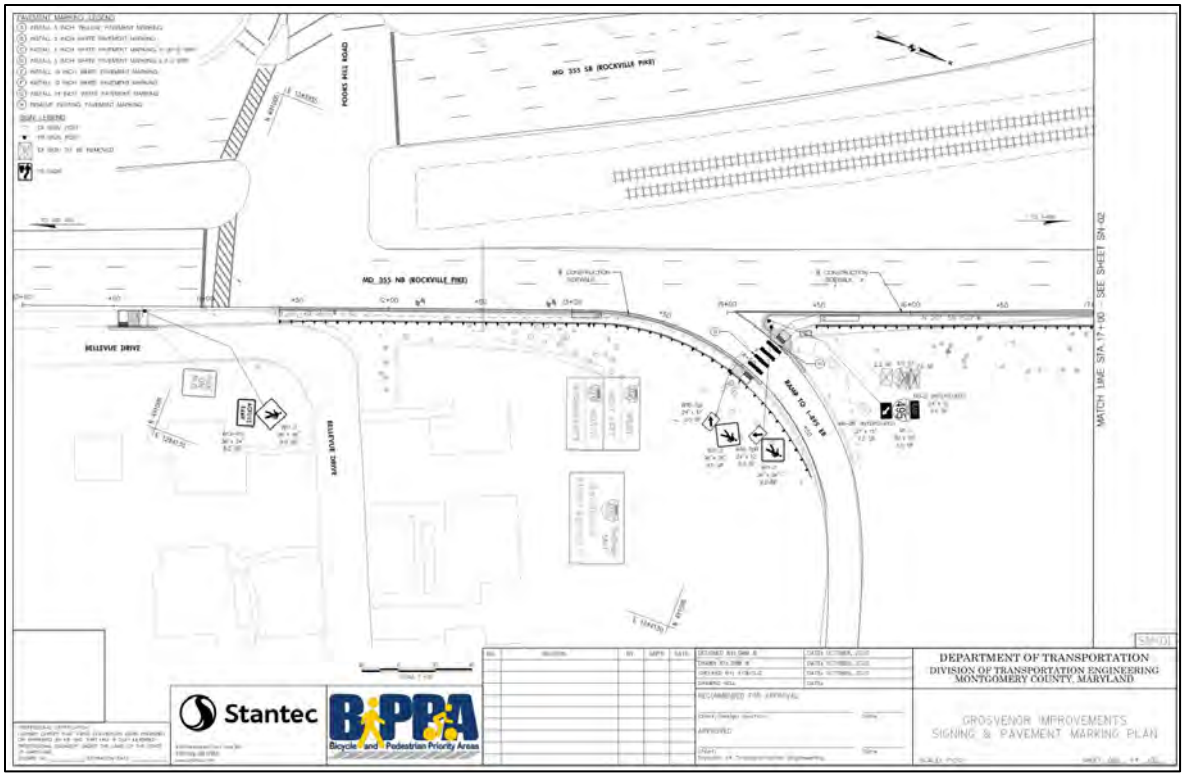


Figure 20: Plan View of Proposed Sidewalk Improvements (Part 1)

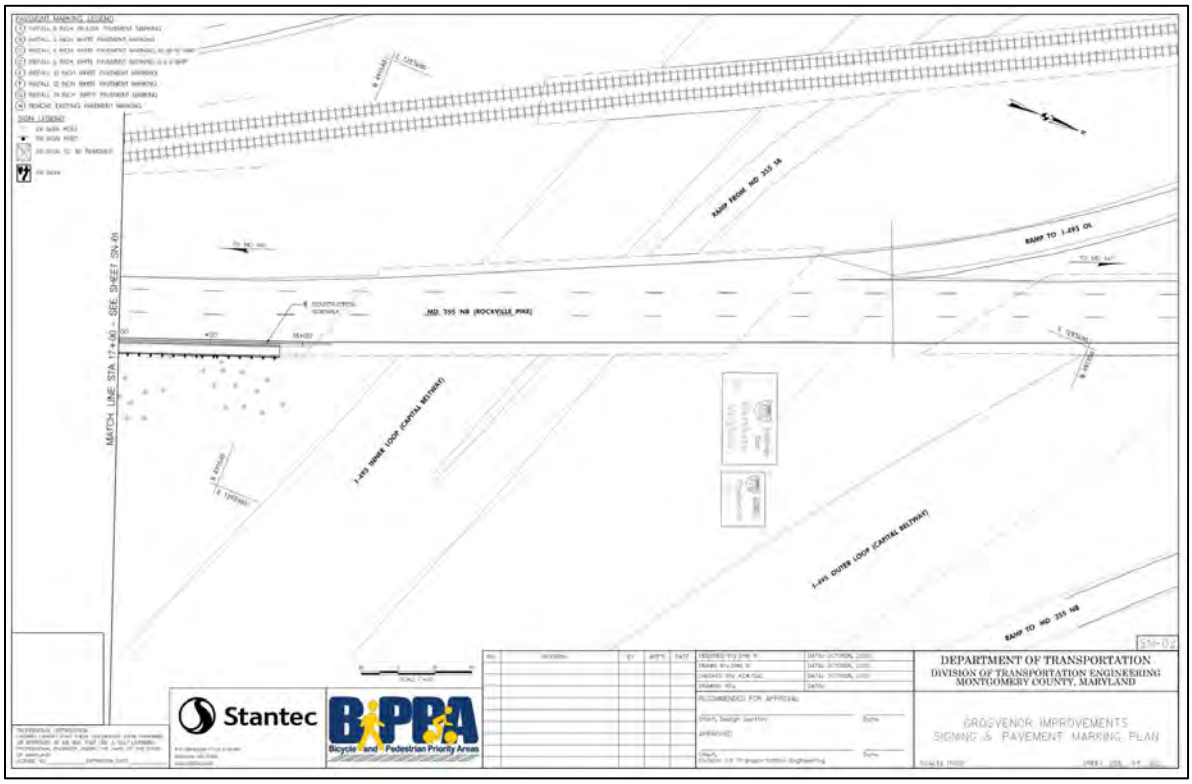


Figure 21: Plan View of Proposed Sidewalk Improvements (Part 2)

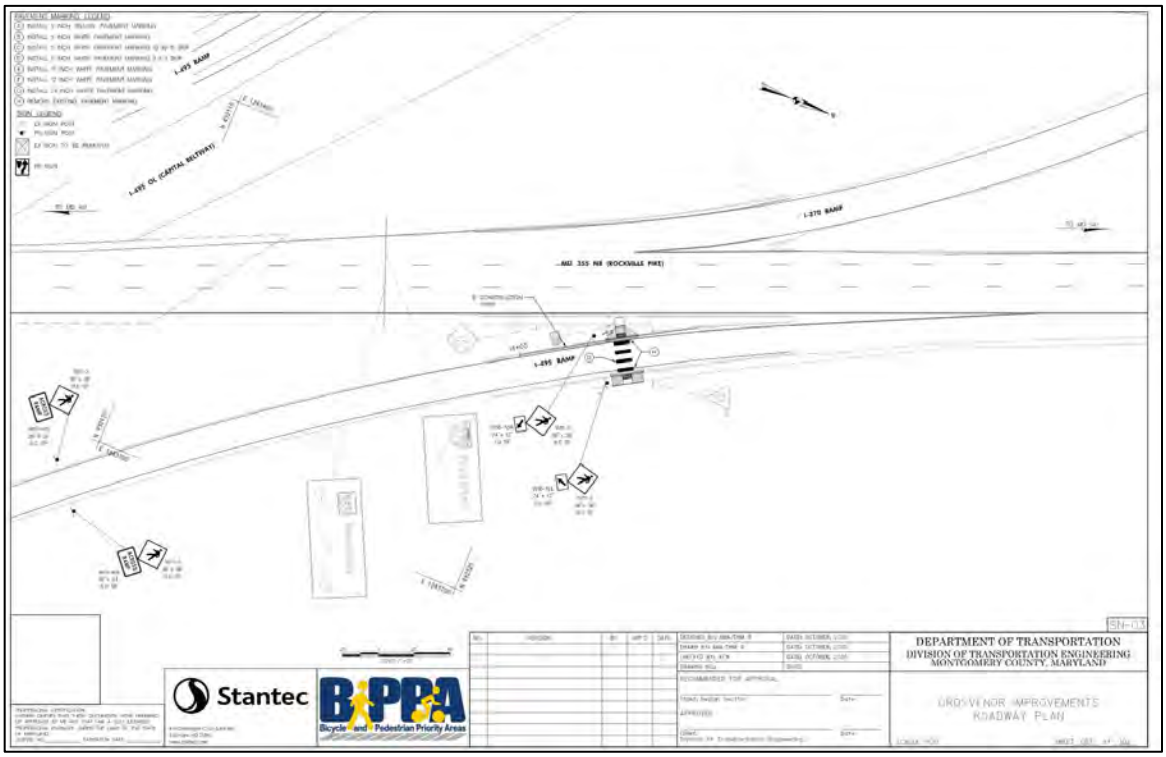


Figure 22: Proposed Sidewalk Improvements (Part 3)

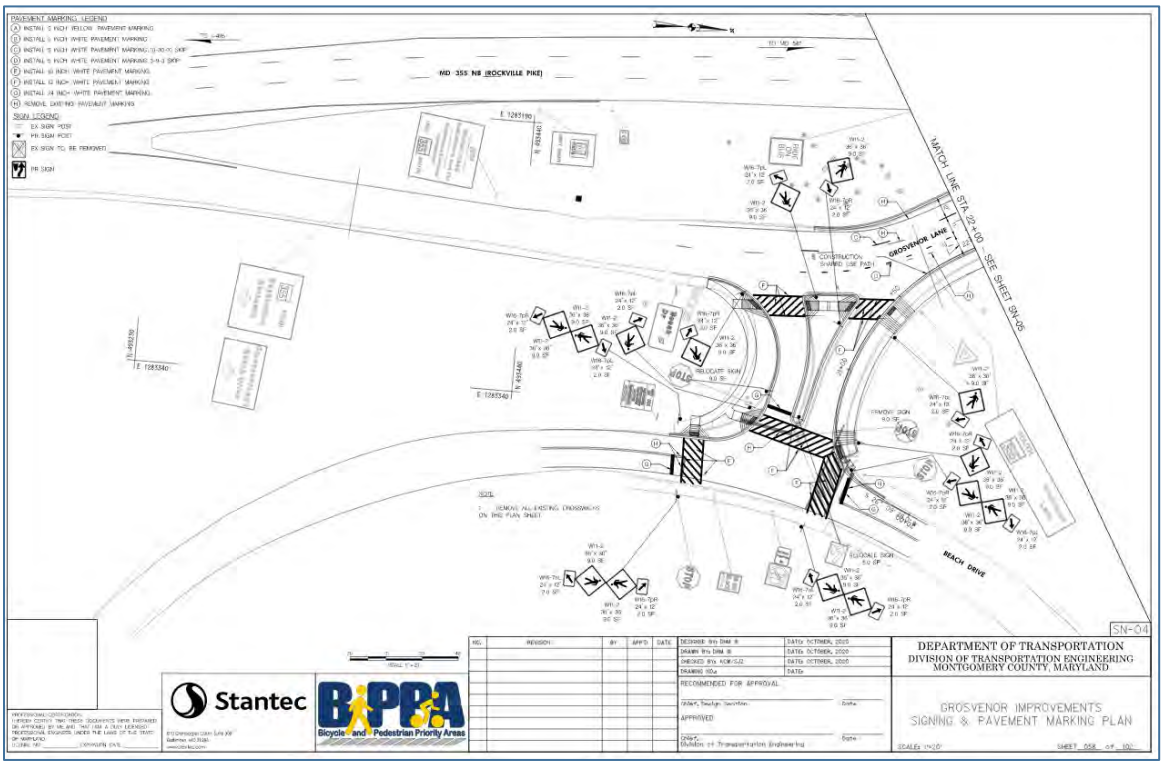


Figure 23: Proposed Sidepath Improvements (Part 1)

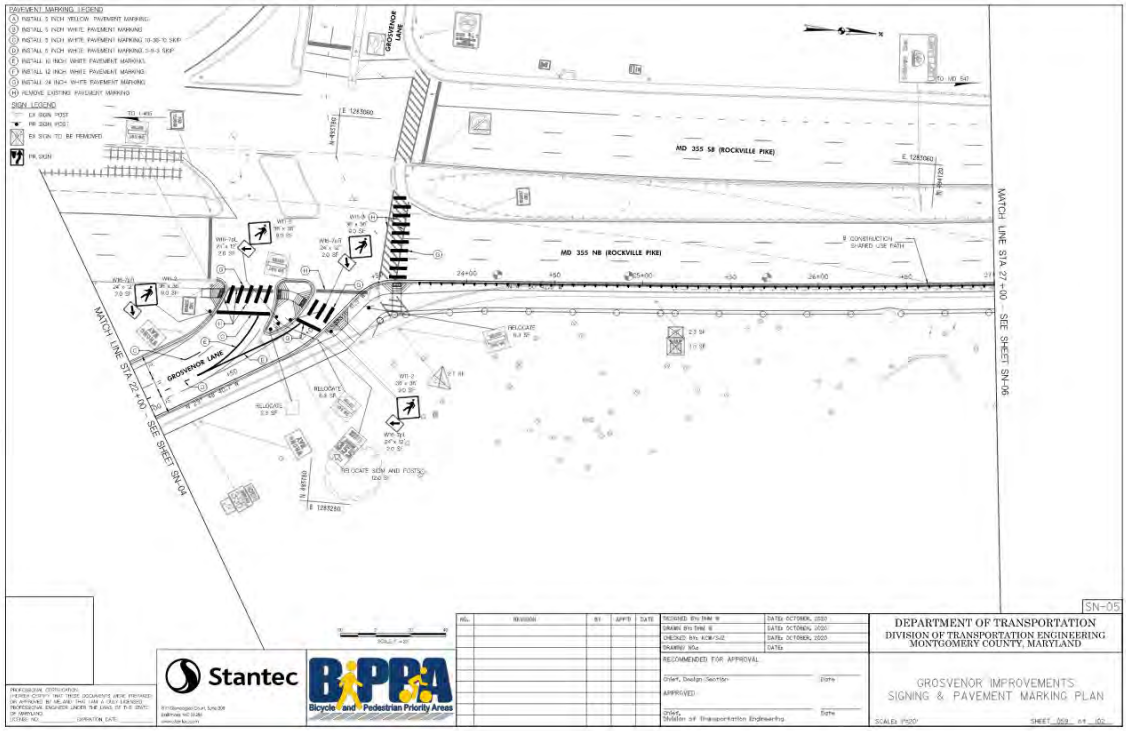


Figure 24: Proposed Sidepath Improvements (Part 2)

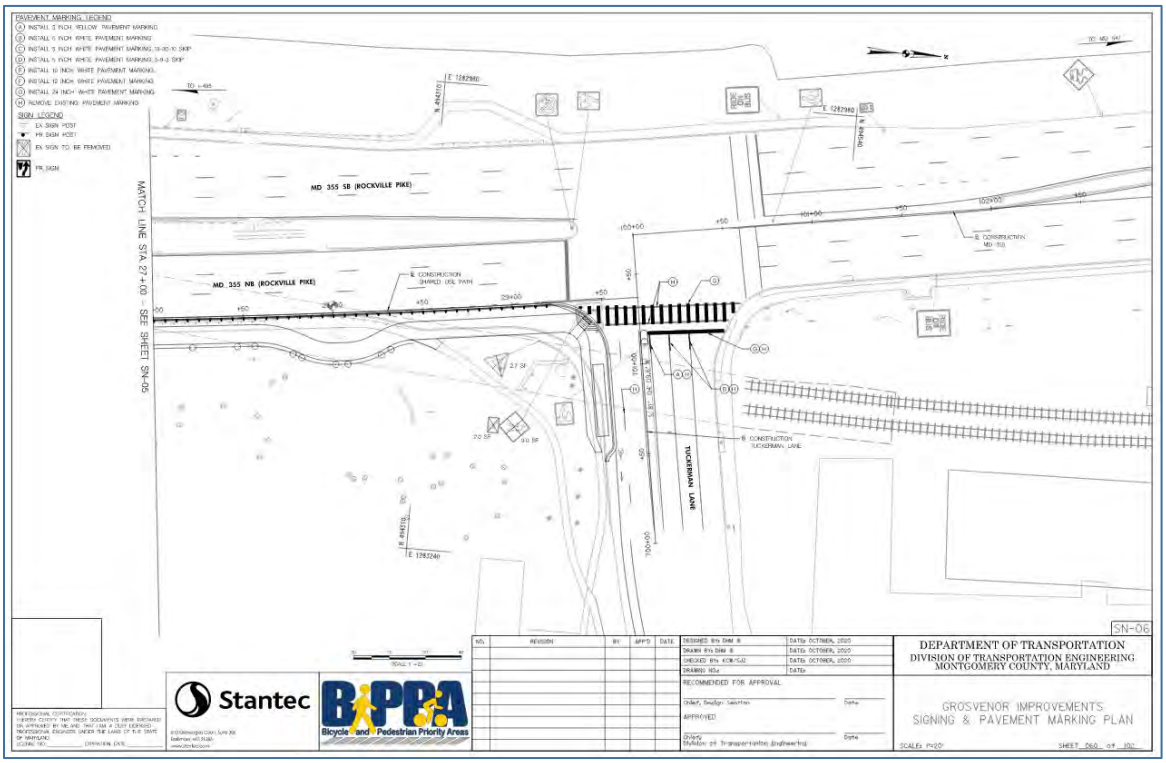


Figure 25: Proposed Sidepath Improvements (Part 3)

Transportation Analysis

Design Elements - Transportation

Sidewalk Design: In general, the minimum sidewalk design width proposed is 5 feet, which meets SHA and pre-Complete Streets MCDOT standards. However, sidewalks are supposed to provide this width without clearance obstructions, and on the I-495 bridge structures and along sections with adjacent guiderail, this reduces the effective sidewalk width by 2 feet. In addition, given the high speed of traffic on MD 355, this does not represent the current state of practice along high-speed roadways. The Complete Streets Design Guidelines would recommend at least a 6-foot-wide sidewalk with a buffer from the curb edge of 6 feet. The ramp junctions proposed at the Inner Loop and Outer Loop are likely to be safety concerns. Given that these sidewalks are likely to be used by bicycles in addition to pedestrians, staff notes that the Bicycle Master Plan has specific design treatments recommended in the Bicycle Master Plan design toolkit that should be considered, including the use of protected crossings or grade separation.

Sidepath Design: In general, the **minimum** sidepath width required is 10 feet, which is consistent with the approved Bicycle Master Plan and the ongoing Complete Streets Design Guidelines. The sidepaths are also recommended in both the Bicycle Master Plan and the Complete Streets Design Guidelines with 6 foot minimum buffers to protect pedestrians and cyclists from motoring traffic. Staff notes that the proposed sidepath is primarily 10-feet in width with a brief reduction to 9 feet due to a WMATA column. The proposed buffer on MD 355 is substandard (less than six feet), and along Grosvenor Lane and the connector road to Beach Drive, no buffer is provided.

Intersection Design: The design is proposing the elimination of the existing channelized right-turn lane on westbound Grosvenor Lane at MD 355 and the northbound MD 355 right-turn lane at Tuckerman Lane (south leg). These improvements are consistent with Vision Zero concerns to minimize the prevalence of channelized right-turn lanes (often referred to as “hot rights”).

Master Plan Conformance – Transportation

The 2018 Bicycle Master Plan recommends a sidepath (east side) MD 355 between Pooks Hill Road and Tuckerman Lane (south leg), and a sidepath along Grosvenor Lane and the connector road to Beach Drive along the north side. It is important to note that currently there are no separated or designated bicycle facilities on Grosvenor Lane to the west of MD 355, with bicycles allowed to travel on the road.

Historic Resources Analysis

There are no historic resources within the project area.

Environmental Guidelines

Portions of the project lie within stream buffers and the 100-year floodplain. Portions of the project lying within park land have also been reviewed by the Department of Parks. The site also contains steep slopes.

The Environmental Guidelines state that "No buildings, structures, impervious surfaces, or activities requiring clearing or grading will be permitted in stream buffers, except for infrastructure uses, bikeways, and trails found to be necessary, unavoidable, and minimized by Park and Planning Department environmental staff working closely with the utility or lead agency." (Environmental Guidelines, Section V.A.1.b). Staff has worked with the applicant to minimize environmental impacts. Based on our review, staff finds the project in conformance with the Environmental Guidelines.

Forest Conservation

The Property is subject to the Montgomery County Forest Conservation Law. and the Applicant has submitted a Preliminary Forest Conservation Plan (PFCP). The PFCP was originally submitted as a Sediment Control PFCP before it was determined that Mandatory Referral review would be required. The PFCP and Final Forest Conservation Plan (FFCP), when approved, will provide required compliance with the Chapter 22A requirements of the Mandatory Referral for the Grosvenor BIPPA Improvements. The net tract area within the Limits of Disturbance is 1.15 acres. The net tract area contains 0.34 acres of forest, which will be cleared for construction of the project. Based on the net tract area, land use designation, and forest clearing proposed, the required afforestation and reforestation mitigation is 0.49 acres.

The Linden Oak

The PFCP application includes a variance request to remove one specimen tree that is within the Limits of Disturbance, and to disturb the Critical Root Zone (CRZ) of the Linden Oak but preserve the tree. The Linden Oak is the county's Champion White Oak tree, with a diameter of 79 inches, as measured 4.5 feet above the ground. It is designated a Bicentennial Tree in recognition of the fact that it was 200 years old at the time of the nation's bicentennial in 1976. It is a historic landmark, and is marked with plaques indicating its significance, as well as honoring the late Maryland State Senator Idamae Garrott.

As described in the Applicant's variance request, the original plan proposal brought the limits of disturbance to within 32 feet of the trunk of the tree and included placement of up to four inches of fill over portions of the tree's root system. Staff felt that this imperiled the survival of the tree. On July 22, 2020, a meeting was convened, including staff from Montgomery Planning, the Montgomery County Department of Parks, the County Arborist, staff from the Montgomery County Department of Transportation, and representatives of Stantec, a consulting firm working on the project design. Alternative designs were discussed, including the use of helical piers to create an elevated extension of the existing at-grade sidewalk to minimize damage to the tree's critical root zone. Ultimately, the Applicant redesigned the project to hold the existing sidewalk edge and repurpose existing road pavement to accommodate the sidewalk and sidepath improvements. While the circular Critical Root Zone (CRZ) of the tree is still technically within a portion of the limits of disturbance, that portion of the CRZ has been paved over for many years and is not likely to contain many significant tree roots. Staff of all agencies agreed that the new design minimizes potential harm to the tree's roots system. The new design has also been approved by MCDOT and SHA. Staff recommends approval of the variance request.

Parkland Impacts

A majority of the proposed work is within the State Highway Administration (SHA) Right-of-Way (ROW) and has two areas of impacts on parkland in Rock Creek Stream Valley Unit 3. At the southern portion of the project, MCDOT proposes the construction of a five-foot wide sidewalk connection along the east side of MD 355 (Rockville Pike) between Pooks Hill Road and the I-495 interchange (Figure 26). The northern portion of the project includes the construction of a ten-foot wide side path between Grosvenor Lane and Tuckerman Lane and modifications at the Grosvenor Lane intersection between Beach Drive and Route 355 including the widening of the existing sidewalk to eight-feet on the north side of the intersection (Figure 27).

