FOR INDEX OF SHEETS – SEE SHEETS 2

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
CAPITAL CRESCENT TRAIL PHASE 1

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION MAINTENANCE CERTIFICATION

I HEREBY CERTIFY THAT THE DEPARTMENT OF TRANSPORTATION WILL ASSUME MAINTENANCE RESPONSIBILITIES FOR ALL STORMWATER MANAGEMENT FACILITIES AS LISTED AND SHOWN, HEREON, IN ACCORDANCE WITH THE MEMORANDUM OF UNDERSTANDING BETWEEN THIS DEPARTMENT AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DATED SEPTEMBER 1, 1986. IF, FOR ANY REASON, FUTURE IMPROVEMENTS TO THE ROADWAY ARE PLANNED THAT WOULD IMPACT ANY OF THE STORMWATER MANAGEMENT FACILITIES INCLUDED HEREIN, THIS DEPARTMENT WILL NOTIFY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DURING THE PLANNING OR EARLY DESIGN STAGE FOR SUCH IMPROVEMENTS.

DATE

TIM CUPPLES
CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

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 UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION. THE EXCAVATOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

OWNER'S/DEVELOPER'S CERTIFICATION

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

DATE

TIM CUPPLES
CHIEF, DIVISION OF TRANSPORTATION ENGINEERING

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES EXECUTIVE REGULATIONS 5-90, 7-02AM AND 36-90, AND MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION "DRAINAGE DESIGN CRITERIA," DATED NOVEMBER 2013, REVISED JUNE 2014.

DATE

ANDREW CONKLIN, P.E.
MD. REGISTRATION NO. 43077

CERTIFICATION OF QUANTITIES

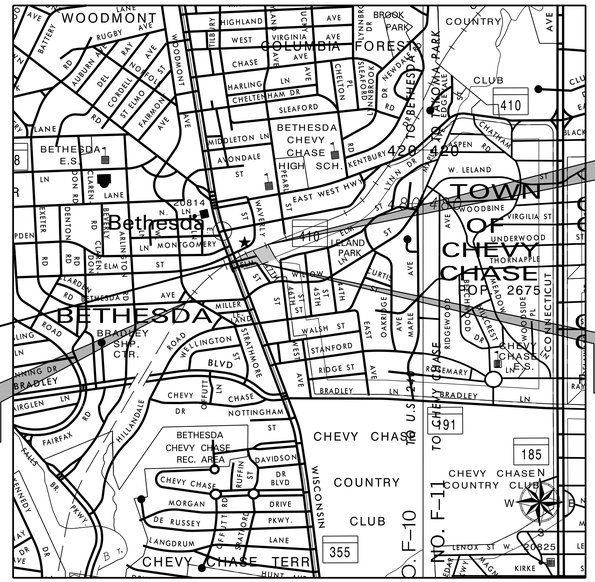
I FURTHER CERTIFY THAT THE TOTAL AMOUNTS OF EXCAVATION AND FILL AS SHOWN ON THESE PLANS HAVE BEEN COMPUTED TO BE X,XXX CUBIC YARDS OF EXCAVATION AND XXX CUBIC YARDS OF FILL AND THAT THE TOTAL AREA TO BE DISTURBED AS SHOWN ON THESE PLANS HAS BEEN DETERMINED TO BE A MAXIMUM OF XX,XXX SQUARE FEET OR X.XX ACRES.

DATE

ANDREW CONKLIN, P.E.
MD. REGISTRATION NO. 43077

TREE CANOPY REQUIREMENTS TABLE		
EXEMPT: YES_NO_X_IF EXEMPT UNDER SECTION 55-5 OF THE CODE, PLEASE LIST THE APPLICABLE EXEMPTION CATEGORY BELOW THIS TABLE.		
TOTAL PROPERTY AREA		TOTAL DISTURBED AREA
xx.xxx SQUARE FEET		xx.xxx SQUARE FEET
SHADE TREES REQUIRED		SHADE TREES PROPOSED TO BE PLANTED
		0
FEE IN LIEU		
(TREES REQUIRED - TREES PROPOSED) X $250		
REQUIRED NUMBER OF SHADE TREES		
AREA (SQ. FT.) OF THE LIMITS OF DISTURBANCE		NUMBER OF SHADE TREES REQUIRED
FROM	TO	
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 FORMULAE: (NUMBER OF SQUARE FEET IN LIMITS OF DISTURBANCE / 40,000) X 15		
EXEMPTION CATEGORIES		
__55-5(a) any activity that is subject to Article II of Chapter 22A;		__existing access road, if the person performing the maintenance has obtained all required permits;
__55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;		__55-5(h) any steam restoration project if the person performing the work has obtained all necessary permits;
__55-5(f) any activity conducted by the County Parks Department		__55-5(i) cutting or clearing any tree to compy with applicable provisions of any federal, state, or local law governing safety of dams;
__55-5(g) routine or emergency maintenance of an existing stormwater management facility, including		__OTHER: Specify per Section 55-5 of the Code.

C. I. P. PROJECT 501316



PROJECT LENGTH = 0.06 MILES MONTGOMERY COUNTY

VICINITY MAP
SCALE : 1"= 1000'

ELM STREET / 47TH STREET DESIGN DATA	
DESIGN SPEED:	25 M.P.H.
2016 AADT:	1,200
FUNCTIONAL CLASSIFICATION:	LOCAL ROAD

RELATED REQUIRED PERMITS					
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	REQ'D	NOT REQ'D	PERMIT #	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS FLOODPLAIN DISTRICT		X			
WATERWAY(S)/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**		APPROVAL DATE	
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED
FEMA LOMR (REQUIRED POST CONSTRUCTION)		X			
M-NCPPC NRI-FSD	X				
DPS STORMWATER MANAGEMENT CONCEPT PLAN	X		SM FILE #:	APPROVAL DATE	RECONFIRMATION DATE
DPS SEDIMENT CONTROL PLAN	X		SC PERMIT #:	APPROVAL DATE	APPROVED REVISION DATE

* A COPY OF THE APPROVED ROADSIDE TREES PROTECTION PLAN MUST BE DELIVERED TO THE SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEETING.
THIS PROJECT FALLS UNDER THE ROADSIDE TREE CARE BLANKET PERMIT FOR MONTGOMERY COUNTY
** DEPARTMENT OF TRANSPORTATION'S DIVISION OF HIGHWAY SERVICES , TREE MAINTENANCE SECTION.
TREE PROTECTION IS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS. LEGEND INCLUDED.

GENERAL NOTES

1. THE SPECIFICATIONS FOR THIS CONTRACT WILL BE THOSE OF THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION'S STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS DATED JULY 2019, AND REVISIONS THEREOF OR ADDITIONS THERETO, THE MARYLAND DEPARTMENT OF TRANSPORTATION, STATE HIGHWAY ADMINISTRATION'S BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES, MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION STANDARDS, AND SOIL CONSERVATION SERVICE POND CONSTRUCTION SPECIFICATIONS FOR MARYLAND. SEE SHEET 3 FOR A FULL LIST OF MDOT SHA PROJECT STANDARDS.
2. HORIZONTAL DATUM: NAD 83(1991) VERTICAL DATUM: NAVD 88.
3. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
4. WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
5. ALL STORM DRAIN PIPES SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
6. 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.
7. 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.
8. 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.
9. CLEARING IS TO BE LIMITED TO THE "LIMIT OF GRADING" AS SHOWN ON THE PLANS.
10. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
11. DISTURBED AREAS ADJACENT TO ESTABLISHED LAWNS SHALL BE SODDED. OTHER DISTURBED AREAS SHALL BE SEEDED AND MULCHED.
12. THE CONTRACTOR SHALL OBTAIN A ROADSIDE TREE PERMIT FOR ANY MAINTENANCE, TREATMENT, PLANTING, REMOVAL, OR ROOT CUTTING ON TREES WITHIN THE PUBLIC RIGHT OF WAY. PERMIT REQUIREMENTS MAY BE OBTAINED FROM THE DEPARTMENT OF NATURAL RESOURCES, MARYLAND FOREST, PARK AND WILDLIFE SERVICE, TELEPHONE 301-854-6060.
13. CONTACT THE WASHINGTON SUBURBAN SANITARY COMMISSION SYSTEM MAINTENANCE ENGINEER BEFORE EXCAVATING BENEATH OR IN THE VICINITY OF EXISTING WATER OR SEWER LINES. BACKFILL TO BE DONE UNDER SUPERVISION OF W.S.S.C. CALL 301-206-9772
14. ALL UTILITY POLES NOTED FOR RELOCATION SHALL BE PERFORMED BY OTHERS.
15. PRIOR TO VEGETATIVE STABILIZATION, ALL DISTURBED AREAS MUST BE TOPSOILED PER THE MONTGOMERY COUNTY "STANDARDS AND SPECIFICATIONS FOR TOPSOIL".
16. WORK ALONG THE CAPITAL CRESCENT SURFACE TRAIL FROM STA. 0+00 TO STA. 1+50.30 WILL BE DONE BY OTHERS.
17. THE CONTRACTOR SHALL OBTAIN CERTIFIED AS-BUILTS, SIGNATURES, AND INITIALS FOR ALL INSPECTION CHECK-OFF LISTS PROVIDED BY THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES.

OWNER/CONTACT/ADDRESS
MR. JON HUTCHINGS
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
100 EDISON PARK DRIVE, 4TH FLOOR
GAITHERSBURG, MD 20878
240-777-7224

MCDPS-SC/SWM SHEET NO. OF

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

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

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
FULL WAIVER	Reviewed Date	Reviewed Date
Reviewed Date	Approved Date	SEDIMENT CONTROL PERMIT NO.
Approved Date		MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
S.M. FILE NO.		

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

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:_____

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: DTB Drawn by: SAZ Checked by: JAC

TITLE SHEET

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : N/A MAY 2021

Project No. : 501316 SHEET 1 of 31

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INDEX OF SHEETS - PHASE 1

SHEET NO.	SC/SWM NO.	DRAWING DESCRIPTION
1		TITLE SHEET
2		INDEX OF SHEETS
3		LEGEND AND ABBREVIATIONS
4		GEOMETRY SHEET
5		TRAIL TYPICAL SECTION AND DETAILS
6		TRAIL AND ROADWAY PLAN – PHASE 1 SURFACE TRAIL
7		TRAIL AND ROADWAY PLAN – WOODMONT PLAZA
8		TRAIL PROFILE – PHASE 1 SURFACE TRAIL
9		TRAIL PROFILE – WOODMONT PLAZA
10		EROSION AND SEDIMENT PLAN
11		LIGHTING PLAN
12		LIGHTING PLAN
13		LIGHTING PLAN
14		LIGHTING PLAN
15		LIGHTING PLAN
16		LIGHTING PLAN
17		SIGNING AND PAVEMENT MARKING PLAN
18		LANDSCAPE PLAN
19		LANDSCAPE NOTES & DETAILS
20		RETAINING WALL A PLAN AND ELEVATION
21		RETAINING WALL A MISCELLANEOUS DETAILS 1
22		RETAINING WALL A MISCELLANEOUS DETAILS 2
23		RETAINING WALL B PLAN AND ELEVATION
24		RETAINING WALL B TYPICAL SECTION
25		FENCE DETAILS
26		STRUCTURAL DETAILS – 1
27		STRUCTURAL DETAILS – 2
28		STRUCTURAL DETAILS – 3
29		FLOOR PLANS – BIKE RACK LAYOUT
30		ELEVATION – BIKE RACK AREA
31		PLAN DETAILS AT WESTERN PORTAL

INDEX OF SHEETS FOR WSSC RELOCATION PLANS - PHASE 1

WSSC SHEET NO.	DRAWING DESCRIPTION
1	TITLE SHEET, LOCATION, & VICINITY MAPS
2	GENERAL NOTES & STAKEOUT DATA
3	WATER MAIN RELOCATION PLAN
4	WATER MAIN RELOCATION PROFILES
5	WATER MAIN RELOCATION PROFILES
6	SEQUENCE OF CONSTRUCTION
7	WATER DETAILS
8	SEWER RELOCATION PLAN
9	SEWER RELOCATION PROFILES

INDEX OF SHEETS FOR ELM STREET PARK PHASE 1 PLANS

PARK SHEET NO.	DRAWING DESCRIPTION
1	LANDSCAPE PLAN
2	LANDSCAPE GRADING PLAN
3	PLANTING PLAN
4	LANDSCAPE DETAILS
5	LANDSCAPE DETAILS
6	LANDSCAPE DETAILS
7	PLANTING DETAILS
8	SITE FURNISHING DETAILS
9	PLAY EQUIPMENT DETAILS
10	FITNESS EQUIPMENT DETAILS

IN-01

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

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: DTB Checked by: JAG

INDEX OF SHEETS

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 2 of 31

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MARYLAND STANDARD NOTES

1. THE FOLLOWING MARYLAND STANDARD DETAILS ARE REQUIRED FOR THIS PROJECT:

MD 104.01-28	STAGED ROADWAY CONSTRUCTION
MD 104.01-30A	CHANNELIZATION DEVICE USAGE EQUAL/LESS THAN 40 MPH OVER 12 HOURS NIGHTTIME USE
MD 104.01-30D	CHANNELIZATION DEVICE USAGE CRITERIA TABLE
MD 104.01-80	TAPER LENGTH CRITERIA TABLE
MD 104.01-81	TYPICAL APPLICATION NOTES
MD 104.01-86	STEEL PLATE-METHOD 2, EQUAL TO OR LESS THAN 40 MPH
MD 104.04-09	2 RIGHT (LEFT) LANES CLOSURE/DIVIDED UNCON. GREATER THAN 40 MPH
MD 104.04-10	2 RIGHT (LEFT) LANES CLOSURE/DIVIDED UNCON. EQUAL/LESS THAN 40 MPH
MD 374.86	STANDARD ADA COMPLIANT INLET DOUBLE GRATE TANDEM
MD 379.03	STANDARD TYPE S INLET DOUBLE GRATE TANDEM
MD 374.14	STANDARD NR INLET
MD 374.63	PRECAST OR CAST IN PLACE CIRCULAR COS INLETS 5', 10', 15' & 20'
MD 379.01	STANDARD TYPE S INLET SINGLE GRATE
MD 384.01	48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES
MD 383.00	48" SQUARE STANDARD SHALLOW MANHOLE
MD 354.01	STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE
FND-PF-504	CAISSON/PILE REBAR CAGE CLEARANCE SPACING DEVICES
RW-401	CONCRETE RETAINING WALL CONTRACTION AND EXPANSION JOINTS
REBAR-BL-101	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
REBAR-BL-103	BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE
REBAR-DL-101	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE
REBAR-DL-103	DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE
REBAR-DL-201	DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
REBAR-DL-203	DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.6 (4500 P.S.I.) CONCRETE NON-EPOXY COATED REINFORCING
REBAR-BB-101	BAR BEND TYPES GENERAL NOTES
REBAR-BB-102	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
MD 572.61	CONCRETE PAVEMENT LONGITUDINAL TIE DEVICES
MD 580.03	NEW COMBINATION CURB AND GUTTER PLACEMENT ALONG EXISTING PAVEMENT
MD 620.02	STANDARD TYPES A & B CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
MD 620.02-1	STANDARD TYPES C AND D CONCRETE CURB AND COMBINATION CONCRETE CURB & GUTTER
MD 620.02.03	DEPRESSED CURB FOR COMBINATION CURB AND GUTTER AND DEPRESSED CURB FOR SIDEWALK RAMPS
MD 655.11	SIDEWALK RAMPS PERPENDICULAR
MD 655.40	DETECTABLE WARNING SURFACES
MD 801.01	SIGNAL STRUCTURE FOUNDATIONS
MD 801.01.01	SIGNAL STRUCTURE FOUNDATIONS FOR PUSHBUTTON AND PEDESTRIAN SIGNAL POLE
MD 813.07	PUSHBUTTON SIGN BANDING DETAIL
MD 813.08	SIGN BANDING DETAIL
MD 814.01	SIGNAL HEAD MOUNTING DETAILS RIGID MOUNT
MD 814.04	TOP POLE MOUNTING FOR VEHICULAR AND PEDESTRIAN SIGNAL HEADS
MD 817.01	ACCESSIBLE PEDESTRIAN SIGNAL (APS) PUSHBUTTON LOCATION ON POLE
MD 817.02	PEDESTRIAN PUSH BUTTON ASSEMBLY
MD 818.16	10" PEDESTAL POLE
MD 802.04	BREAKAWAY TUBULAR STEEL SIGN SUPPORTS

2. FOR ALL STANDARDS REFERRED TO ON THE PLANS, THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOKS OF STANDARDS CAN BE ACCESSED AT:

HTTP://APPS.ROADS.MARYLAND.GOV/BUSINESSWITHSHA/BIZSTDSSPECS/DESMANUALSTDPUB/PUBLICATIONSONLINE/OHD/BOOKSTD/INDEX.ASP

3. ALL ITEMS ARE TO BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT VERSION OF THE REFERENCE STANDARD AT THE TIME OF CONSTRUCTION.

LEGEND

TELEPHONE MANHOLE	PROPOSED FENCE
WATER METER	EXISTING CHAINLINK FENCE
WATER VALVE	PROPOSED HANDRAIL
SEWER MANHOLE	INDEX CONTOUR
STORM DRAIN MANHOLE	INTERVAL CONTOUR
GAS VALVE	TOP OF CUT
SIGN	TOE OF FILL
LIGHT POLE	EXISTING RIGHT OF WAY LINE
UTILITY POLE	LIMIT OF DISTURBANCE
FIRE HYDRANT	TEMPORARY CONSTRUCTION EASEMENT
PARKING METER	PERPETUAL EASEMENT
TREE	FILL(MADE GROUND)
BORING	USCS HIGH PLASTICITY CLAY
INLET	USCS LOW PLASTICITY CLAY
MANHOLE	USCS LOW PLASTICITY SILTY CLAY
EXISTING WBEAM	USCS LOW PLASTICITY SANDY CLAY
PROPOSED WBEAM	USCS HIGH PLASTICITY SILT
WETLAND BUFFER	USCS LOW PLASTICITY SILT
WETLAND	USCS CLAYEY SAND
	USCS SILTY SAND
	USCS SAND
	BEDROCK

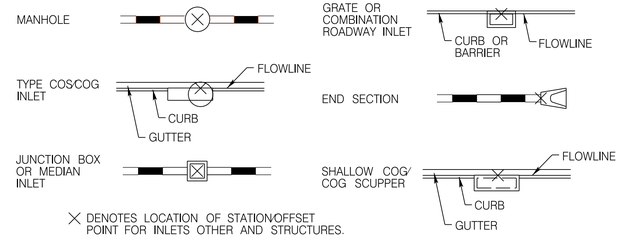
ABBREVIATIONS

A.A.S.H.T.O.	American Association of State Highway Transportation Officials
APPROX.	Approximate
℄ or B/L	Baseline
C.C.	Center of Curve
℄ or C/L	Centerline
C.I.P.	Cast Iron Pipe
C.M.P.	Corrugated Metal Pipe
C.O.	Cleanout
COMB.	Combination
CONC.	Concrete
CONSTR.	Construction
C.P.P.	Corrugated Polyethylene Pipe
D.B.H.	Diameter Breast Height
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
E.B.	Eastbound
EJ.	Expansion Joint
ELEV.	Elevation
E.R.C.P.	Elliptical Reinforced Concrete Pipe
ES.	End Section
EX. or EXIST.	Existing
FT.	Feet
F or FL.	Flowline
FWD.	Forward
G.	Gas
H.E.R.C.P.	Horizontal Elliptical Reinforced Concrete Pipe
HP.	High Point
HMA.	Hot Mix Asphalt
HT.	Height
IN.	Inch
INV.	Invert
L.	Length
LANDSC.	Landscaped
L.F.	Linear Feet
LP.	Low Point
LT.	Left
MAX.	Maximum.
MBT.	Metropolitan Branch Trail
MC.	Montgomery County
MOD.	Modified
MIN.	Minimum
N.	North
NB.	Northbound
NE.	Northeast
NTS.	Not To Scale
O.C.	On Center
OH.	Overhead
P.C.	Point of Curvature
P.C.C.	Point of Compound Curve
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
PE	Perpetual Easement
P.I.	Point of Intersection
P.O.B.	Point of Beginning
P.O.C.	Point on Curve
P.O.E.	Point of Ending
P.O.T.	Point on Tangent.
PROP.	Proposed
PT.	Point
P.T.	Point of Tangency
P.V.C.	Point of Vertical Curve
PVC	Polyvinyl Chloride
PVI	Point of Intersection
R.	Radius
RET. WALL	Retaining Wall
RT.	Right
ROW or R/W	Right of Way
R.C.P.	Reinforced Concrete Pipe
S.	South
SAN.	Sanitary Sewer
SB.	Southbound
SCH.	Schedule
S.D.	Storm Drain
S.E.	Superelevation
SF.	Silt Fence
S.F.	Square Feet
SSD.	Stopping Sight Distance
SSF	Super Silt Fence
STD.	Standard
STA.	Station
SO.	Single Opening
S.Y.	Square Yards
SWM	Storm Water Management
SW.	Sidewalk
T.	Tangent
T	Telephone
TCE	Temporary Construction Easement
T.C.P.	Terra Cotta Pipe
TYP.	Typical
U.P.	Utility Pole
VAR.	Varies
V.C.L.	Vertical Curve Length
W.	Water
W	West
WB.	Westbound

DRAINAGE BUBBLES (SAMPLES)

INLET	I / 1
MANHOLE	MH / 1
JUNCTION BOX	JB / 1
FIELD CONNECTION	C / 1
BEND	B / 1
END SECTION	ES / 1
END WALL	EW / 1
ADJUST EX. STRUCTURE	A / 1

DRAINAGE STRUCTURE STAKEOUT LOCATION



X DENOTES LOCATION OF STATION/OFFSET POINT FOR INLETS OTHER AND STRUCTURES.

MCDPS-SC/SWM SHEET NO. OF 7

MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES APPROVED FOR:

STORMWATER MANAGEMENT	SEDIMENT CONTROL TECHNICAL REQUIREMENTS	ADMINISTRATIVE REQUIREMENTS
FULL WAIVER		Reviewed Date 281510
Reviewed Date	Reviewed Date	SEDIMENT CONTROL PERMIT NO.
Approved Date 241070	Approved Date	MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.
S.W. FILE NO.		

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

DPS APPROVAL OF A SEDIMENT CONTROL OR STORMWATER MANAGEMENT PLAN IS FOR DEMONSTRATED COMPLIANCE WITH MINIMUM ENVIRONMENTAL RUNOFF TREATMENT STANDARDS AND DOES NOT CREATE OR IMPLY ANY RIGHT TO DIVERT OR CONCENTRATE RUNOFF ONTO 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.

