MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

C. I. P. PROJECT NO. 507017

SHA TRACKING NO. 19-AP-MO-025-XX

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 check the applicable exemption category below.

Total Property Area	Total Disturbed Area
ROW square feet	52,916 square feet

Shade Trees Required	Shade Trees Proposed to be Planted
21	0

Fee in Lieu (Trees Required – Trees Planted) x $250	$ 5,250

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) × 15

EXEMPTION CATEGORIES:

☐ 55-5(a) any activity that is subject to Article II of Chapter 22A;
☐ 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
☐ 55-5(f) any activity conducted by the County Parks Department;
☐ 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
☐ 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
☐ 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☐ OTHER: Specify per Section 55-5 of the Code.

RELATED REQUIRED PERMITS

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

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

TYPE OF PERMIT	REQD	NOT REQD	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain District		X			
WATERWAYS/WETLAND(S):		X			
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Quality Certification		X			
MDE Dam Safety		X			
* DPS Roadside Trees Protection Plan	X		MCDOT ARBORIST APPROVED	Approval Date 7-14-2021	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED 6-14-2022
FEMA LOMR (Required Post Construction)		X			
OTHERS (Please List): SHA	X		19APMO025XX		
WSSC	X		21RMS8736A		

* A copy of the approved Roadside Trees Protection Plan must be delivered to the sediment control inspector at the preconstruction meeting.

RECORD DRAWING CERTIFICATION

A record set of approved Sediment Control/Stormwater Management plans must be maintained on-site at all times. In addition to stormwater management items, these plans must include the number and location of all trees proposed to be planted to comply with the Tree Canopy Law. Any approved modifications or deletions of stormwater practices or tree canopy plantings or information must be shown on this record set of plans and on the Tree Canopy Requirements table. Upon completion of the project, this record set of plans, including hereon this signed Record Drawing Certification, must be submitted to the MCDPS inspector. In addition to this Record Drawing Certification, a formal Stormwater Management As-Built submission [X] **is required** [ ] **is not required** for this project.

If this project is subject to a **Stormwater Management Right of Entry and Maintenance Agreement, that document is recorded in Montgomery County Land Records at:**

Liber N/A **Folio** N/A. This Record Drawing will serve as referenced in the recorded document.

"This record drawing accurately and completely represents the stormwater management practices and tree canopy plantings as they were constructed or planted. All stormwater management practices were constructed per the approved Sediment Control / Stormwater Management plans or subsequent approved revisions."

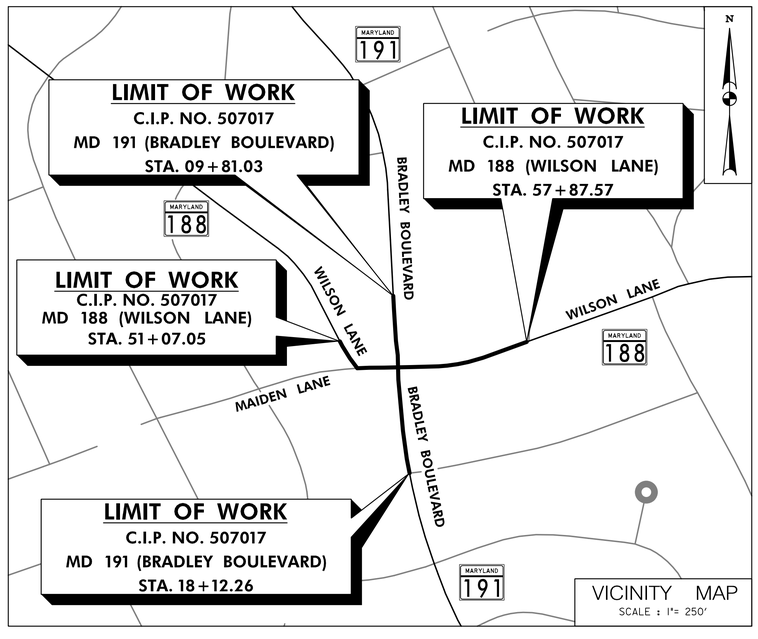
N/A
Owner/Developer Signature

Date

FIELD CHECK OF RECORD DRAWING BY MCDPS INSPECTOR: INITIALS: _____ DATE: _____

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW	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 any 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 uphill or downhill properties.
REVIEWED DATE	REVIEWED DATE	
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	SMALL LOT DRAINAGE APPROVAL	287056 SEDIMENT CONTROL PERMIT NO.
	N/A: [X] OR	285896 SM. FILE NO. STORMWATER MANAGEMENT:
REVIEWED DATE	REVIEWED DATE	
MCDPS 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.	

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com



PROJECT LENGTH = 0.15 MILES

DATUM: NAD 83(91 Horizontal
NAVD 88 Vertical

SHA STANDARDS

THE FOLLOWING, BUT NOT LIMITED TO, SHA STANDARDS ARE REQUIRED FOR THIS PROJECT:

MD-104.01-28 - STAGGED ROADWAY CONSTRUCTION
MD-104.02-10 - FLAGGING OPERATION / 2-LANE, 2-WAY EQUAL/LESS THAN 40 MPH
MD-104.02-14 - INTERSECTION FLAGGING OPERATION 2-LANE, 2-WAY EQUAL/LESS THAN 40 MPH
MD-104.06-09A - PED AND CURB-LANE CONTROL/MULTILANE UNDIV. SPEED LESS THAN OR EQUAL 40 MPH
MD-374.31 - STANDARD COG INLETS 5', 10', 15' & 20'
MD-374.62/01 - PRECAST OR CAST IN PLACE CIRCLUAR COG INLETS 5', 10', 15', & 20' AND CHART
MD-374.70 - PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM
MD-374.73 - PRECAST STANDARD TYPE S INLET SINGLE GRATE
MD-384.01 - 48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES
MD-384.03 - 60" DIAMETER PRECAST MANHOLE FOR 27" TO 36" PIPES
MD-620.02 - STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
MD-655.40 - DETECTABLE WARNING SURFACES
MD-801.01-01 - SIGNAL STRUCTURE FOUNDATIONS
MD-812.05-01 - WOOD SIGN SUPPORTS FOUNDATIONS AND BREAKAWAY FEATURES
MD-812.05-02 - WOOD SIGN SUPPORTS SIGN MOUNTING

FOR ALL STANDARDS REFERRED TO ON THE PLAN THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS FOR THE MOST UP TO DATE VERSIONS. THE BOOK OF STANDARDS CAN BE ACCESSED AT: http://apps.roads.maryland.gov/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/ohd/bookstd/index.asp
ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCE STANDARDS AT THE TIME OF CONSTRUCTION AND THE CONTRACTORS IFB.

Dan Sanayi
DAN SANAYI, SECTION CHIEF
DIVISION OF TRAFFIC
ENGINEERING AND OPERATIONS
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD. 20878
240-777-2131
Yazdan.Sanayi@montgomerycountymd.gov

7/22/22
DATE

INDEX OF SHEETS

GENERAL NOTES

1. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS OF THE MARYLAND STATE HIGHWAY ADMINISTRATION, MONTGOMERY COUNTY, AND THE WASHINGTON SUBURBAN SANITARY COMMISSION.
2. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
3. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
4. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.
5. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATIONS AND ELEVATIONS OF THE LINES BY DIGGING TEST PITS BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCES ARE LESS THAN SHOWN OR SIX (6) INCHES, WHICHEVER IS LESS, CONTACT MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR AND THE APPROPRIATE UTILITY OWNER BEFORE PROCEEDING WITH CONSTRUCTION.
6. REPAIRS TO UTILITIES OR PROPERTY DAMAGE AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
7. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.
8. CLEARING IS TO BE LIMITED TO THE "LIMIT OF DISTURBANCE" AS SHOWN ON THE PLANS.
9. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
10. ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MDE "2011 STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", PRIOR TO FINAL VEGETATIVE STABILIZATION
11. ALL DISTURBED AREAS TO BE STABILIZED PER MDE REQUIREMENTS.
12. HORIZONTAL DATUM: MSHA, NAD 83/91 VERTICAL DATUM: NAVD 88

DRAINAGE STATEMENT

I understand that DPS approval of this sediment control/stormwater management plan is for demonstrated compliance with required environmental runoff treatment standards. This DPS sediment control/stormwater management plan approval does not relieve me of professional responsibility. I have analyzed the proposed design for sediment control permit no. _____ and hereby state that, based upon my background, training and experience, I have determined that the proposed improvements shown on this plan meet relevant laws and regulations. I further acknowledge that I have analyzed the post development drainage patterns for this project from the standpoint of my responsibilities under current Maryland Law and have determined that if permission is required from adjacent property owners, it has been obtained and copies of those permissions have been made available to DPS.

Elizabeth T. Kanner
Engineer's Signature

Date

ELIZABETH TANE KANNER, PE
Printed Name

GT-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. 35321, EXPIRATION DATE: JANUARY 6, 2024.

STATE OF MARYLAND
KEITH DAVID YOUNG
No. 35321
PROFESSIONAL ENGINEER
7/22/22

ABBREVIATIONS

AASHTO ..... American Association of State Highway Transportation Officials
ADT ..... Average Daily Traffic
AHD ..... Ahead
APPROX. ..... Approximate
℄ or ℄ ..... Baseline
BK ..... Back ⁄ Book
BIT. ..... Bituminous
B.C. ..... Bituminous Concrete
B.M. ..... Bench Mark
BOT. ..... Bottom
C.C. ..... Center of Curve
CAP ..... Corrugated Aluminum Pipe
CAPA ..... Corrugated Aluminum Pipe Arch
CATV ..... Cable Television
C.B.R. ..... California Bearing Ratio
℄ or ℄ ..... Centerline
CL. ..... Class
CLF ..... Chainlink Fence
CMP ..... Corrugated Metal Pipe
C.O. ..... Cleanout
COMB. ..... Combination
CONC. ..... Concrete
CONSTR. ..... Construction
COR. ..... Corner
CORR. ..... Correction
CPP–S ..... Corrugated Polyethylene Pipe – Type 'S'
CSP ..... Corrugated Steel Pipe – Aluminized Type 2
CSPA ..... Corrugated Steel Pipe Arch – Aluminized Type 2
DC ..... Degree of Curve
D.H.V. ..... Design Hourly Volume
D.I. ..... Drop Inlet
DIA. ..... Diameter
D.O. ..... Double Opening
E ..... East
E ..... Electric
E ..... External Distance
EA ..... Each
EB ..... Eastbound
ELEV ..... Elevation
ES ..... End Section
EX or EXIST. ..... Existing
FT ..... Feet
F or FL ..... Flowline
F.B.D. ..... Flat Bottom Ditch
F.H. ..... Fire Hydrant
FWD. ..... Forward
G ..... Gas
G.V. ..... Gas Valve
H.B. ..... Handbox
HDPE ..... High Density Polyetheylene
HDWL. ..... Headwall
HERCP. ..... Horizontal Ellipitical Reinforced Concrete Pipe
HP ..... High Point
IN ..... Inch
I.S.T. ..... Inlet Sediment Trap
INV. ..... Invert
J.B. ..... Junction Box
K ..... K Inlet
L ..... Length
LF ..... Linear Feet
L.L. ..... Liquid Limit
LP ..... Low Point
L.P. ..... Light Pole
LT. ..... Left
MAC. ..... Macadam
M.C. ..... Moisture Content
MAX. ..... Maximum
M.D.D. ..... Maximum Dry Content
MOD. ..... Modified
MIN. ..... Minimum
N ..... North
NB ..... Northbound
NE ..... Northeast
N.P. ..... Non–Plastic
O.C. ..... On Center
OHE ..... Overhead Electric
O.M. ..... Optimum Moisture
PAV'T. ..... Pavement
PC ..... Point of Curvature
PCC ..... Point of Compound Curvature
P⁄C ..... Point of Crown
P⁄GE ..... Profile Grade Elevation
P.G.E. ..... Profile Ground Elevation
P.G.L. ..... Profile Grade Line
P⁄GL ..... Profile Ground Line
P⁄R ..... Point of Rotation
P.I. ..... Plasticity Index
PI ..... Point of Intersection
POC ..... Point On Curve
POT ..... Point On Tangent
PPWP ..... Polyvinyl Chloride Profile Wall Pipe
PROP ..... Proposed
PRC ..... Point of Reverse Curve
PT ..... Point
PT ..... Point of Tangency
PVC ..... Point of Vertical Curve
PVC ..... Polyvinyl Chloride
PVI ..... Point of Vertical Intersection
PVRC ..... Point of Vertical Reverse Curve
PVT ..... Point of Vertical Tangency
R ..... Radius
R.F. ..... Rock Fragments
RT ..... Right
RW or R⁄W ..... Right of Way
RCP ..... Reinforced Concrete Pipe
RCPP ..... Reinforced Concrete Pressure Pipe
R.Q.D. ..... Rock Quality Designation
R.M. ..... Rootmat
S ..... South
SAN. ..... Sanitary Sewer
SB or S⁄B ..... Southbound
S.D. ..... Storm Drain
S.D.D. ..... Surface Drain Ditch
S℄E ..... Super Elevation
SF ..... Silt Fence
SF ..... Square Feet
SHT. ..... Sheet
SPP ..... Structural Steel Plate Pipe
SPPA ..... Structural Steel Plate Pipe Arch
S.P.T. ..... Standard Penetration Testing
SRP ..... Steel Spiral Rib Pipe – Aluminized Type 2
SRPA ..... Steel Spiral Rib Pipe Arch – Aluminized Type 2
SSD ..... Stopping Sight Distance
SSF ..... Super Silt Fence
STD. ..... Standard
STA. ..... Station
SO. ..... Single Opening
SY ..... Square Yards
SWM ..... Stormwater Management
T ..... Tangent
T ..... Telephone
T.C. ..... Top of Cover
T.G. ..... Top of Grate
T or TL ..... Traverse Line
T.M. ..... Top of Manhole
TRAV. ..... Traverse
TS ..... Temporary Swale
T.S. ..... Top of Slab
T.S. ..... Topsoil
TYP. ..... Typical
U.D. ..... Under Drain
U.G. ..... Underground
U.P. ..... Utility Pole
USDA ..... United States Department of Agriculture
VCL ..... Vertical Clearance
V.C.L. ..... Vertical Curve Length
W ..... Water
W ..... West
WB ..... Westbound
WB ..... Wetland Buffer
W.M. ..... Water Meter
W.S. ..... Wrapped Steel
WUS ..... Waters of the United States
W.V. ..... Water Valve

CONVENTIONAL SIGNS
(SAMPLES)

PROPOSED MEDIAN BARRIER
ELECTRICAL HAND BOX – SIGNALS — H.B.
FLOW LINE
STATE, COUNTY OR CITY LINES
PROPOSED TRAFFIC BARRIER
EXISTING TRAFFIC BARRIER
PROPOSED FENCE LINE
EXISTING FENCE LINE
RIGHT OF WAY LINE
EXISTING ROADWAY
RAILROAD
BASE LINE OR SURVEY LINE — 31 +50 32
FIRE HYDRANT — F.H.
HISTORIC BOUNDARY — H
WETLAND BOUNDARY

PROPOSED PIPE / CULVERT
EXISTING PIPE / CULVERT
EXISTING DROP INLET
UTILITY POLE
WETLAND
WETLAND BUFFER — B
WATERS OF THE U.S. — WUS OR
HEDGE / TREE LINE
BUSH / TREE
CONIFEROUS TREE
GROUND ELEVATION — DATUM LINE 173.6
GRADE ELEVATION — DATUM LINE 20.22

STANDARD SYMBOLS

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

GN-01

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
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BY: misnerka –

"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. 33962
EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

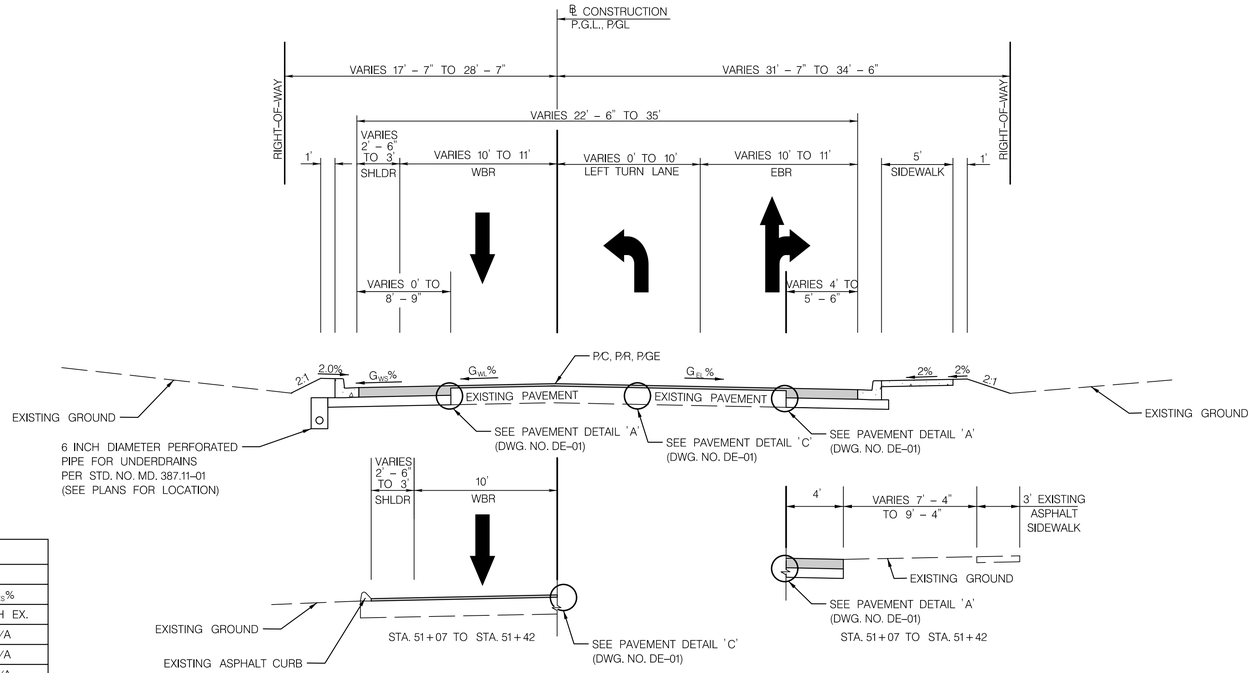
Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ABBREVIATIONS, CONVENTIONAL SIGNS, & STANDARD SYMBOLS
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: N.T.S.

PLOTTED: 7/21/2022
FILE: I:\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pGN-N001_BradleyWilson.dgn

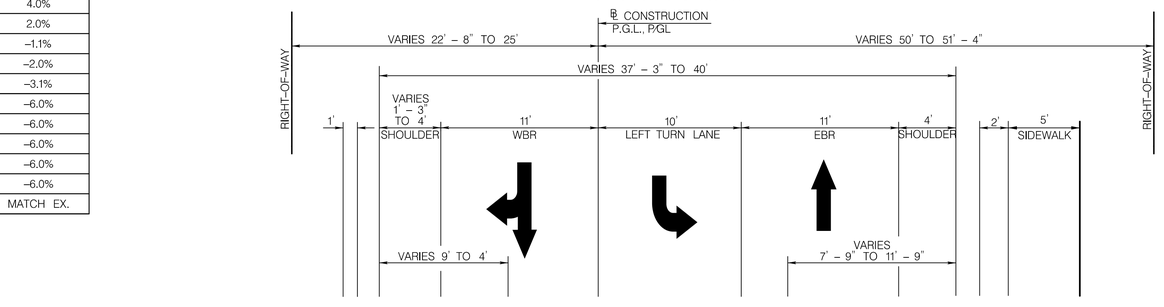


TYPICAL SECTION – MD 188 (WILSON LANE)

N.T.S.

STA. 51+07 TO STA. 53+50

MD 188 – SLOPE TRANSITION TABLE				
STATION	W.B.R.		E.B.R.	
	G_{WS}%	G_{WL}%	G_{EL}%	G_{ES}%
51+07.0	MATCH EX.	MATCH EX.	MATCH EX.	MATCH EX.
51+42.5	–6.0%	–4.2%	1.2%	N /A
51+55.8	–6.0%	–5.0%	2.0%	N /A
51+72.5	–6.0%	–6.0%	2.0%	N /A
52+80.0	–6.0%	–6.0%	2.0%	N /A
53+30.0	–4.0%	–4.0%	4.0%	N /A
53+80.0	–4.0%	–4.0%	4.0%	4.0%
54+30.0	–6.0%	–4.0%	2.0%	2.0%
55+08.0	–6.0%	–4.0%	–1.1%	–1.1%
55+30.0	–6.0%	–4.9%	–2.0%	–2.0%
55+58.0	–6.0%	–6.0%	–2.0%	–3.1%
56+30.0	–6.0%	–6.0%	–2.0%	–6.0%
56+50.0	–6.0%	–6.0%	–2.0%	–6.0%
57+00.0	–4.0%	–4.0%	–2.0%	–6.0%
57+43.9	–4.0%	–4.0%	–2.0%	–6.0%
57+87.2	–4.0%	–4.0%	–4.6%	–6.0%
57+87.6	MATCH EX.	MATCH EX.	MATCH EX.	MATCH EX.



TYPICAL SECTION – MD 188 (WILSON LANE)

N.T.S.

STA. 53+50 TO STA. 55+58

STA. 54+14 TO STA. 54+65

HT-01

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

TYPICAL SECTIONS

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: N.T.S

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

NOTES: PERMANENTLY STABILIZE ALL DISTURBED PERVIOUS AREAS WITH 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT, UNLESS NOTED OTHERWISE.

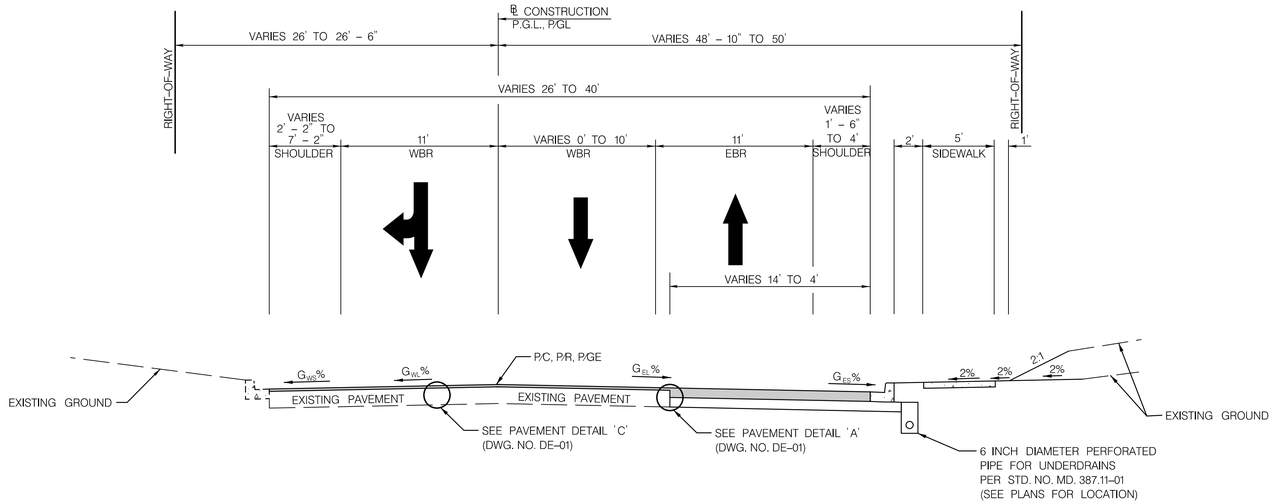
"I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND."

LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

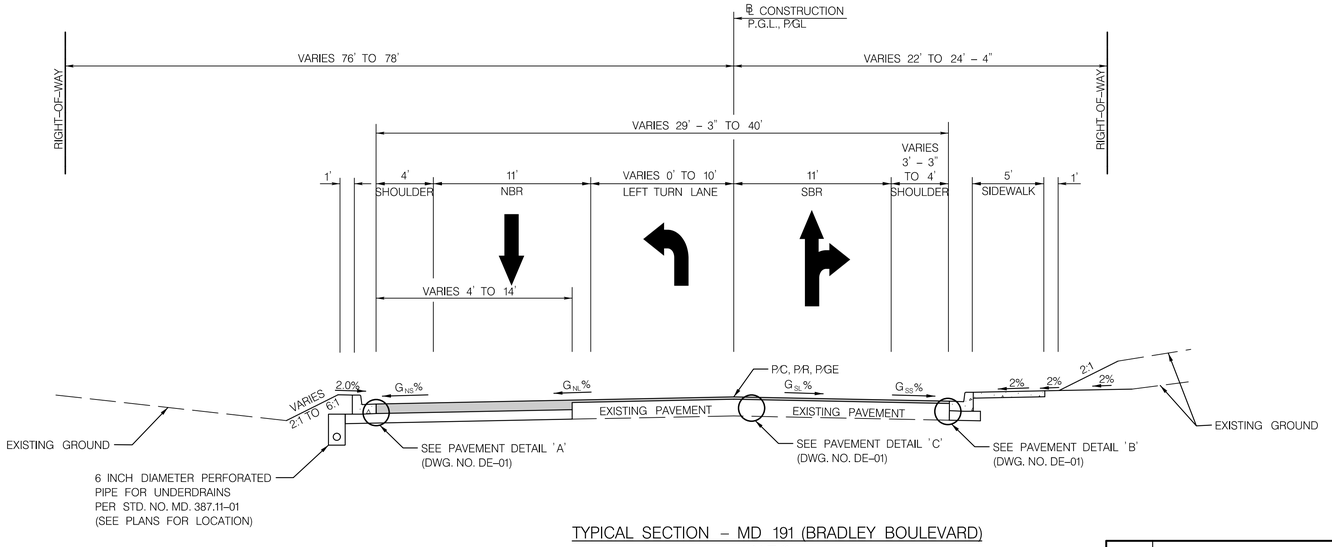
PLOTTED: Thursday, July 21, 2022 AT 09:44 AM
FILE: \\stvgroup.stvinc.com\v2\DDPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pHT-X001_BradleyWilson.dgn

BY: SmithT2 –



TYPICAL SECTION – MD 188 (WILSON LANE)
N.T.S.
STA. 55+58 TO STA. 57+88

MD 191 – SLOPE TRANSITION TABLE				
STATION	N.B.R.		S.B.R.	
	G_{WS}%	G_{NL}%	G_{SL}%	G_{SS}%
10+55.9	MATCH EX.	MATCH EX.	MATCH EX.	MATCH EX.
10+70.0	–5.6%	–2.7%	–0.7%	–2.0%
10+80.9	–6.0%	–2.3%	–1.4%	–2.7%
10+88.4	–6.0%	–2.0%	–1.8%	3.1%
10+91.7	–6.0%	–2.0%	–2.0%	–3.3%
11+03.3	–6.0%	–2.0%	–2.0%	–4.0%
12+42.5	–6.0%	–2.0%	–2.0%	–4.0%
12+67.5	–5.0%	–2.0%	–2.0%	–4.0%
13+17.5	–3.0%	–2.0%	–2.0%	–2.0%
13+42.5	–2.0%	–2.0%	–1.0%	–1.0%
13+80.0	–0.5%	–0.5%	0.5%	0.5%
14+30.0	–0.5%	–0.5%	0.5%	0.5%
14+67.5	–2.0%	–2.0%	–1.0%	–1.0%
14+92.5	–3.0%	–2.0%	–2.0%	–2.0%
15+42.5	–5.0%	–2.0%	–2.0%	–4.0%
15+67.5	–6.0%	–2.0%	–2.0%	–4.0%
17+20.0	–6.0%	–2.0%	–2.0%	–4.0%
17+60.0	–4.4%	–4.4%	–0.5%	–4.0%
18+12.3	MATCH EX.	MATCH EX.	MATCH EX.	MATCH EX.



TYPICAL SECTION – MD 191 (BRADLEY BOULEVARD)
N.T.S.
STA. 10+56 TO STA. 14+00

HT-02

NOTES: PERMANENTLY STABILIZE ALL DISTURBED PERVIOUS AREAS WITH 4 INCH TOPSOIL AND TURFGRASS ESTABLISHMENT, UNLESS NOTED OTHERWISE.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

TYPICAL SECTIONS

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE = N.T.S.

BY: SmithT2 –

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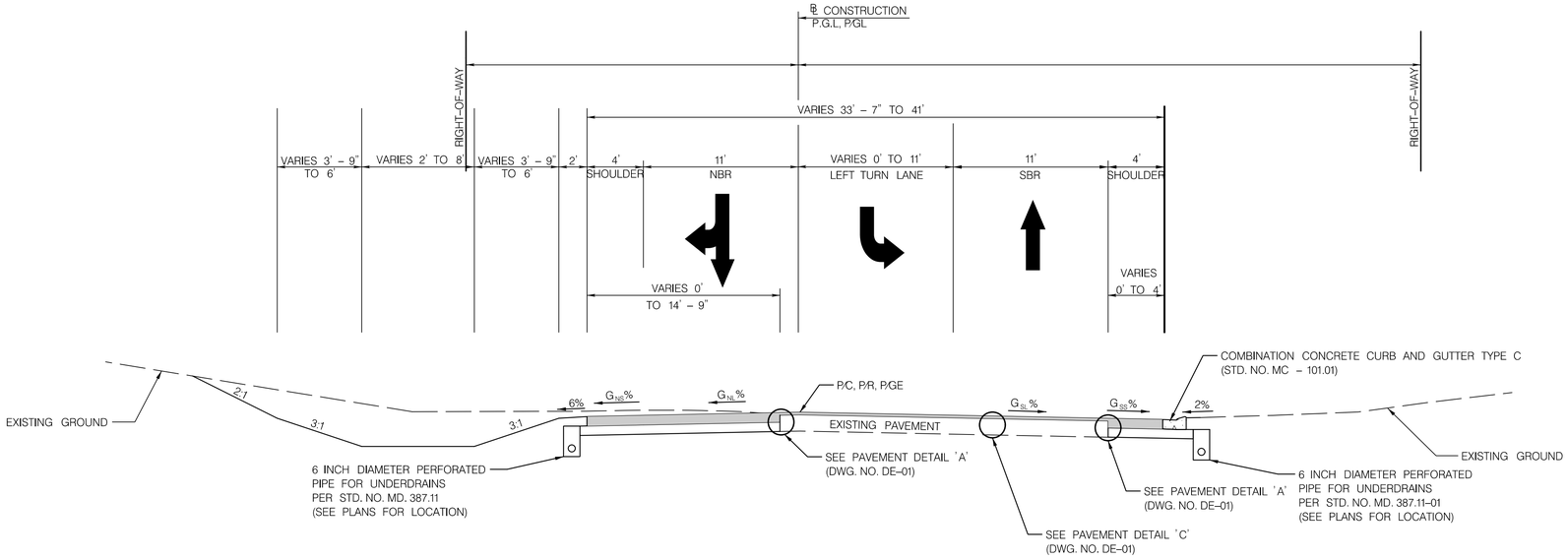

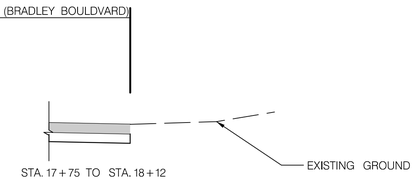

TYPICAL SECTION – MD 191 (BRADLEY BOULEVARD)
N.T.S.
STA. 14+00 TO STA. 18+12

HT-03

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

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STATE OF MARYLAND · JASON N. SMITH · No. 33962 · PROFESSIONAL ENGINEER

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MONTGOMERY COUNTY, MARYLAND

TYPICAL SECTIONS

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE = N.T.S

BY: SmithT2 –

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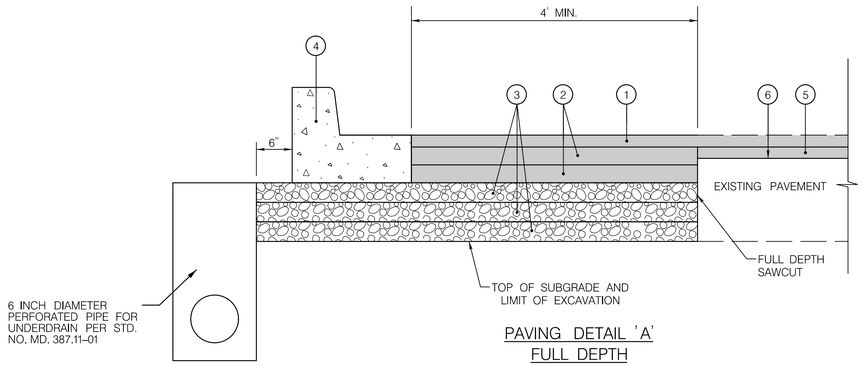
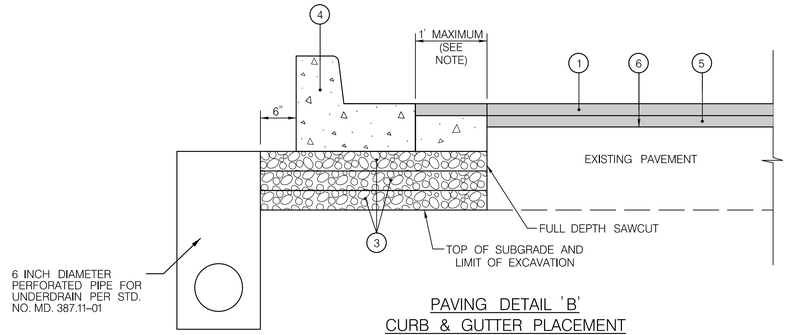
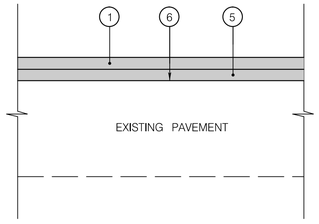


PAVING DETAIL 'A'
FULL DEPTH
N.T.S.

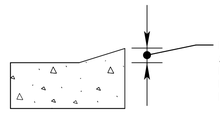


PAVING DETAIL 'B'
CURB & GUTTER PLACEMENT
N.T.S.

NOTE: THIS WORK IS TO BE DONE AT THE CONTRACTOR'S OPTION. THIS 1' WIDTH (MAXIMUM) EXCAVATION MAY BE USED FOR CURB AND GUTTER FORM PLACEMENT. THE ADDITIONAL EXCAVATION WIDTH IS TO BE FILLED WITH PCC MIX NO. 3 OR MIX 9 CONCRETE (TO BE PAID FOR AS PLAIN, CONVENTIONALLY, REINFORCED, OR CONTINUOUSLY REINFORCED CONCRETE PAVEMENT. REPAIRS (ANY SIZE)) TO THE BOTTOM OF THE FINAL ASPHALT MIX COURSE. JOINTS SHALL MATCH THOSE OF THE CURB AND GUTTER. NO DOWEL BARS ARE NEEDED.



PAVING DETAIL 'C'
FINE MILL & OVERLAY
N.T.S.



HEIGHT VARIES 0 INCH - 3 INCH AS NEEDED TO MATCH EXISTING DRIVEWAY AS SHOWN ON THE DRIVEWAY ENTRANCE DETAILS AND MAINTAIN POSITIVE DRAINAGE PATTERNS

DEPRESSED CURB DETAIL
N.T.S.

NOTES:

1) PAYMENT FOR DEPRESSING THE CURB SHALL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER LINEAR FOOT OF TYPE A CURB AND GUTTER.

2) ALL OTHER CURB DIMENSIONS SHALL MATCH TYPE C CURB AND GUTTER SHOWN ON MDSHA STANDARD NO. 620.02-01.

PAVEMENT LEGEND

1. 2" HOT MIX ASPHALT SURFACE PAVEMENT FOR ROADWAYS: SUPERPAVE 12.5mm, PG 64-22
2. 3" HOT MIX ASPHALT BASE PAVEMENT FOR ROADWAYS: SUPERPAVE 25.0mm, PG 64-55
3. 4" GRADED AGGREGATE BASE
4. STANDARD TYPE A COMBINATION CURB AND GUTTER, (MD. STD. NO. 620.02)
5. VARIABLE DEPTH HOT MIX ASPHALT SURFACE PAVEMENT FOR WEDGE AND LEVEL: SUPERPAVE 12.5mm, PG 64-22
6. TOP OF PAVEMENT AFTER 2" FINE MILLING

NOTES:

1) PAVEMENT REPAIRS AFTER INSTALLATION OF UTILITIES SHALL BE IN ACCORDANCE WITH STANDARD NO. MD. 578.01 USING VARIABLE DEPTH HOT MIX ASPHALT PATCHES USING SUPERPAVE 25.0 MM, PG 64-22 FOR BASE AND SUPERPAVE 12.5MM, PG 64-22 FOR SURFACE TO MATCH EXISTING PAVEMENT THICKNESS

DE-01

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

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SCALE: N.T.S.

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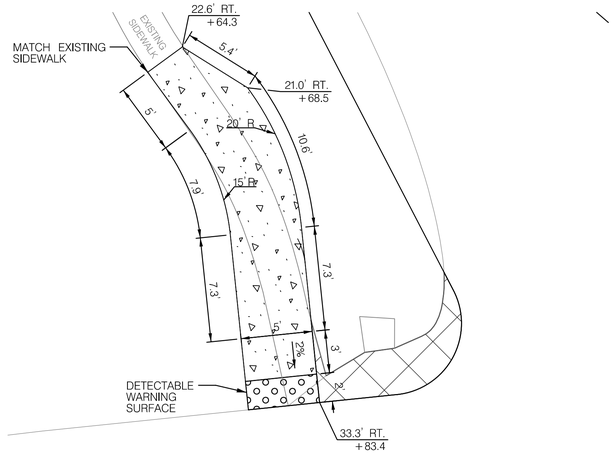
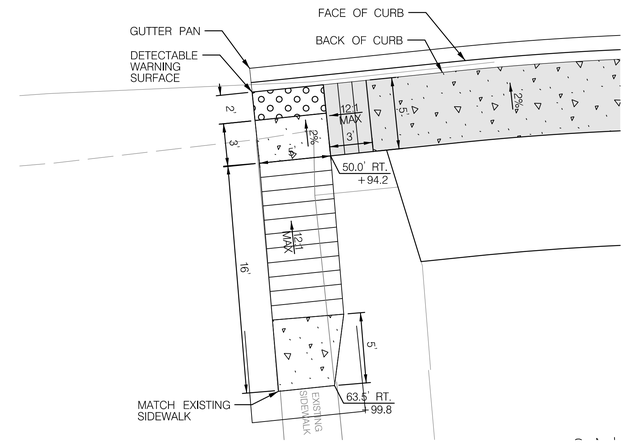
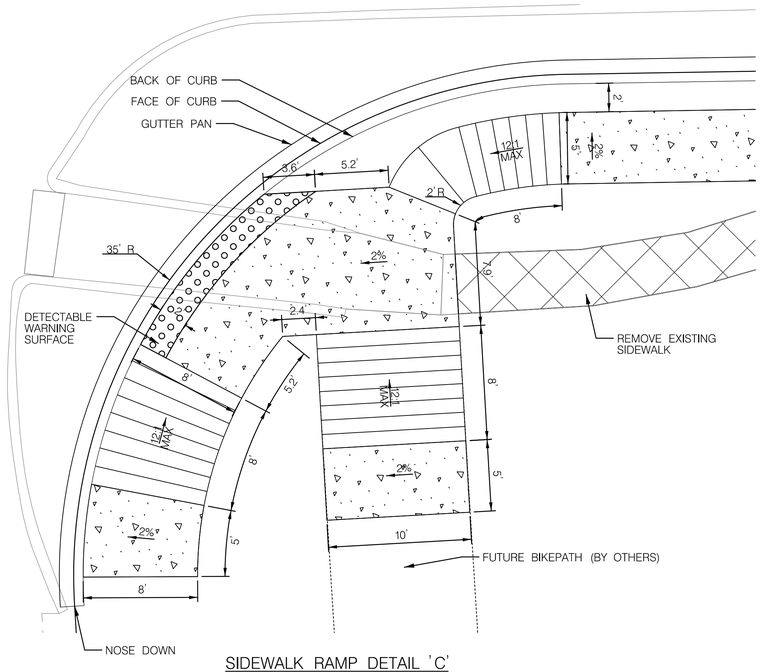


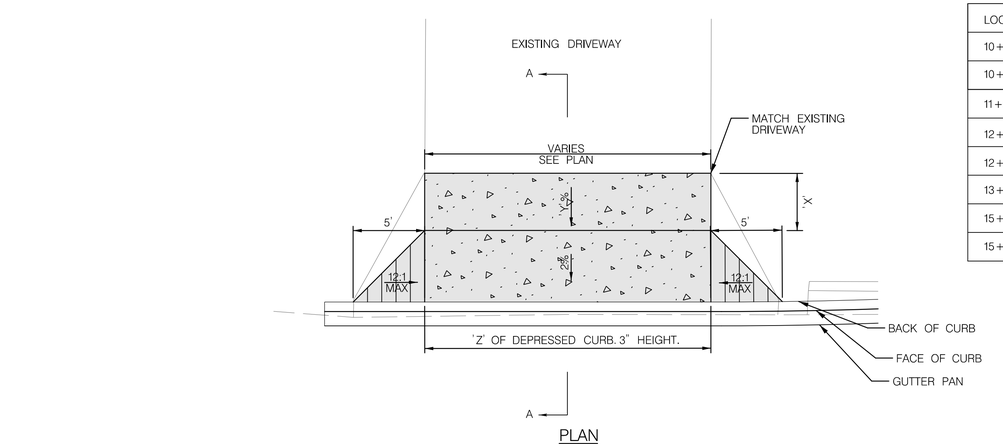
SIDEWALK RAMP DETAIL 'A'
N.T.S.
STA. 51+87, RT



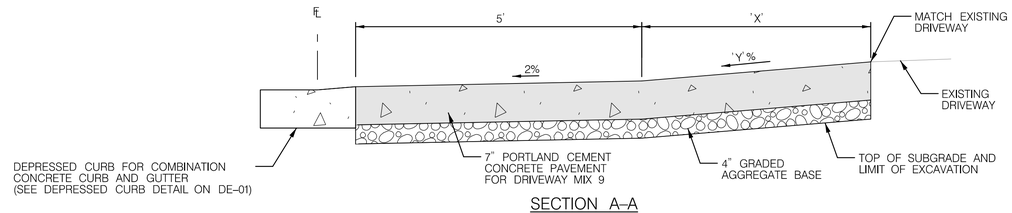
SIDEWALK RAMP DETAIL 'B'
N.T.S.
STA. 51+91, RT



SIDEWALK RAMP DETAIL 'C'
N.T.S.
STA. 14+41 LT.



PLAN



SECTION A-A

DRIVEWAY ENTRANCE DETAIL 'A'
N.T.S.