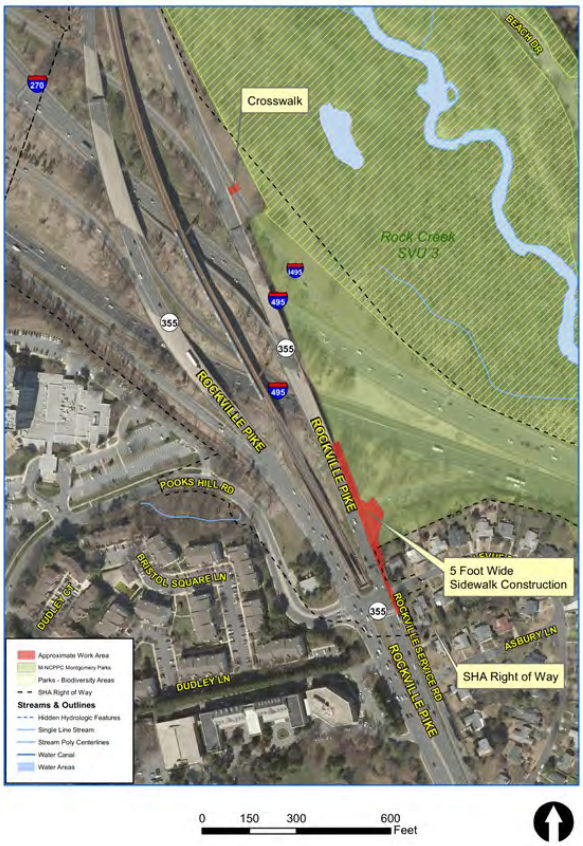


Figure 26: South Vicinity Map

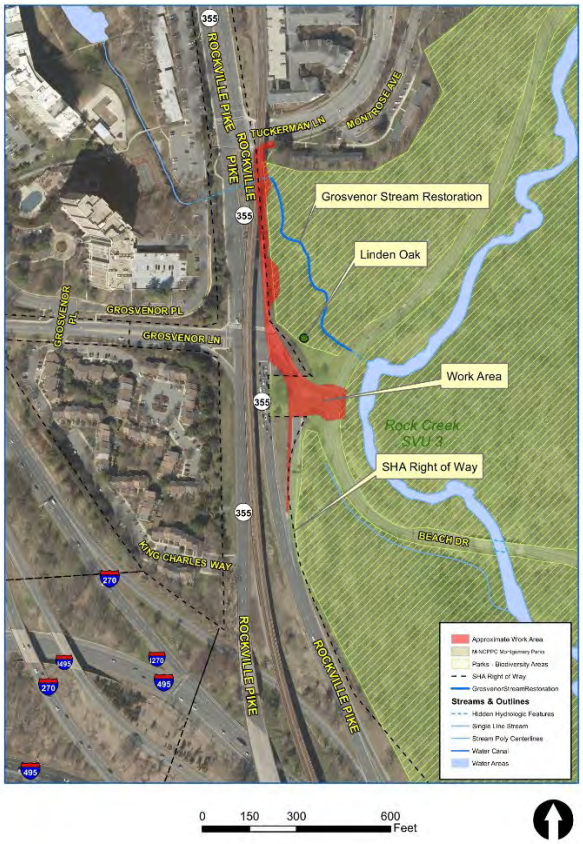


Figure 27: North Vicinity Map

The five-foot wide sidewalk connector proposed on the southern portion of the project, is in Rock Creek Stream Valley Unit 3 and occurs within the SHA ROW. The sidewalk is proposed along the east side of Route 355 from Pooks Hill Road through the I-495 interchange. The grading associated with the sidewalk construction will have impacts to tree resources within the SHA ROW along the length of the project here.

The northern portion of the project has impacts to parkland in Rock Creek Stream Valley Unit 3 in the form of (1) tree impacts from grading associated with the sidepath construction between Grosvenor Lane and Tuckerman Lane (Figure 28) and (2) temporary construction impacts and permanent

modifications to the intersection of Grosvenor Lane and Route 355 and connection to Beach Drive and Rock Creek Trail. This section runs along the edge of parkland categorized as a Biodiversity Area based on its high ecological value and biological diversity. The terrestrial resource impacts from the grading associated with construction of the side path shall be mitigated for in accordance with Montgomery Parks Requirements for Land Disturbing Activities on M-NCPPC, Montgomery County Parkland. It should be noted that an active stream restoration project to a tributary of Rock Creek adjacent to the northern portion of this project where it runs from Grosvenor Lane to Tuckerman Lane has recently been constructed here.

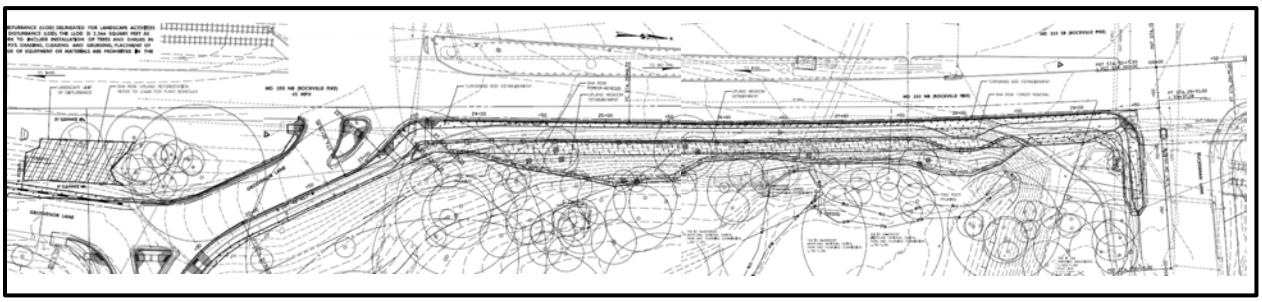


Figure 28: Improvements – Grosvenor Lane to Tuckman Lane

Figure 29 shows the proposed modifications to the Grosvenor Lane and Beach Drive intersection which include a range of possible changes to pedestrian and cyclist connectivity to Beach Drive and Rock Creek Trail. Currently the intersection only has a marked pedestrian crossing at the northeast corner of the intersection east across Beach Drive. A five-foot wide sidewalk runs south of the intersection and provides access to an unmarked crossing of Beach Drive. The intersection improvements will continue to be coordinated with Montgomery Parks to improve this entrance to parkland by reducing impervious area, providing appropriate drainage, and providing cyclist and pedestrian access to Beach Drive and Rock Creek Trail. Continued coordination between MCDOT and Parks regarding these improvements is a condition of Parks' support of this project. Adjacent to the project area at this intersection is the Montgomery County Champion White Oak (*Quercus alba*), known as the Linden Oak, which is also a proclaimed bicentennial tree. It should be noted that a large limb break resulted in a significant canopy loss in November 2020. After review from Montgomery Parks, MCDOT shifted the side path construction within the critical rootzone of the Linden Oak to be restricted to within the existing sidewalk and curb line to avoid impacts to this historical tree. All pavement removal within the critical rootzone will adhere to Parks' specifications and be done in coordination with Parks Urban Forester.

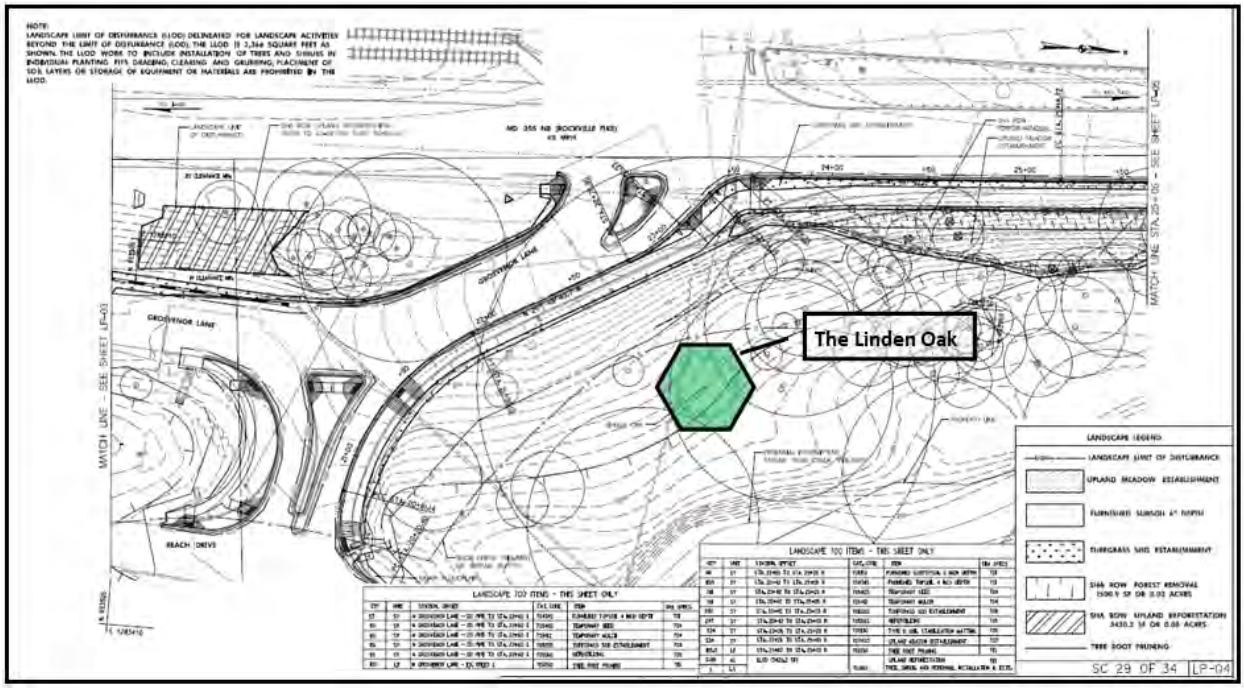


Figure 29: Improvements – Beach Drive Intersection

MCDOT will be required to obtain a Park Construction Permit from Montgomery County Department of Parks prior to commencement of any construction activities on parkland. Plans submitted for Park Construction Permit review must include existing topography, utilities, and identify and locate all trees (with size and species) larger than 6" DBH and greater within 100 feet of the proposed Limit of Disturbance on park property. Mitigation for impacts to Park trees (with a 6" DBH or greater) damaged or removed, shall either be (1) replacement planting on parkland at a rate of one inch to one inch diameter or (2) a monetary per inch caliper basis at the rate of $100/diameter inch, to be paid to Montgomery Parks prior to completion of construction. Tree impacts will be determined by an M-NCPPC forester prior to construction based on the Final Design. During Park Construction Permit Review, park staff will work with MCDOT to minimize impacts to parkland to the greatest extent possible and avoid all critical resources identified.

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. During the BiPPA planning study, a public workshop was held in March 2015. Feedback on pedestrian and bicycle needs was received through in-person comments, comment cards, and email comments, 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 Grosvenor BiPPA improvements 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.

Attachments

A. Proposed Project Plans

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION

GROSVENOR IMPROVEMENTS

MD 355 (ROCKVILLE PIKE) FROM POOKS HILL RD TO STRATHMORE AVE

CIP PROJECT NO. 501532
70% SUBMITTAL, OCT. 2020

OWNER'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 AT A DEPARTMENT OF NATURAL RESOURCES APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE BEGINNING THE PROJECT.

DATE

TIM CUPPLES, PE, DBIA
CHIEF, DIVISION OF
TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "1994 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION "STORM DRAIN DESIGN CRITERIA" DATED AUGUST 1988.

DATE

DAVID HATHORNE MARIHUGH III, P.E.
MD. REGISTRATION NO. 46328

CERTIFICATION OF THE QUANTITIES

I HEREBY CERTIFY THAT THE ESTIMATED TOTAL AMOUNT OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAS BEEN COMPUTED TO 506 CUBIC YARDS OF EXCAVATION, 1271 CUBIC YARDS OF FILL AND THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE 50075 SQUARE FEET.

DATE

DAVID HATHORNE MARIHUGH III, P.E.
MD. REGISTRATION NO. 46328

The following standards are required for this project:

a. MD 605.03 - TYPE C TRAFFIC BARRIER END TREATMENT
b. MD 605.10 - TYPE K TRAFFIC BARRIER END TREATMENT OPTION I ANCHORAGE
c. MD 605.25 - TRAFFIC BARRIER W BEAM WITH WOOD OFFSET BLOCK
d. MD 605.41 - TRAFFIC BARRIER THRIE BEAM ANCHORAGE TO VERTICAL FACE
e. MD 620.02-01 - STANDARDS TYPES C & D CONCRETE CURB AND COMBINATION CONCRETE CURB AND GUTTER
f. MD 620.03 - DEPRESSED CURB FOR COMBINATION CURB AND GUTTER AND DEPRESSED CURB FOR SIDEWALK RAMPS
g. MD 640.02 - STANDARD CURB OPENING DETAILS FOR COMBINATION CURB & GUTTER
h. MD 645.01 - STANDARD MONOLITHIC CONCRETE MEDIAN TYPE 'A'
i. MD 655.11 - SIDEWALK RAMPS PERPENDICULAR
j. MD 655.12 - SIDEWALK RAMPS PARALLEL
k. MD 655.13 - SIDEWALK RAMPS COMBINATION
l. MD 655.40 - DETECTABLE WARNING SURFACES
m. MD 665.02 - BARRIER MARKERS
n. MD 665.03 - PLACEMENT OF DELINEATORS
o. MD 665.04 - PLACEMENT OF DELINEATORS AND MARKERS
p. MC 100.01 - COMBINATION CONCRETE CURB AND GUTTER TYPE A
q. MC 101.01 - COMBINATION CONCRETE CURB AND GUTTER TYPE C
r. MC 102.01 - DEPRESSED CURB ENTRANCE

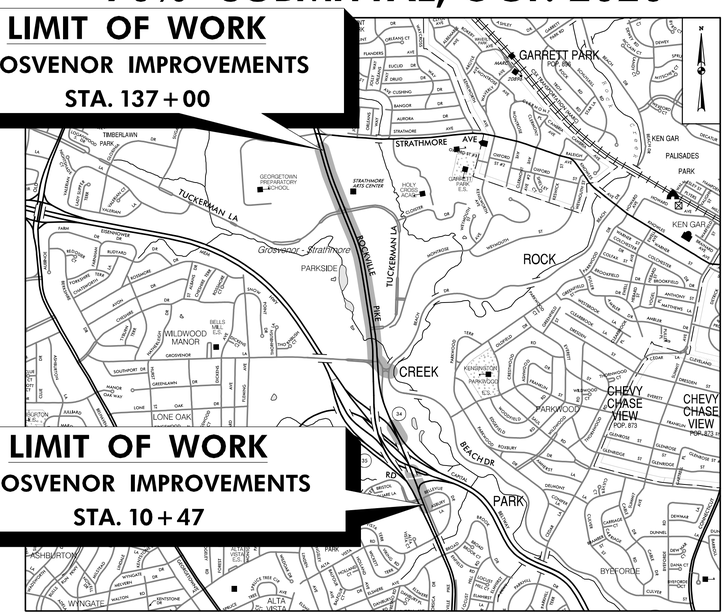
For all standards referred to on the plans the contractor must go to the MDOT SHA Book of Standards or Montgomery County design standards which will have the most current version. The Book of Standards can be accessed at:

http://apps.roads.maryland.gov/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp

https://www.montgomerycountymd.gov/dot-dte/common/standards.html

LIMIT OF WORK
GROSVENOR IMPROVEMENTS
STA. 137+00

LIMIT OF WORK
GROSVENOR IMPROVEMENTS
STA. 10+47



VICINITY MAP
SCALE: 1" = 1500'

LENGTH OF PROJECT:
MD 355 =1.50 miles

RELATED REQUIRED PERMITS

IT IS THE RESPONSIBILTY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQD	NOT REQD	PERMIT NO.	EXPRIATION DATE	WORK RESTRICTION DATES
MCDPS SEDIMENT CONTROL	X		285833		
MCDPS Floodplain District		X			
WATERWAY/WETLAND(S)		X			
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Certification		X			
MDE Dam Safety		X			
DNR Roadside Tree Care Permit		X		Approval Date	
DPS Roadside Tree Protection Plan	X			Approval Date	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED
SHA Access Permit:	X		19APM0013XX		
M-NCPPC Parks Permit:	X				

MONTGOMERY CO. DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

Stormwater Management:
Reviewed Date
Approved Date
285833
SM FILE #

Sediment Control Technical Requirements:
Reviewed Date
Approved Date

Administrative Requirements:
Reviewed Date
SEDIMENT CONTROL PERMIT NO.
MCDOT APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.

NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects upstream or downstream properties.

TREE CANOPY REQUIREMENTS TABLE
To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects

Exempt: Yes ☐ No ☒ If exempt under Section 55-5 of the Code, please list the applicable exemption category below this table.

Project is subject to Chapter 22A-9 of the Mont. Co. Forest Conservation Law

Total Property Area	Total Disturbed Area
N/A square feet	XXXXX square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
XX	XX
Fee in Lieu (Trees Required - Trees Proposed) x $250	**Total Disturbed Area** $ $XXXXX

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance From	To	Number of Shade Trees Required
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance / 40,000) x 15

*Please list the square footage of each proposed planting area on the first sheet of the plan set.

DESIGN TRAFFIC DATA

ROADWAY	MD 355	
CONTROLS / YEARS	2016	
AVG. ANN. DAILY TRAFFIC (A.A.D.T.)	55,120	
DESIGN HOURLY VOLUME (D.H.V.)		
DIRECTIONAL DISTRIBUTION		
% TRUCKS - A.D.T.		
% TRUCKS - D.H.V.		
DESIGN SPEED M. P. H.	45	
FUNCTIONAL CLASSIFICATION	URBAN PRINCIPAL ARTERIAL	
CONTROL OF ACCESS	NONE	
INTENSITY OF DEVELOPMENT	URBAN	
TERRAIN	ROLLING	
ANTICIPATED POSTED SPEED	45	

OWNER
TIM CUPPLES, PE, DBIA
100 Edison Park Drive, 4th Floor
Gaithersburg, MD 20878
240-777-7214
tim.cupples@montgomerycountymd.gov

PROJECT MANAGER
BOB GONZALES
100 Edison Park Drive, 4th Floor
Gaithersburg, MD 20878
240-777-7296
robert.gonzales@montgomerycountymd.gov

T1-01

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: DHM III	DATE: OCTOBER, 2020
DRAWN BY: DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW/SJZ	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date

APPROVED
Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
TITLE SHEET

SCALE: N.T.S.

SHEET 001 of 102

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:37 PM
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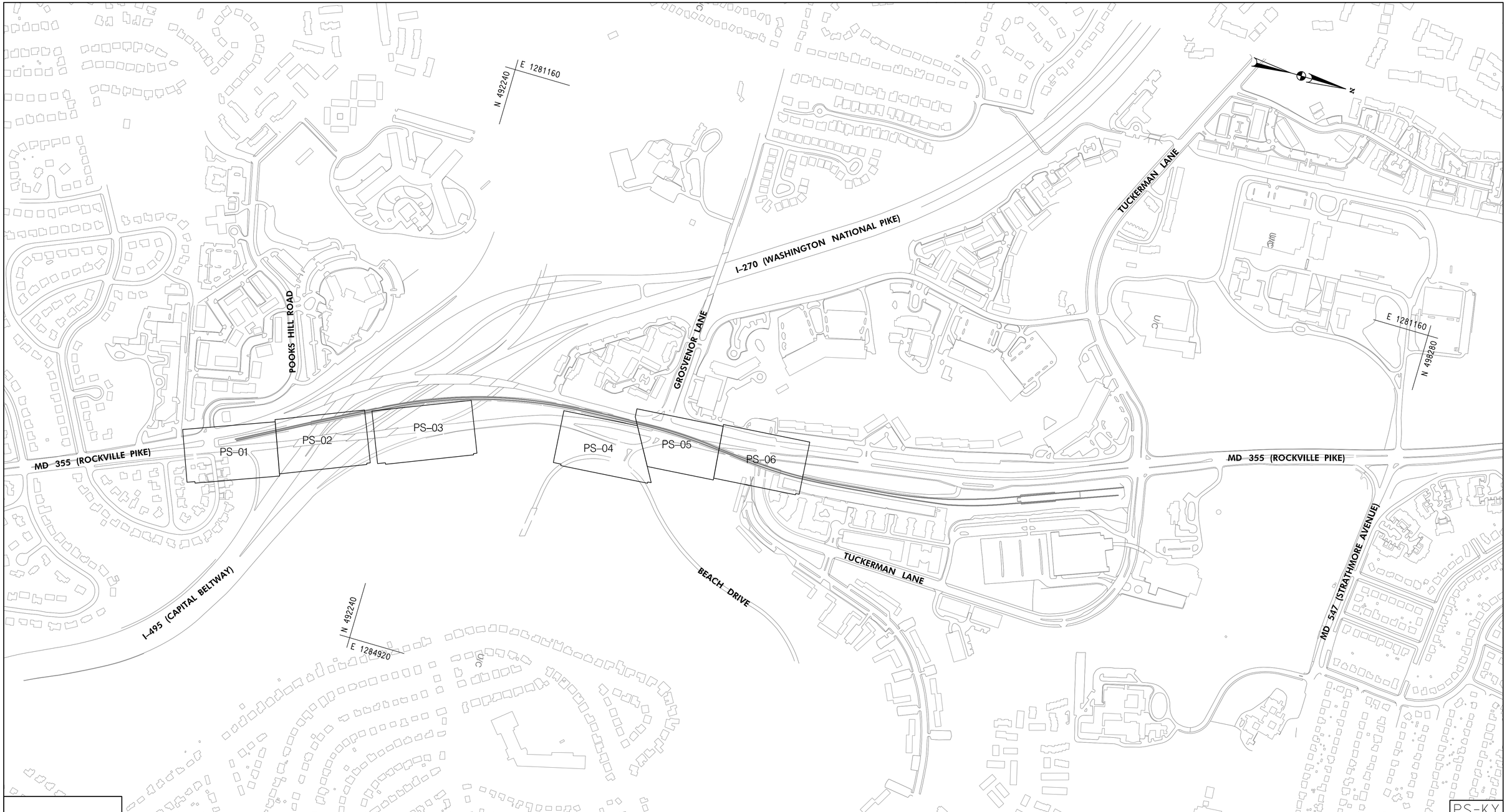

300' 0 300' 600'
SCALE: 1" =300'

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY KEY PLAN

SCALE: 1"=300'

