

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING DESIGN PACKAGE (GEOPAK).
 GEOPAK Computer Identification No. 81077



FHWA-534-DATA 3E028
 PPMS-

STATE	FEDERAL AID		STATE		SHEET NO.
	PROJECT	ROUTE	PROJECT		
VA.	STP-5401(788)	236	0236-100-139	SEE TABULATIONS BELOW FOR SECTION NUMBERS	1

SHEET INDEX

- 1 TITLE SHEET
- 2 GENERAL NOTES AND ABBREVIATIONS
- 3 SIGNING AND MARKING GENERAL NOTES & DETAILS
- 4-5 TYPICAL SECTIONS
- 6-7 DETAIL SHEETS
- 8-12 ROADWAY PLANS
- 13 DRAINAGE DESCRIPTIONS
- 14-18 EROSION AND SEDIMENT CONTROL PLANS
- 19 STORM DRAIN PROFILES
- 20-21 BIORETENTION DETAIL SHEETS
- 22 RETAINING WALL GENERAL PLAN AND ELEVATION
- 23 RETAINING WALL TYPICAL SECTIONS AND DETAILS
- 24 SUMMARY OF QUANTITIES

COMMONWEALTH OF VIRGINIA

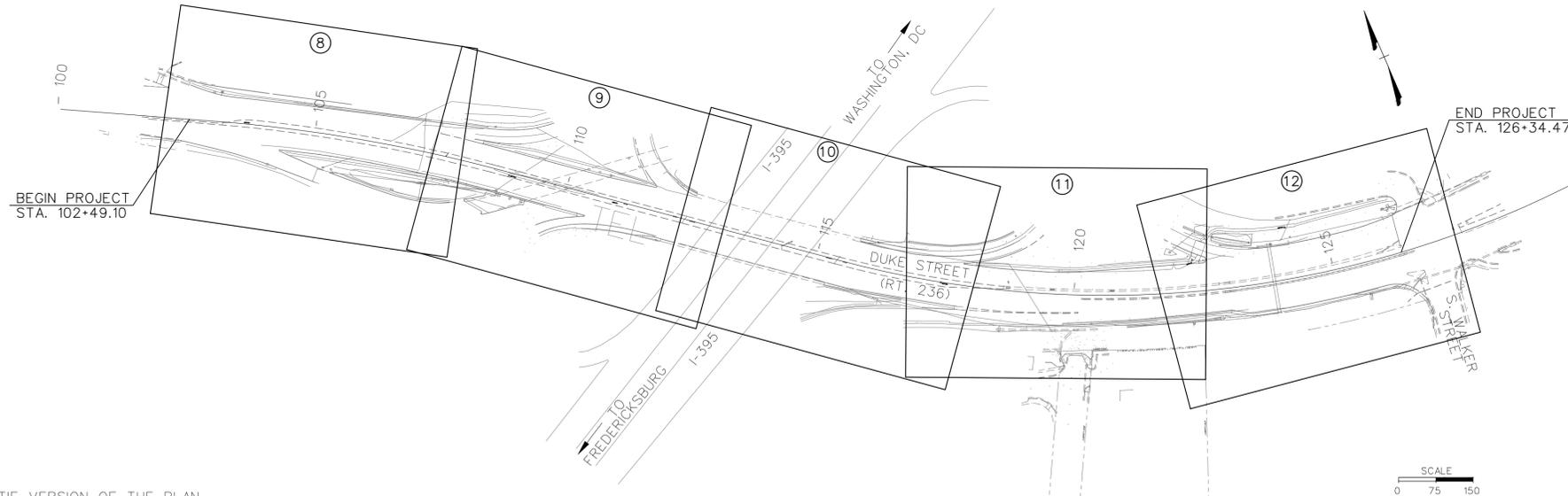


PLAN AND PROFILE OF PROPOSED
 STATE HIGHWAY

CITYWIDE SIDEWALK CONNECTIONS
 DUKE STREET PEDESTRIAN IMPROVEMENTS
 STATE PROJECT #0236-100-139, P101, M501
 CITY PROJECT #09-118
 JULY, 2014

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA	
Fr:	
To:	
ADT	N/A
ADT	N/A
DHV	N/A
D (%)	N/A
T (%)	N/A
V (MPH)	N/A

PROJECT MANAGER: KBK
 SURVEYED BY, DATE: MERCADO CONSULTANTS, INC.
 DESIGN BY: JDG/DIR
 SUBSURFACE UTILITY BY, DATE: N/A



THE COMPLETE ELECTRONIC .TIF VERSION OF THE PLAN ASSEMBLY AS AWARDED, INCLUDING ALL SUBSEQUENT REVISIONS, WILL BE THE OFFICIAL CONSTRUCTION PLANS. FOR INFORMATION RELATIVE TO ELECTRONIC FILES AND LAYERED PLANS, SEE GENERAL NOTES. DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT.

THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DEPARTMENT'S 2007 ROAD AND BRIDGE SPECIFICATIONS, 2008 ROAD AND BRIDGE STANDARDS, 2009 MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011 VIRGINIA WORK AREA PROTECTION MANUAL AND AS AMENDED BY CONTRACT PROVISIONS AND THE COMPLETE ELECTRONIC PDF VERSION OF THE PLAN ASSEMBLY.

ALL CURVES ARE TO BE SUPERELEVATED, TRANSITIONED AND WIDENED IN ACCORDANCE WITH STANDARD TC-5.01U, EXCEPT WHERE OTHERWISE NOTED.

THE ORIGINAL APPROVED TITLE SHEET(S), INCLUDING ORIGINAL SIGNATURES, IS FILED IN THE VDOT CENTRAL OFFICE PLAN LIBRARY. ANY MISUSE OF ELECTRONIC FILES, INCLUDING SCANNED SIGNATURES, IS ILLEGAL AND ENFORCED TO THE FULL EXTENT OF THE LAW.

DESCRIPTION REFERENCE
 POC 00+00.00 PROP. RTE. 000
 P. I. 00+00.00 CONN. RTE. 000

Signed and sealed by:

On the date of:

A copy of the original signed and sealed sheet is available.



POPULATION 148,892 (2013 CENSUS)

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	PPMS NO.	LENGTH INCLUDING BRIDGE(S)		LENGTH EXCLUDING BRIDGE(S)		TYPE PROJECT	DESCRIPTION
					FEET	MILES	FEET	MILES		
0236-100-139, P101, M501	C-501	STP-5401(788)	J000		2,385.37	0.45	2,186	0.41	CONSTRUCTION	CONSTRUCTION BASELINE NOT BASED ON VDOT BASELINE

NOTE: PROJECT LENGTH BASED ON CONSTRUCTION BASELINE

TIER 1 PROJECT

LOCALLY ADMINISTERED PROJECTS	
ALEXANDRIA CITY NAME OF LOCALITY	
NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICIAL (TYPED)	
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
DATE	TITLE OF POSITION
NAME OF RESPONSIBLE LOCAL GOVERNMENT OFFICIAL (TYPED)	
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	TITLE OF POSITION

RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
DATE	DISTRICT PLANNING AND INVESTMENT MANAGER
DATE	DISTRICT PROJECT DEVELOPMENT ENGINEER
APPROVED FOR CONSTRUCTION	
DATE	DISTRICT ADMINISTRATOR

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SVCS.	
APPROVED	DATE:
X DIRECTOR	
RECOMMENDED FOR APPROVAL	
X DEPUTY DIRECTOR OF OPERATIONS	DATE:
DEPUTY DIRECTOR OF INFRASTRUCTURE & ENVIRONMENT	
RECOMMENDED FOR APPROVAL	
X DEPUTY DIRECTOR OF TRANSPORTATION	DATE:
DEPUTY DIRECTOR OF TRANSPORTATION	
DEPARTMENT OF PROJECT IMPLEMENTATION	
APPROVED	DATE:
X DIRECTOR	

Copyright 2014, Commonwealth of Virginia

GENERAL

- ALL CONSTRUCTION METHODS AND MATERIAL SHALL CONFORM WITH THESE DRAWINGS, PROJECT SPECIFICATIONS, AND WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
 - VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS
 - MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
 - VIRGINIA WORK AREA PROTECTION MANUAL
 - VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH)
 - VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) DRAINAGE MANUAL
 - VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE STANDARDS
 - CITY OF ALEXANDRIA DESIGN AND CONSTRUCTION STANDARDS
- THE CONTRACTOR SHALL OBTAIN ALL APPLICABLE PERMITS AND LICENSES AND KEEP COPIES OF THE SAME ON SITE DURING CONSTRUCTION.
- THE CONTRACTOR SHALL REVIEW THE SITE FOR THIS PROJECT PRIOR TO WORK.
- THE CONTRACTOR SHALL CHECK ALL DIMENSIONS. ANY DISCREPANCIES FOUND SHALL BE CALLED TO THE ATTENTION OF THE CITY OF ALEXANDRIA AND BE RESOLVED BEFORE PROCEEDING WITH THE WORK.
- ALL INFORMATION SHOWN ON THESE DRAWINGS RELATIVE TO EXISTING CONDITIONS IS GIVEN AS THE BEST PRESENT KNOWLEDGE, BUT WITHOUT GUARANTEE OF ACCURACY. THE CONTRACTOR SHALL REPORT IMMEDIATELY TO CITY OF ALEXANDRIA ANY CONDITIONS CONFLICTING WITH THE DRAWINGS. FIELD MODIFICATIONS TO THE DRAWINGS SHALL NOT BE MADE WITHOUT THE CONSENT OF CITY OF ALEXANDRIA.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN WORK SITE, FREE FROM TRASH AND DEBRIS.
- THE CONTRACTOR SHALL KEEP AND MAINTAIN A SET OF APPROVED PROJECT PLANS AND SPECIFICATIONS ON THE SITE AT ALL TIMES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING WITH MATCHING MATERIALS ANY PAVEMENT, PAVEMENT MARKINGS, SIGNS, ETC. THAT MUST BE CUT OR REMOVED, OR THAT ARE DAMAGED DURING CONSTRUCTION. ANY REPAIRS TO EXISTING CONDITIONS SHALL BE PER THE CITY OF ALEXANDRIA STANDARDS.
- THE APPLICANT SHALL BE RESPONSIBLE FOR REPAIRS TO THE ADJACENT CURB, GUTTER, AND RIGHT-OF-WAY, IF DAMAGED DURING CONSTRUCTION ACTIVITY.
- THE CONTRACTOR SHALL BE AWARE OF THE LEBANON UNION (LINCOLNIA) CEMETERY IN THE PROJECT AREA. THE CEMETERY IS REGISTERED WITH THE VIRGINIA DEPARTMENT OF HISTORIC RESOURCES AS SITE 44AX100. IF ANY ARCHAEOLOGY ARTIFACTS ARE ENCOUNTERED DURING CONSTRUCTION, CONTRACTOR SHALL STOP WORK AND CONTACT THE CITY OF ALEXANDRIA ARCHAEOLOGY DEPARTMENT AT 703-746-4399.
- THE ROUTE 236 CONSTRUCTION BASELINE WAS DEVELOPED SPECIFICALLY FOR THIS PROJECT AND IS NOT A VDOT BASELINE.

UTILITIES

- PRIOR TO CONSTRUCTION OR EXCAVATION, THE CONTRACTOR SHALL ASSUME THE RESPONSIBILITY OF LOCATING ANY AND ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST OR CROSS THROUGH THE AREA OF CONSTRUCTION WHETHER OR NOT THEY ARE SHOWN ON THE PLANS. BEFORE DIGGING, TO AVOID THE UTILITIES, THE CONTRACTOR SHALL CALL MISS UTILITY OF VIRGINIA" AT 1-800-552-7001. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS SOLE EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.
- THIS PLAN DOES NOT GUARANTEE THE EXISTENCE, NONEXISTENCE, SIZE, TYPE, LOCATION, ALIGNMENT, OR DEPTH OF ANY OR ALL UNDERGROUND UTILITIES OR OTHER FACILITIES. WHERE SURFACE FEATURES (MANHOLES, CATCH BASINS, VALVES, ETC.) ARE UNAVAILABLE OR INCONCLUSIVE, INFORMATION SHOWN MAY BE FROM UTILITY OWNER'S RECORDS AND/OR ELECTRONIC LINE TRACING, THE RELIABILITY OF WHICH IS UNCERTAIN. THE CONTRACTOR SHALL PERFORM TEST EXCAVATION OR OTHER REINVESTIGATION AS NECESSARY TO VERIFY LOCATION AND CLEARANCES.
- STATE LAW MANDATES THE NOTIFICATION OF UTILITY OWNERS 48 HOURS IN ADVANCE OF EXCAVATION. FOR LOCATION OF UTILITIES CALL:

UTILITY OWNERS	TELEPHONE
DOMINION VIRGINIA POWER	888-667-3000
VERIZON COMMUNICATIONS	888-826-2355
COMCAST	888-683-1000
WASHINGTON GAS	703-750-1000
PEPCO	202-833-7500
VIRGINIA AMERICAN WATER	703-491-2136
SANITARY SEWER - CITY OF ALEXANDRIA	703-746-4488
- CONTRACTOR SHALL CONFORM TO THE "OVERHEAD HIGH VOLTAGE ACT" (EFFECTIVE JULY 1, 2003) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.

COORDINATION

- CONSTRUCTION WILL TAKE PLACE ADJACENT TO ONGOING TRAFFIC OPERATIONS. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITIES WITH CITY OF ALEXANDRIA.
- THE CONTRCTOR SHALL SUBMIT A SCHEDULE FOR CONSTRUCTION TO THE CITY OF ALEXANDRIA IN ACCORDANCE WITH PROJECT SPECIFICATIONS.

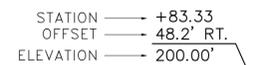
CONSTRUCTION NOTES

- ALL CLEARING, GRUBBING, GRADING, AND PAVING SHALL BE PERFORMED IN ACCORDANCE WITH VDOT SPECIFICATIONS AND STANDARDS.
- EXISTING VEGETATION SURROUNDING THE CONSTRUCTION AREA SHALL REMAIN IN A NATURAL STATE. TREES NEAR THE CONSTRUCTION AREA SHALL BE PROTECTED IN ACCORDANCE WITH DETAILS AND NOTES AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN.
- THE CONTRACTOR SHALL STRIP TOPSOIL AND ANY ORGANIC LADEN SOIL AND STORE FOR USE IN BACKFILLING AND LANDSCAPING FOR SITE RESTORATION. THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY EXCESS SOIL AFTER RESTORATION OF THE SITE.
- WHEN MATERIALS WHICH ARE UNSUITABLE FOR FOUNDATIONS, SUBGRADES, OR ROADWAY PURPOSES OCCUR WITHIN THE LIMITS OF CONSTRUCTION, THE CONTRACTOR SHALL BE REQUIRED TO EXCAVATE SUCH MATERIAL BELOW THE GRADE SHOWN ON THE PLANS. THE AREAS SO EXCAVATED SHALL BE BACKFILLED WITH APPROVED SUITABLE SELECT FILL MATERIAL.
- ALL UNPAVED SURFACES SHALL BE GRADED TO PROVIDE POSITIVE DRAINAGE AWAY FROM PAVED AREAS AND TOWARD DRAINAGE STRUCTURES.
- ALL DISTURBED AREAS SHALL BE PREPARED, SEEDED, AND MULCHED.
- DISTURBED AREAS WITHIN THE PROJECT LIMITS THAT WILL REMAIN INACTIVE FOR A PERIOD OF 14 CALENDAR DAYS OR LONGER SHALL BE TEMPORARILY STABILIZED WITH SEED AND STRAW, MULCH, OR OTHER ACCEPTABLE GROUND COVER.
- THE CONTRACTOR IS REQUIRED TO NOTIFY CITY OF ALEXANDRIA THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION AND SPECIFICALLY REQUEST INSPECTION BEFORE BEGINNING:
 - INSTALLATION OF SILTATION AND EROSION CONTROL MEASURES
 - CLEARING AND GRUBBING
 - EARTHWORK
 - BACKFILL OF ANY STORM DRAINAGE PIPE, CULVERTS, INLET, AND OTHER UTILITIES
 - INSTALLATION OF ANY UNDERGROUND UTILITY, INCLUDING STORM PIPES, CULVERT & INLETS
 - BEFORE PLACING SUBBASE, BASE OR PAVING SURFACE
 - INSTALLATION OF ANY FORMS
 - PLACING OF ANY CONCRETE
 - BACKFILL OF ANY FOUNDATIONS OR WALLS.
- WHERE STANDARD SLOPE ROUNDOFFS WOULD DAMAGE TREES, BUSHES, OR OTHER DESIRABLE VEGETATION THEY SHALL BE OMITTED WHEN SO ORDERED BY CITY OF ALEXANDRIA.