LG-01

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

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: DTB Checked by: JAG

LEGEND AND ABBREVIATIONS

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 3 of 31

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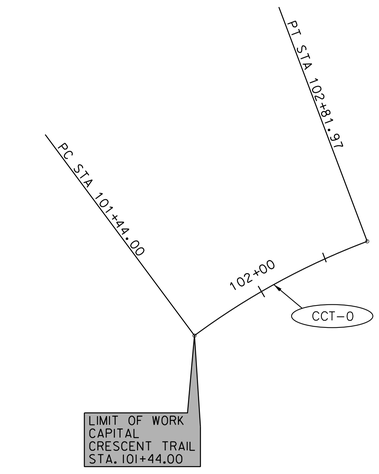
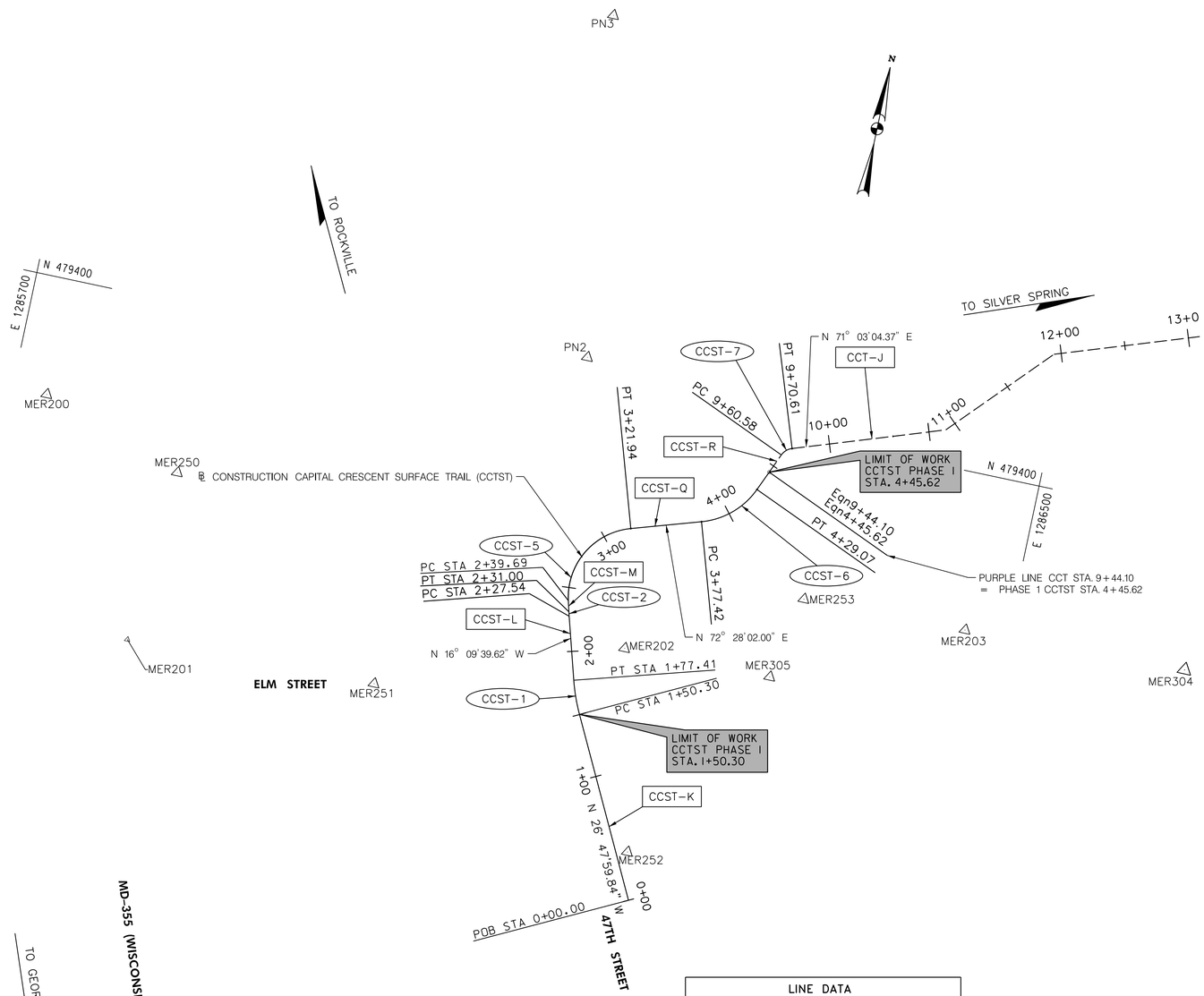
CONSTRUCTION CONTROL COORDINATES				
CURVE	DESCRIPTION	STATION	NORTH	EAST
℄ CONSTRUCTION CAPITAL CRESCENT TRAIL (CCT)				
	POB	101+44.00	478,884.5470	1,285,330.6700
	PC	101+44.00	478,884.5470	1,285,330.6700
CCT-0	PI	102+13.43	478,936.6469	1,285,376.5661
	PT	102+81.97	478,974.1583	1,285,434.9934
℄ CONSTRUCTION CAPITAL CRESCENT TRAIL SURFACE TRAIL (CCTST)				
	POB	0+00.00	479,016.6056	1,286,253.9869
CCST-1	PC	01+50.30	479,150.7581	1,286,186.2217
	PI	01+63.89	479,162.8920	1,286,180.0925
	PT	01+77.41	479,175.9488	1,286,176.3087
	PC	02+27.54	479,224.1030	1,286,162.3542
CCST-2	PI	02+29.27	479,225.7630	1,286,161.8731
	PT	02+31.00	479,227.4339	1,286,161.4315
	PC	02+39.69	479,235.8404	1,286,159.2097
CCST-5	PI	02+91.18	479,285.6192	1,286,146.0533
	PT	03+21.94	479,301.1301	1,286,195.1495
	PC	03+77.42	479,317.8426	1,286,248.0494
CCST-6	PI	04+04.97	479,326.1412	1,286,274.3167
	PT	04+29.07	479,351.4709	1,286,285.1447
	PC	9+60.58	479,381.8381	1,286,298.1262
*CCST-7	PI	9+65.91	479,386.7399	1,286,300.2216
	PT	9+70.61	479,388.4710	1,286,305.2636
	POE	10+78.29	479,423.4365	1,286,407.1064

*CONSTRUCTED BY OTHERS





CURVE DATA									
CURVE	PI STATION	DELTA	Dc	R	L	T	E	PI NORTH	PI EAST
℄ CONSTRUCTION CCT									
CCT-0	102+13.43	15° 55'16.11" RT	11° 32'22.44"	496.52'	137.97'	69.43'	4.83'	478,936.6469	1,285,376.5661
℄ CONSTRUCTION CAPITAL CRESCENT SURFACE TRAIL (CCST)									
CCST-1	01+63.89	10° 38'20.22" RT	39° 14'37.26"	146.00'	27.11'	13.59'	0.63'	479,162.8920	1,286,180.0925
CCST-2	02+29.27	1° 21'23.16" RT	39° 14'37.26"	146.00'	3.46'	1.73'	0.01'	479,225.7630	1,286,161.8731
CCST-5	02+91.18	87° 16'18.46" RT	106° 06'11.86"	54.00'	82.25'	51.49'	20.61'	479,285.6192	1,286,146.0533
CCST-6	04+04.97	49° 19'16.90" LT	95° 29'34.68"	60.00'	51.65'	27.55'	6.02'	479,326.1412	1,286,274.3167
*CCST-7	09+65.91	47° 54'19.27" RT	477° 27'53.39"	12.00'	10.03'	5.33'	1.13'	479,386.7399	1,286,300.2216

*CONSTRUCTED BY OTHERS

SURVEY CONTROL			
TRAVERSE	ELEVATION	NORTH	EAST
MER200	348.07'	479308.4972	1285727.4761
MER201	349.72'	479134.3476	1285828.9098
MER202	340.47'	479208.5972	1286210.0547
MER203	332.48'	479277.9673	1286466.9416
MER250	349.34'	479270.0557	1285839.8794
MER251	345.55'	479140.7929	1286024.4458
MER252	345.04'	479053.4526	1286245.3189
MER253	336.02	479275.3715	1286338.9041
MER304	328.86'	479283.3227	1286641.0241
MER305	337.39'	479210.4102	1286325.4389
PN2	341.72'	479424.8361	1286134.2157
PN3	350.73'	479690.3228	1286098.4358

LINE DATA		
LINE	LENGTH	BEARING
CCST-K	150.30'	N 26° 47'59.84" W
CCST-L	50.14'	N 16° 09'39.62" W
CCST-M	8.70'	N 14° 48'16.47" W
CCST-Q	55.48'	N 72° 28'02.00" E
CCST-R	33.03'	N 23° 08'45.10" E
*CCST-J	107.68'	N 71° 03'04.37" E

*CONSTRUCTED BY OTHERS

NOTES

1. HORIZONTAL DATUM: NAD 83(1991) VERTICAL DATUM: NAVD 88.

LEGEND	
X-A	HORIZONTAL LINE ID NUMBER
X-1	HORIZONTAL CURVE ID NUMBER

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: SAZ Checked by: PHD

GEOMETRY SHEET

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1" = 50' MAY 2021

Project No. : 501316 SHEET 4 of 31

GS-01

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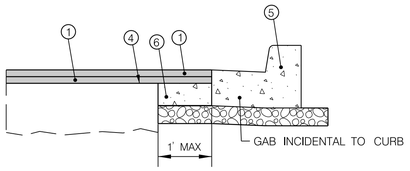
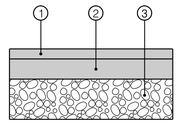
PAVEMENT LEGEND

1. 1.5" SUPERPAVE ASPHALT MIX 9.5MM FOR SURFACE, PG 64S–22, LEVEL 2
2. 3" SUPERPAVE ASPHALT MIX 19.0 MM FOR BASE PG 64S–22, LEVEL 2
3. 6" GRADED AGGREGATE BASE COURSE
4. EXISTING PAVEMENT SURFACE AFTER 3" CARBIDE GRINDING (TWO PASSES OF GRINDING ASPHALT 0"–2" ITEM)
5. STD. NO. MC 100.01 TYPE 'A' COMBINATION CONCRETE CURB & GUTTER
6. 5" CONCRETE INCIDENTAL TO CURB AND GUTTER PER STANDARD NO. MD 580.03



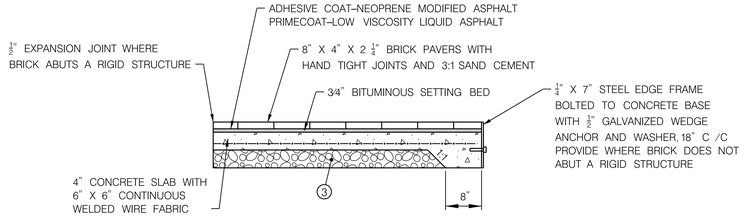
PAVEMENT DETAIL 'A'

COMBINATION CURB AND GUTTER
(ELM STREET /47TH STREET)



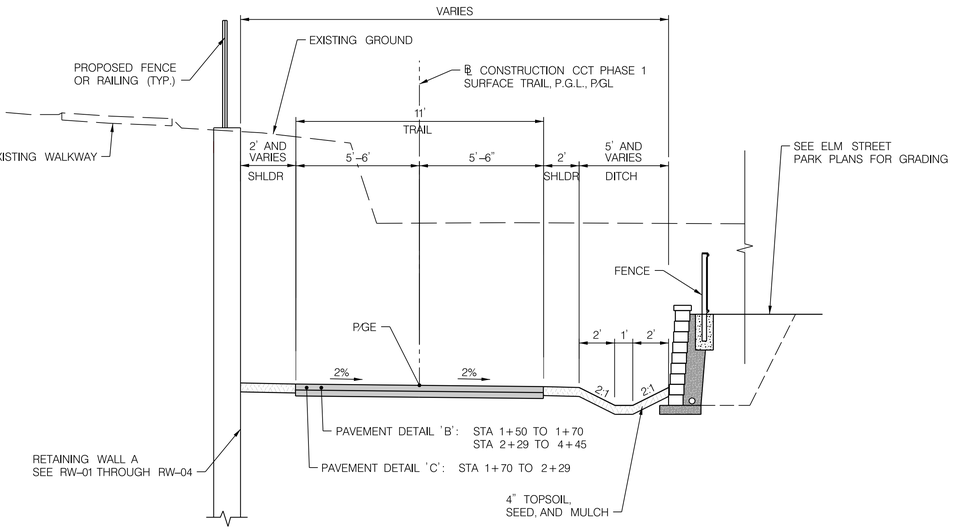
PAVEMENT DETAIL 'B'

FULL DEPTH TRAIL PAVEMENT



PAVEMENT DETAIL 'C'

BRICK PAVER SIDEWALK



CCT PHASE 1 SURFACE TRAIL

STA. 1+50.30 TO STA. 4+45.62

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TS-01

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: DTB Checked by: PHD

CCT SURFACE TRAIL
TYPICAL SECTION AND DETAILS

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 5 of 31

STORM DRAIN STRUCTURE SCHEDULE

STRUCTURE NO.	STATION	OFFSET	INV. IN	INV. OUT	TOP ELEV.	TOP ELEV. REMARKS	TYPE	STD. REF.
I-1-2	2+03	22.8' LT.	-	336.75	341.93	TG	PRECAST TRIPLE WR INLET	MD 374.26
I-1-3	2+19	24.4' LT.	337.00	336.75	341.77	TG	STD TYPE S INLET, DOUBLE GRATE	MD 374.70
I-1-4	2+24	50.0' LT.	-	337.50	342.55	TG	STD TYPE S INLET, DOUBLE GRATE	MD 374.70
I-1-5	3+95	71.9' RT.	-	332.50	336.75	TG	DOME CAP INLET	-
I-1-6	3+54	10.5' RT.	-	332.33	333.50	TG	PVC GRATE INLET	-
I-1-7	3+74	15.5' RT.	332.22	332.22	335.25	TG	PVC GRATE INLET	-
I-1-8	4+12	15.0' RT.	331.98	331.98	333.50	TG	PVC GRATE INLET	-
I-1-9	9+81	25.6' RT.	327.75	327.75	332.75	TG	DOME CAP INLET	-
I-1-10	9+47	10.5' RT.	-	327.68	329.00	TG	PVC GRATE INLET	-
MH-1-1	2+10	7.0' LT.	336.33/336.33	336.19	341.50	TS	48" SQUARE STANDARD SHALLOW MANHOLE	MD 383.00
MH-1-2	3+96	76.9' RT.	332.50/332.49	332.40	337.25	TS	48" DIAMETER PRECAST MANHOLE	MD 384.01
CO-1-1	3+57	15.0' RT.	332.31	332.31	336.60	TS	CLEANOUT	-
CO-1-2	3+93	18.9' RT.	332.10	332.10	334.80	TS	CLEANOUT	-
CO-1-3	3+91	27.3' RT.	-	335.03	336.90	TS	CLEANOUT	-
CO-1-4	3+92	23.4' RT.	335.00	333.00	336.00	TS	CLEANOUT	-
CO-1-5	4+42	28.9' RT.	332.68	332.68	334.00	TS	CLEANOUT	-
CO-1-6	4+45	33.9' RT.	332.66/333.25	327.82	334.25	TS	CLEANOUT	-
CO-1-7	9+53	8.9' RT.	327.65/327.65	327.65	330.50	TS	CLEANOUT	-
CO-1-8	4+38	38.1' RT.	-	333.81	335.46	TS	CLEANOUT	-
ES-1-1	9+50	28.1' RT.	-	331.75	–	-	END SECTION FOR PLASTIC PIPE	-

TYPE A COMBINATION CONCRETE CURB AND GUTTER (STD. NO. MC 100.01)

STATION	LF	REMARKS
1+66.72 TO 2+24.22	60	CCT SURFACE TRAIL LEFT

DETECTABLE WARNING SURFACE (STD. NO. MD-655.40)

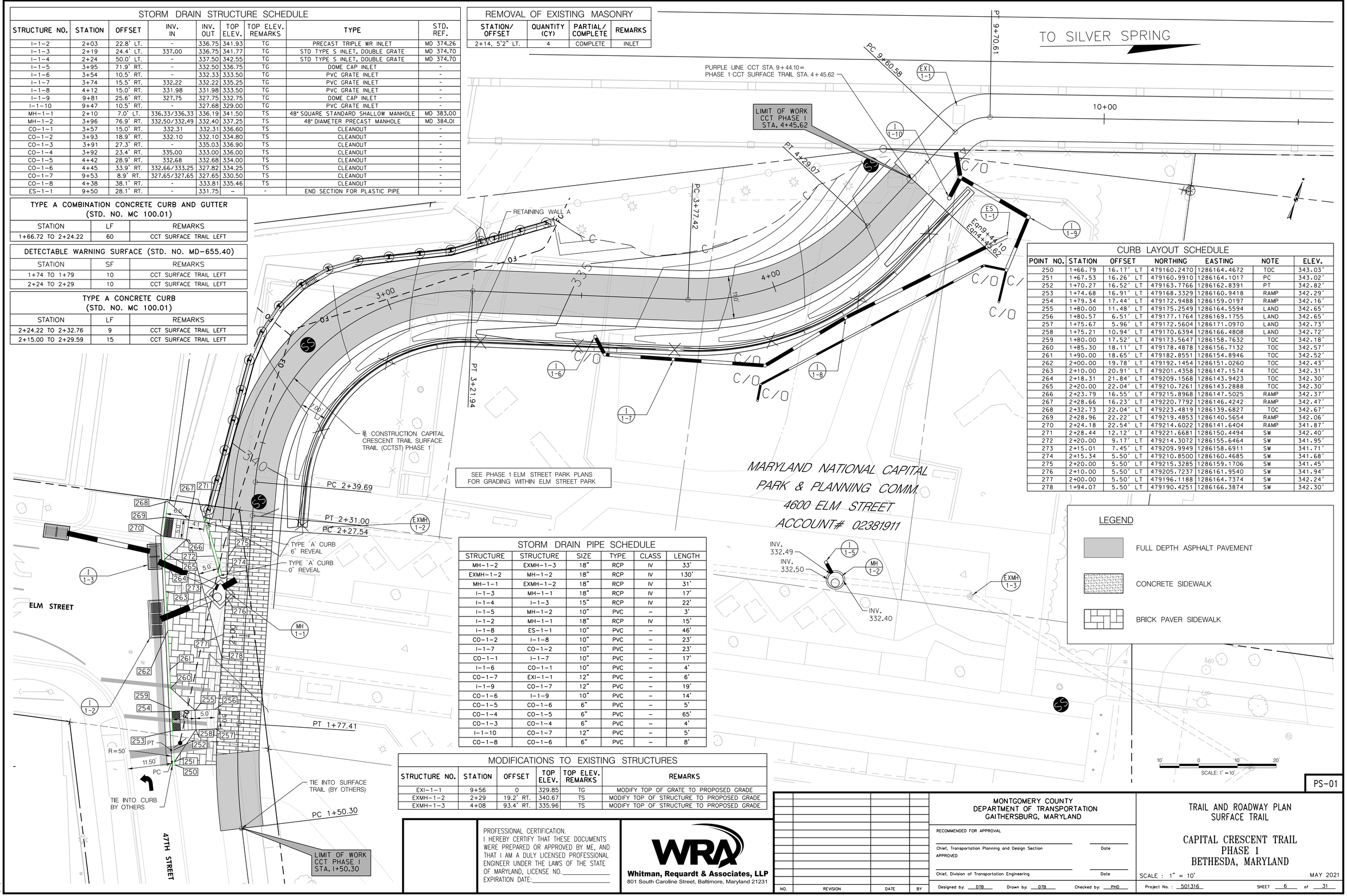
STATION	SF	REMARKS
1+74 TO 1+79	10	CCT SURFACE TRAIL LEFT
2+24 TO 2+29	10	CCT SURFACE TRAIL LEFT

TYPE A CONCRETE CURB (STD. NO. MC 100.01)

STATION	LF	REMARKS
2+24.22 TO 2+32.76	9	CCT SURFACE TRAIL LEFT
2+15.00 TO 2+29.59	15	CCT SURFACE TRAIL LEFT

REMOVAL OF EXISTING MASONRY

STATION/ OFFSET	QUANTITY (CY)	PARTIAL/ COMPLETE	REMARKS
2+14, 5'2" LT.	4	COMPLETE	INLET



CURB LAYOUT SCHEDULE

POINT NO.	STATION	OFFSET	NORTHING	EASTING	NOTE	ELEV.
250	1+66.79	16.17' LT	479160.2470	1286164.4672	TOC	343.03'
251	1+67.53	16.26' LT	479160.9910	1286164.1017	PC	343.02'
252	1+70.27	16.52' LT	479163.7766	1286162.8391	PT	342.82'
253	1+74.68	16.91' LT	479168.3329	1286160.9418	RAMP	342.29'
254	1+79.34	17.44' LT	479172.9488	1286159.0197	RAMP	342.16'
255	1+80.00	11.48' LT	479175.2549	1286164.5594	LAND	342.65'
256	1+80.57	6.51' LT	479177.1764	1286169.1755	LAND	342.65'
257	1+75.67	5.96' LT	479172.5604	1286171.0970	LAND	342.73'
258	1+75.21	10.94' LT	479170.6394	1286166.4808	LAND	342.72'
259	1+80.00	17.52' LT	479173.5647	1286158.7632	TOC	342.18'
260	1+85.30	18.11' LT	479178.4878	1286156.7132	TOC	342.57'
261	1+90.00	18.65' LT	479182.8551	1286154.8946	TOC	342.52'
262	2+00.00	19.78' LT	479192.1454	1286151.0260	TOC	342.43'
263	2+10.00	20.91' LT	479201.4358	1286147.1574	TOC	342.31'
264	2+18.31	21.84' LT	479209.1568	1286143.9423	TOC	342.30'
265	2+20.00	22.04' LT	479210.7261	1286143.2888	TOC	342.30'
266	2+23.79	16.55' LT	479215.8968	1286147.5025	RAMP	342.37'
267	2+28.66	16.23' LT	479220.7792	1286146.4242	RAMP	342.47'
268	2+32.73	22.04' LT	479223.4819	1286139.6827	TOC	342.67'
269	2+28.96	22.22' LT	479219.4853	1286140.5654	RAMP	342.06'
270	2+24.18	22.54' LT	479214.6022	1286141.6404	RAMP	341.87'
271	2+28.44	12.12' LT	479221.6681	1286150.4494	SW	342.40'
272	2+20.00	9.17' LT	479214.3072	1286155.6464	SW	341.95'
273	2+15.01	7.45' LT	479209.9949	1286158.6911	SW	341.71'
274	2+15.34	5.50' LT	479210.8500	1286160.4685	SW	341.68'
275	2+20.00	5.50' LT	479215.3285	1286159.1706	SW	341.45'
276	2+10.00	5.50' LT	479205.7237	1286161.9540	SW	341.94'
277	2+00.00	5.50' LT	479196.1188	1286164.7374	SW	342.24'
278	1+94.07	5.50' LT	479190.4251	1286166.3874	SW	342.30'

STORM DRAIN PIPE SCHEDULE

STRUCTURE	STRUCTURE	SIZE	TYPE	CLASS	LENGTH
MH-1-2	EXMH-1-3	18"	RCP	IV	33'
EXMH-1-2	MH-1-2	18"	RCP	IV	130'
MH-1-1	EXMH-1-2	18"	RCP	IV	31'
I-1-3	MH-1-1	18"	RCP	IV	17'
I-1-4	I-1-3	15"	RCP	IV	22'
I-1-5	MH-1-2	10"	PVC	–	3'
I-1-2	MH-1-1	18"	RCP	IV	15'
I-1-8	ES-1-1	10"	PVC	–	46'
CO-1-2	I-1-8	10"	PVC	–	23'
I-1-7	CO-1-2	10"	PVC	–	23'
CO-1-1	I-1-7	10"	PVC	–	17'
I-1-6	CO-1-1	10"	PVC	–	4'
CO-1-7	EXI-1-1	12"	PVC	–	6'
I-1-9	CO-1-7	12"	PVC	–	19'
CO-1-6	I-1-9	10"	PVC	–	14'
CO-1-5	CO-1-6	6"	PVC	–	5'
CO-1-4	CO-1-5	6"	PVC	–	65'
CO-1-3	CO-1-4	6"	PVC	–	4'
I-1-10	CO-1-7	12"	PVC	–	5'
CO-1-8	CO-1-6	6"	PVC	–	8'

MODIFICATIONS TO EXISTING STRUCTURES

STRUCTURE NO.	STATION	OFFSET	TOP ELEV.	TOP ELEV. REMARKS	REMARKS
EXI-1-1	9+56	0	329.85	TG	MODIFY TOP OF GRATE TO PROPOSED GRADE
EXMH-1-2	2+29	19.2' RT.	340.67	TS	MODIFY TOP OF STRUCTURE TO PROPOSED GRADE
EXMH-1-3	4+08	93.4' RT.	335.96	TS	MODIFY TOP OF STRUCTURE TO PROPOSED GRADE

LEGEND

- FULL DEPTH ASPHALT PAVEMENT
- CONCRETE SIDEWALK
- BRICK PAVER SIDEWALK

PROFESSIONAL CERTIFICATION.
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: DTB Drawn by: DTB Checked by: PHD