SHEET 011 of 102

Monday, October 05, 2020 AT 01:39 PM
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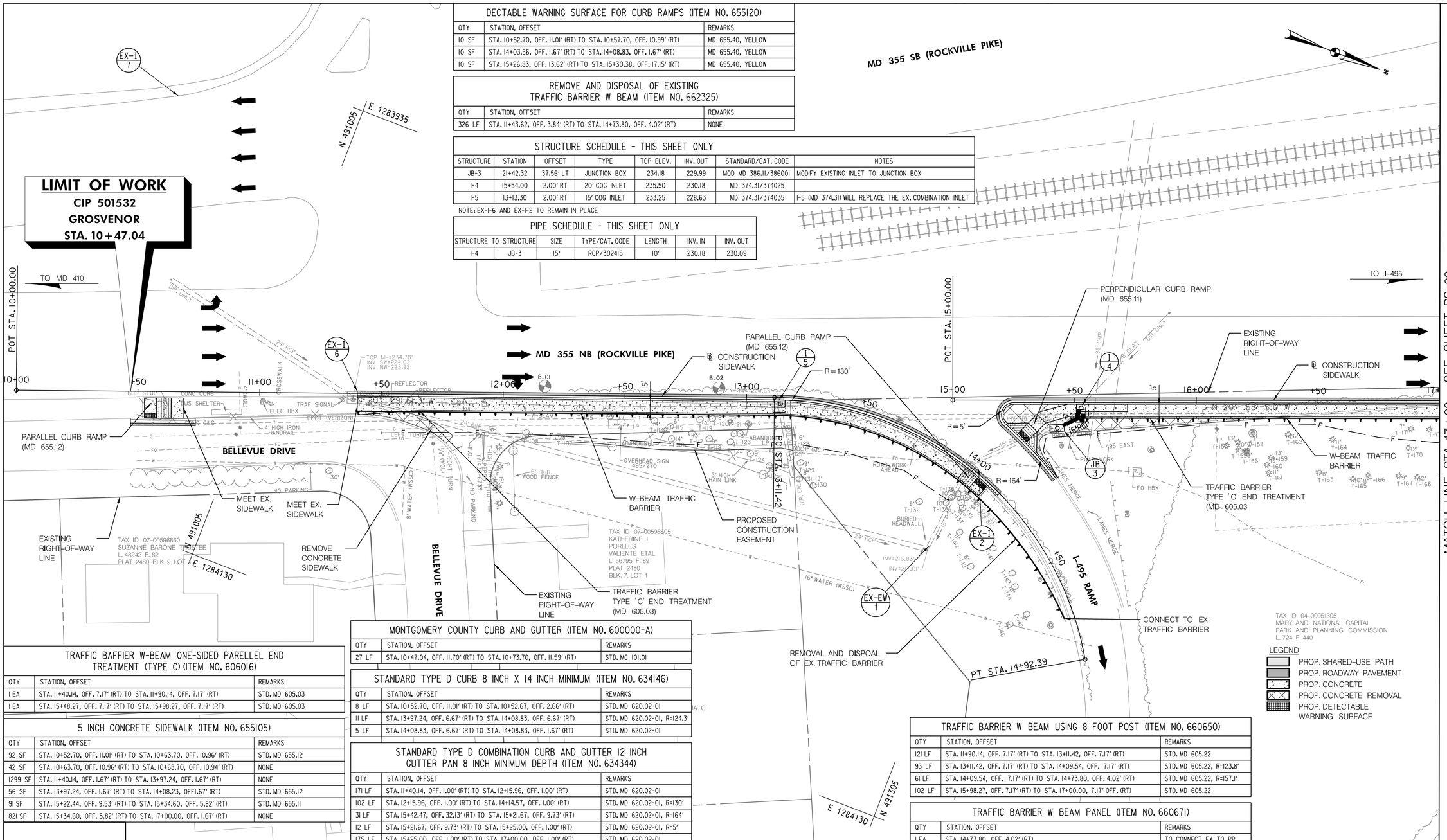
DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+57.70, OFF. 10.99' (RT)	MD 655.40, YELLOW
10 SF	STA. 14+03.56, OFF. 1.67' (RT) TO STA. 14+08.83, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 15+26.83, OFF. 13.62' (RT) TO STA. 15+30.38, OFF. 17.15' (RT)	MD 655.40, YELLOW

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)		
QTY	STATION, OFFSET	REMARKS
326 LF	STA. 11+43.62, OFF. 3.84' (RT) TO STA. 14+73.80, OFF. 4.02' (RT)	NONE

STRUCTURE SCHEDULE - THIS SHEET ONLY							
STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD/CAT. CODE	NOTES
JB-3	21+42.32	37.56' LT	JUNCTION BOX	234.18	229.99	MOD MD 386.11/386001	MODIFY EXISTING INLET TO JUNCTION BOX
I-4	15+54.00	2.00' RT	20' COG INLET	235.50	230.18	MD 374.31/374025	
I-5	13+13.30	2.00' RT	15' COG INLET	233.25	228.63	MD 374.31/374035	I-5 (MD 374.31) WILL REPLACE THE EX. COMBINATION INLET

NOTE: EX-I-6 AND EX-I-2 TO REMAIN IN PLACE

PIPE SCHEDULE - THIS SHEET ONLY						
STRUCTURE	TO STRUCTURE	SIZE	TYPE/CAT. CODE	LENGTH	INV. IN	INV. OUT
I-4	JB-3	15"	RCP/302415	10'	230.18	230.09



MONTGOMERY COUNTY CURB AND GUTTER (ITEM NO. 600000-A)		
QTY	STATION, OFFSET	REMARKS
27 LF	STA. 10+47.04, OFF. 11.70' (RT) TO STA. 10+73.70, OFF. 11.59' (RT)	STD. MC 101.01

TRAFFIC BAFFIER W-BEAM ONE-SIDED PARELLEL END TREATMENT (TYPE C) (ITEM NO. 606016)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 11+40.14, OFF. 7.17' (RT) TO STA. 11+90.14, OFF. 7.17' (RT)	STD. MD 605.03
1 EA	STA. 15+48.27, OFF. 7.17' (RT) TO STA. 15+98.27, OFF. 7.17' (RT)	STD. MD 605.03

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (ITEM NO. 634146)		
QTY	STATION, OFFSET	REMARKS
8 LF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+52.67, OFF. 2.66' (RT)	STD. MD 620.02-01
11 LF	STA. 13+97.24, OFF. 6.67' (RT) TO STA. 14+08.83, OFF. 6.67' (RT)	STD. MD 620.02-01, R=124.3'
5 LF	STA. 14+08.83, OFF. 6.67' (RT) TO STA. 14+08.83, OFF. 1.67' (RT)	STD. MD 620.02-01

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
92 SF	STA. 10+52.70, OFF. 11.01' (RT) TO STA. 10+63.70, OFF. 10.96' (RT)	STD. MD 655.12
42 SF	STA. 10+63.70, OFF. 10.96' (RT) TO STA. 10+68.70, OFF. 10.94' (RT)	NONE
1299 SF	STA. 11+40.14, OFF. 1.67' (RT) TO STA. 13+97.24, OFF. 1.67' (RT)	NONE
56 SF	STA. 13+97.24, OFF. 1.67' (RT) TO STA. 14+08.23, OFF1.67' (RT)	STD. MD 655.12
91 SF	STA. 15+22.44, OFF. 9.53' (RT) TO STA. 15+34.60, OFF. 5.82' (RT)	STD. MD 655.11
821 SF	STA. 15+34.60, OFF. 5.82' (RT) TO STA. 17+00.00, OFF. 1.67' (RT)	NONE

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
171 LF	STA. 11+40.14, OFF. 1.00' (RT) TO STA. 12+15.96, OFF. 1.00' (RT)	STD. MD 620.02-01
102 LF	STA. 12+15.96, OFF. 1.00' (RT) TO STA. 14+14.57, OFF. 1.00' (RT)	STD. MD 620.02-01, R=130'
31 LF	STA. 15+42.47, OFF. 32.13' (RT) TO STA. 15+21.67, OFF. 9.73' (RT)	STD. MD 620.02-01, R=164'
12 LF	STA. 15+21.67, OFF. 9.73' (RT) TO STA. 15+25.00, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5'
175 LF	STA. 15+25.00, OFF. 1.00' (RT) TO STA. 17+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)		
QTY	STATION, OFFSET	REMARKS
121 LF	STA. 11+90.14, OFF. 7.17' (RT) TO STA. 13+11.42, OFF. 7.17' (RT)	STD. MD 605.22
93 LF	STA. 13+11.42, OFF. 7.17' (RT) TO STA. 14+09.54, OFF. 7.17' (RT)	STD. MD 605.22, R=123.8'
61 LF	STA. 14+09.54, OFF. 7.17' (RT) TO STA. 14+73.80, OFF. 4.02' (RT)	STD. MD 605.22, R=157.1'
102 LF	STA. 15+98.27, OFF. 7.17' (RT) TO STA. 17+00.00, 7.17' OFF. (RT)	STD. MD 605.22

TRAFFIC BARRIER W BEAM PANEL (ITEM NO. 660671)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 14+73.80, OFF. 4.02' (RT)	TO CONNECT EX. TO PR.

PS-01

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 012 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BPPA Bicycle and Pedestrian Priority Areas

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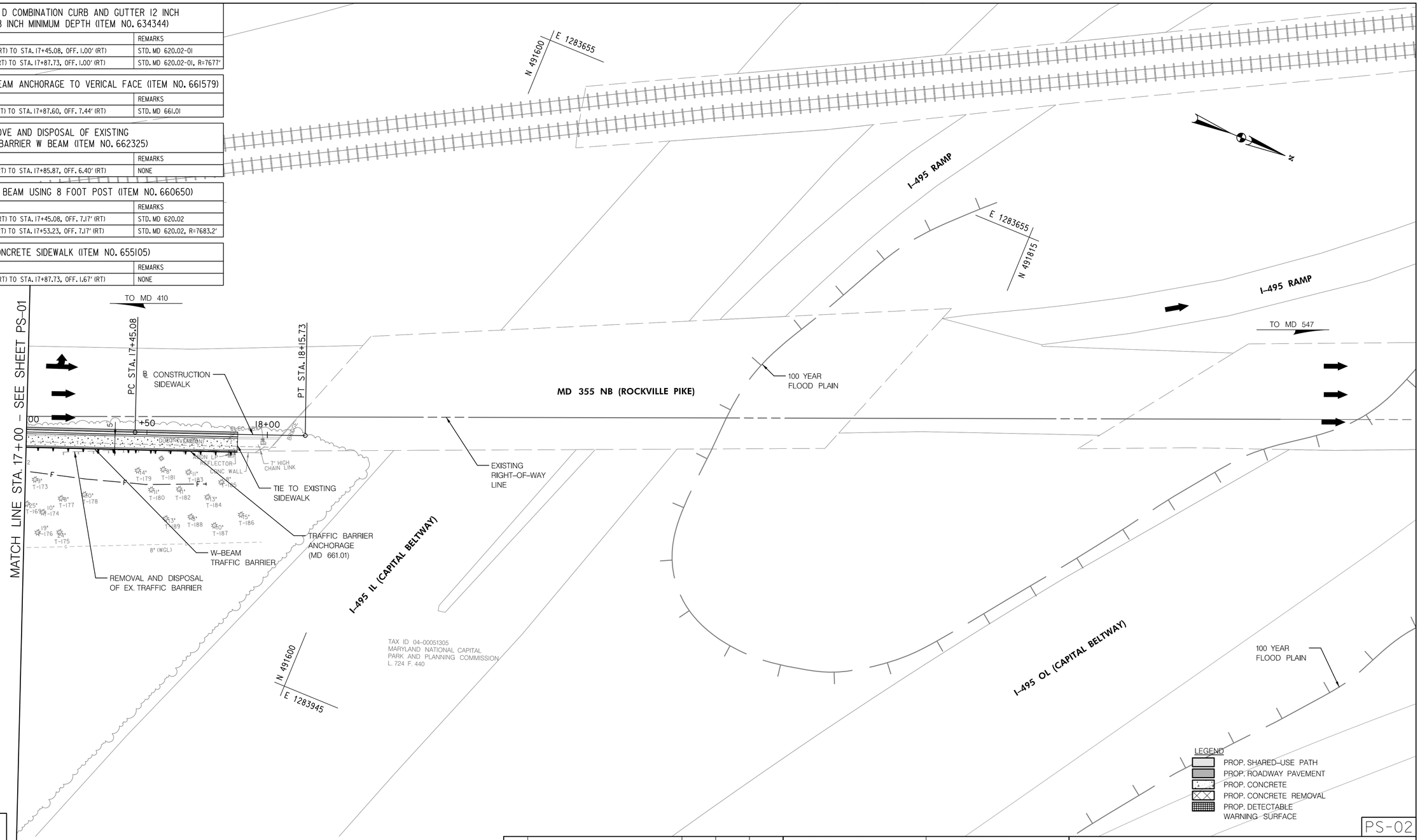
STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
45 LF	STA. 17+00.00, OFF. 1.00' (RT) TO STA. 17+45.08, OFF. 1.00' (RT)	STD. MD 620.02-01
43 LF	STA. 17+45.08, OFF. 1.00' (RT) TO STA. 17+87.73, OFF. 1.00' (RT)	STD. MD 620.02-01, R=7677'

TRAFFIC BARRIER THRIE BEAM ANCHORAGE TO VERICAL FACE (ITEM NO. 661579)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 17+53.23, OFF. 7.17' (RT) TO STA. 17+87.60, OFF. 7.44' (RT)	STD. MD 661.01

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)		
QTY	STATION, OFFSET	REMARKS
71 LF	STA. 17+15.27, OFF. 9.04' (RT) TO STA. 17+85.87, OFF. 6.40' (RT)	NONE

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)		
QTY	STATION, OFFSET	REMARKS
45 LF	STA. 17+00.00, OFF. 7.17' (RT) TO STA. 17+45.08, OFF. 7.17' (RT)	STD. MD 620.02
8 LF	STA. 17+45.08, OFF. 7.17' (RT) TO STA. 17+53.23, OFF. 7.17' (RT)	STD. MD 620.02, R=7683.2'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
438 SF	STA. 17+00.00, OFF. 1.67' (RT) TO STA. 17+87.73, OFF. 1.67' (RT)	NONE



PS-02

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 013 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:40 PM
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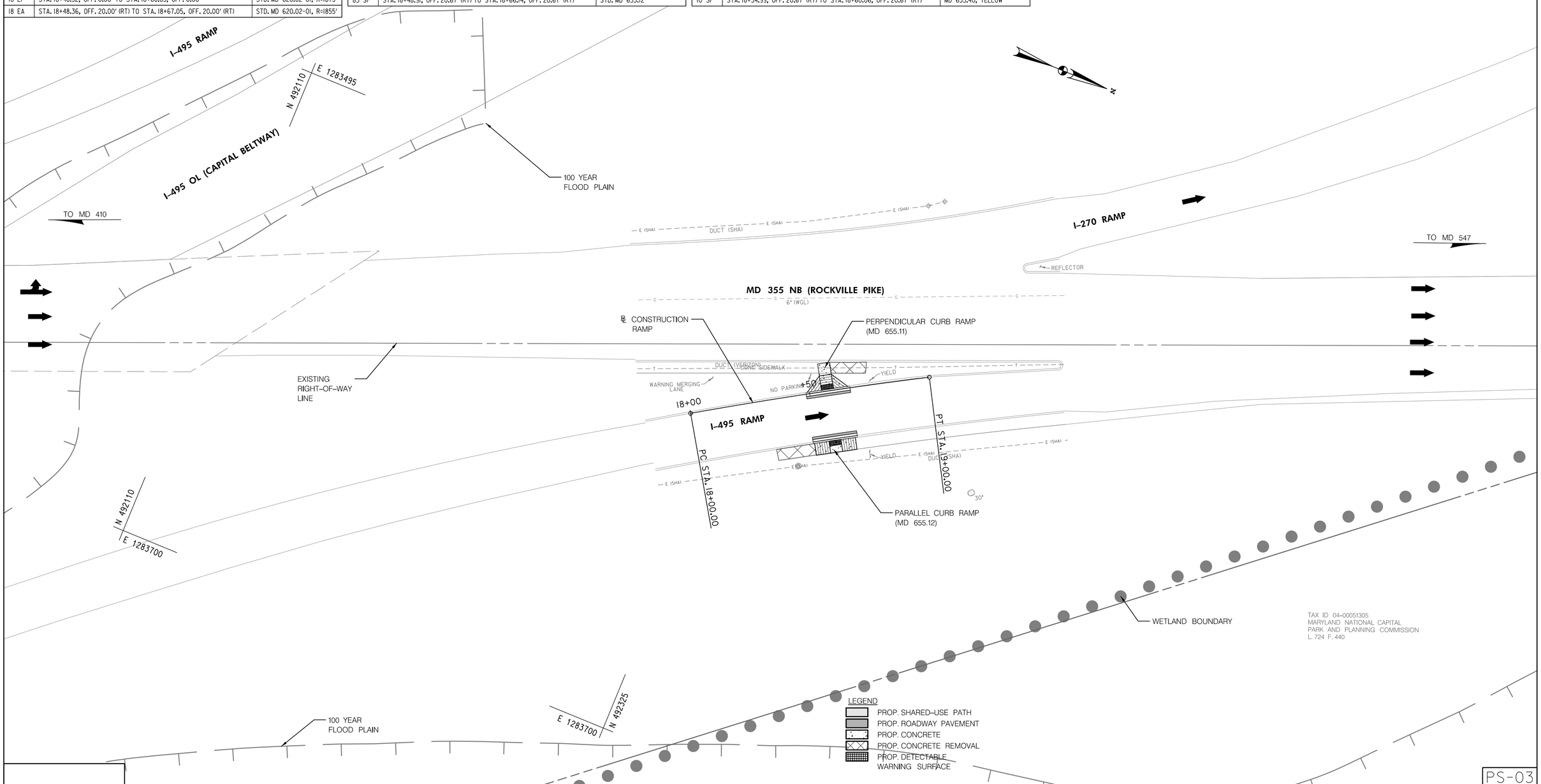
STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
18 LF	STA. 18+48.52, OFF. 0.00' TO STA. 18+66.85, OFF. 0.00'	STD. MD 620.02-01, R=1875'
18 EA	STA. 18+48.36, OFF. 20.00' (RT) TO STA. 18+67.05, OFF. 20.00' (RT)	STD. MD 620.02-01, R=1855'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
91 SF	STA. 18+49.02, OFF. 0.67' (LT) TO STA. 18+66.02, OFF 0.67' (LT)	STD. MD 655.11
85 SF	STA. 18+48.91, OFF. 20.67' (RT) TO STA. 18+66.14, OFF. 20.67' (RT)	STD. MD 655.12

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 18+55.02, OFF. 0.67' (LT) TO STA. 18+60.02, OFF. 0.67' (LT)	MD 655.40, YELLOW
10 SF	STA. 18+54.99, OFF. 20.67' (RT) TO STA. 18+60.06, OFF. 20.67' (RT)	MD 655.40, YELLOW

STRUCTURE SCHEDULE						
STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD
I-8	N/A	N/A	MOD. 15' COG INLET	236.50	235.50	MD 374.51 (OPEN BACK)



PS-03

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 014 of 102

PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:40 PM
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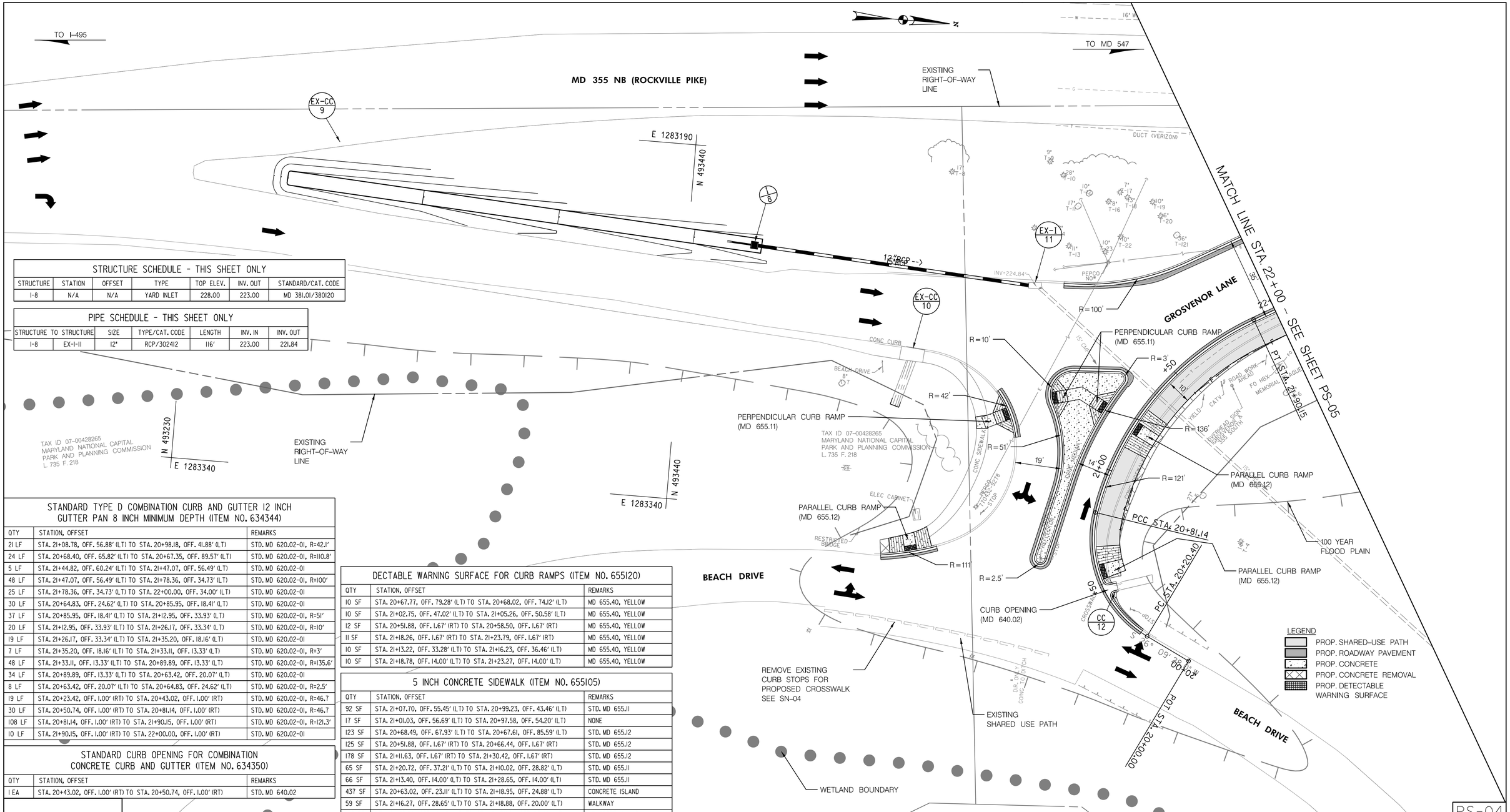

PS-04

STRUCTURE SCHEDULE - THIS SHEET ONLY						
STRUCTURE	STATION	OFFSET	TYPE	TOP ELEV.	INV. OUT	STANDARD/CAT. CODE
I-8	N/A	N/A	YARD INLET	228.00	223.00	MD 381.01/380120

PIPE SCHEDULE - THIS SHEET ONLY						
STRUCTURE	TO STRUCTURE	SIZE	TYPE/CAT. CODE	LENGTH	INV. IN	INV. OUT
I-8	EX-I-11	12"	RCP/302412	116'	223.00	221.84

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
21 LF	STA. 21+08.78, OFF. 56.88' (LT) TO STA. 20+98.18, OFF. 41.88' (LT)	STD. MD 620.02-01, R=42.1'
24 LF	STA. 20+68.40, OFF. 65.82' (LT) TO STA. 20+67.35, OFF. 89.57' (LT)	STD. MD 620.02-01, R=110.8'
5 LF	STA. 21+44.82, OFF. 60.24' (LT) TO STA. 21+47.07, OFF. 56.49' (LT)	STD. MD 620.02-01
48 LF	STA. 21+47.07, OFF. 56.49' (LT) TO STA. 21+78.36, OFF. 34.73' (LT)	STD. MD 620.02-01, R=100'
25 LF	STA. 21+78.36, OFF. 34.73' (LT) TO STA. 22+00.00, OFF. 34.00' (LT)	STD. MD 620.02-01
30 LF	STA. 20+64.83, OFF. 24.62' (LT) TO STA. 20+85.95, OFF. 18.41' (LT)	STD. MD 620.02-01
37 LF	STA. 20+85.95, OFF. 18.41' (LT) TO STA. 21+12.95, OFF. 33.93' (LT)	STD. MD 620.02-01, R=51'
20 LF	STA. 21+12.95, OFF. 33.93' (LT) TO STA. 21+26.17, OFF. 33.34' (LT)	STD. MD 620.02-01, R=10'
19 LF	STA. 21+26.17, OFF. 33.34' (LT) TO STA. 21+35.20, OFF. 18.16' (LT)	STD. MD 620.02-01
7 LF	STA. 21+35.20, OFF. 18.16' (LT) TO STA. 21+33.11, OFF. 13.33' (LT)	STD. MD 620.02-01, R=3'
48 LF	STA. 21+33.11, OFF. 13.33' (LT) TO STA. 20+89.89, OFF. 13.33' (LT)	STD. MD 620.02-01, R=135.6'
34 LF	STA. 20+89.89, OFF. 13.33' (LT) TO STA. 20+63.42, OFF. 20.07' (LT)	STD. MD 620.02-01
8 LF	STA. 20+63.42, OFF. 20.07' (LT) TO STA. 20+64.83, OFF. 24.62' (LT)	STD. MD 620.02-01, R=2.5'
19 LF	STA. 20+23.42, OFF. 1.00' (RT) TO STA. 20+43.02, OFF. 1.00' (RT)	STD. MD 620.02-01, R=46.7
30 LF	STA. 20+50.74, OFF. 1.00' (RT) TO STA. 20+81.14, OFF. 1.00' (RT)	STD. MD 620.02-01, R=46.7
108 LF	STA. 20+81.14, OFF. 1.00' (RT) TO STA. 21+90.15, OFF. 1.00' (RT)	STD. MD 620.02-01, R=121.3'
10 LF	STA. 21+90.15, OFF. 1.00' (RT) TO STA. 22+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01

