

PROJECT MANAGER DAVID LE (703) 746-4058 (CITY OF ALEXANDRIA)
SURVEYED BY, DATE CITY OF ALEXANDRIA - (4/4/20 TO 6/5/20)
DESIGN BY ELI GOLDMAN (703) 766-0286 (CHRISTOPHER CONSULTANTS)
SUBSURFACE UTILITY BY, DATE

FOR INDEX OF SHEETS SEE SHEET C003 & BELOW

THIS PROJECT WAS DEVELOPED UTILIZING THE DEPARTMENT'S ENGINEERING
DESIGN PACKAGE (GEOPAK).
GEOPAK Computer Identification No. (UPC #105563)

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THE COMPLETE ELECTRONIC PDF 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 2016 ROAD AND BRIDGE STANDARDS (REVISED JUNE 2025),
2026 VIRGINIA MUTCD, 2011 VIRGINIA SUPPLEMENT TO THE MUTCD, 2011
VIRGINIA WORK AREA PROTECTION MANUAL, 2020 ROAD AND BRIDGE
SPECIFICATIONS, 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-5.11U, 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.

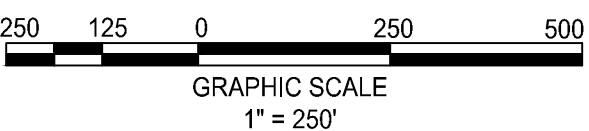
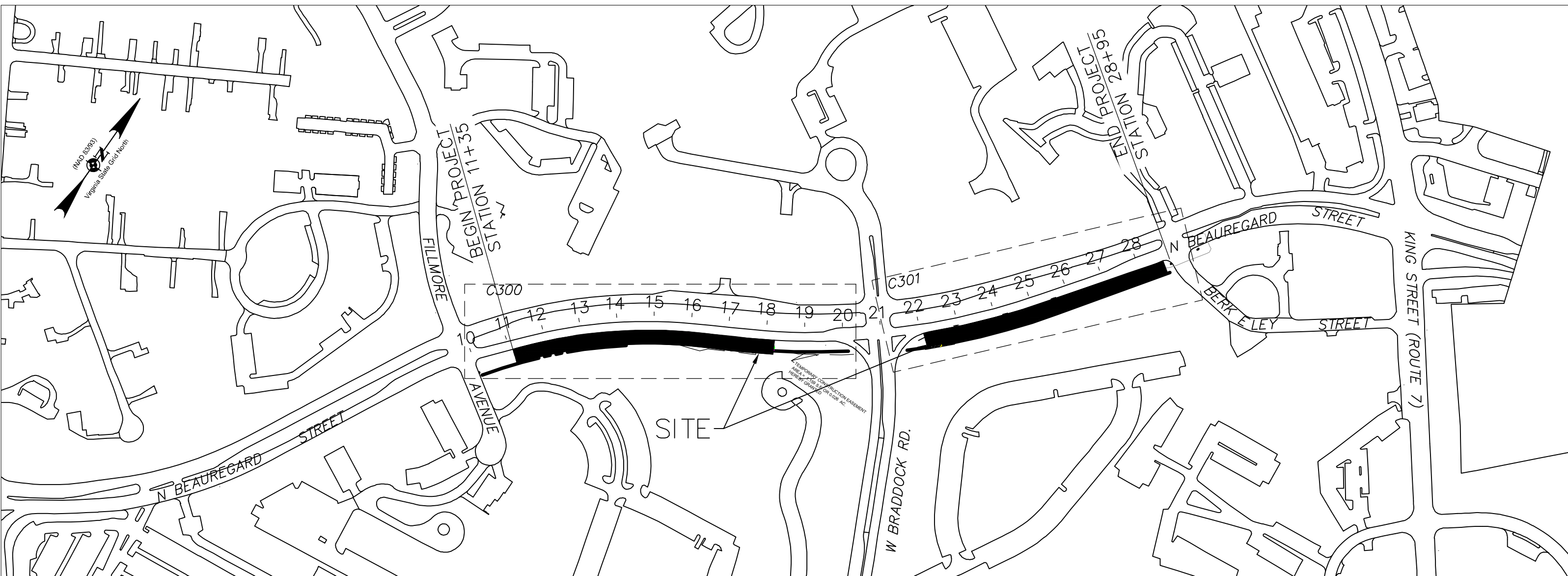
CONVENTIONAL SIGNS

STATE LINE	----
COUNTY LINE	----
DROP INLET	—P—
UNFENCED PROPERTY LINE	----
HEAVY WOODS	~~~~~
WATER LINE	—W—
SANITARY SEWER LINE	—S—
TELE. UNDERGROUND CABLE	—T—
ELECTRIC UNDERGROUND CABLE	—E—
TRAVELED WAY	====
RETAINING WALL	—+—
BASE OR SURVEY LINE	—+—