STA. 10+45, LT
STA. 10+87, LT
STA. 11+59, LT
STA. 12+12, LT
STA. 12+36, LT
STA. 13+07, LT
STA. 15+12, RT
STA. 15+57, RT

LOCATION	'X'	'Y'	'Z'
10+45, LT	4'	MATCH EXISTING	20'
10+87, LT	1.3' TO 3.5'	11% MAX	22.4'
11+59, LT	2'	11%	20'
12+12, LT	1'	3.2%	20'
12+36, LT	3'	0.8%	20'
13+07, LT	12'	9.6%	20'
15+12, RT	5'	10.3%	20'
15+57, RT	2'	12.6%	20'

DE-02

ROADWAY LEGEND

- FULL DEPTH ASPHALT PAVEMENT
- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
- GRADED AGGREGATE BASE COURSE

STATE OF MARYLAND — VICOR N. SMITH — No. 33962 — PROFESSIONAL ENGINEER

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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

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Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

MISCELLANEOUS DETAILS

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: N.T.S.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
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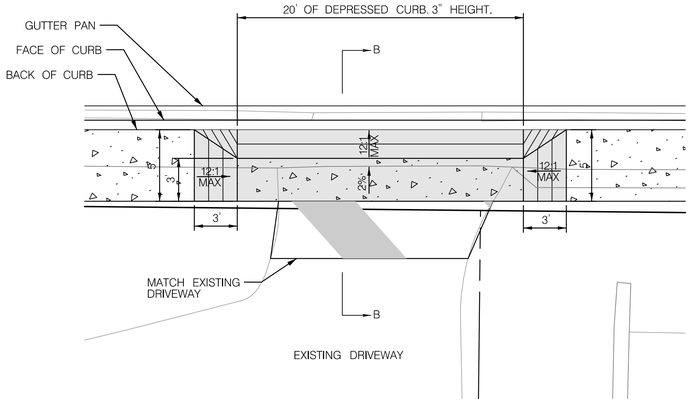
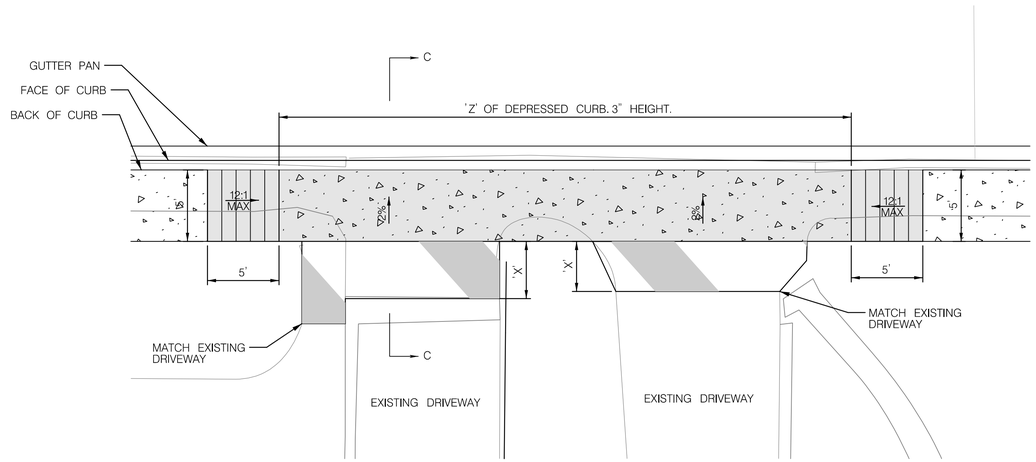
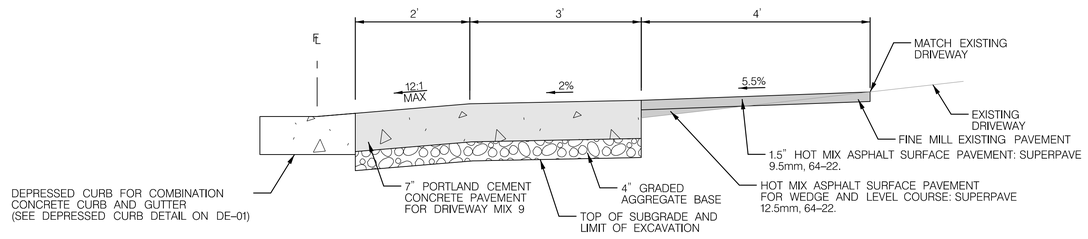


PLAN

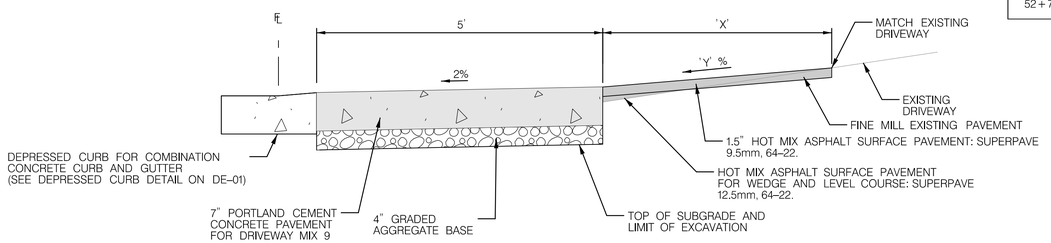


PLAN

LOCATION	'X'	'Y'	'Z'
11+52, RT	4'	4.8%	20'
11+73, RT	3.5	7.6%	20'
52+70, RT	4'	1.2%	20'



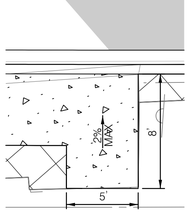
SECTION B–B



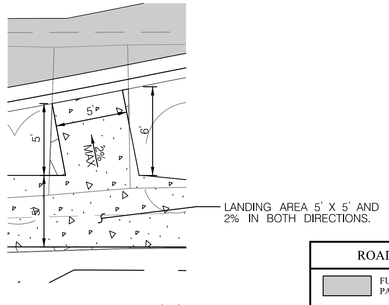
SECTION C–C

DRIVEWAY DETAIL 'B'
N.T.S.
STA. 10+92, RT

DRIVEWAY DETAIL 'C'
N.T.S.
STA. 11+52, RT
STA. 11+73, RT
STA. 52+70, RT



BUS PAD DETAIL 'A'
N.T.S.
STA. 14+79, RT



BUS PAD DETAIL 'B'
N.T.S.
STA. 57+61, RT

ROADWAY LEGEND
- FULL DEPTH ASPHALT PAVEMENT
- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
- GRADED AGGREGATE BASE COURSE

STV 100 Years
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Owings Mills, Maryland 21117
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STATE OF MARYLAND — JASON N. SMITH — No. 33962 — PROFESSIONAL ENGINEER

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MONTGOMERY COUNTY, MARYLAND

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SCALE: N.T.S.

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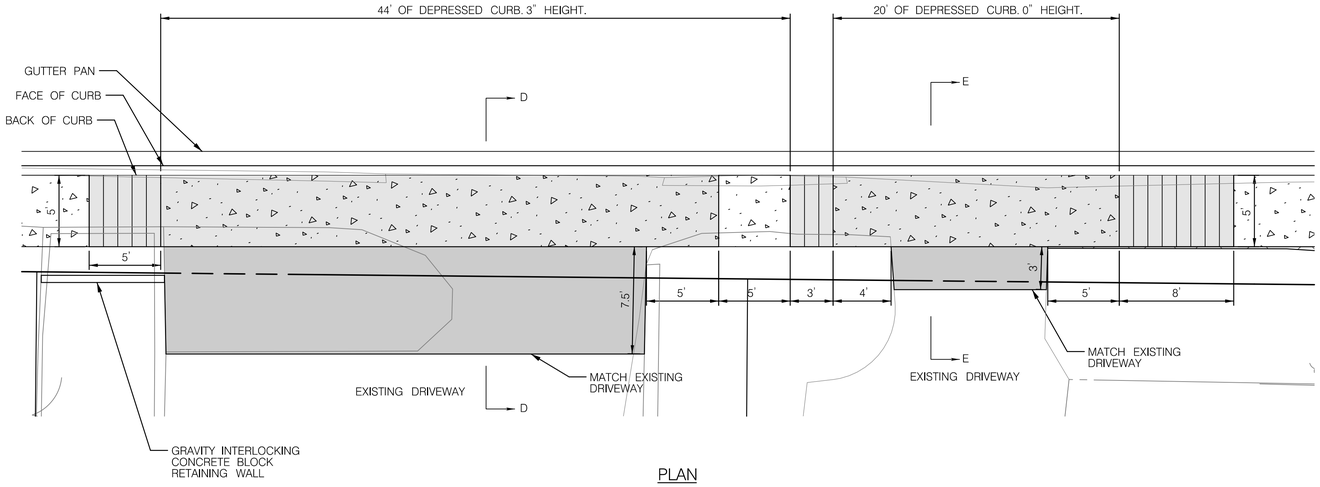
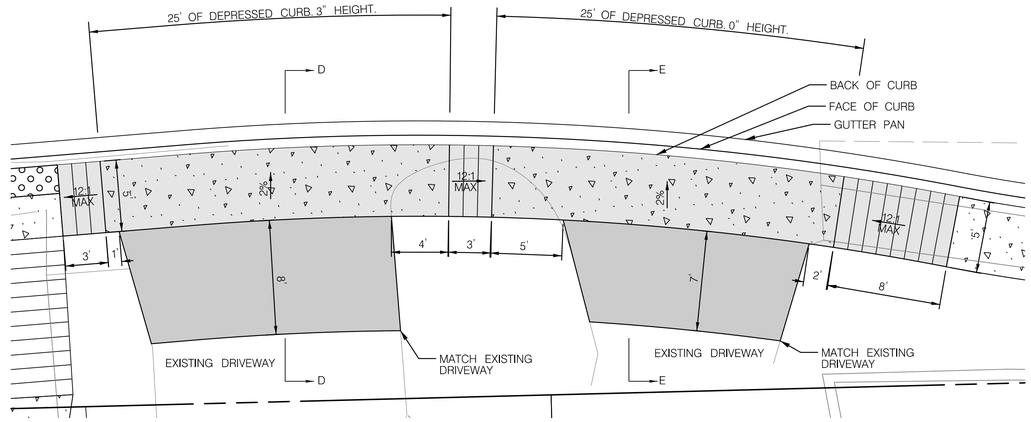


PLAN



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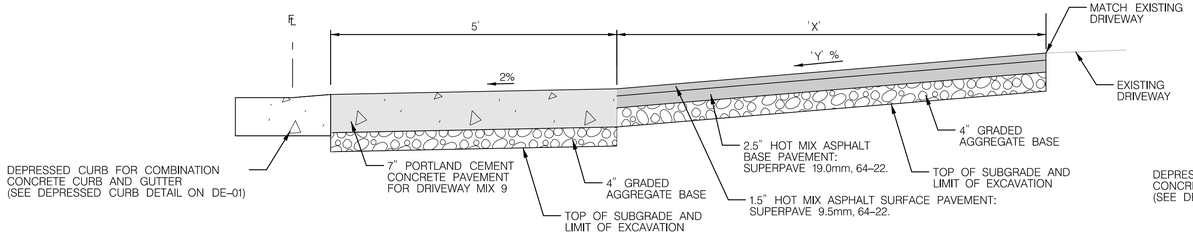
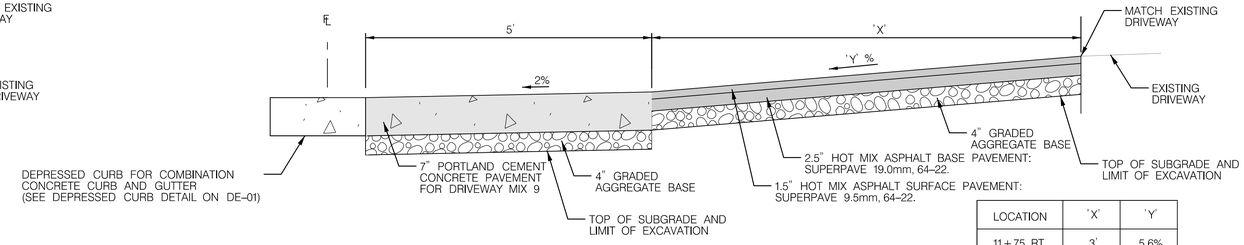


LOCATION	'X'	'Y'
11+35, RT	7.5'	4.9%
52+03, RT	8'	5.8%

SECTION D-D

DRIVEWAY DETAIL 'D'
N.T.S.
STA. 12+60, RT



LOCATION	'X'	'Y'
11+75, RT	3'	5.6%
52+23, RT	7'	6% MAX

SECTION E-E

DRIVEWAY ENTRANCE DETAIL 'E'
N.T.S.
STA. 52+10, RT

DE-04

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Owings Mills, Maryland 21117
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BY: SmithT2 -

ROADWAY LEGEND

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- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
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STATE OF MARYLAND · JASON N. SMITH · No. 33962 · PROFESSIONAL ENGINEER

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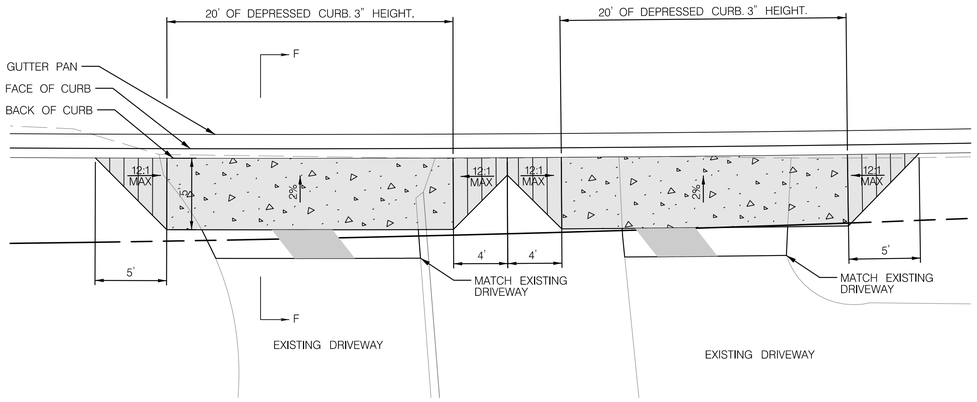
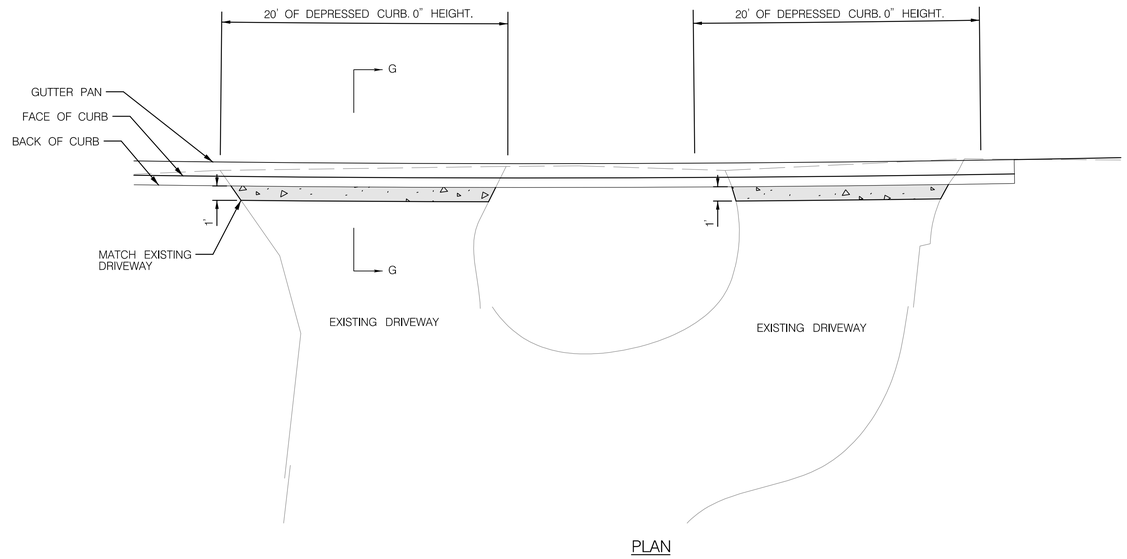
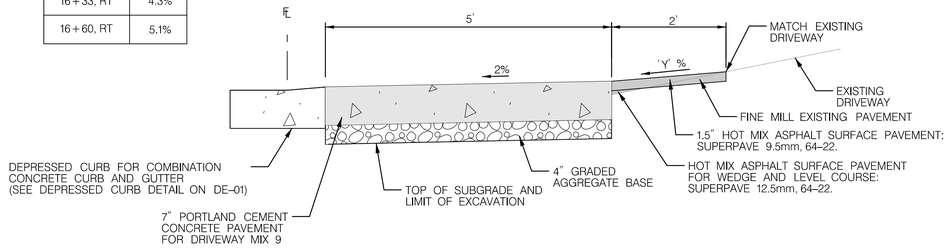


PLAN



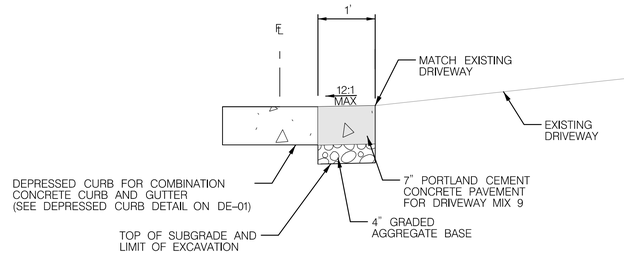
PLAN

LOCATION	'Y'
16+33, RT	4.3%
16+60, RT	5.1%



SECTION F-F

DRIVEWAY DETAIL 'F'
N.T.S.
STA. 16+46, RT



SECTION G-G

DRIVEWAY DETAIL 'G'
N.T.S.
17+50, RT

DE-05

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: SmithT2

ROADWAY LEGEND

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STATE OF MARYLAND · JASON N. SMITH · No. 33962 · PROFESSIONAL ENGINEER · 2/2/22

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SCALE: N.T.S.

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
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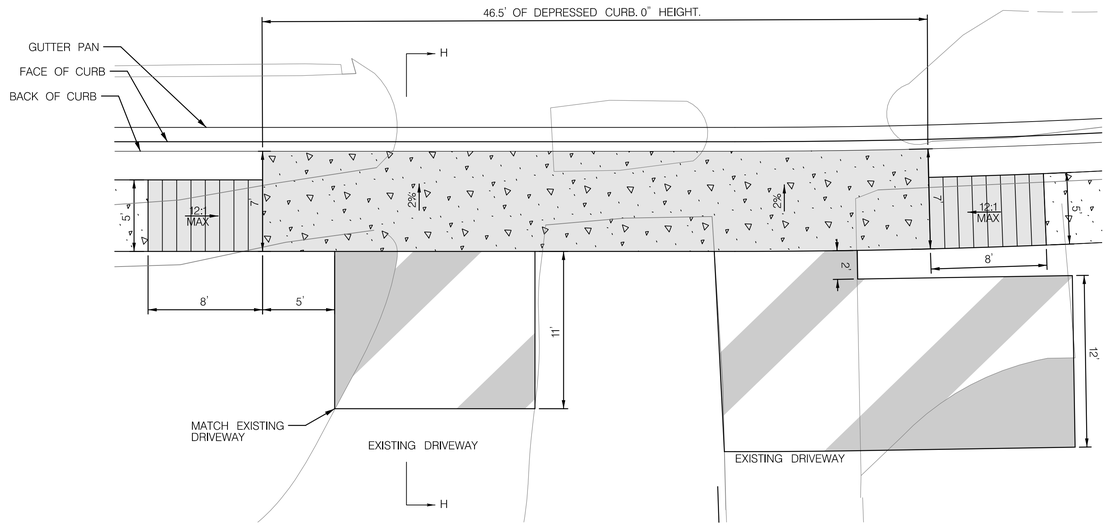
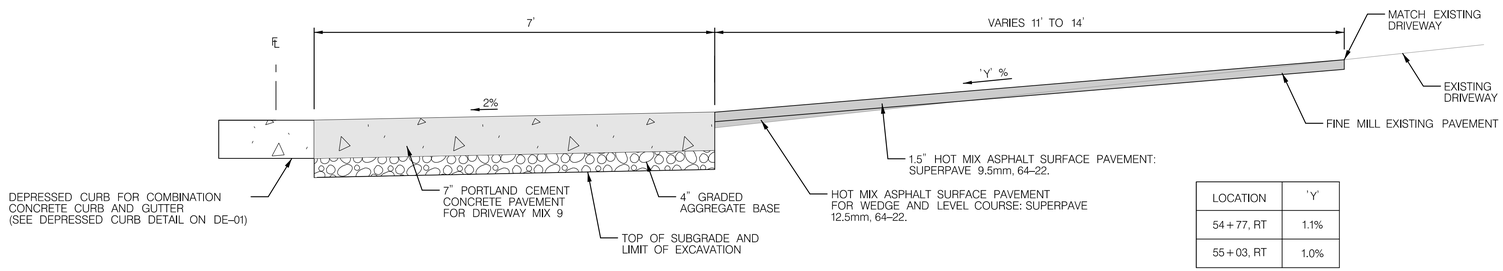


PLAN



LOCATION	'Y'
54+77, RT	1.1%
55+03, RT	1.0%

SECTION H-H

DRIVEWAY DETAIL 'H'
N.T.S.
54+91, RT

DE-06

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: SmithT2 -

ROADWAY LEGEND

- FULL DEPTH ASPHALT PAVEMENT
- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
- GRADED AGGREGATE BASE COURSE

STATE OF MARYLAND
JACOB N. SMITH
No. 33962
PROFESSIONAL ENGINEER

"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. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

MISCELLANEOUS DETAILS

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: N.T.S.

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
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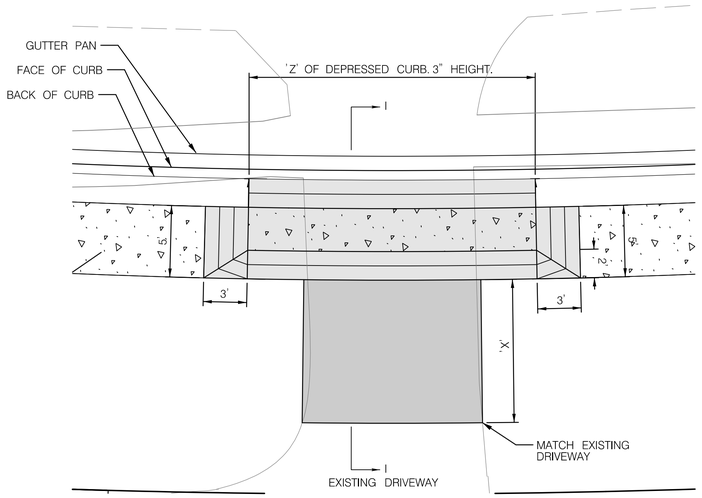
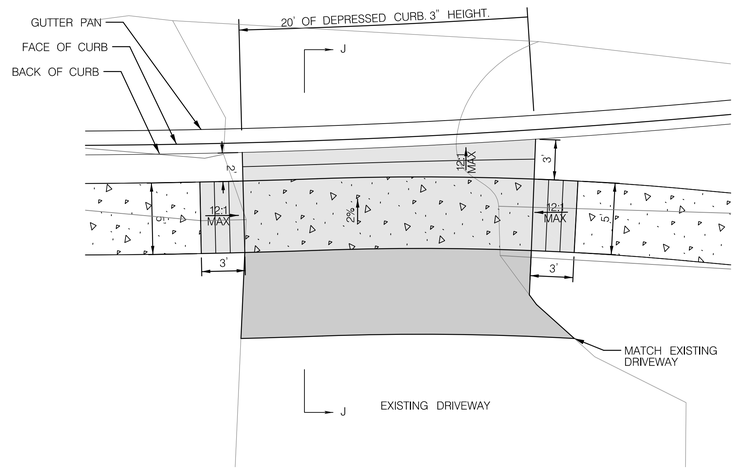
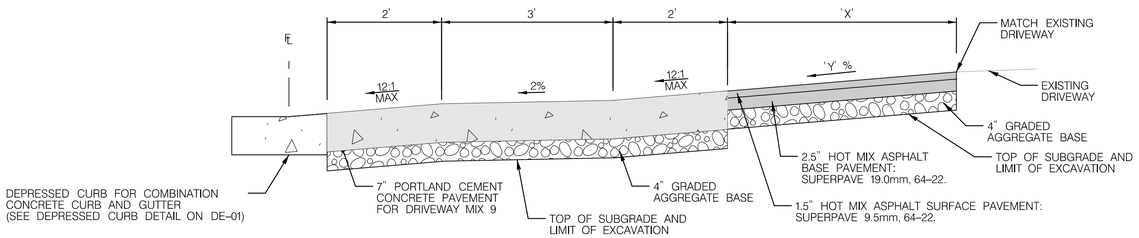


PLAN



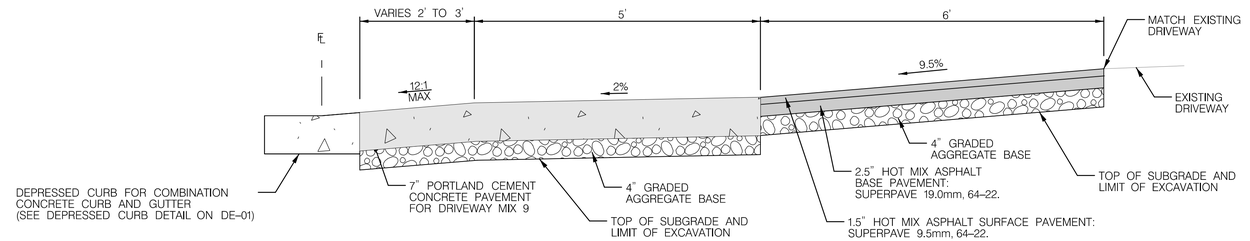
PLAN

LOCATION	'X'	'Y'	'Z'
55+81, RT	10'	10.7%	20'
56+32, RT	14'	13.4%	20'
56+75, RT	14'	15.5%	20'



SECTION I–I

DRIVEWAY DETAIL 'I'
N.T.S.
55+81, RT
56+32, RT
56+75, RT



SECTION J–J

DRIVEWAY ENTRANCE DETAIL 'J'
N.T.S.
57+34, RT

DE-07

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700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
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BY: SmithT2 –

ROADWAY LEGEND

- FULL DEPTH ASPHALT PAVEMENT
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- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
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STATE OF MARYLAND — JASON N. SMITH — No. 33962 — PROFESSIONAL ENGINEER

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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

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DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

MISCELLANEOUS DETAILS

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: N.T.S.

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
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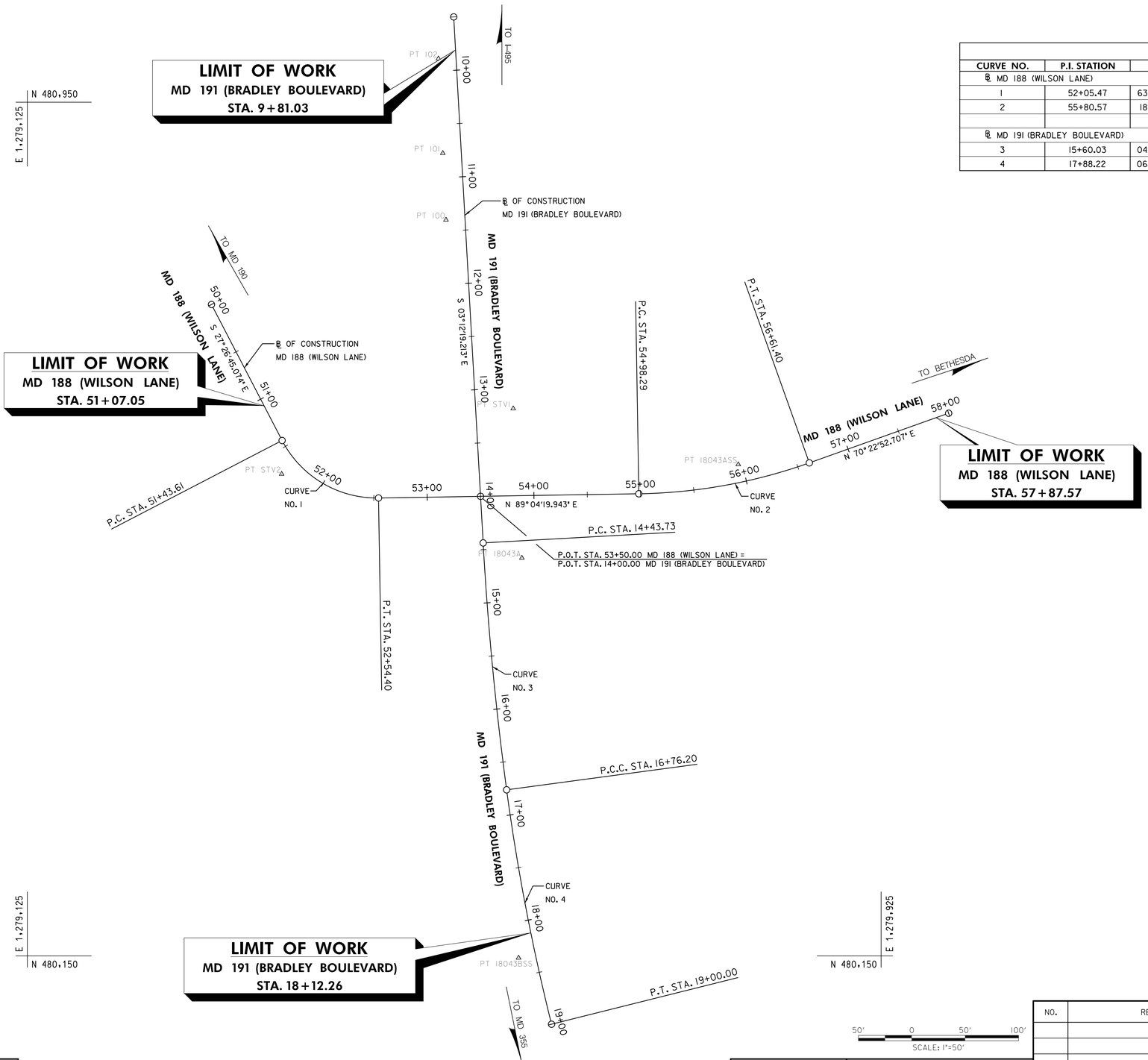

CURVE DATA

CURVE NO.	P.I. STATION	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
℄ MD 188 (WILSON LANE)							
1	52+05.47	63°28'54.98" LT.	57°17'44.81"	100.00'	61.86'	110.80'	17.59'
2	55+80.57	18°41'27.24" LT.	11°27'32.96"	500.00'	82.29'	163.11'	6.73'
℄ MD 191 (BRADLEY BOULEVARD)							
3	15+60.03	04°26'23.76" LT.	01°54'35.49"	3000.00'	116.30'	232.47'	2.25'
4	17+88.22	06°24'40.56" LT.	02°51'53.24"	2000.00'	112.02'	223.80'	3.13'

BASELINE COORDINATES

STATION	NORTH	EAST
℄ MD 188 (WILSON LANE)		
POB 50+00.00	480,760.452	1,279,297.514
P.C. STA. 51+43.61	480,633.008	1,279,363.704
P.T. STA. 52+54.40	480,579.112	1,279,454.068
P.C. STA 54+98.29	480,583.061	1,279,697.918
P.T. STA. 56+61.40	480,612.022	1,279,857.702
POE STA. 58+00.00	480,658.559	1,279,988.260
℄ MD 191 (BRADLEY BOULEVARD)		
POB STA. 10+00.00	480,980.034	1,279,527.285
P.C. STA. 14+43.73	480,536.998	1,279,552.096
P.C.C. STA. 16+76.20	480,305.623	1,279,574.071
P.T. STA. 19+00.00	480,085.944	1,279,616.179

TRAVERSE POINTS

POINT NO.	NORTH	EAST	ELEVATION
100	480,839.792	1,279,517.269	340.81
101	480,902.313	1,279,514.251	339.33
102	480,990.838	1,279,510.136	337.00
18043A	480,522.925	1,279,588.362	351.85
8043ASS	480,610.548	1,279,791.106	354.37
STV1	480,662.924	1,279,580.228	345.64
STV2	480,601.580	1,279,363.271	353.34
18043BSS	480,148.122	1,279,588.362	358.17

GS-01

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: SmithT2 -

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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

GEOMETRY SHEET

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: 1"= 50'

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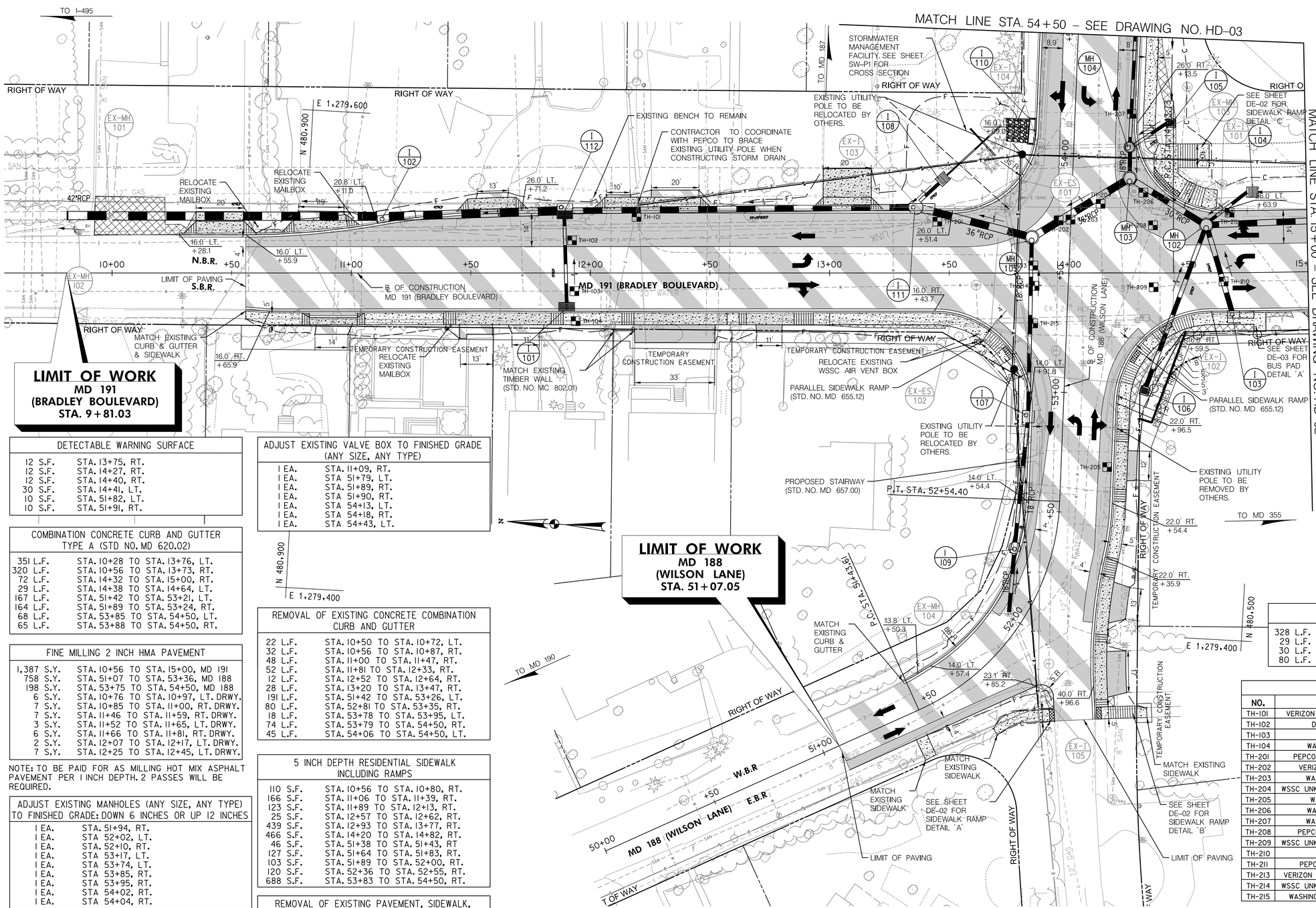
SHEET NO.

14 OF 43

RELOCATE EXISTING WSSC AIR VENT BOX	
1 EA.	STA. 13+62, RT.



DETECTABLE WARNING SURFACE	
12 S.F.	STA. 13+75, RT.
12 S.F.	STA. 14+27, RT.
12 S.F.	STA. 14+40, RT.
30 S.F.	STA. 14+41, LT.
10 S.F.	STA. 51+82, LT.
10 S.F.	STA. 51+91, RT.

COMBINATION CONCRETE CURB AND GUTTER TYPE A (STD NO. MD 620.02)	
351 L.F.	STA. 10+28 TO STA. 13+76, LT.
320 L.F.	STA. 10+56 TO STA. 13+73, RT.
72 L.F.	STA. 14+32 TO STA. 15+00, RT.
29 L.F.	STA. 14+38 TO STA. 14+64, LT.
167 L.F.	STA. 51+42 TO STA. 53+21, LT.
164 L.F.	STA. 51+89 TO STA. 53+24, RT.
68 L.F.	STA. 53+85 TO STA. 54+50, LT.
65 L.F.	STA. 53+88 TO STA. 54+50, RT.

FINE MILLING 2 INCH HMA PAVEMENT	
1,387 S.Y.	STA. 10+56 TO STA. 15+00, MD 191
758 S.Y.	STA. 51+07 TO STA. 53+36, MD 188
198 S.Y.	STA. 53+75 TO STA. 54+50, MD 188
6 S.Y.	STA. 10+76 TO STA. 10+97, LT. DRWY.
7 S.Y.	STA. 10+85 TO STA. 11+00, RT. DRWY.
7 S.Y.	STA. 11+46 TO STA. 11+59, RT. DRWY.
3 S.Y.	STA. 11+52 TO STA. 11+65, LT. DRWY.
6 S.Y.	STA. 11+66 TO STA. 11+81, RT. DRWY.
2 S.Y.	STA. 12+07 TO STA. 12+17, LT. DRWY.
7 S.Y.	STA. 12+25 TO STA. 12+45, LT. DRWY.

NOTE: TO BE PAID FOR AS MILLING HOT MIX ASPHALT PAVEMENT PER 1 INCH DEPTH. 2 PASSES WILL BE REQUIRED.

ADJUST EXISTING MANHOLES (ANY SIZE, ANY TYPE) TO FINISHED GRADE: DOWN 6 INCHES OR UP 12 INCHES	
1 EA.	STA. 51+94, RT.
1 EA.	STA 52+02, LT.
1 EA.	STA. 52+10, RT.
1 EA.	STA 53+17, LT.
1 EA.	STA 53+74, LT.
1 EA.	STA 53+85, RT.
1 EA.	STA 53+95, RT.
1 EA.	STA 54+02, RT.
1 EA.	STA 54+04, RT.

REMOVE & RESET/RELOCATE EXISTING MAIL BOX (ANY SIZE, ANY TYPE)	
1 EA.	STA. 10+61, LT.
1 EA.	STA 11+01, LT.
1 EA.	STA. 11+42, RT.

ADJUST EXISTING VALVE BOX TO FINISHED GRADE (ANY SIZE, ANY TYPE)	
1 EA.	STA. 11+09, RT.
1 EA.	STA 51+79, LT.
1 EA.	STA. 51+89, RT.
1 EA.	STA 51+90, RT.
1 EA.	STA 54+13, LT.
1 EA.	STA 54+18, RT.
1 EA.	STA 54+43, LT.

REMOVAL OF EXISTING CONCRETE COMBINATION CURB AND GUTTER	
22 L.F.	STA. 10+50 TO STA. 10+72, LT.
32 L.F.	STA. 10+56 TO STA. 10+87, RT.
48 L.F.	STA. 11+00 TO STA. 11+47, RT.
52 L.F.	STA. 11+81 TO STA. 12+33, RT.
12 L.F.	STA. 12+52 TO STA. 12+64, RT.
28 L.F.	STA. 13+20 TO STA. 13+47, RT.
191 L.F.	STA. 51+42 TO STA. 53+26, LT.
80 L.F.	STA. 52+81 TO STA. 53+35, RT.
18 L.F.	STA. 53+78 TO STA. 53+95, LT.
74 L.F.	STA. 53+79 TO STA. 54+50, RT.
45 L.F.	STA. 54+06 TO STA. 54+50, LT.

5 INCH DEPTH RESIDENTIAL SIDEWALK INCLUDING RAMPS	
110 S.F.	STA. 10+56 TO STA. 10+80, RT.
166 S.F.	STA. 11+06 TO STA. 11+39, RT.
123 S.F.	STA. 11+89 TO STA. 12+13, RT.
25 S.F.	STA. 12+57 TO STA. 12+62, RT.
439 S.F.	STA. 12+93 TO STA. 13+77, RT.
466 S.F.	STA. 14+20 TO STA. 14+82, RT.
46 S.F.	STA. 51+38 TO STA. 51+43, RT
127 S.F.	STA. 51+64 TO STA. 51+83, RT.
103 S.F.	STA. 51+89 TO STA. 52+00, RT.
120 S.F.	STA. 52+36 TO STA. 52+55, RT.
688 S.F.	STA. 53+83 TO STA. 54+50, RT.

REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND MONOLITHIC MEDIANS	
25 C.Y.	STA. 9+93 TO STA. 10+35, LT.
19 C.Y.	STA. 10+56 TO STA. 12+80, RT.
3 C.Y.	STA. 10+72 TO STA. 11+00, LT.
2 C.Y.	STA. 11+51 TO STA. 11+65, LT.
2 C.Y.	STA. 12+07 TO STA. 12+18, LT.
2 C.Y.	STA. 12+28 TO STA. 12+43, LT.
1 C.Y.	STA. 51+38 TO STA. 51+43, RT.
2 C.Y.	STA. 51+64 TO STA. 51+82, RT.
29 C.Y.	STA. 51+90 TO STA. 53+37, RT.
3 C.Y.	STA. 53+03 TO STA. 53+26, LT.
6 C.Y.	STA. 53+73 TO STA. 54+50, RT.

ADJUST TO FINISH GRADE AND / OR RELOCATE EXISTING WATER METER AND HOUSING	
1 EA.	STA. 52+58, LT.

FULL DEPTH SAWCUT	
364 L.F	STA. 10+35 TO STA. 13+91, LT.
288 L.F.	STA. 10+56 TO STA. 13+44, RT.
34 L.F.	STA. 12+18 TO STA. 12+52, RT.
11 L.F.	STA. 12+69 TO STA. 12+802, RT.
20 L.F.	STA. 12+97 TO STA. 13+17, LT.
80 L.F.	STA. 14+25 TO STA. 15+00, LT.
41 L.F.	STA. 14+60 TO STA. 15+00, RT.
299 L.F.	STA. 51+07 TO STA. 53+37, RT.
219 L.F.	STA. 51+42 TO STA. 53+33, LT.
18 L.F.	STA. 52+00 TO STA. 52+10, RT.
14 L.F.	STA. 52+19 TO STA. 52+28, RT.
12 L.F.	STA. 52+65 TO STA. 52+77, RT.
75 L.F.	STA. 53+76 TO STA. 54+50, LT.
74 L.F.	STA. 53+77 TO STA. 54+50, RT.

CONCRETE STEPS	
1 C.Y.	STA. 52+71, LT.

REMOVE AND RESET / RELOCATE EXISTING FENCE	
53 L.F.	STA. 14+47 TO STA. 15+00, RT.
49 L.F.	STA. 52+81 TO STA. 53+26, RT.

7 INCH DEPTH CONCRETE DRIVEWAY	
205 S.F.	STA. 10+30 TO STA. 10+60, LT.
136 S.F.	STA. 10+71 TO STA. 11+03, LT.
130 S.F.	STA. 10+80 TO STA. 11+06, RT.
250 S.F.	STA. 11+39 TO STA. 11+89, RT.
126 S.F.	STA. 11+44 TO STA. 11+74, LT.
225 S.F.	STA. 12+01 TO STA. 12+51, LT.
220 S.F.	STA. 12+13 TO STA. 12+57, RT.
155 S.F.	STA. 12+62 TO STA. 12+93, RT.
366 S.F.	STA. 12+92 TO STA. 13+22, LT.
314 S.F.	STA. 51+92 TO STA. 52+36, RT.
150 S.F.	STA. 52+55 TO STA. 52+85, RT.

TIMBER RETAINING WALL: MCDPWT STANDARD NO. MC-802.01	
36 S.F.	STA. 12+10 TO STA. 12+19, RT.

8 INCH BY 8 INCH TREATED WOOD POST, INCLUDING CONCRETE BASE, FOR TIMBER RETAINING WALL	
24 V.F.	STA. 12+10 TO STA. 12+19, RT.