STANDARD CURB OPENING FOR COMBINATION CONCRETE CURB AND GUTTER (ITEM NO. 634350)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 20+43.02, OFF. 1.00' (RT) TO STA. 20+50.74, OFF. 1.00' (RT)	STD. MD 640.02

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 20+67.77, OFF. 79.28' (LT) TO STA. 20+68.02, OFF. 74.12' (LT)	MD 655.40, YELLOW
10 SF	STA. 21+02.75, OFF. 47.02' (LT) TO STA. 21+05.26, OFF. 50.58' (LT)	MD 655.40, YELLOW
12 SF	STA. 20+51.88, OFF. 1.67' (RT) TO STA. 20+58.50, OFF. 1.67' (RT)	MD 655.40, YELLOW
11 SF	STA. 21+18.26, OFF. 1.67' (RT) TO STA. 21+23.79, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 21+13.22, OFF. 33.28' (LT) TO STA. 21+16.23, OFF. 36.46' (LT)	MD 655.40, YELLOW
10 SF	STA. 21+18.78, OFF. 14.00' (LT) TO STA. 21+23.27, OFF. 14.00' (LT)	MD 655.40, YELLOW

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
92 SF	STA. 21+07.70, OFF. 55.45' (LT) TO STA. 20+99.23, OFF. 43.46' (LT)	STD. MD 655.11
17 SF	STA. 21+01.03, OFF. 56.69' (LT) TO STA. 20+97.58, OFF. 54.20' (LT)	NONE
123 SF	STA. 20+68.49, OFF. 67.93' (LT) TO STA. 20+67.61, OFF. 85.59' (LT)	STD. MD 655.12
125 SF	STA. 20+51.88, OFF. 1.67' (RT) TO STA. 20+66.44, OFF. 1.67' (RT)	STD. MD 655.12
178 SF	STA. 21+11.63, OFF. 1.67' (RT) TO STA. 21+30.42, OFF. 1.67' (RT)	STD. MD 655.12
65 SF	STA. 21+20.72, OFF. 37.21' (LT) TO STA. 21+10.02, OFF. 28.82' (LT)	STD. MD 655.11
66 SF	STA. 21+13.40, OFF. 14.00' (LT) TO STA. 21+28.65, OFF. 14.00' (LT)	STD. MD 655.11
437 SF	STA. 20+63.02, OFF. 23.11' (LT) TO STA. 21+18.95, OFF. 24.88' (LT)	CONCRETE ISLAND
59 SF	STA. 21+16.27, OFF. 28.65' (LT) TO STA. 21+18.88, OFF. 20.00' (LT)	WALKWAY
195 SF	STA. 21+23.08, OFF. 26.82' (LT) TO STA. 21+30.01, OFF. 25.26' (LT)	CONCRETE ISLAND

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 015 of 102

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
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BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 02:25 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pHD-P004_Grosvenor.dgn

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)

QTY	STATION, OFFSET	REMARKS
96 LF	STA. 24+22.72, OFF. 1.00' (RT) TO STA. 25+11.18, OFF. 1.00' (RT)	STD. MD 605.22
182 LF	STA. 25+11.18, OFF. 1.00' (RT) TO STA. 27+00.00, OFF. 1.00' (RT)	STD. MD 605.22, R=5766'

TRAFFIC BAFFIER W-BEAM ONE-SIDED PARELLEL END TREATMENT (TYPE C) (ITEM NO. 60616)

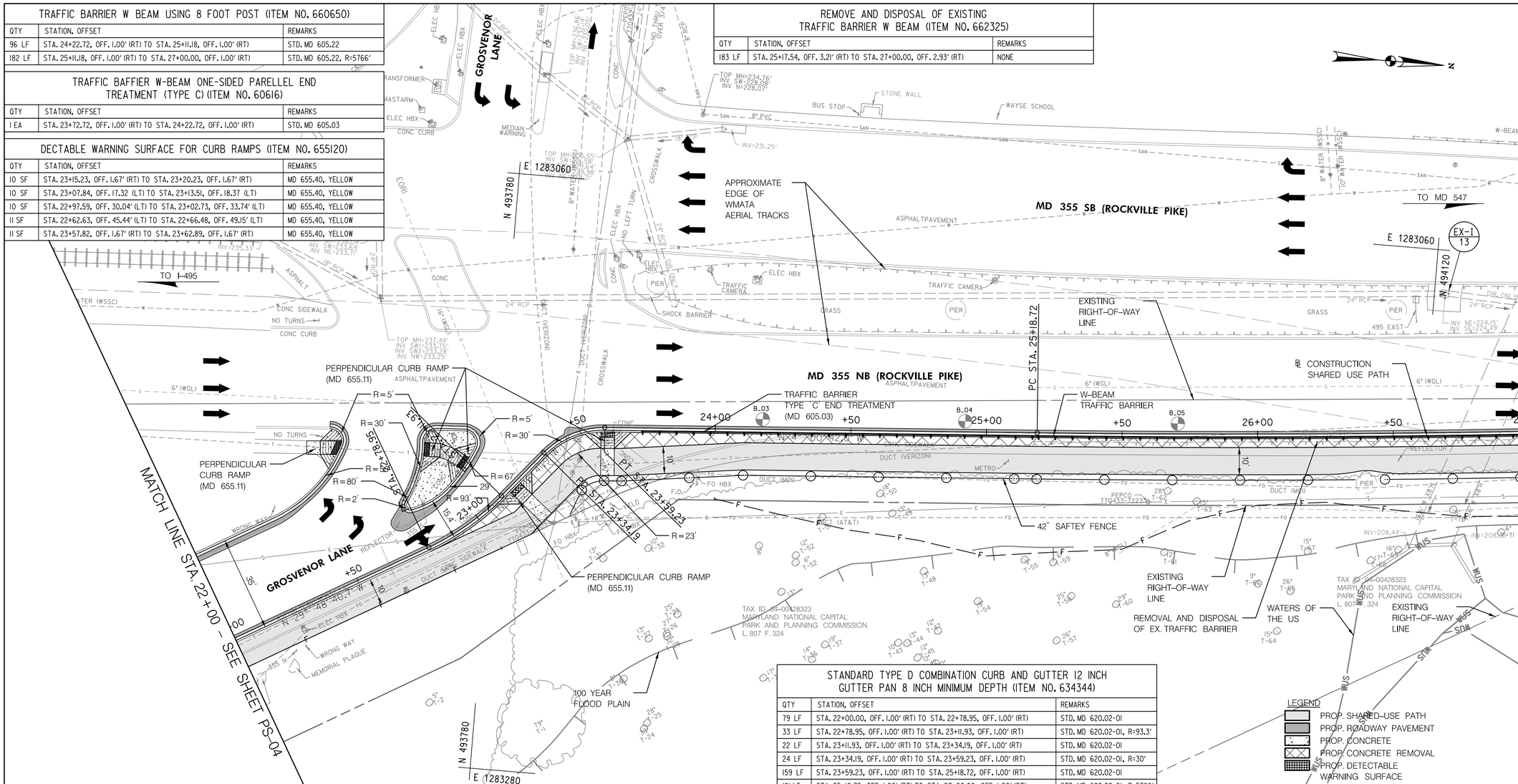
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 23+72.72, OFF. 1.00' (RT) TO STA. 24+22.72, OFF. 1.00' (RT)	STD. MD 605.03

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)

QTY	STATION, OFFSET	REMARKS
10 SF	STA. 23+15.23, OFF. 1.67' (RT) TO STA. 23+20.23, OFF. 1.67' (RT)	MD 655.40, YELLOW
10 SF	STA. 23+07.84, OFF. 17.32 (LT) TO STA. 23+13.51, OFF. 18.37 (LT)	MD 655.40, YELLOW
10 SF	STA. 22+97.59, OFF. 30.04' (LT) TO STA. 23+02.73, OFF. 33.74' (LT)	MD 655.40, YELLOW
11 SF	STA. 22+62.63, OFF. 45.44' (LT) TO STA. 22+66.48, OFF. 49.15' (LT)	MD 655.40, YELLOW
11 SF	STA. 23+57.82, OFF. 1.67' (RT) TO STA. 23+62.89, OFF. 1.67' (RT)	MD 655.40, YELLOW

REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)

QTY	STATION, OFFSET	REMARKS
183 LF	STA. 25+17.54, OFF. 3.21' (RT) TO STA. 27+00.00, OFF. 2.93' (RT)	NONE



STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)

QTY	STATION, OFFSET	REMARKS
79 LF	STA. 22+00.00, OFF. 1.00' (RT) TO STA. 22+78.95, OFF. 1.00' (RT)	STD. MD 620.02-01
33 LF	STA. 22+78.95, OFF. 1.00' (RT) TO STA. 23+11.93, OFF. 1.00' (RT)	STD. MD 620.02-01, R=93.3'
22 LF	STA. 23+11.93, OFF. 1.00' (RT) TO STA. 23+34.19, OFF. 1.00' (RT)	STD. MD 620.02-01
24 LF	STA. 23+34.19, OFF. 1.00' (RT) TO STA. 23+59.23, OFF. 1.00' (RT)	STD. MD 620.02-01, R=30'
159 LF	STA. 23+59.23, OFF. 1.00' (RT) TO STA. 25+18.72, OFF. 1.00' (RT)	STD. MD 620.02-01
181 LF	STA. 25+18.72, OFF. 1.00' (RT) TO STA. 27+00.00, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5766'
32 LF	STA. 22+00.00, OFF. 34.00' (LT) TO STA. 22+31.72, OFF. 34.00' (LT)	STD. MD 620.02-01
38 LF	STA. 22+31.72, OFF. 34.00' (LT) TO STA. 22+66.04, OFF. 47.49' (LT)	STD. MD 620.02-01, R=50.4'
10 LF	STA. 22+66.04, OFF. 47.49' (LT) TO STA. 22+64.81, OFF. 55.65' (LT)	STD. MD 620.02-01, R=5'
4 LF	STA. 22+78.19, OFF. 18.79' (LT) TO STA. 22+81.95, OFF. 21.04' (LT)	STD. MD 620.02-01, R=80.4'
20 LF	STA. 22+81.95, OFF. 21.04' (LT) TO STA. 23+02.17, OFF. 24.35' (LT)	STD. MD 620.02-01, R=42.3'
8 LF	STA. 23+02.17, OFF. 24.35' (LT) TO STA. 23+12.95, OFF. 34.48' (LT)	STD. MD 620.02-01, R=5'
10 LF	STA. 23+12.95, OFF. 34.48' (LT) TO STA. 23+19.89, OFF. 27.00' (LT)	STD. MD 620.02-01
10 LF	STA. 23+19.89, OFF. 27.00' (LT) TO STA. 23+17.69, OFF. 18.82' (LT)	STD. MD 620.02-01, R=5'
17 LF	STA. 23+17.69, OFF. 18.82' (LT) TO STA. 22+98.81, OFF. 15.17' (LT)	STD. MD 620.02-01, R=67.1'
17 LF	STA. 22+98.81, OFF. 15.17' (LT) TO STA. 22+78.98, OFF. 15.19' (LT)	STD. MD 620.02-01, R=28.5'
5 LF	STA. 22+78.98, OFF. 15.19' (LT) TO STA. 22+78.19, OFF. 18.79' (LT)	STD. MD 620.02-01, R=2'

42 INCH SAFTEY FENCE (ITEM NO. 600000-B)

QTY	STATION, OFFSET	REMARKS
10 LF	STA. 23+24.89, OFF. 22.80' (RT) TO STA. 23+34.19, OFF. 19.67' (RT)	DETAIL ON DT-01
9 LF	STA. 23+34.19, OFF. 19.67' (RT) TO STA. 23+59.23, OFF. 19.67' (RT)	DETAIL ON DT-01, R=11.3'
6 LF	STA. 23+59.23, OFF. 19.67' (RT) TO STA. 23+65.69, OFF. 19.67' (RT)	DETAIL ON DT-01
45 LF	STA. 23+65.69, OFF. 19.67' (RT) TO STA. 24+10.43, OFF. 17.00' (RT)	DETAIL ON DT-01
108 LF	STA. 24+10.43, OFF. 17.00' (RT) TO STA. 25+18.72, OFF. 17.00' (RT)	DETAIL ON DT-01
118 LF	STA. 25+18.72, OFF. 17.00' (RT) TO STA. 26+35.90, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'
53 LF	STA. 26+46.79, OFF. 17.00' (RT) TO STA. 27+00.00, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

QTY	STATION, OFFSET	REMARKS
98 SF	STA. 22+57.72, OFF. 42.00' (LT) TO STA. 22+65.31, OFF. 54.56' (LT)	STD. MD 655.11
167 SF	STA. 22+78.08, OFF. 16.72' (LT) TO STA. 23+04.94, OFF. 24.56' (LT)	CONCRETE ISLAND
65 SF	STA. 22+91.38, OFF. 25.89' (LT) TO STA. 23+11.39, OFF. 34.75' (LT)	STD. MD 655.11
22 SF	STA. 23+03.92, OFF. 25.97' (LT) TO STA. 23+05.92, OFF. 23.13' (LT)	WALKWAY
67 SF	STA. 23+00.65, OFF. 16.14' (LT) TO STA. 23+19.11, OFF. 20.37' (LT)	STD. MD 655.11
76 SF	STA. 23+10.84, OFF. 26.85' (LT) TO STA. 23+15.93, OFF. 30.29' (LT)	CONCRETE ISLAND
116 SF	STA. 23+09.24, OFF. 1.67' (RT) TO STA. 23+26.23, OFF. 1.67' (RT)	STD. MD 655.11
117 SF	STA. 23+51.48, OFF. 1.67' (RT) TO STA. 23+68.89, OFF. 1.67' (RT)	STD. MD 655.11

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)

QTY	STATION, OFFSET	REMARKS
98 SF	STA. 22+57.72, OFF. 42.00' (LT) TO STA. 22+65.31, OFF. 54.56' (LT)	STD. MD 655.11
167 SF	STA. 22+78.08, OFF. 16.72' (LT) TO STA. 23+04.94, OFF. 24.56' (LT)	CONCRETE ISLAND
65 SF	STA. 22+91.38, OFF. 25.89' (LT) TO STA. 23+11.39, OFF. 34.75' (LT)	STD. MD 655.11
22 SF	STA. 23+03.92, OFF. 25.97' (LT) TO STA. 23+05.92, OFF. 23.13' (LT)	WALKWAY
67 SF	STA. 23+00.65, OFF. 16.14' (LT) TO STA. 23+19.11, OFF. 20.37' (LT)	STD. MD 655.11
76 SF	STA. 23+10.84, OFF. 26.85' (LT) TO STA. 23+15.93, OFF. 30.29' (LT)	CONCRETE ISLAND
116 SF	STA. 23+09.24, OFF. 1.67' (RT) TO STA. 23+26.23, OFF. 1.67' (RT)	STD. MD 655.11
117 SF	STA. 23+51.48, OFF. 1.67' (RT) TO STA. 23+68.89, OFF. 1.67' (RT)	STD. MD 655.11

LEGEND
- PROP. SHARED-USE PATH
- PROP. ROADWAY PAVEMENT
- PROP. CONCRETE
- PROP. CONCRETE REMOVAL
- PROP. DETECTABLE WARNING SURFACE

PS-05

SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 016 of 102

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:40 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pHD-P005_Grosvenor.dgn

TRAFFIC BARRIER W BEAM USING 8 FOOT POST (ITEM NO. 660650)		
QTY	STATION, OFFSET	REMARKS
222 LF	STA. 27+00.00, OFF. 1.00' (RT) TO STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 605.22, R=5766'

MONTGOMERY COUNTY CURB AND GUTTER (ITEM NO. 600000-A)		
QTY	STATION, OFFSET	REMARKS
50 LF	STA. 701+06.65, OFF. 19.00' (LT) TO STA. 700+56.57, OFF. 19.00' (LT)	STD. MC 100.01
4 LF	STA. 700+56.57, OFF. 19.00' (LT) TO STA. 700+53.04, OFF. 20.46' (LT)	STD. MC 100.01, R=5'
3 LF	STA. 700+53.04, OFF. 20.46' (LT) TO STA. 700+50.97, OFF. 22.54' (LT)	STD. MC 100.01
4 LF	STA. 700+50.97, OFF. 22.54' (LT) TO STA. 700+47.43, OFF. 24.00' (LT)	STD. MC 100.01, R=5'

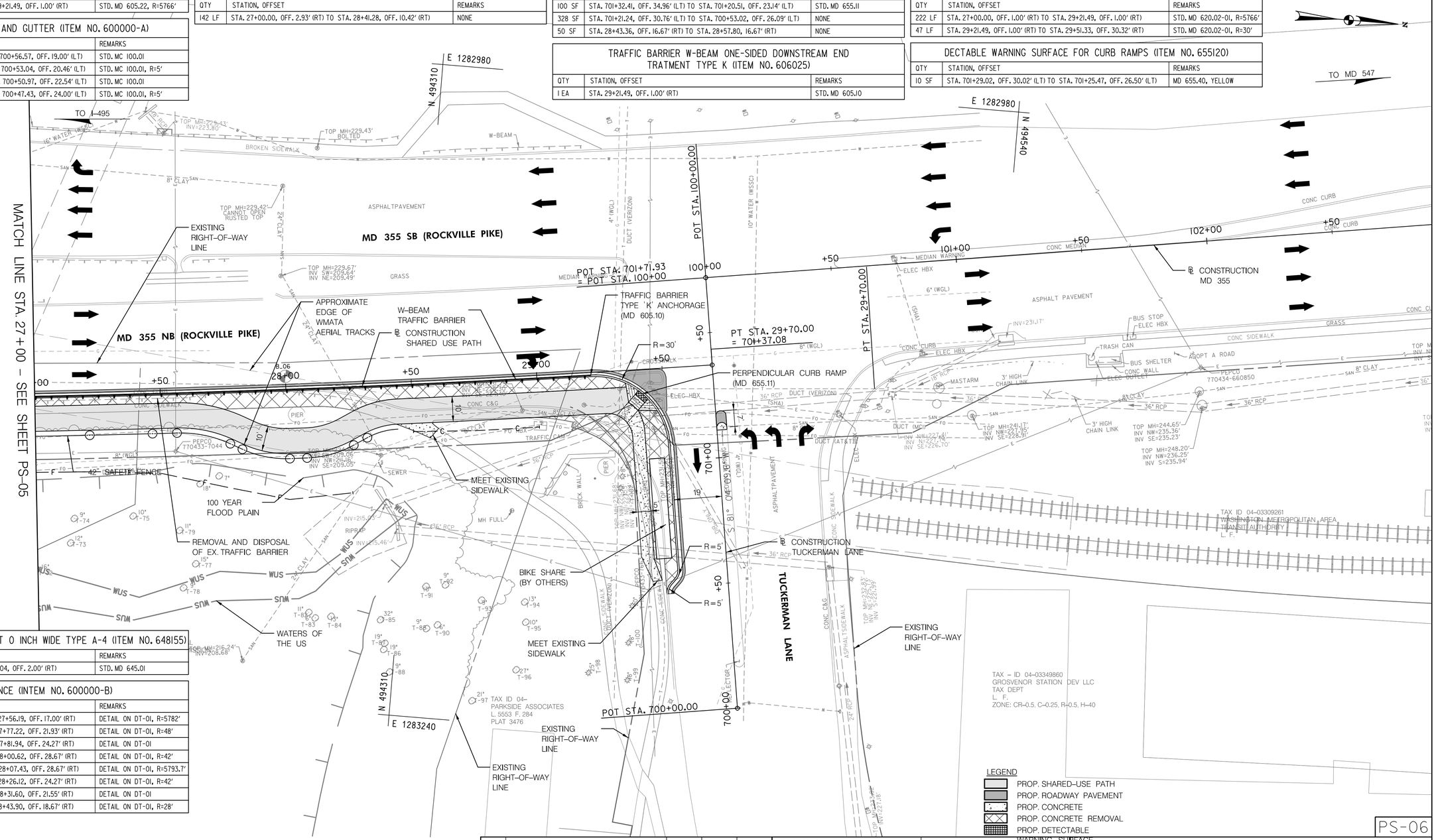
REMOVE AND DISPOSAL OF EXISTING TRAFFIC BARRIER W BEAM (ITEM NO. 662325)		
QTY	STATION, OFFSET	REMARKS
142 LF	STA. 27+00.00, OFF. 2.93' (RT) TO STA. 28+41.28, OFF. 10.42' (RT)	NONE

5 INCH CONCRETE SIDEWALK (ITEM NO. 655105)		
QTY	STATION, OFFSET	REMARKS
100 SF	STA. 701+32.41, OFF. 34.96' (LT) TO STA. 701+20.51, OFF. 23.14' (LT)	STD. MD 655.11
328 SF	STA. 701+21.24, OFF. 30.76' (LT) TO STA. 700+53.02, OFF. 26.09' (LT)	NONE
50 SF	STA. 28+43.36, OFF. 16.67' (RT) TO STA. 28+57.80, 16.67' (RT)	NONE

TRAFFIC BARRIER W-BEAM ONE-SIDED DOWNSTREAM END TRATMENT TYPE K (ITEM NO. 606025)		
QTY	STATION, OFFSET	REMARKS
1 EA	STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 605.10

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (ITEM NO. 634344)		
QTY	STATION, OFFSET	REMARKS
222 LF	STA. 27+00.00, OFF. 1.00' (RT) TO STA. 29+21.49, OFF. 1.00' (RT)	STD. MD 620.02-01, R=5766'
47 LF	STA. 29+21.49, OFF. 1.00' (RT) TO STA. 29+51.33, OFF. 30.32' (RT)	STD. MD 620.02-01, R=30'

DECTABLE WARNING SURFACE FOR CURB RAMPS (ITEM NO. 655120)		
QTY	STATION, OFFSET	REMARKS
10 SF	STA. 701+29.02, OFF. 30.02' (LT) TO STA. 701+25.47, OFF. 26.50' (LT)	MD 655.40, YELLOW



MONOLITHIC CONCRETE MEDIAN 4 FEET 0 INCH WIDE TYPE A-4 (ITEM NO. 648155)		
QTY	STATION, OFFSET	REMARKS
3 LF	STA. 701+13.97, 2.00' (RT) TO STA. 701+11.04, OFF. 2.00' (RT)	STD. MD 645.01

42 INCH SAFTEY FENCE (INTEM NO. 600000-B)		
QTY	STATION, OFFSET	REMARKS
56 LF	STA. 27+00.00, OFF. 17.00' (RT) TO STA. 27+56.19, OFF. 17.00' (RT)	DETAIL ON DT-01, R=5782'
22 LF	STA. 27+56.19, OFF. 17.00' (RT) TO STA. 27+77.22, OFF. 21.93' (RT)	DETAIL ON DT-01, R=48'
5 LF	STA. 27+77.22, OFF. 21.93' (RT) TO STA. 27+81.94, OFF. 24.27' (RT)	DETAIL ON DT-01
19 LF	STA. 27+81.94, OFF. 24.27' (RT) TO STA. 28+00.62, OFF. 28.67' (RT)	DETAIL ON DT-01, R=42'
7 LF	STA. 28+00.62, OFF. 28.67' (RT) TO STA. 28+07.43, OFF. 28.67' (RT)	DETAIL ON DT-01, R=5793.7'
19 LF	STA. 28+07.43, OFF. 28.67' (RT) TO STA. 28+26.12, OFF. 24.27' (RT)	DETAIL ON DT-01, R=42'
6 LF	STA. 28+26.12, OFF. 24.27' (RT) TO STA. 28+31.60, OFF. 21.55' (RT)	DETAIL ON DT-01
13 LF	STA. 28+31.60, OFF. 21.55' (RT) TO STA. 28+43.90, OFF. 18.67' (RT)	DETAIL ON DT-01, R=28'

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
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BiPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA/DHM III	DATE: OCTOBER, 2020
DRAWN BY: AMA/DHM III	DATE: OCTOBER, 2020
CHECKED BY: KCW	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
ROADWAY PLAN

SCALE: 1"=20'

SHEET 017 of 102

PS-06

Monday, October 05, 2020 AT 01:40 PM
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MONTGOMERY COUNTY GOVERNMENT
STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. The permittee shall notify the Department of Permitting Services (DPS) forty-eight (48) hours before commencing any land disturbing activity and, unless waived by the Department, shall be required to hold a pre-construction meeting between them or their representative, their engineer and an authorized representative of the Department.