TRAIL AND ROADWAY PLAN
SURFACE TRAIL

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1" = 10' MAY 2021

Project No. : 501316 SHEET 6 of 31

PS-01

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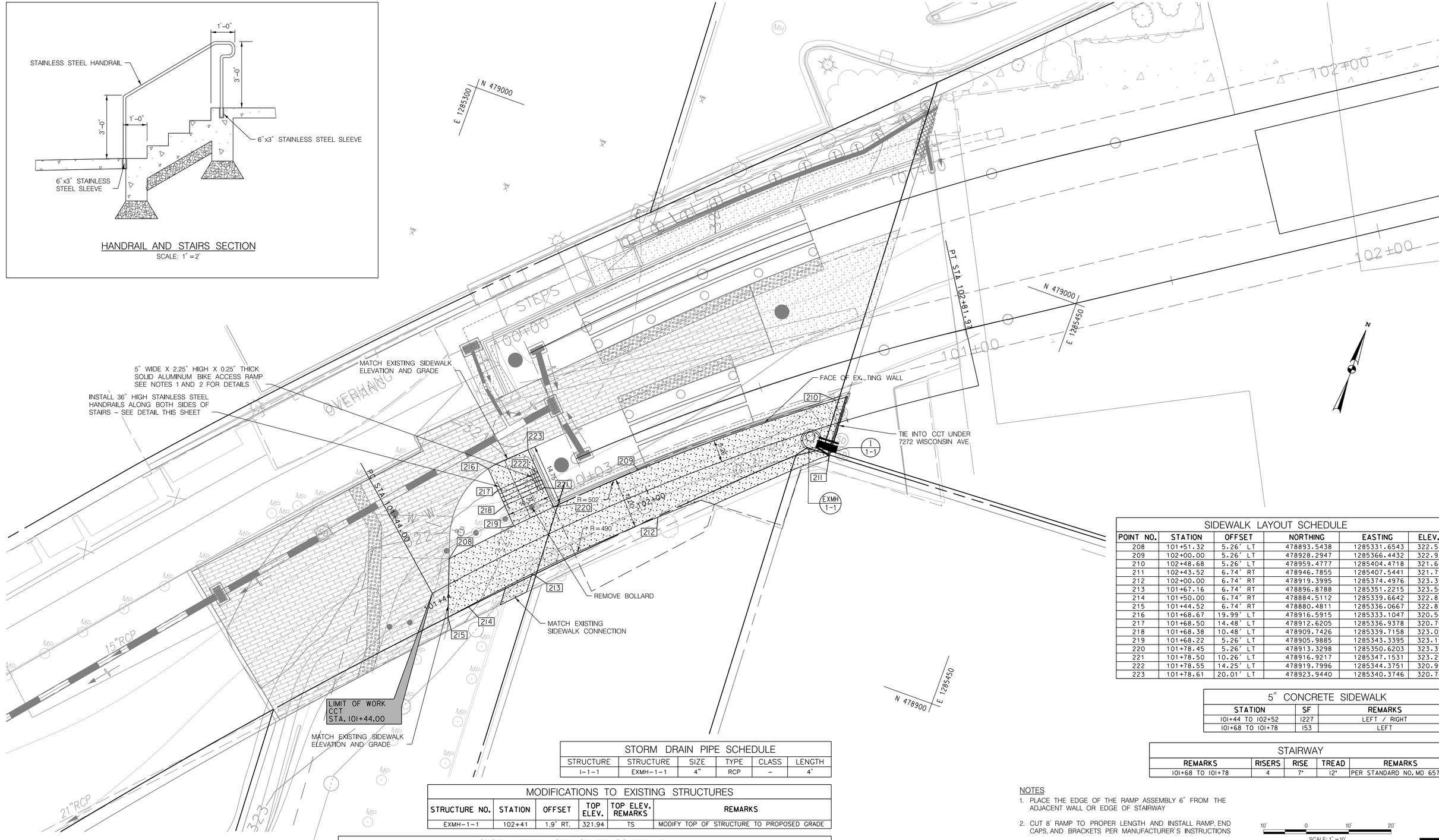
HANDRAIL AND STAIRS SECTION

SCALE: 1" = 2'



SIDEWALK LAYOUT SCHEDULE					
POINT NO.	STATION	OFFSET	NORTHING	EASTING	ELEV.
208	101+51.32	5.26' LT	478893.5438	1285331.6543	322.54'
209	102+00.00	5.26' LT	478928.2947	1285366.4432	322.93'
210	102+48.68	5.26' LT	478959.4777	1285404.4718	321.68'
211	102+43.52	6.74' RT	478946.7855	1285407.5441	321.79'
212	102+00.00	6.74' RT	478919.3995	1285374.4976	323.39'
213	101+67.16	6.74' RT	478896.8788	1285351.2215	323.50'
214	101+50.00	6.74' RT	478884.5112	1285339.6642	322.87'
215	101+44.52	6.74' RT	478880.4811	1285336.0667	322.82'
216	101+68.67	19.99' LT	478916.5915	1285333.1047	320.58'
217	101+68.50	14.48' LT	478912.6205	1285336.9378	320.76'
218	101+68.38	10.48' LT	478909.7426	1285339.7158	323.09'
219	101+68.22	5.26' LT	478905.9885	1285343.3395	323.19'
220	101+78.45	5.26' LT	478913.3298	1285350.6203	323.39'
221	101+78.50	10.26' LT	478916.9217	1285347.1531	323.29'
222	101+78.55	14.25' LT	478919.7996	1285344.3751	320.96'
223	101+78.61	20.01' LT	478923.9440	1285340.3746	320.78'

5" CONCRETE SIDEWALK		
STATION	SF	REMARKS
101+44 TO 102+52	1227	LEFT / RIGHT
101+68 TO 101+78	153	LEFT

STAIRWAY				
REMARKS	RISERS	RISE	TREAD	REMARKS
101+68 TO 101+78	4	7"	12"	PER STANDARD NO. MD 657.00

STORM DRAIN PIPE SCHEDULE					
STRUCTURE	STRUCTURE	SIZE	TYPE	CLASS	LENGTH
I-1-1	EXMH-1-1	4"	RCP	–	4'

MODIFICATIONS TO EXISTING STRUCTURES					
STRUCTURE NO.	STATION	OFFSET	TOP ELEV.	TOP ELEV. REMARKS	REMARKS
EXMH-1-1	102+41	1.9' RT.	321.94	TS	MODIFY TOP OF STRUCTURE TO PROPOSED GRADE

STORM DRAIN STRUCTURE SCHEDULE								
STRUCTURE NO.	STATION	OFFSET	INV. IN	INV. OUT	TOP ELEV.	TOP ELEV. REMARKS	TYPE	STD. REF.
I-1-1	102+47	0.8' RT.	–	320.90	321.79	TG	TRENCH DRAIN	–

NOTES

1. PLACE THE EDGE OF THE RAMP ASSEMBLY 6" FROM THE ADJACENT WALL OR EDGE OF STAIRWAY
2. CUT 8' RAMP TO PROPER LENGTH AND INSTALL RAMP, END CAPS, AND BRACKETS PER MANUFACTURER'S INSTRUCTIONS

10' 0 10' 20'

SCALE: 1" = 10'

LEGEND

CONCRETE SIDEWALK

EXISTING BRICK PAVER SIDEWALK – BY OTHERS

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Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: DTB Checked by: PHD

TRAIL AND ROADWAY PLAN
WOODMONT PLAZA

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 07 of 31

PS-02

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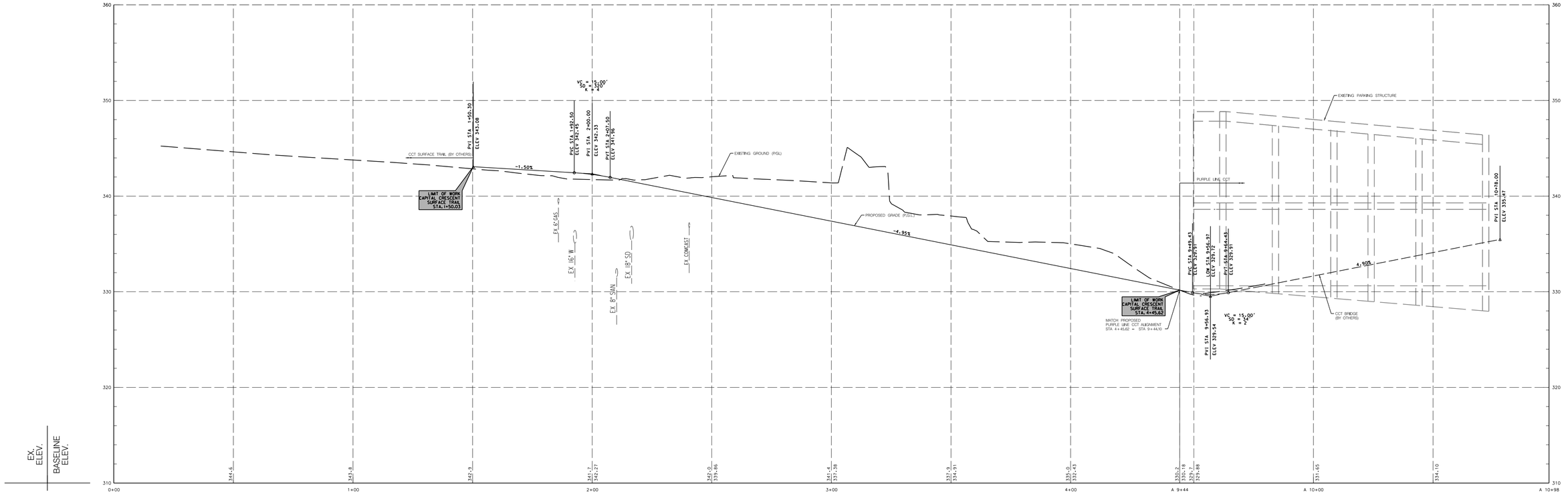

CCT SURFACE TRAIL PROFILE

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

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

PR01

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: DTB Checked by: PHD

TRAIL PROFILE - SURFACE TRAIL

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN — MAY 2021

Project No. : 501316 — SHEET 08 of 31

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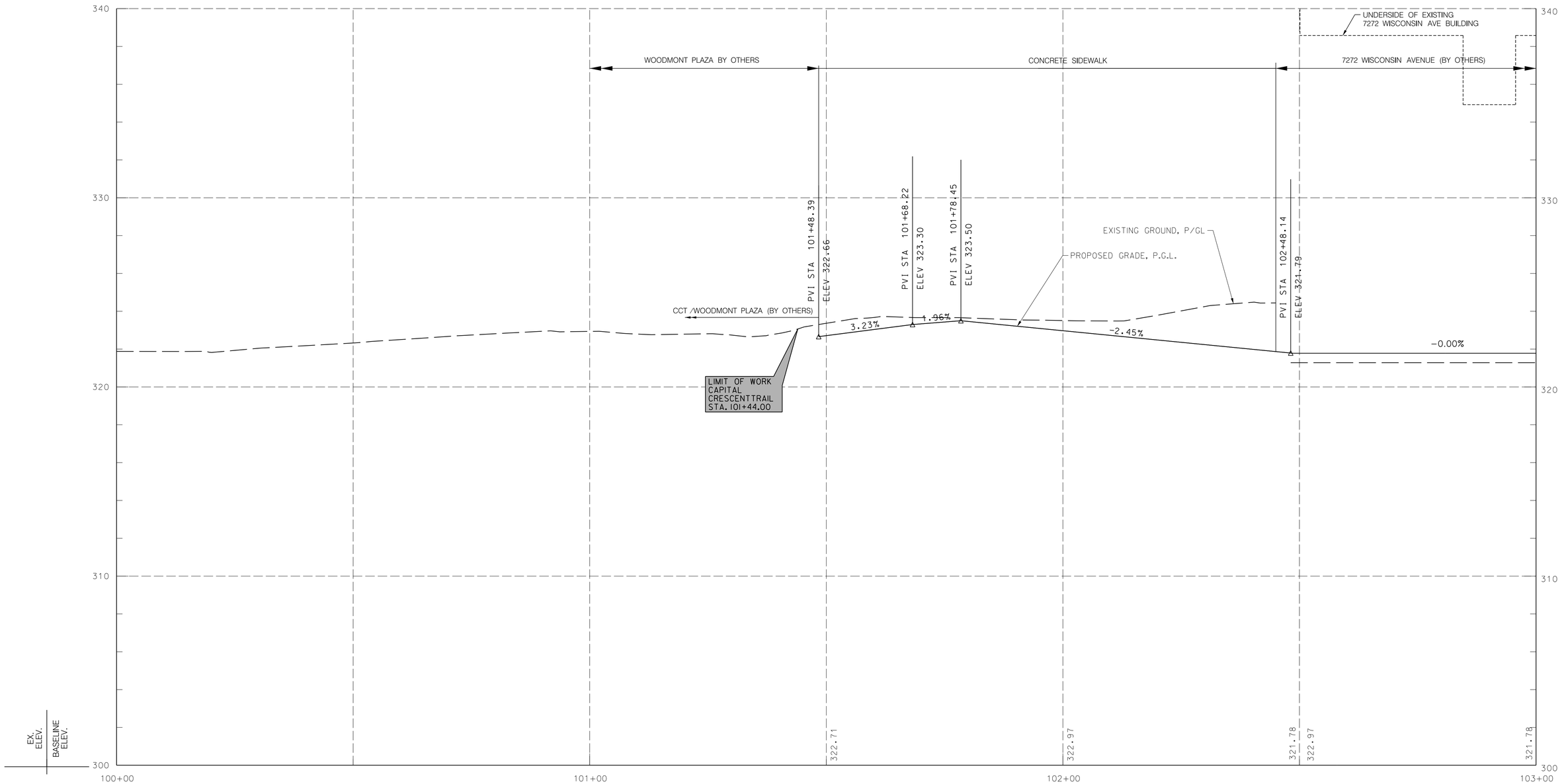

CCT TUNNEL PROFILE

VERTICAL SCALE 2.5' 0 2.5' 5' — SCALE: 1" = 2.5'

HORIZONTAL SCALE 10' 0 10' 20' — SCALE: 1" = 10'

PR-02

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GAITHERSBURG, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: DTB Drawn by: SAZ Checked by: PHD

TRAIL PROFILE – WOODMONT PLAZA

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 09 of 31

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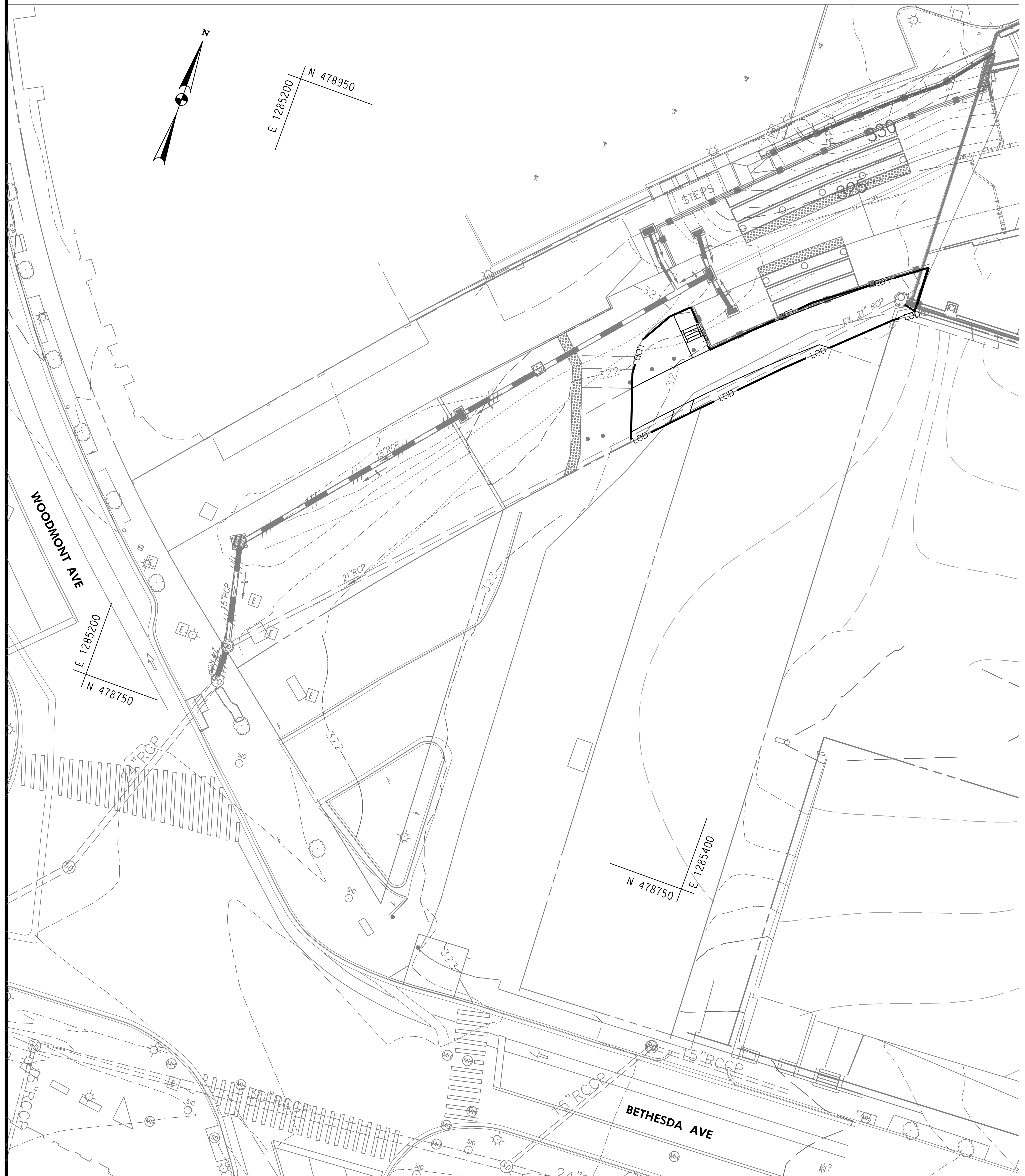

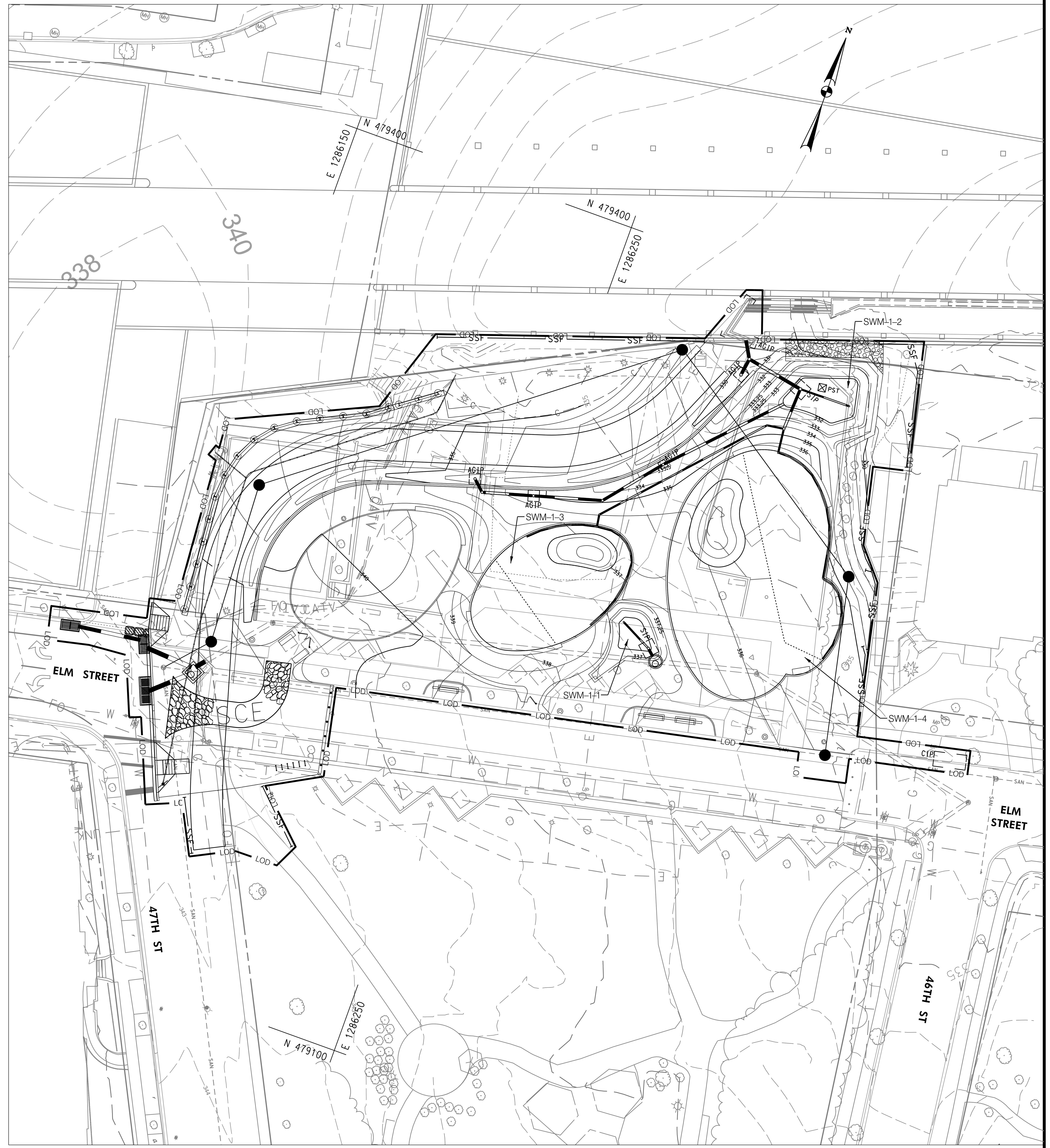

GENERAL NOTES:

1. NO AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS RUNOFF IS DIRECTED TO AN MCDPS APPROVED EROSION AND SEDIMENT CONTROL DEVICE. PROVIDE SAME DAY STABILIZATION FOR ALL DISTURBED AREAS NOT DRAINING TO AN APPROVED SEDIMENT CONTROL DEVICE.

2. WHERE NO SCE IS PROVIDED, THE CONTRACTOR SHALL EITHER CONDUCT ALL WORK FROM EXISTING PAVEMENT REACHING INTO THE WORK AREA OR DESIGNATE PIECES OF CONSTRUCTION EQUIPMENT THAT SHALL BE ALLOWED WITHIN THE LOD. THIS EQUIPMENT SHALL BE KEPT WITHIN THE LOD UNTIL THE PROPOSED WORK IS COMPLETE AND SHALL HAVE TREADS/TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL/LOAD OUT SHALL BE LIFTED FROM THE LOD.

3. EROSION AND SEDIMENT CONTROL DEVICES AND/OR MEASURES ARE TO REMAIN IN PLACE UNTIL THEIR REMOVAL IS APPROVED BY THE MCDPS INSPECTION. STABILIZE THE DISTURBED AREA.