6 INCH DIAMETER PERFORATED PIPE FOR UNDERDRAINS PER STD. NO. MD. 387.11 AND 387.11-01	
328 L.F.	STA. 11+16 TO STA. 13+86, LT. (OUTLETS TO I-102 & I-111)
29 L.F.	STA. 14+71 TO STA. 15+00, RT. (OUTLETS TO I-103)
30 L.F.	STA. 14+77 TO STA. 15+00, LT. (OUTLETS TO I-104)
80 L.F.	STA. 51+98 TO STA. 52+87, LT. (OUTLETS TO I-107 & I-109)

TEST HOLE LOCATION

NO.	UTILITY	STATION	OFFSET	DEPTH	ELEVATION
TH-101	VERIZON 2" PLASTIC CONDUIT TELEPHONE	12+19	23.4' LT.	2.99'	339.87'
TH-102	DPW 12" CMP STORM DRAIN	11+92	13.6' LT.	1.68'	340.24'
TH-103	WSSC 20" C/I WATER	11+93	7.6' RT.	5.68'	336.46'
TH-104	WASHINGTON GAS 8" W/S GAS	11+94	20.1' RT.	4.27'	338.21'
TH-201	PEPCO UNKNOWN SIZE W/S ELECTRIC	13+45	21.5' LT.	4.79'	340.37'
TH-202	VERIZON 5" X 11" CONC. TELE. DUCT	13+96	22.2' LT.	3.23'	346.26'
TH-203	WASHINGTON GAS 12" W/S GAS	14+01	22.3' LT.	4.01'	345.68'
TH-204	WSSC UNKNOWN SIZE AND MATERIAL WATER	14+13	28.9' LT.	10.81'	339.09'
TH-205	WASHINGTON GAS 8" C/I GAS	52+70	19.3' RT.	4.67'	346.78'
TH-206	WASHINGTON GAS 6" W/S GAS	14+31	33.6' LT.	5.15'	345.71'
TH-207	WASHINGTON GAS 12" W/S GAS	54+26	23.7' RT.	4.94'	346.52'
TH-208	PEPCO 23" X 23" CONC. ELEC. DUCT	14+35	19.9' LT.	6.88'	343.41'
TH-209	WSSC UNKNOWN SIZE AND MATERIAL WATER	14+35	5.9' RT.	11.40'	339.22'
TH-210	WSSC 20" C/I WATER	14+65	3.6' RT.	5.24'	346.13'
TH-211	PEPCO ? X 24" CONC. ELEC. DUCT	14+67	25.2' LT.	6.58'	344.06'
TH-213	VERIZON 13" X 11" TERRACOTTA TELE. DUCT	13+85	3.1' LT.	3.66'	345.63'
TH-214	WSSC UNKNOWN SIZE AND MATERIAL WATER	13+86	5.4' RT.	7.07'	342.21'
TH-215	WASHINGTON GAS 8" STEEL CASING GAS	13+85	21.1' RT.	6.35'	342.93'

HD-01

ROADWAY LEGEND	
▒	FULL DEPTH ASPHALT PAVEMENT
⁘	PORTLAND CEMENT CONCRETE
▧	FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
▩	EXISTING PAVEMENT REMOVAL
⁙	PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
▦	DETECTABLE WARNING SURFACE

JACOB N. SMITH
No. 33962
7/21/22

"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."

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Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ROADWAY PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

STV 100 Years
700 Red Brook Boulevard, Suite 300
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BY: SmithT2 –

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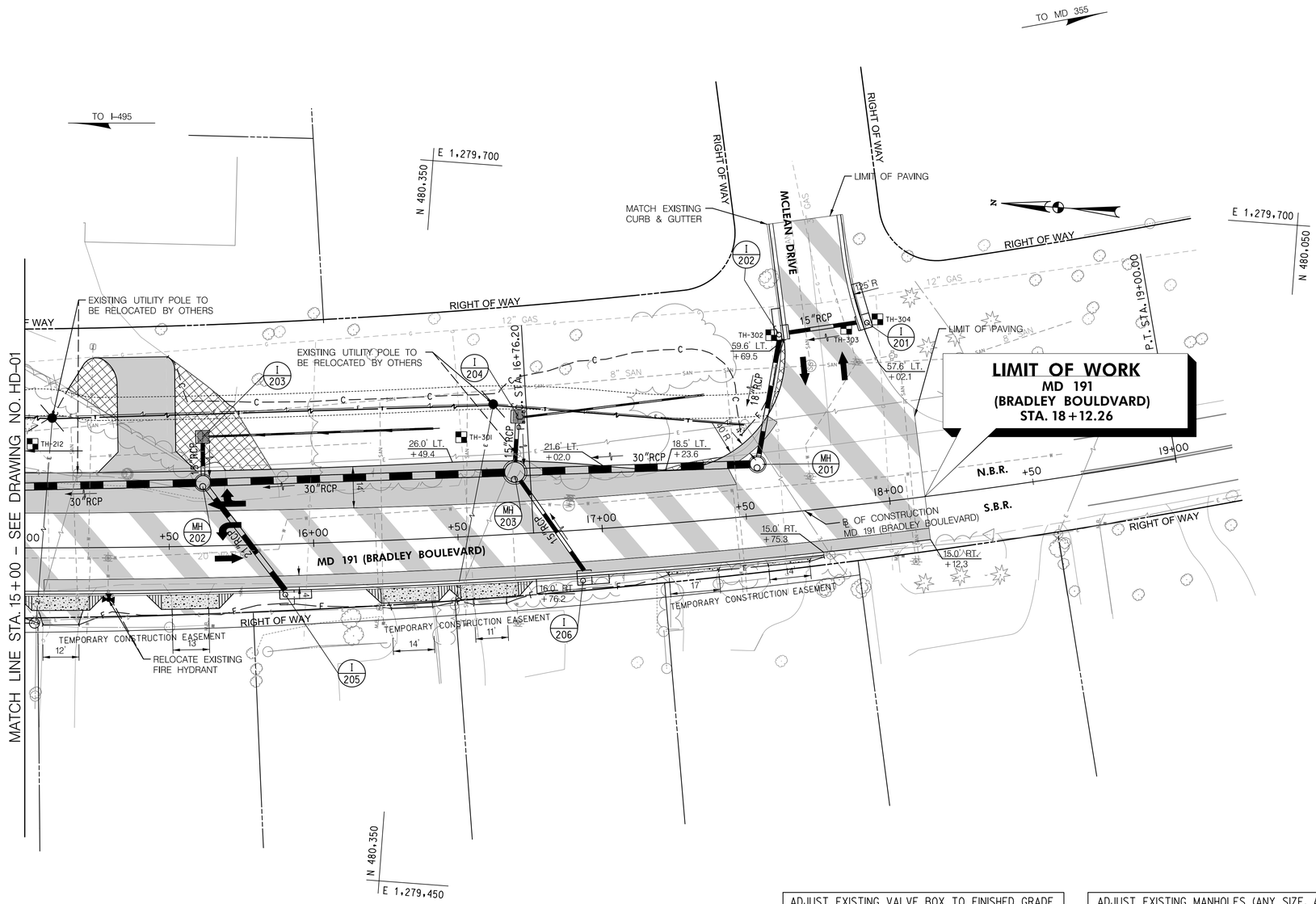


TEST HOLE LOCATION					
NO.	UTILITY	STATION	OFFSET	DEPTH	ELEVATION
TH-212	WASHINGTON GAS 1" PLASTIC GAS	15+03	36.0' LT.	2.99'	349.65'
TH-301	WASHINGTON GAS 1" PLASTIC GAS	16+53	34.5L LT.	2.88'	353.17'
TH-302	WASHINGTON GAS 1" PLASTIC GAS	17+65	61.6' LT.	3.40'	353.87'
TH-303	WSSC 6" D/I WATER	17+92	61.0' LT.	5.90'	351.27'
TH-304	WASHINGTON GAS 1" PLASTIC GAS	18+03	62.9' LT.	3.18'	355.57'

6 INCH DIAMETER PERFORATED PIPE FOR UNDERDRAINS PER STD. NO. MD. 387.11 AND 387.11-01	
262 L.F.	STA. 15+00 TO STA. 17+59, LT. (OUTLETS TO I-107)
277 L.F.	STA. 15+00 TO STA. 17+75, RT. (OUTLETS TO I-103 & I-205)

REMOVE AND RESET / RELOCATE EXISTING FENCE	
4 L.F.	STA. 15+00 TO STA. 15+04, RT.

COMBINATION CONCRETE CURB AND GUTTER TYPE A (STD NO. MD 620.02)	
277 L.F.	STA. 15+00 TO STA. 17+75, RT.

COMBINATION CONCRETE CURB AND GUTTER TYPE C (STD NO. MC-101.01)	
41 L.F.	STA. 17+68 TO STA. 17+69, LT.
41 L.F.	STA. 17+94 TO STA. 17+98, LT.

REMOVAL OF EXISTING CONCRETE COMBINATION CURB AND GUTTER	
103 L.F.	STA. 15+90 TO STA. 16+93, LT.

FINE MILLING 2 INCH HMA PAVEMENT	
1,134 S.Y.	STA. 15+00 TO STA. 18+21, MD 191
8 S.Y.	STA. 15+05 TO STA. 15+20, RT. DRWY.
3 S.Y.	STA. 15+51 TO STA. 15+63, RT. DRWY.
4 S.Y.	STA. 16+25 TO STA. 16+40, RT. DRWY.
3 S.Y.	STA. 16+54 TO STA. 16+65, RT. DRWY.

NOTE: TO BE PAID FOR AS MILLING HOT MIX ASPHALT PAVEMENT PER 1 INCH DEPTH. 2 PASSES WILL BE REQUIRED.

FULL DEPTH SAWCUT	
322 L.F.	STA. 15+00 TO STA. 18+12, RT.
281 L.F.	STA. 15+00 TO STA. 17+64, LT.
25 L.F.	STA. 15+25 TO STA. 15+50, LT.
18 L.F.	STA. 17+22 TO STA. 17+40, RT.
15 L.F.	STA. 17+55 TO STA. 17+70, RT.
41 L.F.	STA. 17+69 TO STA. 17+71, LT.
41 L.F.	STA. 17+93 TO STA. 17+97, LT.

REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND MONOLITHIC MEDIANS	
2 C.Y.	STA. 15+03 TO STA. 15+22, RT.
54 C.Y.	STA. 15+15 TO STA. 15+86, LT.
2 C.Y.	STA. 16+23 TO STA. 16+40, RT.
2 C.Y.	STA. 16+50 TO STA. 16+64, RT.
1 C.Y.	STA. 17+21 TO STA. 17+39, RT.
1 C.Y.	STA. 17+56 TO STA. 17+70, RT.

7 INCH DEPTH CONCRETE DRIVEWAY	
125 S.F.	STA. 15+00 TO STA. 15+27, RT.
125 S.F.	STA. 15+42 TO STA. 15+72, RT.
249 S.F.	STA. 16+18 TO STA. 16+75, RT.
18 S.F.	STA. 17+21 TO STA. 17+39, RT.
15 S.F.	STA. 17+56 TO STA. 17+71, RT.

ADJUST EXISTING VALVE BOX TO FINISHED GRADE (ANY SIZE, ANY TYPE)	
1 EA.	STA. 17+83, LT.
1 EA.	STA 17+94, LT.

ADJUST EXISTING MANHOLES (ANY SIZE, ANY TYPE) TO FINISHED GRADE: DOWN 6 INCHES OR UP 12 INCHES	
1 EA.	STA. 17+78, LT.

RELOCATION OF EXISTING FIRE HYDRANT	
1 EA.	STA. 15+29, RT.

HD-02

ROADWAY LEGEND

- FULL DEPTH ASPHALT PAVEMENT
- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- EXISTING PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
- DETECTABLE WARNING SURFACE

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: SmithT2 -

"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. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

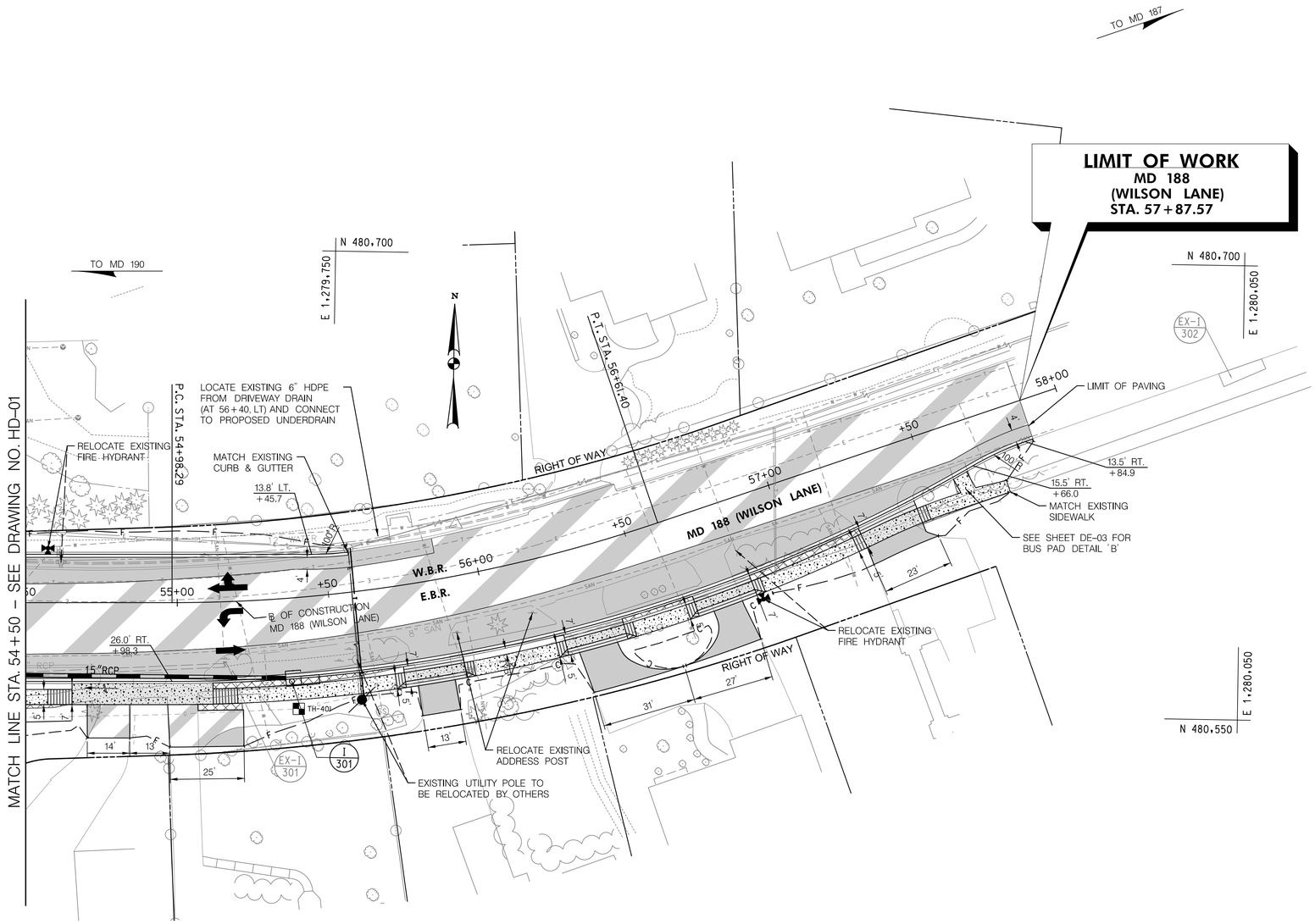
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ROADWAY PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
FILE: \\stvgroup.stvinc.com\v2\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pHD-P002_BradleyWilson.dgn



TEST HOLE LOCATION					
NO.	UTILITY	STATION	OFFSET	DEPTH	ELEVATION
TH-401	WASHINGTON GAS 6" W/S GAS	55+37	36.7' RT.	3.54'	350.40'

6 INCH DIAMETER PERFORATED PIPE FOR UNDERDRAINS PER STD. NO. MD. 387.11 AND 387.11-01	
106 L.F.	STA. 54+50 TO STA. 55+58, LT. (OUTLETS TO I-104)
207 L.F.	STA. 55+39 TO STA. 57+38, RT. (OUTLETS TO I-301)

COMBINATION CONCRETE CURB AND GUTTER TYPE A (STD NO. MD 620.02)	
347 L.F.	STA. 54+50 TO STA. 57+88, RT.
107 L.F.	STA. 54+50 TO STA. 55+58, LT.

FINE MILLING 2 INCH HMA PAVEMENT	
916 S.Y.	STA. 54+50 TO STA. 57+88, MD 188
14 S.Y.	STA. 54+70 TO STA. 54+84, RT. DRWY.
29 S.Y.	STA. 54+97 TO STA. 55+20, RT. DRWY.

NOTE: TO BE PAID FOR AS MILLING HOT MIX ASPHALT PAVEMENT PER 1 INCH DEPTH. 2 PASSES WILL BE REQUIRED.

REMOVAL OF EXISTING CONCRETE COMBINATION CURB AND GUTTER	
21 L.F.	STA. 54+50 TO STA. 54+71, RT.
107 L.F.	STA. 54+50 TO STA. 55+58, LT.

5 INCH DEPTH RESIDENTIAL SIDEWALK INCLUDING RAMPS	
37 S.F.	STA. 54+50 TO STA. 54+57, RT.
263 S.F.	STA. 55+19 TO STA. 55+68, RT.
141 S.F.	STA. 55+93 TO STA. 56+19, RT.
93 S.F.	STA. 56+44 TO STA. 56+61, RT.
168 S.F.	STA. 56+88 TO STA. 57+21, RT.
162 S.F.	STA. 57+47 TO STA. 57+75, RT.

FULL DEPTH SAWCUT	
346 L.F.	STA. 54+50 TO STA. 57+88, RT.
141 L.F.	STA. 54+50 TO STA. 55+87, LT.
12 L.F.	STA. 54+70 TO STA. 54+75, RT.
28 L.F.	STA. 55+08 TO STA. 55+20, RT.
13 L.F.	STA. 55+75 TO STA. 55+86, RT.
58 L.F.	STA. 56+27 TO STA. 56+81, RT.
24 L.F.	STA. 57+25 TO STA. 57+48, RT.

REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND MONOLITHIC MEDIANS	
50 C.Y.	STA. 54+50 TO STA. 57+75, RT.

7 INCH DEPTH CONCRETE DRIVEWAY	
407 S.F.	STA. 54+57 TO STA. 55+19, RT.
172 S.F.	STA. 55+68 TO STA. 55+93, RT.
172 S.F.	STA. 56+19 TO STA. 56+44, RT.
172 S.F.	STA. 56+61 TO STA. 56+88, RT.
177 S.F.	STA. 57+21 TO STA. 57+47, RT.

RELOCATION OF EXISTING FIRE HYDRANT	
1 EA.	STA. 54+57, LT.
1 EA.	STA. 56+86, RT.

ADJUST EXISTING MANHOLES (ANY SIZE, ANY TYPE) TO FINISHED GRADE: DOWN 6 INCHES OR UP 12 INCHES	
1 EA.	STA. 55+14, LT.

ADJUST EXISTING VALVE BOX TO FINISHED GRADE (ANY SIZE, ANY TYPE)	
1 EA.	STA. 55+92, RT.
1 EA.	STA 56+90, RT.

HD-03

ROADWAY LEGEND

- FULL DEPTH ASPHALT PAVEMENT
- PORTLAND CEMENT CONCRETE
- FINE MILLING, WEDGE AND LEVEL, AND RESURFACING
- EXISTING PAVEMENT REMOVAL
- PORTLAND CEMENT CONCRETE FOR DRIVEWAYS
- DETECTABLE WARNING SURFACE

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: SmithT2 -

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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

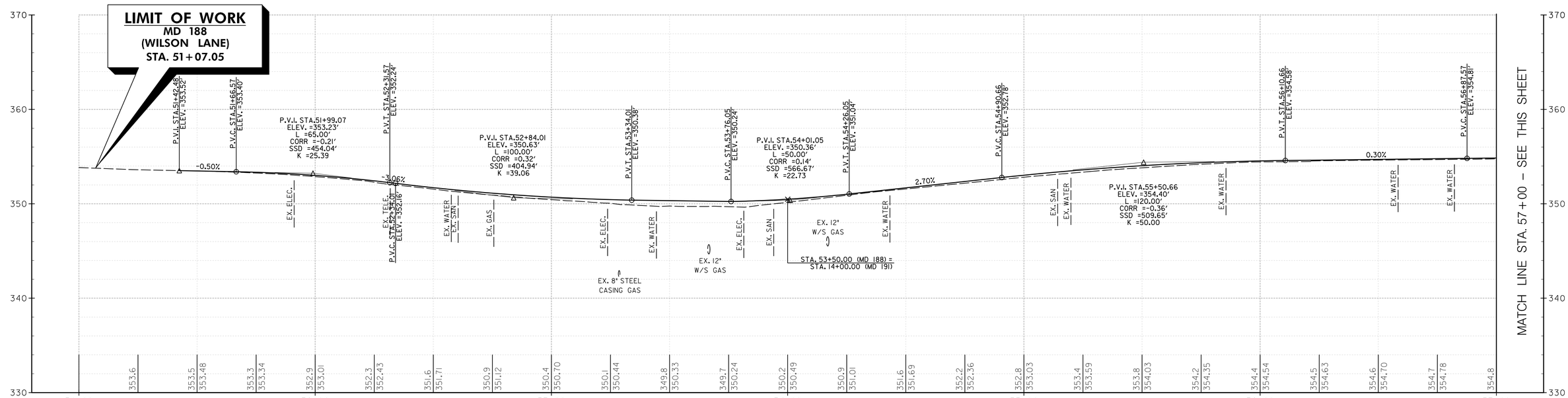
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ROADWAY PLAN

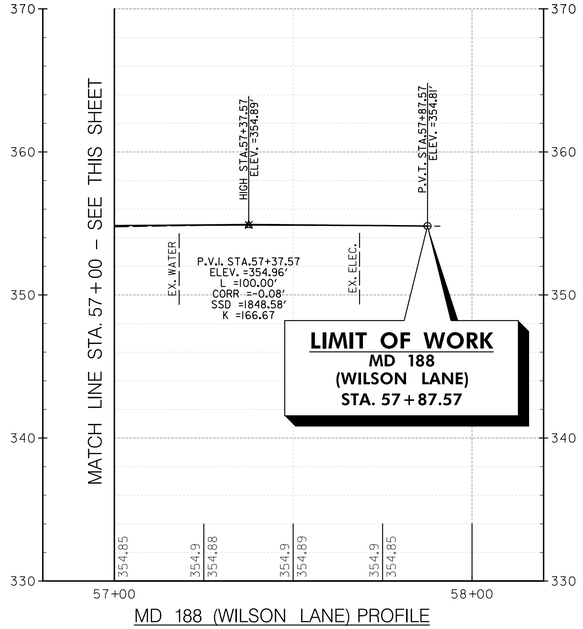
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
FILE: \\stvgroup.stvinc.com\v3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pHD-P003_BradleyWilson.dgn



MD 188 (WILSON LANE) PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



MD 188 (WILSON LANE) PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

HP-01

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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ROADWAY PROFILES

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: AS NOTED

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
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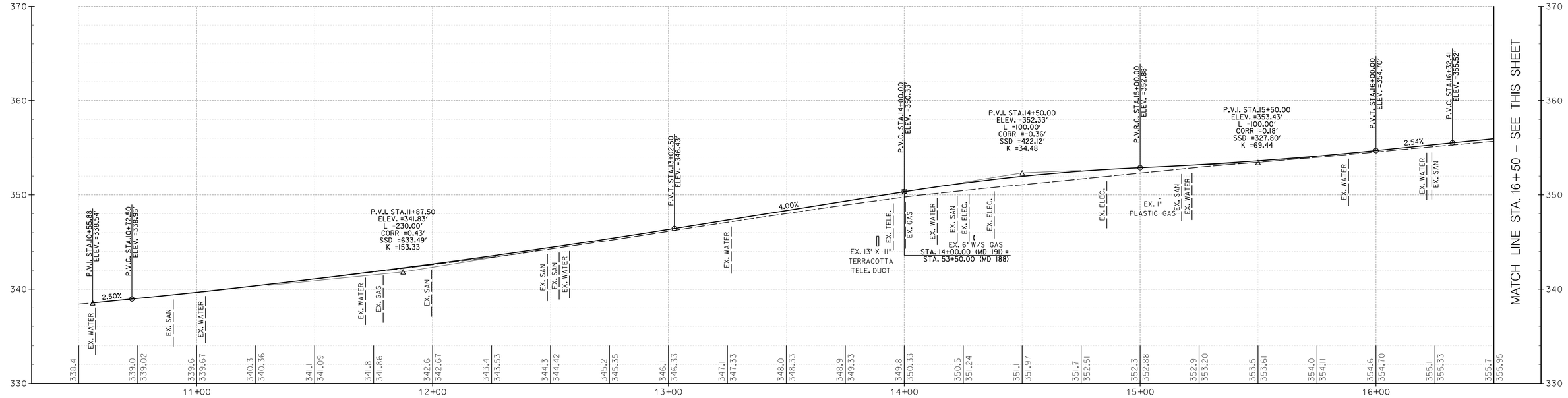
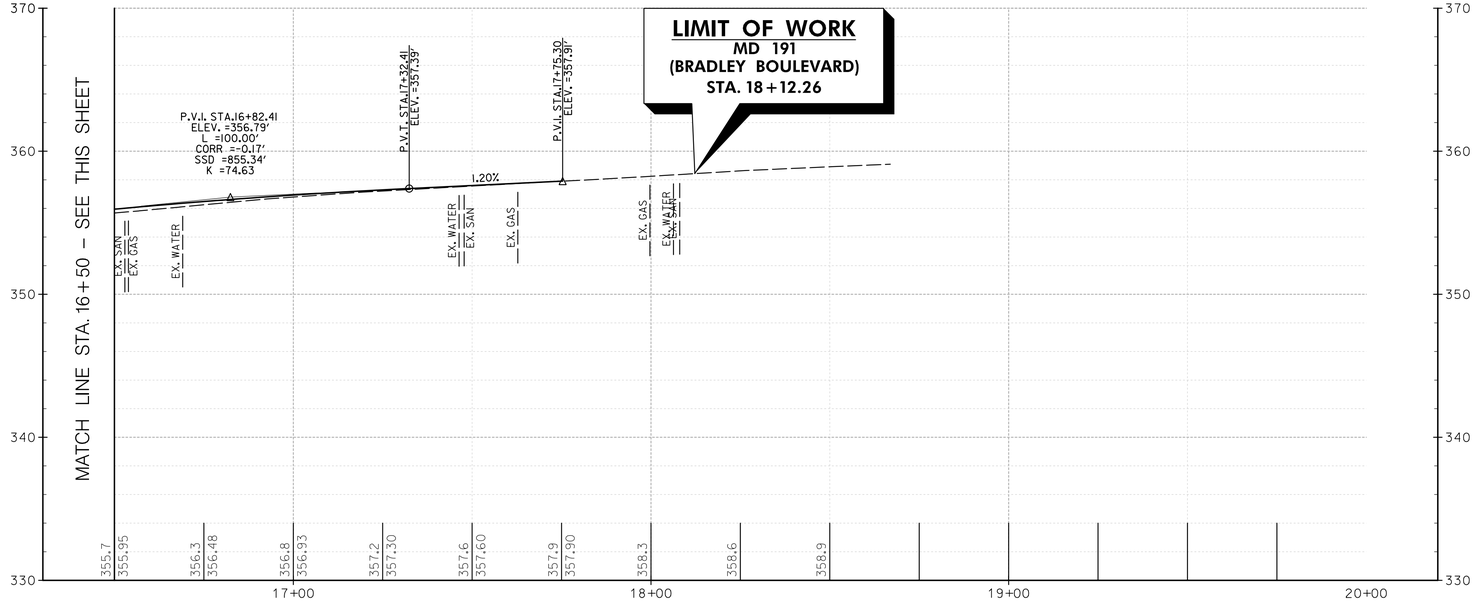


MD 191 (BRADLEY BOULEVARD) PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.



MD 191 (BRADLEY BOULEVARD) PROFILE
SCALE: 1" = 20' HORIZ.
1" = 5' VERT.

HP-02

NO.	REVISION	BY	DATE

Designed By TBS Drawn By TBS Checked By JNS

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

ROADWAY PROFILES

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: AS NOTED

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Owings Mills, Maryland 21117
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LICENSE NO. 33962

EXPIRATION DATE JANUARY 14, 2023

STATE OF MARYLAND — JASON N. SMITH — No. 33962 — PROFESSIONAL ENGINEER

PLOTTED: Thursday, July 21, 2022 AT 09:45 AM
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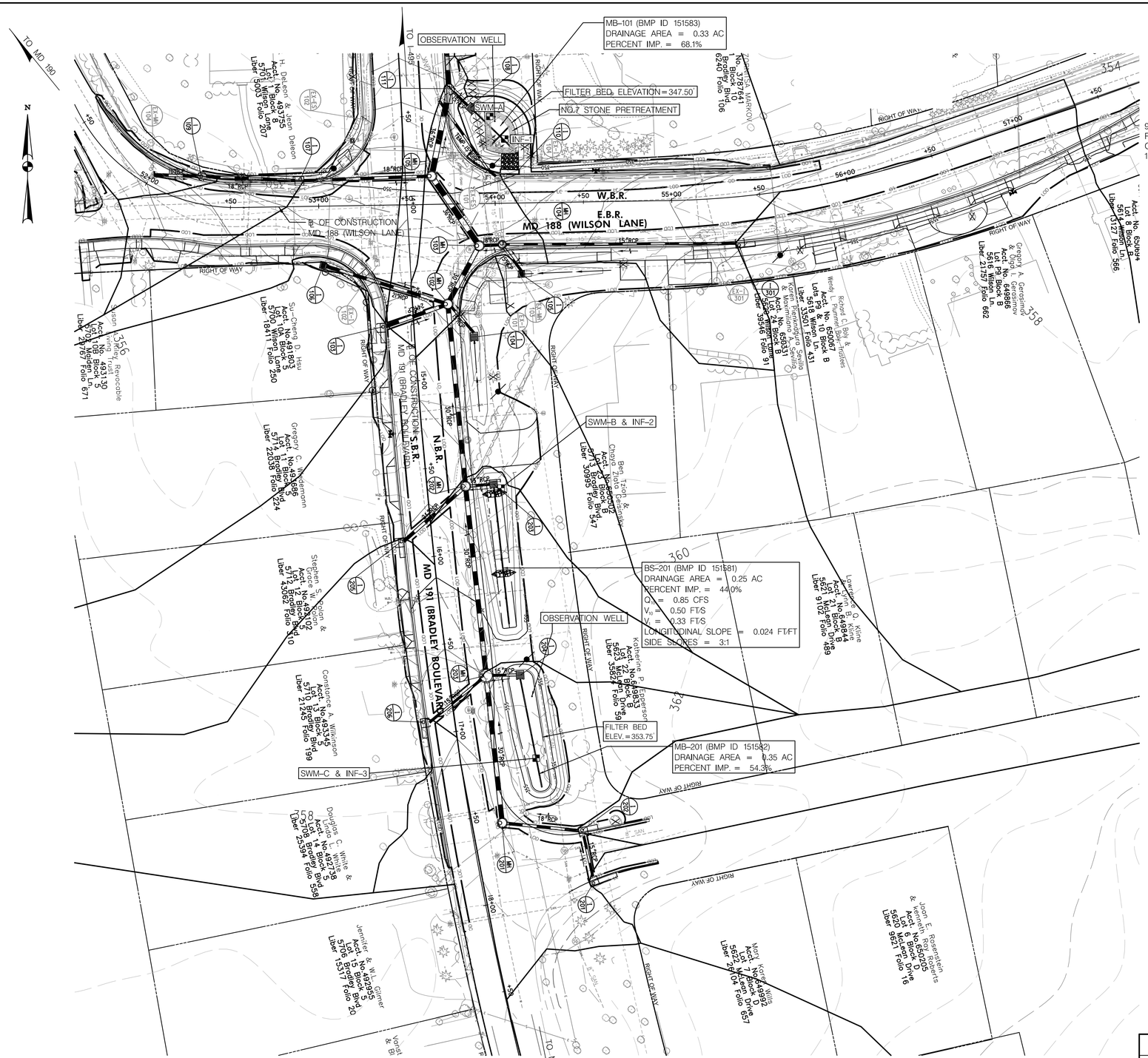
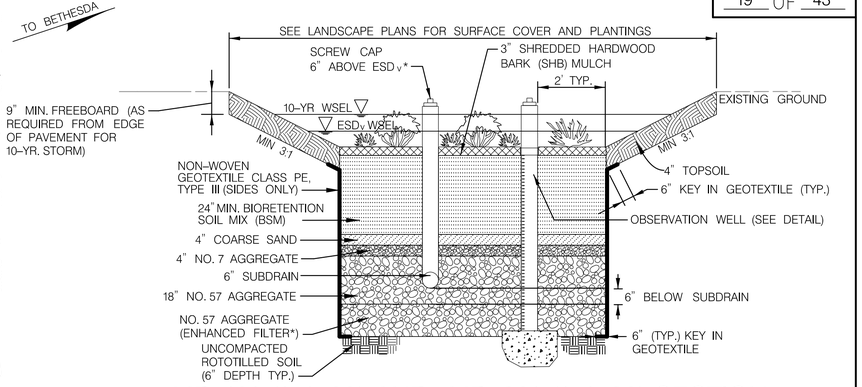
BY: SmithT2 -

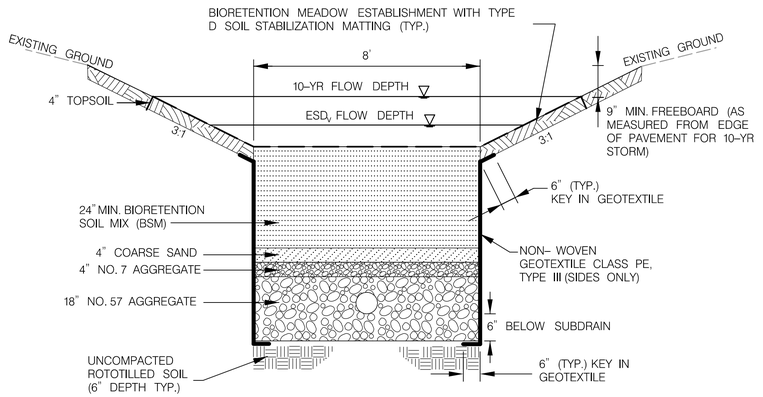




MB–101 (151583) AND MB–201 (151582) SECTION

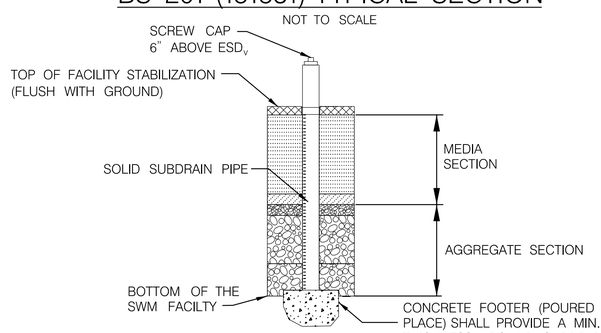
NOT TO SCALE

*ONLY PROVIDE ENHANCED FILTER IN MB–101 1.10' DEEP



BS–201 (151581) TYPICAL SECTION

NOT TO SCALE



OBSERVATION WELL DETAIL

NOT TO SCALE

SW–01

30' 0 30' 60'
SCALE: 1" = 30'

LEGEND

- C CUT LINE
- F FILL LINE
- EXISTING PIPE
- PROPOSED PIPE
- DRAINAGE AREA DELINEATION
- TOPSOIL CHECK DAM
- LOD LIMIT OF DISTURBANCE (LOD)
- FLOW DIRECTION
- BMP LOCATION
- EXISTING RIGHT-OF-WAY (ROW)

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

"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. 33330

EXPIRATION DATE JUNE 29, 2024

STATE OF MARYLAND · ELIZABETH JANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

NO.	REVISION	BY	APP'D	DATE

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Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE –

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

STORMWATER MANAGEMENT PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 30'

PLOTTED: Thursday, July 21, 2022 AT 01:18 PM
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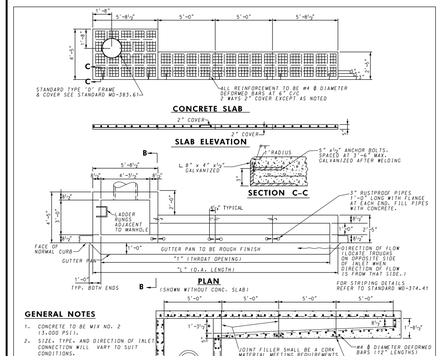


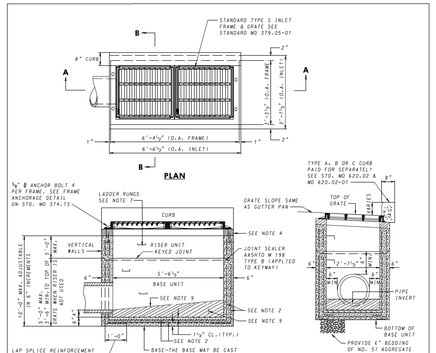
GENERAL NOTES

1. CONCRETE TO BE MIX NO. 2 (3,000 PSI).
2. SIZE, TYPE, AND DIRECTION OF INLET CONNECTION WILL VARY TO SUIT CONDITIONS.
3. SEE SHA LATEST SPECIFICATIONS FOR INLETS.
4. CURB OPENING SHOULD NOT ENCROACH ON CROSSWALK AREAS.
5. WHEN "A" IS LESS THAN 1'-0", WALL REINFORCEMENT SHALL BE ONE LAYER OF NO. 4 DEFORMED BARS @ 6" C/C, TWO WAYS, AND HAVE 3" COVER. WHEN "A" IS GREATER THAN 1'-0" AND LESS THAN THE 15'-0", WALL REINFORCEMENT TO BE TWO LAYERS OF NO. 4 DEFORMED BARS @ 6" C/C, TWO WAYS - ON INSIDE AND OUTSIDE OF WALL WITH 2" COVER.
6. BASE REINFORCEMENT SHALL BE ONE LAYER OF NO. 4 DEFORMED BARS @ 6" C/C - TWO WAYS, WITH 2" COVER FROM TOP OF BASE.
7. PLACE EXPANSION MATERIAL (SAME TYPE APPROVED FOR PAYMENT) AS INDICATED.
8. ANGLES AND ANCHOR BOLTS TO BE GALVANIZED IN ACCORDANCE WITH ASTM A123 AFTER WELDING.
9. INLET DEPTH MUST BE INCREASED WHEN PIPES LARGER THAN 18" AND USED UNDER THE TROUGH SECTION.
10. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STD NO 383.91 AND NO 383.92 OR AS DIRECTED BY THE ENGINEER.
11. FROM THE CURB LINE, INLET HAS BEEN DESIGNED FOR H5-25 LOADING ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR A MAXIMUM DEPTH OF 15'-0"

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 3-23-91	APPROVAL 1-3-91
REVISED 11-28-94	REVISED 5-3-95
REVISED 10-7-14	REVISED 9-29-14

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD C O G INLETS
5', 10', 15' & 20'
STANDARD NO. MD 374.31



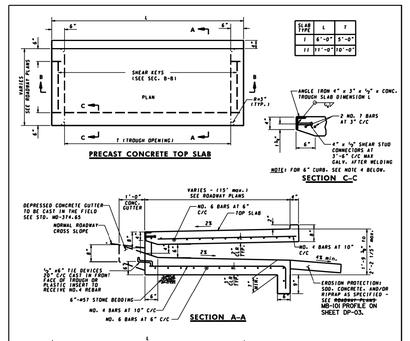
NOTES

1. CONCRETE TO BE MIX NO. 6 (4500 PSI).
2. REINFORCING WALLS – 2 LAYERS OF 4X4-W6.0 X W6.0 WELDED WIRE FABRICS BASE – 2 LAYERS OF 4X4 – W7.0 X W7.0 WELDED WIRE FABRIC
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS WITH 2", MAX. 9" SHALL BE COMPLETED IN THE FIELD USING CONCRETE MIX NO. 6.
5. PIPE OPENINGS TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO THE CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 OR 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
8. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 3'-6" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE GRATE AT ITS HIGHEST POINT. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 3'-6" INCLUDING ALL APPURTENANCES.
9. CONCRETE OR BRICK TO BE PROVIDED IN THE FIELD AND SHALL SLOPE 2 IN./FT TOWARD OUTLET OR AS DIRECTED.
10. BASE WALLS UNIT MAY TAPER PER MANUFACTURER'S DESIGN.
11. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR H5-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 3-22-91	APPROVAL 1-3-91
REVISED 10-7-14	REVISED 9-29-14
REVISED –	REVISED

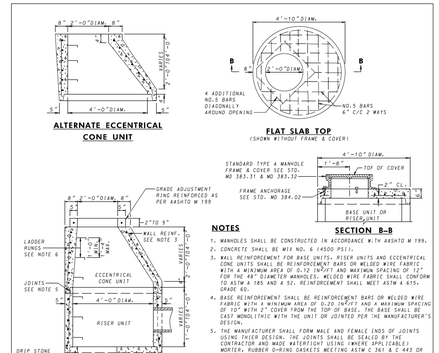
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST STANDARD TYPE S INLET
DOUBLE GRATE TANDEM
STANDARD NO. MD 374.70



SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED Rick G. Miller	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 12-19-01	APPROVAL 7-15-03
REVISED 1-9-08	REVISED 11-26-07
REVISED	REVISED
REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST-IN-PLACE
COG /COS OPENING FOR 8" CURB
5' OR 10' ONLY
STANDARD NO. MD 374.68



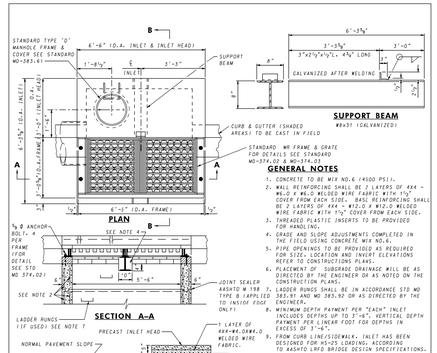
NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN²/FT AND MAXIMUM SPACING OF 12". FOR THE 48" DIAMETER MANHOLES, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN²/FT AND A MAXIMUM SPACING OF 12" IN BOTH DIRECTIONS. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92 LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MULTIPLE OPENINGS IN THE BASE UNIT OR ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO. 3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO. 2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. NO 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 5'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR H5-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 3-23-91	APPROVAL 1-3-91
REVISED 10-7-14	REVISED 9-29-14
REVISED –	REVISED

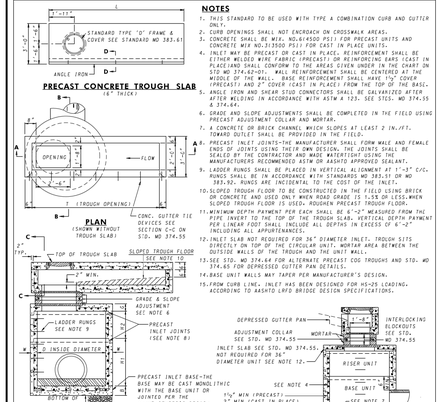
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
48" DIAMETER PRECAST MANHOLE
FOR 12" TO 24" PIPES
STANDARD NO. MD 384.01



SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 3-23-91	APPROVAL 1-3-91
REVISED 10-7-14	REVISED 9-29-14
REVISED –	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST WRM INLET
STANDARD NO. MD 374.22



NOTES

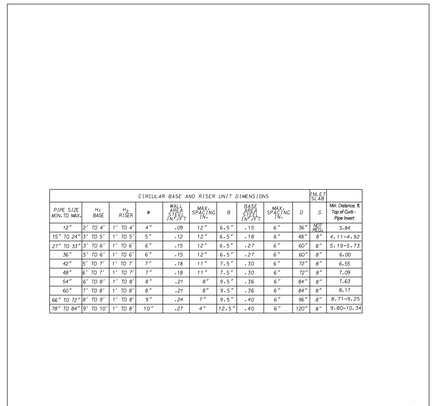
1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX. NO.6(4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3(3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE)AND SHALL CONFORM TO THE AREAS GIVEN UNDER IN THE CHART ON STD NO 374.62-07. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. NO 374.55 & 374.61.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.01 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE MIX NO.2 AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET. WHEN SLOPED TROUGH FLOOR IS USED, PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" (INCLUDING ALL APPURTENANCES).
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. NO 374.64 FOR ALTERNATE PRECAST COG TROUGHS AND STD. NO 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR H5-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 3-23-91	APPROVAL 1-3-91
REVISED 11-28-94	REVISED 5-3-95
REVISED 10-7-14	REVISED 9-29-14

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST
IN PLACE CIRCULAR COG INLETS
5', 10', 15', & 20'
STANDARD NO. MD 374.62

CIRCULAR BASE AND RISER UNIT DIMENSIONS													Mix & Cl. for Rip Rap
PIPE SIZE MIN. TO MAX.	H_1 BASE	H_2 RISERS	W	BAR AREA IN²/FT	MAX. SPACING IN.	B	BASE WEIGHT LB/FT	MAX. SPACING IN.	D	G	
12"	2' TO 4'	1' TO 4'	4"	.09	12"	6.5"	.15	6"	36"	NO. 6	3.84
15" TO 24"	3' TO 5'	1' TO 5'	5"	.12	12"	6.5"	.18	6"	48"	8"	4.11-4.92
27" TO 33"	3' TO 6'	1' TO 6'	6"	.15	12"	6.5"	.27	6"	60"	8"	5.13-5.73
36"	5' TO 6'	1' TO 6'	6"	.15	12"	6.5"	.27	6"	60"	8"	6.00
42"	3' TO 7'	1' TO 7'	7"	.18	11"	7.5"	.30	6"	72"	8"	6.55
48"	3' TO 7'	1' TO 7'	7"	.18	11"	7.5"	.30	6"	72"	8"	7.09
54"	6' TO 8'	1' TO 8'	8"	.21	8"	9.5"	.36	6"	84"	8"	7.43
60"	7' TO 8'	1' TO 8'	8"	.21	8"	9.5"	.36	6"	84"	8"	8.17
66" TO 72"	8' TO 9'	1' TO 8'	9"	.24	7"	9.5"	.40	6"	96"	8"	9.71-9.25
78" TO 84"	9' TO 10'	1' TO 8'	10"	.27	4"	12.5"	.40	6"	120"	8"	9.80-10.34