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. All sediment basins, trap embankments, perimeter dikes, and all disturbed slopes steeper or equal to 3:1 shall be stabilized with sod, seed, and anchored straw mulch, or other approved stabilization measures, within seven (7) calendar days of establishment. 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 fourteen (14) 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 fourteen (14) 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 drainage. Mechanical devices must be provided at points of concentrated flow where erosion is likely to occur.

11. Permanent swales or other points of concentrated water flow shall be stabilized within 7 calendar days of establishment with sod or seed with an approved erosion control matting or by other approved stabilization measures.

12. Temporary 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. Temporary sediment trap(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 or when required by the sediment control inspector.

22. Sediment removed from traps 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.

27. The permittee must notify the Department of all utility construction activities within the permitted limits of disturbance prior to the commencement of those activities.

28. Topsoil must be applied to all pervious areas within the limits of disturbance prior to permanent stabilization in accordance with Montgomery County standards and specifications for topsoiling.

BEFORE BEGINNING CONSTRUCTION
CONTACT
"MISS UTILITY"
AT
1-800-257-7777
AT LEAST 48 HOURS
PRIOR TO EXCAVATION

STANDARD SYMBOLS

AT-GRADE INLET PROTECTION	AGIP	ROCK OUTLET PROTECTION II	ROPII
BAFFLE BOARDS	BB	ROCK OUTLET PROTECTION III	ROPIII
CATCH BASIN INSERT	CBI	SILT FENCE	SF
CLEAR WATER DIVERSION PIPE	CWD - 12 (NOTE: DESIGNATION CWD-12 REFERS TO CLEAR WATER DIVERSION WITH 12 INCH PIPE.)	SILT FENCE ON PAVEMENT	SFOP
COMBINATION INLET PROTECTION	COIP	SOD	
CURB INLET PROTECTION	CIP	STABILIZED CONSTRUCTION ENTRANCE	SCE
DIVERSION FENCE	DF	STANDARD INLET PROTECTION	SIP
EARTH DIKE	A-1 (PLACE DESIGNATION (A-1, B-2, ETC.) ON FLOW CHANNEL SIDE OF DIKE)	STOCKPILE AREA	
EMERGENCY SPILLWAY	ES	STONE CHECK DAM	CD
FILTER BAG	FB	STONE/RIPRAP OUTLET SEDIMENT TRAP ST II	ST-II
FILTER BERM	FB-A / FB-B	SUBSURFACE DRAINS	SSD
FILTER LOG	FL-18 (NOTE: DESIGNATION FL-18 REFERS TO FILTER LOG WITH 18 INCH DIAMETER.)	SUMP PIT	SP
GABION INFLOW PROTECTION	GP	SUPER SILT FENCE	SSF
GABION INLET PROTECTION	GIP	TEMPORARY ACCESS CULVERT	
LIMIT OF DISTURBANCE	LOD	TEMPORARY ASPHALT BERM	TAB
MEDIAN INLET PROTECTION	MIP	TEMPORARY BARRIER DIVERSION	TBD
MEDIAN SUMP INLET PROTECTION	MSIP	TEMPORARY GABION OUTLET STRUCTURE	TGOS
MOUNTABLE BERM	MB	TEMPORARY SOIL STABILIZATION MATTING-TYPE A	A
PERIMETER DIKE/SWALE	PDS-1	TEMPORARY SOIL STABILIZATION MATTING-TYPE E	E
PERMANENT SOIL STABILIZATION MATTING-TYPE B	B	TEMPORARY SOIL STABILIZATION MATTING-TYPE D	D
PERMANENT SOIL STABILIZATION MATTING-TYPE C	C	TEMPORARY STONE OUTLET STRUCTURE	TSOS
PIPE OUTLET SEDIMENT TRAP ST I	ST-I	TEMPORARY SWALE	A-1 (PLACE DESIGNATION (A-1, B-2, ETC.) ON FLOW CHANNEL SIDE OF SWALE.)
PIPE SLOPE DRAIN	PSD - 12 (NOTE: DESIGNATION PSD-12 REFERS TO PIPE SLOPE DRAIN WITH 12 IN PIPE)	WASH RACK OPTION	WR
PLUNGE POOL	PP	CHESAPEAKE BAY CRITICAL AREA	CBCA
PORTABLE SEDIMENT TANK	PST	DRAINAGE BOUNDARY	DA
REMOVABLE PUMPING STATION	RPS	EXISTING CONTOURS	100
RIPRAP INFLOW PROTECTION	RRP	PROPOSED CONTOURS	100
RIPRAP OUTLET SEDIMENT TRAP ST III	ST-III	TREE PROTECTION FENCE	TPF
ROCK OUTLET PROTECTION I	ROPI	WETLAND	
		WETLAND BUFFER	B
		100-YEAR FLOODPLAIN	

ES-01

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN
SHEET 034 of 102

Monday, October 05, 2020 AT 01:45 PM
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GENERAL NOTES

1. Prior to clearing of 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 control inspector (240) 777-0311 (48 hours notice), the Owners 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 and will need to be rescheduled prior tocommencing any work.
2. The limits of disturbance must be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
3. Clear and grade for installation of sediment control devices.
3. Install sediment control devices.
4. Once the sediment control devices are installed, the permittee to obtain written approval from the MCDPS inspector before proceeding with any additional clearing, grubbing, or grading.
5. Construction can occur coincidentally or any order the contractor chooses as long as approvals are in place.
6. Remove water that pools within any area of excavation with sump pit, pump, and filter bag.
7. Weather should be monitored to ensure construction of proposed drainage facilities are done in a day with no expected rainfall. Proposed drainage facilities should be constructed within one work day.
8. Site should be stabilized at the end of each work day.
9. Obtain written approval from MCDPS inspector, prior to the removal of any sediment control devices for each sequence.
10. Root pruning and tree protection fencing are shown off set from limit of disturbance (LOD) line for graphic reasons only. Root pruning and tree protection fence placement are to be executed at the lod line.
11. Plant and vegetate site as shown on Landscape Plan.
12. Stabilize site and get written approval from MCDPS inspector to remove remaining sediment control devices.

NOTE 1:
All sequences should call for the permittee to obtain written approval from MCDPS inspector, prior to the removal of any sediment control device.

NOTE 2:
Any site that has a proposed storm drain diversion proposed should have its Sequence of Construction state the following:

1) The construction of the diversion in the storm drain construction step; and

2) once the drainage area is stabilized, the storm drain system must be flushed, any temporary pipes removed, and the construction or unblocking of any permanent pipes.

M-NCPPC CONSTRUCTION NOTES

Removal of Existing Pavement within a Tree's Critical Root Zone:

1. The contractor shall meet with the M-NCPPC Urban Forester and Construction Inspector prior to removal of the pavement to discuss methods to be used to remove pavement. Removal of pavement may be required to be done by hand depending on site conditions.
2. The existing top layer of pavement shall be peeled away without disturbing the ground or material beneath. If a base course of rock is beneath the pavement the rock shall be left in place.
3. During the removal of the pavement layer great care shall be taken to not disturb existing tree roots along or under existing pavement. Existing tree roots greater than 1.5" in diameter encountered during the removal process shall not be cut unless approved by the M-NCPPC Urban Forester.
4. Equipment should remain on existing pavement during the removal process. Equipment shall not traverse over areas where pavement was removed in order to protect exposed tree roots.
5. Ground protection such as a 12" mulch layer will be required if equipment is needed to be operated within the critical root zone.
6. Removal of the existing pavement shall be done under supervision of the M-NCPPC Urban Forester and the Construction Inspector.
7. Stabilize area per approved plan or as directed by Construction Inspector.

SEQUENCE OF CONSTRUCTION

Phase 1:

1. Prior to clearing of 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 control inspector (240) 777-0311 (48 hours notice), the Owners 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 and will need to be rescheduled prior tocommencing any work.
2. The limits of disturbance must be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
3. The permittee must obtain written approval from the MNCPPC inspector, certifying that the limits of disturbance and any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 1.
6. Once the sediment control devices are installed the permitee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct roadway and and storm drain improvements for Rockville Pike near the I-495 ramp as shown on the ESC plans.
8. Construct proposed curb, sidewalk, and pedestrian curb ramps near the I-495 ramp as shown on the ESC plans.
9. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
10. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove any Phase 1 sediment control devices that will not be used in the subsequent ESC phases.

Phase 2:

1. Prior to clearing of 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 control inspector (240) 777-0311 (48 hours notice), the Owners 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 and will need to be rescheduled prior tocommencing any work.
2. The limits of disturbance must be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
3. The permittee must obtain written approval from the MNCPPC inspector, certifying that the limits of disturbance and any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 2.
6. Once the sediment control devices are installed the permittee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct the proposed storm drain impovements for Rockville Pike as shown on the ESC plans.
8. Install proposed SWM BMPs. BMPs can only be constructed after contributing drainage areas have been completely stabilized.
9. Construct sidewalk and pedestrian curb ramps for Rockville Pike as shown on the ESC plans.
10. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
11. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove any Phase 2 sediment control devices that will not be used in the subsequent ESC phases.

Phase 3:

1. Prior to clearing of 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 control inspector (240) 777-0311 (48 hours notice), the Owners 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 and will need to be rescheduled prior tocommencing any work.
2. The limits of disturbance must be field marked prior to clearing of trees, installation of sediment control measures, construction, or other land disturbing activities.
3. The permittee must obtain written approval from the MNCPPC inspector, certifying that the limits of disturbance and any tree protection measures are correctly marked and installed piror to commencing and clearing.
4. Clear and grade for installation of sediment control devices.
5. Install sediment control devices for Phase 3.
6. Once the sediment control devices are installed the permittee must obtain written approval from the MCDPS inspector before proceeding with any addition clearing, grubbing, or grading.
7. Construct roadway and storm drain improvements for Rockville Pike, Grosvenor Lane, and Tuckerman Lane as shown on the ESC plans.
8. Construct proposed curb, sidewalk, and pedestrian curb ramps for Rockville Pike, Grosvenor Lane, and Tuckerman Lane as shown on the ESC plans.
9. Permanently stabilize disturbed roadside areas with topsoil, seed and mulch as indiicated on the typical sections.
10. Upon final stabilization and written approval from MCDPS inspector, the permittee shall remove the sediment control devices.
11. The permittee shall submit as-built plans for review and approval by MCPDS.

Monday, October 05, 2020 AT 01:45 PM
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PROFESSIONAL CERTIFICATION:
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LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

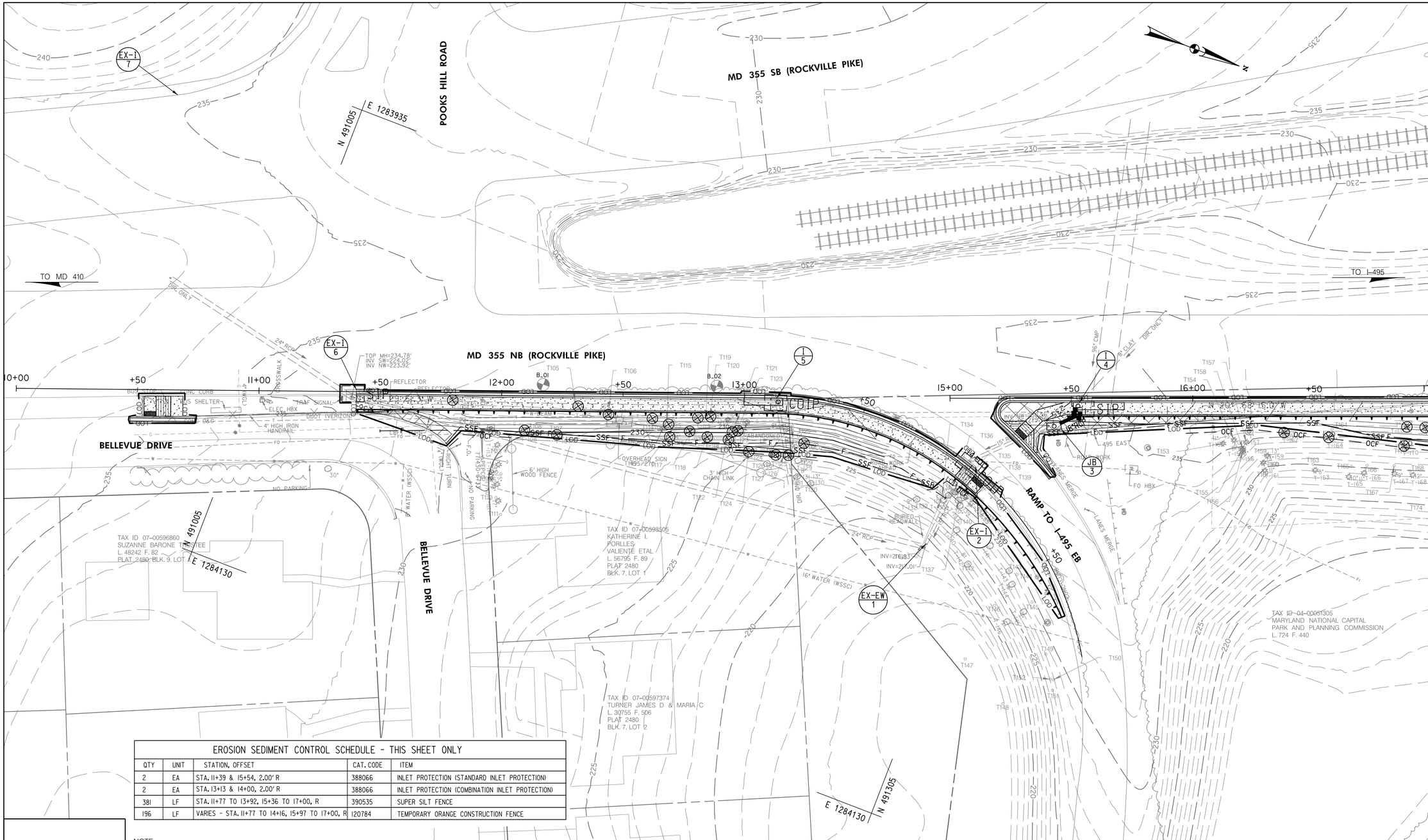
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT
CONTROL NOTES

SCALE: AS SHOWN

SHEET 035 of 102

ES-02



EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
2	EA	STA. 11+39 & 15+54, 2.00' R	388066	INLET PROTECTION (STANDARD INLET PROTECTION)
2	EA	STA. 13+13 & 14+00, 2.00' R	388066	INLET PROTECTION (COMBINATION INLET PROTECTION)
381	LF	STA. 11+77 TO 13+92, 15+36 TO 17+00, R	390535	SUPER SILT FENCE
196	LF	VARIES - STA. 11+77 TO 14+16, 15+97 TO 17+00, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date

APPROVED

Chief, Division of Transportation Engineering _____ Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE I
CONTROL PLAN

SCALE: 1"=20'

SHEET 038 of 102

ES-05

Monday, October 05, 2020 AT 01:48 PM
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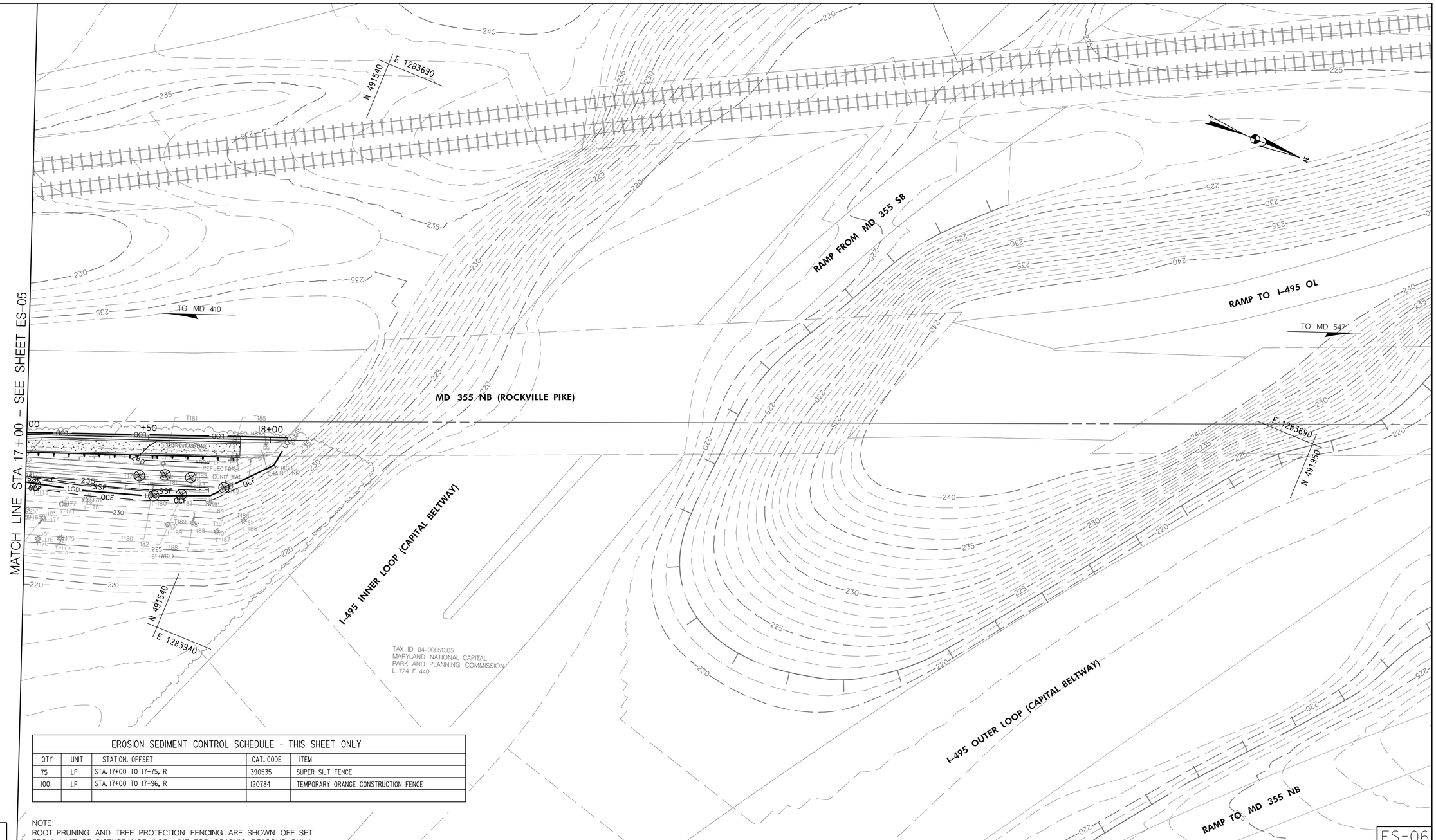

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
75	LF	STA. 17+00 TO 17+75, R	390535	SUPER SILT FENCE
100	LF	STA. 17+00 TO 17+96, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

20' 0 20' 40'
SCALE: 1" = 20'

ES-06

PROFESSIONAL CERTIFICATION:
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Baltimore, MD 21286
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

_____ _____
Chief, Design Section Date

APPROVED

_____ _____
Chief, Division of Transportation Engineering Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE I
CONTROL PLAN

SCALE: 1"=20' SHEET ____ of 102

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Monday, October 05, 2020 AT 01:48 PM
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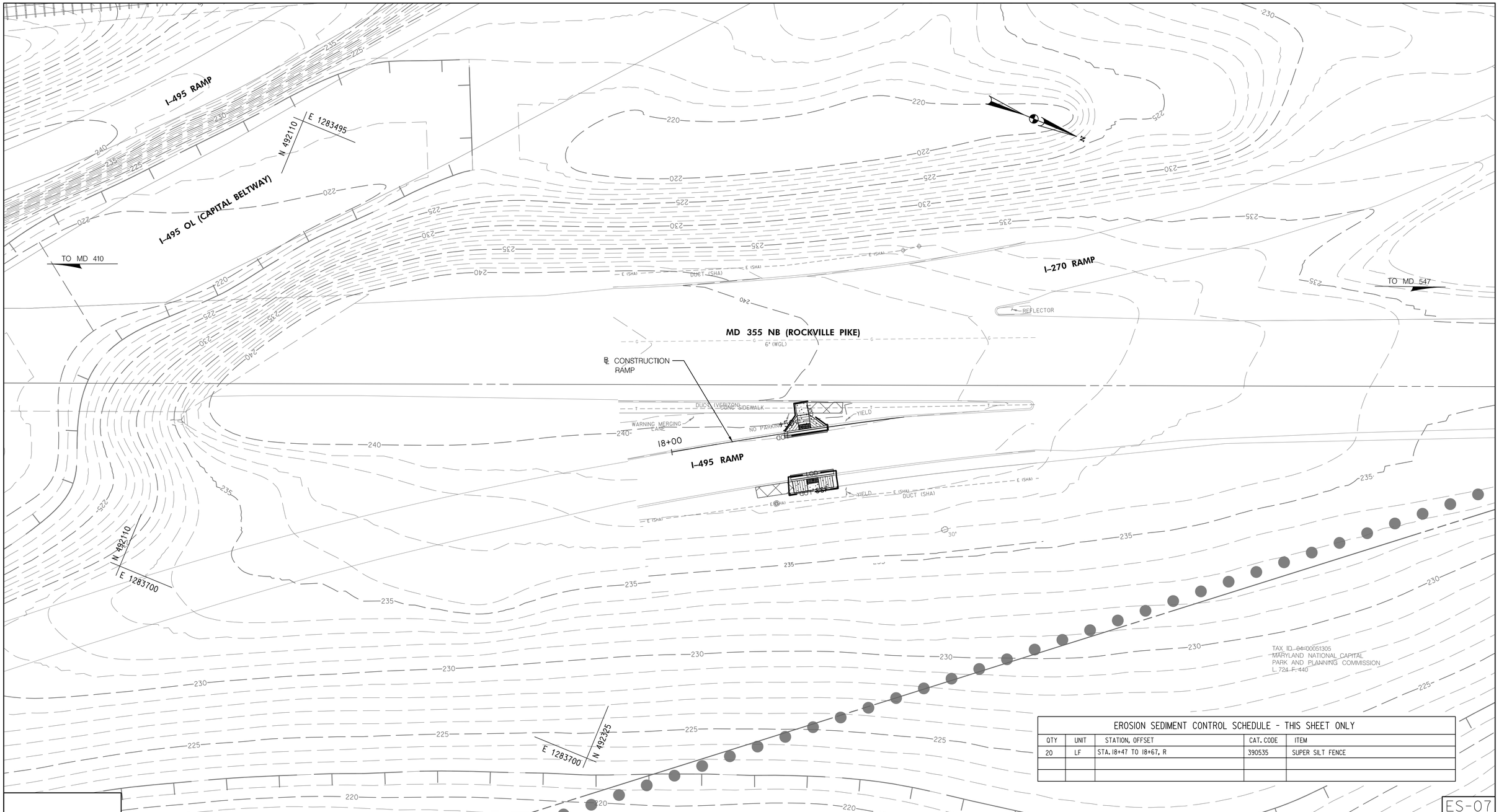