MAINTENANCE OF TRAFFIC NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR THE DEVELOPMENT OF A TRAFFIC CONTROL PLAN WHICH MUST BE APPROVED BY THE CITY OF ALEXANDRIA AND/ OR VDOT.
- THE CONTRACTOR SHALL OBTAIN A VDOT RIGHT-OF-WAY PERMIT PRIOR TO COMMENCEMENT.
- ALL WORK AREA (AND THE LIMITS THEREOF) AND LANE CLOSURES SHALL BE IN ACCORDANCE WITH THE VIRGINIA WORK AREA PROTECTION MANUAL, 2011 EDITION (INCLUDING ALL CURRENT REVISIONS), AND THE VIRGINIA SUPPLEMENT TO THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) LATEST EDITION AND SHALL BE DIRECTED OR APPROVED BY THE CITY OF ALEXANDRIA.
- ALL REQUIRED CITY OF ALEXANDRIA PERMITS SHALL BE OBTAINED.

LABELS



ABBREVIATIONS

AC	ACRE	LF	LINEAR FEET
A/C	AIR CONDITIONING	LG	LONG
ADDL	ADDITIONAL	LP	LOW POINT
ALUM	ALUMINIUM	MB	MAILBOX
APPROX	APPROXIMATE(LY)	MH	MANHOLE
ARND	AROUND	MAX	MAXIMUM
ASPH	ASPHALT	MIN	MINIMUM
BC	BOTTOM OF CURB	MISC	MISCELLANEOUS
BIT	BITUMINOUS	MON	MONUMENT
BM	BENCHMARK	NO	NUMBER
BOT	BOTTOM	NTS	NOT TO SCALE
BRK	BRICK	OC	ON CENTER
BTWN	BETWEEN	OD	OUTSIDE DIAMETER
BW	BOTTOM OF WALL	OE	OVERHEAD ELECTRIC
CB	CATCH BASIN	PCC	POINT OF COMPOUND CURVATURE
CCFR	CENTRIGUALLY CAST FIBERGLASS REINFORCED CLOSED CIRCUIT TELEVISION	PG	PAGE
CCTV	CUBIC FEET PER SECOND	PL	PROPERTY LINE
CFS	CAST IRON PIPE	POC	POINT OF CURVATURE
CIP	CONTRACTION JOINT	POT	POINT OF TANGENCY
CJ	CENTERLINE	PP	POWER POLE
CL	CHAIN LINK FENCE	PROP	PROPOSED
CLF	CLEAR	PSI	POUNDS PER SQUARE INCH
CLR	CONCRETE MONUMENT	PVC	POLYVINYL CHLORIDE
CM	CORRUGATED METAL PIPE	QTY	QUANTITY
CMP	CONCRETE MASONRY UNIT(S)	R/W	RIGHT-OF-WAY
CMV	CLEANOUT	RAD	RADIUS
CONC	COMMUNICATIONS	RCP	REINFORCED CONCRETE PIPE
C.O.	CONTINUOUS	REIF	REINFORCE(D. ING)
COMM	COMBINED SEWER	REQ'D	REQUIRED
CONT	CENTER(ED)	S	SLOPE
CS	DRAIN	SAN	SANITARY SEWER
CTR	DUCTILE IRON	SD	STORM DRAIN
D	DIA	SEG	SEGMENT
DI	DIAGONAL	SF	SEDIMENT FENCE
DIA	DUCTILE IRON PIPE	SPEC	SPECIFICATION, SPECIFIED
DIAG	DRAWING	SR/S.R.	STATE ROUTE
DIP	DOWEL(S)	SS	SANITARY SEWER
DWG	EACH	ST	STREET
DL(S)	EACH FACE	STA	STATION
EA	EXPANSION JOINT	STD	STANDARD
EJ	ELEVATION	STL	STEEL
EJ	ELECTRICAL MANHOLE	STRUC	STRUCTURE(S, URAL)
EM	EDGE OF PAVFEMENT	SQ	SQUARE
EOP	EACH WAY	T	THICKNESS
EW	EXISTING	T&B	TOP & BOTTOM
EX/EXIST	FIRE HYDRANT	TC	TOP OF CURB
FH	FORCE MAIN	TW	TOP OF WALL
FM	FEET/FOOT	TYP	TYPICAL
FT	FOOTING	UNO	UNLESS NOTED OTHERWISE
FTG	NATURAL GAS	UT	UNDERGROUND TELEPHONE
G	GAS VALVE	VCP	VITRIFIED CLAY PIPE
GALV	GALVANIZED	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
GV	INCH	W	WATER
IN	INVERT	W/	WITH
INV	INSIDE DIAMETER	WL	WATER LEVEL
ID	JUNCTION CHAMBER	W.M.	WATER METER
JC		WRPD	WRAPPED
		WS	WATER SURFACE
		W.V.	WATER VALVE

LEGEND

---	PROPERTY LINE	— TEL —	TELEPHONE LINE
-x-x-x-	EX. FENCE	— GAS —	GAS LINE
—	EDGE OF CONCRETE	— E —	ELECTRIC LINE
—250—	EX. CONTOUR LINE	— W —	WATER LINE
	TREE		EXISTING JUNCTION BOX
	EVERGREEN		PROP. STORM DRAIN PIPE
	UTILITY POLE		PROP. INLET
	LIGHT POLE		TEST BORING (SEE SPECIFICATIONS FOR TEST BORING LOGS)
	GAS VALVE		
	WATER VALVE		
	EX. SIGN		
	TRAVERSE POINT		
	ELECTRIC MANHOLE		
	STORM DRAIN MANHOLE		
	TELEPHONE MANHOLE		
	GUY		
	GRATE INLET		
	TELEPHONE POLE		

Transportation & Environmental Services
 Engineering & Design Division
 P.O. Box 178 Alexandria, Va. 22313
 Duke Street Pedestrian Improvements



REVISIONS

GENERAL NOTES & ABBREVIATIONS

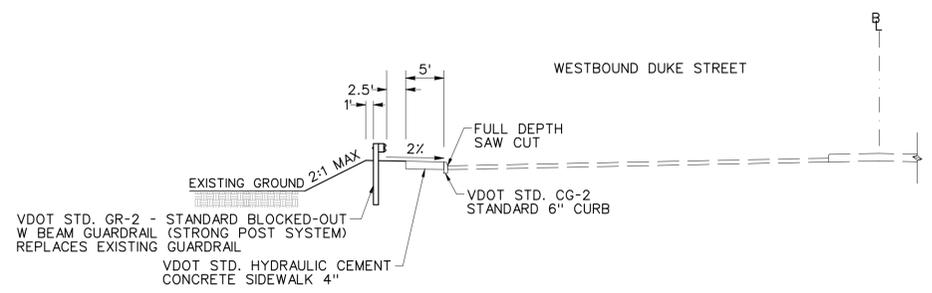
REVISIONS

Typical Sections

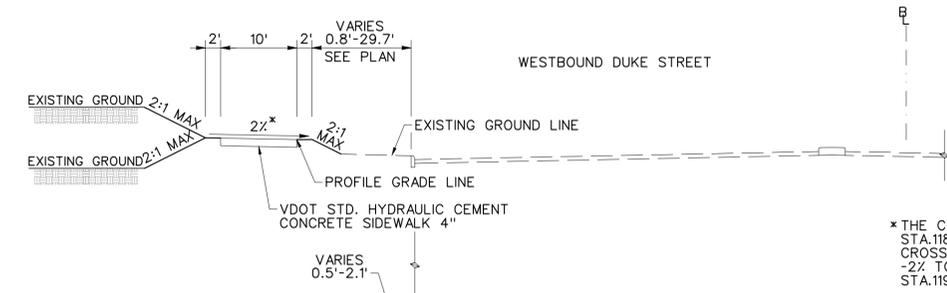
Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313
Duke Street Pedestrian Improvements



- NOTES:
1. SAW CUTS ARE INCIDENTAL TO THE CURB ITEMS.
 2. THE GRADING ADJACENT TO THE GR-9 GUARDRAIL TERMINALS SHOULD FOLLOW THE VDOT STANDARD DRAWINGS FOR GR-9.

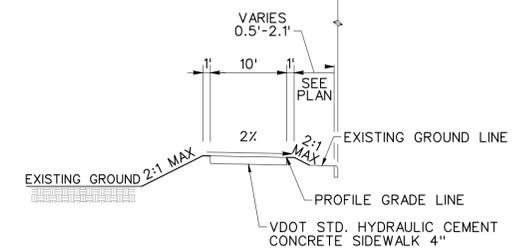


DUKE ST - SECTION 8
STA. 111+57.04 TO STA. 112+37.69
STA. 115+66.55 TO STA. 116+98.15

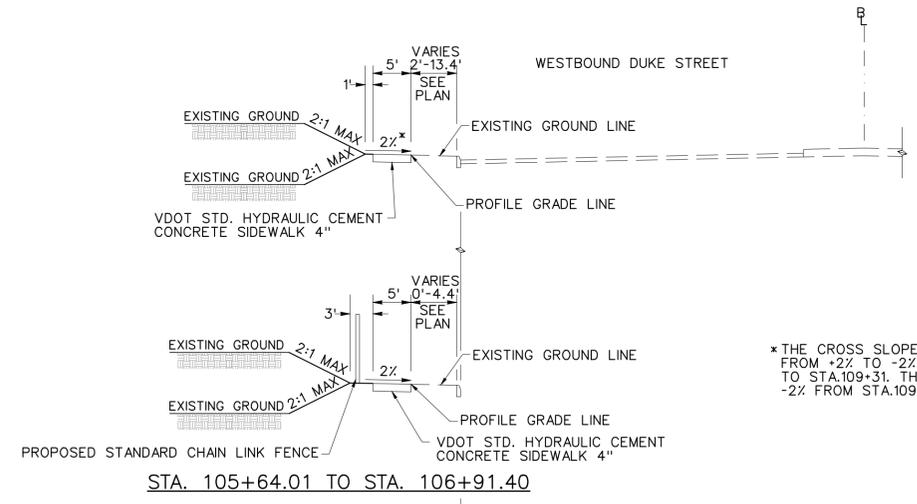


STA. 121+65.87 TO STA. 122+18.73

* THE CROSS SLOPE IS -2% FROM STA.118+18 TO STA.119+72. THE CROSS SLOPE TRANSITIONS FROM -2% TO +2% FROM STA.119+72 TO STA.119+82.

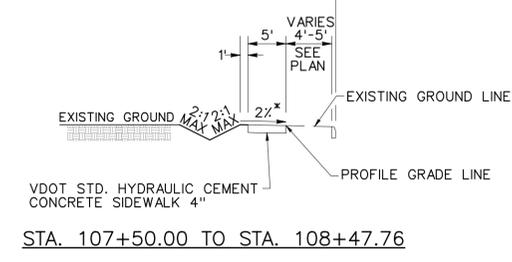


DUKE ST - SECTION 10
STA. 118+17.95 TO STA. 126+34.47



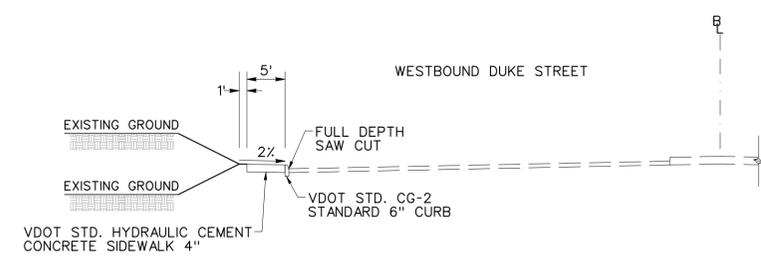
STA. 105+64.01 TO STA. 106+91.40

* THE CROSS SLOPE TRANSITIONS FROM +2% TO -2% FROM STA.109+21 TO STA.109+31. THE CROSS SLOPE IS -2% FROM STA.109+31 TO STA.111+45.