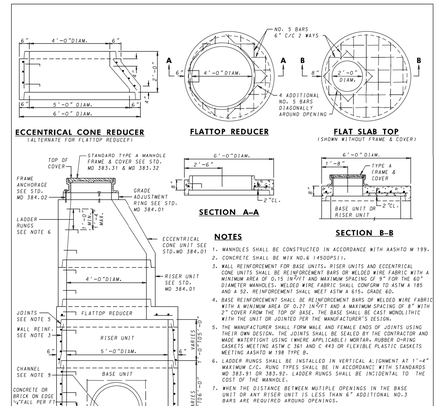
GENERAL NOTES

1. CONCRETE TO BE MIX NO.6 (4500 PSI).
2. REINFORCING WALLS –2 LAYERS OF 4x4-W4.0x W4.0 WELDED WIRE FABRICS BASE – 2 LAYERS OF 4X4 – W5.0 X W5.0 WELDED WIRE FABRIC
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS TO BE COMPLETED IN THE FIELD USING CONCRETE MIX NO.6.
5. PIPE OPENINGS TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 AND MD 383.92 OR AS DIRECTED BY THE ENGINEER.
8. MINIMUM DEPTH PAYMENT PER "EACH" INLET INCLUDES DEPTHS UP TO 3'-6". VERTICAL DEPTH PAYMENT PER LINEAR FOOT FOR DEPTHS IN EXCESS OF 3'-6".
9. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR H5-25 LOADING. ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL 4-15-97	APPROVAL 6-23-97
REVISED 8-3-10	REVISED 7-26-10
REVISED 10-7-14	REVISED 9-29-14
REVISED –	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST STANDARD
TYPE S INLET SINGLE GRATE
STANDARD NO. MD 374.73



NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO.6 (4500PSI).
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN²/FT AND MAXIMUM SPACING OF 12". FOR THE 60" DIAMETER MANHOLES, WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OF WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN²/FT AND A MAXIMUM SPACING OF 8" WITH 2" COVER FROM THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER THE MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92 LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MULTIPLE OPENINGS IN THE BASE UNIT OR ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SL

PIPE SCHEDULE

FROM	TO	SIZE (IN)	TYPE	LENGTH (FT)	INV. IN (FT)	INV. OUT (FT)	REMARKS
EX I-105	EX MH-104	15	RCP CLASS IV	35	347.98	347.30	
EX MH-101		42	RCP CLASS IV	15	327.10	326.93	REMOVE EXISTING 18" FIELD CONNECTION. REBUILD AND CONNECT TO EXISTING 42" RCP
EX MH-104	I-109	18	RCP CLASS IV	24	346.95	346.45	
I-101	I-112	15	RCP CLASS IV	37	338.29	334.87	
I-102	EX MH-101	42	RCP CLASS IV	109	327.74	327.20	
I-103	MH-102	24	RCP CLASS IV	36	341.22	340.95	
I-104	MH-102	15	RCP CLASS IV	20	346.73	345.32	
I-105	MH-104	15	RCP CLASS IV	17	347.87	347.56	
I-106	MH-102	21	RCP CLASS IV	70	346.79	345.40	
I-107	MH-105	18	RCP CLASS IV	71	337.84	336.13	
I-108	I-111	15	RCP CLASS IV	12	343.00	342.77	
I-109	I-107	18	RCP CLASS IV	52	344.96	343.17	
I-111	I-112	29x45	HERCP CLASS IV	142	329.72	328.30	
I-112	I-102	42	RCP CLASS IV	72	328.20	327.84	
I-201	I-202	15	RCP CLASS IV	26	352.93	352.62	
I-202	MH-201	18	RCP CLASS IV	42	351.18	350.42	
I-203	MH-202	15	RCP CLASS IV	13	346.98	346.72	
I-204	MH-203	15	RCP CLASS IV	15	349.41	349.19	
I-205	MH-202	21	RCP CLASS IV	45	343.83	342.87	
I-206	MH-203	15	RCP CLASS IV	38	351.00	350.21	
I-301	MH-104	15	RCP CLASS IV	131	349.96	348.00	
MH-102	MH-103	30	RCP CLASS IV	33	336.65	336.08	
MH-103	MH-105	36	RCP CLASS IV	43	333.80	333.05	
MH-104	MH-103	18	RCP CLASS IV	9	347.14	346.83	
MH-105	I-111	36	RCP CLASS IV	46	332.76	332.42	
MH-201	MH-203	30	RCP CLASS IV	78	350.12	349.49	
MH-202	MH-102	30	RCP CLASS IV	99	337.87	336.90	
MH-203	MH-202	30	RCP CLASS IV	102	348.89	346.85	

MANHOLE SCHEDULE

NO.	TYPE	DETAIL	REMARKS
MH-102	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	
MH-103	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	
MH-104	48" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.01	
MH-105	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	
MH-201	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	
MH-202	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	
MH-203	60" DIAMETER PRECAST MANHOLE	STD. DETAIL MD 384.03	

INLET SCHEDULE

NO.	TYPE	REMARKS
I-101	STD. DETAIL MD 374.70	
I-102	STD. DETAIL MD 374.31, COG-10	
I-103	STD. DETAIL MD 374.31, COG-10	
I-104	STD. DETAIL MD 374.73	
I-105	STD. DETAIL MD 374.73	
I-106	STD. DETAIL MD 374.73	
I-107	STD. DETAIL MD 374.31, COG-5	PRECAST INLET BASE TO EXTEND UNDERNEATH ROADWAY
I-108	STD. DETAIL MD 374.73	
I-109	STD. DETAIL MD 374.62, COG-10	
I-110	STD. DETAIL MD 374.68	SLAB TYPE II. TG = 347.92'
I-111	STD. DETAIL MD 374.62, COG-10	
I-112	STD. DETAIL MD 374.22	
I-201	STD. DETAIL MD 374.31, COG-15	PRECAST INLET BASE TO EXTEND UNDERNEATH ROADWAY
I-202	STD. DETAIL MD 374.31, COG-10	PRECAST INLET BASE TO EXTEND UNDERNEATH ROADWAY
I-203	STD. DETAIL MD 374.73	
I-204	STD. DETAIL MD 374.73	
I-205	STD. DETAIL MD 374.31, COG-10	
I-206	STD. DETAIL MD 374.31, COG-10	PRECAST INLET BASE TO EXTEND UNDERNEATH ROADWAY
I-301	STD. DETAIL MD 374.31, COG-10	PRECAST INLET BASE TO EXTEND UNDERNEATH ROADWAY

COORDINATES

NO.	MARYLAND STATE PLANE	
	NORTH	EAST
MH-102	480524.3616	1279572.8704
MH-103	480557.4189	1279590.6720
MH-104	480558.1085	1279603.5940
MH-105	480596.9278	1279563.6737
MH-201	480230.2191	1279603.6911
MH-202	480420.9783	1279582.8900
MH-203	480313.6740	1279594.5633
I-101	480789.2740	1279522.1323
I-102	480868.8301	1279559.6797
I-103	480510.9994	1279537.6798
I-104	480505.8056	1279587.6196
I-105	480541.4559	1279615.7855
I-106	480546.1648	1279502.1802
I-107	480594.4777	1279491.1802
I-108	480635.3903	1279585.3206
I-109	480596.9945	1279435.1142
I-111	480647.6493	1279573.6586
I-112	480792.3764	1279563.5692
I-201	480199.5638	1279655.6505
I-202	480228.1360	1279649.2157
I-203	480422.4415	1279600.0504
I-204	480314.8234	1279613.8934
I-205	480389.2942	1279547.8689
I-206	480287.2268	1279562.5033
I-301	480561.2787	1279738.2554

MANHOLE AND OPEN-BACK INLET COORDINATES ARE PROVIDED AT THE CENTER OF THE STRUCTURE. GRATE INLET COORDINATES ARE PROVIDED AT THE CENTER OF THE GRATE. CURB OPENING INLET COORDINATES ARE PROVIDED AT THE CENTER OF THE COVER.

*REFER TO PIPE PROFILES ON DRAWINGS DP-01, DP-02, AND DP-03 FOR INVERTS AND TOPS OF STRUCTURES

DD-02

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE -

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

STATE OF MARYLAND · ELIZABETH TANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

NO.	REVISION	BY	APP'D	DATE

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

STORMWATER MANAGEMENT/DRAINAGE DETAILS AND SCHEDULE

MD 191 (BRADLEY BOULEVARD)
MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: NTS

PLOTTED: Thursday, July 21, 2022 AT 01:36 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pDD-0002_BradleyWilson.dgn

STORMWATER MANAGEMENT (SWM) FACILITY AS–BUILT CERTIFICATION

1. SUBMIT A CERTIFICATION PACKAGE THAT AFFIRMS THAT STORMWATER MANAGEMENT (SWM) FACILITIES AND PRACTICES ARE CONSTRUCTED AS SPECIFIED OR ARE FUNCTIONALLY EQUIVALENT TO THE DESIGNS IN THE APPROVED SWM REPORT, REVISING THE CERTIFICATION PACKAGE AS NEEDED UNTIL FINAL ACCEPTANCE.

A. SWM AS–BUILT ENGINEER. THE SWM AS–BUILT ENGINEER (ABE) IS RESPONSIBLE FOR ASSEMBLING AND CERTIFYING THE SWM CERTIFICATION PACKAGE. DUTIES INCLUDE ADEQUATELY DOCUMENTING THAT THE SWM FACILITIES HAVE BEEN CONSTRUCTED AS SPECIFIED, AND PERFORMING INSPECTIONS DURING PERTINENT CONSTRUCTION ACTIVITIES FOR SWM FACILITIES AND PRACTICES. THE ABE SHALL BE A PROFESSIONAL ENGINEER (P.E.) REGISTERED AND LICENSED IN THE STATE OF MARYLAND AND WHO HAS AT LEAST THREE YEARS OF EXPERIENCE IN SWM FACILITY DESIGN AND SWM FACILITY CONSTRUCTION. SUBMIT ONE COPY OF THE ABE'S RESUME TO THE ENGINEER. THE RESUME SHALL INCLUDE THE FOLLOWING.

I. FULL NAME OF THE ABE, LICENSE NO. AND EXPIRATION DATE.
II. NAME OF EMPLOYING COMPANY OR FIRM.
III. CONTACT INFORMATION.
IV. RELEVANT WORK EXPERIENCE.
V. PROOF OF VALID CERTIFICATION OF THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE) RESPONSIBLE PERSONNEL FOR EROSION AND SEDIMENT CONTROL TRAINING COURSE (FORMERLY *GREEN CARD*). NOTE: ALL CERTIFICATIONS FOR THE FORMER COURSE MDE RESPONSIBLE PERSONNEL TRAINING FOR EROSION AND SEDIMENT CONTROL (*GREEN CARD*) EXPIRED ON DECEMBER 31, 2016 AND ARE NO LONGER VALID.

THE ABE SHALL HAVE THE OPTION TO USE DESIGNEES, WHO ARE UNDER THE DIRECT SUPERVISION OF THE ABE, TO PERFORM THE FOLLOWING DUTIES ON BEHALF OF THE ABE.

I. DOCUMENTING THAT THE SWM FACILITIES HAVE BEEN CONSTRUCTED AS SPECIFIED, INCLUDING WRITING ACTIVITY INSPECTION REPORTS, TAKING PHOTOGRAPHS, AND OBTAINING COPIES OF MATERIAL APPROVALS AND MATERIAL TEST RESULTS.
II. PERFORMING INSPECTIONS DURING PERTINENT CONSTRUCTION ACTIVITIES FOR SWM FACILITIES AND PRACTICES, COMPLETING THE PERTINENT PORTIONS OF THE SWM FACILITY ASBUILT CERTIFICATION DATA TABLES.
WHEN THE ABE ELECTS TO USE DESIGNEES, SUBMIT THE NAMES AND RESUMES INDICATING THEIR EXPERIENCE IN THE DESIGN AND INSPECTION OF SWM FACILITIES, OF THOSE DESIGNEES AUTHORIZED BY THE ABE TO REPRESENT THE ABE TO THE ENGINEER. ONLY AUTHORIZED DESIGNEES MAY REPRESENT THE ABE FOR THE LIMITED DUTIES SPECIFIED.

2. SWM FACILITY AS–BUILT CERTIFICATION PACKAGE. THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE CONTAINS DOCUMENTATION THAT VERIFIES THAT THAT ALL SWM FACILITIES AND PRACTICES ON THE CONTRACT HAVE BEEN CONSTRUCTED AS SPECIFIED OR ARE FUNCTIONALLY EQUIVALENT TO THE DESIGNS IN THE APPROVED SWM REPORT.

THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE SHALL INCLUDE THE FOLLOWING FOR EACH SWM FACILITY IN THE CONTRACT, PRESENTED NEATLY AND LEGIBLY, AND ORGANIZED IN AN EASY–TO–FOLLOW FORMAT.

I. SWM FACILITY CONSTRUCTION INSPECTION REPORTS. THE INSPECTION REPORTS SHALL INCLUDE THE FOLLOWING.
A. THE SWM FACILITY IDENTIFICATION NUMBER (BMP NO. OR SWM FAC. NO.) AND TYPE OF SWM FACILITY OR PRACTICE.
B. THE DATE AND LOCATION OF THE ACTIVITY.
C. PHOTOGRAPHS, TAKEN DURING INSPECTIONS, THAT CLEARLY SHOW THE CONSTRUCTION ACTIVITIES AS LISTED ON THE PERTINENT SWM FACILITY AS–BUILT DATA TABLES, WITH NARRATIVE DESCRIPTIONS OF WHAT APPEARS IN THE PHOTOGRAPHS, THE DATES THE PHOTOGRAPHS WERE TAKEN, AND THE LOCATIONS.
D. VERIFICATION OF WHETHER SWM FACILITY AS–BUILT CONSTRUCTION IS AS SPECIFIED, NOTING ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS AND HOW THE DEVIATIONS HAVE BEEN ADDRESSED.
II. (PHOTOGRAPHS OF SWM FACILITIES AND PRACTICES AFTER ALL LANDSCAPING HAS BEEN INSTALLED AND ESTABLISHED, WITH NARRATIVE DESCRIPTIONS OF WHAT APPEARS IN THE PHOTOGRAPHS.
III. COPIES OF PERTINENT MATERIAL APPROVAL FORMS.
IV. COPIES OF PERTINENT MATERIAL AND INSTALLATION TEST REPORTS AND RESULTS.
V. COMPLETED AS–BUILT CERTIFICATION DATA TABLES, (F) GREEN LINE AS–BUILT SURVEYS OF THE SWM FACILITIES AND PRACTICES SIGNED AND SEALED BY A PROFESSIONAL LAND SURVEYOR (PLS) WHO IS REGISTERED AND LICENSED IN THE STATE OF MARYLAND. THE AS–BUILT SURVEY DATA SHALL BE OVERLAID ON THE APPROPRIATE CONTRACT PLAN SHEET(S) AND PROFILE SHEETS, AT THE SAME SCALE AND DATUM, AND ARE COORDINATELY CORRECT. THE AS–BUILT SURVEY DATA SHALL BE GREEN IN COLOR, CLEARLY LEGIBLE AND EASILY DISTINGUISHABLE FROM THE CONTRACT DOCUMENT INFORMATION. THE SWM FACILITY AS BUILT SURVEYS SHALL INCLUDE THE FOLLOWING.
A. CONTOURS, ONE–FOOT CONTOUR INTERVALS OR OTHERWISE MATCH THE CONTOUR INTERVALS SHOWN IN THE CONTRACT DOCUMENTS. CONTOURS SHALL COVER THE ENTIRE FOOTPRINT OF THE SWM FACILITY OR PRACTICE AS WELL AS INFLOW AND OUTFLOW CONVEYANCES WHEN DITCHES OR SIMILAR FEATURES CONVEY RUNOFF INTO OR OUT OF SWM FACILITIES AND PRACTICES.
B. DRAINAGE STRUCTURES, INCLUDES ALL DRAINAGE STRUCTURES WITHIN THE FOOTPRINT OF THE SWM FACILITY, INCLUDING BUT NOT LIMITED TO INLETS, MANHOLES, FLOW SPLITTERS, RISERS, WEIRS, END SECTIONS, HEADWALLS, AND END WALLS. AS–BUILT DATA SHALL INCLUDE BUT IS NOT LIMITED TO TOP OF STRUCTURE ELEVATIONS, STRUCTURE LENGTHS, AND STRUCTURE WIDTHS; PIPE INVERTS; PIPE SIZES, MATERIALS, AND FLOW DIRECTIONS; ORIFICE ELEVATIONS; OPENING SIZES; WEIR DIMENSIONS AND ELEVATIONS; CHECK DAM LOCATIONS AND DIMENSIONS; GRATES; AND TRASH RACKS.
C. RIPRAP AND AGGREGATE, INCLUDES DIMENSIONS OF RIPRAP AND OTHER AREAS WITHIN THE FOOTPRINT OF THE SWM FACILITY AND PRACTICE THAT SHOW A SURFACE LAYER OF AGGREGATE OR RIPRAP, INCLUDING FOREBAYS.
D. SWM FACILITY PROFILES, INCLUDES AN OVERLAY OF GREEN LINE AS–BUILT DATA ON SWM FACILITY PROFILES AND TYPICAL SECTIONS INCLUDING BUT NOT LIMITED TO CHECK DAM SPACING, CHECK DAM TOP ELEVATIONS, CHECK DAM DIMENSIONS, INVERT ELEVATIONS, SUBDRAIN SIZES, SUBDRAIN MATERIALS, AGGREGATE AND SOIL THICKNESSES, MATERIAL TYPES, CLAY CORE DIMENSIONS, AND CUT–OFF TRENCH DIMENSIONS. DATA THAT CANNOT BE OBTAINED FROM A FIELD SURVEY SHALL BE PROVIDED BY THE ABE FOR INCLUSION WITH THE SWM FACILITY AS–BUILT SURVEY.
E. CERTIFICATION. SEAL, SIGNATURE, LICENSE NUMBER, AND DATE OF LICENSE EXPIRATION OF THE PLS WHO COMPLETES THE SWM FACILITY AS–BUILT SURVEY.
VI. APPLICABLE SUPPORTING COMPUTATIONS DEMONSTRATING THAT THE FUNCTIONALITY OF THE SWM FACILITIES AND PRACTICES MEET THE APPROVED DESIGNS AS PRESENTED IN THE APPROVED SWM REPORT. THIS IS ONLY NECESSARY WHEN TOLERANCES ARE NOT MET AND SHALL INCLUDE BUT IS NOT LIMITED TO WATER SURFACE ELEVATIONS, FREEBOARD, STORAGE VOLUMES, DEPTHS, AND OTHER PERTINENT SWM FUNCTIONALITY DATA THAT DEMONSTRATES THE SWM FACILITY PERFORMANCES MEETS THE APPROVED DESIGN.
VII. A NARRATIVE OF JUSTIFICATION FOR AS–BUILT DEVIATIONS IN SWM FACILITIES AND PRACTICES. THIS IS ONLY NECESSARY WHEN SECTION 2.VI APPLIES.
VIII. A COPY OF FINAL ACCEPTANCE OF THE LANDSCAPING.
IX. SEAL, SIGNATURE, LICENSE NUMBER, AND DATE OF LICENSE EXPIRATION OF THE ABE.

3. SUBMITTALS AND APPROVAL PROCESS. PARTIAL SUBMITTALS OF THE SWM FACILITY ASBUILT PACKAGE MAY BE MADE AS CONSTRUCTION OF EACH INDIVIDUAL SWM FACILITY AND PRACTICE IS COMPLETED, OTHERWISE, SUBMIT THE ENTIRE SWM FACILITY AS–BUILT PACKAGE WITHIN 45 DAYS OF COMPLETION OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH ALL SWM FACILITIES AND PRACTICES BUT NOT INCLUDING ESTABLISHMENT OF THE SPECIFIED LANDSCAPING ITEMS. THE LANDSCAPING PHASE OF SWM FACILITIES AND PRACTICES NEED NOT BE COMPLETED TO SUBMIT THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE FOR STRUCTURAL ACCEPTANCE BUT IS REQUIRED FOR FINAL APPROVAL.

RESUBMIT THE SWM FACILITY AS–BUILT PACKAGE WITH RESPONSES TO ALL ADMINISTRATION COMMENTS THAT MAY BE RECEIVED. RESUBMIT AS MANY TIMES AS NECESSARY, UPDATING THE SWM FACILITY AS–BUILT PACKAGE AS NEEDED TO ADDRESS ALL ADMINISTRATION COMMENTS, AND MAKING ANY FIELD ADJUSTMENTS AS NEEDED TO CORRECT DEFICIENCIES, UNTIL STRUCTURAL ACCEPTANCE IS ISSUED. RESUBMIT THE SWM FACILITY AS–BUILT PACKAGE WITH RESPONSES TO ALL COMMENTS THAT MAY BE RECEIVED.

CONCURRENT WITH THE ADMINISTRATION REVIEW OF THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE FOR STRUCTURAL ACCEPTANCE, ENSURE ESTABLISHMENT OF LANDSCAPING ITEMS CONTINUES AND ENSURE THE AREA IS PERMANENTLY STABILIZED. ONCE LANDSCAPING IS ESTABLISHED, ENSURE THE REMAINING DATA TABLE INFORMATION IS COMPLETED AND SUBMIT THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE FOR FINAL APPROVAL.

4. ABE RESPONSIBILITIES. ENSURE THAT THE ABE PERFORMS THE FOLLOWING.
A. IS PRESENT FOR ALL ACTIVITIES SPECIFIED ON THE SWM FACILITIES AS–BUILT CERTIFICATION DATA TABLES. PERFORMS DUTIES AS SPECIFIED AND RECORDS REQUISITE INFORMATION FOR THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE. THE ABE MAY ELECT TO USE A DESIGNEE AS SPECIFIED ABOVE. ENSURE THE DATA IS AVAILABLE AT THE SITE AND ON–DEMAND.
B. PREPARES WRITTEN INSPECTION REPORTS FOR CONSTRUCTION ACTIVITIES ASSOCIATED WITH SWM FACILITIES AND PRACTICES. THE ABE MAY ELECT TO USE A DESIGNEE AS SPECIFIED ABOVE.
C. TAKES PHOTOGRAPHS DURING CONSTRUCTION ACTIVITIES OF THE SWM FACILITIES AND PRACTICES AND OF THE COMPLETED SWM FACILITIES, INCLUDING PHOTOGRAPHS WITH COMPLETED LANDSCAPE PLANTING INSTALLATION AND ESTABLISHMENT. THE ABE MAY ELECT TO USE A DESIGNEE AS SPECIFIED IN ABOVE
D. OBTAINS COPIES OF MATERIAL APPROVALS FOR ITEMS ASSOCIATED WITH THE SWM FACILITIES AND PRACTICES. THE ABE MAY ELECT TO USE A DESIGNEE AS SPECIFIED ABOVE.
E. ALERTS THE CONTRACTOR WHEN SWM FACILITIES AND PRACTICES UNDER CONSTRUCTION DO NOT MATCH THE CONTRACT DOCUMENTS. THE ABE MAY ELECT TO USE A DESIGNEE AS SPECIFIED ABOVE.
F. WHEN NECESSARY, PERFORMS ALL COMPUTATIONS THAT DEMONSTRATE SWM FACILITIES AND PRACTICES FUNCTION IN THE MANNER AS PRESENTED IN THE APPROVED FINAL SWM REPORT, INCLUDING WITH ALL REVISIONS TO THE REPORT THAT MAY RESULT FROM FIELD REVISIONS, AT A MINIMUM, THE PARAMETERS EXAMINED BY THE ABE SHALL INCLUDE BUT ARE NOT LIMITED TO STORAGE VOLUMES, DISCHARGE RATES, VELOCITIES, DETENTION TIMES, WATER SURFACE ELEVATIONS, FREEBOARD, AND ALL OTHER INFORMATION AS RECOMMENDED BY THE ABE AND AS REQUESTED BY THE ADMINISTRATION.
G. OBTAINS COPIES OF AS–BUILT SURVEYS FOR THE SWM FACILITIES AND PRACTICES.
H. PREPARES THE SWM FACILITY AS–BUILT CERTIFICATION PACKAGE.

5. CONSTRUCTION TOLERANCES. AS FOLLOWS. VALUES OUTSIDE OF TOLERANCE MAY REQUIRE COMPUTATIONS PER ABOVE.
A. EARTHWORK. ELEVATIONS WITHIN 3 IN. (0.25 FT) OF VALUES SPECIFIED OR AS OTHERWISE NOTED ON THE PERTINENT SWM FACILITY AS–BUILT DATA TABLE.
B. DRAINAGE STRUCTURES. ELEVATIONS WITHIN 1.25 IN. (0.10 FT) OF VALUES SPECIFIED.
C. PIPE INVERTS. ELEVATIONS WITHIN 1.25 IN. (0.10 FT) OF VALUES SPECIFIED. (E) RIPRAP. DIMENSIONS WITHIN 3 IN. (0.25 FT) OF VALUES SPECIFIED.
D. FREEBOARD. NOT LESS THAN THE VALUES SPECIFIED.
E. AGGREGATE, SAND, BIORETENTION SOIL MIX (BSM), AND MULCH THICKNESSES. NOT LESS THAN VALUES SPECIFIED.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE –

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR M-8 BIO-SWALES

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	*MDE/PRD NUMBER*	*SHA CONTRACT NUMBER*
151581	N/A	N/A – SHA TRACKING NO. 19APMO025XX

ACTIVITY	SUPPORTING DOCUMENTATION AND INFORMATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, OBSERVED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S, AND HAS SLOTTED PERFORATIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF COARSE SAND	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF APPROVED BIORETENTION SOIL MIX (BSM)	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ MATERIAL APPROVAL FORM	
OBSERVED INSTALLATION OF CHECK DAMS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ CHECK DAM ☐ OUTFALL ☐ NOT APPLICABLE ☐ OTHER (WRITE IN):	
OBSERVED FINAL GRADING OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
VERIFIED ESTABLISHMENT OF TURFGRASS AND OTHER VEGETATIVE SEED WITH SOIL STABILIZATION MATTING, INCLUDING PLUGS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ LANDSCAPE ACCEPTANCE LETTER	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT) – MAY NOT BE LESS THAN 2 FT OR EXCEED 8 FT	8		
TOTAL LENGTH (FT)	78		
MAXIMUM CHANNEL SLOPE (FT/FT) – MAY NOT EXCEED 4%	2.40%		
LEFT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
TOTAL THICKNESS OF NO. 57 AGGREGATE (IN.) – MAY NOT BE LESS THAN 18 IN.	18		
THICKNESS OF NO. 7 AGGREGATE (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF COARSE SAND (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF BSM (IN.) – MAY NOT BE LESS THAN 24 IN.	24		
SUB-DRAIN PIPE DIAMETER (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	6		
SUB-DRAIN OUTLET INVERT ELEVATION (FT)	347.38		
NUMBER OF CHECK DAMS	2		
DISTANCE BETWEEN CHECK DAMS (FT)	43.3		
CHECK DAM HEIGHT (FT)	1		
TOP OF DITCH ELEVATION (FT)	355.50		

ONLY COMPLETE THE PORTION BELOW WHEN TOLERANCES ARE NOT MET. ALSO PROVIDE COMPUTATIONS AND SWM REPORT REVISIONS.

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
ESD$_V$ WATER SURFACE ELEVATION (FT)	352.11		
ESD$_V$ FLOW DEPTH (IN.)	12		
1-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE	0.32		
10-YR WATER SURFACE ELEVATION (FT)	352.18		
10-YR FLOW DEPTH (IN.)	14.40		
10-YR FLOW VELOCITY (FT/S) – MUST BE NON-EROSIVE	0.50		
10-YR FREEBOARD (IN.) – MAY NOT BE LESS THAN 9 IN. – MEASURED VERTICALLY FROM 10-YR WATER SURFACE ELEVATION TO PAVEMENT EDGE/SHOULDER	11.16		

AS–BUILT COLUMN TO BE COMPLETED BY CONTRACTOR.

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY: _____ (NAME) — DATE: _____

REVISED 04-10-2018

STORMWATER MANAGEMENT AS-BUILT CERTIFICATION

I HEREBY CERTIFY THAT THE STORMWATER MANAGEMENT FACILITY (FACILITIES) SHOWN ON THE PLANS AND INDIVIDUALLY IDENTIFIED BELOW HAS (HAVE) BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS INCLUDED UNDER THE STATE HIGHWAY ADMINISTRATION PLAN REVIEW DIVISION APPROVAL, NUMBER ___ - PR - _____ EXCEPT AS NOTED IN GREEN ON THE "AS-BUILT" DRAWINGS. FURTHERMORE, THE GREEN-NOTED EXCEPTIONS DO NOT ADVERSELY AFFECT THE DESIGN AND/OR THE INTENDED PERFORMANCE OF THE FACILITY (FACILITIES).

151581 _____ _____
151582 _____ _____
151583 _____ _____

EACH SWM FACILITY IS IDENTIFIED INDIVIDUALLY BY A UNIQUE SWM FACILITY NUMBER

_____ _____
Name (Printed) Signature

_____ _____
Maryland Registration Number Date

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_____."

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

NOTE: AS-BUILT CHECKLISTS CONTAINED IN THE CONTRACT DRAWINGS SHALL BE COMPLETED BY THE AS-BUILT INSPECTOR AND SUBMITTED TO THE SHA ALONG WITH THIS CERTIFICATION.

AS–BUILT CERTIFICATION TO BE SIGNED AND SUBMIT BY THE CONTRACTOR

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR M-6 MICRO-BIORETENTION

MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	*MDE/PRD NUMBER*	*SHA CONTRACT NUMBER*
151583	N/A	N/A – SHA TRACKING NO. 19APMO025XX

ACTIVITY	ADDITIONAL SUPPORTING DOCUMENTATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, OBSERVED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S, AND HAS SLOTTED PERFORATIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF OBSERVATION WELL, VERIFIED TYPE IS PPWP OR CPP-S, HAS SLOTTED PERFORATIONS, AND VERIFIED USE OF GEOTEXTILE SOCK	☐ INSPECTION REPORT ☐ PHOTOGRAPHS PIPE TYPE: ☐ PPWP ☐ CPP-S ☐ GEOTEXTILE SOCK	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF COARSE SAND	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF APPROVED BIORETENTION SOIL MIX (BSM)	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ MATERIAL APPROVAL FORM	
OBSERVED FINAL GRADING OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ CHECK DAM ☐ OUTFALL ☐ NOT APPLICABLE ☐ OTHER (WRITE IN):	
VERIFIED ESTABLISHMENT OF SPECIFIED VEGETATION AND OBSERVED HARDWOOD BARK MULCH INSTALLATION	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ LANDSCAPE ACCEPTANCE LETTER	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT)	17.50		
BOTTOM LENGTH (FT)	20.35		
LEFT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
OBSERVATION WELL PIPE DIAMETER (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	6		
TOTAL THICKNESS OF NO. 57 AGGREGATE (IN.) – MAY NOT BE LESS THAN 18 IN.	18		
THICKNESS OF NO. 7 AGGREGATE (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF COARSE SAND (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF BSM (IN.) – MAY NOT BE LESS THAN 24 IN.	24		
SUB-DRAIN PIPE DIAMETER (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	6		
SUB-DRAIN OUTLET INVERT ELEVATION (FT)	343.43		
THICKNESS OF SHREDDED HARDWOOD BARK MULCH (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	3		

ONLY COMPLETE THE PORTION BELOW WHEN TOLERANCES ARE NOT MET. ALSO PROVIDE COMPUTATIONS AND SWM REPORT REVISIONS.

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
ESD$_V$ WATER SURFACE ELEVATION (FT)	348.50		
ESD$_V$ PONDING DEPTH (IN.) – MAY NOT EXCEED 12 IN.	12.00		
2-YR WATER SURFACE ELEVATION (FT)	348.62		
10-YR WATER SURFACE ELEVATION (FT)	348.68		
10-YR FREEBOARD (IN.) – MAY NOT BE LESS THAN 9 IN. – MEASURED VERTICALLY FROM 10-YR WATER SURFACE ELEVATION TO PAVEMENT EDGE/SHOULDER	9.84		

AS–BUILT COLUMN TO BE COMPLETED BY CONTRACTOR.

SWM FACILITY AS-BUILT CERTIFICATION ACCEPTANCE — APPROVING AUTHORITY: ☐ MDE ☐ PRD

ACCEPTED BY:_____ (NAME) — DATE: _____

REVISED 04-10-2018

SWM FACILITY AS-BUILT CERTIFICATION DATA TABLE FOR M-6 MICRO-BIORETENTION

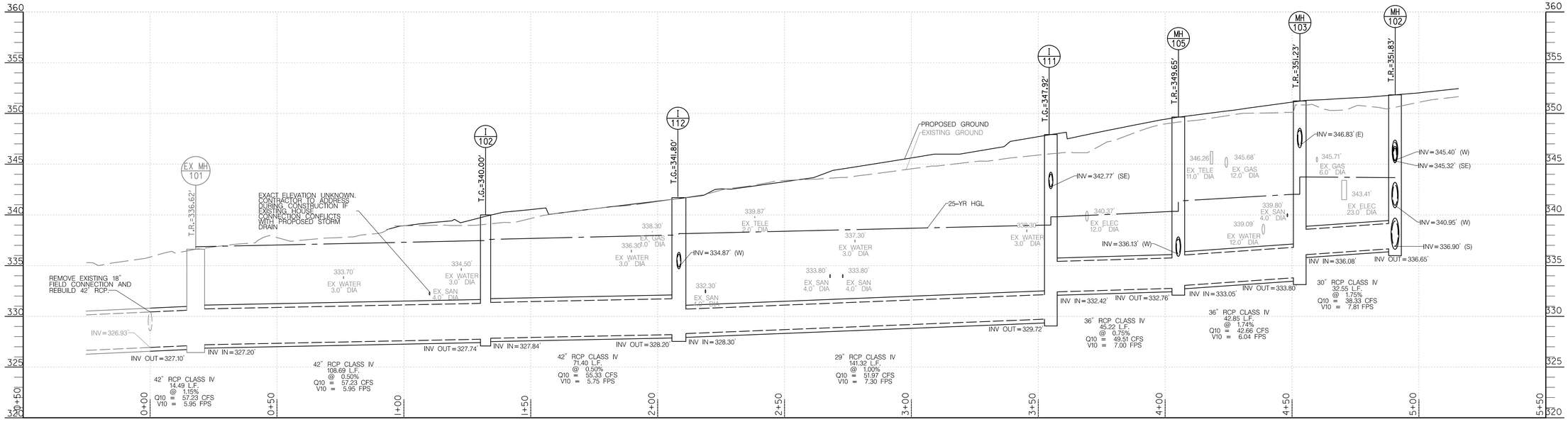
MAY ONLY BE CERTIFIED BY THE AS-BUILT ENGINEER (ABE) PER COMAR 26.17.02.10.

SWM FACILITY NUMBER	*MDE/PRD NUMBER*	*SHA CONTRACT NUMBER*
151582	N/A	N/A – SHA TRACKING NO. 19APMO025XX

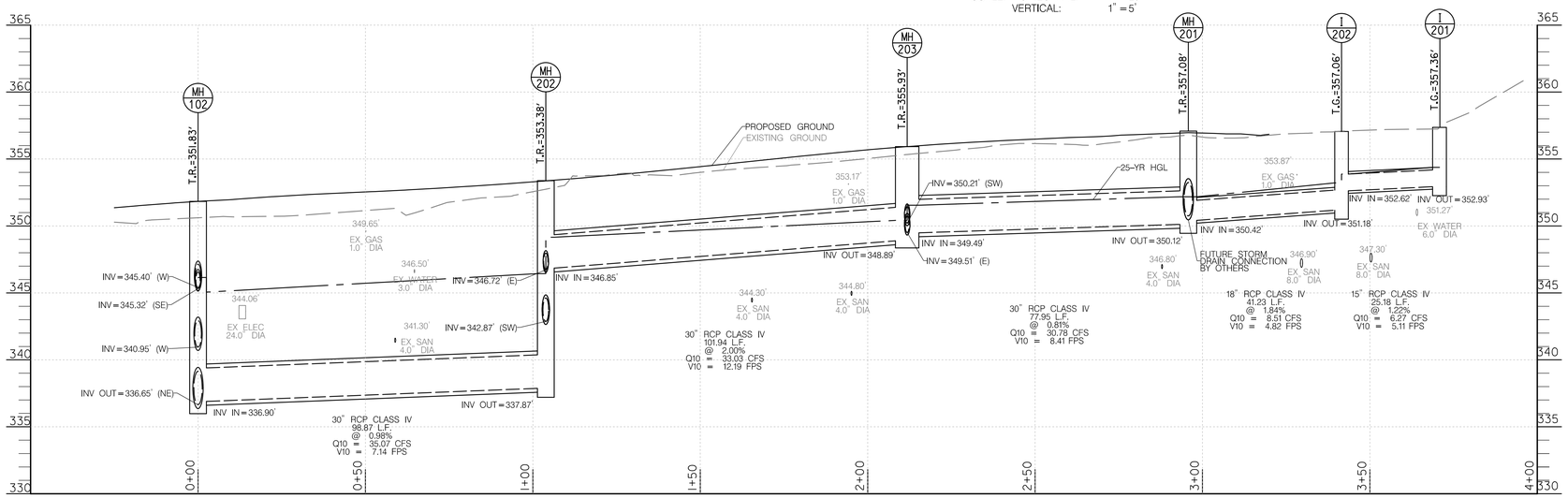
ACTIVITY	ADDITIONAL SUPPORTING DOCUMENTATION (SUBMIT WITH SWM FACILITY AS-BUILT CERTIFICATION PACKAGE)	DATE(S) OF INSPECTION
PRIOR TO SWM FACILITY EXCAVATION, OBSERVED ESC MEASURES ARE INSTALLED AROUND THE FACILITY OR CONFIRMED SURROUNDING AREA IS STABILIZED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED EXCAVATION OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF GEOTEXTILE AND VERIFIED INSTALLATION PERFORMED AS SPECIFIED	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE BEDDING FOR SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF SUB-DRAIN, VERIFIED TYPE IS PPWP OR CPP-S, AND HAS SLOTTED PERFORATIONS	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE PIPE TYPE: ☐ PPWP ☐ CPP-S	
OBSERVED INSTALLATION OF OBSERVATION WELL, VERIFIED TYPE IS PPWP OR CPP-S, HAS SLOTTED PERFORATIONS, AND VERIFIED USE OF GEOTEXTILE SOCK	☐ INSPECTION REPORT ☐ PHOTOGRAPHS PIPE TYPE: ☐ PPWP ☐ CPP-S ☐ GEOTEXTILE SOCK	
OBSERVED INSTALLATION OF NO. 57 AGGREGATE AROUND AND ABOVE SUB-DRAIN	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF NO. 7 AGGREGATE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF COARSE SAND	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ NOT APPLICABLE	
OBSERVED INSTALLATION OF APPROVED BIORETENTION SOIL MIX (BSM)	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ MATERIAL APPROVAL FORM	
OBSERVED FINAL GRADING OF SWM FACILITY	☐ INSPECTION REPORT ☐ PHOTOGRAPHS	
OBSERVED INSTALLATION OF RELEASE STRUCTURE	☐ INSPECTION REPORT ☐ PHOTOGRAPHS RELEASE STRUCTURE: ☐ INLET ☐ WEIR ☐ CHECK DAM ☐ OUTFALL ☐ NOT APPLICABLE ☐ OTHER (WRITE IN):	
VERIFIED ESTABLISHMENT OF SPECIFIED VEGETATION AND OBSERVED HARDWOOD BARK MULCH INSTALLATION	☐ INSPECTION REPORT ☐ PHOTOGRAPHS ☐ LANDSCAPE ACCEPTANCE LETTER	

FEATURE	DESIGN	AS-BUILT	DIFFERENCE
BOTTOM WIDTH (FT)	12.70		
BOTTOM LENGTH (FT)	67.00		
LEFT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
RIGHT SIDE SLOPE (H:V) – MAY NOT BE STEEPER THAN 3:1	3:1		
OBSERVATION WELL PIPE DIAMETER (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	6		
TOTAL THICKNESS OF NO. 57 AGGREGATE (IN.) – MAY NOT BE LESS THAN 18 IN.	31.20		
THICKNESS OF NO. 7 AGGREGATE (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF COARSE SAND (IN.) – MAY NOT BE LESS THAN 4 IN.	4		
THICKNESS OF BSM (IN.) – MAY NOT BE LESS THAN 24 IN.	24		
SUB-DRAIN PIPE DIAMETER (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	6		
SUB-DRAIN OUTLET INVERT ELEVATION (FT)	349.51		
THICKNESS OF SHREDDED HARDWOOD BARK MULCH (IN.) – MAY NOT DIFFER FROM VALUE SPECIFIED	3		

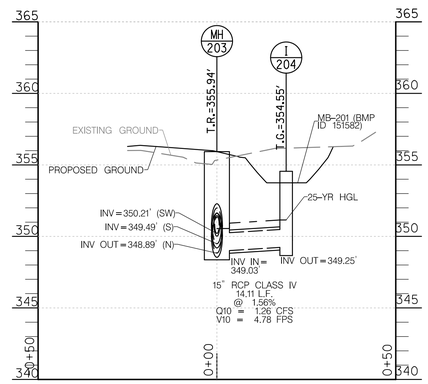
**ONLY COMPL



PIPE PROFILE I–102 to EX MH–101
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



PIPE PROFILE I–201 to MH–102
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



PIPE PROFILE I–204 to MH–203
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'

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

DP-01

NO.	REVISION	BY	APP'D	DATE

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE –

STATE OF MARYLAND · ELIZABETH TANE KANNER · NO. 33330 · PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

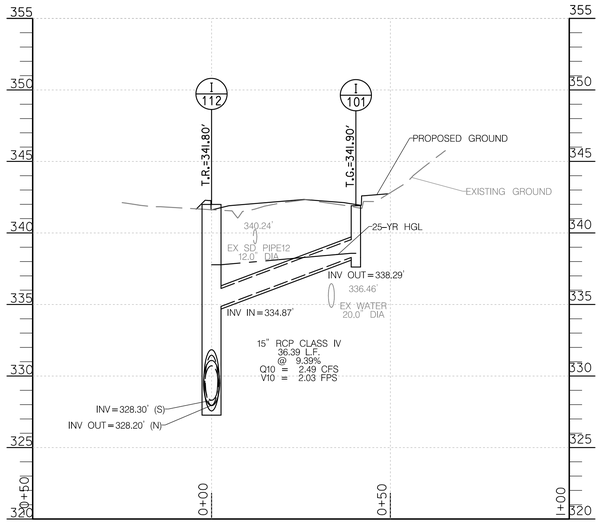
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

STORM DRAIN PROFILES

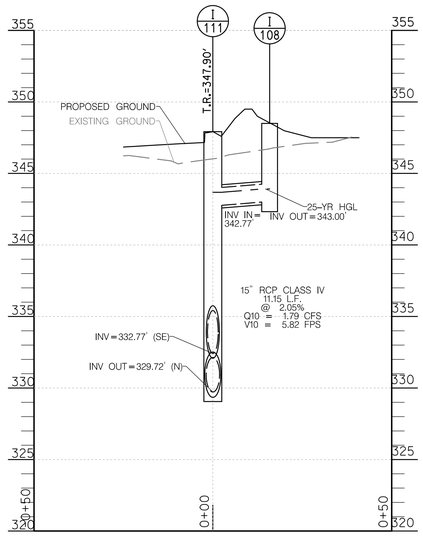
MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: AS SHOWN

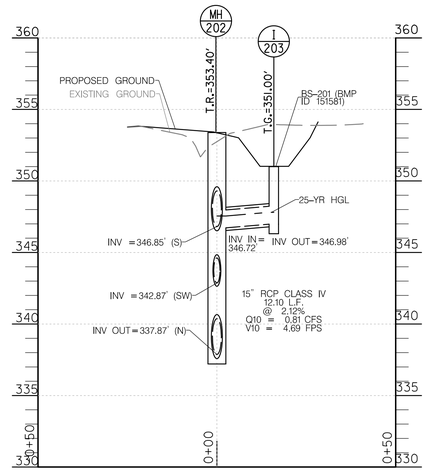
PLOTTED: Thursday, July 21, 2022 AT 01:40 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\W&I\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pDP-0001_BradleyWilson.dgn



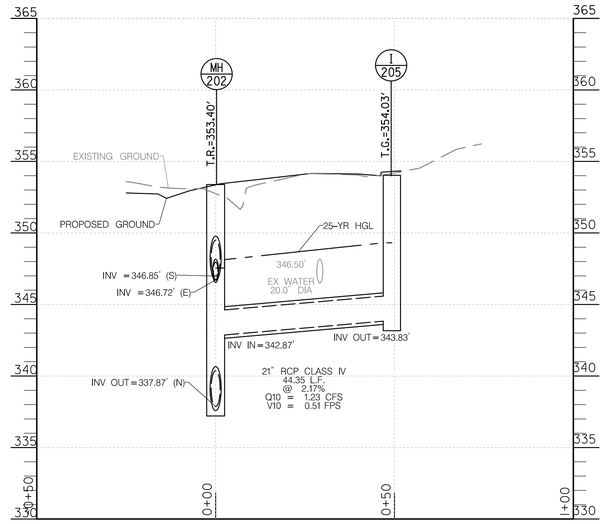
PIPE PROFILE I-101 to MH-108
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



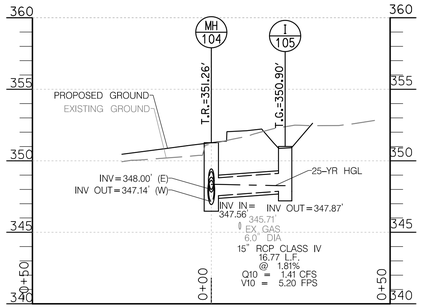
PIPE PROFILE I-108 to MH-141
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



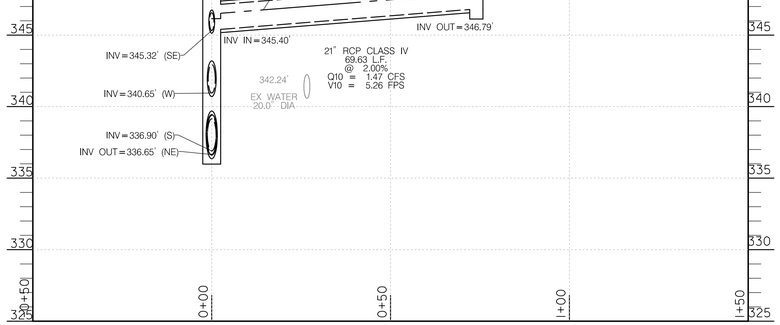
PIPE PROFILE I-203 to MH-205
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



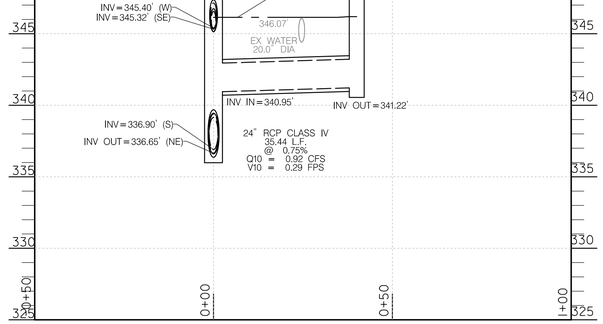
PIPE PROFILE I-205 to MH-202
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



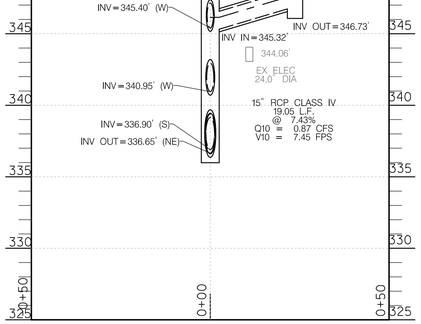
PIPE PROFILE I-105 to MH-106
HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



PIPE PROFILE I-105 to MH-107
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



PIPE PROFILE I-103 to MH-102
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



PIPE PROFILE I-104 to MH-102
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'
20' 0 20' 40'
HORIZONTAL SCALE: 1" = 20'

DP-02

NO.	REVISION	BY	APP'D	DATE

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

STORM DRAIN PROFILES

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: AS SHOWN

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE

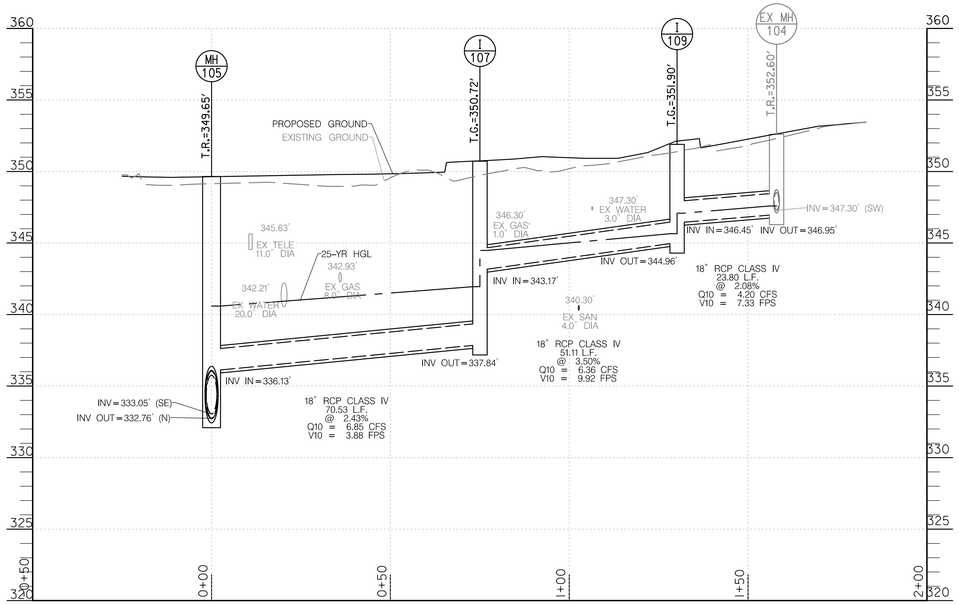
STATE OF MARYLAND · ELIZABETH TANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

"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."