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
20	LF	STA. 18+47 TO 18+67, R	390535	SUPER SILT FENCE

ES-07

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE 2
CONTROL PLAN

SCALE: 1"=20'

SHEET 040 of 102

PROFESSIONAL CERTIFICATION:
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Monday, October 05, 2020 AT 01:48 PM
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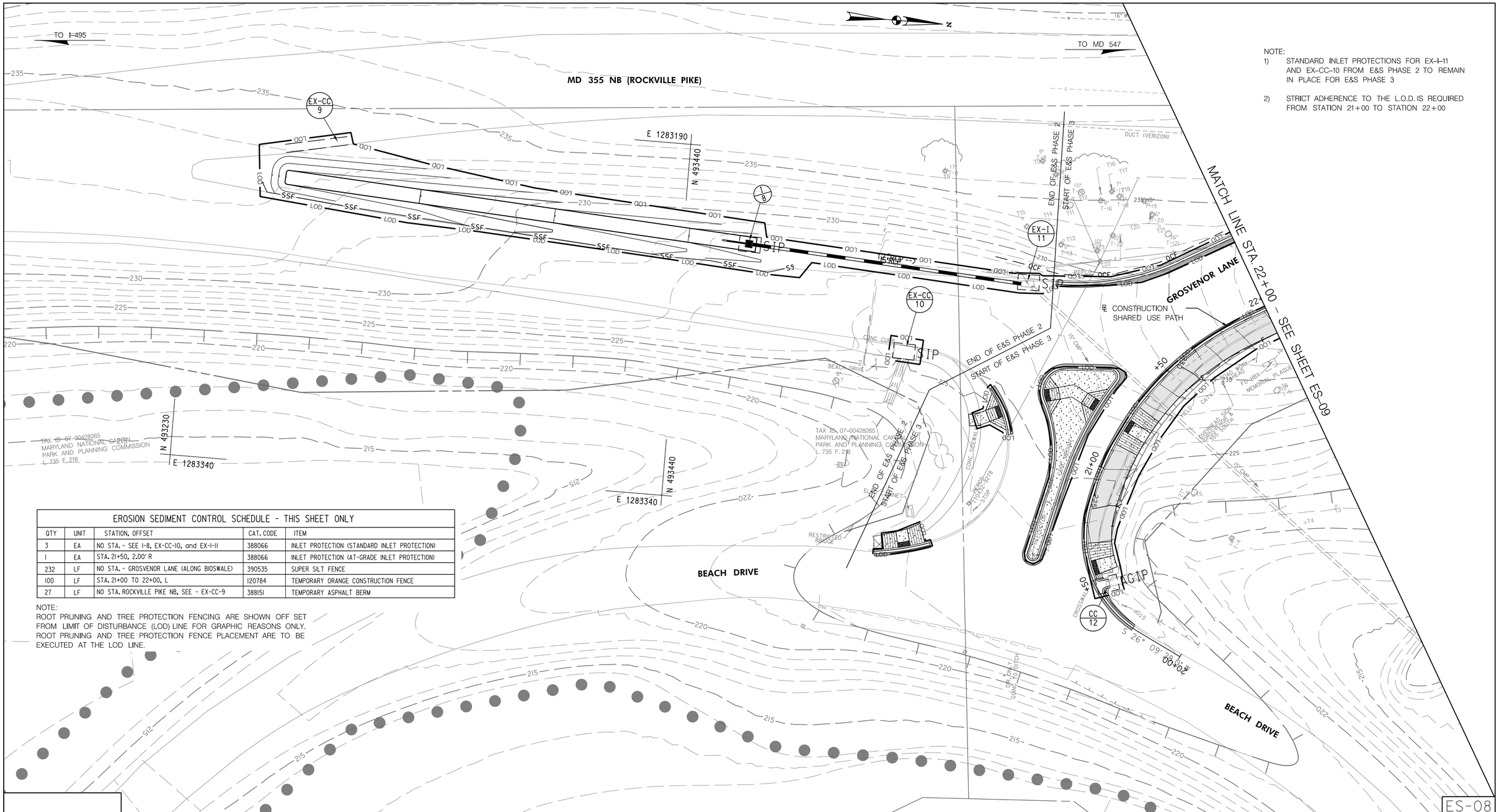
NOTE:

1) STANDARD INLET PROTECTIONS FOR EX-I-11 AND EX-CC-10 FROM E&S PHASE 2 TO REMAIN IN PLACE FOR E&S PHASE 3

2) STRICT ADHERENCE TO THE L.O.D. IS REQUIRED FROM STATION 21+00 TO STATION 22+00



EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
3	EA	NO STA. - SEE I-8, EX-CC-10, and EX-I-11	388066	INLET PROTECTION (STANDARD INLET PROTECTION)
1	EA	STA. 21+50, 2.00' R	388066	INLET PROTECTION (AT-GRADE INLET PROTECTION)
232	LF	NO STA. - GROSVENOR LANE (ALONG BIOSWALE)	390535	SUPER SILT FENCE
100	LF	STA. 21+00 TO 22+00, L	120784	TEMPORARY ORANGE CONSTRUCTION FENCE
27	LF	NO STA. ROCKVILLE PIKE NB, SEE - EX-CC-9	388151	TEMPORARY ASPHALT BERM

NOTE:
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ES-08

20' 0 20' 40'
SCALE: 1" = 20'

PROFESSIONAL CERTIFICATION:
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date _____

APPROVED

Chief, Division of Transportation Engineering _____ Date _____

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT - PHASE 2 & 3
CONTROL PLAN

SCALE: 1"=20'

SHEET 041 of 102

Monday, October 05, 2020 AT 01:48 PM
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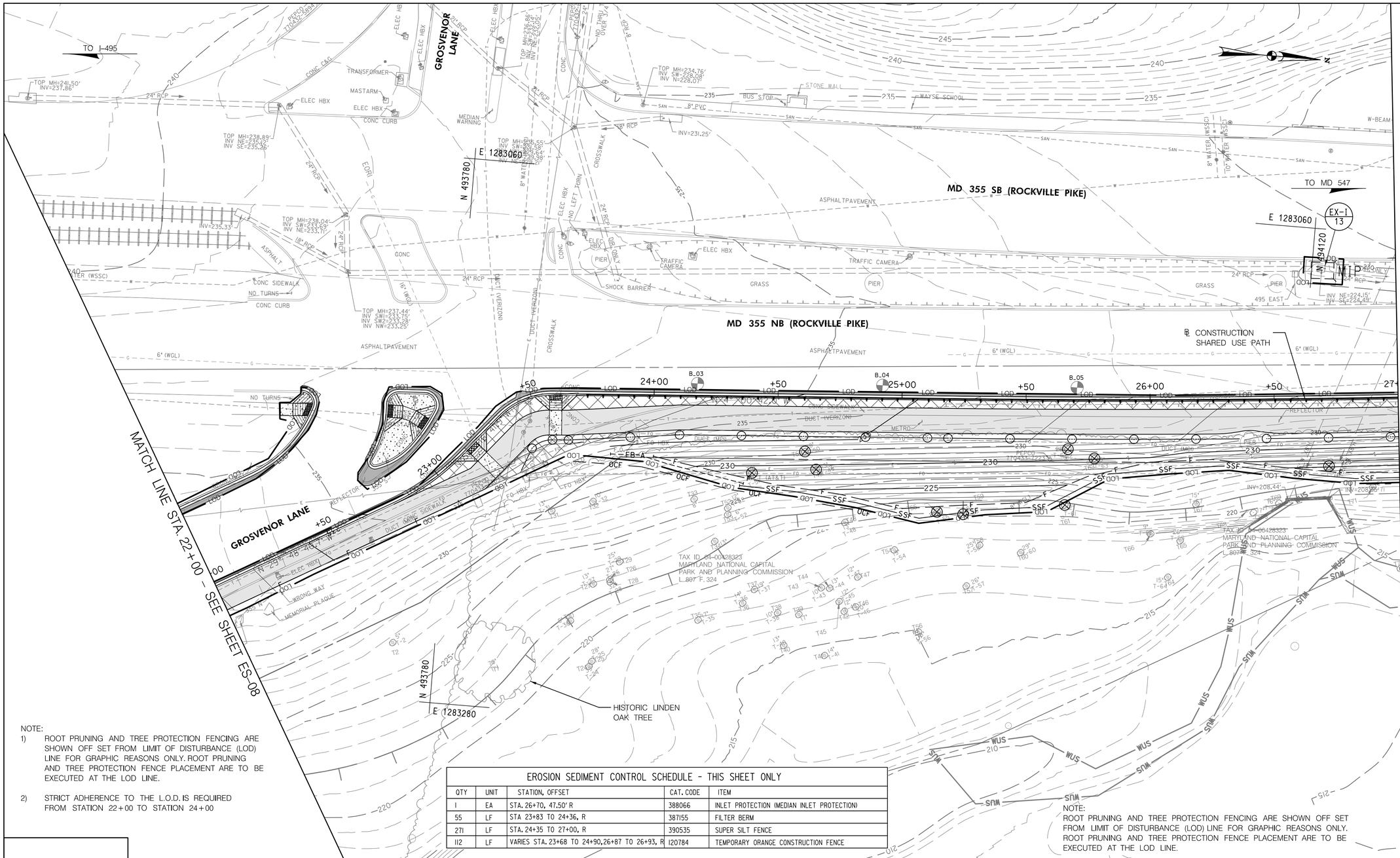

NOTE:
1) ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

2) STRICT ADHERENCE TO THE L.O.D. IS REQUIRED FROM STATION 22+00 TO STATION 24+00

NOTE:
ROOT PRUNING AND TREE PROTECTION FENCING ARE SHOWN OFF SET FROM LIMIT OF DISTURBANCE (LOD) LINE FOR GRAPHIC REASONS ONLY. ROOT PRUNING AND TREE PROTECTION FENCE PLACEMENT ARE TO BE EXECUTED AT THE LOD LINE.

EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
1	EA	STA. 26+70, 47.50' R	388066	INLET PROTECTION (MEDIAN INLET PROTECTION)
55	LF	STA 23+83 TO 24+36, R	387155	FILTER BERM
271	LF	STA. 24+35 TO 27+00, R	390535	SUPER SILT FENCE
112	LF	VARIES STA. 23+68 TO 24+90, 26+87 TO 26+93, R	120784	TEMPORARY ORANGE CONSTRUCTION FENCE

20' 0 20' 40'
SCALE: 1" = 20'

ES-09

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section _____ Date

APPROVED

Chief, Division of Transportation Engineering _____ Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT- PHASE 3
CONTROL PLAN

SCALE: 1"=20'

SHEET 042 of 102

Monday, October 05, 2020 AT 01:48 PM
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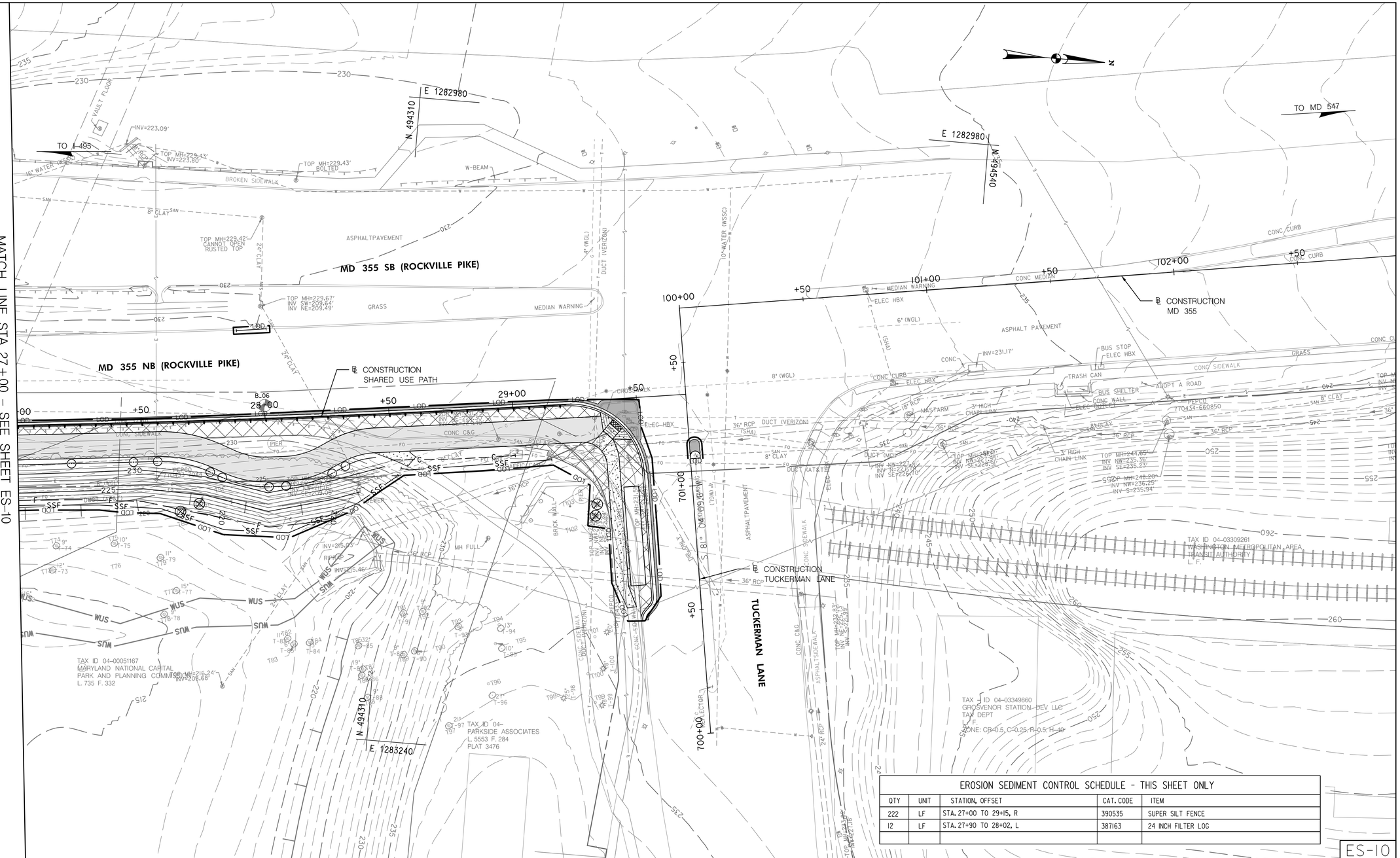
MATCH LINE STA. 27+00 – SEE SHEET ES-10



EROSION SEDIMENT CONTROL SCHEDULE - THIS SHEET ONLY				
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM
222	LF	STA. 27+00 TO 29+15, R	390535	SUPER SILT FENCE
12	LF	STA. 27+90 TO 28+02, L	387163	24 INCH FILTER LOG

ES-10

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: KN	DATE: OCTOBER, 2020
DRAWN BY: KN	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
EROSION AND SEDIMENT- PHASE 3
CONTROL PLAN

SCALE: 1"=20'

SHEET 043 of 102

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: _____ EXPIRATION DATE: _____

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Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:48 PM
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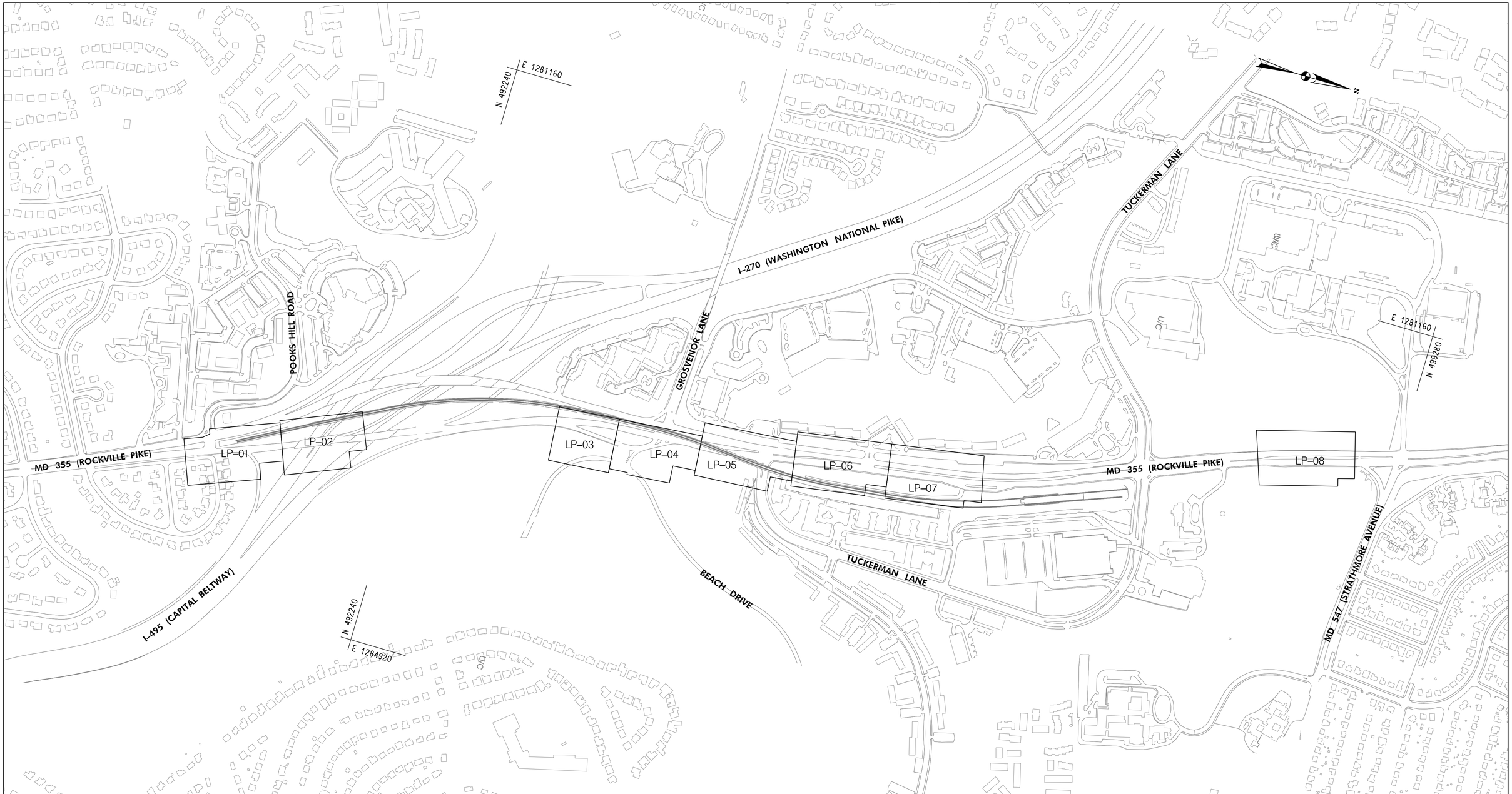

LP-KY

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

PROFESSIONAL CERTIFICATION:
I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND.
LICENSE NO: 3190 EXPIRATION DATE: 05/07/2021

300' 0 300' 600'
SCALE: 1" =300'

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810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: AMA	DATE: OCTOBER, 2020
DRAWN BY: AMA	DATE: OCTOBER, 2020
CHECKED BY: DHM III Z	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION
KEY PLAN

SCALE: 1"=300'

SHEET 044 of 102

Monday, October 05, 2020 AT 01:48 PM
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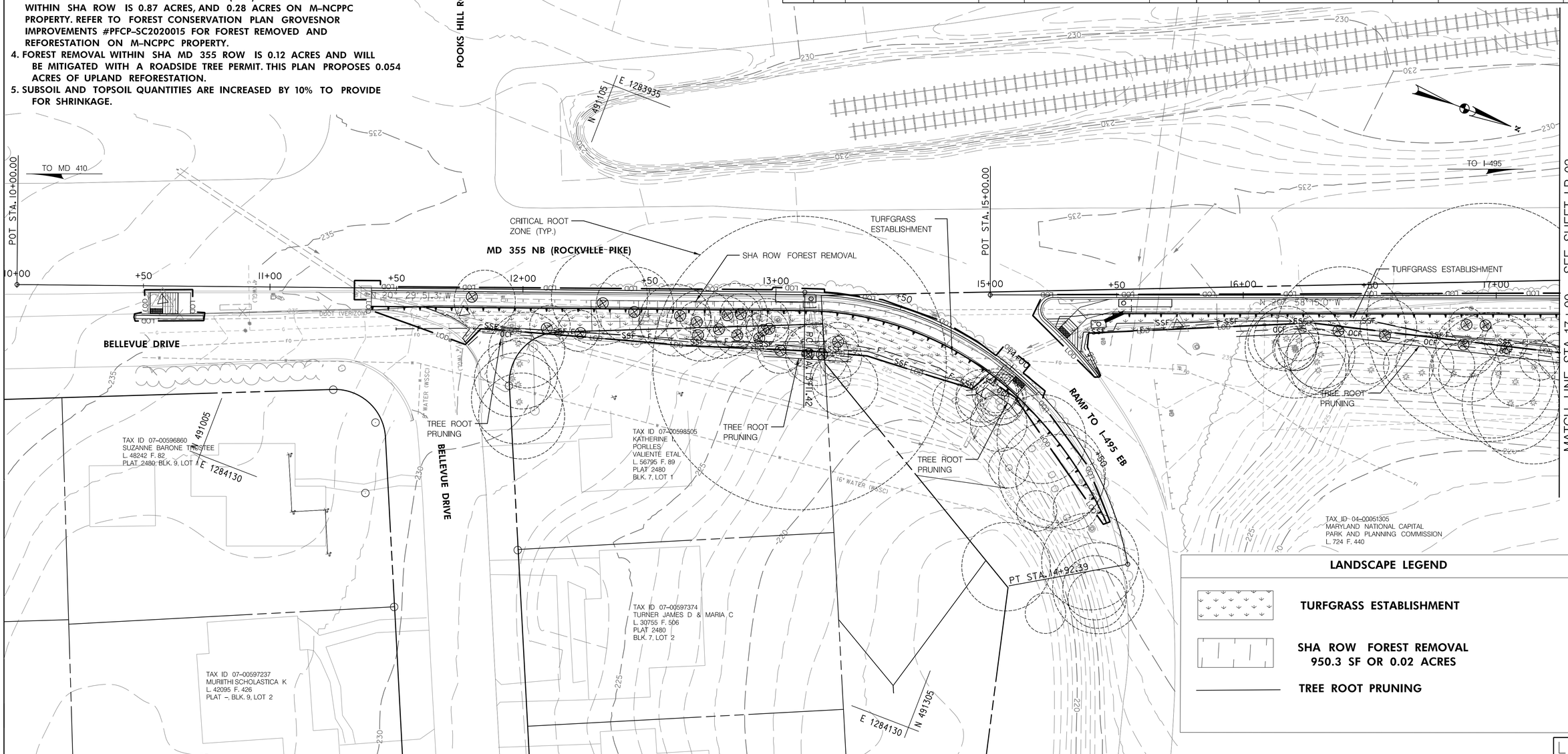
NOTES:

1. REFER TO EROSION AND SEDIMENT CONTROL /SWM PLAN FOR TREE PROTECTION FENCE (TOCF) & BIORETENTION SOIL MIX ITEMS AND QUANTITIES.
2. LOCATION OF TEMPORARY ORANGE CONSTRUCTION FENCE AND ROOT PRUING ARE SHOWN ON THE PLAN AS AN OFFSET FROM THE LIMIT OF DISTRUBANCE (LOD) FOR GRAPHIC PURPOSES ONLY, FENCE AND ROOT PRUING OPERATIONS SHALL BE LOCATED AT LOD LINE.
3. THIS IS A LINEAR PROJECT LOCATED ON MD 355 AND M-NCPPC PROPERTIES. THE LIMIT OF DISTURBANCE (LOD) IS 1.15 ACRES. LOD WITHIN SHA ROW IS 0.87 ACRES, AND 0.28 ACRES ON M-NCPPC PROPERTY. REFER TO FOREST CONSERVATION PLAN GROVESNOR IMPROVEMENTS #PFCP-SC2020015 FOR FOREST REMOVED AND REFORESTATION ON M-NCPPC PROPERTY.
4. FOREST REMOVAL WITHIN SHA MD 355 ROW IS 0.12 ACRES AND WILL BE MITIGATED WITH A ROADSIDE TREE PERMIT. THIS PLAN PROPOSES 0.054 ACRES OF UPLAND REFORESTATION.
5. SUBSOIL AND TOPSOIL QUANTITIES ARE INCREASED BY 10% TO PROVIDE FOR SHRINKAGE.