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TRANSPORTATION

PLAN AND PROFILE OF PROPOSED
BIKE FACILITY
& SHARED USE PATH

CITY OF ALEXANDRIA, N. BEAUREGARD STREET
FROM: FILLMORE AVENUE
TO: BERKELEY STREET



POPULATION OF 159,467 FOR THE CITY OF ALEXANDRIA, VIRGINIA (2020 CENSUS)

STATE PROJECT NO.	SECTION	FEDERAL AID PROJECT NO.	TYPE CODE	UPC NO.	PPMS NO.	LENGTH INCLUDING BRIDGE(S)		LENGTH EXCLUDING BRIDGE(S)		TYPE PROJECT	DESCRIPTION
						FEET	MILES	FEET	MILES		
U000-100-814	P101	CMAQ-5801(015)		105563		N/A	N/A	1370	0.259	PRELIM. ENGINEERING	SHARED USE PATH
	R201	CMAQ-5801(772)		105563				1370	0.259	RIGHT OF WAY/UTILITY RELOCATION	
	C501	CMAQ-5801(451)		105563				1370	0.259	CONSTRUCTION	SHARED USE PATH

NOTE: PROJECT LENGTH BASED ON CONSTRUCTION BASELINE

C501: CMAQ-5801 (451)

FHWA-534-45028

STATE	FEDERAL AID		STATE		SHEET NO.
	PROJECT	ROUTE	PROJECT		
VA.	CMAQ-5801 () SEE TABULATION BELOW FOR SECTION NUMBERS		U000-100-814 SEE TABULATIONS BELOW FOR SECTION NUMBERS		C000

FUNCTIONAL CLASSIFICATION AND TRAFFIC DATA

	Fr: FILLMORE AVENUE (UR-3E) To: BERKELEY STREET
ADT (2024)	12,366
ADT (2024)	14,158
DHV	N.A.
D (%) (design hour)	N.A.
T (%) (design hour)	N.A.
V (MPH)	45 (DESIGN), 35 (POSTED)

SIGNATURE SET
NOVEMBER 4, 2025

TIER 1 PROJECT

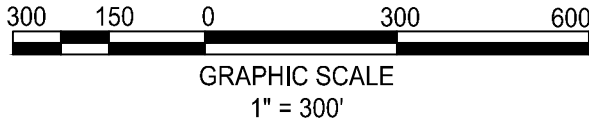
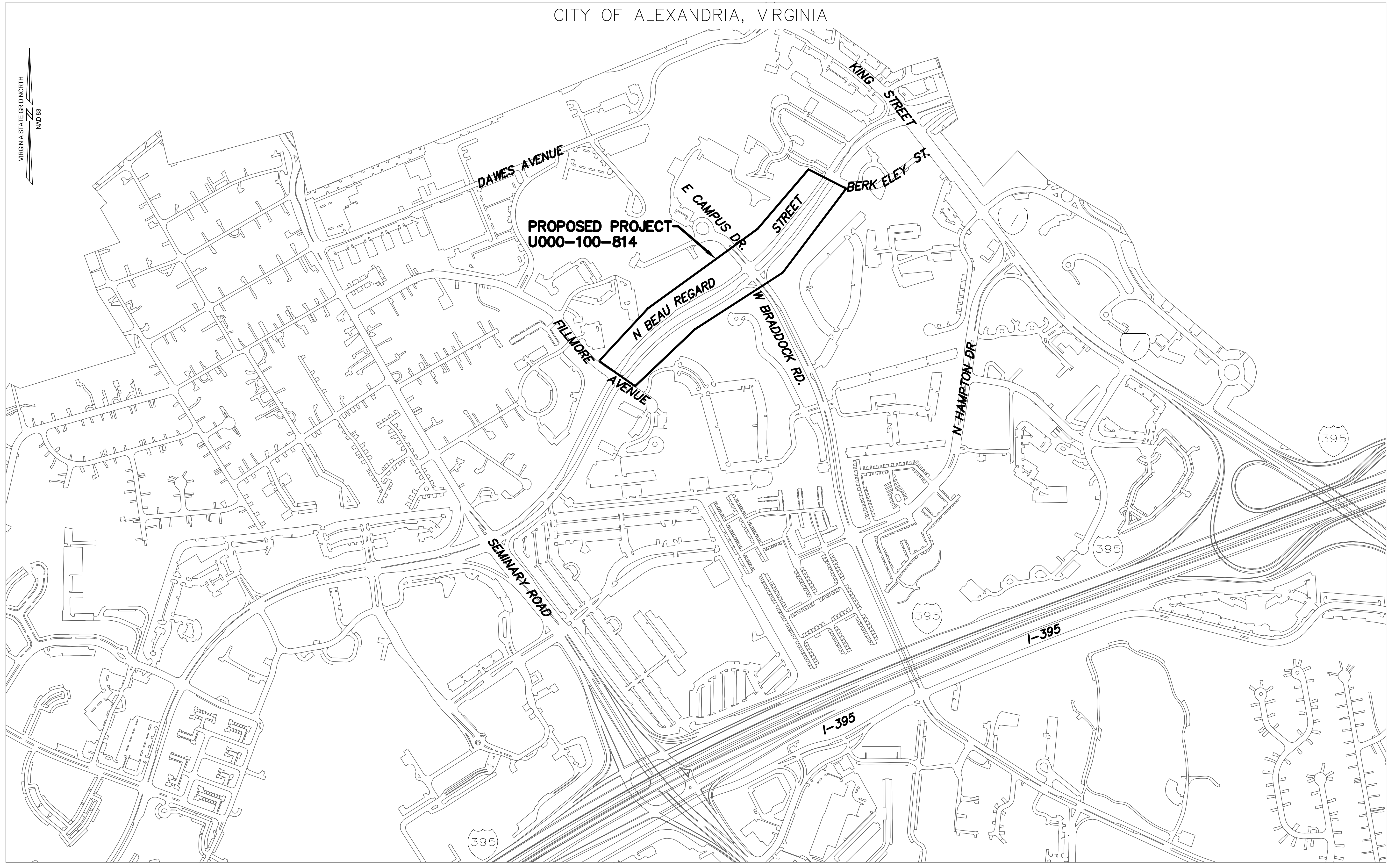
LOCALLY ADMINISTERED PROJECTS	
CITY OF ALEXANDRIA	
Daphne Kott	
DAPHNE KOTT	
RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
8/20/2025	INTERIM DIRECTOR
DATE	TITLE OF POSITION
Daphne Kott	
DAPHNE KOTT	
RECOMMENDED FOR APPROVAL FOR CONSTRUCTION	
1/21/2026	INTERIM DIRECTOR
DATE	TITLE OF POSITION