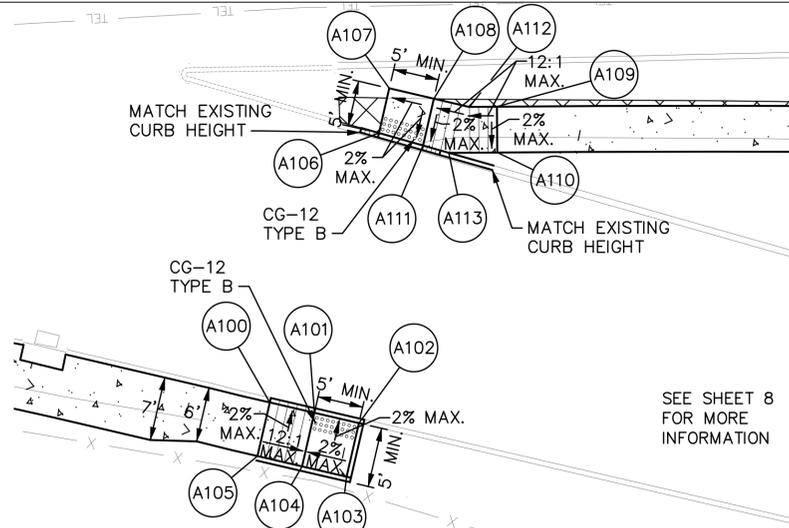


STA. 107+50.00 TO STA. 108+47.76

DUKE ST - SECTION 7
STA. 105+64.01 TO STA. 111+44.51

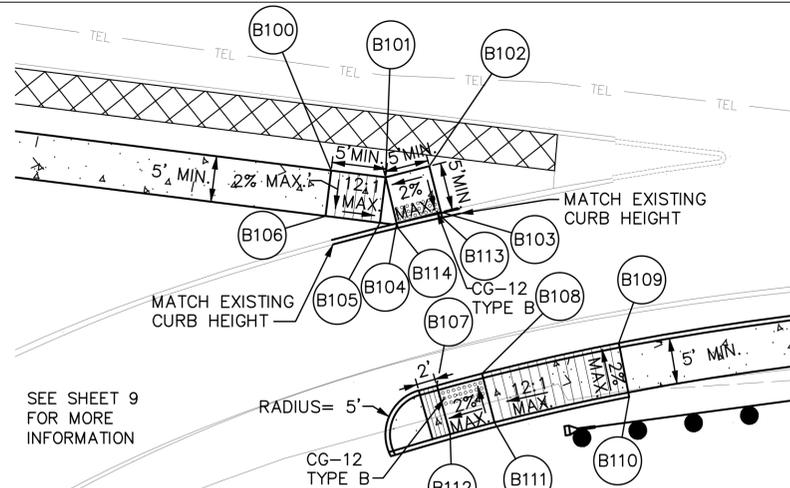


DUKE ST - SECTION 9
STA. 116+98.15 TO STA. 118+24.37



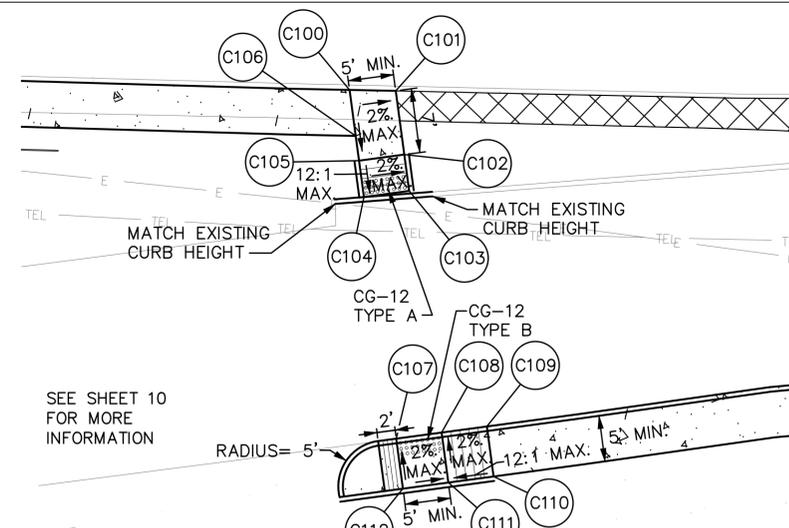
POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
A100	ROUTE 236	104+33.70	78.99' RT	6983474.37	11870174.78	247.65
A101	ROUTE 236	104+38.68	80.19' RT	6983470.88	11870178.35	247.25
A102	ROUTE 236	104+43.67	81.38' RT	6983467.38	11870181.93	247.35
A103	ROUTE 236	104+42.20	87.21' RT	6983463.09	11870117.73	247.45
A104	ROUTE 236	104+37.21	86.01' RT	6983466.59	11870174.16	247.35
A105	ROUTE 236	104+32.22	84.81' RT	6983470.09	11870170.58	247.75
A106	ROUTE 236	104+46.30	49.75' RT	6983493.27	11870200.28	248.18
A107	ROUTE 236	104+47.51	44.89' RT	6983496.84	11870203.77	248.21
A108	ROUTE 236	104+52.44	46.07' RT	4983493.34	11870207.35	248.31
A109	ROUTE 236	104+59.43	47.00' RT	6983489.01	11870212.79	248.85
A110	ROUTE 236	104+59.44	52.00' RT	6983484.72	11870210.22	248.75
A111	ROUTE 236	104+51.18	51.17' RT	6983489.59	11870203.68	248.21
A112	ROUTE 236	104+56.35	47.00' RT	6983490.57	11870210.18	248.62
A113	ROUTE 236	104+54.05	52.00' RT	6983487.44	11870205.67	248.45

DETAIL A
PEDESTRIAN RAMP



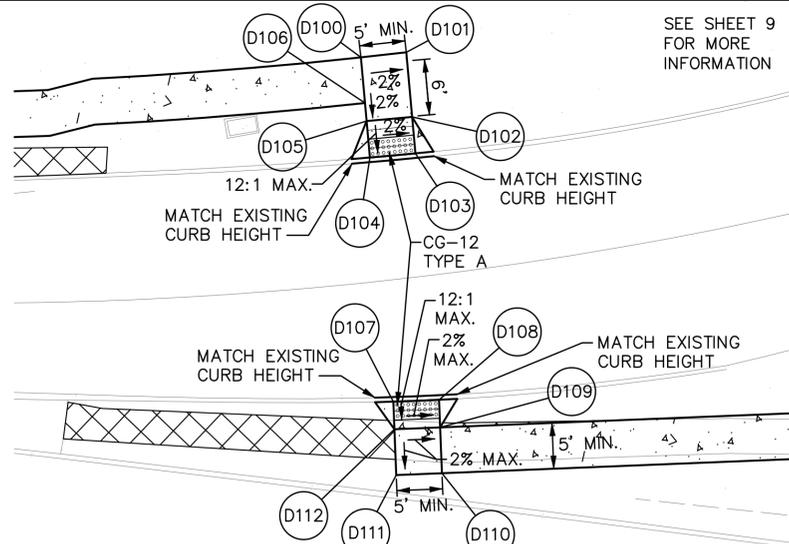
POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
B100	ROUTE 236	109+99.36	49.70' RT	6983176.35	11870644.72	245.02
B101	ROUTE 236	110+05.36	49.71' RT	6983172.62	11870649.42	244.60
B102	ROUTE 236	110+09.96	47.92' RT	6983171.17	11870654.13	244.70
B103	ROUTE 236	110+11.83	52.73' RT	6983166.24	11870652.62	244.60
B104	ROUTE 236	110+07.18	54.54' RT	6983167.70	11870647.84	244.50
B105	ROUTE 236	110+05.35	54.71' RT	6983168.70	11870646.31	244.50
B106	ROUTE 236	109+99.35	54.70' RT	6983172.44	11870641.61	244.92
B107	ROUTE 236	110+13.89	72.04' RT	6983149.82	11870642.24	243.37
B108	ROUTE 236	110+18.62	70.14' RT	6983148.37	11870647.13	243.63
B109	ROUTE 236	110+33.03	65.01' RT	6983143.45	11870661.61	244.95
B110	ROUTE 236	110+34.57	69.77' RT	6983138.76	11870659.86	245.05
B111	ROUTE 236	110+20.44	74.80' RT	6983143.59	11870645.66	243.69
B112	ROUTE 236	110+15.80	76.66' RT	6983145.01	11870640.87	243.59
B113	ROUTE 236	110+12.05	53.29' RT	6983165.66	11870652.44	244.70
B114	ROUTE 236	110+07.36	55.01' RT	6983167.22	11870647.69	244.50

DETAIL B
PEDESTRIAN RAMP



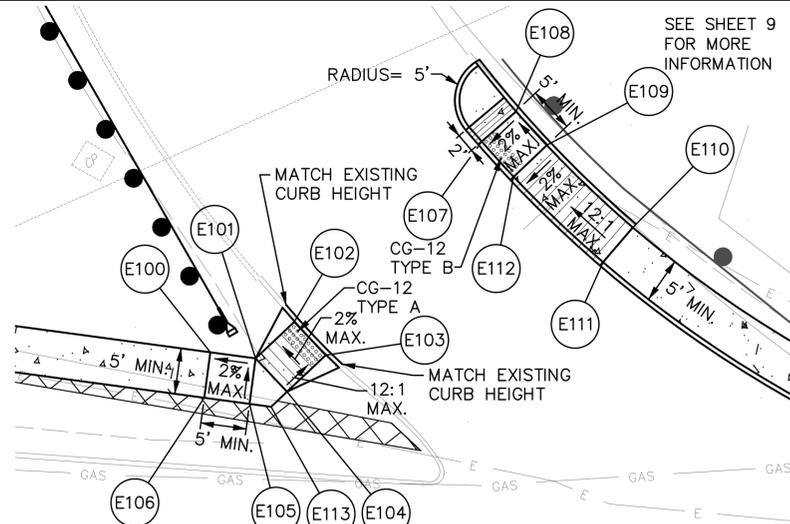
POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
C100	ROUTE 236	117+09.89	41.94' RT	6982745.38	11871214.15	246.26
C101	ROUTE 236	117+14.85	41.88' RT	6982742.66	11871218.41	246.11
C102	ROUTE 236	117+15.98	48.79' RT	6982736.24	11871215.59	246.07
C103	ROUTE 236	117+16.62	52.74' RT	6982732.58	11871213.98	245.73
C104	ROUTE 236	117+11.82	53.56' RT	6982734.59	11871209.40	245.85
C105	ROUTE 236	117+11.17	49.62' RT	6982738.25	11871211.01	246.17
C106	ROUTE 236	117+10.72	46.93' RT	6982740.75	11871212.11	246.20
C107	ROUTE 236	117+16.16	80.29' RT	6982709.78	11871198.51	244.72
C108	ROUTE 236	117+20.91	79.47' RT	6982707.77	11871203.09	244.61
C109	ROUTE 236	117+25.65	78.66' RT	6982705.76	11871207.66	245.01
C110	ROUTE 236	117+26.42	83.60' RT	6982701.18	11871205.65	245.11
C111	ROUTE 236	117+21.68	84.40' RT	6982703.19	11871201.07	244.71
C112	ROUTE 236	117+16.95	85.22' RT	6982705.20	11871196.50	244.81

DETAIL C
PEDESTRIAN RAMP



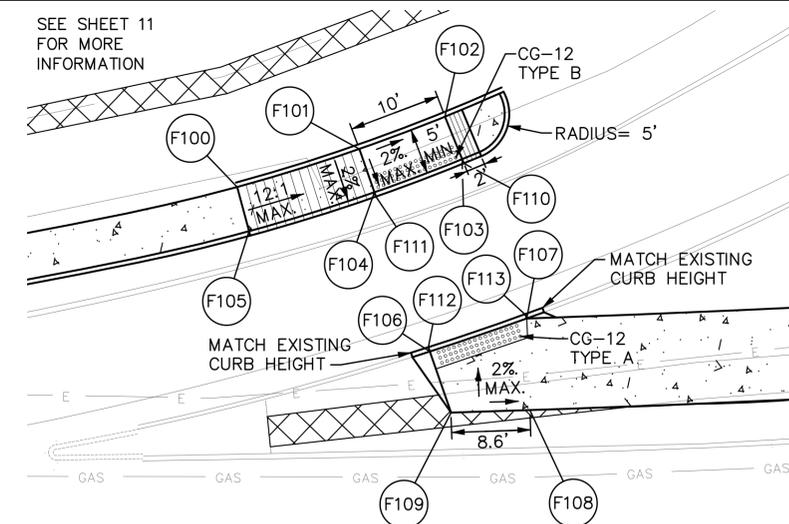
POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
D100	ROUTE 236	108+40.80	87.15' LT	6983382.37	11870604.84	245.90
D101	ROUTE 236	108+45.54	88.28' LT	6983380.26	11870609.37	245.84
D102	ROUTE 236	108+46.96	81.36' LT	6983373.91	11870606.25	245.72
D103	ROUTE 236	108+47.76	77.44' LT	6983370.32	11870604.48	245.70
D104	ROUTE 236	108+42.99	76.42' LT	6983372.53	11870599.99	245.78
D105	ROUTE 236	108+42.19	80.33' LT	6983376.12	11870601.76	245.80
D106	ROUTE 236	108+41.80	82.26' LT	6983377.88	11870602.63	245.80
D107	ROUTE 236	108+48.54	50.26' LT	6983348.45	11870588.32	247.08
D108	ROUTE 236	108+53.39	51.05' LT	6983346.02	11870592.69	247.07
D109	ROUTE 236	108+53.87	48.08' LT	6983343.39	11870591.23	246.82
D110	ROUTE 236	108+54.65	43.14' LT	6983339.02	11870588.80	246.72
D111	ROUTE 236	108+49.78	42.35' LT	6983341.44	11870584.43	246.73
D112	ROUTE 236	108+49.00	47.28' LT	6983345.81	11870586.86	246.83

DETAIL D
PEDESTRIAN RAMP



POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
E100	ROUTE 236	111+31.93	56.26' LT	6983177.15	11870814.42	247.78
E101	ROUTE 236	111+36.93	56.20' LT	6983174.01	11870818.31	247.88
E102	ROUTE 236	111+40.63	60.68' LT	6983175.22	11870824.00	247.38
E103	ROUTE 236	111+44.49	57.50' LT	6983170.33	11870825.04	247.53
E104	ROUTE 236	111+40.78	53.02' LT	6983169.12	11870819.35	247.98
E105	ROUTE 236	111+36.87	51.20' LT	6983170.12	11870815.16	247.98
E106	ROUTE 236	111+31.87	51.26' LT	6983173.27	11870811.28	247.81
E107	ROUTE 236	111+58.57	82.71' LT	6983181.35	11870851.73	245.50
E108	ROUTE 236	111+61.91	86.43' LT	6983182.20	11870856.66	245.70
E109	ROUTE 236	111+65.70	83.16' LT	6983177.29	11870857.60	245.80
E110	ROUTE 236	111+76.13	75.42' LT	6983164.74	11870860.98	246.92
E111	ROUTE 236	111+73.37	71.25' LT	6983163.19	11870856.22	246.82
E112	ROUTE 236	111+62.51	79.31' LT	6983176.24	11870852.71	245.74
E113	ROUTE 236	111+39.25	51.18' LT	6983168.62	11870817.02	247.98

DETAIL E
PEDESTRIAN RAMP



POINT	BASELINE	STATION	OFFSET	NORTH	EAST	ELEVATION
F100	ROUTE 236	117+96.63	70.63' LT	6982794.90	11871346.92	239.35
F101	ROUTE 236	118+10.55	74.61' LT	6982791.48	11871360.49	238.18
F102	ROUTE 236	118+20.34	77.97' LT	6982789.62	11871370.31	237.98
F103	ROUTE 236	118+22.19	73.30' LT	6982784.68	11871369.51	237.89
F104	ROUTE 236	118+12.18	69.86' LT	6982786.59	11871359.44	238.12
F105	ROUTE 236	117+97.94	65.79' LT	6982790.10	11871345.52	239.25
F106	ROUTE 236	118+18.11	52.38' LT	6982768.60	11871355.56	239.48
F107	ROUTE 236	118+29.10	55.76' LT	6982766.16	11871366.50	239.28
F108	ROUTE 236	118+29.18	45.76' LT	6982757.45	11871361.59	239.48
F109	ROUTE 236	118+20.35	45.69' LT	6982761.71	11871354.08	239.54
F110	ROUTE 236	118+22.36	72.83' LT	6982784.19	11871369.42	237.64
F111	ROUTE 236	118+12.34	69.39' LT	6982786.10	11871359.33	238.12
F112	ROUTE 236	118+17.95	52.86' LT	6982769.09	11871355.67	239.48
F113	ROUTE 236	118+28.93	56.24' LT	6982766.65	11871366.60	239.11