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
337	SY	STA. 11+60 TO STA. 14+00 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
306	SY	STA. 11+60 TO STA. 14+00 R	705405	TEMPORARY SEED	704
306	SY	STA. 11+60 TO STA. 14+00 R	705412	TEMPORARY MULCH	704
306	SY	STA. 11+60 TO STA. 14+00 R	705500	TURFGRASS ESTABLISHMENT	705
306	SY	STA. 11+60 TO STA. 14+00 R	709100	TYPE A SOIL STABILIZATION MATTING	709
248	LF	STA. 13+00 TO STA. 14+20 R	715050	TREE ROOT PRUNING	715

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
190	SY	STA. 15+00 R TO STA. 17+00 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
173	SY	STA. 15+00 R TO STA. 17+00 R	705405	TEMPORARY SEED	704
173	SY	STA. 15+00 R TO STA. 17+00 R	705412	TEMPORARY MULCH	704
173	SY	STA. 15+00 R TO STA. 17+00 R	705500	TURFGRASS ESTABLISHMENT	705
173	SY	STA. 15+00 R TO STA. 17+00 R	709100	TYPE A SOIL STABILIZATION MATTING	709
129	LF	STA. 15+00 R TO STA. 17+00 R	715050	TREE ROOT PRUNING	715



LANDSCAPE LEGEND

- TURFGRASS ESTABLISHMENT
- SHA ROW FOREST REMOVAL 950.3 SF OR 0.02 ACRES
- TREE ROOT PRUNING

LP-01

20' 0 20' 40'
SCALE: 1" = 20'

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 045 of 102

Monday, October 05, 2020 AT 01:50 PM
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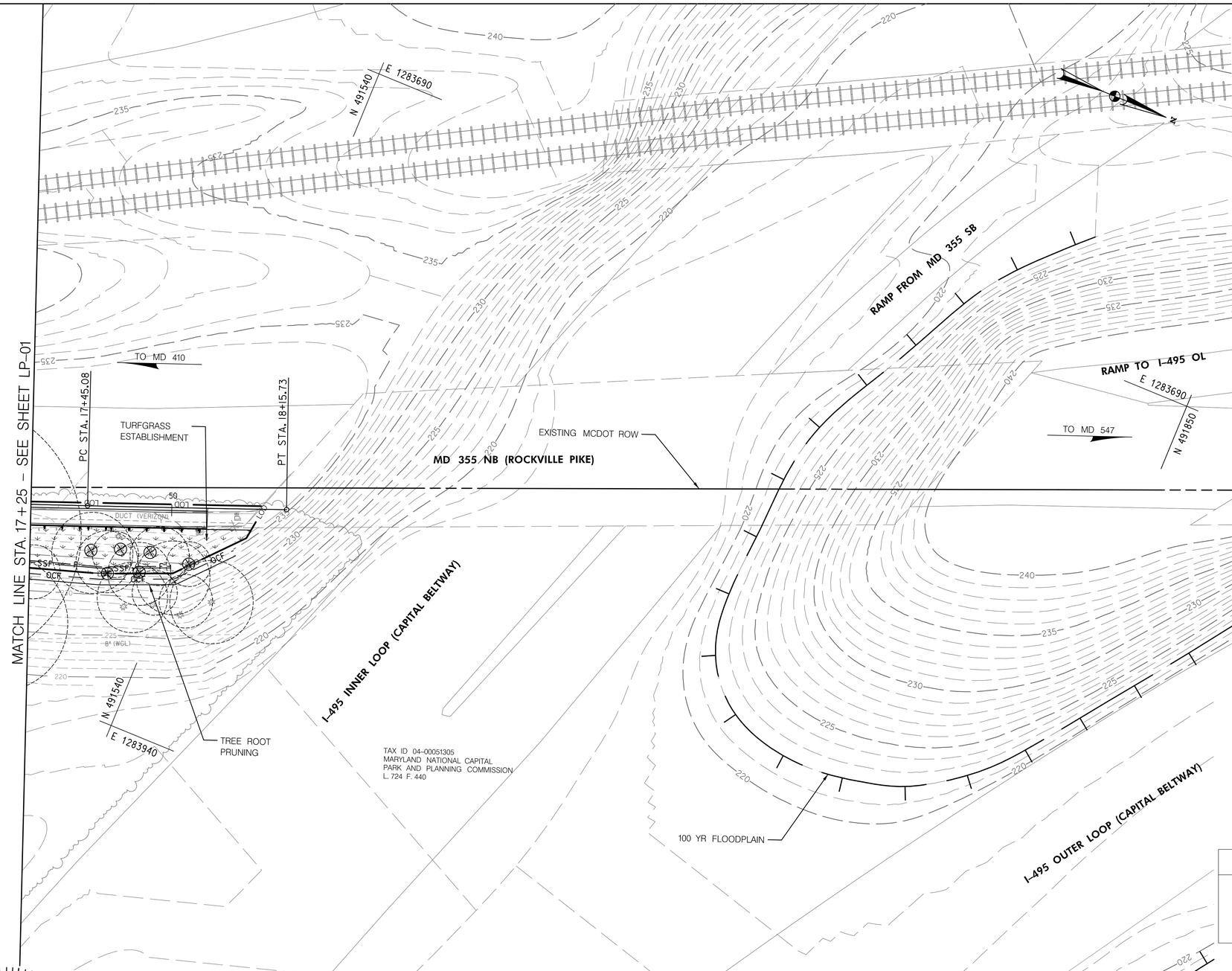
LANDSCAPE 700 ITEMS - THIS SHEET ONLY					
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
130	SY	STA. 17+25 TO STA. 18+10 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
118	SY	STA. 17+25 TO STA. 18+10 R	705405	TEMPORARY SEED	704
118	SY	STA. 17+25 TO STA. 18+10 R	705412	TEMPORARY MULCH	704
118	SY	STA. 17+25 TO STA. 18+10 R	705500	TURFGRASS ESTABLISHMENT	705
118	SY	STA. 17+25 TO STA. 18+10 R	709100	TYPE A SOIL STABILIZATION MATTING	709
93	LF	STA. 17+25 TO STA. 18+10 R	715050	TREE ROOT PRUNING	715



LANDSCAPE LEGEND

TURFGRASS ESTABLISHMENT

TREE ROOT PRUNING

LP-02

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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810 Gleneagles Court, Suite 300
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 046 of 102

Monday, October 05, 2020 AT 01:50 PM
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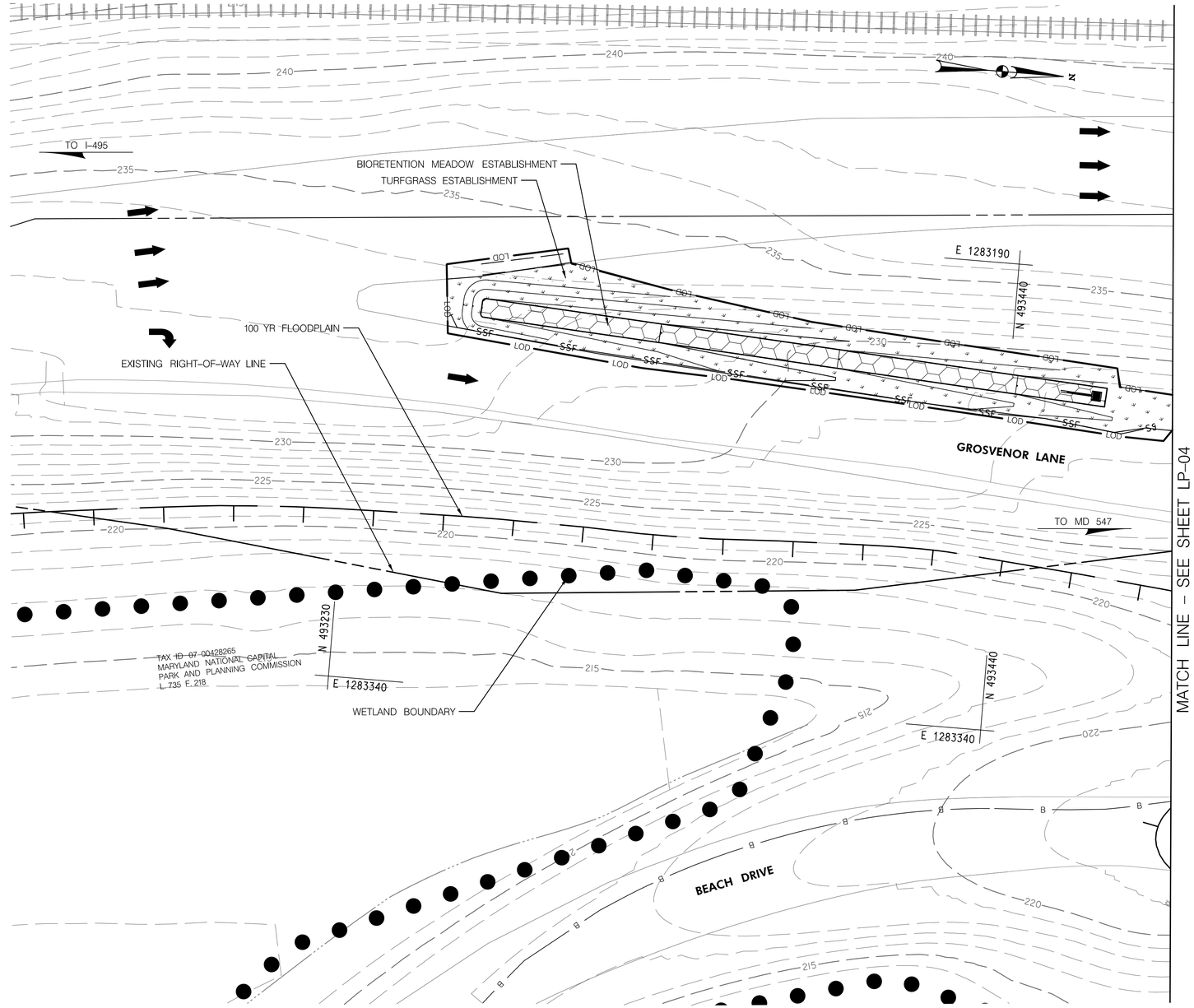
LANDSCAPE 700 ITEMS - THIS SHEET ONLY					
QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
451	SY	SWM SWALE LOD AS SHOWN	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
410	SY	SWM SWALE LOD AS SHOWN	705405	TEMPORARY SEED	704
410	SY	SWM SWALE LOD AS SHOWN	705412	TEMPORARY MULCH	704
410	SY	SWM SWALE LOD AS SHOWN	705500	TURFGRASS ESTABLISHMENT	705
410	SY	SWM SWALE LOD AS SHOWN	709100	TYPE A SOIL STABILIZATION MATTING	709
135	SY	SWM SWALE LOD AS SHOWN	709110	TYPE B SOIL STABILIZATION MATTING	709
135	SY	SWM SWALE LOD AS SHOWN	707415	BIORETENTION MEADOW ESTABLISHMENT	700.02



LANDSCAPE LEGEND

TURFGRASS ESTABLISHMENT

BIORETENTION MEADOW ESTABLISHMENT

20' 0 20' 40'
SCALE: 1" = 20'

LP-03

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

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810 Gleneagles Court, Suite 300
Baltimore, MD 21286
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BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 047 of 102

Monday, October 05, 2020 AT 01:51 PM
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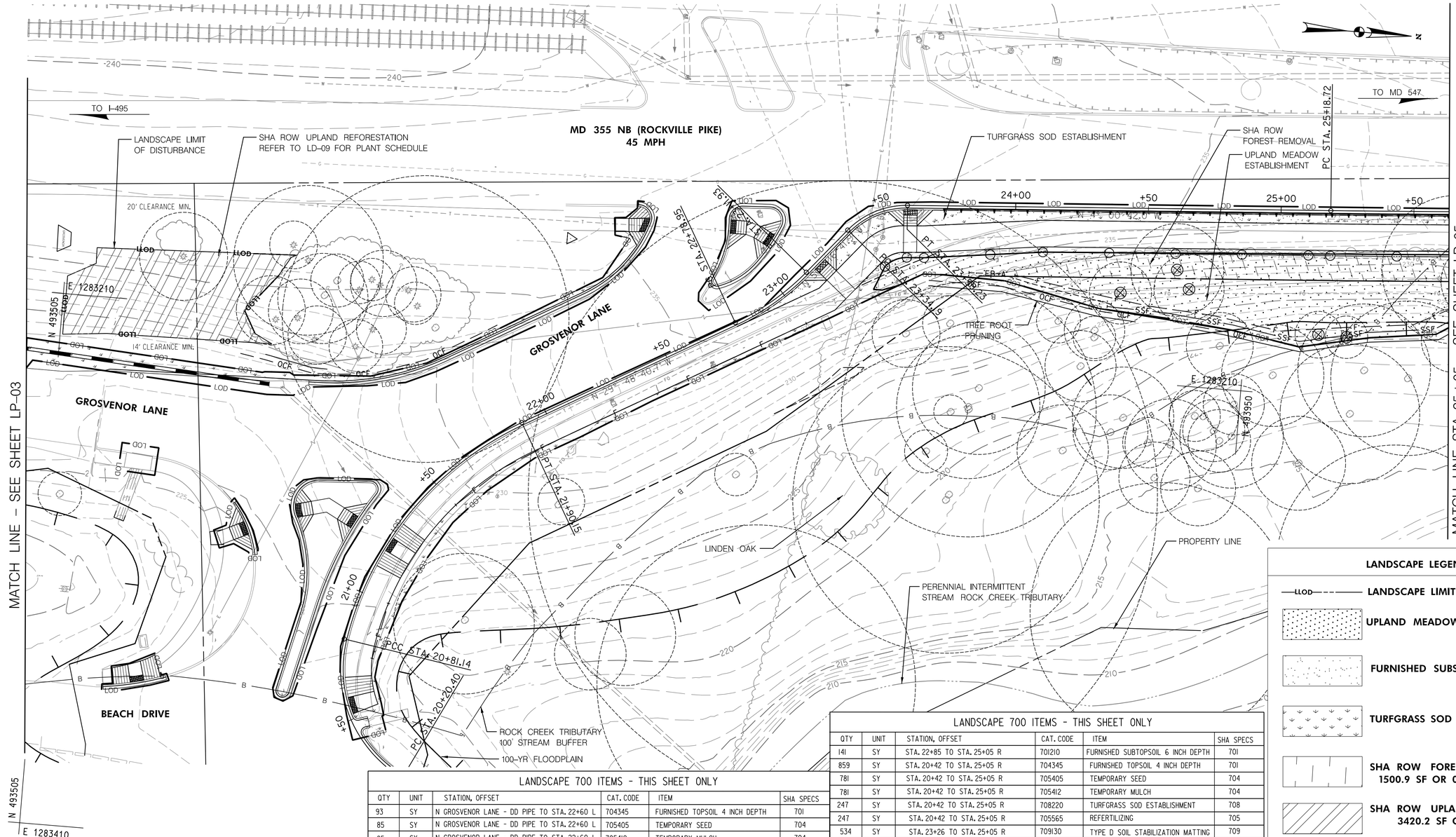

NOTE:
LANDSCAPE LIMIT OF DISTURBANCE (LLOD) DELINEATED FOR LANDSCAPE ACTIVITIES BEYOND THE LIMIT OF DISTURBANCE (LOD). THE LLOD IS 2,366 SQUARE FEET AS SHOWN. THE LLOD WORK TO INCLUDE INSTALLATION OF TREES AND SHRUBS IN INDIVIDUAL PLANTING PITS. GRADING, CLEARING AND GRUBBING, PLACEMENT OF SOIL LAYERS OR STORAGE OF EQUIPMENT OR MATERIALS ARE PROHIBITED IN THE LLOD.

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
93	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705405	TEMPORARY SEED	704
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705412	TEMPORARY MULCH	704
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	708220	TURFGRASS SOD ESTABLISHMENT	708
85	SY	N GROSVENOR LANE - DD PIPE TO STA. 22+60 L	705565	REFERTILIZING	705
100	LF	N GROSVENOR LANE - EX. TREES L	715050	TREE ROOT PRUNING	715

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
141	SY	STA. 22+85 TO STA. 25+05 R	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
859	SY	STA. 20+42 TO STA. 25+05 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
781	SY	STA. 20+42 TO STA. 25+05 R	705405	TEMPORARY SEED	704
781	SY	STA. 20+42 TO STA. 25+05 R	705412	TEMPORARY MULCH	704
247	SY	STA. 20+42 TO STA. 25+05 R	708220	TURFGRASS SOD ESTABLISHMENT	708
247	SY	STA. 20+42 TO STA. 25+05 R	705565	REFERTILIZING	705
534	SY	STA. 23+26 TO STA. 25+05 R	709130	TYPE D SOIL STABILIZATION MATTING	709
534	SY	STA. 23+26 TO STA. 25+05 R	707400	UPLAND MEADOW ESTABLISHMENT	707
185.0	LF	STA. 23+80 TO STA. 25+05 R	715050	TREE ROOT PRUNING	715
0.08	AC	LLOD (3420.2 SF)	710150	UPLAND REFORESTATION TREE, SHRUB, AND PERENNIAL INSTALLATION & ESTB.	710
1	LS				

LANDSCAPE LEGEND

- LANDSCAPE LIMIT OF DISTURBANCE
- UPLAND MEADOW ESTABLISHMENT
- FURNISHED SUBSOIL 6" DEPTH
- TURFGRASS SOD ESTABLISHMENT
- SHA ROW FOREST REMOVAL 1500.9 SF OR 0.03 ACRES
- SHA ROW UPLAND REFORESTATION 3420.2 SF OR 0.08 ACRES
- TREE ROOT PRUNING

LP-04

20' 0 20' 40'
SCALE: 1" = 20'

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 048 of 102

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

Monday, October 05, 2020 AT 01:52 PM
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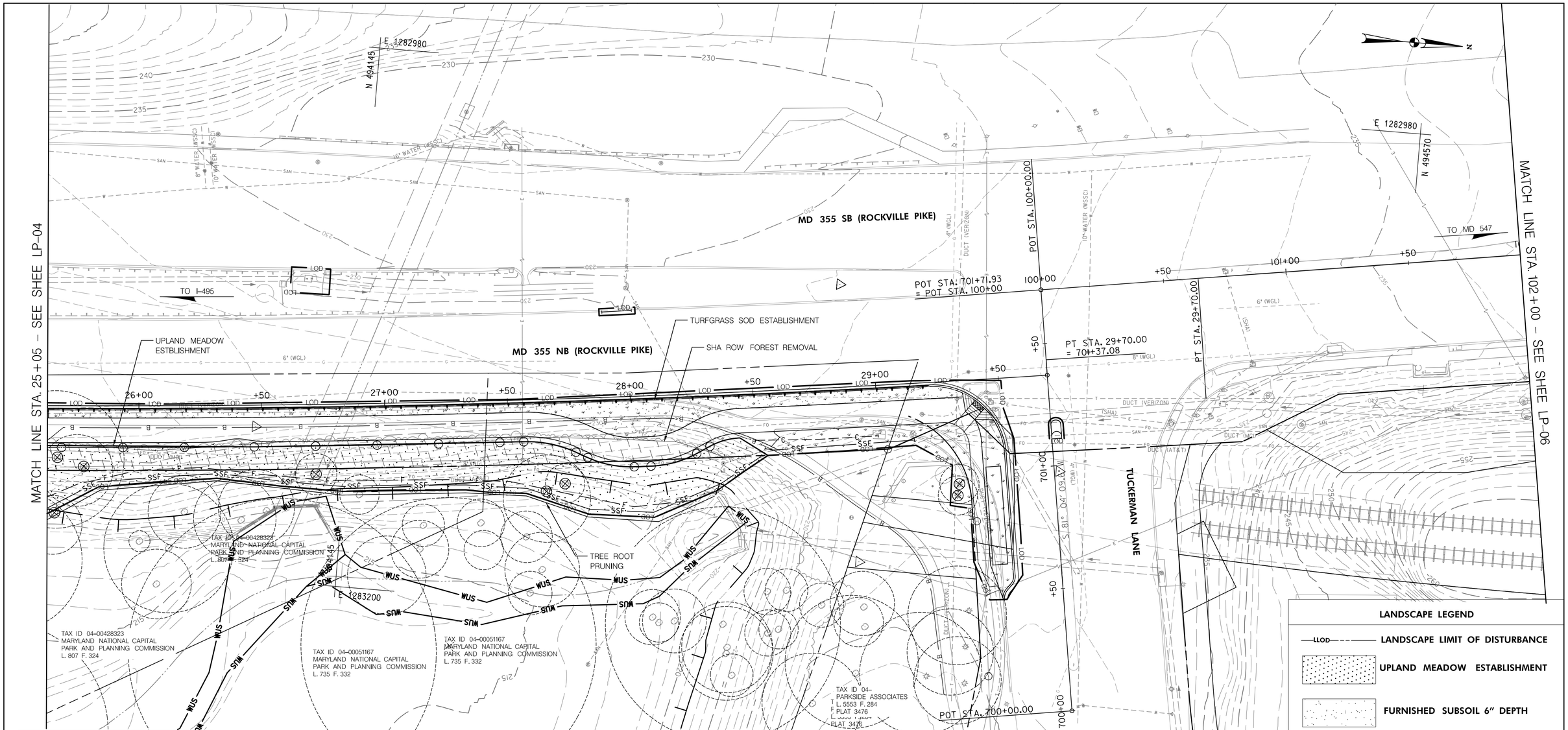

LP-05

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
235	SY	STA. 25+05 TO STA. 29+50 R	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
944	SY	STA. 25+05 TO STA. 29+50 R	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
858.0	SY	STA. 25+05 TO STA. 29+50 R	705405	TEMPORARY SEED	704
858.0	SY	STA. 25+05 TO STA. 29+50 R	705412	TEMPORARY MULCH	704
269	SY	STA. 25+05 TO STA. 29+50 R	708220	TURFGRASS SOD ESTABLISHMENT	708
269	SY	STA. 25+05 TO STA. 29+50 R	705565	REFERTILIZING	705
590	SY	STA. 25+05 TO STA. 28+50 R	709130	TYPE D SOIL STABILIZATION MATTING	709
590	SY	STA. 25+05 TO STA. 28+50 R	707400	UPLAND MEADOW ESTABLISHMENT	707
300	LF	STA. 25+05 TO STA. 28+50 R	715050	TREE ROOT PRUNING	715

20' 0 20' 40'
SCALE: 1" = 20'

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 049 of 102

Monday, October 05, 2020 AT 01:52 PM
U:\2026011401\27 BPPA - Grosvenor Project\700 CADD\700 Sheet\pLP-P005_Grosvenor.dgn

MATCH LINE STA. 102+00 – SEE SHEET LP–05

MATCH LINE STA. 108+00 – SEE SHEET LP–07

E 1282880

N 494730

MD 355 SB (ROCKVILLE PIKE)
SPEED LIMIT: 45MPH

102+00 +50 103+00 +50 104+00 +50 105+00 +50 106+00 +50 107+00 +50

N 8° 54' 32.0" W

TO I–495

TO MD 547

MD 355 NB (ROCKVILLE PIKE)

N 494730

E 1283085

TAX ID 04-03309261
WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY
L. F.