RECOMMENDED FOR APPROVAL FOR RIGHT OF WAY ACQUISITION	
DISTRICT PLANNING AND INVESTMENT MANAGER	
DISTRICT PROJECT DEVELOPMENT ENGINEER	
APPROVED FOR RIGHT OF WAY ACQUISITION	
DISTRICT ENGINEER/ADMINISTRATOR	

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

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P:\Projects\21266\00100\111671 - 90%\C001 LOCATION MAP.dwg PLOTTED: 11/3/2025 3:50:39 PM BY AUGUST HINNENKAMP



LOCATION MAP

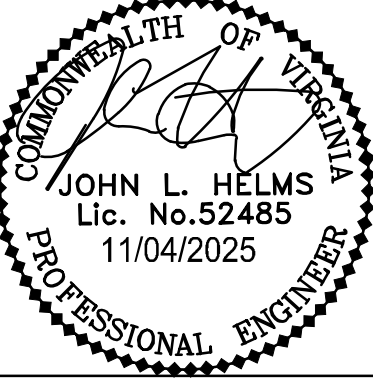
CITY OF ALEXANDRIA, VIRGINIA

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

SCALE
SHEET
C001

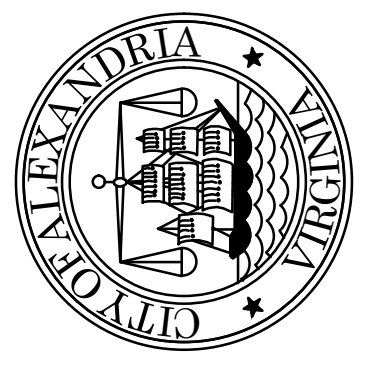
LOCATION MAP



ALEXANDRIA PROJECT NO.: CP2021-0008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID.: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MG DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

DATE	REVISIONS BY	DESCRIPTION

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314



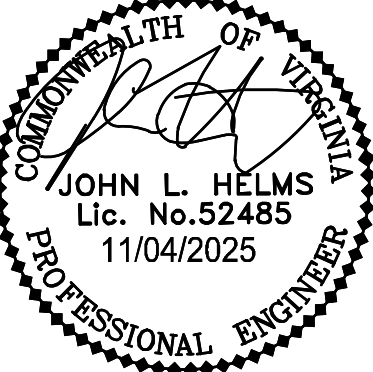
RIGHT OF WAY DATA SHEET

[illegible]

NOTE: ALL EASEMENTS BEING GRANTED BY OTHERS.