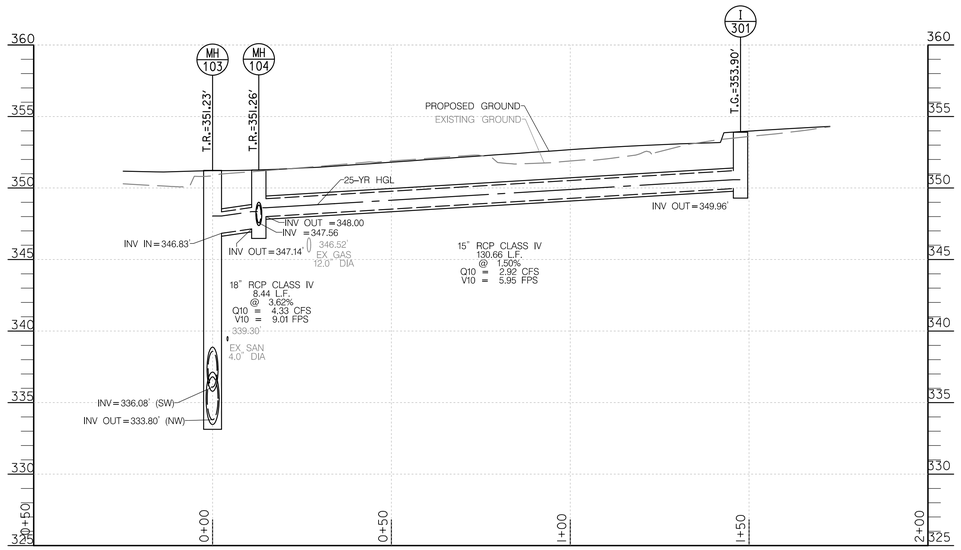
LICENSE NO. 33330

EXPIRATION DATE JUNE 29, 2024

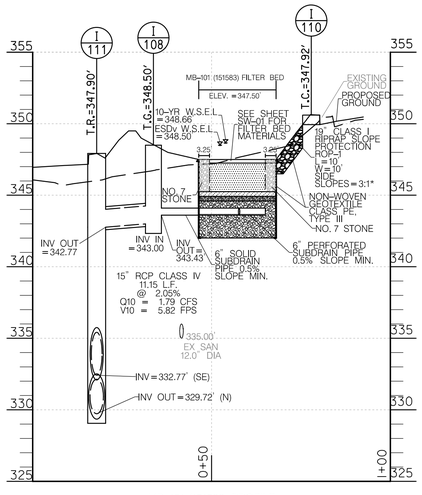
PLOTTED: Thursday, July 21, 2022 AT 01:39 PM
FILE: \\shgroup.stvinc.com\V3\DGPA\V&B\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pDP-0002_BradleyWilson.dgn



PIPE PROFILE EX MH–104 to MH–105
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



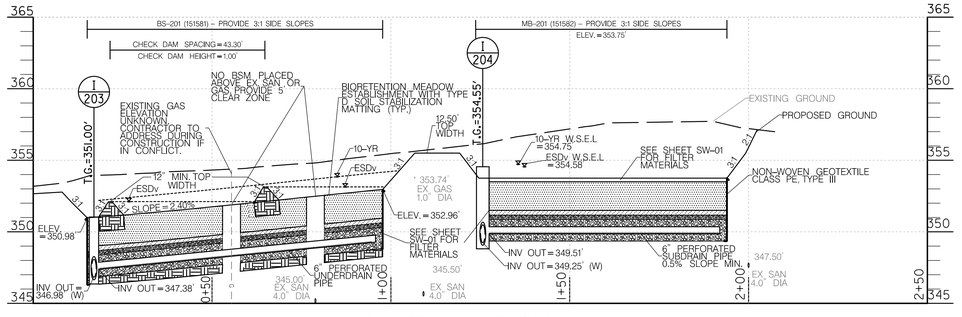
PIPE PROFILE I–301 to MH–103
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



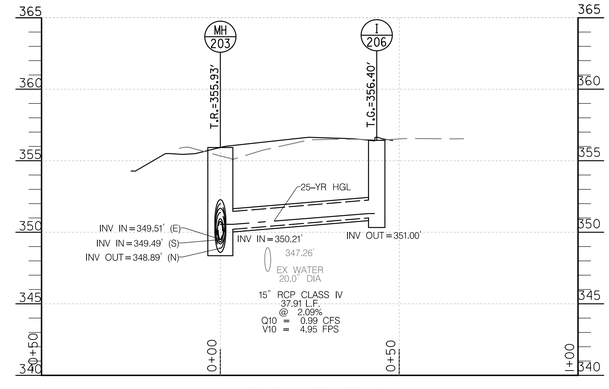
MB–101 (151583) PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

*BOTTOM OF RIPRAP SLOPE PROTECTION TO MATCH MB–101 FILTER BED ELEVATION. GRADE SIDE SLOPES ACCORDINGLY.

NOTE: PROVIDE AN ADDITIONAL 1.10' OF NO. 57 AGGREGATE FOR ENHANCED FILTER BENEATH SUBDRAIN.



BS–201 (151581) AND MB–201 (151582) PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'



I–206 TO MH–204 PROFILE
SCALE: HORIZONTAL: 1" = 20'
VERTICAL: 1" = 5'

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

5' 0 5' 10'
VERTICAL SCALE: 1" = 5'

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

DP-03

NO.	REVISION	BY	APP'D	DATE

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

STORM DRAIN AND STORMWATER MANAGEMENT FACILITY PROFILES

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: AS SHOWN

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

STATE OF MARYLAND · ELIZABETH TANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

PLOTTED: Thursday, July 21, 2022 AT 01:41 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pDP-0003_BradleyWilson.dgn

EROSION AND SEDIMENT CONTROL – GENERAL 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 THEIM 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 TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE–DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   A) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

   ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SCSM 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 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NON–MAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW–MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY–FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY–EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON–SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE–HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST–III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24 NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK.

25. OFF–SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
   A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON–SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
   B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON–EROSIVE OUTLET; OR
   C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON–WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

   REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

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 MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*

OWNER'S/DEVELOPER'S CERTIFICATION

I/WE 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.

Dan Sanayi — 7/22/22
SIGNATURE — DATE

Dan Sanayi
PRINTED NAME AND TITLE

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL," MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5–90, 7–20AM AND 36–90, AND MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS AND TRANSPORTATION "DRAINAGE DESIGN CRITERIA" DATED JUNE 10, 2014.

I FURTHER CERTIFY THAT THE TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE 2,620 CUBIC YARDS OF EXCAVATION AND 225 CUBIC YARDS OF FILL AND THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF 52,916 SQUARE FEET OR 1.21 ACRES.

I FURTHER CERTIFY THAT THE STRUCTURAL DESIGN OF THIS STORMWATER MANAGEMENT FACILITY IS IN ACCORDANCE WITH APPLICABLE CODES AND THAT THE PLAN FOR THIS HAS BEEN DESIGNED FOR SPECIFIED LOADING(S) AS INDICATED HEREON.

3 /8 /2022
DATE

Elizabeth T. Kanner
ELIZABETH TANE KANNER, P.E.
MD REGISTRATION NO. 33330

MISS UTILITY

CALL "MISS UTILITY" AT 1–800–257–7777, 48 HOURS PRIOR TO THE START OF WORK. THE EXCAVATOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDER GROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

SEQUENCE OF CONSTRUCTION

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) 777–6210(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 TO COMMENCING ANY WORK. THE NEED FOR AND LOCATION OF A STABILIZED CONSTRUCTION ENTRANCE MUST BE DISCUSSED DURING THE PRECONSTRUCTION MEETING.
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. NO STAGING AND/OR STOCKPILING SHALL OCCUR ON–SITE. THE CONTRACTOR SHALL HAUL NECESSARY MATERIALS REQUIRED FOR CONSTRUCTION ACTIVITIES OCCURRING THAT DAY TO THE PROJECT SITE. IF A STAGING/STOCKPILE AREA IS DESIRED WITHIN THE PROJECT LIMITS, THE CONTRACTOR SHALL SUBMIT A STAGING/STOCKPILE PLAN, COMPLETE WITH EROSION AND SEDIMENT CONTROLS FOR REVIEW AND APPROVAL BY MCDPS. CONTRACTOR TO WORK ONLY IN SEGMENTS THAT MY BE STABILIZED AT THE END OF EACH WORK DAY; NO DISTURBED AREAS SHALL REMAIN UNSTABILIZED OVERNIGHT UNLESS THE DISTURBED AREA DRAINS TO A SEDIMENT CONTROL DEVICE.
4. UPON APPROVAL OF THE LOD AND WITH PERMISSION FROM THE MCDPS INSPECTOR, REMOVE CONCRETE /PAVING AND CLEAR AND GRUB AS NECESSARY FOR THE INSTALLATION OF TREE PROTECTION FENCE, TEMPORARY ASPHALT BERMS, DIVERSION FENCES, SAND BAG DIKE, TEMP, 15" HPDE PIPE AND CLEAN WATER DIVERSION PIPE.
5. UTILIZING SAME DAY STABILIZATION, INSTALL ALL SEDIMENT CONTROL DEVICES EXCEPT FOR TAB 2–2. INSTALL ALL INLET PROTECTION ON EXISTING INLETS AS DEPICTED ON PLANS. POSITIVE DRAINAGE TO THE CLEAN WATER DIVERSION PIPE MUST BE MAINTAINED THROUGHOUT THE DIVERSION FENCES AND ASPHALT BERMS. DIRECT CLEAN WATER DIVERSION PIPE INTO EX I–101.
6. UPON COMPLETION OF THE INSTALLATION OF SEDIMENT CONTROLS, NOTIFY THE MCDPS INSPECTOR AND RECEIVE WRITTEN AUTHORIZATION TO BEGIN SITE WORK. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO CONDUCT THIS WORK SAFELY AND IN ACCORDANCE WITH ALL APPLICABLE STATE, FEDERAL, AND LOCAL REGULATIONS.
7. UPON COMPLETION OF INLET INSTALLATION AND IF REQUIRED PER PLANS, IMMEDIATELY INSTALL INLET PROTECTION. A PORTABLE SEDIMENT TANK SHALL BE USED TO DEWATER THE ACTIVE WORK ZONE AS NECESSARY. BLOCK PIPE OPENINGS WITH PLYWOOD OR SIMILAR UNTIL ALL CONNECTIONS TO THE STRUCTURE ARE COMPLETE.
8. PHASE 1: CONSTRUCT NORTHEAST QUADRANT (REFER TO SHEET TTCP–01 FOR THE QUADRANT KEY MAP)
   A. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE AND CONSTRUCT PAVEMENT, COMBINATION CURB AND GUTTER, SIDEWALK, FULL DEPTH PAVEMENT, DRIVEWAYS, TRAFFIC EQUIPMENT, AND STORM DRAIN SYSTEM. INSTALL STORM DRAIN SYSTEM FROM EX MH–101 TO I–111 IN AN UPSTREAM DIRECTION INCLUDING I–102, I–112 AND I–111.
   B. INSTALL 42" OUTFALL BELOW EX–MH 101, I–101 TO I–112 AND REDIRECT THE TEMP. 15" HDPE PIPE FROM EX I–104 INTO THE BACK OF I–111. INSTALL I–111 TO MH–105, AND I–110 AS SHOWN ON PLANS.
9. PHASE 2: CONSTRUCT SOUTHEAST QUADRANT (REFER TO SHEET TTCP–01 FOR THE QUADRANT KEY MAP) AND STORMWATER MANAGEMENT (SWM)
   A. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE AND CONSTRUCT PAVEMENT, COMBINATION CURB AND GUTTER, SIDEWALK, FULL DEPTH PAVEMENT, DRIVEWAYS, TRAFFIC EQUIPMENT, AND STORM DRAIN SYSTEM. INSTALL STORM DRAIN SYSTEM FROM MH–104 TO I–301 AND MH–105 TO MH–104 INCLUDING MH–103. UPON COMPLETION OF MH–103 TO MH–104 REMOVE TEMP. 15" HDPE PIPE AT I–111 AND ABANDON EX. 15" RCP FROM EX–MH 103 TO EX–I 104. UTILIZE TEMP. HDPE PIPES AS NEEDED TO CONNECT THE EXISTING STORM DRAINS TO THE NEW SYSTEM TO MAINTAIN POSITIVE CLEAN DRAINAGE.
   B. INSTALL STORM DRAIN SYSTEM FROM MH–104 TO I–105 AND MH–103 TO I–104 INCLUDING MH–102. REDIRECT CLEAN WATER DIVERSION PIPE FLOW INTO I–104 ONCE THE INLET IS CONSTRUCTED.
   C. CONTINUE CONSTRUCTION OF PROPOSED IMPROVEMENTS EXCEPT SWM AS SHOWN ON PLANS. CONSTRUCT STORM DRAIN SYSTEM IN AN UPSTREAM DIRECTION FROM MH–102 TO I–201 INCLUDING MH–203, I–203, I–205, MH–201, I–204, I–206, I–202, I–201, AND MH–202.
   D. PRIOR TO CONSTRUCTING THE SWM FACILITIES INSTALL TAB 2–2, PERMANENTLY STABILIZE ALL DISTURBED AREAS DRAINING TO THE SWM FACILITIES. ENSURE ALL PIPES AND INLETS HAVE BEEN CLEANED, ALL UPSTREAM DRAINAGE STRUCTURES HAVE BEEN CONSTRUCTED, AND THE INLET FLOWING INTO MB–101 (I–110) IS TEMPORARILY BLOCKED.
   E. WITH APPROVAL FROM THE MCDPS INSPECTOR, CONSTRUCT THE SWM FACILITIES INCLUDING I–108 TO I–111, PERMANENTLY STABILIZE, AND CONNECT TO STORM DRAIN SYSTEM. UNBLOCK ANY STRUCTURES THAT WERE TEMPORARILY BLOCKED, SEE STORMWATER MANAGEMENT PLAN SW–01 FOR THE TYPICAL SECTIONS, REMOVE TAB 2–2.
10. PHASE 3: CONSTRUCT SOUTHWEST QUADRANT (REFER TO SHEET TTCP–01 FOR THE QUADRANT KEY MAP)
    A. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE AND CONSTRUCT PAVEMENT, COMBINATION CURB AND GUTTER, SIDEWALK, FULL DEPTH PAVEMENT, DRIVEWAYS, TRAFFIC EQUIPMENT, AND STORM DRAIN SYSTEM. INSTALL STORM DRAIN SYSTEM FROM MH–102 TO I–106 AND MH–102 TO I–103 IN AN UPSTREAM DIRECTION.
11. PHASE 4: CONSTRUCT NORTHWEST QUADRANT (REFER TO SHEET TTCP–01 FOR THE QUADRANT KEY MAP)
    A. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE AND CONSTRUCT PAVEMENT, COMBINATION CURB AND GUTTER, SIDEWALK, FULL DEPTH PAVEMENT, DRIVEWAYS, TRAFFIC EQUIPMENT, AND STORM DRAIN SYSTEM. INSTALL REMAINING STORM DRAIN SYSTEM FROM MH–105 TO EX MH–104 IN AN UPSTREAM DIRECTION. UTILIZE TEMP. HDPE PIPES AS NEEDED TO CONNECT THE EXISTING STORM DRAINS TO THE NEW SYSTEM TO MAINTAIN POSITIVE CLEAN DRAINAGE.
    B. IMMEDIATELY INSTALL INLET PROTECTION UPON COMPLETION OF STORM DRAIN INLET INSTALLATION IF REQUIRED PER PLANS.
12. PHASE 5: MILLING, RESURFACING, INSTALLATION OF SIGNING AND PAVEMENT MARKINGS (REFER TO SHEET TTCP–01 FOR THE QUADRANT KEY MAP)
    A. PERFORM MILLING AND RESURFACING AS SHOWN ON THE PLANS.
13. UPON COMPLETION OF THE PROPOSED IMPROVEMENTS, PERMANENTLY STABILIZE ANY REMAINING DISTURBED AREAS, AND WITH THE WRITTEN APPROVAL FROM THE MCDPS INSPECTOR, REMOVE ALL SEDIMENT CONTROLS AND IMMEDIATELY STABILIZE THESE AREAS.
14. CONTRACTOR TO COMPLETE AND SIGN AS–BUILT CERTIFICATIONS AND AS–BUILT PLANS AND SUBMIT TO MDOT SHA DISTRICT 3 AT SHAMDPERMITS@MDOT.MARYLAND.GOV. THE STORMWATER MANAGEMENT REPORT MUST ALSO BE INCLUDED. PERMIT WILL NOT BE CLOSED UNTIL AS–BUILT HAS BEEN APPROVED BY MDOT SHA.

DEPARTMENT OF PERMITTING SERVICES

Marc Elrich
County Executive

Mitra Pedoeem
Director

April 24, 2020

Mr. Michael Guiliano
STV Incorporated
7125 Ambassador Road, Suite 200
Baltimore, MD 21244

Re: **COMBINED STORMWATER MANAGEMENT CONCEPT/*SITE DEVELOPMENT STORMWATER MANAGEMENT PLAN*** for
MD 191 (Bradley Blvd.) at MD 188 (Wilson Ln)
SM File #: 285896
Tract Size/Zone: 1.22 ac/ROW
Total Concept Area: 1.22 ac/52,972 sq.ft.
Watershed: Cabin John Creek/Class I-P

Dear Mr. Guiliano:

Based on a review by the Department of Permitting Services Review Staff, the stormwater management concept for the above-mentioned site is **acceptable**. The stormwater management concept proposes to meet required stormwater management goals via micro-bioretention and bio-swales. A waiver for the portion of the stormwater management requirement not able to be met on-site due to site restrictions was being requested and is hereby granted. We understand this project will go through the mandatory referral process.

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

1. A detailed review of the stormwater management computations will occur at the time of detailed plan review. Although DPS will be the authority for issuance of the sediment control permit for this proposed work, this project is located within the MSHA right-of-way and will require an access permit from that agency. The stormwater management practices associated with this project will need to be designed to MSHA standards and will be maintained by MSHA. Any revisions to stormwater management design will take place during the sediment control review stage and will be reflected on the DPS approved sediment control plans.
2. An engineered sediment control plan must be submitted for this development.

This list may not be all-inclusive and may change based on available information at the time.

Payment of a stormwater management contribution in accordance with Section 2 of the Stormwater Management Regulation 4-90 **is not required**.

This letter must appear on the sediment control/stormwater management plan at its initial submittal. The concept approval is based on all stormwater management structures being located outside of the Public Utility Easement, the Public Improvement Easement, and the Public Right of Way unless specifically approved on the concept plan. Any divergence from the information provided to this office; or additional information received during the development process; or a change in an applicable

Mr. Michael Guiliano
April 24, 2020
Page 2 of 2

Executive Regulation may constitute grounds to rescind or amend any approval actions taken, and to reevaluate the site for additional or amended stormwater management requirements. If there are subsequent additions or modifications to the development, a separate concept request shall be required.

If you have any questions regarding these actions, please feel free to contact Mary Fertig at mary.fertig@montgomerycountymd.gov or at 240-777-6202.

Sincerely,

Mark Etheridge

Mark C. Etheridge, Manager
Water Resources Section
Division of Land Development Services

MCE: mmf

cc: N. Braunstein
SM File # 285896

ESD: Required/Provided 5078 cf / 3952 cf
PE: Target/Achieved: 1.85"/1.42"
STRUCTURAL: n/a
WAIVED: QN

DPS Montgomery County Department of Permitting Services
255 Rockville Pike, 2nd Floor, Rockville, Maryland 20850 | 240-777-0311
www.montgomerycountymd.gov/permittingservices

ESN-01

EXISTING IMPERVIOUS AREA: 0.57 ACRES
PERCENT EXISTING IMPERVIOUS AREA: 47.10 %

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

STATE OF MARYLAND — ELIZABETH TANE KANNER — No. 33330 — PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

NO.	REVISION	BY	DATE

Designed By BLS Drawn By BLS Checked By ETK

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

EROSION AND SEDIMENT CONTROL
GENERAL NOTES AND SEQUENCE OF CONSTRUCTION
MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

NOT TO SCALE

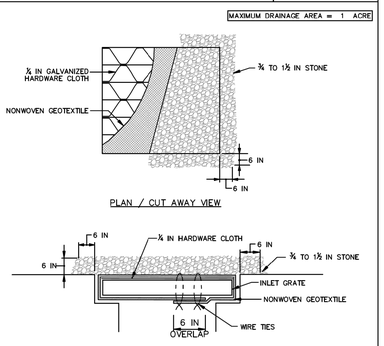
STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE

PLOTTED: Thursday, July 21, 2022 AT 01:23 PM
FILE: \\stvgroup.stvinc.com\V3\DGIPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pES-N001_BradleyWilson.dgn

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

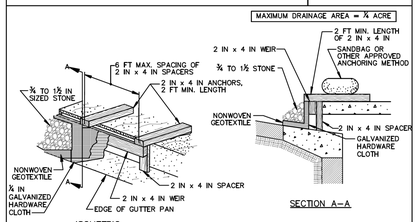
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.26

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING IT 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LENGTH). EXTEND THE ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

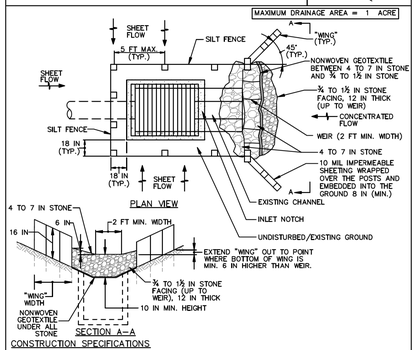
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.27

DETAIL E-9-4 MEDIAN INLET PROTECTION

STANDARD SYMBOL: MIP



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E-1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C-9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

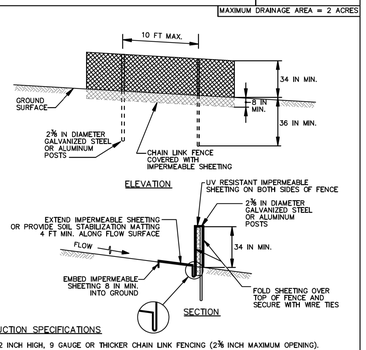
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.28

DETAIL C-9 DIVERSION FENCE

STANDARD SYMBOL: DF



CONSTRUCTION SPECIFICATIONS

1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2⅜ INCH MAXIMUM OPENING).
2. USE 2⅜ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS DO NOT NEED TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF 4 FEET ALONG FLOW SURFACE AND EMBED END A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

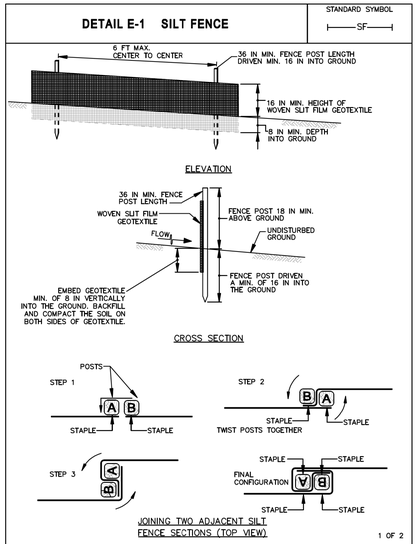
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C.27

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.2

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1¾ X 1¾ ± ⅛ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 8 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

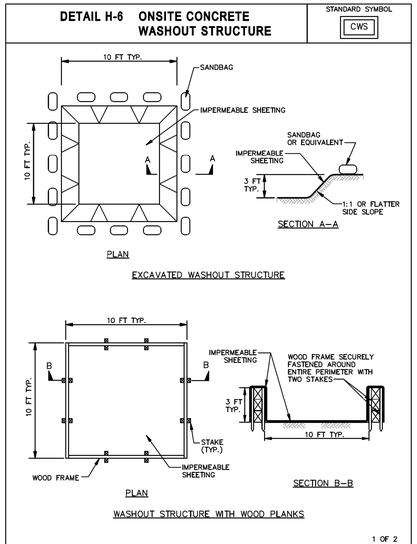
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

E.3

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



1 OF 2

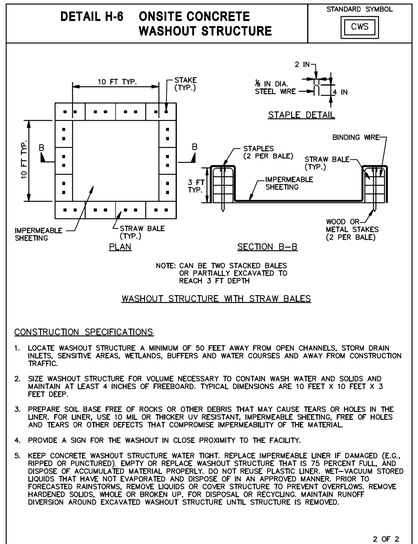
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

H.24

DETAIL H-6 ONSITE CONCRETE WASHOUT STRUCTURE

STANDARD SYMBOL: CWS



CONSTRUCTION SPECIFICATIONS

1. LOCATE WASHOUT STRUCTURE A MINIMUM OF 50 FEET AWAY FROM OPEN CHANNELS, STORM DRAIN INLETS, SENSITIVE AREAS, WETLANDS, BUFFERS AND WATER COURSES AND AWAY FROM CONSTRUCTION TRAFFIC.
2. SIZE WASHOUT STRUCTURE FOR VOLUME NECESSARY TO CONTAIN WASH WATER AND SOLIDS AND MAINTAIN AT LEAST 4 INCHES OF FREEBOARD. TYPICAL DIMENSIONS ARE 10 FEET X 10 FEET X 3 FEET DEEP.
3. PREPARE SOIL BASE FREE OF ROCKS OR OTHER DEBRIS THAT MAY CAUSE TEARS OR HOLES IN THE LINER. FOR LINER, USE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING, FREE OF HOLES AND TEARS OR OTHER DEFECTS THAT COMPROMISE IMPERMEABILITY OF THE MATERIAL.
4. PROVIDE A SIGN FOR THE WASHOUT IN CLOSE PROXIMITY TO THE FACILITY.
5. KEEP CONCRETE WASHOUT STRUCTURE WATER TIGHT. REPLACE IMPERMEABLE LINER IF DAMAGED (E.G., RIPPED OR PUNCTURED). EMPTY OR REPLACE WASHOUT STRUCTURE THAT IS 75 PERCENT FULL, AND DISPOSE OF ACCUMULATED MATERIAL PROPERLY. DO NOT REUSE PLASTIC LINER. WET-VACUUM STORED LIQUIDS THAT HAVE NOT EVAPORATED AND DISPOSE OF IN AN APPROVED MANNER. PRIOR TO FORECASTED RAINSTORMS, REMOVE LIQUIDS OR COVER STRUCTURE TO PREVENT OVERFLOWS. REMOVE HARDENED SOLIDS, WHOLE OR BROKEN UP, FOR DISPOSAL OR RECYCLING. MAINTAIN RUNOFF DIVERSION AROUND EXCAVATED WASHOUT STRUCTURE UNTIL STRUCTURE IS REMOVED.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

H.25

ESD-01

BY: KannerE –

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

STATE OF MARYLAND · ELIZABETH TANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

NO.	REVISION	BY	DATE

Designed By BLS Drawn By BLS Checked By ETK

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

EROSION & SEDIMENT CONTROL DETAILS

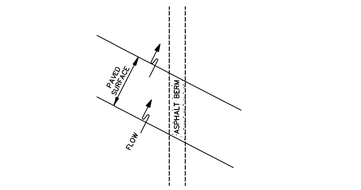
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

NOT TO SCALE

PLOTTED: Thursday, July 21, 2022 AT 01:20 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pES-D001_BradleyWilson.dgn

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: TAB



CONSTRUCTION SPECIFICATIONS

1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF 3½ FEET.
3. PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.
4. COMPACT ASPHALT BERM.
5. REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
6. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

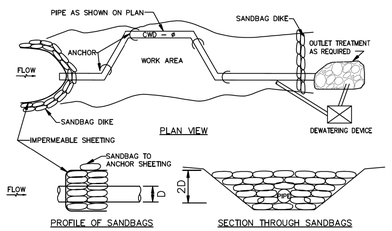
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C.18

DETAIL C-6 CLEAR WATER DIVERSION PIPE

STANDARD SYMBOL: CWD – 12

DESIGNATION CWD-12 REFERS TO 12 INCH CLEAR WATER DIVERSION.



CONSTRUCTION SPECIFICATIONS

1. FLEXIBLE PIPE IS PREFERRED. HOWEVER, CORRUGATED METAL PIPE OR EQUIVALENT PVC PIPE CAN BE USED. MAKE ALL JOINTS WATERTIGHT.
2. FOR SANDBAGS USE MATERIALS THAT ARE RESISTANT TO ULTRA-VIOLENT RADIATION, TEARING, AND PUNCTURE AND WOVEN TIGHTLY ENOUGH TO PREVENT LEAKAGE OF FILL MATERIAL.
3. USE 10 MIL OR THICKER, UV RESISTANT, IMPERMEABLE SHEETING OR OTHER APPROVED MATERIAL THAT IS IMPERMEABLE AND RESISTANT TO PUNTURING AND TEARING.
4. PLACE IMPERMEABLE SHEETING SUCH THAT UPGRADE PORTION OVERLAPS DOWNGRADE PORTION BY A MINIMUM OF 18 INCHES.
5. SET HEIGHT OF SANDBAG DIKE AT TWICE THE PIPE DIAMETER. MAINTAIN HEIGHT ALONG LENGTH OF SANDBAG DIKE. PLACE DOUBLE ROW OF SANDBAGS.
6. AT A MINIMUM, SECURELY ANCHOR DIVERSION PIPE AT EACH DOWNGRADE JOINT.
7. SET OUTLET END OF DIVERSION PIPE LOWER THAN INLET END.
8. PROVIDE OUTLET PROTECTION AS REQUIRED ON APPROVED PLAN.
9. DEWATER WORK AREA USING AN APPROVED EROSION AND SEDIMENT CONTROL PRACTICE AS SPECIFIED ON APPROVED PLAN.
10. KEEP POINT OF DISCHARGE FREE OF EROSION. MAINTAIN WATER TIGHT CONNECTIONS AND POSITIVE DRAINAGE. REPLACE SANDBAGS AND IMPERMEABLE SHEETING IF TORN.

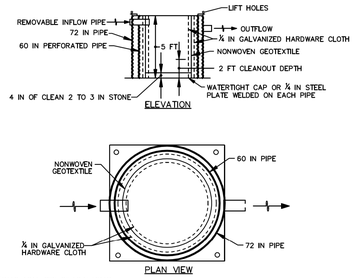
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

C.20

DETAIL F-3 PORTABLE SEDIMENT TANK

STANDARD SYMBOL: ☒PST



CONSTRUCTION SPECIFICATIONS

1. PROVIDE 1 CUBIC FOOT OF STORAGE FOR EACH GALLON PER MINUTE OF PUMP CAPACITY. REQUIRED STORAGE VOLUME MAY BE ATTAINED BY PLACEMENT OF TANKS IN PARALLEL WITH INFLOW EVENLY DISTRIBUTED AMONG TANKS. OVERTOPPING OF TANKS IS NOT PERMITTED.
2. USE 60 INCH CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER FOR THE INNER PIPE. LINE PIPE WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, SANDWICHED BETWEEN, AND ATTACHED TO, ¼ INCH HARDWARE CLOTH.
3. OVERLAP GEOTEXTILE 8 INCHES MINIMUM AT VERTICAL SEAM AND AT THE BOTTOM PLATE.
4. ANCHOR GEOTEXTILE AT BOTTOM OF TANK WITH 4 INCHES OF 2 TO 3 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE.
5. USE 72 INCH CORRUGATED METAL OR PLASTIC OUTER PIPE WITH PERMANENT OUTFLOW PIPE WITH INVERT LOWER THAN INFLOW PIPE
6. INFLOW PIPE MUST DISCHARGE INTO INNER PIPE AND BE REMOVABLE.
7. PLACE TANK ON LEVEL SURFACE AND DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
8. A PORTABLE SEDIMENT TANK REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT FROM INNER PIPE WHEN IT REACHES TWO FEET IN DEPTH. IF SYSTEM CLOGS, PULL OUT INNER PIPE. REMOVE ACCUMULATED SEDIMENT, AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

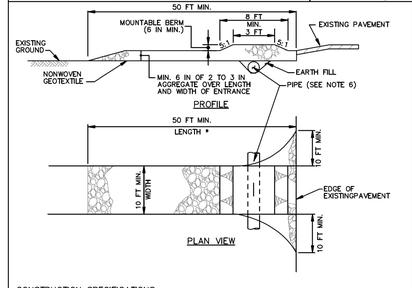
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

F.7

DETAIL B-1 STABILIZED CONSTRUCTION ENTRANCE

STANDARD SYMBOL: SCE



CONSTRUCTION SPECIFICATIONS

1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET (*)50 FEET FOR SINGLE RESIDENCE LOT). USE MINIMUM WIDTH OF 10 FEET. FLARE SCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

B.2

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE -

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

STATE OF MARYLAND · ELIZABETH TANE KANNER · No. 33330 · PROFESSIONAL ENGINEER

"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. 33330

EXPIRATION DATE JUNE 29, 2024

NO.	REVISION	BY	DATE

Designed By BLS Drawn By BLS Checked By ETK

ESD-02

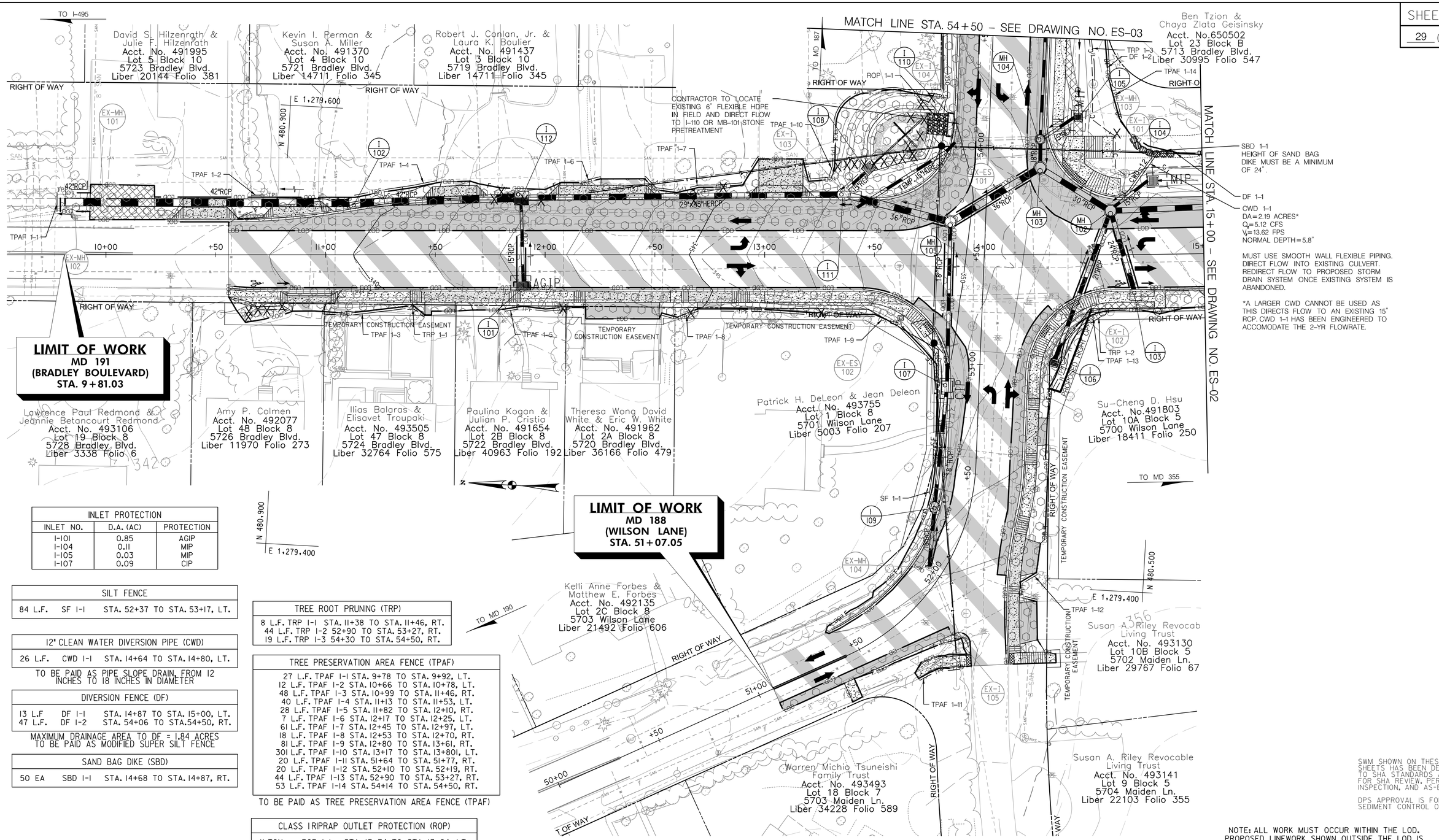
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

EROSION & SEDIMENT CONTROL DETAILS

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

NOT TO SCALE

PLOTTED: Thursday, July 21, 2022 AT 01:22 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pES-D002_BradleyWilson.dgn



INLET PROTECTION		
INLET NO.	D.A. (AC)	PROTECTION
I-101	0.85	AGIP
I-104	0.11	MIP
I-105	0.03	MIP
I-107	0.09	CIP

SILT FENCE
84 L.F. SF 1-1 STA. 52+37 TO STA. 53+17, LT.

12" CLEAN WATER DIVERSION PIPE (CWD)
26 L.F. CWD 1-1 STA. 14+64 TO STA. 14+80, LT.

TO BE PAID AS PIPE SLOPE DRAIN, FROM 12 INCHES TO 18 INCHES IN DIAMETER

DIVERSION FENCE (DF)		
13 L.F	DF 1-1	STA. 14+87 TO STA. 15+00, LT.
47 L.F.	DF 1-2	STA. 54+06 TO STA.54+50, RT.

MAXIMUM DRAINAGE AREA TO DF = 1.84 ACRES
TO BE PAID AS MODIFIED SUPER SILT FENCE

SAND BAG DIKE (SBD)		
50 EA	SBD 1-1	STA. 14+68 TO STA. 14+87, RT.