LEGEND:

— LOD — LIMIT OF DISTURBANCE

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

RJM ENGINEERING

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DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WJ Drawn by: WJ Checked by: DZ

EP-01

PHASE 1 EROSION AND SEDIMENT CONTROL PLAN

CAPITAL CRESCENT TRAIL UNDER MD 355 BETHESDA, MARYLAND

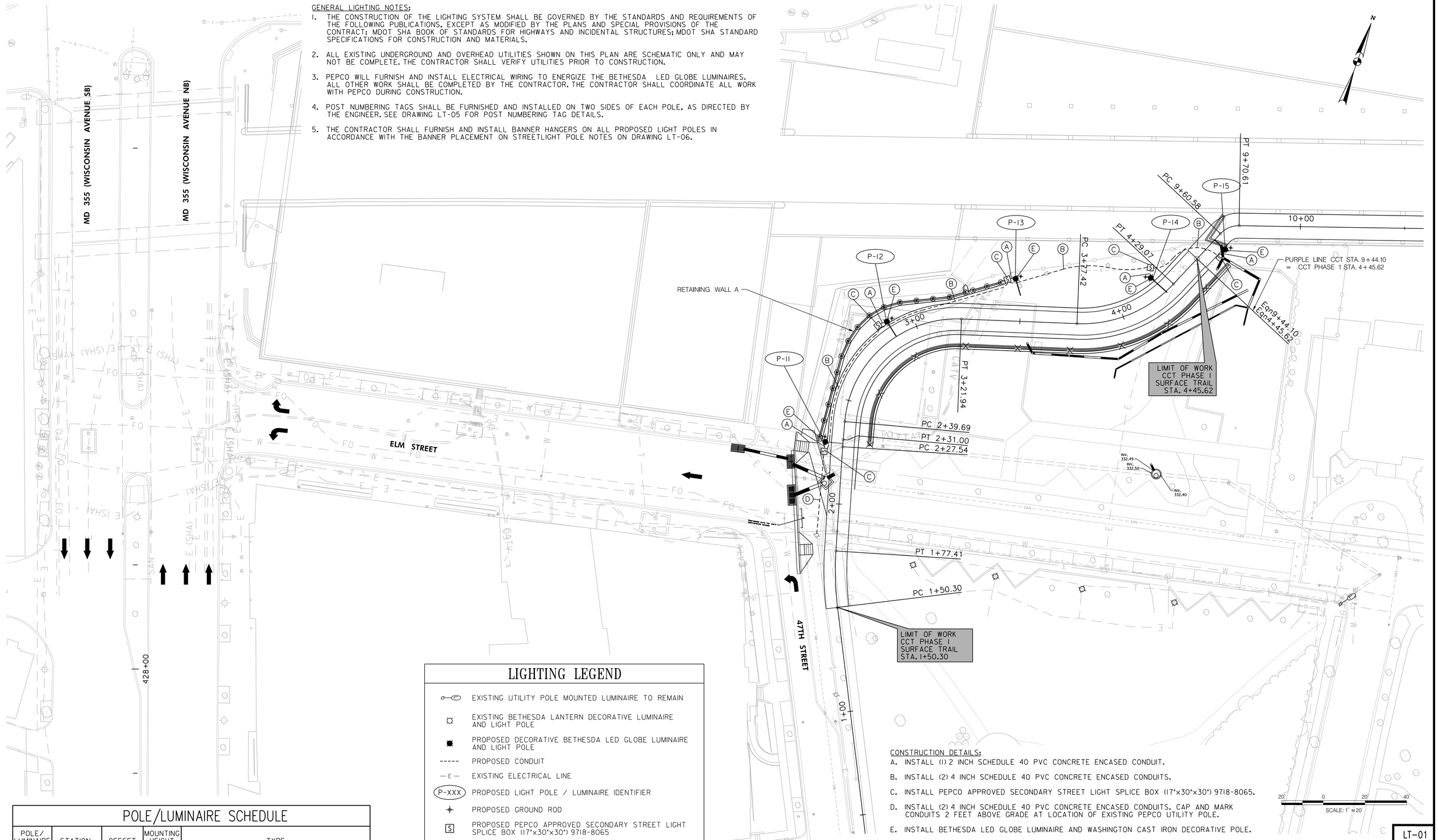
SCALE : 1"=20'-0" FEBRUARY 2020

Project No. : 501316 SHEET 21 of 169

$$$$DGNSPEC$$$$$$$$$$$$$$$$
$SYSDATETIME$

GENERAL LIGHTING NOTES:

1. THE CONSTRUCTION OF THE LIGHTING SYSTEM SHALL BE GOVERNED BY THE STANDARDS AND REQUIREMENTS OF THE FOLLOWING PUBLICATIONS, EXCEPT AS MODIFIED BY THE PLANS AND SPECIAL PROVISIONS OF THE CONTRACT: MDOT SHA BOOK OF STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES; MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS.
2. ALL EXISTING UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THIS PLAN ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL VERIFY UTILITIES PRIOR TO CONSTRUCTION.
3. PEPCO WILL FURNISH AND INSTALL ELECTRICAL WIRING TO ENERGIZE THE BETHESDA LED GLOBE LUMINAIRES. ALL OTHER WORK SHALL BE COMPLETED BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH PEPCO DURING CONSTRUCTION.
4. POST NUMBERING TAGS SHALL BE FURNISHED AND INSTALLED ON TWO SIDES OF EACH POLE, AS DIRECTED BY THE ENGINEER. SEE DRAWING LT-05 FOR POST NUMBERING TAG DETAILS.
5. THE CONTRACTOR SHALL FURNISH AND INSTALL BANNER HANGERS ON ALL PROPOSED LIGHT POLES IN ACCORDANCE WITH THE BANNER PLACEMENT ON STREETLIGHT POLE NOTES ON DRAWING LT-06.



LIGHTING LEGEND

- EXISTING UTILITY POLE MOUNTED LUMINAIRE TO REMAIN
- EXISTING BETHESDA LANTERN DECORATIVE LUMINAIRE AND LIGHT POLE
- PROPOSED DECORATIVE BETHESDA LED GLOBE LUMINAIRE AND LIGHT POLE
- PROPOSED CONDUIT
- EXISTING ELECTRICAL LINE
- (P-XXX) PROPOSED LIGHT POLE / LUMINAIRE IDENTIFIER
- PROPOSED GROUND ROD
- [S] PROPOSED PEPCO APPROVED SECONDARY STREET LIGHT SPLICE BOX (17"x30"x30") 9718-8065
- [EJB] EXISTING JUNCTION BOX

POLE/LUMINAIRE SCHEDULE

POLE/ LUMINAIRE NUMBER	STATION	OFFSET	MOUNTING HEIGHT (FEET)	TYPE
P-11	2+29.1	8.5' LT.	13'-0"	70 WATT BETHESDA LED GLOBE HARD-TOP ON WASHINGTON CAST IRON DECORATIVE POLE
P-12	3+89.1	8.5' LT.	13'-0"	70 WATT BETHESDA LED GLOBE HARD-TOP ON WASHINGTON CAST IRON DECORATIVE POLE
P-13	3+52.0	8.5' LT.	13'-0"	70 WATT BETHESDA LED GLOBE HARD-TOP ON WASHINGTON CAST IRON DECORATIVE POLE
P-14	112+59.7	10.6' LT.	13'-0"	70 WATT BETHESDA LED GLOBE HARD-TOP ON WASHINGTON CAST IRON DECORATIVE POLE
P-15	112+93.6	7.0' RT.	13'-0"	70 WATT BETHESDA LED GLOBE HARD-TOP ON WASHINGTON CAST IRON DECORATIVE POLE

CONSTRUCTION DETAILS:

A. INSTALL (1) 2 INCH SCHEDULE 40 PVC CONCRETE ENCASED CONDUIT.
B. INSTALL (2) 4 INCH SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS.
C. INSTALL PEPCO APPROVED SECONDARY STREET LIGHT SPLICE BOX (17"x30"x30") 9718-8065.
D. INSTALL (2) 4 INCH SCHEDULE 40 PVC CONCRETE ENCASED CONDUITS. CAP AND MARK CONDUITS 2 FEET ABOVE GRADE AT LOCATION OF EXISTING PEPCO UTILITY POLE.
E. INSTALL BETHESDA LED GLOBE LUMINAIRE AND WASHINGTON CAST IRON DECORATIVE POLE.

LT-01

PROFESSIONAL CERTIFICATION.
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Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN - PHASE 1

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1" = 20' MAY 2021

Project No. : 501316 SHEET 11 of 31

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MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

JUNE 2016

BETHESDA LED GLOBE LUMINAIRE

1) PURPOSE
The purpose of these specifications is to prescribe the minimum requirements for the design, manufacture, fabrication, finishing and delivery of Bethesda LED Globe luminaire. The Bethesda Globe luminaires are intended for use in urban streetscape areas. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and attached drawings.

2) DESCRIPTION
This luminaire shall be an outdoor decorative post top fixture, cylindrical in shape with and overall height of 42 +/- 1 inches and a maximum width of 19 +/- ½ inches at top (see attached drawings). All exterior and structural parts shall be cast of aluminum alloy. Exterior castings shall be cast in two pieces, have a smooth surface finish, and be free of mold lines. All components shall fit together snugly so as to provide weather-proof joints in the luminaire top. All visible metal components shall have raised surface decorations or ribs, as shown on the attached drawings, which are molded integrally with the base piece. Likewise, the hinges between the top and main body as well as between the driver cover and the base shall be cast integrally with the piece or bolted through the base piece. All metal parts shall be corrosion-proof. The luminaire shall come ready for quick and easy field assembly or fully assembled and shall include the following components:
   a) Lamp;
   b) Twist-Lock type photoelectric cell installed on the ballast cover;
   c) 120 Volt Driver with 10KV surge protection
   c) All necessary hardware and fasteners to assemble and secure on a 2 7/8 inch nominal diameter cast iron or aluminum tenon.

The luminaire must be able to accommodate a 120 volt drive and surge protector.

3) LENS
The lens shall consist of a seamless flat glass, not subject to deterioration by natural light. The lens shall have a continuous neoprene waterproof gasket at top. The gaskets shall fit into grooves molded into the top or over retaining rings molded inside the top plate.

4) METAL CAGE
The metal cage shall be constructed of die-cast A360 aluminum alloy. The metal cage shall have 4 legs each with a square decorative block with solid rectangular band around the top of the cage between each decorative block. The support columns shall consist of four (4) dual columns connecting the top and bottom of the fixture

5) HINGED LUMINAIRE TOP & OPTICAL SYSTEM
The hinged luminaire top shall consist of an LED optic assembly and all exterior components visible in plain view above the lens. The optical system shall be located in the top cover of the fixture. A gasket between the cover and the ring along with a flat glass plate and gasket beneath the LED panel and create a sealed optical compartment that will meet IP rating. The top must have an attached, removable brace to support the top when open. The optical system shall provide an IES asymmetric or symmetric full cut off distribution.

6) ELECTRICAL MODULE
The electrical components shall be mounted on a steel plate that is removable without use of tools. All components shall be plug-in. The housing door shall be hinged and be latched to provide east access to the electrical module. The housing door shall be fastened by a captive fastener.

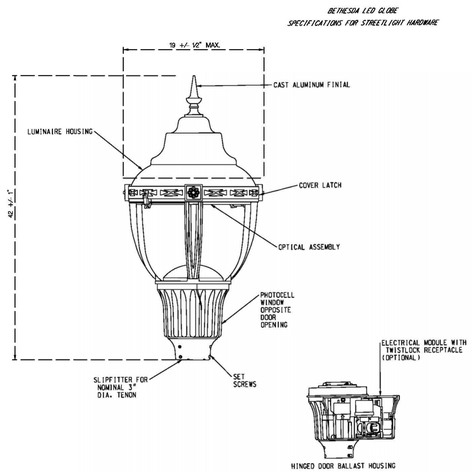
7) DRIVER and SURGE PROTECTOR
The driver shall be mounted to facilitate easy removal for maintenance operations. The driver shall be equipped with a 10KV Surge Protection and suppression system. All electrical connections shall be polarized and of plug-in design. The driver shall be wired to receive 120 volt AC current. The driver shall reliably start and operate the lamp in ambient temperatures down to minus 30 degrees. The terminal block shall be capable of accepting up to a #6 AWG wire.

8) LED Color Temperature (CCT) and Rendering Index (CRI)
The Correlated Color Temperature (CCT) shall be a nominal Kelvin Temperature of 3500K ± 200 K with a minimum Color Rendering Index (CRI) of 70.

9) PHOTOCELL
The photocell shall be a twist-lock and shall be mounted inside the fixture.

10) UNDERWRITERS LABORATORY LISTING
The entire luminaire assembly shall be U.L. listed and suitable for wet locations.

11) EXTERIOR FINISH
The exterior finish shall be "Federal Green" Federal Standard 595B Color # 14036 or Tiger Drylac #RAL6009 electrostatically-applied thermoset polyester powder coat.



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801 South Caroline Street, Baltimore, Maryland 21231

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GAITHERSBURG, MARYLAND

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

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 12 of 31

MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS

MAY 2010

DECORATIVE BETHESDA CAST STREETLIGHT POST

1) DESCRIPTION

The decorative Bethesda cast streetlight post is made of an integrally cast iron or cast aluminum, finished with a polyester powder coating. This streetlight post is intended for use at the curbside along selected roadways in the Bethesda Central Business District (CBD). Any manufacturer, distributor or vendor who submits bid shall agree to comply with these specifications.

Each pole shall be complete with the following:

a) Access plate with attaching hardware;
b) Anchor bolts, nuts, and washers (as specified);
c) Typical footing design specifications including but limited to, base template, anchor bolt dimensions, reinforcement and footer details;
d) One (1) pint can of touch-up paint, “Federal Green”, federal color 595B, # 14036.

2) DESIGN CRITERIA

2.1 AASHTO Standards

The decorative Bethesda streetscape cast streetlight post shall meet the requirements of the American Association of State Highway and Transportation Officials (AASHTO) Standard, “Specification for Structural supports for Highway Signs, Luminaires and Traffic Signals,” latest edition.

2.2 Wind Load

The decorative Bethesda streetscape cast streetlight post shall be designed to resist (at yield strength of the material without permanent deflection or destruction), test loads equivalent to the calculated wind loads developed by the velocity pressures of an 80 MPH wind with a 30% gust factor. A minimum safety factor of 1.82 on the yield strength shall be maintained.

2.3 Effective Projected Area (EPA)

The decorative bethesda streetscape cast streetlight post shall have a EPA allowable for the following assumptions:

a) Streetlight luminaire shall be assumed to be rectangular in shape with triangular shapes at the top and bottom, minimum length plus width of sixty-five (65) inches, when viewed from above.

b) The streetlight luminaire shall have a nominal mounting height of 16 feet above the base.

c) One or two (24" x 36") maximum traffic signs may be mounted with the sign’s bottom edge 7 feet above the base.

3) MATERIALS

3.1 Iron Casting

The lamp post shall be integrally cast as one piece and shall be cast iron per ASTM A-48--72, Class 30. The sections are to be indicated below. The castings are to be true to pattern, with 16 flutes separated by 16 flat facets. All ornamental components shall be cast iron.

3.2 Aluminum Casting

The lamp post may be cast in one piece, as described above, of aluminum alloy of the same details as described above and minimum wall thickness as described below. The alloy used in the casting shall have a minimum yield strength of 30,000 PSI and shall be heat treated as required to provide that yield strength.

3.3 Split Casting

The lamp post may be a multiple piece castings that are factory-assembled into one piece may be considered, provided that there are no gaps between any pieces of the assembly that would allow water seepage or rust. Prior written approval required for the method.

4) SHAFT

The entire shaft shall be straight within +/- 3/16 inch along the center axis of the shaft. Dimensions and wall thickness of the lamp post shall be as follows and as per the attached drawing:

A) Column at base - 5 3/4 inches outside diameter and ½ inch minimum wall thickness from outer edge of flute to inside wall.

B) Column at top - 3 1/4 inches outside diameter and 3/8 inch minimum wall thickness from outer edge of flute to inside wall .

C) Base at base - 17 inches outside diameter and ½" minimum wall thickness Flange 7/8" minimum thickness.

5) RECEPTACLE

The post shall incorporate a 15A120V GFI duplex receptacle with a waterproof cover, painted to match post. Receptacle shall be located 180 degrees from traffic flow and 6 inches from the bottom of the tenon.

6) HEIGHT

The height of the post, less tenon, shall be 13 feet 0 inches. The weight of the cast iron post with complete door assembly, shall be 460 lbs. +/- 5%. All castings shall be painted with a shop coat of iron oxide primer.

7) TENON

The top of the post shall be equipped with a luminaire mounting tenon integrally cast as a part of the post casting. The tenon shall measure 2 7/8" outside diameter and 2 5/8" long.

8) GROUNDING LUG

The post shall be drilled and tapped for a 1/4 inch - # 20 grounding screw, inside the lamp post and opposite the access door,

9) HANDHOLE

The post shall have an handhole/access door with minimum opening 7 inches high, 2 3/4 inch wide at the top and 7 inches wide at the bottom secured with stainless steel machine screw shall be provided in the base of the lamp post.

10) BOTTOM ACCESS HOLE

The base of the lamp post shall have an inside diameter sufficient to accommodate two four inch diameter schedule 40 PVC conduits at the bottom of the post, side by side, for streetlight wiring in accordance with utility company requirements.

11) ANCHOR BOLTS

Each post shall be furnished with four (4) anchor bolts, each 3/4 inch diameter x 24 inches long, plus a 3 inches "L" at the bottom. Each bolt shall be supplied with one (1) nut and one (1) washer. Bolts, nuts, and washers shall be fully hot dipped galvanized in accordance with ASTM A153.

12) FINISH

12.1 Cast Aluminum

The cast aluminum poles, access doors, and hardware shall be finished with a dark green electrostatically-applied thermoset polyester powder coat, color "Hadco J" or approved equal, as per the attached finish specification "ICS-2". One pint can of dark green touch-up enamel, color "Federal Green" or approved equal, shall be supplied.

12.2 Cast Iron

The cast iron poles and all components shall be supplied with one coat of oil-based red lead primer paint. Two (2) coats of enamel (“Federal Green”, federal color 595B, # 14036) shall be apply to each pole in the field.

13) POLE INFORMATION

The lamp pole shall be Spring City Washington # 13 or Approved equal.

LT-03

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 13 of 31

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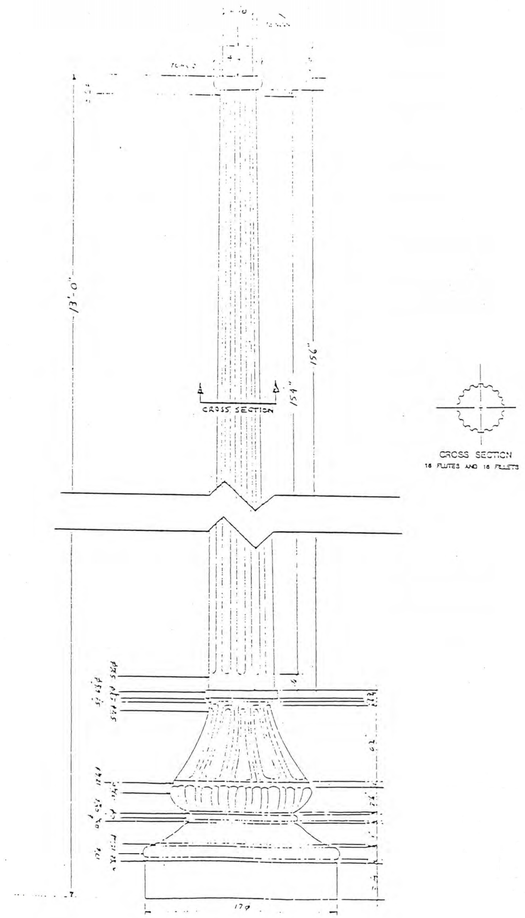
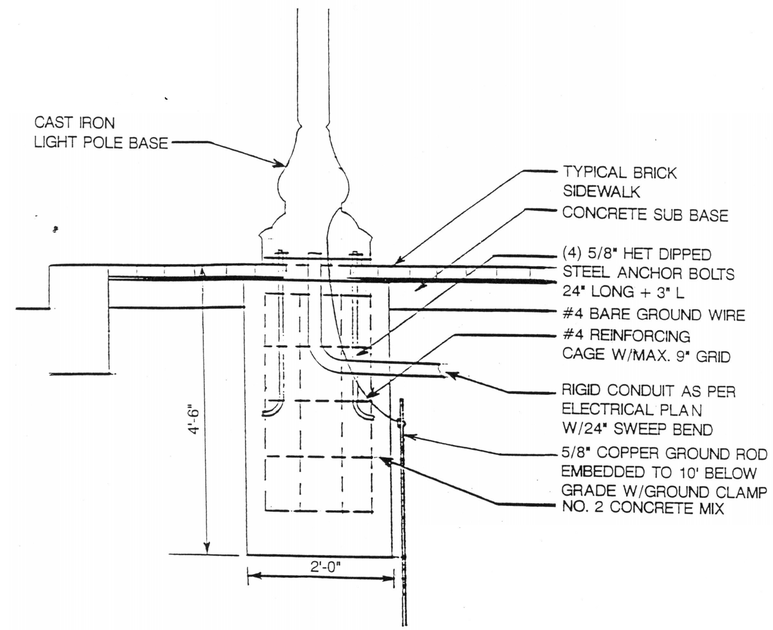
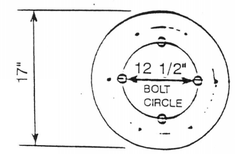


BETHESDA LANTERN
LIGHT POLE BASE
FOOTING DETAIL FOR 17" BASE
(IN UNDISTURBED SOIL)





LT-04

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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE — MAY 2021

Project No. : 501316 — SHEET 14 of 31

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MONTGOMERY COUNTY, MARYLAND
DEPARTMENT OF TRANSPORTATION
TRAFFIC ENGINEERING AND OPERATIONS SECTION

MAY 2010

STREETLIGHT POST NUMBERING TAGS

1) PURPOSE

The purpose of these specifications is to prescribe the minimum requirements for the design, manufacture, fabrication, finishing and delivery of streetlight post numbering tags. Any manufacturer, distributor or vendor who submits a bid shall agree to comply with these specifications and attached drawings.

2) DESIGN CRITERIA

The streetlight post numbering tags are to be made of aluminum and finished with a similar color coating as that of the streetlight pole it is to be rigidly attached to. This streetlight post numbering tag is intended for use on all streetlight post maintained by Montgomery County.

Each pole numbering tag shall comply to the following:

a) Be 2" wide and 12" long
b) Be a color similar to the streetlight pole
c) Have 5 numbers of an opposite color placed vertically
d) All White/Silver surfaces shall be made of retroreflective sheeting
e) All colored surfaces shall be nonreflective

3) MATERIALS

a) TAG

The streetlight post numbering tags shall be 12 inches X 2 inches, fabricated from clear anodized 1/16 inch thick aluminum. The edges shall be smooth and corners rounded and the tag shall fit the streetlight pole shaft.

b) REFLECTIVE AREAS

The streetlight post numbering tag reflective area shall conform to D4956, Type III retroreflective sheeting.

c) NONRELECTIVE AREAS The streetlight post numbering tags nonrelective areas shall be as follows:

a. Numbers on white/silver reflective post tag

b. Backing on all other streetlight post tags

4) MOUNTIING HEIGHT

The streetlight post numbering tag should be mounted at a height approximately 10 foot from the surrounding elevation of the ground, unless otherwise approved and directed by the Engineer.

5) MOUNTING ORIENTATION

The streetlight post numbering tag shall be oriented and rigidly mounted at a 30 to 45 degree angle, so that approaching traffic can readily observe the tags numbers.

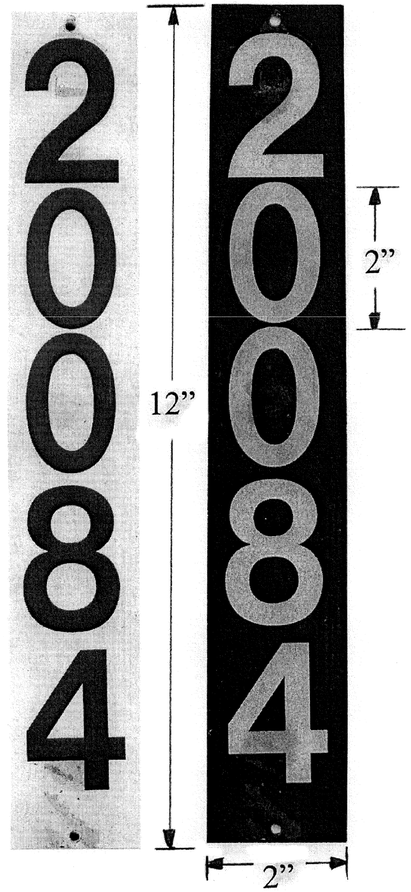
6) MOUNTING HARDHARE

The streetlight post numbering tag shall be secured to the shaft of the streetlight by a means of two (2) 1/8 inch diameter,18-8 stainless steel tamper-proof screw.

7) NUMBERS

The streetlight post numbering tag numbers shall be a minimum of 2 inch high with a minimum of a ¼ inch stroke width.

The streetlight post numbering tag numbers shall be a minimum of 2 inch high with a minimum of a ¼ inch stroke width.



LT-05

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:_____

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 15 of 31

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STREETLIGHT CONDUIT INSTALLATION CHECKLIST

1) FOUR INCH (4"), SCHEDULE 40, PVC CONDUIT TO BE INSTALLED BY THE CONTRACTOR CONNECTING EACH SPLICEBOX IN A CONTINUOUS RUN.

2) TWO INCH (2"), SCHEDULE 40, PVC CONDUIT TO BE INSTALLED BY THE CONTRACTOR CONNECTING THE SPLICEBOX TO THE STREETLIGHT FOOTING.

3) CONTRACTOR TO PROVIDE AND INSTALL PHOTOCELLS FOR EACH STREETLIGHT LUMINAIRE.

4) STREETLIGHT AND POST ERECTED BY THE CONTRACTOR ARE TO BE WIRED WITH # 10 AWG (MIN.) COPPER WITH A THREE FOOT MINIMUM LOOP OF SLACK IN THE SPLICEBOX FOR ATTACHMENT BY PEPCO.

5) STREETLIGHT POSTS ARE TO HAVE A GROUNDING LUG ATTACHED TO THE BASE OF THE POST WITH A MINIMUM THREE FOOT LOOP OF SLACK IN THE SPLICEBOX OF # 6 AWG BARE COPPER WIRE ATTACHED.

6) ALL SWEEPBENDS TO BE A MINIMUM OF 36 INCHES RADIUS.

7) ¼" NYLON PULL-LINE IS TO BE INSTALLED IN EACH CONDUIT DUCT.

8) CONTRACTOR TO INSTALL MARKING TAPE ONE FOOT (1') ABOVE EACH CONDUIT RUN.