DETAIL F
PEDESTRIAN RAMP

Scale: 1"=10' Project: 09-118 Sheet: 6 of 24

Detail Sheet 1

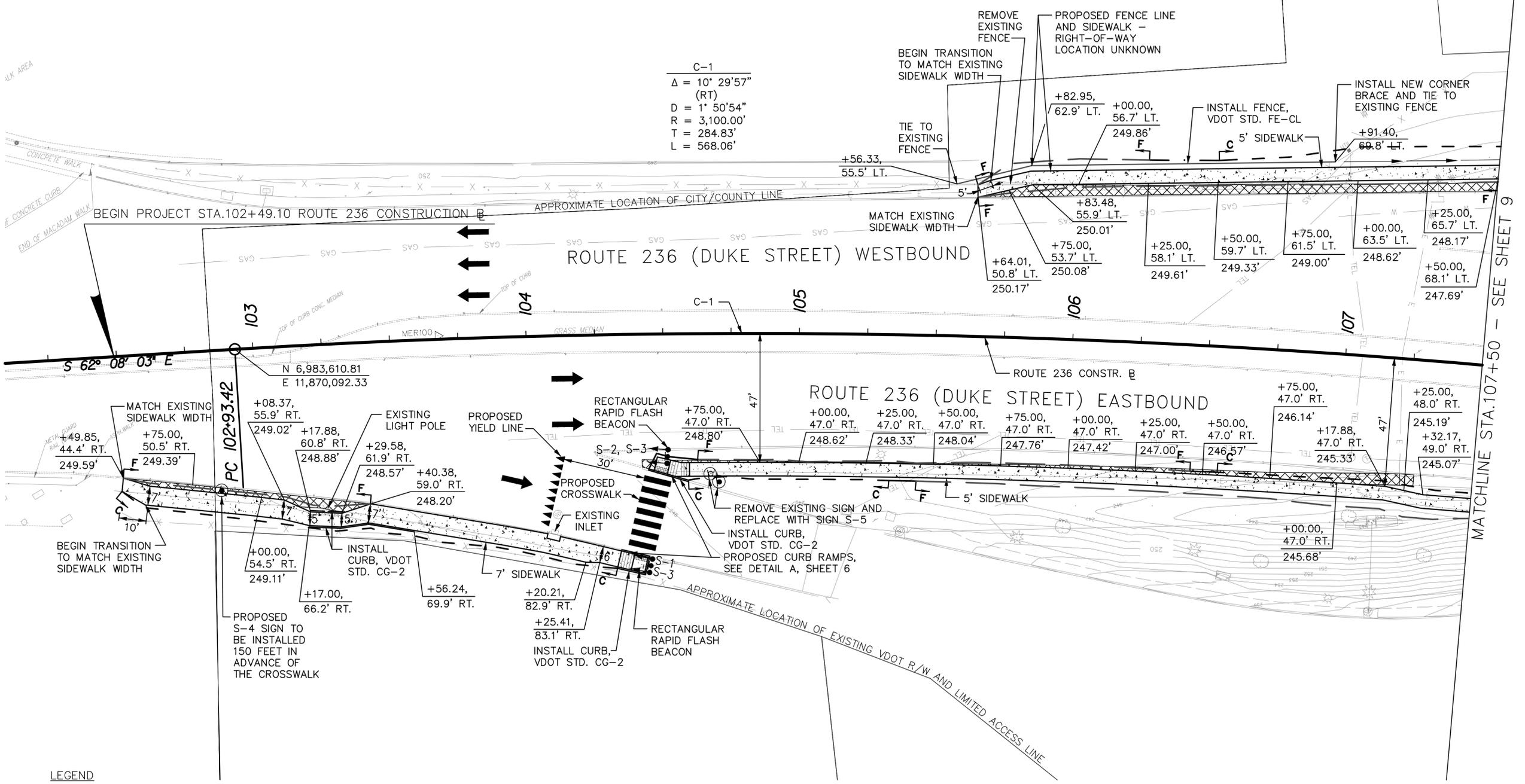
Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313

Duke Street Pedestrian Improvements



FILE NAME: \\bair03\2010\2010\10037_Alexandria\Task 5_Duke-395\CADD\Plans\PHD-D001_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Friday, July 11, 2014 - 2:57pm

SURVEY CONTROL POINTS AND ELEVATIONS						
POINT	STATION	OFFSET	COORDINATES		ELEVATION	REMARKS
			NORTH	EAST		
MER100	103+67.78	1.26' LT.	6,983,576.3679	11,870,158.2603	250.50	TRAV



- LEGEND**
- PROPOSED HYDRAULIC CEMENT CONCRETE SIDEWALK 4"
 - PROPOSED CG-12 DETECTABLE WARNING SURFACE
 - REMOVAL OF SIDEWALK TO REPLACED WITH TOPSOIL CLASS B 2"
 - CLEAR VEGETATION

NO.	DATE	DESCRIPTION

Roadway Plan
Sheet 1

Scale: 1"=20' Project: 09-118 Sheet: 8 of 24

Transportation & Environmental Services
 Engineering & Design Division
 P.O. Box 178 Alexandria, Va. 22313



FILE NAME: \\bairv03\2010\10037_Alexandria\Task 5_Duke-395\CADD\Plans\PHD-P001_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Wednesday, July 16, 2014 - 10:57am

REVISIONS

Roadway Plan
Sheet 3

Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313
Duke Street Pedestrian Improvements

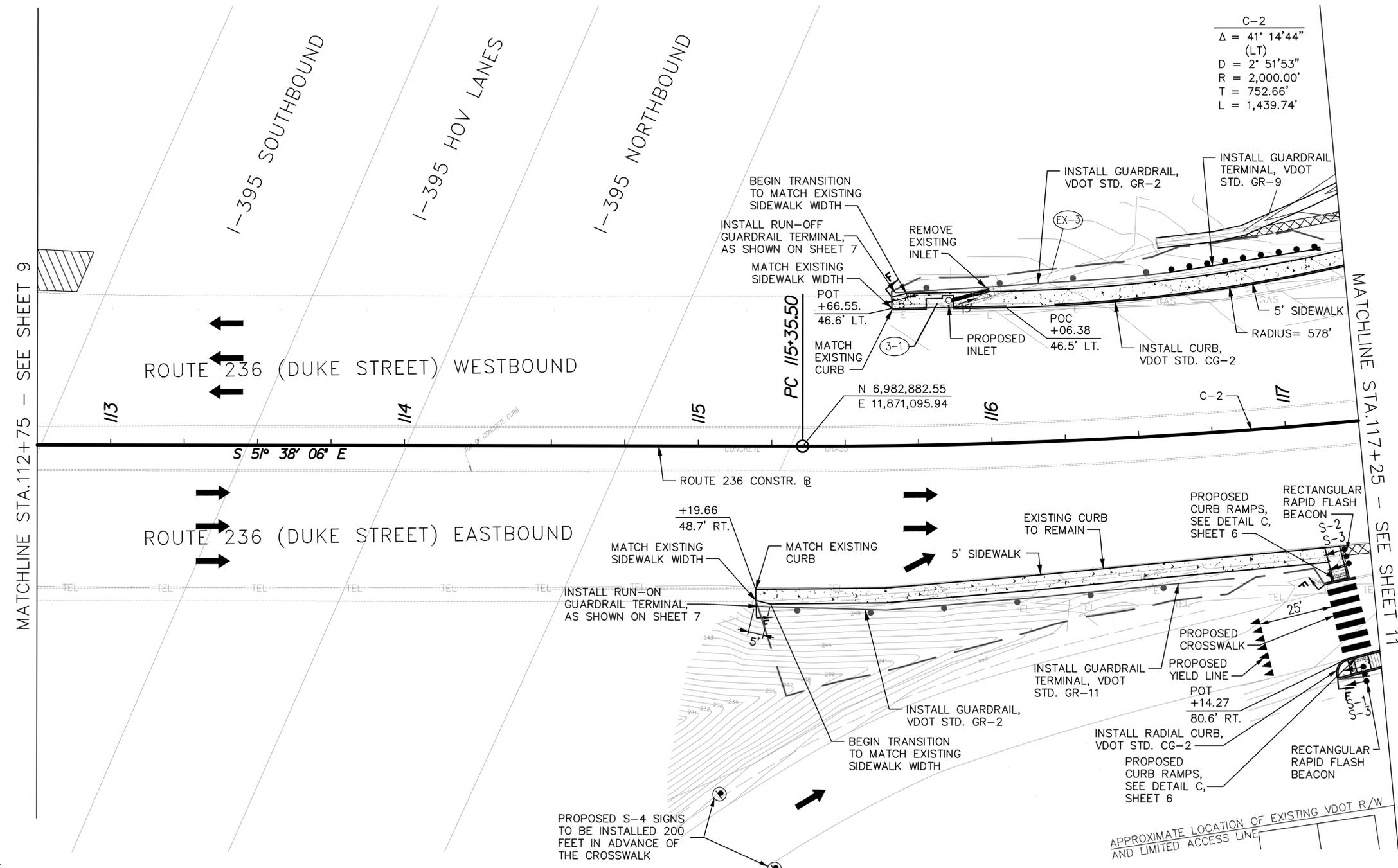


NOTES:

- 1) PAVED DITCH PG-2A TYPE E, SHALL BE ADDED FROM STA. 116+85, LT TO 117+40 LT. AS SHOWN ON THE PLAN.
- 2) EXISTING CONCRETE DITCH SHALL BE REMOVED FROM STA. 116+85, LT. TO 119+10, LT.



$$\begin{aligned}
 &C-2 \\
 &\Delta = 41^\circ 14' 44'' \\
 &\quad (LT) \\
 &D = 2' 51' 53'' \\
 &R = 2,000.00' \\
 &T = 752.66' \\
 &L = 1,439.74'
 \end{aligned}$$



LEGEND

- PROPOSED HYDRAULIC CEMENT CONCRETE SIDEWALK 4"
- PROPOSED CG-12 DETECTABLE WARNING SURFACE
- REMOVAL OF SIDEWALK TO BE REPLACED WITH TOPSOIL CLASS B 2"
- CLEAR VEGETATION

SURVEY CONTROL POINTS AND ELEVATIONS						
POINT	STATION	OFFSET	COORDINATES		ELEVATION	REMARKS
			NORTH	EAST		
MER102	117+36.28	0.94' RT.	6,982,765.2496	11,871,258.8371	244.49	TRAV

- NOTES:**
- 1) PAVED DITCH PG-2A TYPE E, SHALL BE ADDED FROM STA. 116+85, LT TO 117+40 LT. AS SHOWN ON THE PLAN.
 - 2) EXISTING CONCRETE DITCH SHALL BE REMOVED FROM STA. 116+85, LT. TO 119+10, LT.
 - 3) THE CITY OF ALEXANDRIA IS RESPONSIBLE FOR THE MAINTENANCE OF THE BIORETENTION FACILITY.