TREE ROOT PRUNING (TRP)
8 L.F. TRP 1-1 STA. 11+38 TO STA. 11+46, RT.
44 L.F. TRP 1-2 52+90 TO STA. 53+27, RT.
19 L.F. TRP 1-3 54+30 TO STA. 54+50, RT.

TREE PRESERVATION AREA FENCE (TPAF)
27 L.F. TPAF 1-1 STA. 9+78 TO STA. 9+92, LT.
12 L.F. TPAF 1-2 STA. 10+66 TO STA. 10+78, LT.
48 L.F. TPAF 1-3 STA. 10+99 TO STA. 11+46, RT.
40 L.F. TPAF 1-4 STA. 11+13 TO STA. 11+53, LT.
28 L.F. TPAF 1-5 STA. 11+82 TO STA. 12+10, RT.
7 L.F. TPAF 1-6 STA. 12+17 TO STA. 12+25, LT.
61 L.F. TPAF 1-7 STA. 12+45 TO STA. 12+97, LT.
18 L.F. TPAF 1-8 STA. 12+53 TO STA. 12+70, RT.
81 L.F. TPAF 1-9 STA. 12+80 TO STA. 13+61, RT.
301 L.F. TPAF 1-10 STA. 13+17 TO STA. 13+80, LT.
20 L.F. TPAF 1-11 STA. 51+64 TO STA. 51+77, RT.
20 L.F. TPAF 1-12 STA. 52+10 TO STA. 52+19, RT.
44 L.F. TPAF 1-13 STA. 52+90 TO STA. 53+27, RT.
53 L.F. TPAF 1-14 STA. 54+14 TO STA. 54+50, RT.

TO BE PAID AS TREE PRESERVATION AREA FENCE (TPAF)

CLASS I RIPRAP OUTLET PROTECTION (ROP)		
11 TON	ROP 1-1	STA. 13+74 TO STA. 13+84, LT.

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING, WEDGE/LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE
- PORTLAND CEMENT CONCRETE FOR DRIVEWAY
- AGIP AT-GRATE INLET PROTECTION
- REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND CURB AND GUTTER
- DETECTABLE WARNING SURFACE
- BIO SWALE
- MICRO BIORETENTION FACILITY
- MIP MEDIAN INLET PROTECTION
- LOD LIMIT OF DISTURBANCE
- SAME DAY STABILIZATION
- DIVERSION FENCE
- TAB TEMPORARY ASPHALT BERM
- CIP CURB INLET PROTECTION
- SF SILT FENCE
- CWD-12 12" CLEAR WATER DIVERSION PIPE
- SAND BAG DIKE
- ROCK OUTLET PROTECTION (ROP)

SCALE: 1" = 20'

NOTE: ALL WORK MUST occur WITHIN THE LOD. PROPOSED LINEWORK SHOWN OUTSIDE THE LOD IS STRICTLY FOR ILLUSTRATIVE PURPOSES ONLY.

ES-01

NO.	REVISION	BY	DATE

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

EROSION AND SEDIMENT CONTROL PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

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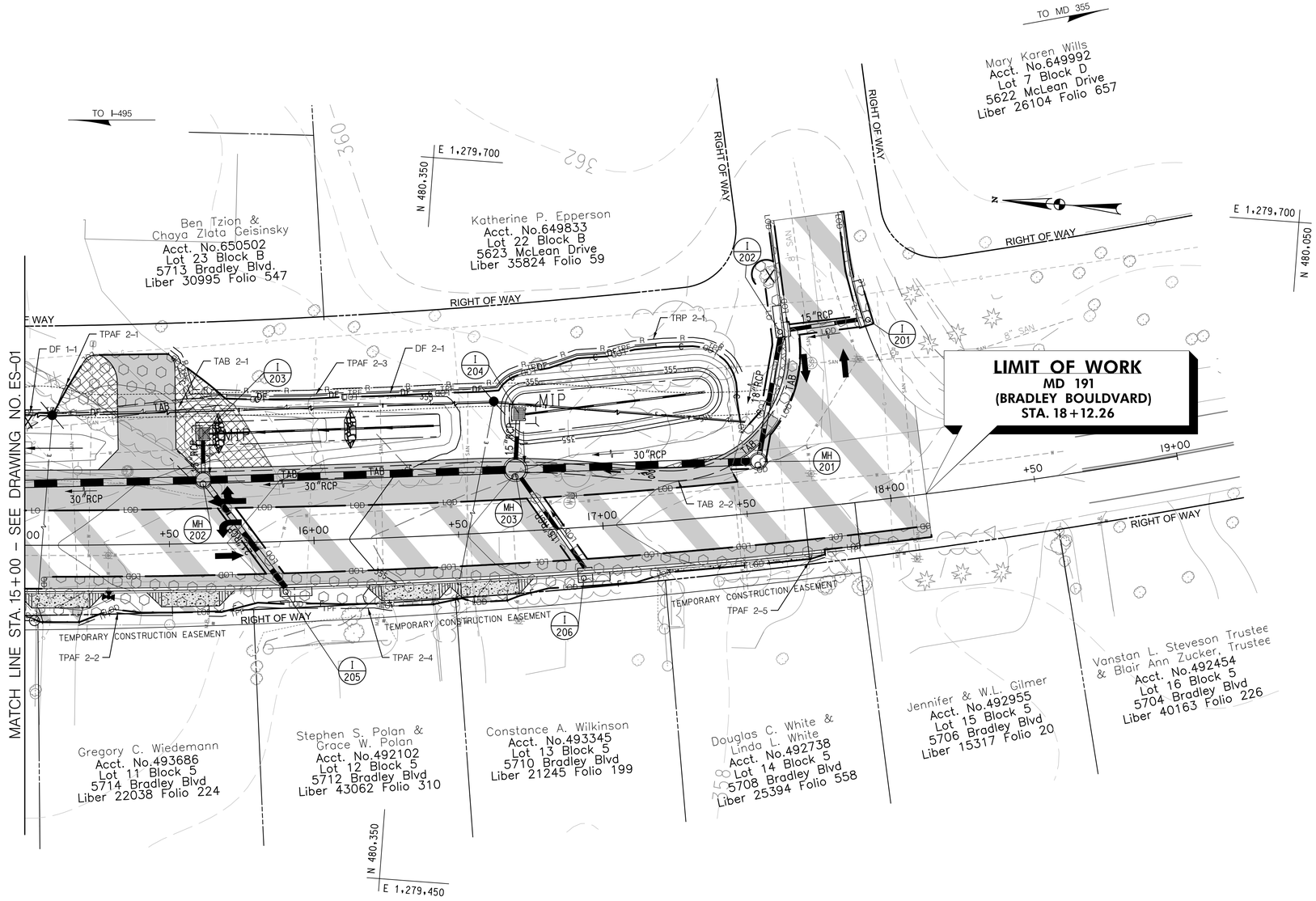
LICENSE NO. 33330

EXPIRATION DATE JUNE 29, 2024

Designed By BLS Drawn By BLS Checked By ETK

BY: KannerE -

PLOTTED: Thursday, July 21, 2022 AT 01:25 PM
FILE: \\stvgroup.stvinc.com\V3\DGPA\Vol3\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pES-P001_BradleyWilson.dgn



INLET PROTECTION		
INLET NO.	D.A. (AC)	PROTECTION
I-203	0.13	MIP
I-204	0.35	MIP

TEMPORARY ASPHALT BERM (TAB)
4 TON TAB 2-1 STA. 15+33 TO STA. 15+71, LT.
24 TON TAB 2-2 STA. 15+50 TO STA. 17+74, LT.

MAXIMUM DRAINAGE AREA TO TAB = 0.24 ACRES

DIVERSION FENCE (DF)
33 L.F. DF 1-1 STA. 15+00 TO STA. 15+33, LT.
152 L.F. DF 2-1 STA. 15+71 TO STA. 17+24, LT.

MAXIMUM DRAINAGE AREA TO DF = 0.40 ACRES
TO BE PAID AS MODIFIED SUPER SILT FENCE

TREE PRESERVATION AREA FENCE (TPAF)
21 L.F. TPAF 2-1 STA. 15+00 TO STA. 15+15, LT.
33 L.F. TPAF 2-1 STA. 15+18 TO STA. 15+51, RT.
214 L.F. TPAF 2-3 STA. 15+59 TO STA. 17+50, LT.
64 L.F. TPAF 2-4 STA. 15+63 TO STA. 16+25, RT.
21 L.F. TPAF 2-5 STA. 17+70 TO STA. 17+88, RT.

TO BE PAID AS TREE PRESERVATION AREA FENCE

TREE ROOT PRUNING (TRP)
214 L.F. TRP 2-1 STA. 15+59 TO STA. 17+50, LT.

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

NOTE: ALL WORK MUST OCCUR WITHIN THE LOD. PROPOSED LINEWORK SHOWN OUTSIDE THE LOD IS STRICTLY FOR ILLUSTRATIVE PURPOSES ONLY.

ES-02

LEGEND

FULL DEPTH PAVEMENT	REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND CURB AND GUTTER	LOD — LIMIT OF DISTURBANCE	SF — SILT FENCE
GRINDING, WEDGE/LEVEL, AND RESURFACING	DETECTABLE WARNING SURFACE	SAME DAY STABILIZATION	CWD-12 12" CLEAR WATER DIVERSION PIPE
PORTLAND CEMENT CONCRETE	BIO SWALE	DF — DIVERSION FENCE	SAND BAG DIKE
PORTLAND CEMENT CONCRETE FOR DRIVEWAY	MICRO BIORETENTION FACILITY	TAB TEMPORARY ASPHALT BERM	ROCK OUTLET PROTECTION (ROP)
AGIP AT-GRATE INLET PROTECTION	MIP MEDIAN INLET PROTECTION	CIP CURB INLET PROTECTION	

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

NO.	REVISION	BY	DATE

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

EROSION AND SEDIMENT CONTROL PLAN

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: KannerE -

STATE OF MARYLAND
ELIZABETH TANE KANNER
No. 33330
PROFESSIONAL ENGINEER

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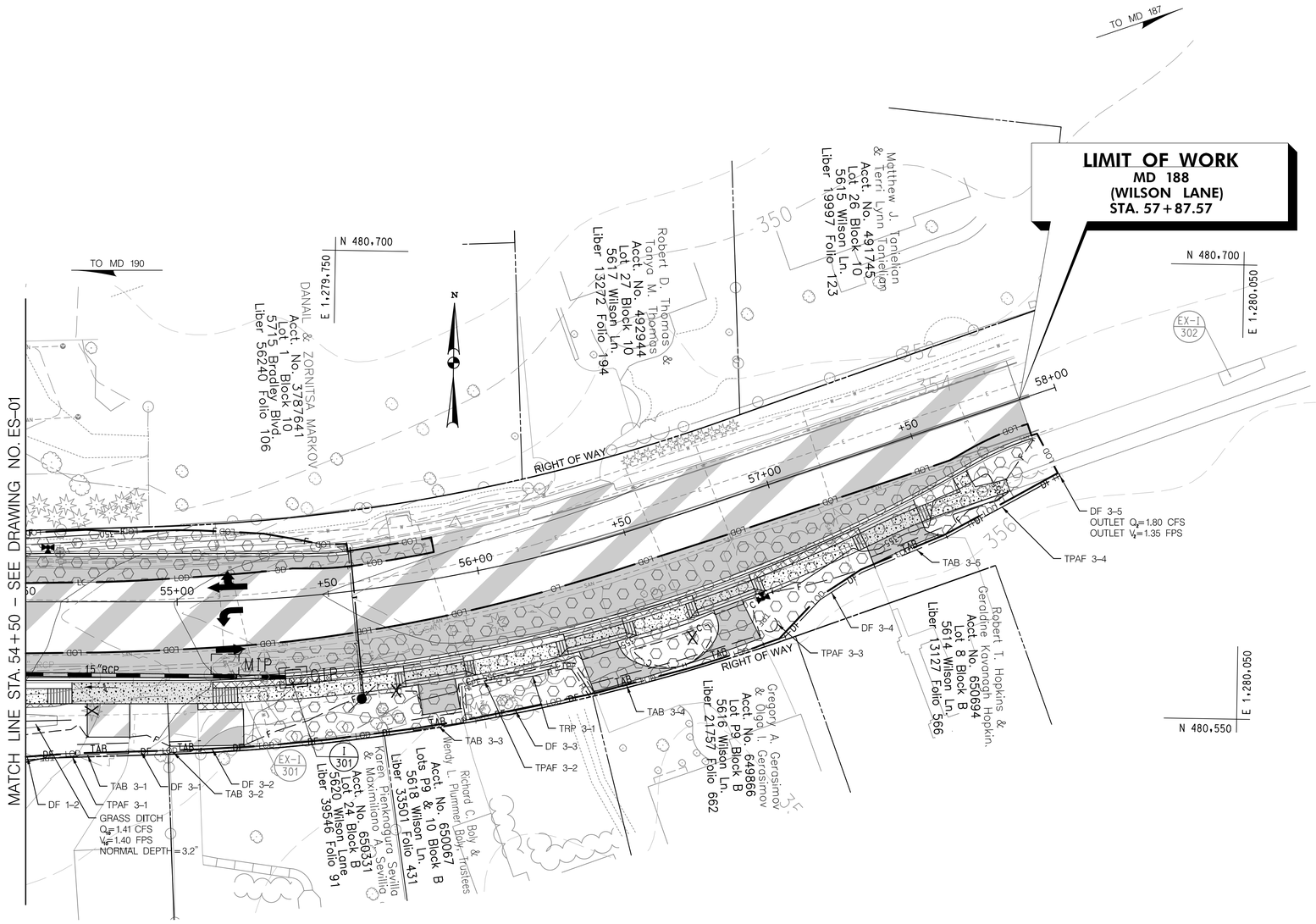

INLET PROTECTION		
INLET NO.	D.A. (AC)	PROTECTION
EX I-301	0.23	MIP
I-301	0.21	CIP

TEMPORARY ASPHALT BERM (TAB)		
2 TON	TAB 3-1	STA. 54+64 TO STA.54+84, RT.
2 TON	TAB 3-2	STA. 54+98 TO STA.55+07, RT.
2 TON	TAB 3-3	STA. 55+71 TO STA. 55+87, RT.
6 TON	TAB 3-4	STA. 56+27 TO STA.56+82, RT.
3 TON	TAB 3-5	STA. 57+25 TO STA.57+50, RT.

MAXIMUM DRAINAGE AREA TO TAB = 1.33 ACRES

DIVERSION FENCE (DF)		
17	L.F. DF 1-2	STA. 54+50 TO STA.54+64, RT.
14	L.F. DF 3-1	STA. 54+84 TO STA.54+98, RT.
71	L.F. DF 3-2	STA. 55+07 TO STA.55+71, RT.
45	L.F. DF 3-3	STA. 55+87 TO STA.56+27, RT.
46	L.F. DF 3-4	STA. 56+82 TO STA.57+25, RT.
43	L.F. DF 3-5	STA. 57+50 TO STA.57+93, RT.

MAXIMUM DRAINAGE AREA TO DF = 1.84 ACRES
TO BE PAID AS MODIFIED SUPER SILT FENCE

TREE PRESERVATION AREA FENCE (TPAF)		
17	L.F. TPAF 3-1	STA. 54+50 TO STA. 54+67, RT.
54	L.F. TPAF 3-2	STA. 55+86 TO STA. 56+26, RT.
16	L.F. TPAF 3-3	STA. 56+66 TO STA. 56+88, RT.
44	L.F. TPAF 3-4	STA. 57+50 TO STA. 57+88, RT.

TO BE PAID AS TREE PRESERVATION AREA FENCE

TREE ROOT PRUNING (TRP)
56 L.F. TRP 3-1 STA. 55+86 TO STA. 57+26, RT

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ES-03

LEGEND

- FULL DEPTH PAVEMENT
- GRINDING, WEDGE/LEVEL, AND RESURFACING
- PORTLAND CEMENT CONCRETE
- PORTLAND CEMENT CONCRETE FOR DRIVEWAY
- AGIP AT-GRATE INLET PROTECTION
- REMOVAL OF EXISTING PAVEMENT, SIDEWALK, AND CURB AND GUTTER
- DETECTABLE WARNING SURFACE
- BIO SWALE
- MICRO BIORETENTION FACILITY
- MIP MEDIAN INLET PROTECTION
- LOD LIMIT OF DISTURBANCE
- SAME DAY STABILIZATION
- DF DIVERSION FENCE
- TAB TEMPORARY ASPHALT BERM
- CIP CURB INLET PROTECTION
- SF SILT FENCE
- CWD-12 12" CLEAR WATER DIVERSION PIPE
- SAND BAG DIKE
- ROCK OUTLET PROTECTION (ROP)

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

STV 100 Years
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DEPARTMENT OF TRANSPORTATION
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MONTGOMERY COUNTY, MARYLAND

EROSION AND SEDIMENT CONTROL PLAN
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

PLOTTED: Thursday, July 21, 2022 AT 01:32 PM
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ePLANS SHEET NO.	SHEET NO.
SC0017 OF 17	32 OF 43

SEQUENCE OF CONSTRUCTION

PHASE 1: CONSTRUCT NORTHEAST QUADRANT

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS.
2. PERFORM CLEARING AND GRUBBING AS NEEDED FOR UTILITY RELOCATIONS.
3. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE EXISTING INLET, STORM DRAINS, PAVEMENT, COMBINATION CURB & GUTTER, AND DRIVEWAYS. RELOCATE EXISTING FIRE HYDRANT AND CONSTRUCT STORM DRAIN SYSTEM FROM EX. MH-101 TO MH-105, MICRO BIO RETENTION FACILITY, INLET I-101 TO I-112 IN AN UPSTREAM DIRECTION, COMBINATION CURB & GUTTER, DRIVEWAYS, FULL DEPTH PAVEMENT AND SIGNING ALONG MD 191 (BRADLEY BLVD) AND MD 188 (WILSON LN) FROM STA. 9+81 LT. TO STA. 55+58 LT. AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10 AND MD 104.02-14. IF A PAVEMENT DROP OFF REMAINS AT THE END OF THE WORK DAY, A 4:1 WEDGE OF GRADED AGGREGATE IN ACCORDANCE WITH MDOT SHA STANDARD NOS. MD 104.06-17 AND MD 104.01-28 WILL BE REQUIRED.
4. COORDINATE WITH TRAFFIC SIGNAL CONTRACTOR TO INSTALL ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO REMOVAL OF ANY EX. EQUIPMENT. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARDS MD 104.02-10 AND MD 104.02-14.

PHASE 2: CONSTRUCT SOUTHEAST QUADRANT

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS.
2. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE EXISTING INLET, MANHOLE, STORM DRAINS, PAVEMENT, COMBINATION CURB & GUTTER, SIDEWALK, DRIVEWAYS AND ANY TRAFFIC SIGNAL EQUIPMENT NO LONGER IN USE. CONSTRUCT STORM DRAIN SYSTEM FROM I-301 TO MH-105 AND SOUTHERN SYSTEM FROM MH-103 TO INLET I-201 IN AN UPSTREAM DIRECTION, MICRO BIO RETENTION FACILITY, DRAINAGE SWALES, COMBINATION CURB & GUTTER, DRIVEWAYS, FULL DEPTH PAVEMENT AND SIGNING ALONG MD 191 (BRADLEY BLVD) AND MD 188 (WILSON LN) FROM STA. 18+02 LT. TO STA. 57+88 RT. AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10 AND MD 104.02-14. IF A PAVEMENT DROP OFF REMAINS AT THE END OF THE WORK DAY, A 4:1 WEDGE OF GRADED AGGREGATE IN ACCORDANCE WITH MDOT SHA STANDARD NOS. MD 104.06-17 AND MD 104.01-28 WILL BE REQUIRED.
3. THE CONTRACTOR SHALL SUB-STAGE CONSTRUCTION TO CONSTRUCT THE PROPOSED PEDESTRIAN PATH FIRST WHILE MAINTAINING PEDESTRIAN ACCESS UTILIZING MDOT SHA STANDARD MD 104.06-09A.
4. COORDINATE WITH TRAFFIC SIGNAL CONTRACTOR TO INSTALL ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO REMOVAL OF ANY EX. EQUIPMENT. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARDS MD 104.02-10 AND MD 104.02-14.

PHASE 3: CONSTRUCT SOUTHWEST QUADRANT

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS.
2. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE EXISTING PAVEMENT, COMBINATION CURB & GUTTER, SIDEWALK, DRIVEWAYS AND ANY TRAFFIC SIGNAL EQUIPMENT NO LONGER IN USE. RELOCATE EXISTING FIRE HYDRANT AND CONSTRUCT STORM DRAIN SYSTEM FROM I-106 TO MH-102, INLET I-103 TO MH-103, INLET I-205 TO MH-202, AND I-206 TO MH-203 IN AN UPSTREAM DIRECTION, COMBINATION CURB & GUTTER, DRIVEWAYS, SIDEWALK, FULL DEPTH PAVEMENT AND SIGNING ALONG MD 191 (BRADLEY BLVD) AND MD 188 (WILSON LN) FROM STA. 18+12 RT. TO STA. 51+07 RT. AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10 AND MD 104.02-14. IF A PAVEMENT DROP OFF REMAINS AT THE END OF THE WORK DAY, A 4:1 WEDGE OF GRADED AGGREGATE IN ACCORDANCE WITH MDOT SHA STANDARD NOS. MD 104.06-17 AND MD 104.01-28 WILL BE REQUIRED.
3. THE CONTRACTOR SHALL SUB-STAGE CONSTRUCTION TO MAINTAIN PEDESTRIAN ACCESS UTILIZING MDOT SHA STANDARD MD 104.06-09A.
4. COORDINATE WITH TRAFFIC SIGNAL CONTRACTOR TO INSTALL ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO REMOVAL OF ANY EX. EQUIPMENT. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARDS MD 104.02-10 AND MD 104.02-14.

PHASE 4: CONSTRUCT NORTHWEST QUADRANT

1. INSTALL TEMPORARY TRAFFIC CONTROL DEVICES AND SIGNS.
2. SAW CUT AND EXCAVATE WHERE NECESSARY TO REMOVE EXISTING PAVEMENT, COMBINATION CURB & GUTTER, SIDEWALK, DRIVEWAYS AND ANY TRAFFIC SIGNAL EQUIPMENT NO LONGER IN USE. RELOCATE EXISTING AIR VENT AND CONSTRUCT STORM DRAIN SYSTEM FROM EX. MH-104 TO MH-105 IN AN UPSTREAM DIRECTION, COMBINATION CURB & GUTTER, DRIVEWAYS, SIDEWALK, FULL DEPTH PAVEMENT AND SIGNING ALONG MD 191 (BRADLEY BLVD) AND MD 188 (WILSON LN) FROM STA. 10+56 RT. TO STA. 51+07 LT. AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10 AND MD 104.02-14. IF A PAVEMENT DROP OFF REMAINS AT THE END OF THE WORK DAY, A 4:1 WEDGE OF GRADED AGGREGATE IN ACCORDANCE WITH MDOT SHA STANDARD NOS. MD 104.06-17 AND MD 104.01-28 WILL BE REQUIRED.
3. THE CONTRACTOR SHALL SUB-STAGE CONSTRUCTION TO MAINTAIN PEDESTRIAN ACCESS UTILIZING MDOT SHA STANDARD MD 104.06-09A.
4. COORDINATE WITH TRAFFIC SIGNAL CONTRACTOR TO INSTALL ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO REMOVAL OF ANY EX. EQUIPMENT. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARDS MD 104.02-10 AND MD 104.02-14.

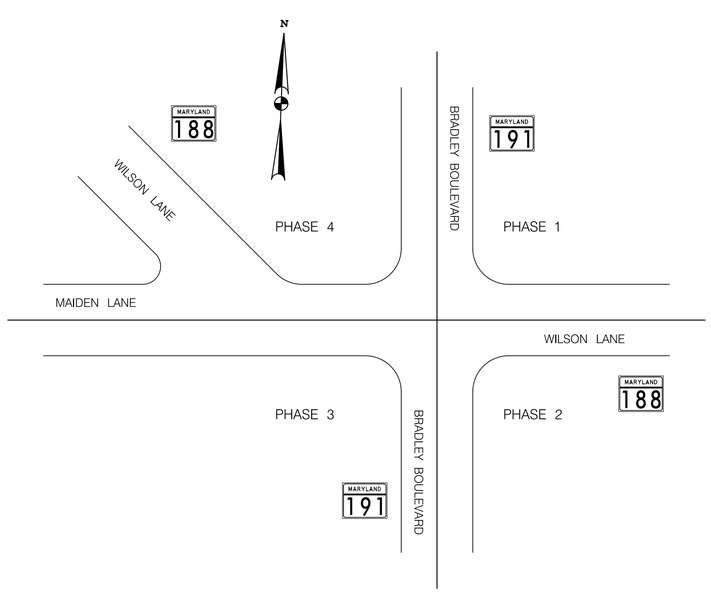
PHASE 5: MILLING, RESURFACING, INSTALLATION OF SIGNING AND PAVEMENT MARKINGS

1. PERFORM MILLING AND RESUFACING AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10, MD 104.02-14 AND MD 104.02-18. INSTALL REMOVABLE PAVEMENT MARKINGS AND ANY REMAINING PERMANENT SIGNS AS NECESSARY.
2. REMOVE REMOVABLE TEMPORARY PAVEMENT MARKINGS AND INSTALL PERMANENT PAVEMENT MARKINGS AS SHOWN ON THE DESIGN PLANS. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARD NOS. MD 104.02-10, MD 104.02-14 AND MD 104.02-18.
3. COORDINATE WITH TRAFFIC SIGNAL CONTRACTOR TO ACTIVATE ALL TRAFFIC SIGNAL EQUIPMENT AND REMOVE ANY REMAINING EX. EQUIPMENT. TRAFFIC SHALL BE MAINTAINED UTILIZING MDOT SHA STANDARDS MD 104.02-10 AND MD 104.02-14.

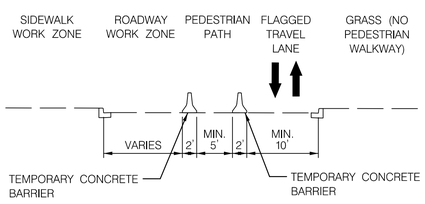
GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE MONTGOMERY COUNTY TMC AT 240-777-2100 AND MDOT SHA SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY PLANNED LANE CLOSURES VIA FLAGGING OPERATION.
2. THE CONTRACTOR SHALL SUB-STAGE CONSTRUCTION TO MAINTAIN PEDESTRIAN ACCESS THROUGHOUT THE WORK ZONE. PEDESTRIAN ACCESS SHALL ALSO BE MAINTAINED AT THE END OF EACH WORK DAY
3. THE CONTRACTOR SHALL UTILIZE 8 FT. x 12 FT. x 1 IN. THICK STEEL PLATES TO COVER AREAS OF UNFILLED EXCAVATION WITHIN THE ROADWAY AND PEDESTRIAN FACILITIES AT THE END OF EACH WORK DAY AS NECESSARY.
4. THE CONTRACTOR SHALL COORDINATE WITH ANY ADJACENT CONSTRUCTION PROJECTS TO COORDINATE LANE CLOSURES.
5. THE CONTRACTOR SHALL MAINTAIN A MINIMUM 10 FT. TRAVEL LANE IN EACH DIRECTION DURING CONSTRUCTION.
6. PRIOR TO BEGINNING ANY CONSTRUCTION WORK, THE CONTRACTOR SHALL MEET ALL REQUIREMENTS FOR EROSION AND SEDIMENT CONTROL.
7. CONSTRUCTION ON THIS PROJECT SHALL CONFORM TO APPLICABLE SECTIONS OF MDOT SHA'S STANDARD SPECIFICATIONS DATED JULY 2020 AND GENERAL PREVISIONS SPECIFIC TO THIS CONTRACT.
8. THE CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ALL EXISTING TRAFFIC SIGNS. IF IN THE OPINION OF THE ENGINEER, ANY SIGNS ARE DAMAGED BY THE CONTRACTOR'S OPERATION THEY SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR SHALL COVER ANY ADVANCE WARNING SIGNS THAT ARE NOT APPLICABLE DURING A PARTICULAR PHASE, OR NON-WORKING HOURS.
10. PERMANENT SIGNS SHALL BE ERECTED PRIOR TO OPENING ANY PERMANENT CONSTRUCTION TO TRAFFIC.
11. THE CONTRACTOR SHALL MAINTAIN VEHICLE ACCESS TO ALL DRIVEWAY ENTRANCES WITHIN THE PROJECT AREA. THE CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS TO MAINTAIN INGRESS-EGRESS DURING ALL PHASES OF CONSTRUCTION.
12. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY, INSTALL AND MAINTAIN ALL TEMPORARY TRAFFIC CONTROL EQUIPMENT FOR THE DURATION OF THE CONTRACT.
13. ALL TRAFFIC CONTROL DEVICES, SHOULDER CLOSURES, LANE SHIFTS AND LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD-MUTCD), AND SHA BOOK OF STANDARDS.
14. ALL TRAFFIC CONTROL FLAGGERS SHALL BE CERTIFIED.
15. NO FLAGGING SHALL OCCUR WHILE THE TRAFFIC SIGNAL CONTROL IS OPERATING IN FULL COLOR MODE. THE CONTRACTOR SHALL CONTACT THE MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION TO TURN THE TRAFFIC CONTROL SIGNAL DARK DURING FLAGGING OPERATIONS. ASSISTANCE FROM THE MONTGOMERY COUNTY POLICE DEPARTMENT IS REQUIRED DURING SIGNAL TURN OFF AND RETURN TO SERVICE.
16. THE CONTRACTOR SHALL MAINTAIN PEDESTRIAN AND BUS ACCESS TO ALL BUS STOPS WITHIN THE PROJECT LIMITS.
17. THE CONTRACTOR SHALL ASSUME A PREVAILING SPEED OF 40 MPH FOR VARIOUS WORK ZONE ELEMENTS. THE BUFFER SHALL BE 305 FEET IN LENGTH. CHANNELIZING DEVICES SHALL BE SPACED 30 FEET APART IN TAPERS AND ADJACENT TO THE WORK ZONE AND SHALL BE SPACED 60 FEET APART IN THE BUFFER AS PER MDOT SHA STANDARD NOS. MD 104.00-09 AND MD 104.01-30 D.

SEQUENCE OF CONSTRUCTION KEY MAP



TYPICAL SECTION – FLAGGING OPERATION



TTCP-01

NO.	REVISION	BY	APP'D	DATE

DESIGNED BY: MCG	DATE: JULY 2022
DRAWN BY: MCG	DATE: JULY 2022
CHECKED BY: SDY	DATE: JULY 2022
DRAWING NO.: TTCP-01	

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

Approved: _____
Chief, Division of Traffic Engineering and Operations

Approved: _____
Chief, Traffic Engineering Design and Operations Section

Recommended: _____
Engineer, Traffic Engineering Design and Operations Section

TEMPORARY TRAFFIC CONTROL PLAN
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: NONE

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: misnerka –

STATE OF MARYLAND · SETH DAVID YOUNG · No. 35321 · PROFESSIONAL ENGINEER

"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. 35321

EXPIRATION DATE JANUARY 6, 2024

7/22/22

PLOTTED: 7/21/2022
FILE: I:\Projects\4019356\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pMT-P001_BradleyWilson.dgn

BORDER REV. DATE: MAY 29, 2018

CRITERIA

THE CONTRACTOR SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE SPECIAL PROVISIONS OF THIS CONTRACT:

DESIGN

MDOT SHA - "MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2011 EDITION AND SUBSEQUENT REVISIONS. (MDMUTCD)

A A S H T O - "HIGHWAY SAFETY DESIGN AND OPERATIONS GUIDE" -1997

A A S H T O - "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS LUMINAIRES AND TRAFFIC SIGNALS", 2001 EDITION (CATEGORY II FOR ALL OVERHEAD AND CANTILEVER SIGN STRUCTURES).

MATERIALS AND CONSTRUCTION

MDOT SHA - "STANDARD SPECIFICATIONS FOR CONSTRUCTION & MATERIALS", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

MDOT SHA - "BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES", MOST CURRENT EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

DESIGN WIND

100 MPH - WOOD SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - GROUND MOUNT SIGN STEEL SUPPORTS
10 YEAR RECURRENCE INTERVAL

100 MPH - OVERHEAD AND CANTILEVER STRUCTURES
50 YEAR RECURRENCE INTERVAL

} ALL DISTRICTS

DESIGN STRESS

SOIL BEARING PRESSURE - S = 3,000 P.S.F. (ASSUMED)
SEE MATERIAL & CONSTRUCTION ABOVE AND SPECIAL PROVISIONS FOR DESIGN STRESSES FOR STRUCTURAL STEEL, ALUMINUM, REINFORCING STEEL AND CONCRETE.

CHAMFER

ALL EXPOSED EDGES OF CONCRETE SHALL HAVE A 3/4" X 3/4" CHAMFER.

CLASSIFICATION OF SIGNS

SIGNS ARE DIVIDED INTO TWO (2) GENERAL CATEGORIES.

1. GUIDE SIGNS
   - A) STRUCTURAL TYPES
     - OH - OVERHEAD
     - C - CANTILEVER
     - GM - GROUND MOUNT, BREAKAWAY OR NON-BREAKWAY
     - BM - BRIDGE MOUNTED
   - B) PANELS
     - MATERIAL - EXTRUDED ALUMINUM
     - COPY - DIRECT APPLIED
       - I) HIGH INTENSITY (NEW SIGNS AND REVISIONS TO EXISTING SIGNS)
2. STANDARD SIGNS (REGULATORY, WARNING, ETC.)
   - A) STRUCTURAL TYPES
     - WOOD SUPPORTS
     - SQUARE TUBE
   - B) PANELS
     - MATERIAL - SHEET ALUMINUM
     - COPY - DIRECT APPLIED

IDENTIFICATION OF SIGNS AND PANELS

GUIDE SIGNS

EACH GUIDE SIGN IS IDENTIFIED BY A SIGN NUMBER ON THE PLANS AND IN THE TABULATIONS. (GM-1, GM-2, GM-3, etc)
SIGNS ON STRUCTURES ARE IDENTIFIED WITH A NUMBER AND WHERE VARIATIONS OCCUR, A LOWER CASE LETTER. (OH-1a, OH-1b, OH-1c)

STANDARD SIGNS

STANDARD SIGNS ARE IDENTIFIED BY PANEL NUMBERS AND ARE CLASSIFIED AS FOLLOWS

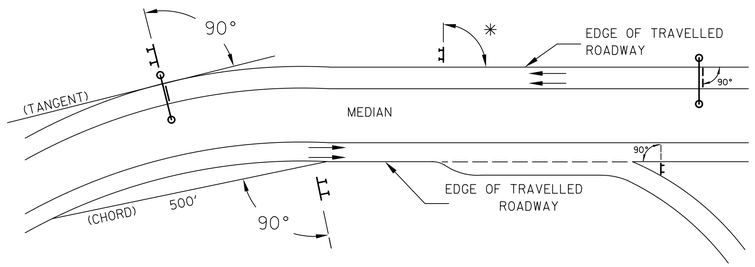
- R - REGULATORY
- W - WARNING
- M - ROUTE MARKERS AND ACCESSORIES
- D - DESTINATION AND MILEAGE PANELS
- S - SCHOOL

PANELS SHALL BE DESIGNATED TO AGREE WITH MARYLAND STANDARD SIGN BOOK. EACH STANDARD SIGN IS IDENTIFIED FIRST BY THE SHEET NUMBER, THEN BY THE NUMERICAL ORDER OF THE SIGN AS IT APPEARS ON THE PLAN.
FOR EXAMPLE SHEET SN 2.1-101,102,103, ETC. SHEET SN 2.2-201,202,203,ETC.

PANEL LAYOUT AND ALPHABETS

1. GUIDE SIGN PANEL LAYOUTS ARE BASED ON THE A.A.S.H.T.O. MANUALS NOTED ABOVE.
2. STANDARD SIGN PANEL LAYOUTS ARE BASED ON THE MDMUTCD WITH SPECIFICATIONS DETAILED IN THE MARYLAND STATE HIGHWAY ADMINISTRATION PUBLICATION, "STANDARD SIGN BOOK", AVAILABLE ONLINE AT http://apps.roads.maryland.gov/businesswithsha/bizstdsspecs/desmanualstdpub/publicationsonline/oots/internet_signbook.asp

ORIENTATION OF SIGN FACES



* UNDER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 93° AWAY FROM THE ROAD TO AVOID SPECULAR REFLECTION AS INDICATED IN 813.03 OF THE MARYLAND STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.

OVER 30 FEET FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - 90°

REFLECTORIZATION

BACKGROUNDS, BORDERS, TEXTS AND ALL OTHER ELEMENTS OF SIGN PANELS SHALL BE REFLECTORIZED EXCEPT WHERE NOTED. REFER TO PROJECT REQUIREMENTS FOR MORE DETAIL.

SIGN LOCATIONS

1. GUIDE SIGNS ARE LOCATED ON THE PLANS BY DIMENSION TO SURVEY STATIONS, OR WHEN NECESSARY, TO IDENTIFIABLE PHYSICAL FEATURES.
2. ALL CHANGES IN THE LOCATIONS OF SIGNS AS SHOWN ON THE PLAN SHALL HAVE THE PRIOR APPROVAL OF THE ENGINEER.

EXISTING UTILITIES

THE ENGINEER DOES NOT WARRANT OR GUARANTEE THE ACCURACY OR COMPLETENESS OF UTILITY INFORMATION SHOWN ON THE PLAN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND PROTECT ALL EXISTING FACILITIES WHICH MIGHT BE AFFECTED BY THIS WORK OR HIS OPERATION.

ROADSIDE SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANEL SO FACE IS PLUMB.
2. HORIZONTAL ALIGNMENT (SEE DIAGRAM ABOVE)
   - A) ON STRAIGHT ROADWAY SECTIONS, ANGLE OF SIGN FACE TO ROADWAY VARIES WITH DISTANCE FROM TRAVELLED ROADWAY TO NEAR EDGE OF SIGN - SEE DIAGRAM.
   - B) ON THE INSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL MAKES AN ANGLE OF 90° WITH A CHORD BETWEEN A POINT ON NEAR EDGE OF PAVEMENT AT SIGN LOCATION AND A POINT ON EDGE OF PAVEMENT 500' IN ADVANCE OF SIGN.
   - C) ON THE OUTSIDE OF HORIZONTAL CURVES, POSITION SIGN SO FACE OF PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT THE SIGN LOCATION.
   - D) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.

OVERHEAD SIGNS

1. VERTICAL ALIGNMENT
   POSITION PANELS FOR ALL OVERHEAD STRUCTURES SO THAT PANEL FACE IS PLUMB.
2. OVERHEAD SIGN STRUCTURES SHALL NOT BE ERECTED WITHOUT ATTACHING LUMINAIRES, SUPPORTS, AND/OR SIGNS.
3. HORIZONTAL ALIGNMENT
   - A) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE NORMAL EDGE OF ROADWAY, IF ON A STRAIGHT ROADWAY SECTION.
   - B) POSITION ALL OVERHEAD SIGNS SO THAT THE FACE OF THE PANEL IS AT RIGHT ANGLES TO THE TANGENT OF THE CURVE AT SIGN LOCATION, IF ON A HORIZONTAL CURVE.
   - C) POSITIONING OF SIGNS AT GORES AND RAMP SEPARATIONS IS REFERRED TO THE NORMAL EDGE OF THE MAINLINE ROADWAY.
4. VERTICAL CLEARANCE
   - A) OVERHEAD SIGNS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 17'-9" FROM ROADWAY TO THE BOTTOM OF LIGHT FIXTURES. ALL LIGHT FIXTURES ARE TO BE AT THE SAME ELEVATION.
   - B) IF THE CONTRACTOR CANNOT OBTAIN 17'-9" (SEE 4A) CLEARANCE, HE IS TO CEASE WORK AND CONTACT THE PROJECT ENGINEER FOR FURTHER INSTRUCTIONS. THE PROJECT ENGINEER MAY CONTACT THE TRAFFIC ENGINEERING DESIGN DIVISION FOR ASSISTANCE.
   - C) ON ALL OVERHEAD SIGNS, THE MINIMUM CLEARANCE TO BOTTOM OF DESIGN SIGN: 20'-9".

PROJECT REQUIREMENTS

ALL NEW SIGNS ON THIS PROJECT SHALL BE FABRICATED FROM SHEETING WHICH MEETS ALL OF THE FOLLOWING REQUIREMENTS, UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER:

1. SHEETING SHALL MEET THE REQUIREMENTS OF SECTIONS 813 AND 950.03 OF MDOT SHA'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS 2017 EDITION AND SUBSEQUENT REVISIONS AND SUPPLEMENTS.

2. LISTED ON MDOT SHA OFFICE OF TRAFFIC AND SAFETY'S QUALIFIED PRODUCTS LIST (QPL).

PROJECT REQUIREMENTS CONT'D

3. THE FOLLOWING TYPES OF SHEETING SHALL BE USED FOR THE SPECIFIED SIGN CLASSIFICATIONS:

GENERAL NOTE: ALL COLORS SHALL BE RETROREFLECTIVE EXCEPT BLACK. BLACK TEXT, BORDERS, SYMBOLS OR ANY BLACK ELEMENTS OF ANY SIGN SHALL BE NON-REFLECTIVE. THIS APPLIES TO ALL MDOT SHA SIGNS AS SHOWN BELOW.

A) GUIDE, EXIT GORE, GENERAL INFORMATION, AND SERVICE SIGNS - FALL INTO TWO SUB CATEGORIES:

(I). GROUND MOUNTED:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). OVERHEAD STRUCTURE SIGNS AND OVERHEAD CANTILEVER SIGNS:
ALL RETROREFLECTIVE SHEETING ELEMENTS OF ALL OVERHEAD SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE XI (II). (THIS SECTION DOES NOT APPLY TO OVERHEAD SIGNALIZED INTERSECTION SIGNING; MAST ARM OR SPAN WIRE. FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION FOR SIGNAL SIGNING.)

B) WARNING SIGNS - RETROREFLECTIVE SHEETING FOR WARNING SIGNS (FLUORESCENT YELLOW AND FLUORESCENT ORANGE) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN WARNING SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

C) SCHOOL SIGNS - RETROREFLECTIVE SHEETING FOR SCHOOL SIGNS (FLUORESCENT YELLOW AND FLUORESCENT YELLOW-GREEN) SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). REGULATORY MESSAGES WITHIN SCHOOL SIGNS SHALL FOLLOW THE REQUIREMENTS FOR REGULATORY SIGNS.

D) REGULATORY SIGNS - FALL INTO THREE SUBCATEGORIES:

(I). "RED" REGULATORY SIGNS; (SPECIFICALLY - STOP, YIELD, DO NOT ENTER AND WRONG WAY). ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9).

(II). ALL R7 AND R8 SERIES PARKING RELATED SIGNS AND THEIR SUPPLEMENTAL PANELS, NO TRESPASSING SIGNS, AND SIGNS DIRECTED AT PEDESTRIANS AND BICYCLISTS ONLY. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE REQUIREMENTS FOR ASTM TYPE IV (4).

(III). ALL OTHER REGULATORY SIGNS - ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET ASTM TYPE IV (4) INCLUDING RED ELEMENTS. WARNING MESSAGES WITHIN REGULATORY SIGNS SHALL FOLLOW THE REQUIREMENTS FOR WARNING SIGNS.

E) ROUTE MARKERS (INDEPENDENT USE AND GUIDE SIGN USE)

INDEPENDENT USE: ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET BUT NOT TO EXCEED THE REQUIREMENTS FOR ASTM TYPE IV (4).

GUIDE SIGN USE: WHEN INCORPORATED IN THE BODY OF A GUIDE SIGN, ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET THE SHEETING REQUIREMENTS OF THE GUIDE SIGNS FOR WHICH THEY ARE TO BE APPLIED; GROUND MOUNT ASTM TYPE IX (9) OR OVERHEAD ASTM TYPE XI (II).

F) LOGOS AND / OR GRAPHICS - WITHIN SIGNS SHALL FOLLOW THE REQUIREMENTS FOR THE RESPECTIVE SIGN CLASSIFICATION UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS, OR AS DIRECTED BY THE ENGINEER.