9) NO MORE THAN 180 DEGREES OF BENDS IN A CONDUIT RUN.

10) CONDUIT IS TO HAVE THREE (3) FEET (MINIMUM)] OF COVER OVER IT.

11) INSTALLATION OF ALL UNDERGROUND LIGHTING FACILITIES ARE ALSO SUBJECT TO PEPCO INSPECTION AND WRITTEN APPROVAL BEFORE CONCEALMENT. FAILURE TO OBTAIN SUCH INSPECTION WILL RESULT IN THE UNCOVERING OF FACILITIES AT THE CONTRACTOR'S EXPENSE. CALL 301-670-8808 OR 301-670-8828 7:00 TO 9:00 AM OR 3:00 TO 4:00 PM TWO WORKING DAYS IN ADVANCE TO ARRANGE INSPECTION.

12) ALL STREETLIGHT EQUIPMENT AND MATERIALS SHALL BE SUBMITTED TO MCDPWT FOR APPROVAL PRIOR TO BEING INSTALLED ON THE PROJECT. SEE SPECIAL PROVISIONS FOR STREETLIGHT SPECIFICATION.

13) ALL STREETLIGHTS SHALL BE INSTALLED 2' 6" BEHIND THE FACE OF CURB (EXCEPT AS NOTED ON PLANS).

BANNER PLACEMENT ON STREETLIGHTS POLES

The banners shall conform to the following:

1) Shall be placed towards the sidewalk, away from the roadway.

2) Shall be placed a minimum of seven foot from the sidewalk to the bottom of the banner support.

3) Banner support straps shall be painted the same color of the streetlight pole banner is being placed on.

4) Banner shall not interfere with the operations of the streetlight.

5)

The following items shall be included in the submittal package

1) Copy of the graphics for the banner.

2) Size of the banner.

3) Pole location schematic.

CONTRACTOR FURNISHED EQUIPMENT NOTES:

PEPCO TO PROVIDE
ENERGY & CABLING

CONTRACTOR SHALL PROVIDE
LUMINAIRES, POLES, PHOTOCELLS,
FOOTINGS AND CONDUIT

CONTRACTOR TO PROVIDE
CONDUIT AS REQUESTED
BY PEPCO

REFER TO CONDUIT CHECKLIST
FOR ADDITIONAL INFORMATION

PEPCO TERMS & CONDITIONS:

1. Customer to obtain all permits/permissions required by others on private property.

2. All materials used are to conform to Pepco specifications. All work must be done in accordance with Pepco's standards and specifications.

3. Work to be done in a manner acceptable to Pepco and inspected by Pepco's Conduit Department before encasement or backfilling.
Call (202) 388-2635 two (2) weeks in advance to arrange pre-construction meeting and schedule inspection.
(Customer must first submit a drawing of the facilities to be built for Pepco and be approved by Pepco.) Call between 7-9 a.m. or 3-4 p.m.

4. Transformer pad (including grounding) is to be built in accordance with Pepco Specification Drawings
C.D.007.01, 2-2-0983._1.4, 2-2-0983_2.4, 2.2.0983_3.4, 2.2.0983_4.4, C.D.006.01, C.D.006.02 and built on level ground.
Ten feet (10') of clear space must be provided in front of the pad and three feet (3') on sides and back. Pad must be accessible from a road, drive or parking lot.

5. Conduit to be built in accordance with Pepco Specification Drawings No. 6-1-480 and C.D.001.01.

6. Sweepbends must have a radius of no less than 36".

7. Nylon pull lines to be installed in each duct for future cable installation.

8. Manholes to be constructed with 3000 PSI concrete.

9. No more than 180º of bends of duct line.

10. Conduit to have three feet (3') of cover (top of duct to finished grade).

11. Conduit to be encased in 2000 PSI concrete with pea gravel. No metallic materials (rebars, hold down wires, etc.) shall be permitted in spaces between each duct.

12. Customer to rod all conduits, clear any obstructions and provide nylon pull lines prior to the installation of Pepco cables.

13. Customer to coordinate exact depth and locations of all stub outs with Pepco construction.

14. Transformers to be located twenty (20) feet from Combustible Walls. See Pepco specification drawings C.D.006.01, C.D.006.02.

15. All on site structural facilities including conduit, splice boxes, transformer pads etc. provided, installed, owned and maintained by the customer.

16. Transformer ground grid to be #2 stranded, soft drawn copper tinned (60 feet), and 2 ft of 4/0 stranded, soft drawn copper tinned. Pads to be grounded in conformance with Pepco Specification Drawing number 2.2.0983_4.4 dated 05/05/09.

17. For locations of utilities, call 24 hours a day 1-800-257-7777, 48 hours in advance of any work in this vicinity.

18. The trough must have removable covers with provisions for seals, all removable covers to be handled by one man.

19. The Minimum mounting height for meters is 30 inches to the bottom of the meter glass. Maximum mounting height is 66 inches to the bottom of the glass.

20. All metering current transformer mounting dimensions, drillings, spacings and studs must comply with Pepco Specification Drawings 5-5-0606.1.1, 5-5-0695.1.3, 5-5-0695.2.3, 5-5-0695.3.3. The minimum acceptable dimensions, drillings, etc. for Pepco line connections to C/T cabinets/compartments (including safety barrier where applicable), mainline switches and main incoming bus cabinets/ compartments/ sections are shown on Pepco Purchase Specification Drawings 5-5-0606.1.1, 5-5-0695.1.3, 5-5-0695.2.3, 5-5-0695.3.3. Refer to: http://www.pepco.com/business/ and go to approved LV Switchgear (www.pepco.com/_res/documents/switchgear.pdf)

21. Hylugs used by Pepco require NEMA 2-hole spacing.

22. Pepco is to be notified 2 weeks (10 working days) before the setting of any poles, manholes, pouring of any concrete and/or the backfilling of any trench to make arrangements for the inspection and approval of your on site service connection structural equipment. Call (202) 388-2635 two (2) weeks in advance to arrange pre-construction meeting and schedule inspection.

23. All other underground utilities in the vicinity are to be shown. The minimum longitudinal and vertical separation between foreign structures and conduit set by Pepco shall be maintained:
- Telephone conduit - 3" concrete or 12" earth.
- Gas conduit under 16" diameter - 12"
- Gas conduit over 16" diameter - 18"
- Water and sewer - 4' horizontal in DC and 5' horizontal in MD, with 1' vertical clearance.

Maintain 5', 0" minimum (horizontal) and 1' 0" (vertical) clearance from all underground utilities.

24. The maximum size of a service conductor rated 600 volts or less shall not exceed 500 kcm for Copper or Aluminum conductor.

*Refer to www.pepco.com/business/ for the most up to date Pepco standards drawings and construction details and specifications.

CUSTOMER IS TO BUILD, OWN, AND MAINTAIN ALL STRUCTURAL FACILITIES ON PRIVATE PROPERTY.

LT-06

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:_____

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WRA Drawn by: WRA Checked by: WRA

LIGHTING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : NONE MAY 2021

Project No. : 501316 SHEET 16 of 31

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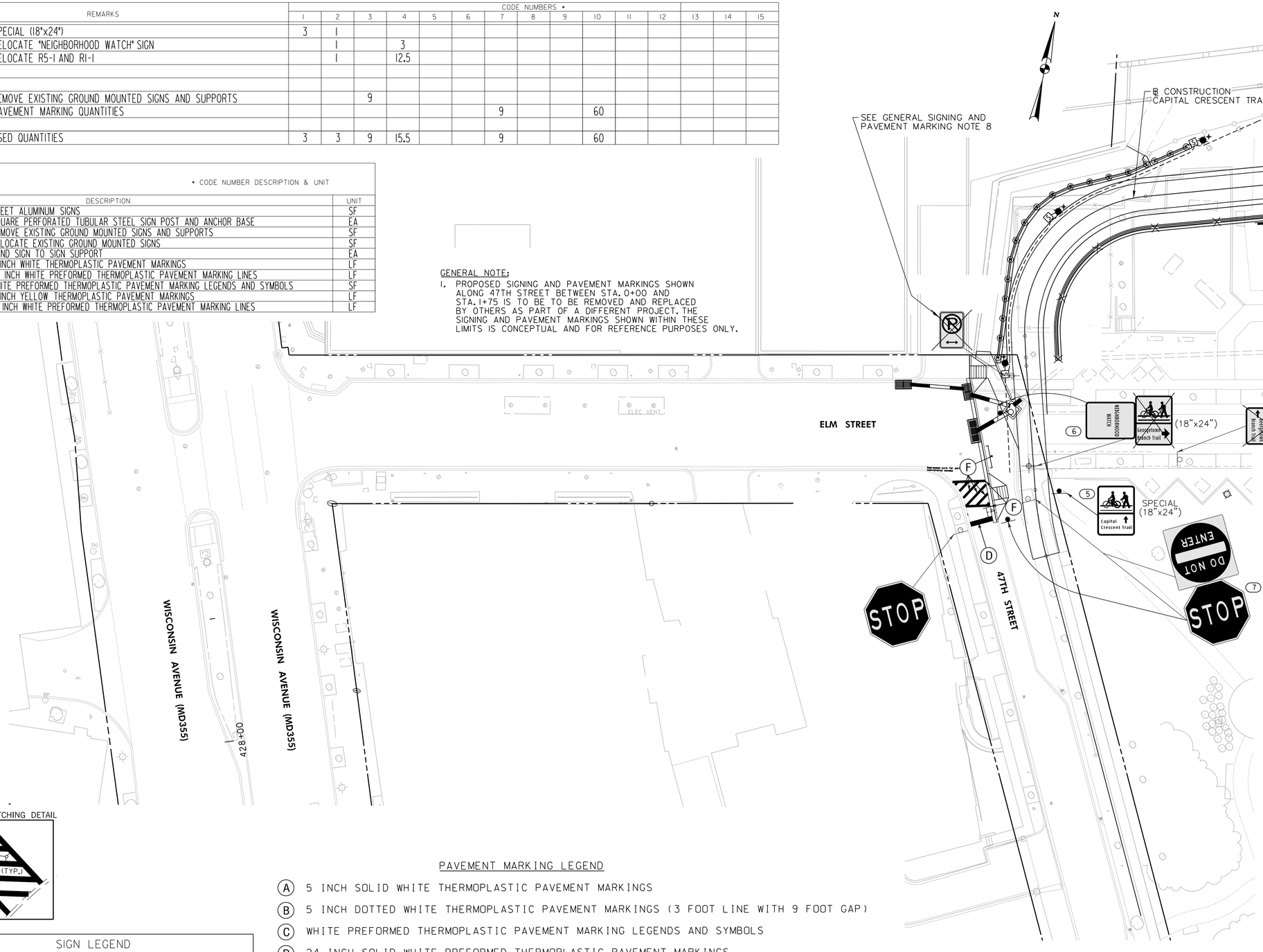
SHEET NO.	SIGN NO.	REMARKS	CODE NUMBERS •														
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
SN01	5	SPECIAL (18"x24")	3	1													
	6	RELOCATE "NEIGHBORHOOD WATCH" SIGN		1		3											
	7	RELOCATE R5-1 AND R1-1		1		12.5											
		REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS			9												
		PAVEMENT MARKING QUANTITIES							9			60					
PROPOSED QUANTITIES			3	3	9	15.5			9			60					

• CODE NUMBER DESCRIPTION & UNIT

CODE NUMBERS	DESCRIPTION	UNIT
1	SHEET ALUMINUM SIGNS	SF
2	SQUARE PERFORATED TUBULAR STEEL SIGN POST AND ANCHOR BASE	EA
3	REMOVE EXISTING GROUND MOUNTED SIGNS AND SUPPORTS	SF
4	RELOCATE EXISTING GROUND MOUNTED SIGNS	SF
5	BAND SIGN TO SIGN SUPPORT	EA
6	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF
7	24 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF
8	WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF
9	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF
10	12 INCH WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LINES	LF

GENERAL NOTE:

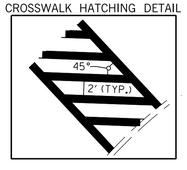
1. PROPOSED SIGNING AND PAVEMENT MARKINGS SHOWN ALONG 47TH STREET BETWEEN STA. 0+00 AND STA. 1+75 IS TO BE TO BE REMOVED AND REPLACED BY OTHERS AS PART OF A DIFFERENT PROJECT. THE SIGNING AND PAVEMENT MARKINGS SHOWN WITHIN THESE LIMITS IS CONCEPTUAL AND FOR REFERENCE PURPOSES ONLY.



GENERAL SIGNING AND PAVEMENT MARKING NOTES:

1. ALL SIGNING AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MONTGOMERY COUNTY STANDARDS, THE LATEST EDITION OF THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MD MUTCD), MARYLAND SHA'S STANDARD SIGN BOOK, AND FHWA'S STANDARD HIGHWAY SIGNS.
2. ALL WARNING SIGNS SHALL BE BLACK TEXT ON FLUORESCENT YELLOW BACKGROUND, UNLESS OTHERWISE NOTED.
3. ALL PAVEMENT MARKINGS AND SIGNS TO BE INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
4. CONTRACTOR TO CONTACT MR. FRED LEES OF THE MONTGOMERY COUNTY DEPARTMENT OF PUBLIC WORKS, TRAFFIC ENGINEERING AND OPERATIONS SECTION AT (240) 777-2190 NO LESS THAN 10 BUSINESS DAYS PRIOR TO IMPLEMENTATION OF FINAL PAVEMENT MARKINGS AND SIGNING.
5. THE CONTRACTOR SHALL SPOT LOCATE ALL PROPOSED SIGNS AND PAVEMENT MARKINGS. MONTGOMERY COUNTY TRAFFIC OPERATIONS WILL REVIEW AND APPROVE THE SPOT LOCATIONS PRIOR TO INSTALLATION OF SIGNS AND PAVEMENT MARKINGS.
6. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS, MATERIAL SPECIFICATIONS, AND LAYOUTS TO MONTGOMERY COUNTY TRAFFIC OPERATIONS FOR APPROVAL PRIOR TO ORDERING MATERIALS, FABRICATION, AND INSTALLATION.
7. ANY DISCREPENCY IN THE FINAL SIGNING & MARKINGS SHOULD BE CORRECTED BY THE CONTRACTOR IMMEDIATELY.
8. EXISTING PARKING RESTRICTION SIGNS SHOWN TO BE REMOVED ARE IMPACTED BY PROPOSED CONSTRUCTION. THE MCDOT DIVISION OF PARKING MANAGEMENT WILL REMOVE AND REPLACE ALL PARKING RESTRICTION SIGNS AND METERS AS INDICATED ON THE PLANS. THE PROPOSED PARKING RESTRICTION SIGN MESSAGES SHOWN ARE FOR REFERENCE PURPOSES ONLY. THE ULTIMATE PARKING RESTRICTION SIGN MESSAGES ARE TO BE DETERMINED BY MCDOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR BAGGING EXISTING AND PROPOSED PARKING METERS DURING CONSTRUCTION WHEN PARKING RESTRICTIONS ARE IN EFFECT. THE CONTRACTOR SHALL CONTACT THE MCDOT DIVISION OF PARKING MANAGEMENT AT 240-777-8740 TO CORDINATE DURING CONSTRUCTION.

CROSSWALK HATCHING DETAIL



SIGN LEGEND

- EXISTING GROUND MOUNTED SIGN AND SUPPORT(S)
- PROPOSED GROUND MOUNTED SIGN AND SUPPORT(S)
- EXISTING SIGN TO REMAIN
- EXISTING SIGN TO BE REMOVED
- PROPOSED SIGN
- TRAFFIC FLOW ARROWS
- PAVEMENT MARKING ARROW

PAVEMENT MARKING LEGEND

(A) 5 INCH SOLID WHITE THERMOPLASTIC PAVEMENT MARKINGS
(B) 5 INCH DOTTED WHITE THERMOPLASTIC PAVEMENT MARKINGS (3 FOOT LINE WITH 9 FOOT GAP)
(C) WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS
(D) 24 INCH SOLID WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
(E) 5 INCH SOLID YELLOW THERMOPLASTIC PAVEMENT MARKINGS
(F) 12 INCH SOLID WHITE PREFORMED THERMOPLASTIC PAVEMENT MARKINGS
(G) 5 INCH BROKEN WHITE THERMOPLASTIC PAVEMENT MARKINGS (10 FOOT LINE WITH 30 FOOT GAP)

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:_____

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: WRA Drawn by: WRA Checked by: XXX

SIGNING AND PAVEMENT MARKING PLAN

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1" = 20' MAY 2021

Project No. : 501316 SHEET 17 of 31

SN01

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

LEGEND

Symbol	Description
(tree symbol)	EXISTING TREE WITH CRITICAL ROOT ZONE
X	EXISTING TREE TO BE REMOVED
(wavy line)	PROPOSED WOODED EDGE
(hatched area)	TEMPORARY MULCH USED DURING CONSTRUCTION
— TPF —	TREE PROTECTION FENCE\ TREE ROOT PRUNING

LD-01

PROFESSIONAL CERTIFICATION.
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. 935
EXPIRATION DATE: 03/22/2022

MAHAN RYKIEL
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

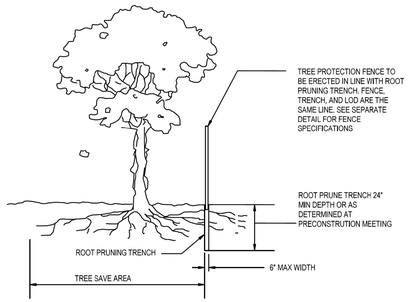
Designed by: JTT Drawn by: MAB Checked by: JKS

LANDSCAPE PLAN
(PHASE 1-INTRIM SURFACE TRAIL
THROUGH ELM ST. PARK)

CAPITAL CRESCENT TRAIL
UNDER MD 355
BETHESDA, MARYLAND

SCALE : 1" = 30' MAY 2021

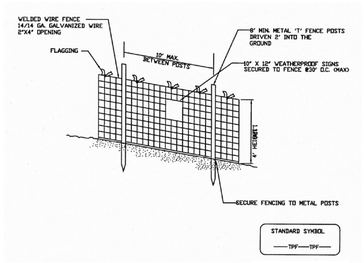
Project No. : 501316 SHEET 18 of 31



NOTES:

1. RETENTION AREAS WILL BE SET AS PART OF THE REVIEW PROCESS AND PRECONSTRUCTION MEETING.
2. BOUNDARIES OF RETENTION AREAS MUST BE STAKED AT THE PRECONSTRUCTION MEETING AND FLAGGED PRIOR TO TRENCHING.
3. EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE FOREST CONSERVATION (FC) INPECTOR .
4. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE FC INSPECTOR.
5. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
6. ALL PRUNING MUST BE EXECUTED WITH LOD SHOWN ON PLANS OR AS AUTHORIZED IN WRITING BY THE FC INSPECTOR.

TREE ROOT PRUNING DETAIL
NOT TO SCALE

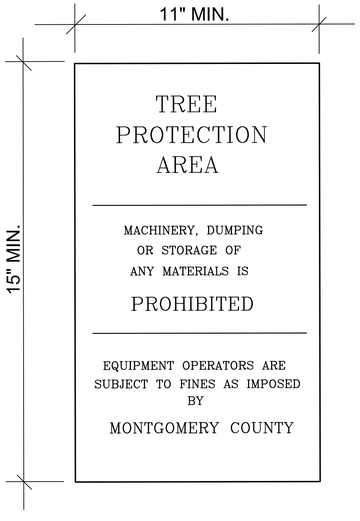


NOTES

1. Practice may be combined with sediment control fencing.
2. Location and limits of fencing should be coordinated in field with arborist.
3. Boundaries of protection area should be staked prior to installing protective device.
4. Root damage should be avoided.
5. Protection signage is required.
6. Fencing shall be maintained throughout construction.

Montgomery County Planning Department ▪ M-NCPPC
MontgomeryPlanning.org

TREE PROTECTION FENCE DETAIL
NOT TO SCALE



TREE PROTECTION–SIGNAGE DETAIL
NOT TO SCALE

INSPECTIONS

All field inspections must be requested by the applicant.

Field Inspections must be conducted as follows:

Plans without Planting Requirements

1. After the limits of disturbance have been staked and flagged, but before any clearing or grading begins.
2. After necessary stress reduction measures have been completed and protection measures have been installed, but before any clearing and grading begin and before release of the building permit.
3. After completion of all construction activities, but before removal of tree protection fencing, to determine the level of compliance with the provision of the forest conservation.

Additional Requirements for Plans with Planting Requirements

4. Before the start of any required reforestation and afforestation planting.
5. After the required reforestation and afforestation planting has been completed to verify that the planting is acceptable and prior to the start the maintenance period.
6. At the end of the maintenance period to determine the level of compliance with the provisions of the planting plan, and if appropriate, release of the performance bond.

DEVELOPER'S CERTIFICATE

The undersigned agrees to execute all the features of Approved Final Forest Conservation Plan No. FCP-SC201600, including financial bonding, forest planting, maintenance, and all other applicable agreements.