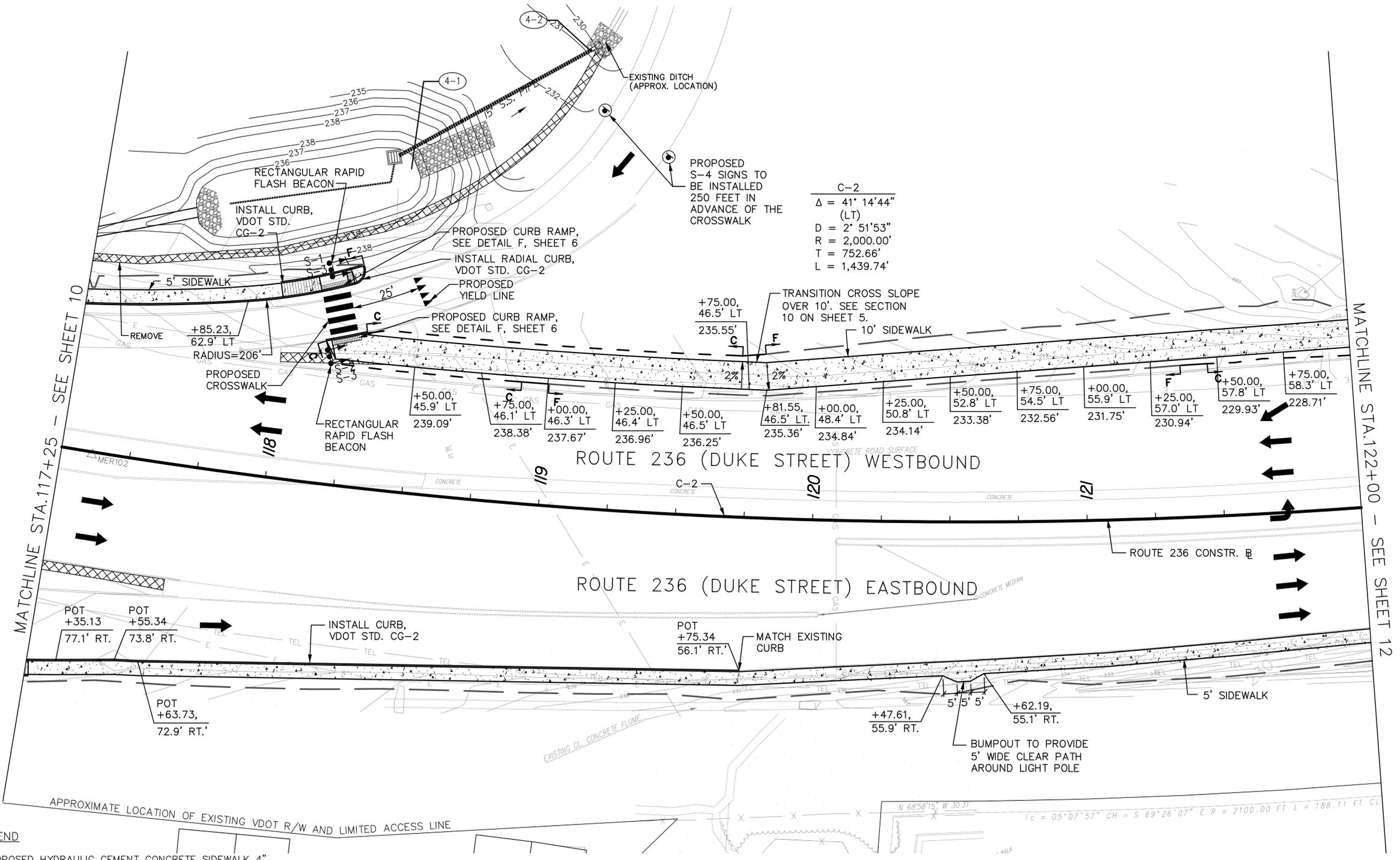
REVISIONS

Roadway Plan
Sheet 4

Scale: 1"=20' Project: 09-118 Sheet: 11 of 24

Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313

Duke Street Pedestrian Improvements



C-2

$$\Delta = 41' 14' 44'' \text{ (LT)}$$

$$D = 2' 51' 53''$$

$$R = 2,000.00'$$

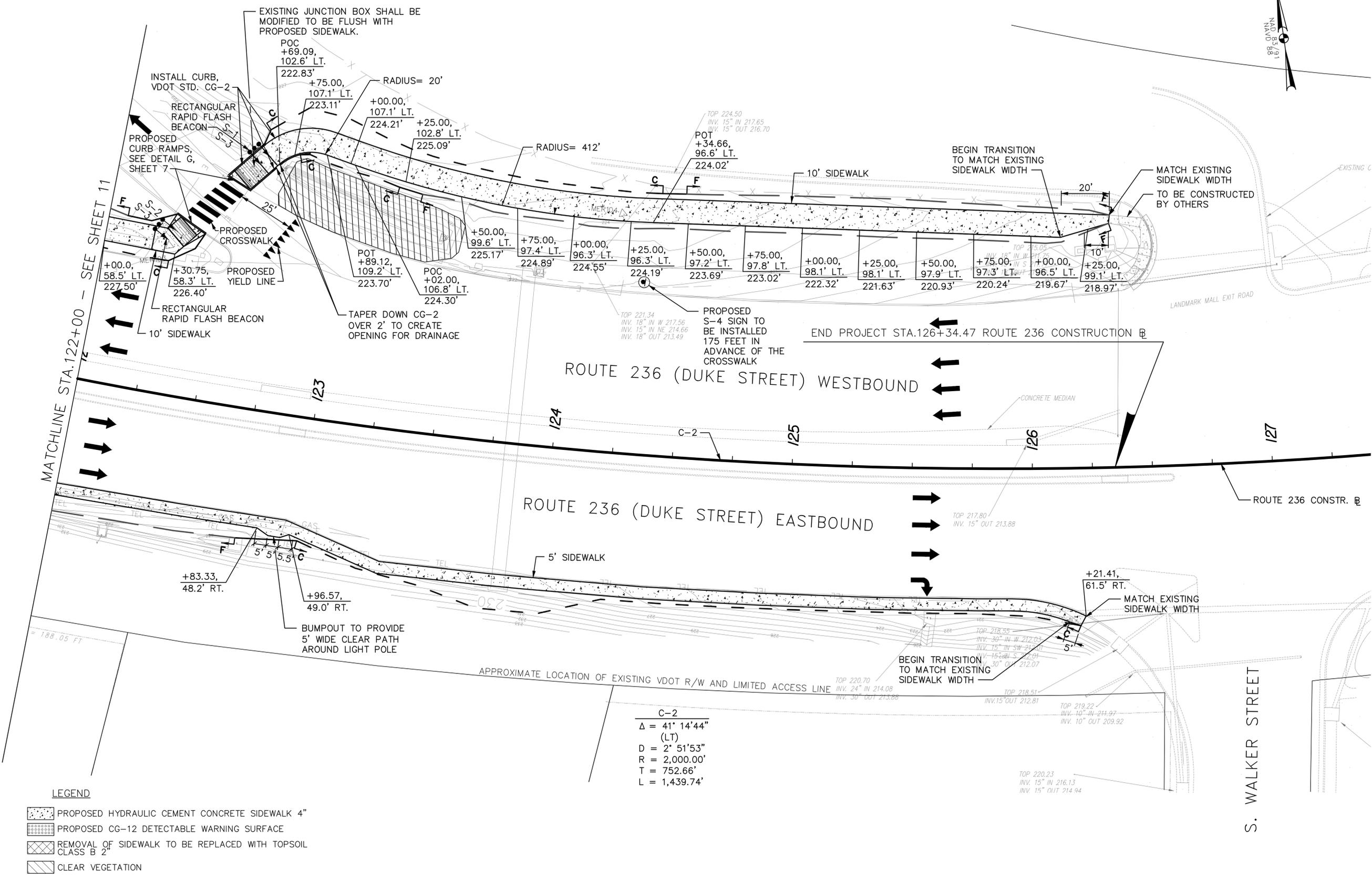
$$T = 752.66'$$

$$L = 1,439.74'$$

+50.00, 45.9' LT	+75.00, 46.1' LT	+00.00, 46.3' LT	+25.00, 46.4' LT	+50.00, 46.5' LT	+81.55, 46.5' LT	+00.00, 48.4' LT	+25.00, 50.8' LT	+50.00, 52.8' LT	+75.00, 54.5' LT	+00.00, 55.9' LT	+25.00, 57.0' LT	+50.00, 57.8' LT	+75.00, 58.3' LT
239.09'	238.38'	237.67'	236.96'	236.25'	235.36'	234.84'	234.14'	233.38'	232.56'	231.75'	230.94'	229.93'	228.71'

- LEGEND**
- PROPOSED HYDRAULIC CEMENT CONCRETE SIDEWALK 4"
 - PROPOSED CG-12 DETECTABLE WARNING SURFACE
 - REMOVAL OF SIDEWALK TO BE REPLACED WITH TOPSOIL CLASS B 2"
 - CLEAR VEGETATION

SURVEY CONTROL POINTS AND ELEVATIONS						
POINT	STATION	OFFSET	COORDINATES		ELEVATION	REMARKS
			NORTH	EAST		
MER103	122+27.82	61.40' LT.	6,982,612.6196	11,871,721.1347	227.37	TRAV
MER104	124+21.08	99.38' LT.	6,982,598.7481	11,871,909.8895	224.52	TRAV



NO.	DATE	BY	DESCRIPTION

Revisions table with 4 columns: NO., DATE, BY, DESCRIPTION.

Roadway Plan
Sheet 5

Scale: 1"=20' Project: 09-118 Sheet: 12 of 24

Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313
Duke Street Pedestrian Improvements



- LEGEND**
- PROPOSED HYDRAULIC CEMENT CONCRETE SIDEWALK 4"
 - PROPOSED CG-12 DETECTABLE WARNING SURFACE
 - REMOVAL OF SIDEWALK TO BE REPLACED WITH TOPSOIL CLASS B 2"
 - CLEAR VEGETATION

C-2
 $\Delta = 41^\circ 14'44''$
 (LT)
 $D = 2^\circ 51'53''$
 $R = 2,000.00'$
 $T = 752.66'$
 $L = 1,439.74'$

DRAINAGE DESCRIPTIONS

2-1

1 St'd DI-3B Req'd.
L=4', H=3.8', Inv. 244.3
Nose Type B

2-1 Ex-1

18' - 15" Storm Sewer Pipe (3' Cover)
Inv. (in) 244.3, Inv. (out) 243.2

Ex-1

Connect To Existing 15" Pipe
Inv. 243.2 (Based on Record Drawing)
To Be Cleaned Out
Field Verification needed

2-2

1 St'd DI-3B Req'd.
L=8', H=4.0', Inv. 245.4
Nose Type B

2-2 Ex-2

6.2' - 15" Storm Sewer Pipe (3' Cover)
Inv. (in) 245.4, Inv. (out) 245.7

Ex-2

Connect To Existing Flume
Inv. 245.7 (Based on Record Drawing)
Field Verification needed

3-1

1 St'd DI-3B Req'd.
L=8', H=4.0', Inv. 242.9
Nose Type B

3-1 Ex-3

7.3' - 15" Storm Sewer Pipe (3' Cover)
Inv. (in) 242.9, Inv. (out) 241.2

Ex-3

Connect To Existing 15" Pipe
Inv. 241.2

4-1

1 St'd DI-1A Req'd.
H=7.0', Inv. 230.0

4-1 4-2

82' - 15" Storm Sewer Pipe (3' Cover)
Inv. (in) 230.0, Inv. (out) 229.0

4-2

1 St'd 15" ES-1 Req'd. Inv. 229.0
Installation Type A Req'd.
EC-1, Class I Req'd.
Type A Installation Req'd.

STANDARD PAVED DITCHES, PG-2A TYPE E

STATION		SIDE
FROM	TO	
116+60	117+60	LEFT

NOTES:

- FOR MULTIPLE LINE INSTALLATIONS, DIMENSION S IS TO GOVERN THE PROTECTION OUTSIDE THE CHANNEL WIDTH (W).
- ON ANY INSTALLATION REQUIRING CULVERT OUTLET PROTECTION WHERE NO ENDWALL OR ENDSECTION IS SPECIFIED ON THE PLANS, CONSTRUCTION IS TO BE IN ACCORDANCE WITH DETAIL 2 SHOWN ABOVE.
- GEOTEXTILE FABRIC TO BE INSTALLED UNDER CLASS A1, I, AND II MATERIALS IN ACCORDANCE WITH THE SPECIFICATIONS.
- S = DIAMETER OF CIRCULAR CULVERT OR SPAN FOR BOX, ELLIPTICAL OR ARCH CULVERT.
H = DIAMETER OF CIRCULAR CULVERT OR RISE/HEIGHT FOR BOX, ELLIPTICAL OR ARCH CULVERT.

* USE TYPICAL SECTION SHOWN ON PLANS FOR SIDE SLOPE, BOTTOM WIDTH AND DEPTH OF CHANNEL OR MATCH EXISTING DITCH OR NATURAL GROUND.

TYPE OF OUTLET PROTECTION MATERIAL	MAXIMUM OUTLET VELOCITY (FOR DESIGN STORM)	MINIMUM "T" (INCHES)
CLASS A1 CLASS A1 DRY RIPRAP	8 fps	18
CLASS I CLASS I DRY RIPRAP	14 fps	24
CLASS II CLASS II DRY RIPRAP	19 fps	36

OUTLET PROTECTION MINIMUM LENGTH (L)	
TYPE A INSTALLATION	3H
TYPE B INSTALLATION	5H

SPECIFICATION REFERENCE	CULVERT OUTLET PROTECTION		VDOT ROAD AND BRIDGE STANDARDS
204	VIRGINIA DEPARTMENT OF TRANSPORTATION		REVISION DATE
245			SHEET 1 OF 1
303			113.01
414			

REVISIONS

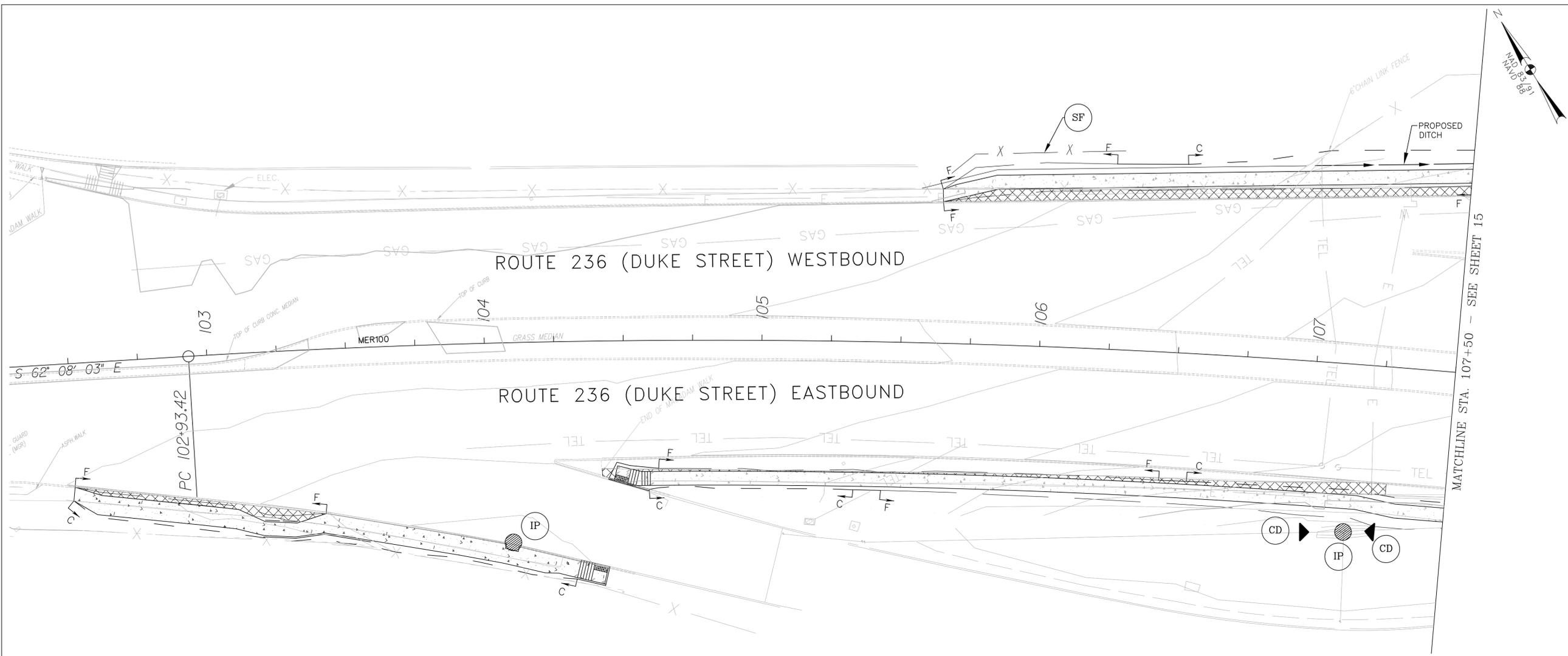
Drainage Descriptions

Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313
Duke Street Pedestrian Improvements



FILE NAME: M:\projects\2010\10037_Alexandria\Task_Duke\13-pd-0001_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Friday, July 11, 2014 - 2:50pm

FILE NAME: M:\projects\2010\10037_Alexandria\Task4_Duke-395\CADD\SHEETS\14-peS-0001_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, July 14, 2014 - 2:40pm



PLAN SCALE: 1"=20'

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. TEMPORARY SILT FENCE HAS BEEN SHOWN ALONG THE PROPOSED IMPROVEMENT EDGES WHERE ADJACENT PROPERTIES ARE AT ELEVATIONS CLOSE TO THE PROPOSED GRADE. THE CONTRACTOR SHALL USE THIS PRACTICE AS NECESSARY AND AS DIRECTED BY THE ENGINEER OR INSPECTOR TO ENSURE THAT NO UNFILTERED STORM DRAIN RUNOFF EXITS THE SITE.
2. EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
3. ALL STORM DRAIN INLETS SHALL HAVE SEDIMENT PROTECTION DURING CONSTRUCTION, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS AND AS DIRECTED BY THE ENGINEER OR INSPECTOR.
4. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT EACH LOCATION OF INGRESS OR EGRESS FROM BARE SOIL TO A PAVED ROADWAY IN ORDER TO PREVENT DEPOSITION OF MATERIAL ONTO PUBLIC ROADS.
5. THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS FOR STORM DRAIN INLET PROTECTION FOR APPROVAL. THESE PRACTICES MUST BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS SECTION 3.07 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
6. ALL EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA EROSION AND SEDIMENT CONTROL LAW, REGULATIONS, AND CERTIFICATION REGULATIONS OF THE VIRGINIA DIVISION OF SOIL AND WATER CONSERVATION.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT ALL EROSION CONTROL DEVICES PERIODICALLY AND AFTER EVERY RAINFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

GENERAL EROSION AND SEDIMENT CONTROL NOTES (CONTINUED)

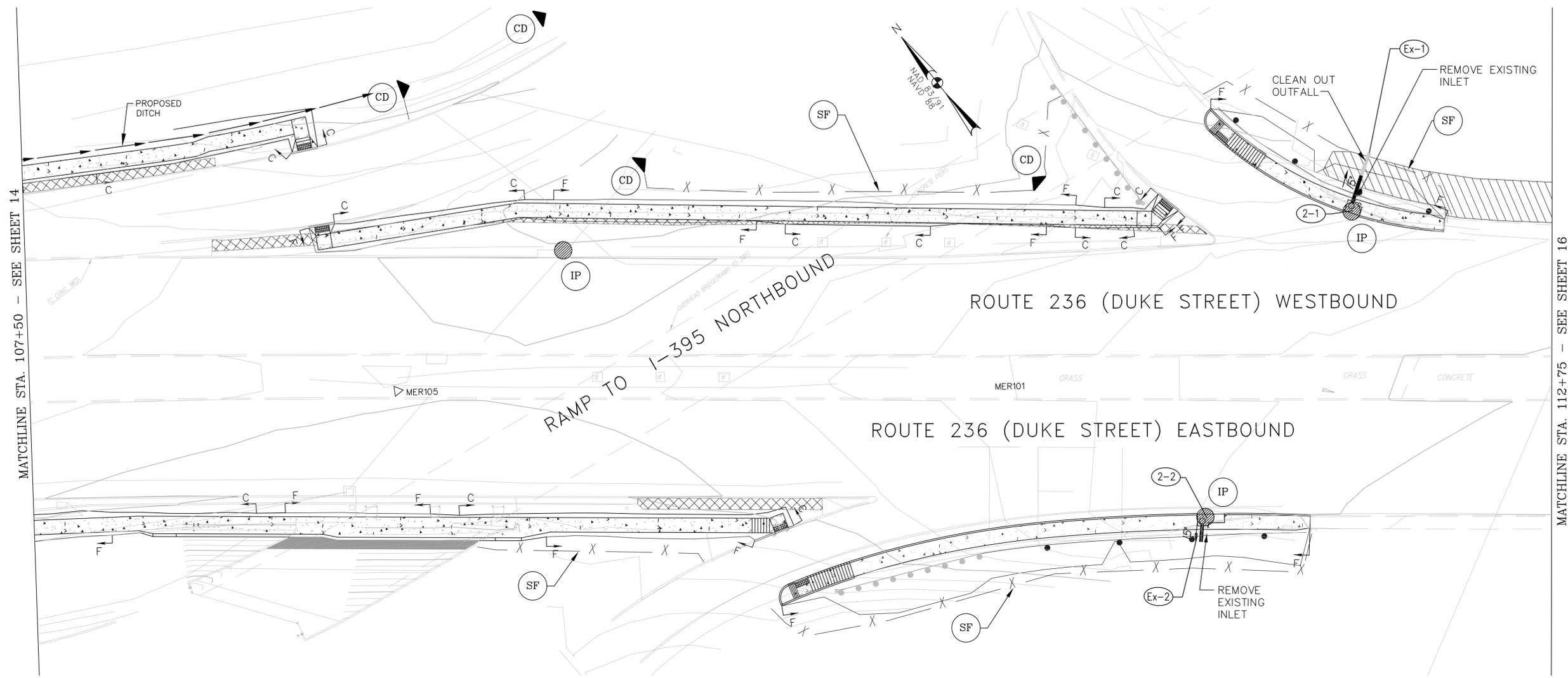
8. IF ADDITIONAL EROSION CONTROL DEVICES ARE FOUND TO BE NECESSARY DURING CONSTRUCTION, THE ADDITIONAL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER OR INSPECTOR.
9. ALL CONSTRUCTION DISCHARGE WATER SHALL BE ADEQUATELY FILTERED TO REMOVE SILT PRIOR TO DISCHARGE INTO WATERWAYS AND WETLANDS.
10. ALL ACTIVITIES ON THE SITE MUST COMPLY WITH SECTION 5-4 OF THE CITY OF ALEXANDRIA CODE OF ORDINANCES.