G) SPECIFIC SERVICE (LOGO) SIGNING - ALL COPY, DIVIDER BORDERS, LOGOS AND ARROWS SHALL BE DEMOUNTABLE ALUMINUM OVERLAYS, .032 MINIMUM TO .063 MAXIMUM. ALL RETROREFLECTIVE SHEETING ELEMENTS OF THESE SIGNS SHALL MEET OR EXCEED THE REQUIREMENTS FOR ASTM TYPE IX (9). DISTANCES ON DIRECTIONAL ARROWS WHEN SPECIFIED SHALL BE BLACK. THE OVERLAYS ARE TO BE APPLIED WITH .125 ALUMINUM POP RIVETS TO THE BODY OF THE MAIN SIGN.

H) CIVIL DEFENSE SIGNS AND OTHER SIGNS - NOT SPECIFICALLY FALLING INTO ONE OF THE CATEGORIES ABOVE, SHALL FOLLOW THE GUIDELINES FOR THE SIGN CLASSIFICATION THAT MOST CLOSELY MATCHES THE COLOR(S) OF THE PROPOSED SIGN.

4. THE FOLLOWING MINIMUM THICKNESS SHALL BE USED FOR THE APPROPRIATE WIDTH OF SHEET ALUMINUM BLANKS:

LONGEST DIMENSION	MINIMUM THICKNESS
UP TO 12"	0.040"
GREATER THAN 12" TO 24"	0.063"
GREATER THAN 24" TO 36"	0.080"
GREATER THAN 36" TO 48"	0.100"
OVER 48"	0.125"

ACCESS PERMIT NUMBER 19APMO025XX.
IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF APPROVAL, CONSTRUCTION SHALL NOT START UNTIL PLANS ARE REAPPROVED.

STATE OF MARYLAND
SETH DAVID YOUNG
No. 35321
PROFESSIONAL ENGINEER
7/22/22

"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. 35321

EXPIRATION DATE JANUARY 6, 2024

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE)

INTERSECTION IMPROVEMENTS

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

Montgomery County, Maryland
Traffic Engineering And Operations Section
APPROVED
FOR _____
BY _____
Date

APPROVALS		REVISIONS
Chris Strain, TEAM LEADER	8/30/2022	
Dean Randolph, ASST. DIV. CHIEF	9/12/2022	
Lili Liang, DIVISION CHIEF	9/15/2022	
Cedric Ward, OFFICE DIRECTOR	9/19/2022	

GENERAL NOTES AND PROPOSALS

SCALE NONE ADVERTISED DATE JULY 2022 CONTRACT NO. AT017A2F

DESIGNED BY JG
DRAWN BY JG
CHECKED BY MCG WB
MDE/PRD

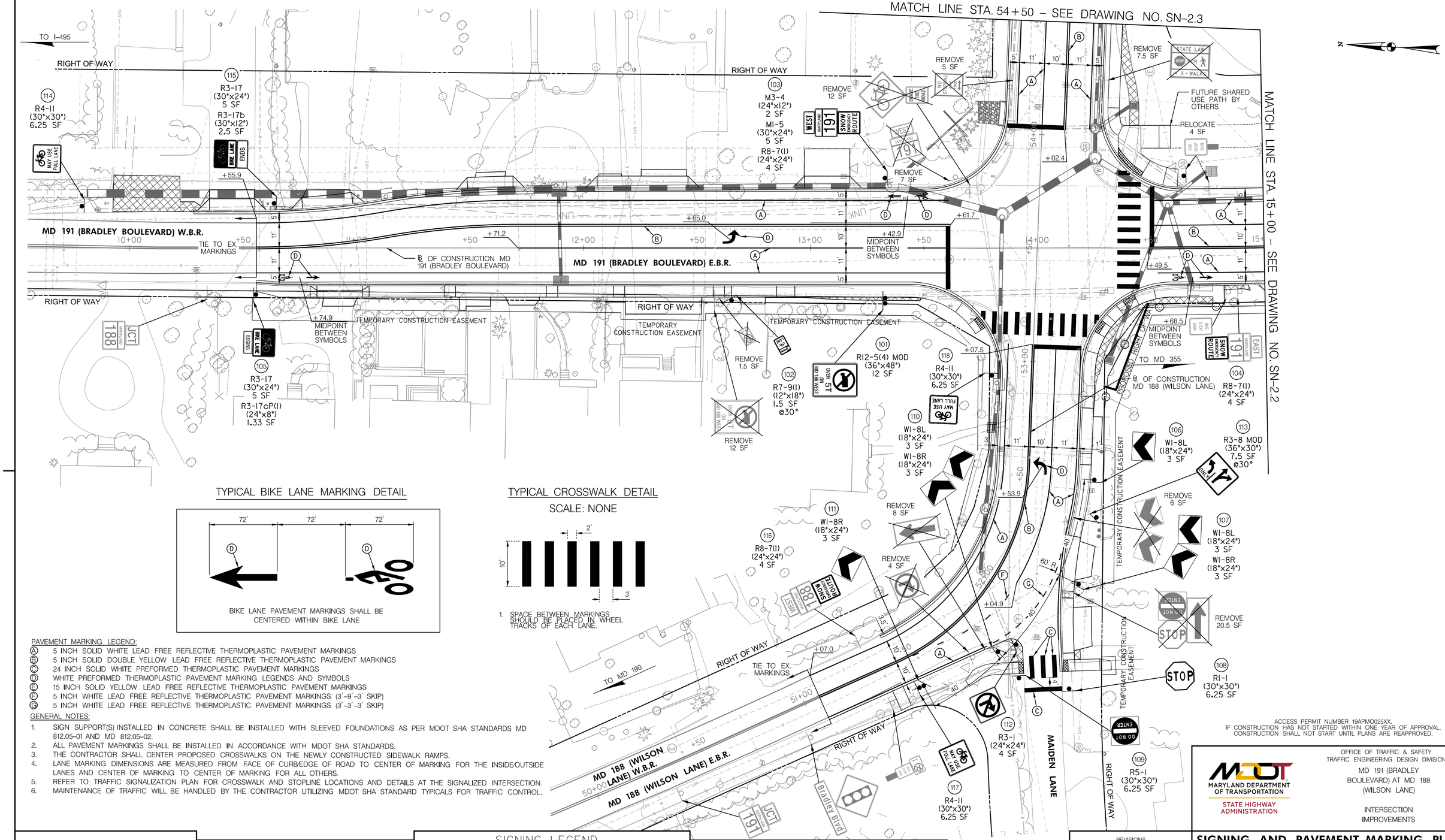
COUNTY MONTGOMERY
LOGMILE 15018802.34
TIMS NO. P099
TOD NO.

DRAWING NO. SN-01 OF 01

SHEET NO. 33 OF 43

BY: misnerka -

PLOTTED: 7/21/2022



TYPICAL BIKE LANE MARKING DETAIL

BIKE LANE PAVEMENT MARKINGS SHALL BE CENTERED WITHIN BIKE LANE

TYPICAL CROSSWALK DETAIL

SCALE: NONE

1. SPACE BETWEEN MARKINGS SHOULD BE PLACED IN WHEEL TRACKS OF EACH LANE.

PAVEMENT MARKING LEGEND:

- (A) 5 INCH SOLID WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (B) 5 INCH SOLID DOUBLE YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (C) 24 INCH SOLID WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
- (D) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- (E) 15 INCH SOLID YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- (F) 5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (3'–9'–3' SKIP)
- (G) 5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (3'–3'–3' SKIP)

GENERAL NOTES:

1. SIGN SUPPORT(S) INSTALLED IN CONCRETE SHALL BE INSTALLED WITH SLEEVED FOUNDATIONS AS PER MDOT SHA STANDARDS MD 812.05–01 AND MD 812.05–02.
2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MDOT SHA STANDARDS.
3. THE CONTRACTOR SHALL CENTER PROPOSED CROSSWALKS ON THE NEWLY CONSTRUCTED SIDEWALK RAMPS.
4. LANE MARKING DIMENSIONS ARE MEASURED FROM FACE OF CURB/EDGE OF ROAD TO CENTER OF MARKING FOR THE INSIDE/OUTSIDE LANES AND CENTER OF MARKING TO CENTER OF MARKING FOR ALL OTHERS.
5. REFER TO TRAFFIC SIGNALIZATION PLAN FOR CROSSWALK AND STOPLINE LOCATIONS AND DETAILS AT THE SIGNALIZED INTERSECTION.
6. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING MDOT SHA STANDARD TYPICALS FOR TRAFFIC CONTROL.

ACCESS PERMIT NUMBER 19APMO025XX.
IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF APPROVAL, CONSTRUCTION SHALL NOT START UNTIL PLANS ARE REAPPROVED.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

Montgomery County, Maryland
Traffic Engineering And Operations Section
APPROVED
FOR _____
BY _____
Date

SIGNING LEGEND

SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORTS
	PROPOSED GROUND MOUNTED SIGN AND SUPPORTS
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

STATE OF MARYLAND · SETH DAVID YOUNG · No. 35321 · PROFESSIONAL ENGINEER
7/22/22

"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. 35321
EXPIRATION DATE JANUARY 6, 2024

REVISIONS

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

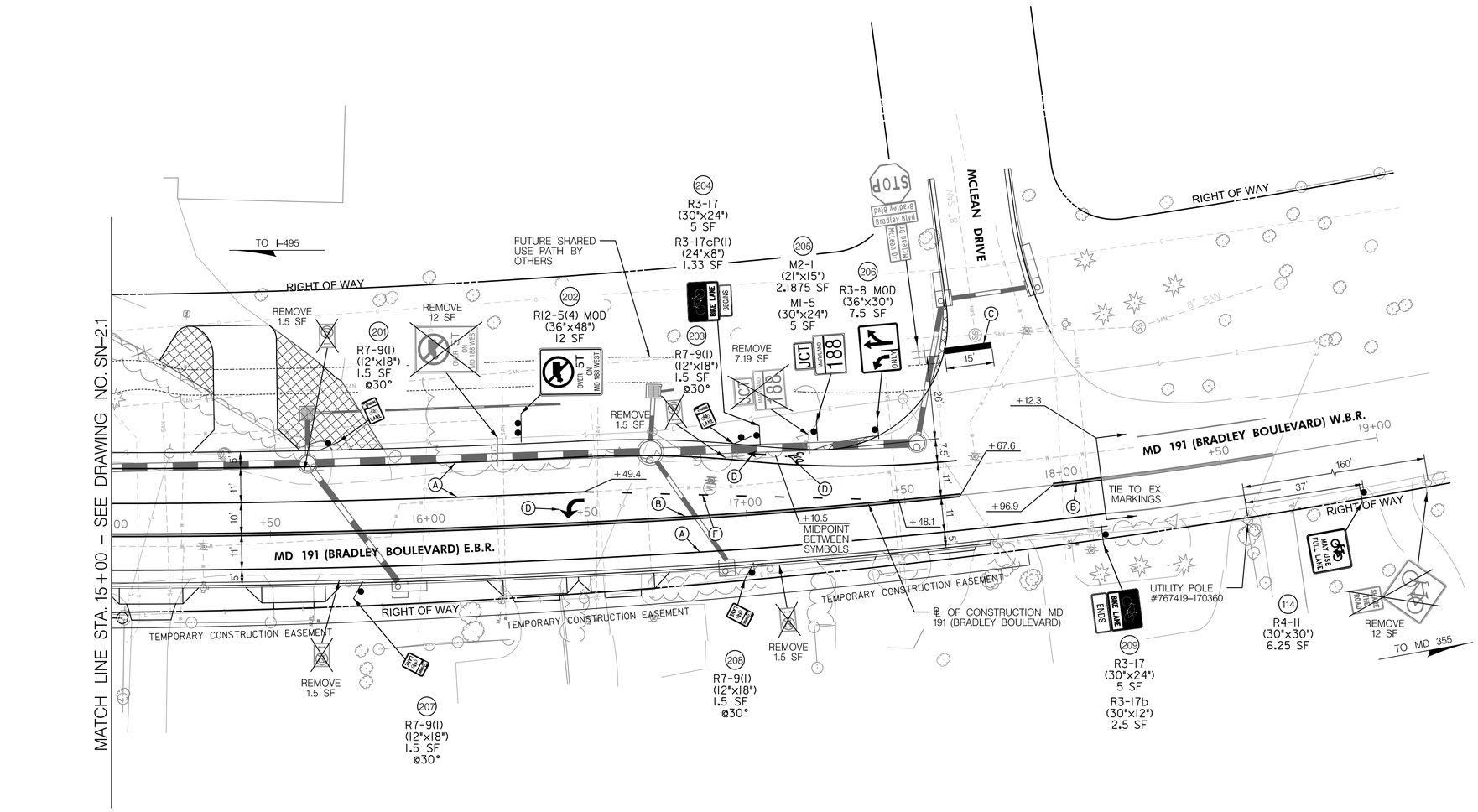
SIGNING AND PAVEMENT MARKING PLAN

SCALE 1" = 20' ADVERTISED DATE JULY 2022 CONTRACT NO. AT017A2F

DESIGNED BY	JG	COUNTY	MONTGOMERY
DRAWN BY	JG	LOGMILE	15018802.34
CHECKED BY	MCG	TIMS NO.	P099
MDE/PRD		TOD NO.	

DRAWING NO. SN–2.1 OF 2.3 SHEET NO. 34 OF 43

PLOTTED: 7/21/2022
BY: misnerka –



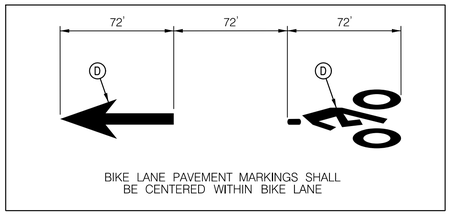
PAVEMENT MARKING LEGEND:

- Ⓐ 5 INCH SOLID WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- Ⓑ 5 INCH SOLID DOUBLE YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- Ⓒ 24 INCH SOLID WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
- Ⓓ WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
- Ⓔ 15 INCH SOLID YELLOW LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS
- Ⓕ 5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (3'–9'–3' SKIP)
- Ⓖ 5 INCH WHITE LEAD FREE REFLECTIVE THERMOPLASTIC PAVEMENT MARKINGS (3'–3'–3' SKIP)

GENERAL NOTES:

1. SIGN SUPPORT(S) INSTALLED IN CONCRETE SHALL BE INSTALLED WITH SLEEVED FOUNDATIONS AS PER MDOT SHA STANDARDS MD 812.05-01 AND MD 812.05-02.
2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MDOT SHA STANDARDS.
3. THE CONTRACTOR SHALL CENTER PROPOSED CROSSWALKS ON THE NEWLY CONSTRUCTED SIDEWALK RAMPS.
4. LANE MARKING DIMENSIONS ARE MEASURED FROM FACE OF CURB/EDGE OF ROAD TO CENTER OF MARKING FOR THE INSIDE/OUTSIDE LANES AND CENTER OF MARKING TO CENTER OF MARKING FOR ALL OTHERS.
5. REFER TO TRAFFIC SIGNALIZATION PLAN FOR CROSSWALK AND STOPLINE LOCATIONS AND DETAILS AT THE SIGNALIZED INTERSECTION.
6. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING MDOT SHA STANDARD TYPICALS FOR TRAFFIC CONTROL.

TYPICAL BIKE LANE MARKING DETAIL



BIKE LANE PAVEMENT MARKINGS SHALL BE CENTERED WITHIN BIKE LANE

ACCESS PERMIT NUMBER 19APMO025XX.
IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF APPROVAL, CONSTRUCTION SHALL NOT START UNTIL PLANS ARE REAPPROVED.

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION
MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

Montgomery County, Maryland
Traffic Engineering And Operations Section
APPROVED
FOR _____
BY _____
Date

SIGNING LEGEND

SYMBOL	DESCRIPTION
	EXISTING GROUND MOUNTED SIGN AND SUPPORTS
	PROPOSED GROUND MOUNTED SIGN AND SUPPORTS
	EXISTING SIGN TO REMAIN
	EXISTING SIGN TO BE REMOVED
	PROPOSED SIGN TO BE INSTALLED

STATE OF MARYLAND
SETH DAVID YOUNG
No. 35321
PROFESSIONAL ENGINEER
7/22/22

"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. 35321
EXPIRATION DATE JANUARY 6, 2024

REVISIONS

SIGNING AND PAVEMENT MARKING PLAN

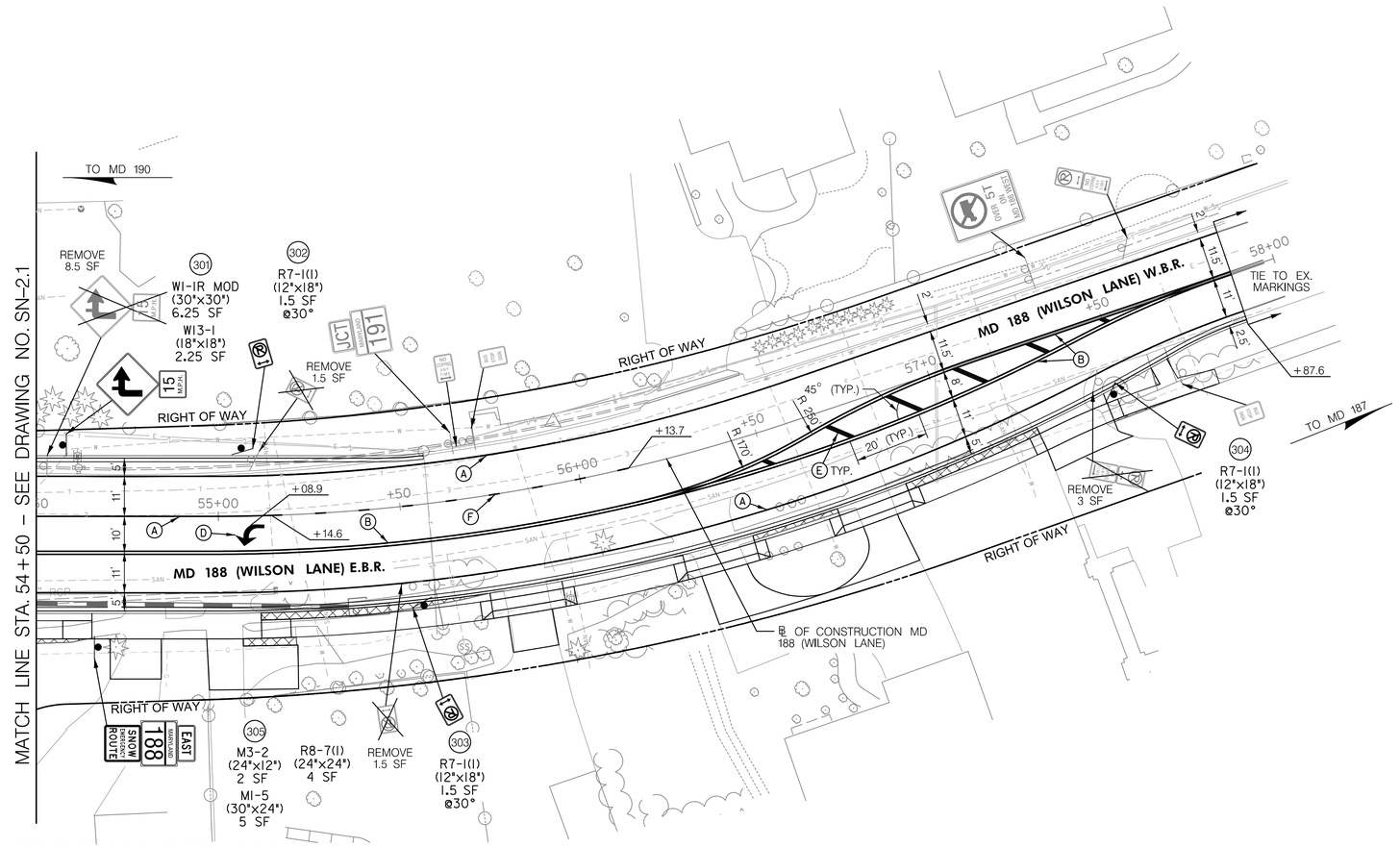
SCALE 1" = 20' ADVERTISED DATE JULY 2022 CONTRACT NO. AT017A2F

DESIGNED BY JG
DRAWN BY JG
CHECKED BY MCG
MDE/PRD

COUNTY MONTGOMERY
LOGMILE 15018802.34
TIMS NO. P099
TOD NO.

DRAWING NO. SN-2.2 OF 2.3
SHEET NO. 35 OF 43

BY: misnerka –
PLOTTED: 7/21/2022



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	EXISTING SIGN TO BE REMOVED
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STATE OF MARYLAND · SETH DAVID YOUNG · No. 35321 · PROFESSIONAL ENGINEER
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LOGMILE 15018802.34
TIMS NO. P099
TOD NO.

DRAWING NO. SN – 2.3 OF 2.3
SHEET NO. 36 OF 43

BY: misnerka –
PLOTTED: 7/21/2022

SHEET NO.	SIGN NO.	REMARKS	NO. OF SUPPORTS	CODE NUMBERS *									
				1	2	3	4	5	6	7	8	9	10
SN-2.1	101	R12-5(4) MOD (36"x48")	2-4"X4"	12			32						
	102	R7-9(1) (12"x18")	1-4"X4"	1.5			13.5						
	103	M3-4 (24"x12") + M1-5 (30"x24") + R8-7(1) (24"x24")	1-4"X6"	11				17					
	104	R8-7(1) (24"x24")	-	4									
	105	R3-17 (30"x24") + R3-17cP(1) (24"x8")	1-4"X6"	6.33				14.67					
	106	W1-8L (18"x24")	1-4"X4"	3			14						
	107	W1-8L (18"x24") + W1-8R (18"x24")	1-4"X4"	6			16						
	108	R1-1 (30"x30")	1-4"X4"	6.25			14.5						
	109	R5-1 (30"x30")	1-4"X4"	6.25			14.5						
	110	W1-8L (18"x24") + W1-8R (18"x24")	1-4"X4"	6			16						
	111	W1-8R (18"x24")	1-4"X4"	3			14						
	112	R3-1 (24"x24")	1-4"X4"	4			14						
	113	R3-8 MOD (36"x30")	1-4"X6"	7.5				14.5					
	114	R4-11 (30"x30")	1-4"X4"	6.25			14.5						
	115	R3-17 (30"x24") + R3-17b (30"x12")	1-4"X6"	7.5				15					
	116	R8-7(1) (24"x24")	-	4									
	117	R4-11 (30"x30")	1-4"X4"	6.25			14.5						
	118	R4-11 (30"x30")	1-4"X4"	6.25			14.5						
		REMOVE EXISTING SIGNS			83.5								
		RELOCATE EXISTING SIGNS				4							
		PAVEMENT MARKINGS							1454	1216		47	8
SN-2.2	201	R7-9(1) (12"x18")	1-4"X4"	1.5			13.5						
	202	R12-5(4) MOD (36"x48")	2-4"X4"	12			32						
	203	R7-9(1) (12"x18")	1-4"X4"	1.5			13.5						
	204	R3-17 (30"x24") + R3-17cP(1) (24"x8")	1-4"X6"	6.33				14.67					
	205	M2-1 (21"x15") + M1-5 (30"x24")	1-4"X6"	7.19				15.25					
	206	R3-8 MOD (36"x30")	1-4"X6"	7.5				14.5					
	207	R7-9(1) (12"x18")	1-4"X4"	1.5			13.5						
	208	R7-9(1) (12"x18")	1-4"X4"	1.5			13.5						
	209	R3-17 (30"x24") + R3-17b (30"x12")	1-4"X6"	7.5				15					
	210	R4-11 (30"x30")	1-4"X4"	6.25			14.5						
		REMOVE EXISTING SIGNS			37.1875								
		PAVEMENT MARKINGS							754	566		15	3
SN-2.3	301	W1-1R MOD (30"x30") + W13-1 (18"x18")	1-4"X6"	8.5				16					
	302	R7-1(1) (12"x18")	1-4"X4"	1.5			13.5						
	303	R7-1(1) (12"x18")	1-4"X4"	1.5			13.5						
	304	R7-1(1) (12"x18")	1-4"X4"	1.5			13.5						
	305	M3-2 (24"x12") + M1-5 (30"x24") + R8-7(1) (24"x24")	1-4"X6"	11				17					
		REMOVE EXISTING SIGNS			14.5								
		PAVEMENT MARKINGS							767	1034	40		1
			SHEET TOTAL	183.85	135.1875	4	333	153.59	2975	2816	40	62	12
			ROUNDED TOTAL	185	136	4	370	170	3275	3100	45	70	12
			PROJECT TOTAL	185	136	4	370	170	3275	3100	45	70	12

* CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT	CODE NUMBERS	DESCRIPTION	UNIT
1	SHEET ALUMINUM SIGN	SF	6	5" WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF
2	REMOVE EXISTING GROUND MOUNTED SIGNS & SUPPORTS	SF	7	5" YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF
3	RELOCATE EXISTING GROUND MOUNTED SIGNS ON NEW SUPPORT(S)	SF	8	* 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF
4	WOOD SIGN SUPPORT 4 INCH x 4 INCH	LF	9	24" WHITE PERMANENT PREFORMED PAVEMENT MARKINGS	LF
5	WOOD SIGN SUPPORT 4 INCH x 6 INCH	LF	10	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	EA

* 15" YELLOW THERMOPLASTIC PAVEMENT MARKINGS SHALL BE PAID FOR AS THREE (3) TIMES THE LENGTH USING THE 5" YELLOW THERMOPLASTIC PAVEMENT MARKINGS CONTRACT PAY ITEM PER THE IFB

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INDEX OF QUANTITIES

SCALE NONE ADVERTISED DATE JULY 2022 CONTRACT NO. AT017A2F

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DRAWN BY JG
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COUNTY MONTGOMERY
LOGMILE 15018802.34
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DRAWING NO. SN-11.1 OF 11.1
SHEET NO. 37 OF 43

BY: misnerka –
PLOTTED: 7/21/2022

SHA LANDSCAPE NOTES

ENVIRONMENTAL GUIDE CHAPTER NUMBER AND SUBJECT		TITLE AND TEXT OF SHA LANDSCAPE NOTES
7.1	TITLE	SHA LANDSCAPE NOTES. LANDSCAPE CONSTRUCTION WITHIN RIGHTS OF WAY OF THE MARYLAND STATE HIGHWAY ADMINISTRATION (SHA) AND WITHIN SHA PROPERTY, EASEMENT AREAS AND LANDS TO BE CONVEYED TO SHA 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	SPECIFICATIONS	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 AT HTTP://WWW.ROADS.MARYLAND.GOV/INDEX.ASPX?PAGEID=44
7.3	E&S MANAGER ESCM	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	STANDARD DETAILS	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/DESMANUAL STDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/TOCCAT7.ASP
7.5	TEMPORARY STABILIZATION	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. 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 WITHIN 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.
7.6	ROADWAY PAVEMENT REMOVAL	ROADWAY PAVEMENT REMOVAL. AREAS OF ROADWAY PAVEMENT REMOVAL SHALL BE EXCAVATED TO REMOVE PAVEMENTS, AGGREGATE BASE, AND COMPACTED SOIL TO A MINIMUM DEPTH OF 10 INCHES BELOW THE PAVEMENT SURFACE, OR AS NECESSARY TO REMOVE ALL MATERIALS UNSUITABLE FOR LANDSCAPING. THE EXCAVATED AREAS SHALL BE RESTORED WITH SUBSOIL AND TOPSOIL AS PART OF SOIL RESTORATION.
7.7	EXCAVATION AND DEBRIS REMOVAL	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	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 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	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.
7.11	SOIL STABILIZATION MATTING	SOIL STABILIZATION MATTING SHALL BE INSTALLED IN CONFORMANCE WITH SECTION 709 OF THE SHA STANDARD SPECIFICATIONS, IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT PER SECTION 705 OR MEADOW ESTABLISHMENT 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 CONJUNCTION WITH TURFGRASS ESTABLISHMENT. 2. AREAS STEEPER THAN 6:1 AND FLATTER THAN 4:1, TYPE A OR TYPE E MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER IN CONJUNCTION 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 BINDER IN CONJUNCTION WITH TURFGRASS ESTABLISHMENT, UNLESS DELINEATED AND NOTED OTHERWISE. 4. IN AREAS OF MEADOW ESTABLISHMENT WITH TYPE D SOIL STABILIZATION MATTING, THE MATTING SHALL BE INSTALLED IN LIEU OF STRAW MULCH AND HYDROMULCH BINDER WITHIN THE DELINEATED AREAS.
7.12	MEADOW, SHRUB ESTABLISHMENT	MEADOW ESTABLISHMENT OR SHRUB SEEDING 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 ACRE.

ENVIRONMENTAL GUIDE CHAPTER NUMBER AND SUBJECT		TITLE AND TEXT OF SHA LANDSCAPE NOTES
7.13	TREE PRESERVATION AREAS	TREE PRESERVATION AREAS. TREE PRESERVATION AREA FENCE (TPAF) 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 TPAF SHALL BE PROTECTED FROM ALL PROHIBITED AND RESTRICTED ACTIVITIES, AS SPECIFIED IN SECTION 120.
7.15	TREES, PLANT MATERIAL INSTALLATION	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	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.
7.25	FUTURE MAINTENANCE	FUTURE MAINTENANCE. ADDITIONAL MAINTENANCE THAT MAY BE REQUIRED AFTER HARDSCAPE, STREET FURNITURE OR PLANT MATERIALS ARE INSTALLED AND ACCEPTED BY SHA SUCH AS REPLACEMENT, WATERING, WEEDING, MULCHING OR PEST CONTROL MAY BE PROVIDED BY THE APPLICANT WHEN A PERMIT FOR THE PROPOSED WORK IS ISSUED BY THE SHA DISTRICT OFFICE.

MASTER PLANT SCHEDULE (LD–01 TO LD–03)

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
ORNAMENTAL TREES						
APB	1	*ACER PALMATUM 'BLOODGOOD'* BLOODGOOD JAPANESE MAPLE	1.5" CAL.	#10 CONT. OR B&B	AS SHOWN	SINGLE STEM
EVERGREEN TREE						
TGG	5	*THUJA 'GREEN GIANT'* GREEN GIANT ARBORVITAE	5' HT.	#10 CONT. OR B&B	8' O.C.	FULL TO BASE
SHRUBS						
BGV	3	*BUXUS 'GREEN VELVET'* GREEN VELVET BOXWOOD	24" HT.	#5 CONT.	AS SHOWN	–
FOG	12	*FOTHERGILLA GARDENII* DWARF WITCHALDER	24" HT.	#3 CONT.	AS SHOWN	–
HYC	289	*HYPERICUM CALYCINUM* AARON'S BEARD	6" SPD.	#1 CONT.	12" O.C.	–
HYH	3	*HYPERICUM 'HIDCOTE'* HIDCOTE ST. JOHNSWORT	18" HT.	#3 CONT.	AS SHOWN	–
HQ	3	*HYDRANGEA QUERCIFOLIA* OAKLEAF HYDRANGEA	24" HT.	#3 CONT.	AS SHOWN	–
IGS	12	*ILEX GLABRA 'SHAMROCK'* SHAMROCK INKBERRY	24" HT.	#3 CONT.	3' O.C.	–
PLS	9	*PRUNUS LAUROCERASUS 'SCHIPKAENSIS'* SCHIPKA CHERRY LAUREL	4' HT.	#5 CONT.	5' O.C.	–
RAGL	9	*RHUS AROMATICA 'GRO-LOW'* GRO–LOW FRAGRANT SUMAC	18" HT.	#3 CONT.	3' O.C.	–
PERENNIALS AND ORNAMENTAL GRASSES						
HM	93	*HIBISCUS MOSCHEUTOS* CRIMSONEYED ROSEMALLOW	#1	CONT.	24" O.C.	–
LMRP	1,293	*LIRIOPE MUSCARI 'ROYAL PURPLE'* ROYAL PURPLE LILYTURF	#1	CONT.	12" O.C.	–
LMV	23	*LIRIOPE MUSCARI 'VARIEGATA'* VARIEGATED LILYTURF	#1	CONT.	24" O.C.	–
PA	280	*PAKERA AUREA* GOLDEN RAGWORT	#1	CONT.	12" O.C.	–
PVSD	110	*PANICUM VIRGATUM 'SHENANDOAH'* SHENANDOAH SWITCHGRASS	#1	CONT.	24" O.C.	–
SSTB	24	*SCHIZACHYRIUM SCOPARIUM 'THE BLUES'* THE BLUES LITTLE BLUESTEM	#1	CONT.	AS SHOWN	–
VN	36	*VERNONIA NOVEBORACENSIS* NEW YORK IRONWEED	#1	CONT.	24" O.C.	INSTALL IN RANDOM PATTERN, MIN. GROUPS OF 3
MISCELLANEOUS						
BME	567 SY	BIORETENTION MEADOW ESTABLISHMENT				
CPB	331 SY	CONSTRUCTING PLANTING BEDS				
TSE	1,202 SY	TURFGRASS SOD ESTABLISHMENT				
–	1,202 SY	REFERTILIZING				
–	567 SY	TYPE D SOIL STABILIZATION MATTING				
SHB	154 SY	SHREDDED HARDWOOD BARK MULCH				

LDN-01

NO.	REVISION	BY	DATE

Designed By HLE Drawn By HLE Checked By SHP

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

LANDSCAPE PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

NOT TO SCALE

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

STATE OF MARYLAND · HEATHER LEANNE ENGLISH · 4042 · LANDSCAPE ARCHITECT
8/31/22

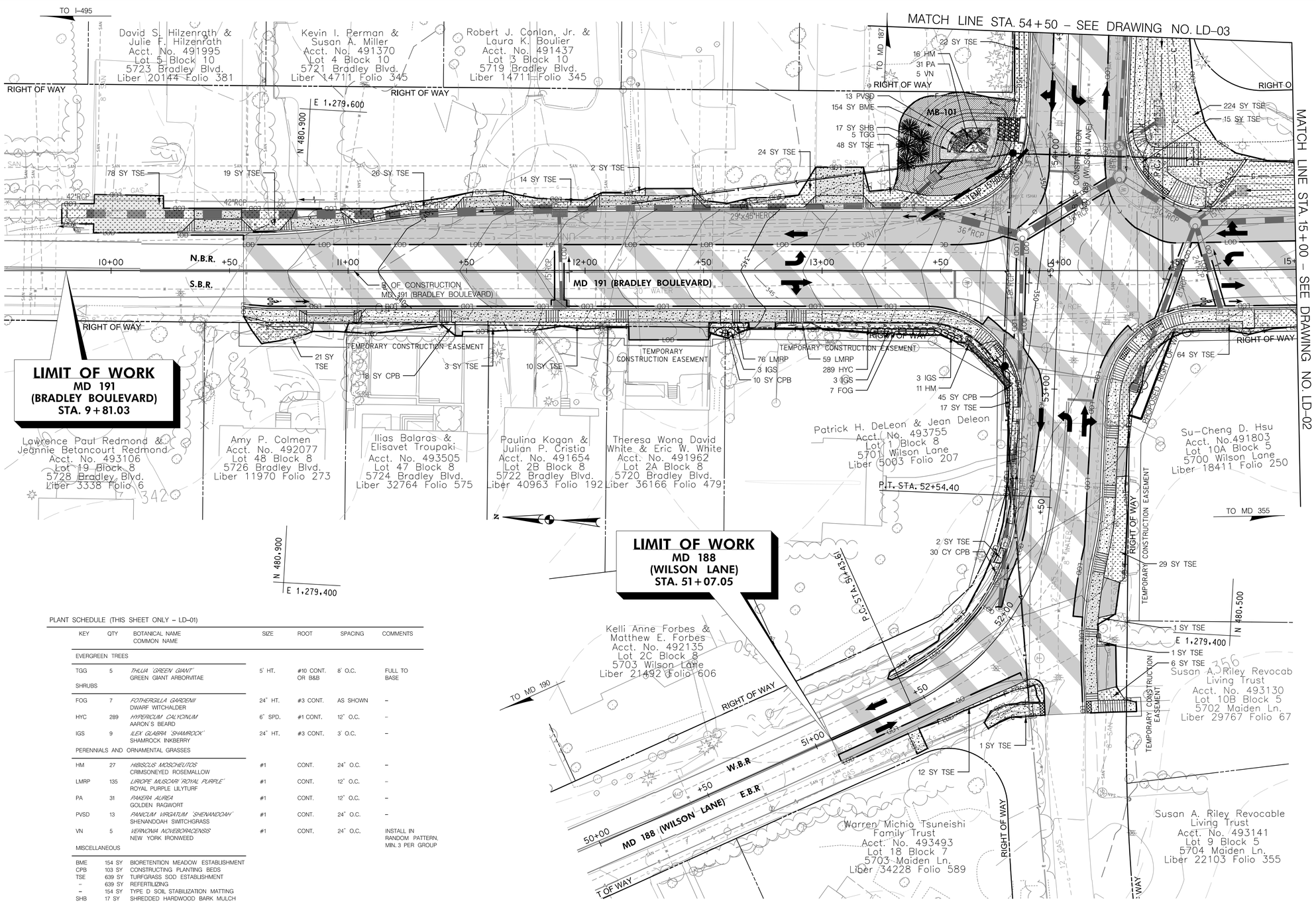
"I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MARYLAND."

LICENSE NO. 4042

EXPIRATION DATE JUNE 28, 2024

PLOTTED: Friday, July 22, 2022 AT 09:37 AM
FILE: I:\Projects\4019350\4019350_0021\90_CAD Models and Sheets\04_CT_Transportation\pLD-N001_BradleyWilson.dgn

BY: englisH



LANDSCAPE NOTES

1. ALL AREAS: PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.
2. AREAS OF PAVEMENT REMOVAL: PLACE FURNISHED SUBSOIL 12" DEPTH, PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.

PLANT SCHEDULE (THIS SHEET ONLY – LD-01)

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
EVERGREEN TREES						
TGG	5	*THUJA 'GREEN GIANT'* GREEN GIANT ARBORVITAE	5' HT.	#10 CONT. OR B&B	8' O.C.	FULL TO BASE
SHRUBS						
FOG	7	*FOTHERGILLA GARDENII* DWARF WITCHALDER	24" HT.	#3 CONT.	AS SHOWN	–
HYC	289	*HYPERICUM CALYCINUM* AARON'S BEARD	6" SPD.	#1 CONT.	12" O.C.	–
IGS	9	*ILEX GLABRA 'SHAMROCK'* SHAMROCK INKBERRY	24" HT.	#3 CONT.	3' O.C.	–
PERENNIALS AND ORNAMENTAL GRASSES						
HM	27	*HIBISCUS MOSCHEUTOS* CRIMSONEYED ROSEMALLOW	#1	CONT.	24" O.C.	–
LMRP	135	*LIRIOPE MUSCARI 'ROYAL PURPLE'* ROYAL PURPLE LILYTURF	#1	CONT.	12" O.C.	–
PA	31	*PANICUM AUREA* GOLDEN RAGWORT	#1	CONT.	12" O.C.	–
PVSD	13	*PANICUM VIRGATUM 'SHENANDOAH'* SHENANDOAH SWITCHGRASS	#1	CONT.	24" O.C.	–
VN	5	*VERNONIA NOVEBORACENSIS* NEW YORK IRONWEED	#1	CONT.	24" O.C.	INSTALL IN RANDOM PATTERN, MIN. 3 PER GROUP
MISCELLANEOUS						
BME	154 SY	BIORETENTION MEADOW ESTABLISHMENT				
CPB	103 SY	CONSTRUCTING PLANTING BEDS				
TSE	639 SY	TURFGRASS SOD ESTABLISHMENT				
–	639 SY	REFERTILIZING				
–	154 SY	TYPE D SOIL STABILIZATION MATTING				
SHB	17 SY	SHREDDED HARDWOOD BARK MULCH				

SWM SHOWN ON THESE SHEETS HAS BEEN DESIGNED TO SHA STANDARDS AND IS FOR SHA REVIEW, PERMITTING, INSPECTION, AND AS-BUILT.

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

LD-01

LANDSCAPE LEGEND

- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUB
- PERENNIAL / ORNAMENTAL GRASSES
- TURFGRASS SOD ESTABLISHMENT (TSE)
- BIORETENTION MEADOW ESTABLISHMENT (BME) WITH TYPE D SSM
- CONSTRUCTING PLANTING BEDS BOUNDARY (CPB)
- LOD — LIMIT OF DISTURBANCE
- PAVEMENT REMOVAL

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LICENSE NO. 4042

EXPIRATION DATE JUNE 28, 2024

NO.	REVISION	BY	DATE

Designed By HLE Drawn By HLE Checked By SHP

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

LANDSCAPE PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

PLOTTED: Friday, July 22, 2022 AT 09:18 AM
FILE: I:\Projects\4018356\4018356_0021\06_CAD Models and Sheets\04_CT_Transportation\pLD-P001_BradleyWilson.dgn

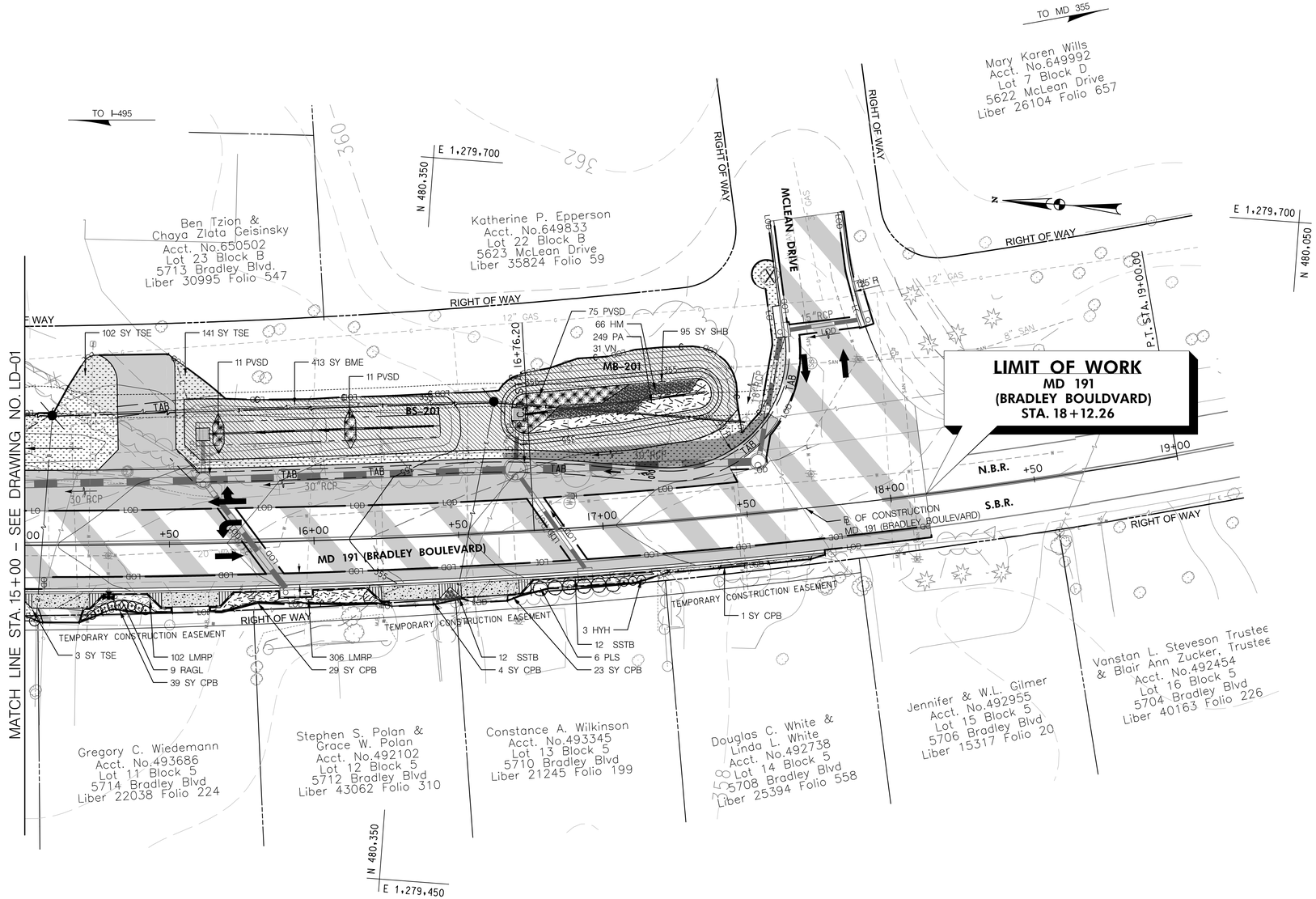
BY: englisH –

LANDSCAPE NOTES

1. ALL AREAS: PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.
2. AREAS OF PAVEMENT REMOVAL: PLACE FURNISHED SUBSOIL 12" DEPTH, PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.