Developer's Name: Montgomery County Department of Transportation
Printed *Company Name*

Contact Person or Owner: Jon Hutchings
Printed *Name*

Address: 100 Edison Park Drive, Fourth Floor
Gaithersburg, MD 20878

Phone and Email: 240-777-7224, jon.hutchings@montgomerymd.gov

Signature:

PROFESSIONAL CERTIFICATION.
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. 935
EXPIRATION DATE: 03/22/2022

MAHAN RYKIEL
ASSOCIATES INC
Whitehall Mill 3300 Clipper Mill Road
Suite 200 Baltimore, MD 21211 410.235.6001

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: JTT Drawn by: MAB Checked by: JKS

LD-02

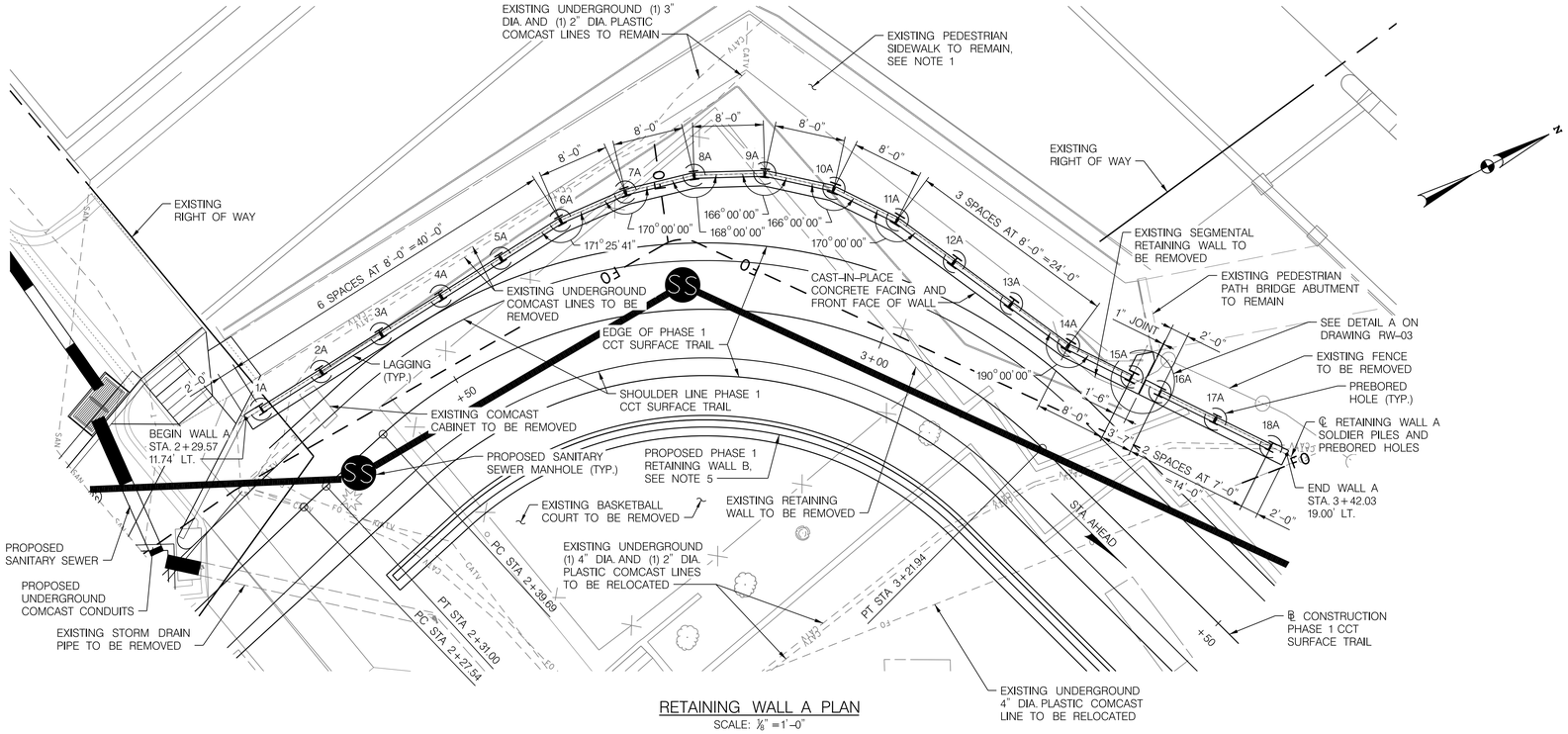
PLANTING NOTES AND DETAILS
(PHASE 1)

CAPITAL CRESCENT TRAIL
UNDER MD 355
BETHESDA, MARYLAND

SCALE : 1" = 20'
MAY 2021

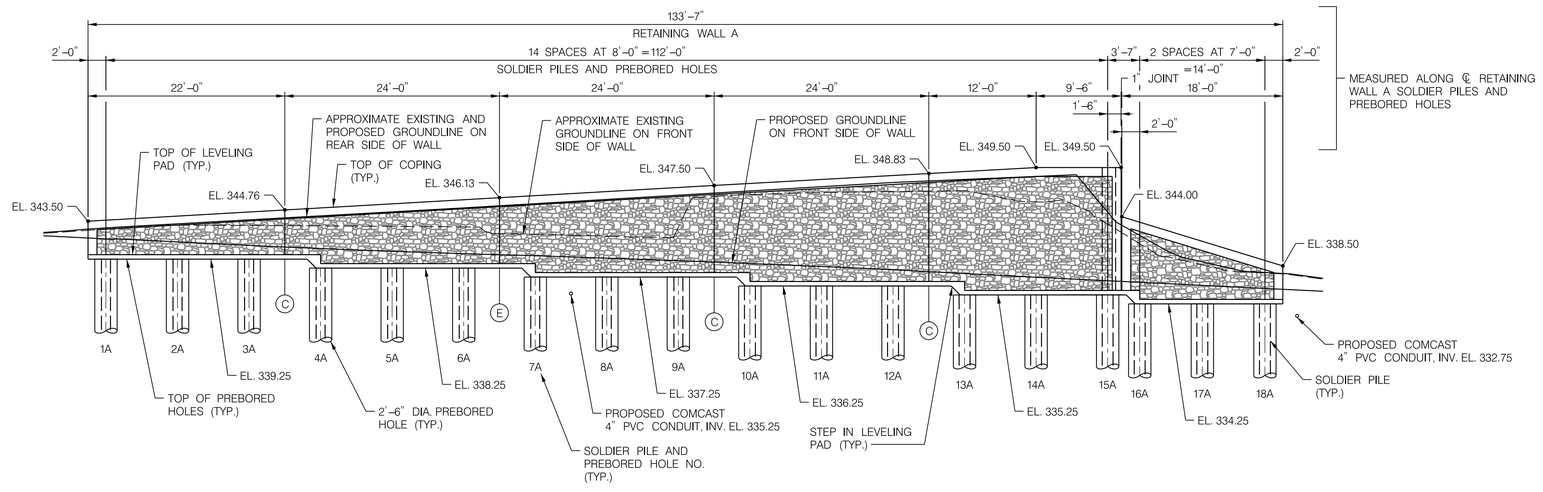
Project No. : 501316
SHEET 19 of 31

$$$$DGNSPEC$$$$$$$$$$$$$$$
$EXPRDATETIME$



RETAINING WALL A PLAN

SCALE: ⅛" = 1'-0"



DATUM EL. 310.00 DATUM EL. 310.00

RETAINING WALL A DEVELOPED ELEVATION (FRONT FACE)

SCALE: ⅛" = 1'-0"

NOTE: FENCE ON TOP OF RETAINING WALL NOT SHOWN FOR CLARITY.

LEGEND:

Ⓒ = CONTRACTION JOINT

Ⓔ = EXPANSION JOINT

GENERAL NOTES – RETAINING WALL A

SPECIFICATIONS: MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, DATED JULY 2019.

AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS DATED 2017.

LOADING: EARTH PRESSURE
90 PSF LIVE LOAD SURCHARGE

LOAD RESTRICTIONS: THERE ARE RESTRICTIONS FOR PLACING EQUIPMENT AND MATERIALS ON EXISTING AND NEW STRUCTURE(S). REFER TO SECTION TC 6.14

CONCRETE: CONCRETE COMPRESSIVE STRENGTH FOR DESIGN SHALL BE:
f'c = 3,000 PSI FOR ELEMENTS USING MIX NO. 3 AND MIX NO. 4

ALL CONCRETE FOR CAST-IN-PLACE FACING SHALL BE MIX NO. 3 (3,500 PSI).

ALL CONCRETE FOR PREBORED HOLES SHALL BE MIX NO. 4 (3,500 PSI).

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60 WITH A YIELD STRENGTH FOR DESIGN OF fy = 60,000 PSI.

ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS.

REINFORCING STEEL SHALL BE EPOXY COATED WHEN NOTED WITH AN EP IN THE PLANS.

MINIMUM CLEAR COVER FOR REINFORCING STEEL SHALL BE 2".

FOR TIES AND STIRRUPS: STANDARD ACI BENDING TOLERANCES ARE MODIFIED TO PLUS (+) ZERO INCHES, MINUS (–) NORMAL ACI BENDING TOLERANCES.

TIMBER LAGGING: MIXED HARDWOOD CONFORMING TO AASHTO M 168, WOOD PRODUCTS.

STRUCTURAL STEEL: STRUCTURAL STEEL SHALL CONFORM TO A 709, GRADE 50 INCLUDING THE ADDITIONAL REQUIREMENTS FOR CHARPY V-NOTCH TESTING OF M 270.

COATING: THE PORTION OF THE STEEL PILE ABOVE THE CAISSON SHALL HAVE A BITUMINOUS COATING APPLIED PER SECTION 913 ON BOTH SIDES OF THE WEB AND INSIDE FACE OF FLANGES. BITUMINOUS COATING SHALL BE APPLIED IN TWO COATS WITH A TOTAL MINIMUM WET FILM THICKNESS OF 20 MILS.

KEYS: ALL KEYS ARE NOMINAL SIZE.

EXISTING STRUCTURES: ALL DIMENSIONS AFFECTED BY THE GEOMETRY AND/OR LOCATION OF THE STRUCTURE(S); EXISTING STRUCTURE(S) SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR BEFORE ANY MATERIAL IS ORDERED OR FABRICATED OR CONSTRUCTION BEGINS.

RETAINING WALL A PILE SCHEDULE

PILE NO.	PILE SECTION	PREBORED HOLE DIA.	MINIMUM TIP ELEV.	COORDINATES	
				NORTHING	EASTING
1A	HP12x53	2'-6"	329.25	479224.9401	1286150.3225
2A	HP12x53	2'-6"	329.25	479232.9139	1286149.6754
3A	HP12x53	2'-6"	329.25	479240.8876	1286149.0284
4A	HP12x53	2'-6"	328.25	479248.8614	1286148.3814
5A	HP12x53	2'-6"	328.25	479256.8352	1286147.7343
6A	HP12x53	2'-6"	328.25	479264.8090	1286147.0873
7A	HP12x53	2'-6"	325.25	479272.7902	1286147.6360
8A	HP12x53	2'-6"	325.25	479280.5548	1286149.5622
9A	HP12x53	2'-6"	325.25	479287.7493	1286153.0607
10A	HP14x89	2'-6"	321.25	479293.8837	1286158.1958
11A	HP14x89	2'-6"	321.25	479298.5935	1286164.6625
12A	HP14x89	2'-6"	321.25	479302.1089	1286171.8487
13A	W14x109	2'-6"	318.75	479305.6244	1286179.0349
14A	W14x109	2'-6"	318.75	479309.1398	1286186.2212
15A	W14x109	2'-6"	318.75	479313.8496	1286192.6878
16A	HP12x53	2'-6"	322.25	479315.8737	1286195.6466
17A	HP12x53	2'-6"	324.25	479319.9949	1286201.3049
18A	HP12x53	2'-6"	324.25	479324.1160	1286206.9631

NOTES

1. ACCESS TO THE AIR RIGHTS BUILDING USING THE PEDESTRIAN SIDEWALK AND LOADING DOCK SHALL BE MAINTAINED AT ALL TIMES.
2. STATION AND OFFSETS TAKEN FROM ℄ CONSTRUCTION PHASE 1 CCT SURFACE TRAIL.
3. JOINT SHALL BE 1" CLOSED CELL NEOPRENE IN CONFORMANCE WITH SECTION 911.10.
4. FOR RETAINING WALL A MISCELLANEOUS DETAILS, SEE DRAWINGS RW-02 AND RW-03.
5. FOR PHASE 1 RETAINING WALL B, SEE DRAWINGS RW-04 AND RW-05.
6. FOR FENCE DETAILS, SEE DRAWING RW-06.

RW-01

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

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: GSC Drawn by: GSC Checked by: AC

RETAINING WALL A
PLAN AND ELEVATION

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1/8" = 1'-0" MAY 2021

Project No. : 501316 SHEET 20 of 31

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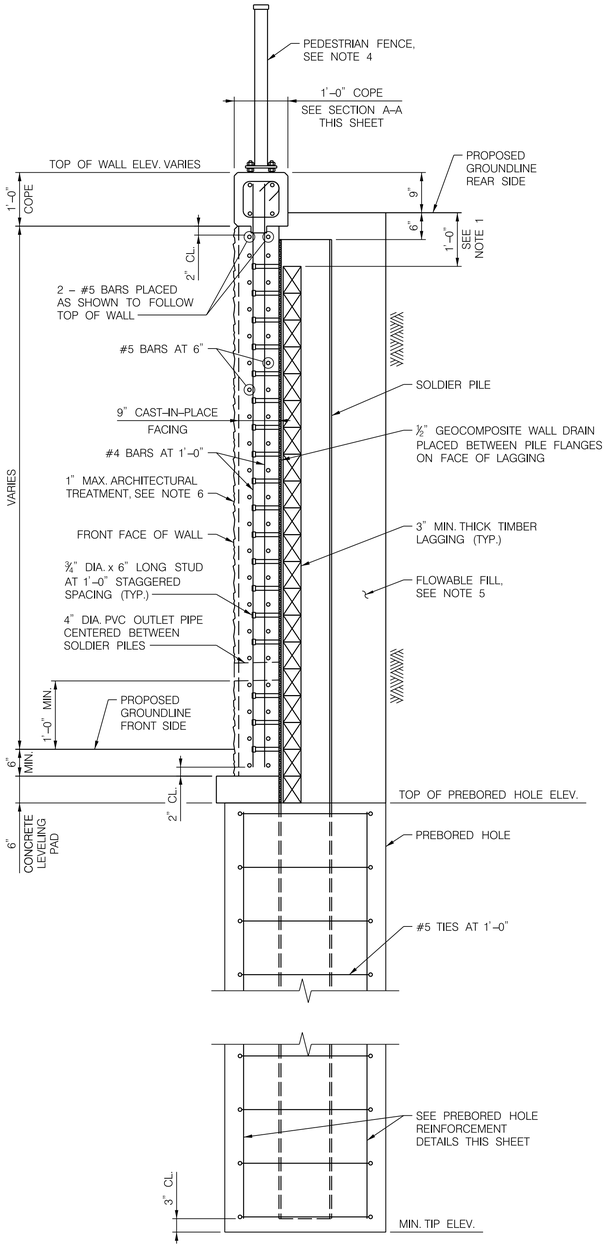
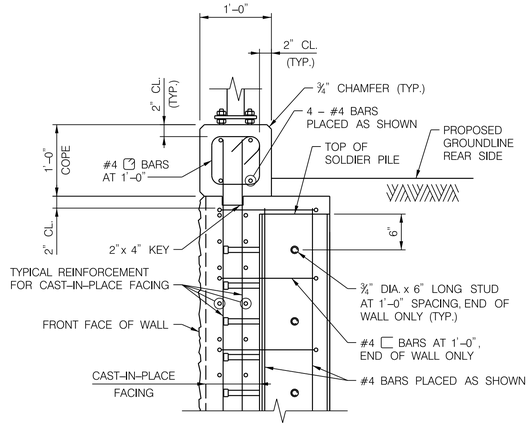
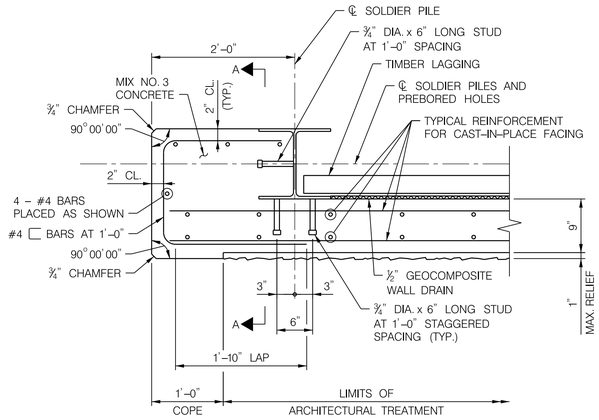


TYPICAL RETAINING WALL SECTION
SCALE: ¾" =1'–0"

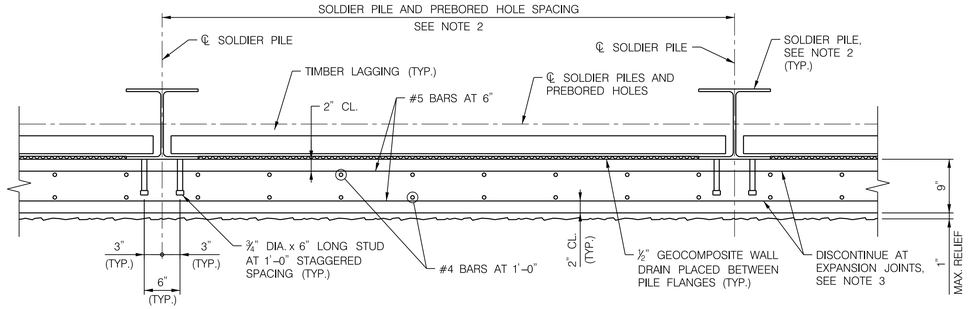


SECTION A–A
SCALE: 1" =1'–0"



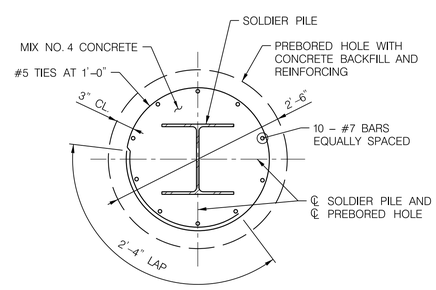
TYPICAL RETAINING WALL END DETAIL
SCALE: 1" =1'–0"

NOTE: COPE AND COPE REINFORCEMENT NOT SHOWN FOR CLARITY.

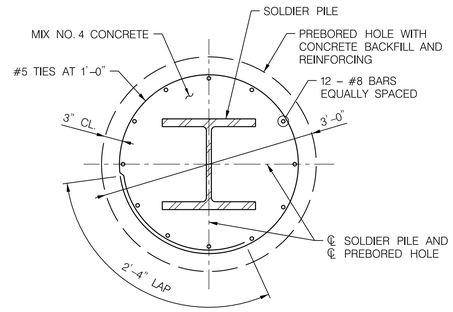


CAST–IN–PLACE FACING REINFORCEMENT DETAIL
SCALE: 1" =1'–0"

NOTE: COPE AND COPE REINFORCEMENT NOT SHOWN FOR CLARITY.



2'–6" DIAMETER PREBORED HOLE



3'–0" DIAMETER PREBORED HOLE

PREBORED HOLE REINFORCEMENT DETAILS
SCALE: 1" =1'–0"

NOTES

1. CONTRACTOR MAY VARY DIMENSION TO ACCOMMODATE TOP OF LEVEL TIMBER LAGGING.
2. FOR SOLDIER PILE AND PREBORED HOLE SIZES AND SPACING, SEE DRAWING RW–01.
3. FOR RETAINING WALL EXPANSION AND CONTRACTION JOINT DETAILS, SEE DRAWING RW–03.
4. FOR FENCE DETAILS, SEE DRAWING RW–06.
5. AFTER SETTING SOLDIER PILE, PREBORED HOLE SHALL BE BACKFILLED WITH MIX NO. 4 CONCRETE TO THE TOP OF PREBORED HOLE ELEVATION SHOWN ON DRAWING RW–01. THE REMAINING PORTION OF THE PREBORED HOLE SHALL BE BACKFILLED WITH FLOWABLE FILL TO THE GROUND SURFACE. FLOWABLE FILL SHALL ACHIEVE 100 PSI BEFORE EXCAVATIONS IN FRONT OF THE RETAINING WALL BEGIN IN ACCORDANCE WITH SECTION 314.
6. ARCHITECTURAL TREATMENT SHALL BE CUSTOM ROCK PATTERN T323, LIMESTONE 1".

RW–02

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801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: GSC Drawn by: GSC Checked by: AC

RETAINING WALL A
MISCELLANEOUS DETAILS – 1

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 21 of 31

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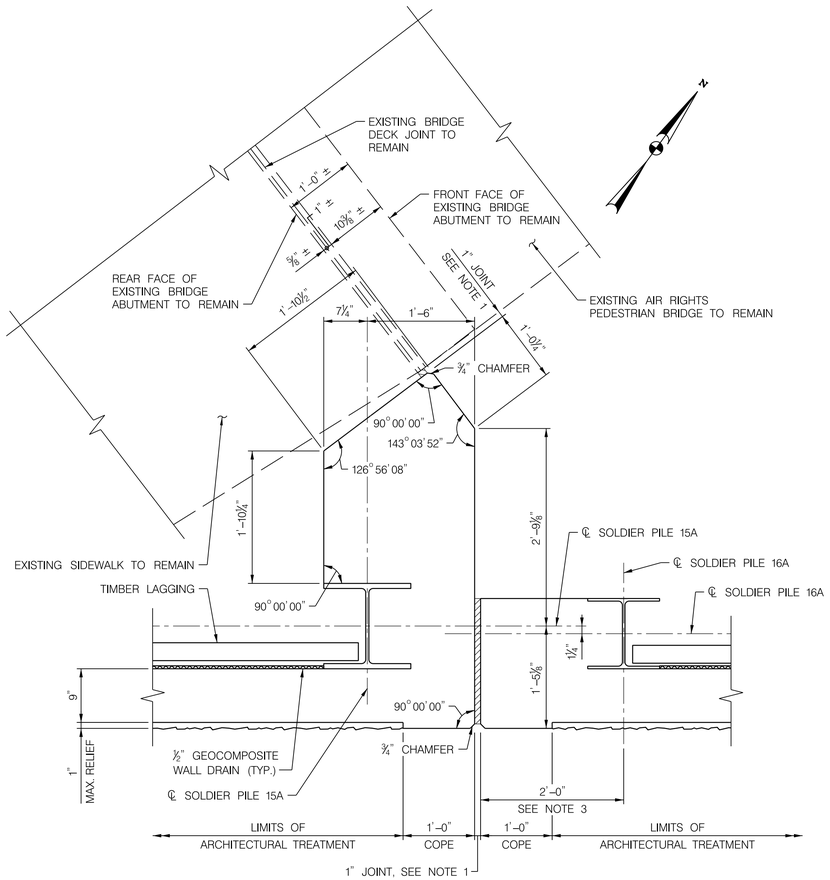
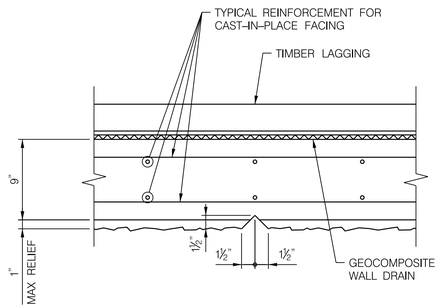
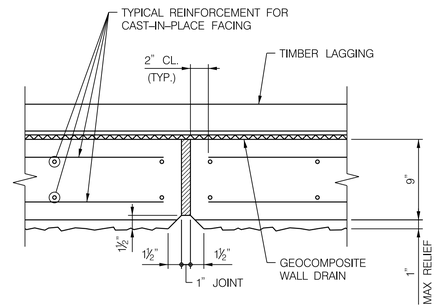


DETAIL A
SCALE: 1" = 1'-0"

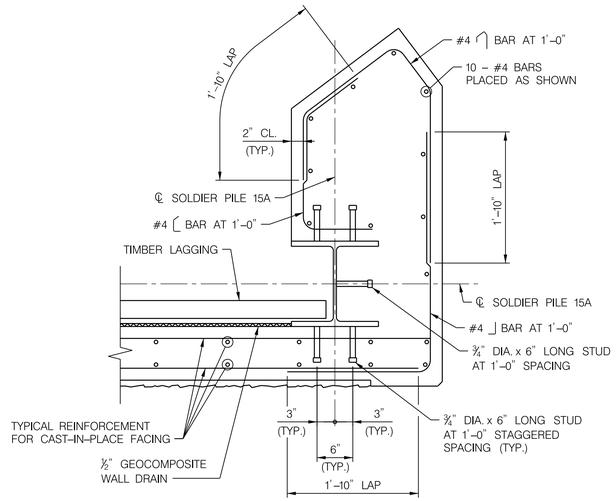


CONTRACTION JOINT



EXPANSION JOINT

TYPICAL CAST-IN-PLACE FACING JOINT DETAILS
SCALE: 1½" = 1'-0"



DETAIL A – REINFORCEMENT
SCALE: 1" = 1'-0"

NOTES
1. JOINT SHALL BE 1" CLOSED CELL NEOPRENE IN CONFORMANCE WITH SECTION 911.10.
2. FOR LOCATION OF DETAIL A, SEE DRAWING RW-01.
3. FOR DETAILS AT SOLDIER PILE 16A, SEE TYPICAL RETAINING WALL END DETAIL ON DRAWING RW-02.

RW-03

PROFESSIONAL CERTIFICATION.
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EXPIRATION DATE:_____

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801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: GSC Drawn by: GSC Checked by: AC

RETAINING WALL A
MISCELLANEOUS DETAILS - 2

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 22 of 31

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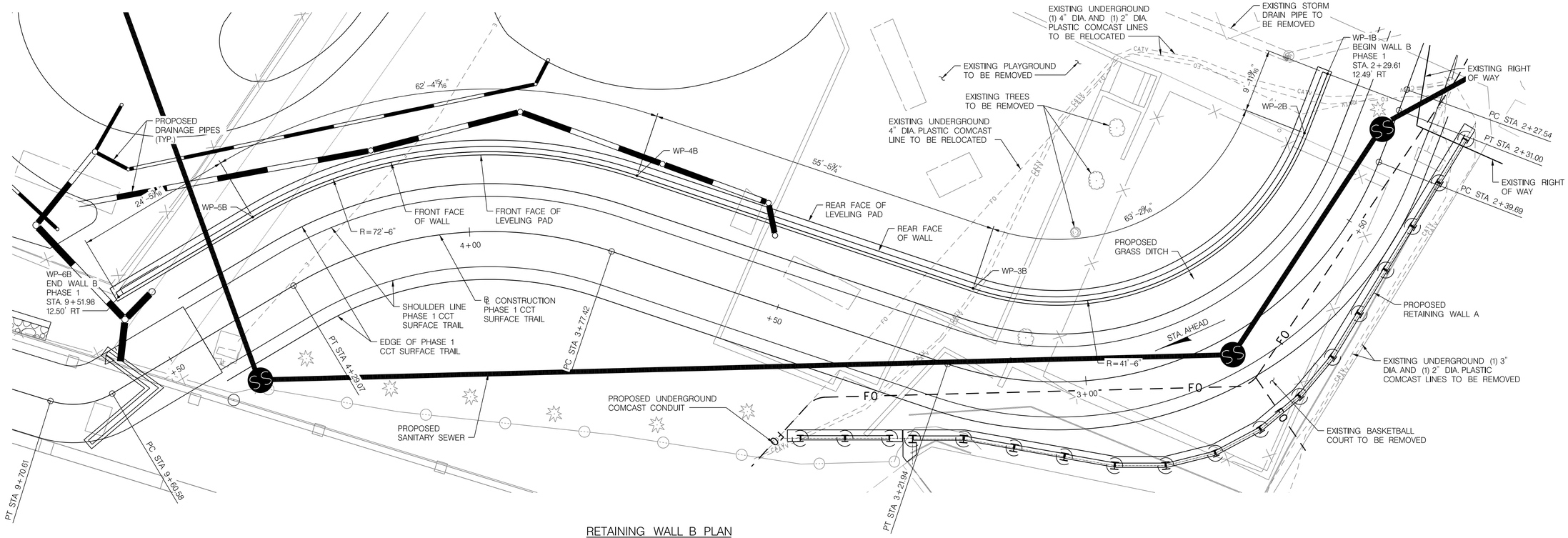
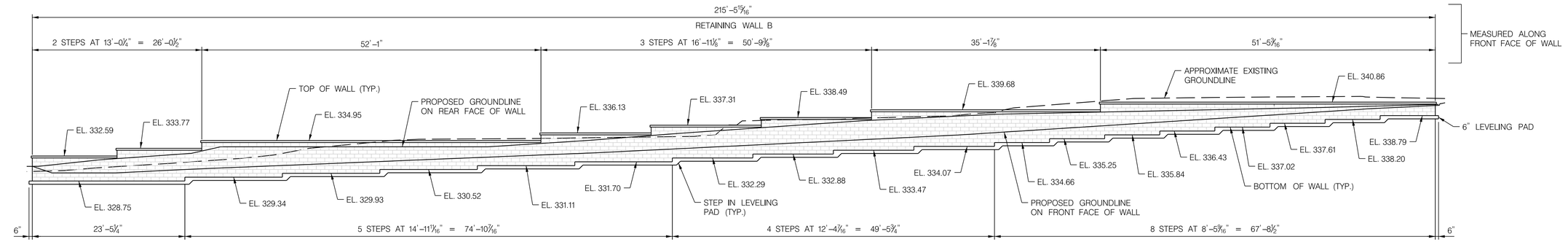


RETAINING WALL B PLAN
SCALE: 1/8" = 1'–0"



DATUM EL. 310.00 — DATUM EL. 310.00

RETAINING WALL B DEVELOPED ELEVATION (FRONT FACE)
SCALE: 1/8" = 1'–0"

NOTE: FENCE ON TOP OF RETAINING WALL NOT SHOWN FOR CLARITY.