LEGEND:

- CD  DENOTES CHECK DAM
- IP  INLET PROTECTION
- CIP  CULVERT INLET PROTECTION
- SF  SILT FENCE

REVISIONS <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	Erosion & Sediment Control Plan	Scale: 1"=20' Project: 09-118 Sheet: 14 of 24
Transportation & Environmental Services Engineering & Design Division P.O. Box 178 Alexandria, Va. 22313		
Duke Street Pedestrian Improvements		
		

FILE NAME: M:\projects\2010\10037_Alexandria\TaskDuke\395\CADD\SHEETS\15-peS-0002_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, July 14, 2014 - 2:29pm



PLAN SCALE: 1"=20'

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. TEMPORARY SILT FENCE HAS BEEN SHOWN ALONG THE PROPOSED IMPROVEMENT EDGES WHERE ADJACENT PROPERTIES ARE AT ELEVATIONS CLOSE TO THE PROPOSED GRADE. THE CONTRACTOR SHALL USE THIS PRACTICE AS NECESSARY AND AS DIRECTED BY THE ENGINEER OR INSPECTOR TO ENSURE THAT NO UNFILTERED STORM DRAIN RUNOFF EXITS THE SITE.
2. EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
3. ALL STORM DRAIN INLETS SHALL HAVE SEDIMENT PROTECTION DURING CONSTRUCTION, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS AND AS DIRECTED BY THE ENGINEER OR INSPECTOR.
4. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT EACH LOCATION OF INGRESS OR EGRESS FROM BARE SOIL TO A PAVED ROADWAY IN ORDER TO PREVENT DEPOSITION OF MATERIAL ONTO PUBLIC ROADS.
5. THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS FOR STORM DRAIN INLET PROTECTION FOR APPROVAL. THESE PRACTICES MUST BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS SECTION 3.07 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
6. ALL EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA EROSION AND SEDIMENT CONTROL LAW, REGULATIONS, AND CERTIFICATION REGULATIONS OF THE VIRGINIA DIVISION OF SOIL AND WATER CONSERVATION.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT ALL EROSION CONTROL DEVICES PERIODICALLY AND AFTER EVERY RAINFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

GENERAL EROSION AND SEDIMENT CONTROL NOTES (CONTINUED)

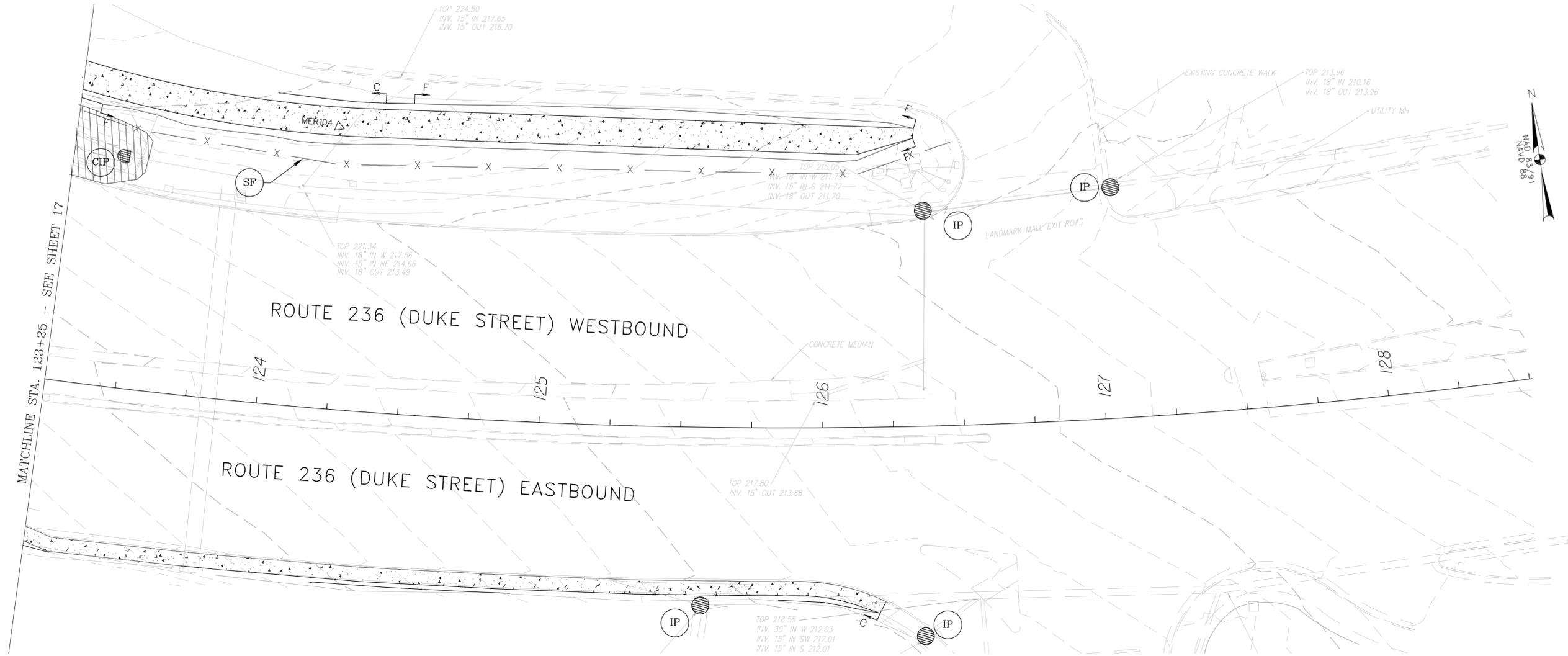
8. IF ADDITIONAL EROSION CONTROL DEVICES ARE FOUND TO BE NECESSARY DURING CONSTRUCTION, THE ADDITIONAL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER OR INSPECTOR.
9. ALL CONSTRUCTION DISCHARGE WATER SHALL BE ADEQUATELY FILTERED TO REMOVE SILT PRIOR TO DISCHARGE INTO WATERWAYS AND WETLANDS.
10. ALL ACTIVITIES ON THE SITE MUST COMPLY WITH SECTION 5-4 OF THE CITY OF ALEXANDRIA CODE OF ORDINANCES.

LEGEND:

- | | | |
|-----|-----|--------------------------|
| CD | ▶ | DENOTES CHECK DAM |
| IP | ◐ | INLET PROTECTION |
| CIP | ◐ | CULVERT INLET PROTECTION |
| SF | —x— | SILT FENCE |

REVISIONS <table border="1" style="width: 100%; height: 40px;"> <tr><td> </td><td> </td></tr> </table>			Erosion & Sediment Control Plan	Scale: 1"=20' Project: 09-118 Sheet: 15 of 24
Transportation & Environmental Services Engineering & Design Division P.O. Box 178 Alexandria, Va. 22313				
Duke Street Pedestrian Improvements				

FILE NAME: M:\projects\2010\10037_Alexandria\Task4_Duke-395\CADD\Sheets\18-pe5-0005_Duke.dwg LAYOUT NAME: Layout1 PLOTTED: Monday, July 14, 2014 - 2:37pm



PLAN SCALE: 1"=20'

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. TEMPORARY SILT FENCE HAS BEEN SHOWN ALONG THE PROPOSED IMPROVEMENT EDGES WHERE ADJACENT PROPERTIES ARE AT ELEVATIONS CLOSE TO THE PROPOSED GRADE. THE CONTRACTOR SHALL USE THIS PRACTICE AS NECESSARY AND AS DIRECTED BY THE ENGINEER OR INSPECTOR TO ENSURE THAT NO UNFILTERED STORM DRAIN RUNOFF EXITS THE SITE.
2. EROSION AND SILTATION MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING.
3. ALL STORM DRAIN INLETS SHALL HAVE SEDIMENT PROTECTION DURING CONSTRUCTION, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS AND AS DIRECTED BY THE ENGINEER OR INSPECTOR.
4. THE CONTRACTOR SHALL CONSTRUCT A STABILIZED CONSTRUCTION ENTRANCE AT EACH LOCATION OF INGRESS OR EGRESS FROM BARE SOIL TO A PAVED ROADWAY IN ORDER TO PREVENT DEPOSITION OF MATERIAL ONTO PUBLIC ROADS.
5. THE CONTRACTOR MAY PROPOSE ALTERNATE METHODS FOR STORM DRAIN INLET PROTECTION FOR APPROVAL. THESE PRACTICES MUST BE IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS SECTION 3.07 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
6. ALL EROSION CONTROL DEVICES MUST BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA EROSION AND SEDIMENT CONTROL LAW, REGULATIONS, AND CERTIFICATION REGULATIONS OF THE VIRGINIA DIVISION OF SOIL AND WATER CONSERVATION.
7. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INSPECT ALL EROSION CONTROL DEVICES PERIODICALLY AND AFTER EVERY RAINFALL. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

GENERAL EROSION AND SEDIMENT CONTROL NOTES (CONTINUED)

8. IF ADDITIONAL EROSION CONTROL DEVICES ARE FOUND TO BE NECESSARY DURING CONSTRUCTION, THE ADDITIONAL DEVICES SHALL BE INSTALLED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER OR INSPECTOR.
9. ALL CONSTRUCTION DISCHARGE WATER SHALL BE ADEQUATELY FILTERED TO REMOVE SILT PRIOR TO DISCHARGE INTO WATERWAYS AND WETLANDS.
10. ALL ACTIVITIES ON THE SITE MUST COMPLY WITH SECTION 5-4 OF THE CITY OF ALEXANDRIA CODE OF ORDINANCES.

LEGEND:

- | | |
|---|--------------------------|
| (CD)  | DENOTES CHECK DAM |
| (IP)  | INLET PROTECTION |
| (CIP)  | CULVERT INLET PROTECTION |
| (SF)  | SILT FENCE |



Transportation & Environmental Services
 Engineering & Design Division
 P.O. Box 178 Alexandria, Va. 22313
 Duke Street Pedestrian Improvements

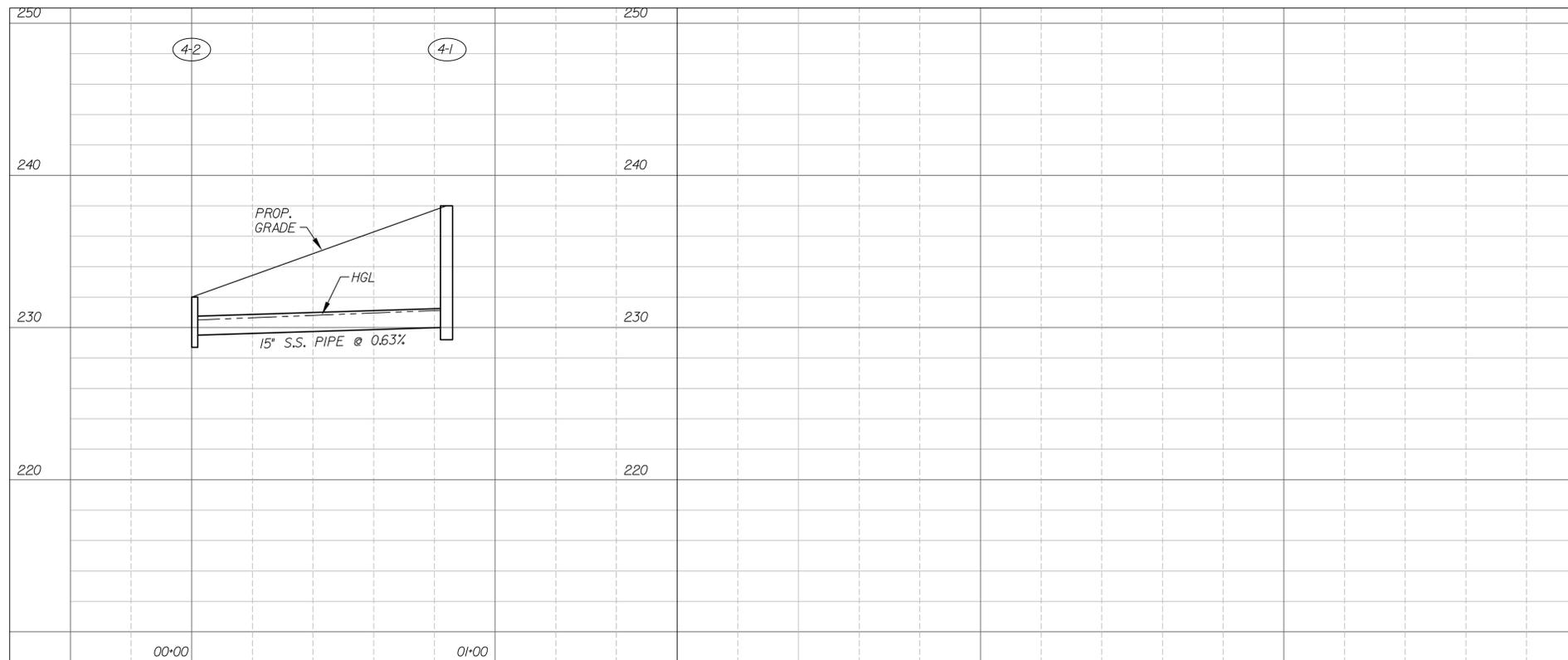
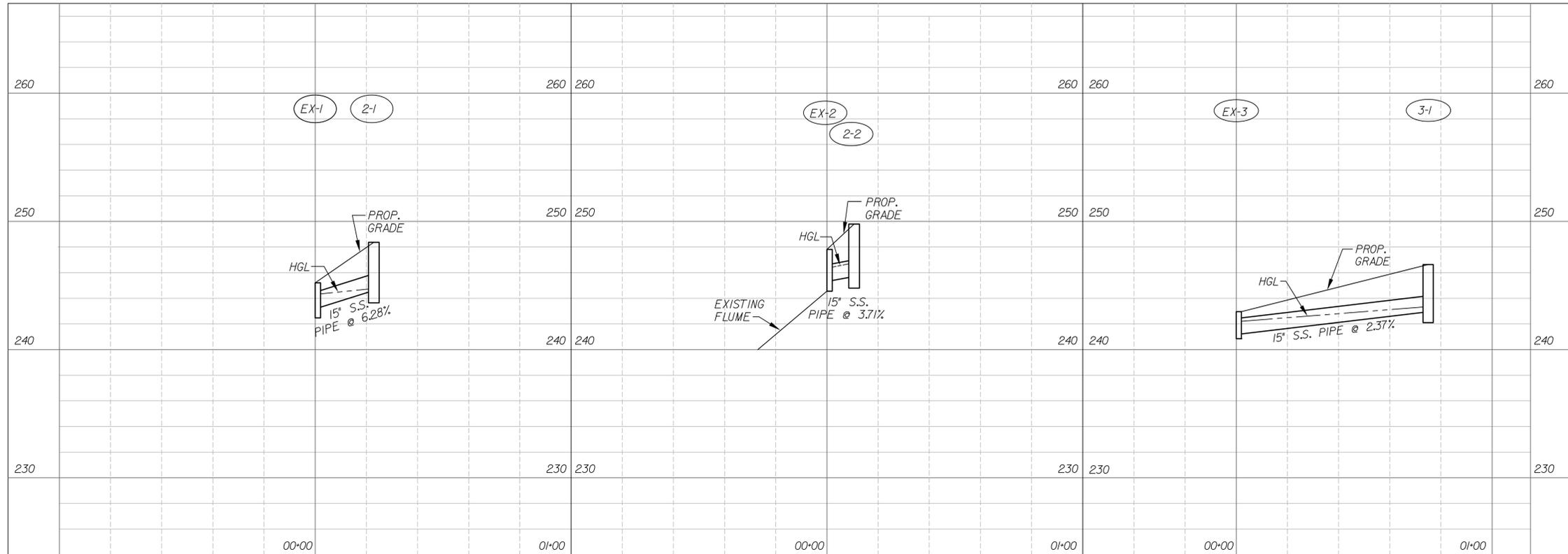
Erosion &
 Sediment Control
 Plan