NO WORK ON THIS SHEET

N 495070

E 1283085

LP-06

NO LANDSCAPE ITEMS THIS SHEET

20' 0 20' 40'
SCALE: 1" = 20'

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA
Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
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Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 050 of 102

Monday, October 05, 2020 AT 01:54 PM
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MATCH LINE STA. 108+00 – SEE SHEET LP-06

E 1282780
N 495335

MD 355 SB (ROCKVILLE PIKE)

108+00 +50 109+00 +50 110+00 +50 111+00 +50 112+00 +50 113+00 +50

TO I-495

TO MD 547

MD 355 NB (ROCKVILLE PIKE)
SPEED LIMIT: 45MPH

N 495335
E 1283005

TAX ID 04-03309261
WASHINGTON METROPOLITAN AREA
TRANSIT AUTHORITY
L. F.

NO WORK ON THIS SHEET

N 495705
E 1283005

LP-07

NO LANDSCAPE ITEMS THIS SHEET

20' 0 20' 40'
SCALE: 1" = 20'

LANDSCAPE ARCHITECT
3199
KATHLEEN RENDEL DAHILL
STATE OF MARYLAND

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA
Bicycle and Pedestrian Priority Areas

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DESIGNED BY: MK	DATE: OCTOBER, 2020
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DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief,
Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

GROSVENOR IMPROVEMENTS
LANDSCAPE & TREE PROTECTION PLAN

SCALE: 1"=20'

SHEET 052 of 102

Monday, October 05, 2020 AT 01:54 PM
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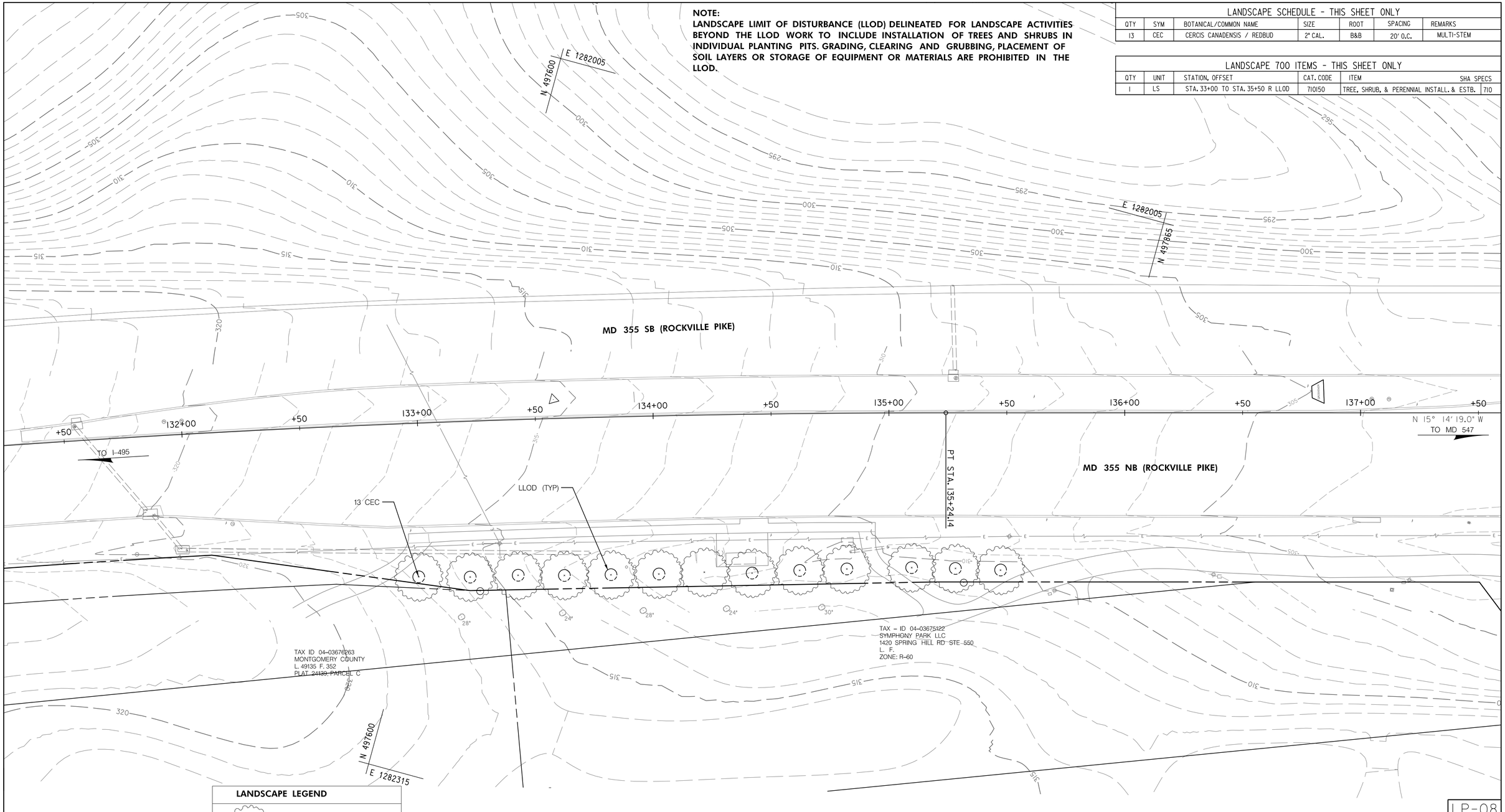
NOTE:
LANDSCAPE LIMIT OF DISTURBANCE (LLOD) DELINEATED FOR LANDSCAPE ACTIVITIES BEYOND THE LLOD WORK TO INCLUDE INSTALLATION OF TREES AND SHRUBS IN INDIVIDUAL PLANTING PITS. GRADING, CLEARING AND GRUBBING, PLACEMENT OF SOIL LAYERS OR STORAGE OF EQUIPMENT OR MATERIALS ARE PROHIBITED IN THE LLOD.

LANDSCAPE SCHEDULE - THIS SHEET ONLY

QTY	SYM	BOTANICAL/COMMON NAME	SIZE	ROOT	SPACING	REMARKS
13	CEC	CERCIS CANADENSIS / REDBUD	2" CAL.	B&B	20' O.C.	MULTI-STEM

LANDSCAPE 700 ITEMS - THIS SHEET ONLY

QTY	UNIT	STATION, OFFSET	CAT. CODE	ITEM	SHA SPECS
1	LS	STA. 33+00 TO STA. 35+50 R LLOD	710150	TREE, SHRUB, & PERENNIAL INSTALL. & ESTB.	710



LANDSCAPE LEGEND

ORNAMENTAL TREES

20' 0 20' 40'
SCALE: 1" = 20'

LP-08

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MK	DATE: OCTOBER, 2020
DRAWN BY: MK	DATE: OCTOBER, 2020
CHECKED BY: DHM III	DATE: OCTOBER, 2020
DRAWING NO.:	DATE:

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

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7.1 LANDSCAPE NOTES. LANDSCAPE CONSTRUCTION WITHIN THE RIGHT OF WAY OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) AND WITHIN SHA PROPERTY, EASEMENT AREAS AND LANDS TO BE CONVEYED TO SHA/MTA SHALL CONFORM TO THESE NOTES. FOR GUIDANCE REGARDING DESIGN MODIFICATIONS DURING CONSTRUCTION, REFER TO SHA LANDSCAPE DESIGN GUIDE, SHA LANDSCAPE ESTIMATING MANUAL, AND SHA ENVIRONMENTAL GUIDE FOR ACCESS AND DISTRICT PERMIT APPLICANTS AT HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=25

7.2 SHA STANDARD SPECIFICATIONS. LANDSCAPE CONSTRUCTION SHALL CONFORM TO SECTIONS 701 THROUGH 716, AND LANDSCAPE MATERIALS SHALL CONFORM TO SECTION 920 OF THE MOST RECENT REVISION OF SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, INCLUDING ALL REVISIONS AND SUPPLEMENTS, AND AS SPECIFIED IN THESE NOTES. THESE REQUIREMENTS SHALL SUPERSEDE ALL OTHER SPECIFICATIONS FOR WORK ON SHA PROPERTY. ALL SHA SPECIFICATIONS FOR LANDSCAPING AND LANDSCAPE MATERIALS PUBLISHED IN 2008 HAVE BEEN REPLACED. CURRENT SPECIFICATIONS ARE A HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=44

7.3 EROSION AND SEDIMENT CONTROL MANAGER (ESCM). SOIL DISTURBANCE SUCH AS GRADING, EXCAVATION, SOIL PLACEMENT OR OTHER ACTIVITIES THAT INVOLVE SOIL DISTURBANCE SHALL BE SUPERVISED BY AN ESCM MANAGER WITH A VALID "SHA YELLOW CARD" IN CONFORMANCE WITH SHA STANDARD SPECIFICATIONS AND ANY APPLICABLE EROSION AND SEDIMENT CONTROL PERMIT.

7.4 SHA STANDARD DETAILS FOR TREES, SHRUBS AND PLANTING BEDS. THE INSTALLATION OF TREES, SHRUBS, PLANTING BEDS AND OTHER LANDSCAPE CONSTRUCTION RELATED TO SECTION 710 OF THE SHA STANDARD SPECIFICATIONS SHALL CONFORM TO THE "SHA BOOK OF STANDARDS FOR HIGHWAY & INCIDENTAL STRUCTURES - CATEGORY 7" AT HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/TOCCAT7.ASP

7.5 TEMPORARY STABILIZATION SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 704 TO ENSURE THAT AREAS OF SOIL DISTURBANCE ARE PROTECTED FROM WIND, RAINFALL AND FLOWING WATER UNTIL PERMANENT STABILIZATION IS INSTALLED.

7.6 ROADWAY PAVEMENT REMOVAL. AREAS OF ROADWAY REMOVAL SHALL BE EXCAVATED TO REMOVED PAVEMENTS, AGGREGATE BASE, AND COMPACTED SOIL TO A MINIMUM DEPTH OF 10 INCHES BELOW THE PAVEMENT SURFACE OR AS NECESSARY TO REMOVE ALL MATERIAL UNSUITABLE FOR LANDSCAPING. THE EXCAVATION AREAS SHALL BE RESTORED WITH SUBSOIL AND TOPSOIL AS PART OF SOIL RESTORATION.

1. TEMPORARY MULCH, EITHER AS TEMPORARY STRAW MULCH OR TEMPORARY MATTING MULCH, SHALL BE INSTALLED AT THE END OF EACH WORKING DAY TO PROVIDE "SAME DAY STABILIZATION" UNLESS OTHER APPROVED STABILIZATION IS INSTALLED.
2. TEMPORARY STRAW MULCH SHALL BE INSTALLED ON AREAS AND SLOPES FLATTER THAN 4:1 TEMPORARY MATTING MULCH SHALL BE APPLIED ON SLOPES 4:1 AND STEEPER, AND TO AREAS WITIN CHANNELS.
3. TEMPORARY SEED SHALL BE INSTALLED IN LIEU OF TEMPORARY MULCH WHEN SOIL REDISTURBANCE IS EXPECTED MORE THAN 30 DAYS AFTER SOIL DISTURBANCE. THE REQUIRED APPLICATION RATE SHALL BE 100 LBS PER ACRE OF 37-0-0 (SCU) FERTILIZER.

7.7 EXCAVATION AND DEBRIS REMOVAL. DEBRIS RELATED TO THE DEMOLITION OF SIDEWALKS, DRIVEWAYS, CURBS, TREES, STUMPS, ROOTS, FENCING, PIPES, AND OTHER MATERIALS THAT MAY INTERFERE WITH LANDSCAPE INSTALLATION OR FUTURE MAINTENANCE SHALL BE EXCAVATED AS NECESSARY FOR THEIR COMPLETE REMOVAL AND DISPOSAL.

7.8 SOIL RESTORATION. AREAS OF PAVEMENT REMOVAL, EXCAVATION OR DRILLING IN LANDSCAPED AREAS SHALL REMOVE EXCAVATED DEBRIS AND RESTORE THE SUBGRADE WITH APPROVED SUBSOIL AND TOPSOIL PLACED IN CONFORMANCE WITH SECTION 701 OF THE SHA STANDARD SPECIFICATIONS.

1. A LAYER OF APPROVED TOPSOIL AT LEAST 4 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS FLATTER THAN 2:1 AND IN ALL CHANNELS PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
2. A LAYER OF APPROVED TOPSOIL AT LEAST 2 INCH DEPTH SHALL BE PLACED ON ALL DISTURBED AREAS 2:1 AND STEEPER PRIOR TO SEEDING, SODDING OR OTHER LANDSCAPING, UNLESS OTHERWISE SPECIFIED.
3. BIORETENTION SOIL MIX (BSM) AND OTHER MATERIALS INSTALLED IN CONJUNCTION WITH SPI 316 - STORMWATER FILTRATION FACILITIES AND SHA STORMWATER DETAILS SHALL BE INSTALLED IN CONFORMANCE WITH THE SHA LANDSCAPE NOTES AND LANDSCAPE PLANS. PLANT MATERIALS AND MULCH SHALL BE INSTALLED IN BSM IN CONFORMANCE WITH STORMWATER DETAILS, SECTION 710 OR OTHER SHA SPECIFICATIONS.

7.9 TURFGRASS SOD ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURBED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 708 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.

7.10 TURFGRASS ESTABLISHMENT SHALL BE PERFORMED IN ALL DISTURED AREAS, OR WITHIN THE AREAS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTION 705 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRE, AND NO FERTILIZER SHALL BE APPLIED FROM NOVEMBER 15 TO MARCH 1.

7.11 SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMATCE WITH SECTION 709 OF THE SAHA STANDARD SPECIFICATIONS, IN CONJUCTION WITH TRUFGRASS ESTABLISHMENT PER SECTION 705 OR MEADOW ESTABLISHMENT PER SECTION 707 AS FOLLOWS:

1. AREAS FLATTER THAN 6:1. TYPE A OR TYPE E MATTING MAY BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUCTION WITH TURFGRASS ESTABLISHMENT.
2. AREAS STEEEPER THAN 6:1 AND FLATTER THAN 4:1. TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDORMULCH BINDER IN CONJUCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.
3. CHANNELS, STORMWATER MANAGEMENT FACILITIES, AND SLOPES 4:1 AND STEEPER TYPE A SOIL STABILIZATION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDR IN CONJUCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE.
4. IN AREA OF MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILLIZATION MATTING, THE MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.
5. IN HIGH VELOCITY CHANNELS WITH TURFGRASS ESTABLISHMENT, TYPE B SOIL STABILIZTION MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.

7.12 MEADOW ESTABLISHMENT OF SHRUB SEDDING ESTABLISHMENT SHALL BE PERFORMED IN AREAS AS INDICATED IN THE PLANS, IN CONFORMANCE WITH SECTIONS 706 AND 707 OF THE SHA STANDARD SPECIFICATIONS. THE REQUIRED APPLICATION RATE OF 20-16-12 FERTILIZER SHALL BE 200 LBS PER ACRES.

7.13 TREE PRESERVATION AREAS. TEMPORARY ORANGE CONSTRUCTION FENCE (TOCF) SHALL BE INSTALLED IN LOCATIONS DELINEATED ON THE PLANS IN CONFORMANCE WITH SECTION 120 OF THE SHA STANDARD SPECIFICATION TO PROTECT EXISTING TREES AND OTHER VEGETATION DURING CONSTRUCTION. AREAS WITHIN TOCF SHALL BE PROTECTED FROM ALL PROHIBITED AND RESTRICTED ACTIVITIES, AS SPECIFIED IN SECTION 120.

7.14 ROADSIDE TREE PERMIT. TREE REMOVAL, TREE INSTALLATION, TREE ROOT AND BRANCH PRUNING, AND OTHER REGULATED IMPACTS TO TREES IN THE SHA RIGHT OF WAY SHALL CONFORM TO THE REQUIREMENTS OF THE ROADSIDE TREE PERMIT (RTP) OF THE MARYLAND DEPARTMENT OF NATURAL RESOURCES, OR THE APPROVED FOREST CONSERVATION ACT PLAN OF THE LOCAL AUTHORITY.

1. A COPY OF THE RTP OR FCP SHALL BE SUBMITTED TO THE SHA OFFICE OF ENVIRONMENTAL DESIGN BEFORE WORK IS PERFORMED, AND A COPY OF THE RTP OR FCP
SHALL BE REPRODUCED IN THE PLANS OR BE IN POSSESSION OF THE APPLICANT AT THE PROJECT SITE WHEN THE PERMITTED WORK IS PERFORMED.
2. A MARYLAND LICENSED TREE EXPERT SHALL PERFORM THE SPECIFIED TREE OPERATIONS IN CONFORMANCE WITH THE SHA STANDARD SPECIFICATIONS AND ANSI A300 STANDARDS FOR TREE CARE OPERATIONS.

7.15 TREES AND OTHER PLANT MATERIAL INSTALLATION. TREES, SHRUBS, PERENNIALS, ANNUALS, BULBS, LANDSCAPE BEDS, BARK MULCH AND SIMILAR MATERIALS SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 710 AND 711 OF THE SHA STANDARD SPECIFICATIONS. TREE AND SHRUBS SHALL BE PRUNED AT THE TIME OF INSTALLATION TO ENSURE SIDEWALK CLEARANCE FOR PEDESTRIANS IS MAINTAINED TO A HEIGHT OF 8 FEET. NO TREE OR SHRUB SHALL BE INSTALLED WITHIN 3 FEET OF CURBS, SIDEWALKS, OR PAVEMENT EDGES.

7.22 TREE ROOT PRUNING SHALL BE PERFORMED ALONG THE LINE SHOWN ON THE PLANS IN CONFORMANCE WITH SECTION 715. TREE ROOT PRUNING SHALL BE COMPLETED BEFORE BEGINNING EXCAVATION OR OTHER CONSTRUCTION ADJACENT TO TREES TO BE PRESERVED.

UPLAND REFORESTATION PLANT SCHEDULE FOR MCDOT-ROW

UPLAND REFORESTATION PLANTINGS (UR)

OVERALL QTY. TREES / SHRUBS PER ACRE: 200 / 150
TOTAL TREES / SHRUBS PER ZONE: 11 / 9
TOTAL ZONE SIZE (ACRES): 0.05

QUANTITY	LD-05 QTY	DESCRIPTION		ROOT TYPE	MINIMUM CONTAINER SIZE [1]	SIZE OR HEIGHT	MAXIMUM SPACING	NOTES
		BOTANICAL NAME	COMMON NAME [3]					
60%		**OVERSTORY TREES 1.25"**						
2	2	*Quercus alba*	White Oak	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Quercus velutina*	Black Oak	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Liriodendron tulipifera*	Tuliptree	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
2	2	*Nyssa sylvatica*	Blackgum	CONT.	B&B	2" CAL.	20 FT. ON CENTER	Central Leader
30%		**UNDERSTORY TREES**						
1	1	*Cercis canadensis*	Eastern Redbud	CONT.	B&B	1.5" CAL	17 FT. ON CENTER	Multi-stem
1	1	*Amelanchier arborea*	Downy Serviceberry	CONT.	B&B	1.5" CAL	17 FT. ON CENTER	Tree form or multi-stem
10%		**EVERGREEN TREES 1.25"**						
1	1	*Pinus strobus*	White Pine	CONT.	B&B	6 FT. HT.	20 FT. ON CENTER	Central Leader
100% of 200		**SHRUBS 24" HT**						
3	3	*Hammemelis virginiana*	Witchhazel	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	
3	3	*Rhus glabra*	Smooth Sumac	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	Edge Planting
3	3	*Viburnum acerifolium*	Mapleleaf Viburnum	CONT.	#3	24 IN. HT.	5 FT. ON CENTER	

TABLE OF FOREST REMOVAL AND REFORESTATION

FOREST REMOVAL (CLEARING AND GRUBBING)
FOREST REMOVAL 5122.6 SF OR 0.12 ACRES
REFORESTATION (TREES, SHRUBS, AND PERENNIAL INSTALLATION AND ESTABLISHMENT)
REFORESTATION SHA ROW 2366 SF OR 0.054 ACRES

MASTER LANDSCAPE SCHEDULE

QTY	SYM	BOTANICAL/COMMON NAME	SIZE	ROOT	SPACING	REMARKS
13	CEC	CERCIS CANADENSIS / REDBUD	2" CAL.	B&B	20' O.C.	MULTI-STEM

MASTER LANDSCAPE 700 ITEMS

QTY	UNIT	CAT. CODE	ITEM	SHA SPECS
376	SY	701210	FURNISHED SUBTOPSOIL 6 INCH DEPTH	701
3003	SY	704345	FURNISHED TOPSOIL 4 INCH DEPTH	701
2731	SY	705405	TEMPORARY SEED	704
2731	SY	705412	TEMPORARY MULCH	704
601	SY	708220	TURFGRASS SOD ESTABLISHMENT	708
601	SY	705565	REFERTILIZING	705
1007	SY	705500	TURFGRASS ESTABLISHMENT	705
1092	SY	709100	TYPE A SOIL STABILIZATION MATTING	709
135	SY	709110	TYPE B SOIL STABILIZATION MATTING	709
1124	SY	709130	TYPE D SOIL STABILIZATION MATTING	709
1124	SY	707400	UPLAND MEADOW ESTABLISHMENT	707
135	SY	707415	BIORETENTION MEADOW ESTABLISHMENT	700.02
1055	LF	715050	TREE ROOT PRUNING	715
1	LS	710150	TREE, SHRUB, & PERENNIAL INSTALL. & ESTB.	710

LANDSCAPE ARCHITECT 3199 KATHLEEN RENDEL DAHILL STATE OF MARYLAND

20' 0 20' 40'
SCALE: 1" = 20'

Stantec
810 Gleneagles Court, Suite 300
Baltimore, MD 21286
www.stantec.com

BPPA Bicycle and Pedestrian Priority Areas

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RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

LP-09

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
MONTGOMERY COUNTY, MARYLAND

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