WORKING POINT DATA		
WORKING POINT	COORDINATES	
	NORTHING	EASTING
WP–1B	479229.4017	1286173.8406
WP–2B	479239.0345	1286171.2947
WP–3B	479289.2108	1286198.9151
WP–4B	479305.9233	1286251.8150
WP–5B	479346.5575	1286296.6385
WP–6B	479369.0236	1286306.2424

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: GSC Drawn by: GSC Checked by: AC

RETAINING WALL B
PLAN AND ELEVATION

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1/8" = 1'–0" MAY 2021

Project No. : 501316 SHEET 23 of 31

RW–04

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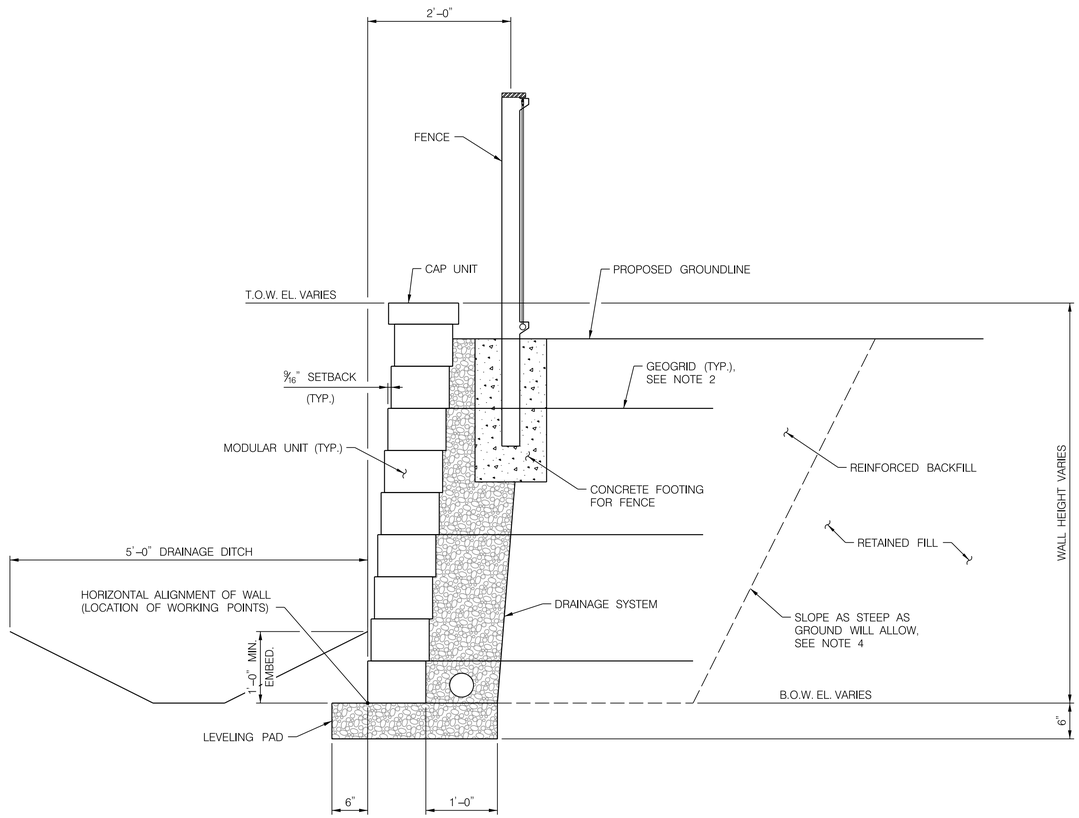

TYPICAL SECTION
SCALE: 1" = 1'-0"

NOTES

1. MODULAR BLOCK RETAINING WALL SHOWN GRAPHICALLY FOR INFORMATIONAL PURPOSES ONLY.
2. GEOGRID REINFORCEMENT SHOWN FOR GRAPHICAL PURPOSES ONLY. GEOGRID REINFORCEMENT QUANTITY, LOCATION, AND LENGTH TO BE DETERMINED BY WALL MANUFACTURER.
3. EXISTING AND PROPOSED UTILITIES NOT SHOWN FOR CLARITY.
4. CUT SLOPE BEHIND REINFORCED BACKFILL FOR MODULAR BLOCK RETAINING WALL SHALL BE LAID BACK AS STEEP AS GROUND WILL ALLOW. TEMPORARY SHORING SHALL BE REQUIRED FOR EXCAVATIONS THAT EXCEED 5 FEET IN HEIGHT.

RW-05

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DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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Chief, Transportation Planning and Design Section — Date
APPROVED
Chief, Division of Transportation Engineering — Date

Designed by: GSC Drawn by: GSC Checked by: AC

RETAINING WALL B
TYPICAL SECTION

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN — MAY 2021

Project No. : 501316 — SHEET 24 of 31

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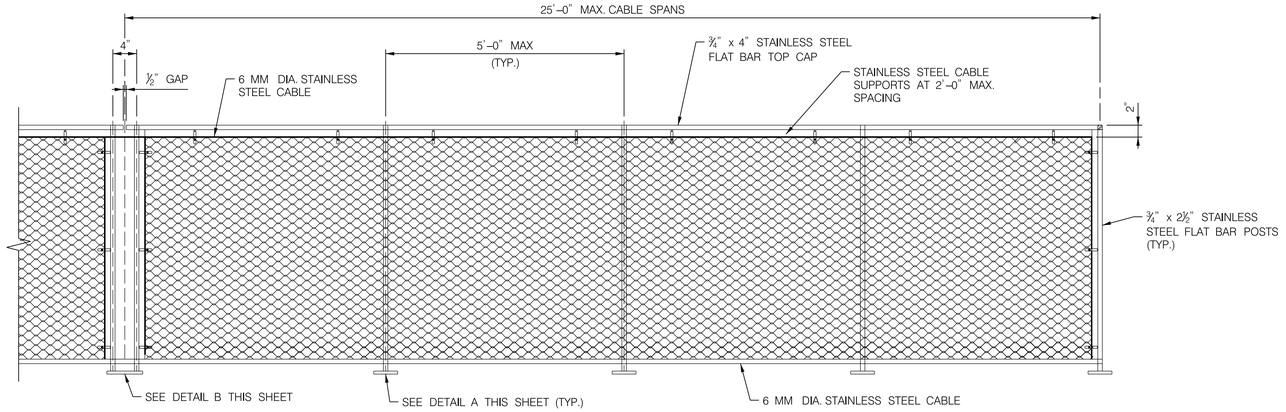
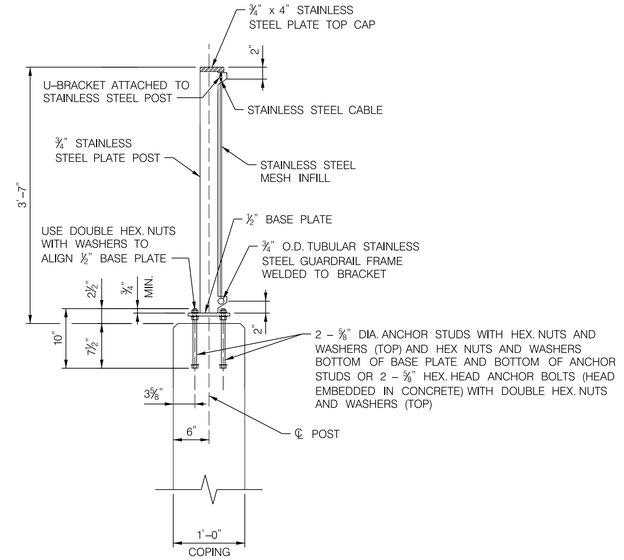
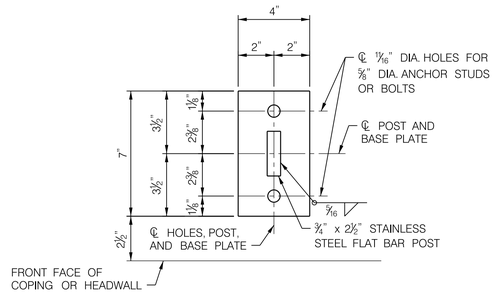


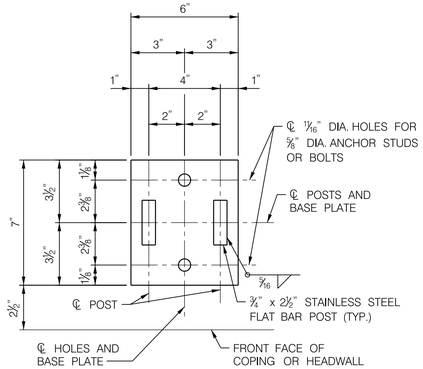
FENCE ELEVATION
SCALE: 1" =1'-0"



POST DETAIL
SCALE: 1" =1'-0"



DETAIL A
SCALE: 3" =1'-0"



DETAIL B
SCALE: 3" =1'-0"

NOTES

1. FENCE TO BE USED ON TOP OF RETAINING WALL A AND ON THE REAR SIDE OF RETAINING WALL B.
2. ALL STAINLESS STEEL TO RECEIVE A #4 LINEAR SATIN FINISH.
3. STAINLESS STEEL MESH INFILL, MESH HARDWARE, FLAT BARS, AND BASE PLATES SHALL BE GRADE 316.
4. ANCHOR STUDS OR ANCHOR BOLTS SHALL CONFORM TO ASTM A 276, TYPE 430 OR TYPE 304 STAINLESS STEEL ANNEALED, HOT-FINISHED, ULTIMATE STRENGTH 70,000 PSI MIN., 20% MIN. ELONGATION. THREADS MAY BE ROLLED OR CUT.
5. ALL EXPOSED WELDS TO BE GROUND SMOOTH AND FINISHED TO MATCH MATERIAL.
6. WIRE MESH INFILL TO BE WOVEN TO TOP AND BOTTOM CABLES AND ½" STAINLESS STEEL RODS AT TERMINATION POSTS PER MANUFACTURER'S INSTRUCTIONS.
7. ALL LONGITUDINAL RAILS OR CABLES SHALL BE PARALLEL TO TOP OF WALL. ALL POSTS SHALL BE SET NORMAL TO TOP OF WALL.
8. IF CONTRACTOR ELECTS TO PLACE ANCHOR STUDS AFTER PLACING CONCRETE, NEWLY PLACED REBARS SHALL BE LOCATED SO THAT CORING DOES NOT DAMAGE SAME. ALL HOLES SHALL BE CORED (NOT DRILLED) AND THE DIAMETER OF THE CORED HOLES FOR THE ANCHOR STUDS SHALL BE ⅞" DIAMETER.
9. THE FURNISHING, FABRICATING, ERECTING, ETC., OF ALL NEW FENCE ON THE RETAINING WALLS, COMPLETE IN PLACE, WILL NOT BE MEASURED FOR PAYMENT BUT ALL COSTS THEREOF SHALL BE INCLUDED IN THE CONTRACT LUMP SUM PRICES FOR THE PERTINENT RETAINING WALL OR TUNNEL ITEMS.

RW-06

PROFESSIONAL CERTIFICATION.
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Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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

Designed by: GSC Drawn by: GBL Checked by: AC

FENCE DETAILS

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 25 of 31

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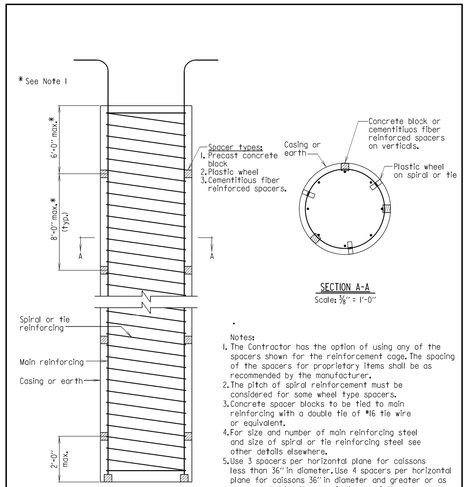

SECTION A-A
Scale: 3/8" = 1'-0"

PILE OR CAISSON
Scale: 3/8" = 1'-0"

Notes:
1. The Contractor has the option of using any of the spacers shown for the reinforcement cage. The spacing of the spacers for proprietary items shall be as recommended by the manufacturer.
2. The pitch of spiral reinforcement must be considered for some wheel type spacers.
3. Concrete spacer blocks to be tied to main reinforcing with a double tie of #16 tie wire or equivalent.
4. For size and number of main reinforcing steel and size of spiral or tie reinforcing steel see other details elsewhere.
5. Use 3 spacers per horizontal plane for caissons less than 36" in diameter. Use 4 spacers per horizontal plane for caissons 36" in diameter and greater or as recommended by the manufacturer of the proprietary items.

APPROVAL
DIRECTOR, OFFICE OF STRUCTURES
DATE: 08/07/1998

VERSION
1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

CAISSON/PILE REBAR CAGE
CLEARANCE SPACING DEVICES

DETAIL NO. FND-PF-504 SHEET 1 OF 1

FOUNDATION - PILES

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GSC Drawn by: GSC Checked by: AC

RW-07

STRUCTURAL DETAILS - 1

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 26 of 31

LOCATION CATEGORY A									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	2'-5''	3'-1''	2'-5''	2'-10''	2'-5''	2'-10''	2'-5''	2'-10''	
#5	3'-1''	4'-0''	3'-0''	3'-10''	3'-0''	3'-7''	3'-0''	3'-7''	
#6	4'-5''	5'-9''	3'-7''	4'-8''	3'-7''	4'-8''	3'-7''	4'-8''	
#7	6'-0''	7'-10''	4'-6''	5'-11''	4'-2''	5'-5''	4'-2''	5'-5''	
#8	7'-10''	10'-3''	5'-11''	7'-8''	4'-9''	6'-2''	4'-9''	6'-2''	
#9	10'-0''	13'-0''	7'-6''	9'-9''	6'-0''	7'-10''	5'-10''	7'-8''	
#10	-	-	9'-6''	12'-5''	7'-7''	9'-11''	7'-2''	9'-5''	
#11	-	-	11'-8''	15'-3''	9'-4''	12'-3''	8'-8''	11'-4''	

Location Category A - Bars in horizontal layers in top of pour with 12'' or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-10''	2'-9''	1'-10''	2'-2''	1'-10''	2'-2''	1'-10''	2'-2''	
#5	2'-5''	3'-7''	2'-4''	3'-5''	2'-4''	2'-9''	2'-4''	2'-9''	
#6	3'-5''	5'-1''	2'-9''	4'-1''	2'-9''	4'-1''	2'-9''	4'-1''	
#7	4'-8''	6'-11''	3'-6''	5'-3''	3'-2''	4'-9''	3'-2''	4'-9''	
#8	6'-1''	9'-1''	4'-7''	6'-10''	3'-8''	5'-5''	3'-8''	5'-5''	
#9	7'-8''	11'-6''	5'-9''	8'-8''	4'-8''	6'-11''	4'-6''	6'-9''	
#10	-	-	7'-4''	10'-11''	5'-10''	8'-9''	5'-7''	8'-4''	
#11	-	-	9'-0''	13'-6''	7'-2''	10'-9''	6'-8''	10'-0''	

Location Category B - All bars not in Location Category A.

☐ = Non-epoxy coated ▭ = Epoxy coated

Notes
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These bar laps assume cover of 2''. Greater lap lengths will be required for cover less than 2''.
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-101. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 03/21/2017 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR LAP DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.3 (3500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-101 SHEET 1 OF 1

REBAR - BAR LAP

LOCATION CATEGORY A									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	2'-1''	2'-8''	2'-1''	2'-6''	2'-1''	2'-6''	2'-1''	2'-6''	
#5	2'-8''	3'-6''	2'-7''	3'-4''	2'-7''	3'-1''	2'-7''	3'-1''	
#6	3'-10''	5'-0''	3'-1''	4'-0''	3'-1''	4'-0''	3'-1''	4'-0''	
#7	5'-3''	6'-10''	3'-11''	5'-1''	3'-7''	4'-8''	3'-7''	4'-8''	
#8	6'-10''	8'-11''	5'-1''	6'-8''	4'-1''	5'-4''	4'-1''	5'-4''	
#9	8'-8''	11'-3''	6'-6''	8'-6''	5'-2''	6'-9''	5'-1''	6'-7''	
#10	-	-	8'-3''	10'-9''	6'-7''	8'-7''	6'-3''	8'-2''	
#11	-	-	10'-1''	13'-3''	8'-1''	10'-7''	7'-6''	9'-9''	

Location Category A - Bars in horizontal layers in top of pour with 12'' or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-7''	2'-5''	1'-7''	1'-11''	1'-7''	1'-11''	1'-7''	1'-11''	
#5	2'-1''	3'-1''	2'-0''	3'-0''	2'-0''	2'-5''	2'-0''	2'-5''	
#6	3'-0''	4'-5''	2'-5''	3'-7''	2'-5''	3'-7''	2'-5''	3'-7''	
#7	4'-0''	6'-0''	3'-0''	4'-6''	2'-9''	4'-2''	2'-9''	4'-2''	
#8	5'-3''	7'-10''	3'-11''	5'-11''	3'-2''	4'-9''	3'-2''	4'-9''	
#9	6'-8''	10'-0''	5'-0''	7'-6''	4'-0''	6'-0''	3'-11''	5'-10''	
#10	-	-	6'-4''	9'-6''	5'-1''	7'-7''	4'-10''	7'-2''	
#11	-	-	7'-10''	11'-8''	6'-3''	9'-4''	5'-9''	8'-8''	

Location Category B - All bars not in Location Category A.

☐ = Non-epoxy coated ▭ = Epoxy coated

Notes
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. These bar laps assume cover of 2''. Greater lap lengths will be required for cover less than 2''.
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-103. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 03/21/2017 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR LAP DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.6 (4500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-103 SHEET 1 OF 1

REBAR - BAR LAP

LOCATION CATEGORY A									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-10''	2'-5''	1'-10''	2'-2''	1'-10''	2'-2''	1'-10''	2'-2''	
#5	2'-5''	3'-1''	2'-4''	3'-0''	2'-4''	2'-9''	2'-4''	2'-9''	
#6	3'-5''	4'-5''	2'-9''	3'-7''	2'-9''	3'-7''	2'-9''	3'-7''	
#7	4'-8''	6'-1''	3'-6''	4'-7''	3'-2''	4'-2''	3'-2''	4'-2''	
#8	6'-1''	7'-11''	4'-7''	5'-11''	3'-3''	4'-9''	3'-8''	4'-9''	
#9	7'-8''	10'-0''	5'-9''	7'-6''	4'-8''	6'-0''	4'-6''	5'-11''	
#10	-	-	7'-4''	9'-6''	5'-10''	7'-8''	5'-7''	7'-3''	
#11	-	-	9'-0''	11'-9''	7'-2''	9'-5''	6'-8''	8'-8''	

Location Category A - Bars in horizontal layers in top of pour with 12'' or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-5''	2'-1''	1'-5''	1'-8''	1'-5''	1'-8''	1'-5''	1'-8''	
#5	1'-10''	2'-9''	1'-9''	2'-8''	1'-9''	2'-1''	1'-9''	2'-1''	
#6	2'-8''	3'-11''	2'-1''	3'-2''	2'-1''	3'-2''	2'-1''	3'-2''	
#7	3'-7''	5'-4''	2'-8''	4'-0''	2'-5''	3'-8''	2'-6''	3'-8''	
#8	4'-8''	7'-0''	3'-6''	5'-3''	2'-10''	4'-2''	2'-10''	4'-2''	
#9	5'-11''	8'-10''	4'-5''	6'-8''	3'-7''	5'-4''	3'-6''	5'-2''	
#10	-	-	5'-8''	8'-5''	4'-6''	6'-9''	4'-3''	6'-5''	
#11	-	-	6'-11''	10'-4''	5'-7''	8'-4''	5'-2''	7'-8''	

Location Category B - All bars not in Location Category A.

☐ = Non-epoxy coated ▭ = Epoxy coated

Notes
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These development lengths assume cover of 2''. Greater development lengths will be required for cover less than 2''.
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B; then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-201.

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.3 (3500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-101 SHEET 1 OF X

REBAR - DEVELOPMENT LENGTH

LOCATION CATEGORY A									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-7''	2'-1''	1'-7''	1'-11''	1'-7''	1'-11''	1'-7''	1'-11''	
#5	2'-1''	2'-8''	2'-0''	2'-7''	2'-0''	2'-5''	2'-0''	2'-5''	
#6	3'-0''	3'-10''	2'-5''	3'-1''	2'-5''	3'-1''	2'-5''	3'-1''	
#7	4'-0''	5'-3''	3'-0''	3'-11''	2'-9''	3'-7''	2'-9''	3'-7''	
#8	5'-3''	6'-10''	3'-11''	5'-2''	3'-2''	4'-1''	3'-2''	4'-1''	
#9	6'-8''	8'-8''	5'-0''	6'-6''	4'-0''	5'-3''	3'-11''	5'-1''	
#10	-	-	6'-4''	8'-3''	5'-1''	6'-7''	4'-10''	6'-3''	
#11	-	-	7'-10''	10'-2''	6'-3''	8'-2''	5'-9''	7'-6''	

Location Category A - Bars in horizontal layers in top of pour with 12'' or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B									
BAR SIZE	CENTER TO CENTER SPACING								
	3''		4''		5''		≥ 6''		
#4	1'-3''	1'-10''	1'-3''	1'-6''	1'-3''	1'-6''	1'-3''	1'-6''	
#5	1'-7''	2'-5''	1'-6''	2'-3''	1'-6''	1'-10''	1'-6''	1'-10''	
#6	2'-3''	3'-5''	1'-10''	2'-9''	1'-10''	2'-9''	1'-10''	2'-9''	
#7	3'-1''	4'-8''	2'-4''	3'-6''	2'-2''	3'-2''	2'-2''	3'-2''	
#8	4'-0''	6'-0''	3'-0''	4'-6''	2'-5''	3'-8''	2'-5''	3'-8''	
#9	5'-2''	7'-8''	3'-10''	5'-9''	3'-1''	4'-7''	3'-0''	4'-6''	
#10	-	-	4'-11''	7'-4''	3'-11''	5'-10''	3'-9''	5'-7''	
#11	-	-	6'-0''	9'-0''	4'-10''	7'-2''	4'-5''	6'-8''	

Location Category B - All bars not in Location Category A.

☐ = Non-epoxy coated ▭ = Epoxy coated

Notes
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. These development lengths assume cover of 2''. Greater development lengths will be required for cover less than 2''.
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. Atr was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B; then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-203.