REVISIONS

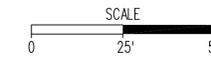
Scale: 1"=20' Project: 09-118

Sheet: 18 of 24

STORM SEWER PROFILES



DESIGN FEATURES RELATING TO CONSTRUCTION OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT



Notes:

- 1) S.S. PIPE DENOTES STORM SEWER PIPE.
- 2) STORM SEWER PIPES SHOWN ON THE PROFILE ARE REPRESENTED BY THEIR INNER DIAMETER DIMENSION, AND DO NOT INCLUDE WALL THICKNESSES.
- 3) ONLY EXISTING UTILITIES, AT THE TIME OF THE SURVEY, ARE SHOWN ON THE STORM SEWER PIPE PROFILES. THESE PROFILES DO NOT REFLECT EITHER PLANNED RE-LOCATION OF UTILITIES OR PROPOSED UTILITIES. THE CONTRACTOR IS ALSO DIRECTED TO ANY UTILITY PLANS THAT MAY EXIST AS PART OF THIS PLAN ASSEMBLY.
- 4) HGL DENOTES HYDRAULIC GRADE LINE.
- 5) POST-CONSTRUCTION PIPE INSTALLATION INSPECTIONS TO BE PROVIDED PER SECTION 302.03 (O) OF VDOT 2007 SUPPLEMENT ROAD & BRIDGE SPECIFICATIONS.

REVISIONS

Storm Drain Profiles

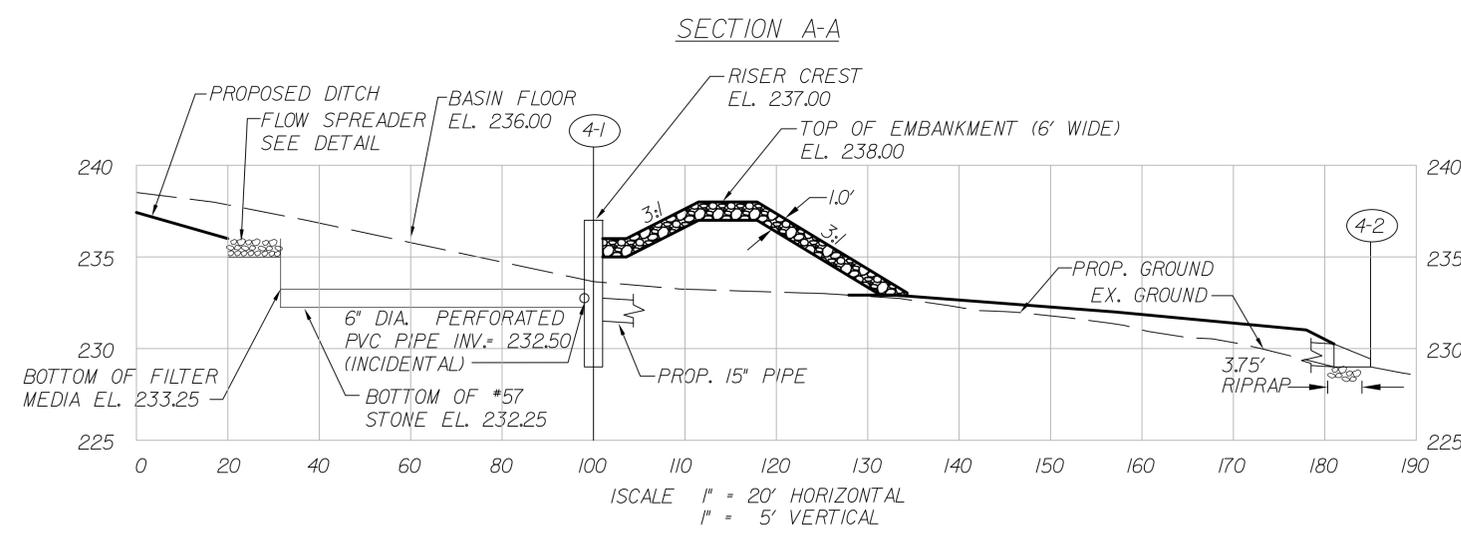
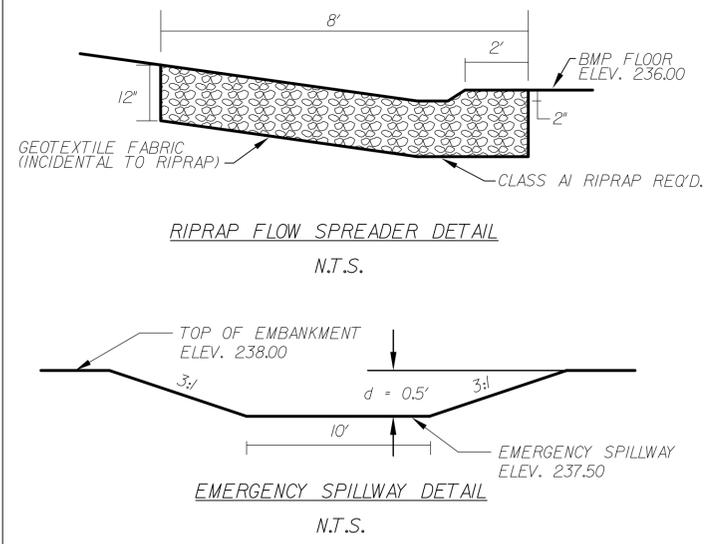
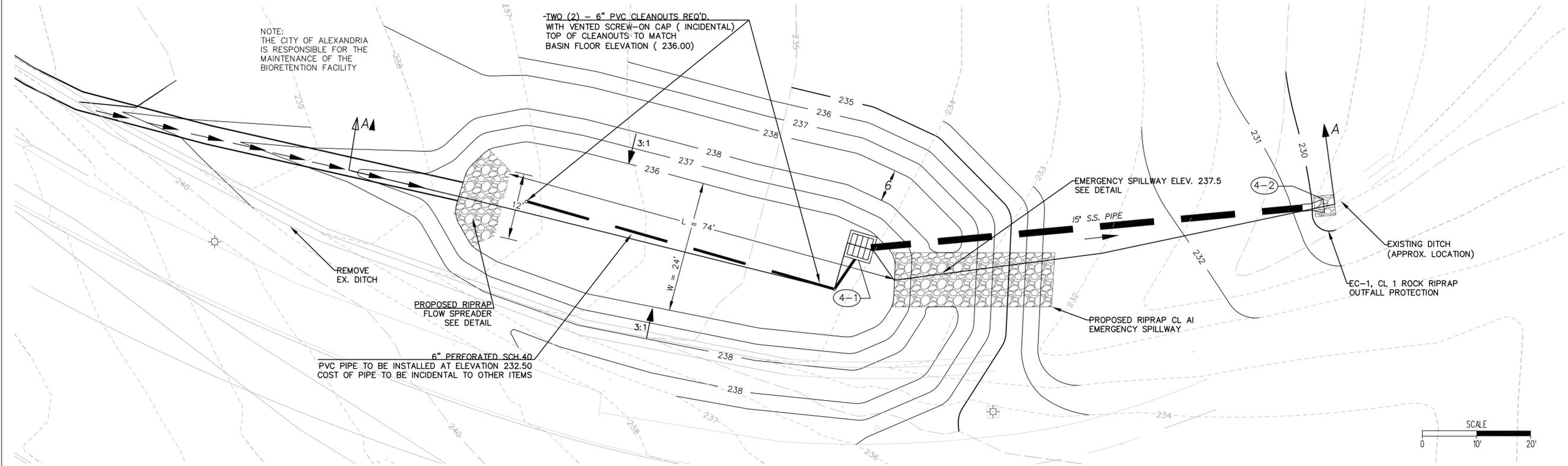
Scale: Project: 09-118

Sheet: 19 of 24

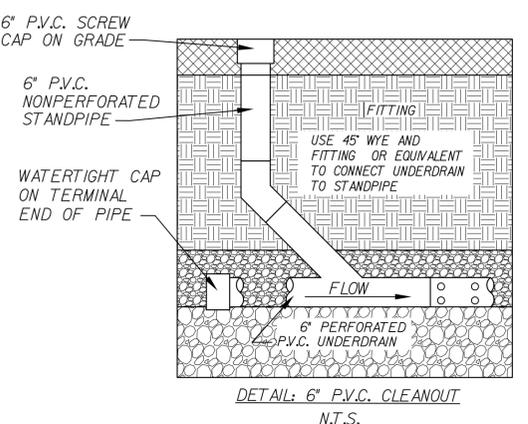
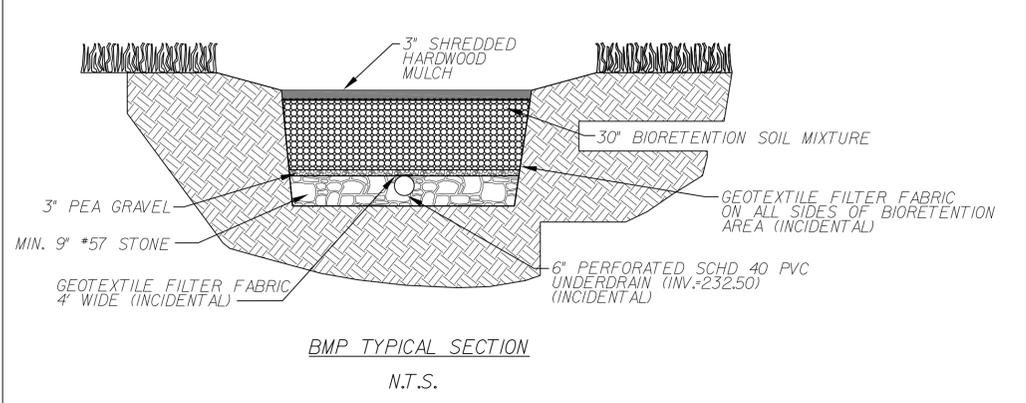
Transportation & Environmental Services
 Engineering & Design Division
 P.O. Box 178 Alexandria, Va. 22313
 Duke Street Pedestrian Improvements



SWM BASIN DETAIL SHEET



- NOTES:**
1. FILTER MEDIA COMPOSITION TO CONTAIN:
85%-88% SAND, 8%-12% SOIL FINES, 3%-5% ORGANIC
MATTER IN THE FORM OF LEAF COMPOST.
THE VOLUME OF FILTER MEDIA BASED ON 110% OF THE
PLAN VOLUME, TO ACCOUNT FOR SETTLING OR COMPACTION.
 2. MULCH LAYER:
USE AGED, SHREDDED HARDWOOD BARK MULCH.
LAY A 2 TO 3 INCH LAYER ON THE SURFACE OF THE
FILTER BED.
 3. GEOTEXTILE/LINER:
USE A NON-WOVEN GEOTEXTILE FABRIC WITH A FLOW RATE
OF > 110 GAL./MIN./SQ. FT.
(E.G. GEOTEX 351 OR EQUIVALENT)
 4. UNDERDRAINS AND CLEANOUTS:
USE 6" RIGID SCHEDULE 40PVC PIPE, WITH 3/8-INCH
PERFORATIONS AT 6 INCHES ON CENTER.



STORMWATER MANAGEMENT BASIN SUMMARY

	NS UNDERDRAIN PIPE UNDERDRAIN 6" (PERFORATED SCHEDULE 40 PVC PIPE)	NS UNDERDRAIN PIPE UNDERDRAIN 6" (NON-PERFORATED SCHEDULE 40 PVC PIPE)	MULCH (PER 100 S.F.)	NS SOIL BIORETENTION SOIL MIXTURE	AGGR. NO. 8 (STONE) (WASHED PEA GRAVEL)	NS NO. 57 STONE	DRY RIPRAP CLASS IA	GEOTEXTILE FILTER FABRIC
	LF	LF	UNIT	CY	TONS	CY	TONS	SY
BIORETENTION BASIN	65.0	12.0	18	158.0	22.4	48.0	30.3	741.0
TOTALS	65.0	12.0	18	158.0	22.4	48.0	30.3	741.0

REVISIONS	
-----------	--

SWM Basin
Detail 1

Scale: AS SHOWN Project: 09-118

Sheet: 20 of 24

Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313

Duke Street Pedestrian Improvements

FILE NAME: M:\projects\2010\10037_Alexandria\Task4_Duke-395\CADD\SHEETS\20-BioretenDetail.dwg LAYOUT NAME: Layout1 PLOTTED: Wednesday, July 16, 2014 - 11:55am

SWM BASIN DETAIL SHEET

PLANTING NOTES:

SEE PLANTING SUMMARY FOR SPECIFIC PLANT SPECIES.