PLANT SCHEDULE (THIS SHEET ONLY – LD-02)

KEY	QTY	BOTANICAL NAME COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
SHRUBS						
HYH	3	*HYPERICUM 'HIDCOTE'* HIDCOTE ST.JOHNSWORT	18" HT.	#3 CONT.	AS SHOWN	–
PLS	6	*PRUNUS LAUROCERASUS 'SCHIPKAENSIS'* SCHIPKA CHERRY LAUREL	4' HT.	#5 CONT.	4' O.C.	–
RAGL	9	*RHUS AROMATICA 'GRO-LOW'* GRO-LOW FRAGRANT SUMAC	18" HT.	#3 CONT.	3' O.C.	–
PERENNIALS AND ORNAMENTAL GRASSES						
HM	66	*HIBISCUS MOSCHEUTOS* CRIMSONEYED ROSEMALLOW	#1	CONT.	24" O.C.	–
LMRP	408	*LIRIOPE MUSCARI 'ROYAL PURPLE'* ROYAL PURPLE LILYTURF	#1	CONT.	12" O.C.	–
PA	249	*PAKERA AUREA* GOLDEN RAGWORT	#1	CONT.	12" O.C.	–
PVSD	97	*PANICUM VIRGATUM 'SHENANDOAH'* SHENANDOAH SWITCHGRASS	#1	CONT.	24" O.C.	–
SSTB	24	*SCHIZACHYRIUM SCOPARIUM 'THE BLUES'* THE BLUES LITTLE BLUESTEM	#1	CONT.	AS SHOWN	–
VN	31	*VERNONIA NOVEBORACENSIS* NEW YORK IRONWEED	#1	CONT.	24" O.C.	INSTALL IN RANDOM PATTERN, MIN.3 PER GROUP
MISCELLANEOUS						
BME	413 SY	BIORETENTION MEADOW ESTABLISHMENT				
CPB	96 SY	CONSTRUCTING PLANTING BEDS				
TSE	269 SY	TURFGRASS SOD ESTABLISHMENT				
–	269 SY	REFERTILIZING				
–	413 SY	TYPE D SOIL STABILIZATION MATTING				
SHB	95 SY	SHREDDED HARDWOOD BARK MULCH				



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DPS APPROVAL IS FOR SEDIMENT CONTROL ONLY.

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

LD-02

NO.	REVISION	BY	DATE

Designed By HLE Drawn By HLE Checked By SHP

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

LANDSCAPE PLAN

MD 191 (BRADLEY BOULEVARD)
AT MD 188 (WILSON LANE)
INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
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LANDSCAPE LEGEND

- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUB
- PERENNIAL / ORNAMENTAL GRASSES
- TURFGRASS SOD ESTABLISHMENT (TSE)
- BIORETENTION MEADOW ESTABLISHMENT (BME) WITH TYPE D SSM
- CONSTRUCTING PLANTING BEDS BOUNDARY (CPB)
- LOD — LIMIT OF DISTURBANCE
- PAVEMENT REMOVAL

STATE OF MARYLAND
HEATHER LEANNE ENGLISH
4042
LANDSCAPE ARCHITECT
07/21/22

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LICENSE NO. 4042

EXPIRATION DATE JUNE 28, 2024

BY: englisH –

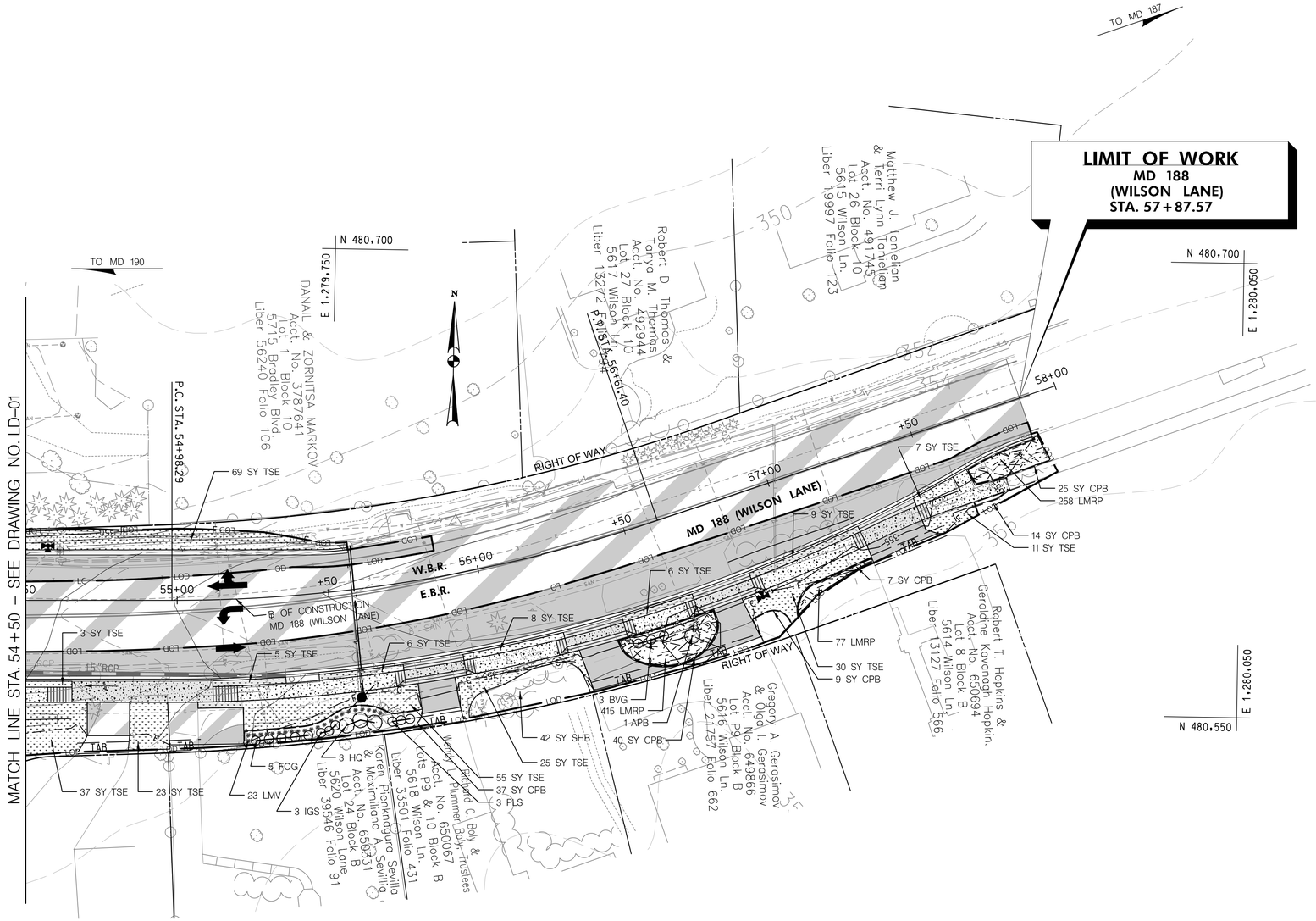
PLOTTED: Friday, July 22, 2022 AT 09:20 AM
FILE: I:\Projects\40193561\4019356_0021\90_CAD Models and Sheets\04_CT_Transportation\pLD-P002_BradleyWilson.dgn

LANDSCAPE NOTES

1. ALL AREAS: PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.
2. AREAS OF PAVEMENT REMOVAL: PLACE FURNISHED SUBSOIL 12" DEPTH, PLACE FURNISHED TOPSOIL 4" DEPTH AND TURFGRASS SOD ESTABLISHMENT, UNLESS OTHERWISE NOTED.

PLANT SCHEDULE (THIS SHEET ONLY – LD-03)

KEY	QTY	BOTANICAL NAME / COMMON NAME	SIZE	ROOT	SPACING	COMMENTS
ORNAMENTAL TREES						
APB	1	*ACER PALMATUM 'BLOODGOOD'* BLOODGOOD JAPANESE MAPLE	1.5" CAL.	#10 CONT. OR B&B	AS SHOWN	SINGLE STEM
SHRUBS						
BGV	3	*BUXUS 'GREEN VELVET'* GREEN VELVET BOXWOOD	24" HT.	#5 CONT.	AS SHOWN	–
FOG	5	*FOTHERGILLA GARDENII* DWARF WITCHALDER	24" HT.	#3 CONT.	AS SHOWN	–
HQ	3	*HYDRANGEA QUERCIFOLIA* OAKLEAF HYDRANGEA	24" HT.	#3 CONT.	AS SHOWN	–
IGS	3	*ILEX GLABRA 'SHAMROCK'* SHAMROCK INKBERRY	24" HT.	#3 CONT.	3' O.C.	–
PLS	3	*PRUNUS LAUROCERASUS 'SCHIPKAENSIS'* SCHIPKA CHERRY LAUREL	4' HT.	#5 CONT.	4' O.C.	–
PERENNIALS AND ORNAMENTAL GRASSES						
LMRP	750	*LIRIOPE MUSCARI 'ROYAL PURPLE'* ROYAL PURPLE LILYTURF	#1	CONT.	12" O.C.	–
LMV	23	*LIRIOPE MUSCARI 'VARIEGATA'* VARIEGATED LILYTURF	#1	CONT.	24" O.C.	–
MISCELLANEOUS						
CPB	132 SY	CONSTRUCTING PLANTING BEDS				
TSE	294 SY	TURFGRASS SOD ESTABLISHMENT				
–	294 SY	REFERTILIZING				
SHB	42 SY	SHREDDED HARDWOOD BARK MULCH				



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

LD-03

LANDSCAPE LEGEND

- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUB
- PERENNIAL / ORNAMENTAL GRASSES
- TURFGRASS SOD ESTABLISHMENT (TSE)
- BIORETENTION MEADOW ESTABLISHMENT (BME) WITH TYPE D SSM
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LICENSE NO. 4042

EXPIRATION DATE JUNE 28, 2024

STATE OF MARYLAND · HEATHER LEANNE ENGLISH · 4042 · LANDSCAPE ARCHITECT

NO.	REVISION	BY	DATE

Designed By HLE Drawn By HLE Checked By SHP

DEPARTMENT OF TRANSPORTATION
DIVISION OF TRAFFIC ENGINEERING & OPERATIONS
MONTGOMERY COUNTY, MARYLAND

LANDSCAPE PLAN

MD 191 (BRADLEY BOULEVARD) AT MD 188 (WILSON LANE) INTERSECTION IMPROVEMENTS

SCALE: 1" = 20'

PLOTTED: Friday, July 22, 2022 AT 09:32 AM
FILE: I:\Projects\4019356\4019356_002\LD_CAD Models and Sheets\04_CT_Transportation\pLD-P003_BradleyWilson.dgn

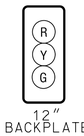
BY: englisH –

N

MD 188 IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION

PROPOSED LED SIGNALS

1,2,3,4, 5,6,7,8,9



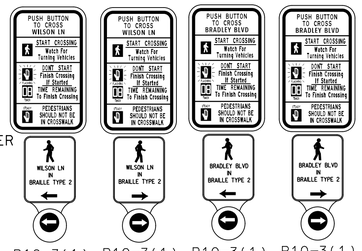
12" BACKPLATE

10,11,12,13

16" LED COUNTDOWN PEDESTRIAN SIGNAL

PROPOSED ACCESSIBLE PUSHBUTTONS AND SIGNS

14 15 16 17

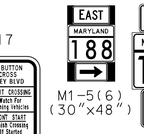


R10-3(1) (9"X15") R10-3(1) (9"X15") R10-3(1) (9"X15") R10-3(1) (9"X15")

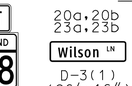
PROPOSED SIGNS

18 M1-5(6) (30"X48")

19 M3-4 (36"X18") M1-5 (45"X36") M6-1(1) (30"X24")



20a,20b 23a,23b D-3(1) (96'x16") DUAL FACE



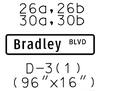
21 M3-4 (24"X12") M1-5 (30"X24") M6-1 (21"X15")

22 M1-5(6) (48"x72")

24 M3-2 (24"X12") M1-5 (30"X24") M6-1 (21"X15")

25 M1-5(6) (48"x72")

26a,26b 30a,30b D-3(1) (96"x16") DUAL FACE

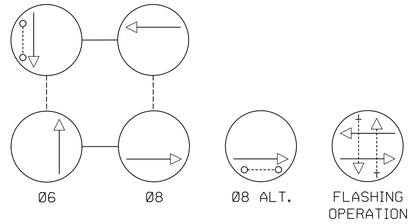


27 R10-11b (36"X36")

28 M3-4 (24"X12") M1-5 (30"X24") M6-1 (21"X15")

29 M1-5(6) (48"x72")

NEMA PHASING



NOTE:
PHASES ASSOCIATED BY A DASHED LINE MAY/WILL OPERATE CONCURRENTLY.
PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

CONSTRUCTION DETAILS

A. INSTALL SIZE "S" BASE MOUNTED CABINET AND CONTROLLER WITH FOUNDATION, EXTENSION BASE, AND ALL NECESSARY EQUIPMENT (NOTE 1-2 IN. AND 3-4 IN. 90 DEGREE BENDS).
B. INSTALL 100 AMP EMBEDDED METERED SERVICE PEDESTAL (NOTE: 3-2 INCH AND 1-4 INCH PVC 90 DEGREE BENDS).
C. INSTALL A 27 FT. STEEL POLE WITH 50 FT. MAST ARM (CUT TO 45 FT. AND CAP MAST ARM), FOUNDATION, LED TRAFFIC SIGNAL HEADS WITH BACK PLATES, VIDEO DETECTION CAMERA ON 5 FT. EXTENSION POLE, SIGNS, LED LUMINAIRE, AND A 20 FT. LIGHTING ARM (NOTE: 2-3 IN. PVC 90 DEGREE BENDS)(SHA STDS. MD 801.01 AND MD 818.06-01).
D. INSTALL A 27 FT. STEEL POLE WITH 50 FT. MAST ARM (CUT TO 38 FT. AND CAP MAST ARM), FOUNDATION, LED TRAFFIC SIGNAL HEADS WITH BACK PLATES, 3 IN. WEATHER HEAD, VIDEO DETECTION CAMERAS ON 5 FT. EXTENSION POLE, SPLICE CABINET, SIGNS, LED LUMINAIRE, AND A 20 FT. LIGHTING ARM (NOTE: 2-3 IN. PVC 90 DEGREE BENDS)(SHA STDS. MD 801.01 AND MD 818.06-01).
E. INSTALL A 27 FT. STEEL POLE WITH 50 FT. MAST ARM, FOUNDATION, LED TRAFFIC SIGNAL HEADS WITH BACK PLATES, VIDEO DETECTION CAMERAS ON 5 FT. EXTENSION POLE, SIGNS, LED LUMINAIRE, AND A 20 FT. LIGHTING ARM (NOTE: 2-3 IN. PVC 90 DEGREE BENDS)(SHA STDS. MD 801.01 AND MD 818.06-01).
F. INSTALL A 27 FT. STEEL POLE WITH 50 FT. MAST ARM (CUT TO 40 FT. AND CAP MAST ARM), FOUNDATION, LED TRAFFIC SIGNAL HEADS WITH BACK PLATES, VIDEO DETECTION CAMERA ON 5 FT. EXTENSION POLE, SIGNS, LED LUMINAIRE, AND A 20 FT. LIGHTING ARM (NOTE: 2-3 IN. PVC 90 DEGREE BENDS)(SHA STDS. MD 801.01 AND MD 818.06-01).
G. INSTALL A 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION (SHA STD. MD 801.01-01), BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, ACCESSIBLE PUSHBUTTON (ARROW RIGHT), AND SIGN R10-3(1) "PUSH BUTTON TO CROSS BRADLEY BLVD" (NOTE: 1-2 IN. 90 DEGREE PVC BEND).
H. INSTALL A 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION (SHA STD. MD 801.01-01), BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, ACCESSIBLE PUSHBUTTON (ARROW LEFT), AND SIGN R10-3(1) "PUSH BUTTON TO CROSS BRADLEY BLVD" (NOTE: 1-2 IN. 90 DEGREE PVC BEND).
J. INSTALL A 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION (SHA STD. MD 801.01-01), BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, ACCESSIBLE PUSHBUTTON (ARROW RIGHT), AND SIGN R10-3(1) "PUSH BUTTON TO CROSS WILSON LN" (NOTE: 1-2 IN. 90 DEGREE PVC BEND).
K. INSTALL A 10 FT. BREAKAWAY PEDESTAL POLE WITH FOUNDATION (SHA STD. MD 801.01-01), BREAKAWAY COUPLINGS, LED COUNTDOWN PEDESTRIAN SIGNAL HEAD, ACCESSIBLE PUSHBUTTON (ARROW LEFT), AND SIGN R10-3(1) "PUSH BUTTON TO CROSS WILSON LN" (NOTE: 1-2 IN. 90 DEGREE PVC BEND).
L. INSTALL OVERSIZED ELECTRICAL HANDHOLE.
M. INSTALL ELECTRICAL HANDHOLE.
N. PULL BACK AND REROUTE EXISTING OVERHEAD INTERCONNECT TO PROPOSED SPLICE CABINET.
P. INSTALL 24 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE FOR CROSSWALK (SEE DETAIL ON SHEET SG-02).
Q. INSTALL 24 IN. WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINE FOR STOPLINE.
R. INSTALL 2 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED.
S. INSTALL 3 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED.
T. INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT (TRENCHED) - FOR PROPOSED UNDERGROUND POWER SERVICE. CAP AND MARK CONDUIT, AND LEAVE A 1 FT. STUB WITH PULL STRING AT UTILITY POLE FOR USE BY OTHERS.
U. INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - TRENCHED.
V. INSTALL 4 IN. SCHEDULE 80 RIGID PVC ELECTRICAL CONDUIT - BORED.
W. REMOVE EXISTING TRAFFIC SIGNAL EQUIPMENT. REMOVE FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. CAP AND ABANDON EXISTING CONDUIT WHERE APPLICABLE.
X. REMOVE EXISTING HANDHOLE AND BACKFILL. CAP AND ABANDON EXISTING CONDUIT WHERE APPLICABLE.
Y. REMOVE EXISTING SPLICE CABINET.
Z. INSTALL PROPOSED SIGN ON 4 IN. X 6 IN. WOOD SIGN SUPPORT(S).

PROPOSED VIDEO DETECTION

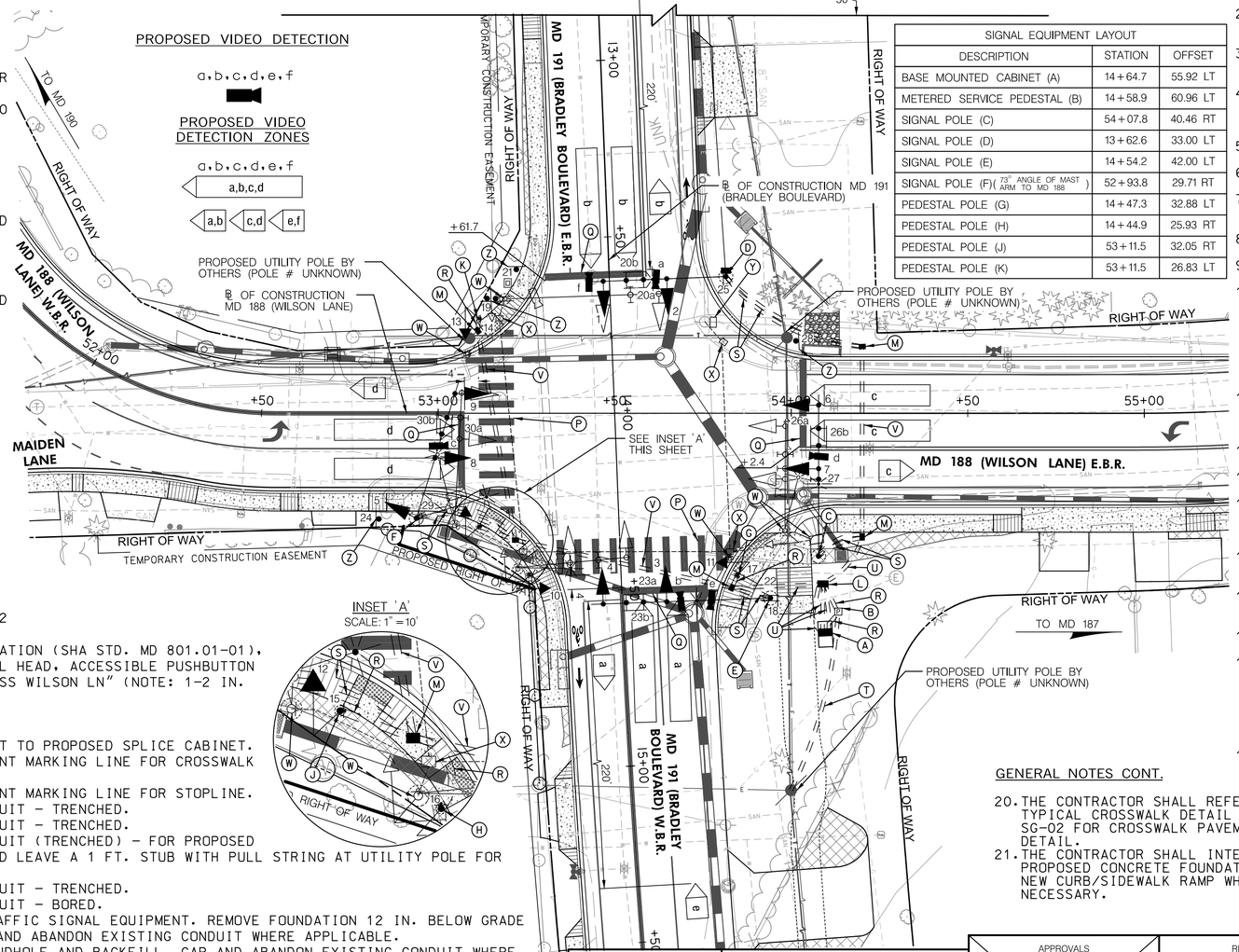
a,b,c,d,e,f

PROPOSED VIDEO DETECTION ZONES

a,b,c,d,e,f

a,b,c,d

a,b c,d e,f



SIGNAL EQUIPMENT LAYOUT		
DESCRIPTION	STATION	OFFSET
BASE MOUNTED CABINET (A)	14+64.7	55.92 LT
METERED SERVICE PEDESTAL (B)	14+58.9	60.96 LT
SIGNAL POLE (C)	54+07.8	40.46 RT
SIGNAL POLE (D)	13+62.6	33.00 LT
SIGNAL POLE (E)	14+54.2	42.00 LT
SIGNAL POLE (F)(73° ANGLE OF MAST ARM TO MD 188)	52+93.8	29.71 RT
PEDESTAL POLE (G)	14+47.3	32.88 LT
PEDESTAL POLE (H)	14+44.9	25.93 RT
PEDESTAL POLE (J)	53+11.5	32.05 RT
PEDESTAL POLE (K)	53+11.5	26.83 LT

GENERAL NOTES

1. MAINTENANCE OF TRAFFIC WILL BE HANDLED BY THE CONTRACTOR UTILIZING MDSHA STANDARD TYPICALS FOR TRAFFIC CONTROL.
2. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE SIGNAL MODIFICATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ROUTING AND PROPERLY LABELING ALL SIGNAL CABLES. MCDOT SIGNAL SHOP WILL BE RESPONSIBLE FOR ALL INTERNAL CABINET WIRING.
4. THE CONTRACTOR SHALL CONTACT MISS UTILITY TO VERIFY ALL UNDERGROUND UTILITIES PRIOR TO THE INSTALLATION OF PROPOSED SIGNAL EQUIPMENT. IF ANY CONFLICTS ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
5. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL ABANDONED ELECTRICAL CABLES.
6. ANY SIGNAL OUTAGE SHALL BE SCHEDULED DURING NON-PEAK HOURS AS DIRECTED BY THE ENGINEER.
7. WITHIN 36 IN. OF UNDERGROUND UTILITY LOCATIONS, THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE FOR FOUNDATION AND CONDUIT BY HAND.
8. THE CONTRACTOR SHALL CENTER THE PROPOSED CROSSWALKS ON PROPOSED RAMPS.
9. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MDSHA STANDARDS.
10. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.08 AND 4E.10 AND FIG. 4E-3 AND 4E-4: AND THE NCHRP PUBLICATION, "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE." IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL THE CONFLICT HAS BEEN RESOLVED. IF NEEDED, A DESIGN WAIVER SHALL BE OBTAINED, APPROVED BY THE DIRECTOR, OFFICE OF TRAFFIC AND SAFETY.
11. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR FROM A 60 IN. x 60 IN. LEVEL LANDING AREA. A LEVEL LANDING AREA IS AN AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
12. PUSHBUTTON ARROWS ARE TO BE TURNED PARALLEL TO THE CROSSWALK FOR WHICH THEY ARE INTENDED.
13. ALL TRAFFIC SIGNAL MODIFICATIONS SHALL BE CONSTRUCTED PRIOR TO SIDEWALK CONSTRUCTION.
14. THE CONTRACTOR SHALL DELIVER APS PUSHBUTTONS AND CENTRAL CONTROL UNIT TO MR. STEVEN YOUNG AND MR. GREG WHITENER AT MONTGOMERY COUNTY TECHNICAL CENTER AT LEAST 3 WEEKS PRIOR TO BEGINNING WORK.
15. PUSHBUTTONS ARE TO BE LOCATED SO THAT A PEDESTRIAN IN A WHEELCHAIR LOCATED ON THE LEVEL LANDING AREA DOES NOT HAVE TO REACH MORE THAN 18 IN.
16. THE CONTRACTOR SHALL ENSURE THE EXISTING TRAFFIC SIGNAL REMAINS OPERATIONAL UNTIL RECONSTRUCTED TRAFFIC SIGNAL IS OPERATIONAL.
17. VIDEO CAMERA LOCATION/ALIGNING SHALL BE COORDINATED WITH THE MCDOT ENGINEER.
18. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. HIGHEST ROADWAY PROFILE GRADE FOR OPEN SECTIONS. TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
19. ALL PROPOSED LUMINAIRES SHALL BE SUPPLIED WITH A PHOTOCELL.

GENERAL NOTES CONT.

20. THE CONTRACTOR SHALL REFER TO TYPICAL CROSSWALK DETAIL ON SHEET SG-02 FOR CROSSWALK PAVEMENT MARKING DETAIL.
21. THE CONTRACTOR SHALL INTEGRATE PROPOSED CONCRETE FOUNDATIONS WITH NEW CURB/SIDEWALK RAMP WHERE NECESSARY.

ACCESS PERMIT NUMBER 19APMO025XX.
IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF APPROVAL, CONSTRUCTION SHALL NOT START UNTIL PLANS ARE REAPPROVED.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

BY: misnerka

UTILITY LEGEND

E E ELECTRIC CABLES	STORM DRAIN
E E AERIAL CABLES	G G GAS MAIN
T T TELEPHONE CABLES	W W WATER MAIN
F F FIBER-OPTIC	SAN SAN SEWER MAIN

GEOMETRIC LEGEND

EXISTING
PROPOSED

STATE OF MARYLAND
SETH DAVID YOUNG
No. 35321
PROFESSIONAL ENGINEER
8/19/22

"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. 35321

EXPIRATION DATE JANUARY 6, 2024

APPROVALS

TEAM LEADER
ASST. DIV. CHIEF
DIVISION CHIEF
OFFICE DIRECTOR

ORIGINAL ON FILE

REVISIONS

B RECONSTRUCT DUE TO NEW GEOMETRICS — SHA NO. AT017A2F — 7/2022 — TIMS# P099
STV JG WB JGS DR LL JGW
A RECONSTRUCT DUE TO NEW GEOMETRICS — 12/2002 — TIMS# Z999
JAH MAR DAB BAK

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 188 (WILSON LANE) AT MD 191 (BRADLEY BOULEVARD)

BETHESDA, MARYLAND

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

SIGNALIZATION PLAN SHEET

SCALE 1" = 20' ADVERTISED DATE 12/2002 CONTRACT NO. MO8655177R

DESIGNED BY
DRAWN BY SRM
CHECKED BY BLB
MDE/PRD

COUNTY MONTGOMERY
LOGMILE 15018802.36
TIMS NO. E148
TOD NO.

TS NO. 2016B | DRAWING SG-01 OF 02 | SHEET NO. 42 OF 43

PLOTTED: 8/19/2022

PROJECT DESCRIPTION

GENERAL

THIS PROJECT INVOLVES THE FULL SIGNAL RECONSTRUCTION INCLUDING TYPE 'S' CABINET AT THE INTERSECTION OF MD 188 (WILSON LN) AND MD 191 (BRADLEY BLVD) IN MONTGOMERY COUNTY. VIDEO DETECTION FOR MAINLINE, SAMPLING, LEFT TURNS AND SIDESTREETS WILL BE INSTALLED. APS/CPS AND ADA RAMPS WILL BE INSTALLED FOR THE SOUTH AND WEST LEGS. ROADWAY LUMINAIRES WILL BE INSTALLED ON PROPOSED SIGNAL POLES AND INTERCONNECT WILL BE MAINTAINED.

MD 191 (BRADLEY BLVD) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

INTERSECTION OPERATION

THE INTERSECTION WILL CONTINUE TO OPERATE IN A NEMA FOUR (4) PHASE, FULLY-ACTUATED TRAFFIC MODE. THE EASTBOUND AND WESTBOUND MD 188 (WILSON LN) APPROACHES WILL OPERATE CONCURRENTLY. THE EASTBOUND AND WESTBOUND MD 191 (BRADLEY BLVD) APPROACHES WILL OPERATE CONCURRENTLY.

CONTROLLER REQUIREMENTS

INSTALL A NEW EIGHT-PHASE FULLY ACTUATED TRAFFIC SIGNAL CONTROLLER AND ALL OTHER ASSOCIATED EQUIPMENT AND HARNESSES WITHIN THE CABINET.

APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 188 (WILSON LN)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS WILSON AT BRADLEY, WAIT".

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

TO CROSS MD 191 (BRADLEY BLVD)

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON MESSAGE WILL BE "WAIT TO CROSS BRADLEY AT WILSON, WAIT".

B. WHEN THE "WALK" PHASE BEGINS, THE MESSAGE WILL BE A RAPID TICK, WHICH WILL LAST FOR THE DURATION OF THE "WALK" PHASE.

THE CONTACT PERSONS FOR DISTRICT #3 ARE AS FOLLOWS:

MR. DEREK GUNN
ACTING DISTRICT ENGINEER
PHONE: 301-513-7498

MR. JOSEPH MOGES
ASSISTANT DISTRICT ENGINEER - TRAFFIC
PHONE: 301-513-7462

MR. MARK LOEFFLER
UTILITY ENGINEER
PHONE: 301-513-7350

MR. JOHN GOVER (FIELD)
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: 301-513-7336 (FIELD)

MR. GREGORY EDWARDS
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: 301-513-7304

THE CONTACT PERSONS FOR THE OFFICE OF TRAFFIC AND SAFETY ARE AS FOLLOWS:

MS. VIVIAN BERRA-FIGUEREO, DEPUTY DIRECTOR OF OPERATIONS
OFFICE OF TRAFFIC AND SAFETY
PHONE: 410-787-5804

MS. REBECCA LICHTENSTEIN, DIVISION CHIEF
TRAFFIC OPERATIONS
PHONE: 410-787-7630

MR. MICHAEL BASSO, CHIEF
SIGNAL OPERATIONS SECTION
PHONE: 410-365-7258

MR. DAVID (TODD) JONES
SIGN OPERATIONS SECTION MANAGER
PHONE: 410-787-7674

MR. MIKE BOYLE
SIGNAL SHOP SUPPLY OFFICER
PHONE: 410-787-7673

THE CONTACT PERSONS FOR MONTGOMERY COUNTY ARE AS FOLLOWS:

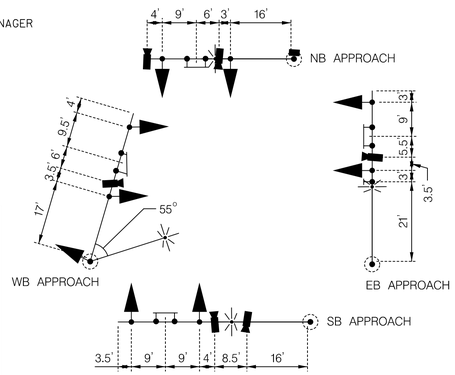
MR. STEVE YOUNG & MR. GREG WHITENER
MONTGOMERY COUNTY SIGNAL OPERATIONS MANAGER
PHONE: 301-279-1291

MR. KAMAL HAMUD
MONTGOMERY COUNTY TMC CENTER
PHONE: 240-777-8761

THE POWER COMPANY REPRESENTATIVE IS:
POTOMAC ELECTRIC POWER COMPANY
MR. JACK CHU, COUSTOMER DESIGN
201 WEST GUDE DRIVE
ROCKVILLE, MARYLAND 20850
PHONE: 301-548-4332

MAST ARM DETAIL

SCALE: NONE



EQUIPMENT LIST 'A'

EQUIPMENT TO BE FURNISHED BY THE SHA.

NONE.

EQUIPMENT LIST 'B'

EQUIPMENT TO BE FURNISHED AND INSTALLED BY THE CONTRACTOR.

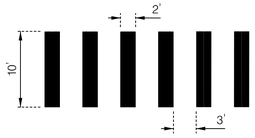
CAT. CODE	ITEM NO.	QUANTITY		DESCRIPTION
120510	1001	20	DAYS	MAINTENANCE OF TRAFFIC (MOT)
203030	2002	15	CY	TEST PIT EXCAVATION
860289	8000	9	EA	SIGNAL HEAD BACK PLATE, ANY SIZE
807206	8000	1	EA	INSTALL UP TO 200 AMP EMBEDDED METERED SERVICE PEDESTAL AND CONCRETE COLLAR
800000	8000	1	EA	FURNISH AND INSTALL MDSHA STANDARD SIZE 'S' BASE MOUNTED CABINET W/CTRL AND EXTENSION BASE
811000	8000	1	EA	FURNISH AND INSTALL SHA OVERSIZE SIGNAL HANDBOX
810022	8000	30	LF	3-1 CONDUCTOR ELECTRICAL CABLE (NO. 8 AWG) THHN/THWN
810019	8000	695	LF	3-CONDUCTOR ELECTRICAL CABLE (NO. 12 AWG) COPPER TYPE TC
801106	8000	95	LF	WOOD SIGN SUPPORTS (4"x6")
822510	8000	350	LF	PULLBACK AND REROUTE EXISTING OVERHEAD INTERCONNECT CABLE
801004	8001	20	CY	CONCRETE FOUNDATION
805125	8019	55	LF	2" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED)
805135	8023	205	LF	3" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED)
805140	8027	150	LF	4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (TRENCHED)
805118	8028	200	LF	4" POLYVINYL CHLORIDE ELECTRICAL CONDUIT (SCHEDULE 80) (PUSHED)
837001	8036	9	EA	GROUND ROD, 3/4" DIAMETER X 10' LENGTH WITH CLAMP
822002	8045	195	LF	FURNISH AND INSTALL 12 PAIR TELEMETRY CABLE - JELLY FILLED (UNDERGROUND)
861105	8057	605	LF	2-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) IMSA 19-1
816005	8059	1,060	LF	3-CONDUCTOR ELECTRICAL CABLE (NO. 18 AWG) VIDEO DETECTION CABLE
861107	8060	705	LF	5-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) IMSA 19-1
861108	8061	910	LF	7-CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG) IMSA 19-1
832020	8069	675	LF	1-CONDUCTOR ELECTRICAL CABLE (NO. 6 AWG) STRANDED BARE COPPER GROUND WIRE
802570	8074	275	LF	1-CONDUCTOR ELECTRICAL CABLE 2/0 THWN - ALUMINUM
800000	8081	11	EA	FURNISH AND INSTALL SIGN >0 TO <=5 SF (OVERHEAD OR POST)
800000	8082	10	EA	FURNISH AND INSTALL SIGN >5 TO <=25 SF (OVERHEAD OR POST)
866104	8088	4	EA	20' LIGHTING ARM
806025	8089	4	EA	150W LED LUMINAIRE
800000	8097	1	EA	FURNISH AND INSTALL MSHA STANDARD ASC 3 CONTROLLER
818036	8099	4	EA	FURNISH AND INSTALL MSHA STANDARD MAST POLE WITH SINGLE MAST ARM. MAST ARM VARIES (38'-70')
818101	8106	4	EA	FURNISH AND INSTALL MSHA STANDARD 10' PEDESTAL POLE WITH BREAKAWAY COUPLINGS
805050	8109	1	EA	FURNISH AND INSTALL 3" WEATHER HEAD
816125	8127	1	EA	FURNISH AND INSTALL SPLICE CABINET, POLE OR POST MOUNTED
811001	8131	5	EA	FURNISH AND INSTALL SIGNAL HANDBOX (PULLBOX) LARGE SIZE (24"x30")
818055	8140	3	EA	CUT MAST ARM TO NEEDED LENGTH
800000	8149	9	EA	REMOVAL AND SALVAGE OF SIGNS LESS THAN 50 SF
807312	8153	1	EA	REMOVAL OF ELECTRICAL SERVICE
800000	8158	4	EA	REMOVAL AND SALVAGE OF TRAFFIC SIGNAL MAST ARM AND POLE
800000	8159	2	EA	REMOVAL AND SALVAGE OF PEDESTAL POLE
800000	8160	1	EA	REMOVAL AND SALVAGE OF CABINET BASE-MOUNTED
800000	8161	1	EA	REMOVAL AND SALVAGE OF CABINET POLE-MOUNTED
811002	8162	4	EA	REMOVAL OF SIGNAL HANDBOX
800000	8163	13	EA	REMOVAL AND SALVAGE OF ANY SIGNAL HEAD
865210	8167	4	EA	FURNISH AND INSTALL MSHA STANDARD AUDIBLE PEDESTRIAN PUSH BUTTON ASSEMBLY AND PUSH BUTTON SIGN
865300	8168	1	EA	FURNISH AND INSTALL MSHA STANDARD 2-WIRE ACCESSIBLE PEDESTRIAN (APS) CENTRAL CONTROL UNIT
800000	8169	9	EA	FURNISH AND INSTALL 12" LED SIGNAL HEAD (R,Y,G) WITH BLACK FACE TUNNEL VISORS (INCLUDES LENS, LED, AND MOUNTING HARDWARE)
860285	8173	4	EA	FURNISH AND INSTALL 16" I-SECTION FULL HAND, FULL PERSON LED PEDESTRIAN SIGNAL WITH COUNTDOWN
816001	8177	6	EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA
816015	8178	1	EA	FURNISH AND INSTALL VIDEO DETECTION CAMERA INTERFACE PANEL
549419	9011	310	LF	INSTALL 24" WHITE HEAT APPLIED PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING

EQUIPMENT LIST 'C'

ALL REMOVED EQUIPMENT AND MATERIALS ARE TO BE THE PROPERTY OF THE CONTRACTOR.

TYPICAL CROSSWALK DETAIL

SCALE: NONE

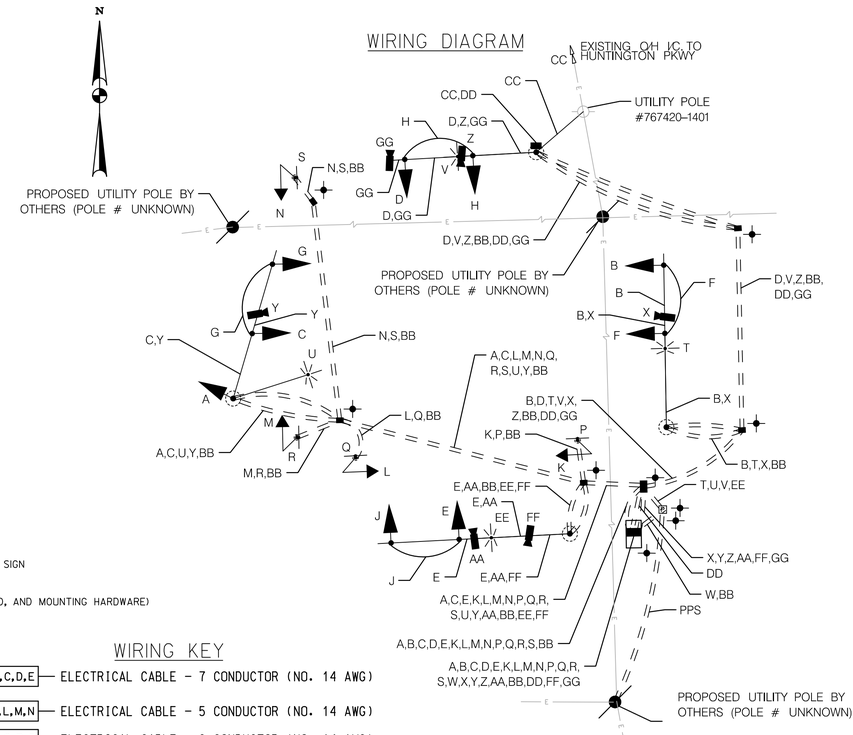


1. SPACE BETWEEN MARKINGS SHOULD BE PLACED IN WHEEL TRACKS OF EACH LANE.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13
	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	R Y G	VA1.25	VA1.25	VA1.25	VA1.25
PHASE 2 AND 6	G	G	G	G	R	R	R	R	R	DW	DW	WK	WK
PED CLEARANCE	G	G	G	G	R	R	R	R	R	DW	DW	FL/DW	FL/DW
PHASE 2 AND 6 CHANGE	Y	Y	Y	Y	R	R	R	R	R	DW	DW	DW	DW
PHASE 4 AND 8	R	R	R	R	G	G	G	G	G	DW	DW	DW	DW
PHASE 4 AND 8 CHANGE	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW
PHASE 4 AND 8 ALT.	R	R	R	R	G	G	G	G	G	WK	WK	DW	DW
PED CLEARANCE	R	R	R	R	G	G	G	G	G	FL/DW	FL/DW	DW	DW
PHASE 4 AND 8 ALT. CHANGE	R	R	R	R	Y	Y	Y	Y	Y	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)
F,G,H,J,K,L,M,N	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)
P,Q,R,S	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)
T,U,V,EE	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 12 AWG) TYPE TC
W	ELECTRICAL CABLE - 3-1 CONDUCTOR NO. 8 AWG-THHN/THWN
X,Y,Z,AA,FF,GG	3-CONDUCTOR ELECTRICAL CABLE (NO. 18 AWG) VIDEO DETECTION CABLE
BB	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
CC	EX. 12 PAIR INTERCONNECT CABLE
DD	PROPOSED 12 PAIR INTERCONNECT CABLE
PPS	PROPOSED POWER SOURCE (ELECTRICAL CABLE - 1 CONDUCTOR, NO. 2/0 AWG, 3 WIRE. 3 RUNS WITH 3-30 FT. COILS SLACK CABLE AT UTILITY POLE. FINAL SERVICE CONNECTIONS SHALL BE MADE BY PEPCO FORCES)
P	PROPOSED METERED SERVICE PEDESTAL
	PROPOSED 3/4 IN. X 10FT. GROUND ROD

ACCESS PERMIT NUMBER 19APM0025XX.
IF CONSTRUCTION HAS NOT STARTED WITHIN ONE YEAR OF APPROVAL, CONSTRUCTION SHALL NOT START UNTIL PLANS ARE REAPPROVED.

STV 100 Years
700 Red Brook Boulevard, Suite 300
Owings Mills, Maryland 21117
www.stvinc.com

STATE OF MARYLAND · SETH DAVID YOUNG · No. 35321 · PROFESSIONAL ENGINEER
8/19/22

"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. 35321

EXPIRATION DATE JANUARY 6, 2024

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

MD 188 (WILSON LANE) AT
MD 191 (BRADLEY BOULEVARD)

BETHESDA, MARYLAND

REVISIONS

GENERAL INFORMATION SHEET

SCALE NTS ADVERTISED DATE JULY 2022 CONTRACT NO. AT017A2F

DESIGNED BY J. GORDON
DRAWN BY J. GORDON
CHECKED BY S. YOUNG
MDE/PRD

COUNTY MONTGOMERY
LOGMILE 15018802.36
TIMS NO. P099
TOD NO.

TS NO. 2016B-GI | DRAWING SG-02 OF 02 | SHEET NO. 43 OF 43

BY: misnerka -

PLOTTED: 8/19/2022