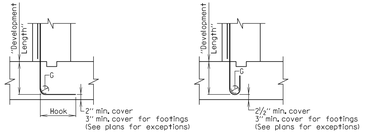
APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS FOR
GRADE 60 REINFORCING STEEL
IN MIX NO.6 (4500 P.S.I.) CONCRETE

DETAIL NO. REBAR-DL-103 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH



STANDARD 90° HOOK

STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	8''	11''	9''
#5	10''	1'-2''	11''
#6	1'-0''	1'-5''	1'-2''
#7	1'-2''	1'-8''	1'-4''
#8	1'-4''	1'-10''	1'-6''
#9	1'-6''	2'-1''	1'-8''
#10	1'-8''	2'-4''	1'-11''
#11	1'-10''	2'-7''	2'-1''

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:

D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½'', and for 90° deg. hook, cover on bar extension beyond hook not less than 2''.
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C; Detail No. REBAR-DL-101; then hook shall be added to all bars not conforming, as per D,E & F.

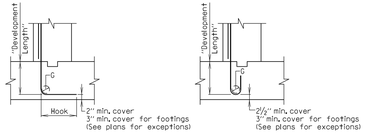
APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 05/10/2011 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS OF HOOKED
BARS FOR GRADE 60 REINFORCING STEEL
IN MIX NO.3 (3500 P.S.I.) CONCRETE
NON-EPOXY COATED REINFORCING

DETAIL NO. REBAR-DL-201 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH



STANDARD 90° HOOK

STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	7''	10''	8''
#5	9''	1'-0''	10''
#6	10''	1'-3''	1'-0''
#7	1'-0''	1'-5''	1'-2''
#8	1'-2''	1'-7''	1'-4''
#9	1'-4''	1'-10''	1'-6''
#10	1'-5''	2'-1''	1'-8''
#11	1'-7''	2'-3''	1'-10''

Note:
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:

D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½'', and for 90° deg. hook, cover on bar extension beyond hook not less than 2''.
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Note:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 4000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C; Detail No. REBAR-DL-103; then hook shall be added to all bars not conforming, as per D,E & F.

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 05/10/2011 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS OF HOOKED
BARS FOR GRADE 60 REINFORCING STEEL
IN MIX NO.6 (4500 P.S.I.) CONCRETE
NON-EPOXY COATED REINFORCING

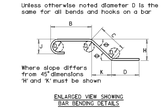
DETAIL NO. REBAR-DL-203 SHEET 1 OF 1

REBAR - DEVELOPMENT LENGTH

TYPICAL BAR BENDS

DETAILS AND NOTES

SPIRAL



ENLARGED VIEW SHOWING
BAR BENDING DETAILS

Notes:
1. All dimensions are out-to-out of bar or to tangent points for 135° and 180° hooks.
2. 0° dimensions on 180° hooks to be shown only where necessary to restrict hook size, otherwise standard hooks are to be used.
3. Where "J" is not shown, "J" will be kept equal to or less than 4" on truss bars. Where "J" can exceed 4" it should be shown.
4. "K" dimension on stirrups to be shown where necessary to fit within concrete.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

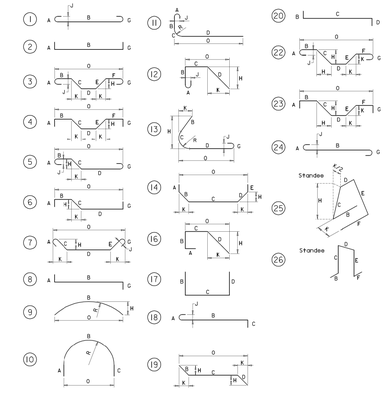
BAR BEND TYPES
GENERAL NOTES

DETAIL NO. REBAR-BB-101 SHEET 1 OF 8

REBAR BAR BENDS

ACI TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL — DIRECTOR, OFFICE OF STRUCTURES — DATE: 02/10/1994 — VERSION 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
ACI - STANDARD PIN BENDING

DETAIL NO. REBAR-BB-101 SHEET 2 OF 8

REBAR BAR BENDS

RW-08

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:_____

Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GSC Drawn by: GSC Checked by: AC

STRUCTURAL DETAILS - 2

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 27 of 31

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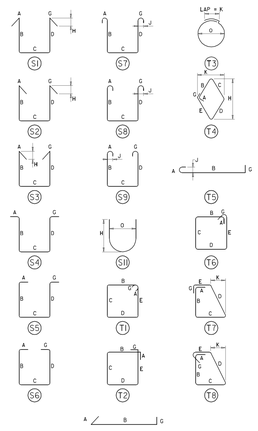
ACI TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

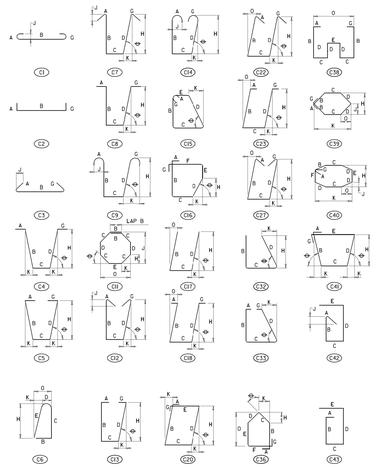
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES ACI- TIES A
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 3 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

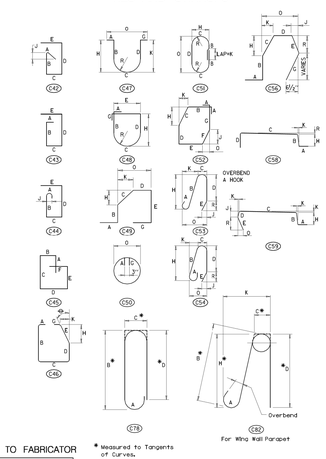
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 4 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



* Measured to Tangents of Curves.

For Wing Wall Parapet

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

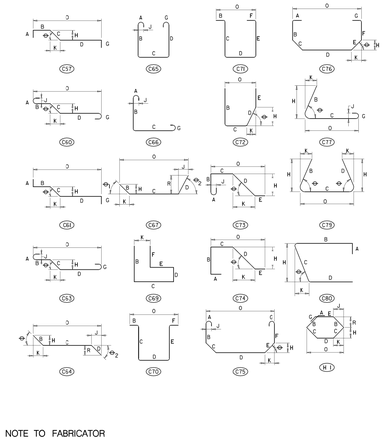
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 5 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

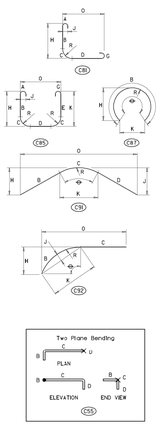
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 6 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

RADIUS BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

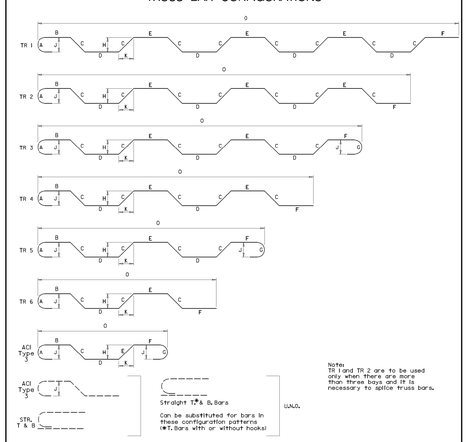
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES SHA - RADIUS BENDING
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 7 OF 8

REBAR BAR BENDS

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

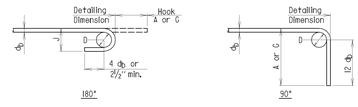
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS 1/2 NORMAL ACI BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 02/10/1994	BAR BEND TYPES TRUSS BAR CONFIGURATIONS
VERSION 1.0	DETAIL NO. REBAR-BB-101 SHEET 8 OF 8

REBAR BAR BENDS

HOOKS
TABLE I
REFERENCES

1. ACI Types 1 thru 26
2. SHA Standard Pin Bending
3. SHA Radius Bending



RECOMMENDED END HOOKS, ALL GRADES

BAR SIZE	Finished bend diameter D, in.	180 - deg hook A or G in	180 - deg hook J, in.	90 - deg hook A or G in
#3	2¼	5	3	6
#4	3	6	4	8
#5	3¾	7	5	10
#6	4½	8	6	1-0
#7	5¼	10	7	1-2
#8	6	11	8	1-4
#9	9½	1-3	11¾	1-7
#10	10¾	1-5	1-1¾	1-10
#11	12	1-7	1-2¾	2-0
#14	18¼	2-3	1-9¾	2-7
#18	24	3-0	2-6½	3-5

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/17/1997	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
VERSION 1.0	DETAIL NO. REBAR-BB-102 SHEET 1 OF 2

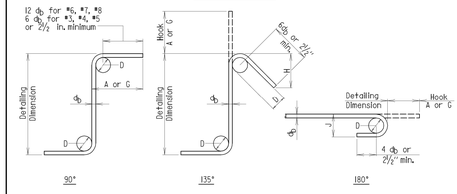
REBAR BAR BENDS

HOOKS
TABLE II
REFERENCES

1. ACI Types S1 thru S11
2. ACI Types T1 thru T8
3. SHA Ties and Stirrups

(Note: Tie and stirrup types supplied in sizes #3-#8)

STIRRUP AND TIE HOOKS



STIRRUP AND TIE HOOK DIMENSIONS, in.

BAR SIZE	D, in.	90 - deg hook A or G	135 - deg hook A or G	135 - deg hook H, approx
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3¾
#6	4½	1-0	7¾	4½
#7	5¼	1-2	9	5¼
#8	6	1-4	10¼	6

RECOMMENDED END HOOKS, ALL GRADES

BAR SIZE	Finished bend diameter D, in.	180 - deg hook A or G in	180 - deg hook J, in.
#3	2¼	5	3
#4	3	6	4
#5	3¾	7	5
#6	4½	8	6
#7	5¼	10	7
#8	6	11	8

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR OFFICE OF STRUCTURES DATE: 11/17/1997	REINFORCING STEEL HOOK TABLES AND DIAGRAMS
VERSION 1.0	DETAIL NO. REBAR-BB-102 SHEET 2 OF 2

REBAR BAR BENDS

RW-09

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

WRA
Whitman, Requardt & Associates, LLP
801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: GSC Drawn by: GSC Checked by: AC

STRUCTURAL DETAILS - 3

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 28 of 31

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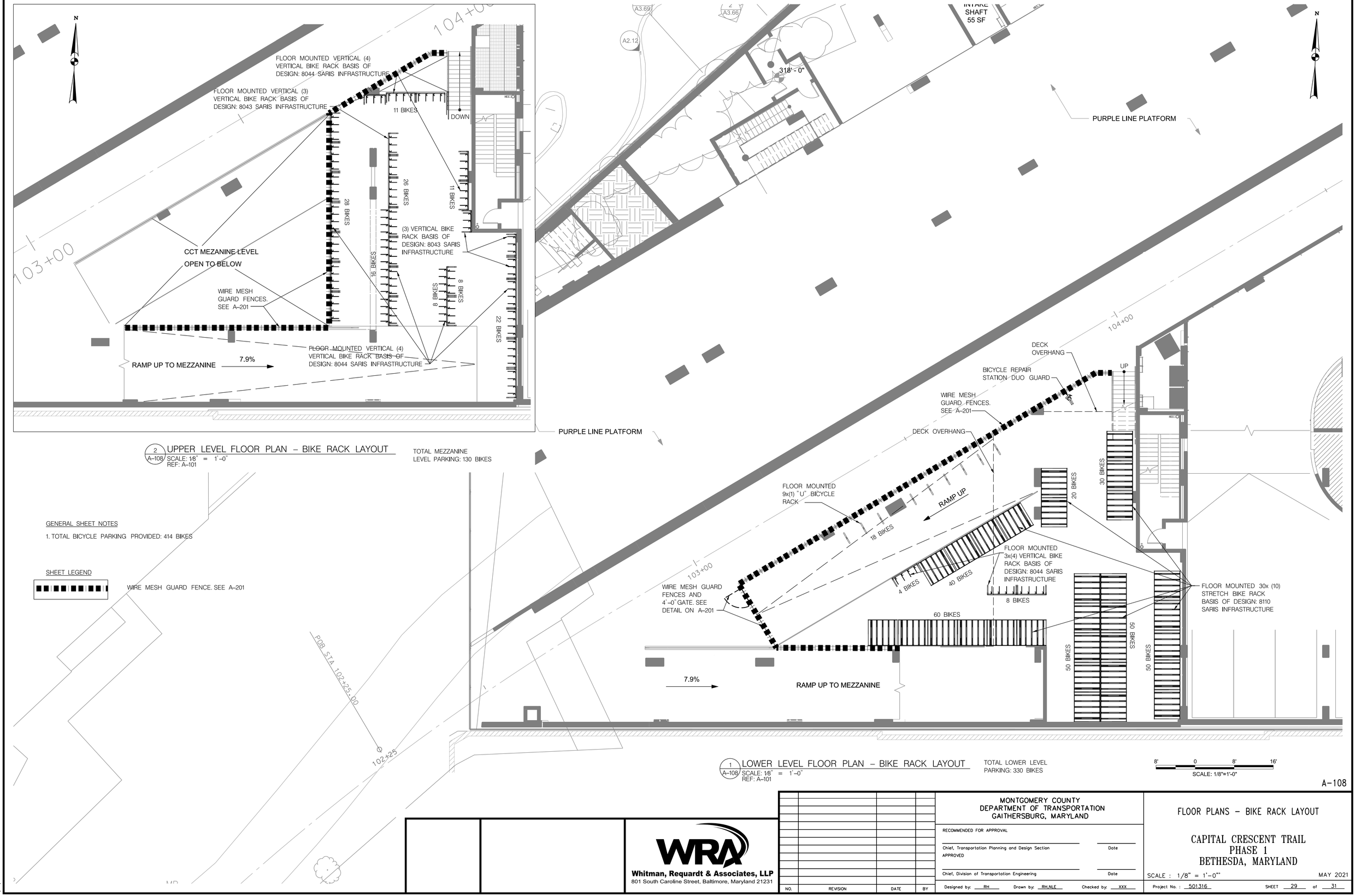

2 A–108 UPPER LEVEL FLOOR PLAN – BIKE RACK LAYOUT
SCALE: 1/8" = 1'–0"
REF: A–101

TOTAL MEZZANINE LEVEL PARKING: 130 BIKES

1 A–108 LOWER LEVEL FLOOR PLAN – BIKE RACK LAYOUT
SCALE: 1/8" = 1'–0"
REF: A–101

TOTAL LOWER LEVEL PARKING: 330 BIKES

8' 0 8' 16'
SCALE: 1/8"=1'-0"

GENERAL SHEET NOTES

1. TOTAL BICYCLE PARKING PROVIDED: 414 BIKES

SHEET LEGEND

WIRE MESH GUARD FENCE. SEE A–201

A–108

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GAITHERSBURG, MARYLAND

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

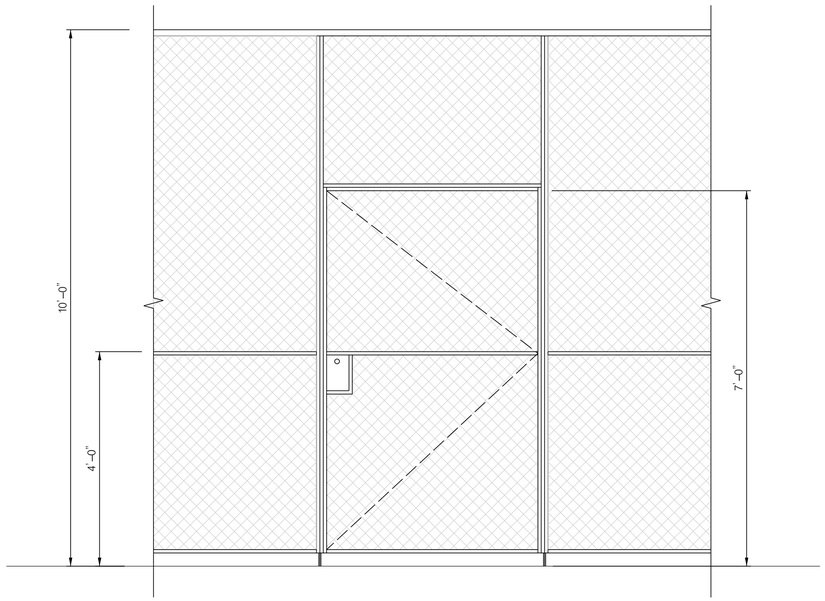
Designed by: RH Drawn by: RH,NLE Checked by: XXX

FLOOR PLANS – BIKE RACK LAYOUT

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : 1/8" = 1'–0"" MAY 2021

Project No. : 501316 SHEET 29 of 31



WIRE MESH GUARD ELEVATION
SCALE: 3/4" = 1'-0"

2' 0 2' 4'
SCALE: 3/4" = 1'-0"

A-201

PROFESSIONAL CERTIFICATION.
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801 South Caroline Street, Baltimore, Maryland 21231

NO.	REVISION	DATE	BY

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DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: RH Drawn by: NLE Checked by: XXX

ELEVATION - BIKE RACK AREA

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 30 of 31

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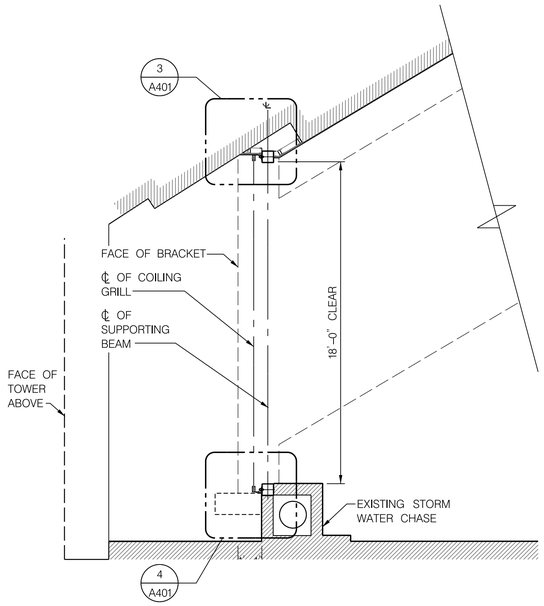
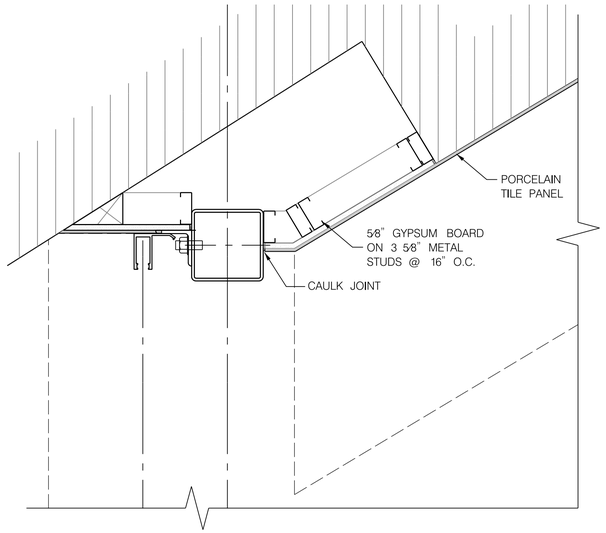
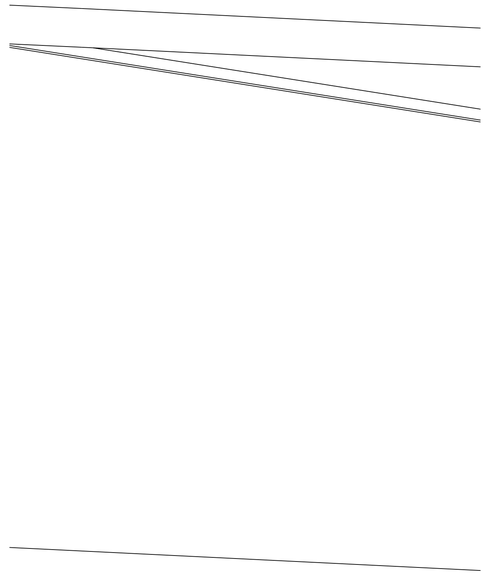


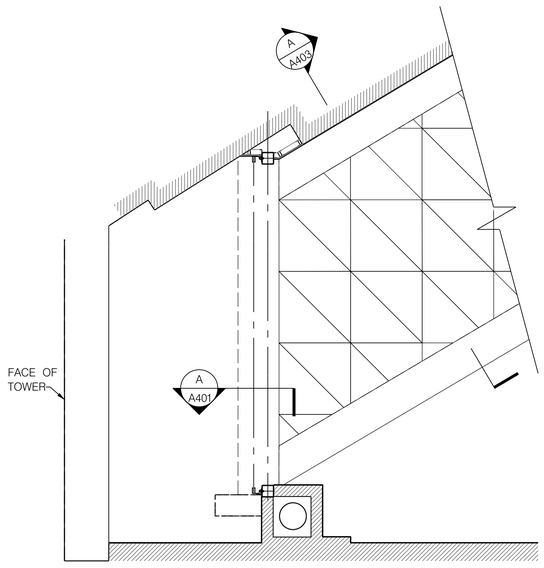
1 A401 PLAN DETAIL AT WESTERN PORTAL
SCALE: 1/4" =1'-0"



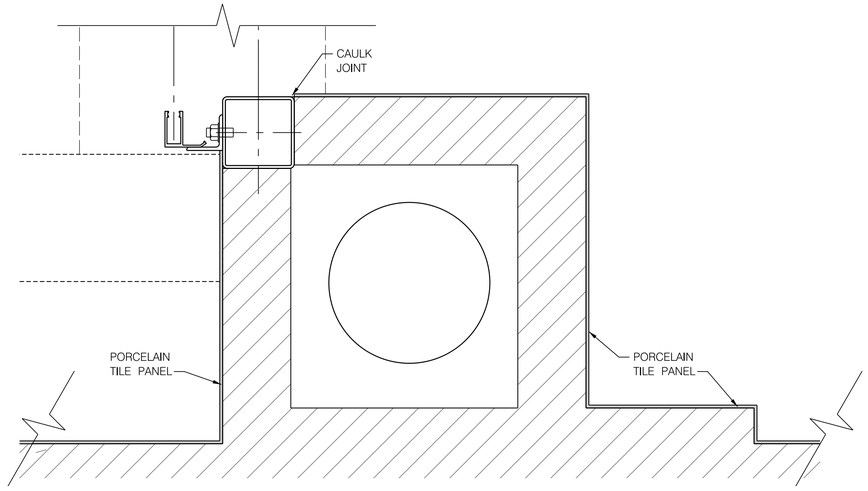
3 A401 COILING GRILLE PLAN DETAIL
SCALE: 1 1/2" =1'-0"



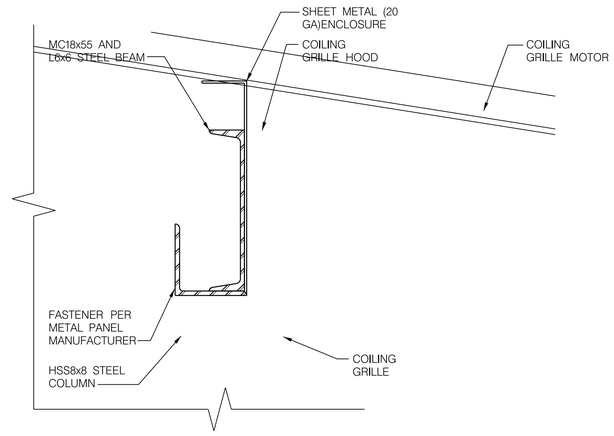
A A401 SECTION AT COILING GRILLE
SCALE: 1/2" =1'-0"



2 A401 REFLECTED CEILING PLAN DETAIL AT WESTERN PORTAL
SCALE: 1/4" =1'-0"



4 A401 COILING GRILLE PLAN DETAIL
SCALE: 1 1/2" =1'-0"



5 A401 COILING DOOR SECTION DETAIL
SCALE: 1 1/2" =1'-0"

A-401

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DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Transportation Planning and Design Section — Date

APPROVED

Chief, Division of Transportation Engineering — Date

Designed by: FAH Drawn by: NLE Checked by: XXX

PLAN DETAILS AT WESTERN PORTAL

CAPITAL CRESCENT TRAIL
PHASE 1
BETHESDA, MARYLAND

SCALE : AS SHOWN MAY 2021

Project No. : 501316 SHEET 31 of 31

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