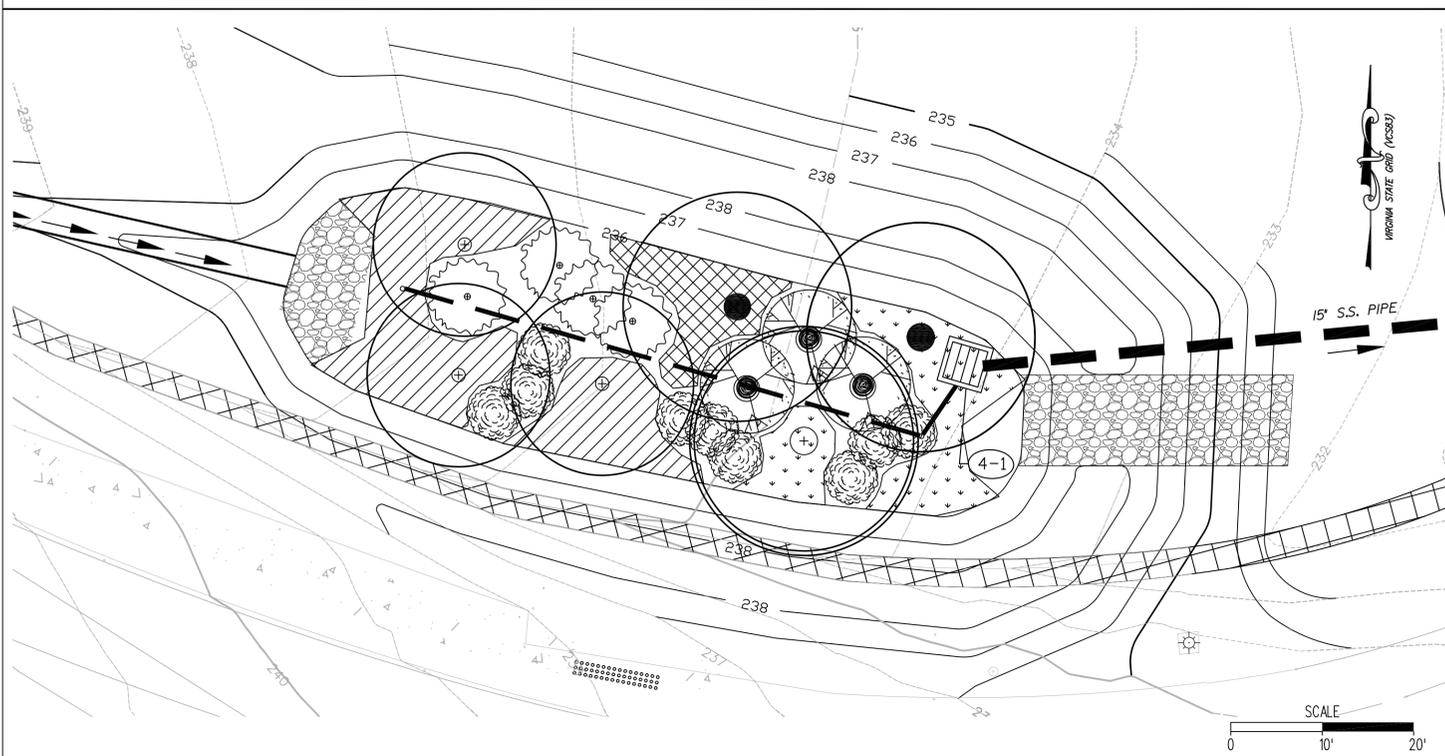
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LAYOUT OF ALL WORK COVERED UNDER THESE PLANS.
2. LANDSCAPE CONTRACTOR SHALL REFER TO THE STANDARD LANDSCAPE SPECIFICATIONS FOR THE STATE OF VIRGINIA FOR ADDITIONAL INFORMATION. THE CONTRACTOR SHALL ABIDE BY ITS CONTENTS; HOWEVER ANY NOTES OR SPECIFICATIONS ON PLANS SHALL SUPERSEDE THOSE OUTLINED IN THE SPECIFICATIONS MANUAL (COPIES ARE AVAILABLE FOR A FEE FROM THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF THE LANDSCAPE ARCHITECTS, VIRGINIA NURSERYMEN'S ASSOCIATION, INC. AND THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS).
3. ALL PLANT MATERIAL SHALL MEET THE MINIMUM SPECIFICATIONS AND STANDARDS DESCRIBED IN THE CURRENT ISSUE OF "THE AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 1250 I STREET N.W., SUITE 500, WASHINGTON, D.C. 20005.
4. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION OF ANY ONSITE UTILITIES (CALL MISS UTILITY 1-800-552-7001 BEFORE ANY EXCAVATION).
5. PLANTS WILL BE PREPARED FOR SHIPMENT IN A MANNER THAT WILL NOT CAUSE DAMAGE TO THE BARK, BUDS, BRANCHES, STEMS OR OVERALL SHAPE OF THE STOCK. CONTAINER GROWN PLANTS WILL BE TRANSPORTED IN THE CONTAINERS IN WHICH THEY HAVE BEEN GROWN.
6. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE FROM DEFECTS, DECAY, DISEASES, INSECT PEST EGGS, AND ALL FORMS OF INFESTATION. ALL PLANT MATERIAL SHALL BE FRESH, FREE FROM TRANSPLANT SHOCK OR VISIBLE WILT. PLANTS DEEMED UNHEALTHY WILL NOT BE ACCEPTED.
7. ALL CONTAINER STOCK SHALL HAVE PROPAGATED IN A CONTAINER LONG ENOUGH FOR THE ROOT SYSTEM TO HAVE DEVELOPED SUFFICIENTLY TO HOLD ITS SOIL. CONTAINER STOCK WITH POORLY DEVELOPED ROOT SYSTEMS WILL NOT BE ACCEPTED.
8. PLANTS NOT INSTALLED ON THE DAY OF ARRIVAL ON SITE SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. OUTSIDE STORAGE AREAS WILL BE SHADED AND PROTECTED FROM THE WIND AND SUN. PLANTS STORED ON SITE SHALL BE PROTECTED FROM ANY DRYING AT ALL TIMES BY COVERING THE BALLS OR ROOTS WITH MOIST SAWDUST, WET BURLAP, WOOD CHIPS, SHREDDED BARK, PEAT MOSS, OR OTHER SIMILAR MULCHING MATERIAL.
9. NO PLANTING SHALL OCCUR WHEN THE SOIL IS FROZEN.
10. THE CONTRACTOR SHALL MAINTAIN A ONE (1) CALENDAR YEAR 80% CARE AND REPLACEMENT WARRANTY FOR ALL PLANTINGS. THE PERIOD OF CARE AND REPLACEMENT SHALL BEGIN AFTER INSPECTION AND APPROVAL OF THE COMPLETE INSTALLATION OF ALL PLANTS AND CONTINUE FOR ONE CALENDAR YEAR.
11. THE CONTRACTOR IS RESPONSIBLE FOR REMOVAL AND DISPOSAL OF TRASH AND DEBRIS WITHIN LIMITS OF THE PLANTING ON A DAILY BASIS.
12. THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION ENGINEER 24 HOURS PRIOR TO BACKFILLING THE BIORETENTION BASIN AND REQUEST AN INSPECTION AND APPROVAL OF THE UNDERDRAIN INSTALLATION AND THE SOIL MIX.
13. THE BIORETENTION PLANTING AREAS SHALL BE COVERED WITH HEAVY STRAW MULCH TO BE DEPTH OF 4" IMMEDIATELY AFTER PLANTING. COST OF MULCH SHALL BE INCIDENTAL TO OTHER ITEMS.

BIORETENTION PLANTING SPECIFICATIONS:

1. ROOT STOCK OF THE PLANT MATERIAL SHALL BE KEPT MOIST DURING TRANSPORT FROM THE SOURCE TO THE JOB SITE AND UNTIL PLANTED.
2. WALLS OF PLANTING PIT SHALL BE DUG SO THAT THEY ARE VERTICAL.
3. THE DIAMETER OF THE PLANTING PIT MUST BE A MINIMUM OF SIX INCHES (6") LARGER THAN THE DIAMETER OF THE BALL OF THE TREE.
4. THE PLANTING PIT SHALL BE DEEP ENOUGH TO ALLOW 1/8 OF THE OVERALL DIMENSIONS OF THE ROOT BALL TO BE ABOVE GRADE. LOOSE SOIL AT THE BOTTOM OF THE PIT SHALL BE TAMPED BY HAND.
5. FERTILIZER IS TO BE PLACED AT THE BOTTOM OF THE PIT.
6. THE PLANT SHALL BE REMOVED FROM THE CONTAINER AND PLACED IN THE PLANTING PIT BY LIFTING AND CARRYING THE PLANT BY ITS BALL (NEVER LIFT BY BRANCHES OR TRUNK).
7. SET THE PLANT STRAIGHT AND IN THE CENTER OF THE PIT SO THAT APPROXIMATELY 1/8 OF THE DIAMETER OF THE ROOT BALL IS ABOVE THE FINAL GRADE.
8. MAKE SURE PLANT REMAINS STRAIGHT DURING BACKFILLING PROCEDURE.
9. NEVER COVER THE TOP OF THE BALL WITH SOIL. MOUND SOIL AROUND THE EXPOSED BALL.
10. TREES SHALL BE BRACED BY USING 2" BY 2" WHITE OAK STAKES. STAKES SHALL BE PLACED PARALLEL TO WALKWAYS AND BUILDINGS. STAKES ARE TO BE EQUALLY SPACED ON THE OUTSIDE OF THE TREE BALL UTILIZING HOSE AND WIRE. THE TREE WILL BE BRACED TO THE STAKES.
11. BECAUSE OF THE HIGH LEVELS OF NUTRIENTS IN STORMWATER RUNOFF TO BE TREATED, BIORETENTION BASIN PLANTS SHOULD NOT REQUIRE CHEMICAL FERTILIZATION.
12. THE FOLLOWING MINIMUM QUANTITIES OF WATER SHALL BE USED TO WATER EACH PLANT UNLESS OTHERWISE DIRECTED BY THE ENGINEER: TREES (4-10' OR LESS) - 6 GALLONS, SHRUBS (1-2' HEIGHT) - 1 GALLON AND HERBACEOUS VEGETATION - 0.25 GALLON. QUANTITY OF WATER SHALL BE INCIDENTAL TO THE COST OF PLANTING QUANTITIES.

PLANTING SUMMARY

NAME	SCIENTIFIC NAME	QUANTITY	UNIT	SIZE	COMMENTS
River Birch	<i>Betula nigra</i>	1	EA	2.0" Cal.	
Black Gum	<i>Nyssa sylvatica</i>	3	EA	2.0" Cal.	
Green Ash	<i>Fraxinus pennsylvanica</i>	2	EA	1.5" Cal.	
American Beautyberry	<i>Callicarpa americana</i>	9	EA	3'	
Black Chokeberry	<i>Aronia (Photinia) melanocarpa</i>	5	EA	4'	
Blackhaw viburnum	<i>Viburnum prunifolium</i>	3	EA	4'	
Red fescue	<i>Festuca rubra</i>	12.8	LB	Plug	Plant 1' on Center
Virginia Wild Rye	<i>Elymus virginicus</i>	13.0	LB	Plug	Plant 1' on Center
Tussock Sedge	<i>Carex stricta</i>	134	EA	Plug	Plant 1' on Center



LEGEND

 BLACK GUM	 BEAUTYBERRY	 RED FESCUE
 RIVER BIRCH	 BLACKHAW	 VIRGINIA WILD RYE
 GREEN ASH	 BLACK CHOKEBERRY	 TUSOCK SEDGE

FILE NAME: M:\projects\2010\10037_Alexandria\Task4_Duke-395\CADD\SHEETS\21-BioretenionDetail2.dwg LAYOUT NAME: Layout1 PLOTTED: Wednesday, July 16, 2014 - 11:53am

REVISIONS							
SWM Basin Detail 2							
Transportation & Environmental Services Engineering & Design Division P.O. Box 178 Alexandria, Va. 22313 Duke Street Pedestrian Improvements							
							Scale: 1"=20' Project: 09-119 Sheet: 21 of 24

GENERAL NOTES:

SPECIFICATIONS:

CONSTRUCTION: VIRGINIA DEPT. OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS, 2007

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, 2012; AND VDOT MODIFICATIONS.

STANDARDS: VIRGINIA DEPT. OF TRANSPORTATION ROAD AND BRIDGE STANDARDS, 2008

RETAINING WALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH VDOT RW-3 STANDARD. FOR SPACING AND DETAILS OF EXPANSION AND CONTRACTION JOINTS AND WEEPHOLES, REFER TO VDOT RW-3 STANDARD.

FOR PORTION OF EXISTING CONCRETE SLOPE PROTECTION TO BE REMOVED, DEMOLITION SHALL BE DONE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATION, SECTION 413 AND VDOT SPECIAL PROVISION SS41.301-0609.

RETAINING WALLS HAVE BEEN DESIGNED FOR A FACTORED BEARING CAPACITY OF 2,000 psf. BEARING CAPACITY OF IN SITU SOILS SHALL BE VERIFIED BY INSPECTOR IN THE FIELD.

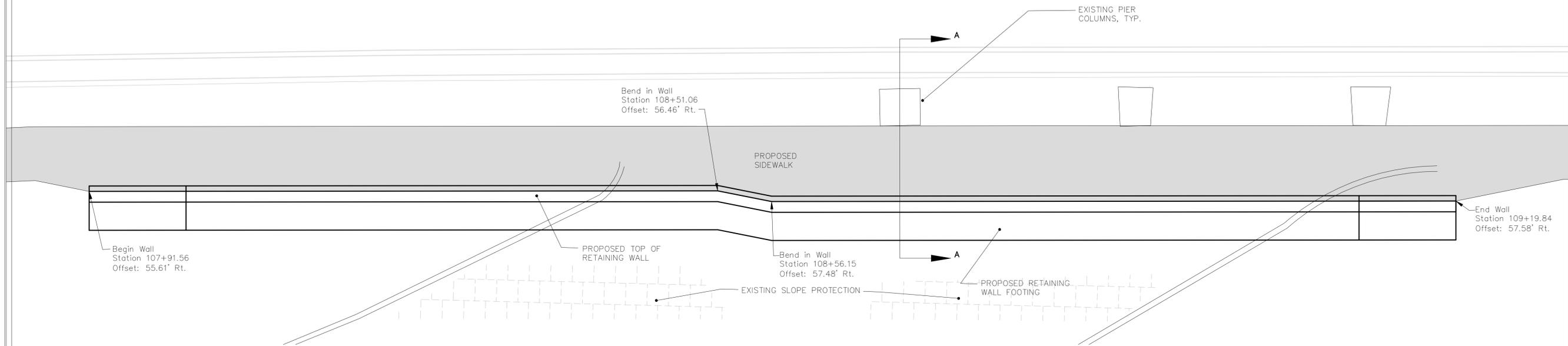
REVISIONS

RETAINING WALL
GENERAL PLAN AND
ELEVATION

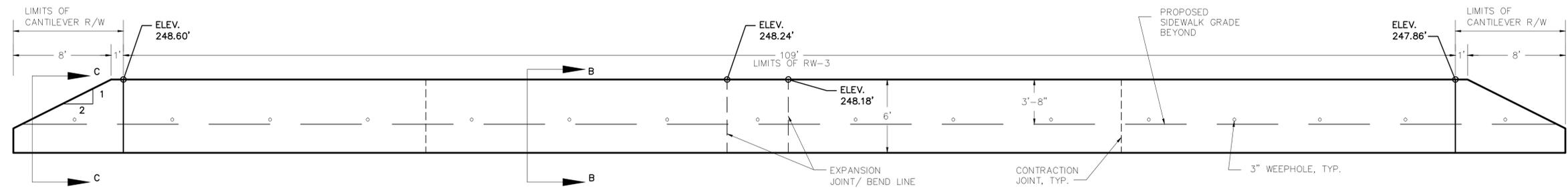
Sheet: 22 of 24

Project: 09-118

Scale: 1" = 5'



PLAN VIEW



ELEVATION VIEW



Transportation & Environmental Services
Engineering & Design Division
P.O. Box 178 Alexandria, Va. 22313
Duke Street Pedestrian Improvements