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET



RIGHT OF WAY TABLE

SCALE NOT TO SCALE

SHEET

C002



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

[illegible]

The seal of the City of Alexandria, Virginia, is a circular emblem. It features a central illustration of a three-masted sailing ship on a wavy sea. Above the ship is a balance scale, symbolizing justice. The words "CITY OF ALEXANDRIA" are written in a circular path around the top, and "VIRGINIA" is written along the bottom. Two five-pointed stars are positioned on the left and right sides of the seal.

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

CITY STANDARD GENERAL NOTES

1. THE SUBJECT SITE IS LOCATED IN CITY OF ALEXANDRIA RIGHT-OF-WAY.
2. OWNER: CITY OF ALEXANDRIA
3. APPLICANT: CITY OF ALEXANDRIA, DEPARTMENT OF PROJECT IMPLEMENTATION
4. THE TOPOGRAPHIC SURVEY SHOWN WAS RECEIVED FROM THE CITY OF ALEXANDRIA AND THE FIELD WORK WAS COMPLETED BETWEEN 4/4/20 TO 6/5/20. THE VERTICAL DATUM IS NAVD 88 (1" CONTOURS) AND THE HORIZONTAL DATUM IS NAD 83.
5. THE SITE CONTAINS SASSAFRAS-MARUMSCO COMPLEX AND URBAN LAND - KINGSTOWNE COMPLEX PER THE USDA SOIL SURVEY. A GEOTECHNICAL REPORT WILL BE PROVIDED WITH SUBSEQUENT SUBMISSIONS.
6. THE SITE IS LOCATED IN THE FOUR MILE RUN (WEST) WATERSHED.
7. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) STANDARDS AND SPECIFICATIONS, AS APPLICABLE.
8. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED, TO STREETS, ALLEYSWAYS, DRIVEWAY APRONS, SANITARY AND STORM SEWERS, STREET LIGHTING, TRAFFIC AND PEDESTRIAN SIGNALS, SIDEWALKS, CURB AND GUTTER, AND STORM WATER DROP INLET STRUCTURES ARE DAMAGED BY THE CONTRACTOR OR BY ACTIVITIES RELATING TO THE SITE CONSTRUCTION THEN THE APPLICANT SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
9. ALL IMPROVEMENTS TO THE CITY'S RIGHT-OF-WAY SUCH AS CURB, GUTTER, SIDEWALK, AND DRIVEWAY APRONS, ETC., ARE DESIGNED PER THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.
10. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS AND/OR PRIVATE PROPERTY, REQUIRED FOR ANY UTILITY INSTALLATION SHALL BE PERFORMED IN STRICT ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS AND TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) AND/OR PROPERTY OWNER.
11. ALL REQUIRED STATE AND FEDERAL PERMITS, WHICH COULD INCLUDE PERMITS FROM THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VDCR), VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY (VDEQ), VIRGINIA DEPARTMENT OF HISTORIC RESOURCES (VDHR), UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA), ARMY CORPS OF ENGINEERS AND VIRGINIA MARINE RESOURCES, MUST BE IN PLACE FOR ALL CONSTRUCTION AND MITIGATION WORK. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (V SMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500. INFORMATION REGARDING THE V SMP GENERAL PERMIT CAN BE FOUND ONLINE AT: http://www.dcr.virginia.gov/soil_and_water/vsmp.shtml.
12. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ) AND TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) SHALL BE OBTAINED BY THE APPLICANT, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703)-746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
13. ALL CONSTRUCTION IN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A PERMIT FROM THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
14. TO THE BEST KNOWLEDGE OF THE ENGINEER, THERE ARE NO GRAVES OR BURIAL SITES FOUND ON THIS PROPERTY.
15. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
16. THE EXISTING SIDEWALKS SHALL REMAIN OPEN DURING CONSTRUCTION OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES THROUGHOUT THE CONSTRUCTION OF THE PROJECT.
17. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
18. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DEPARTMENT OF PROJECT IMPLEMENTATION INSPECTOR.
19. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH ALEXANDRIA NOISE CONTROL CODE TITLE II, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
MONDAY THROUGH FRIDAY FROM 9:00 AM - 3:30 PM
SATURDAYS FROM 9:00 AM TO 3:30 PM
NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS

TRAIL SPEED NOTE:

1. THE DESIGN SPEED OF THE TRAIL IS 20 MPH PER VDOT BICYCLE & PEDESTRIAN FACILITY GUIDELINES APPENDIX A(1)-1-3.

SITE ASSESSMENT:

1. THERE ARE NO TIDAL WETLANDS, SHORES, TRIBUTARY STREAMS, FLOODPLAINS, CONNECTED WETLANDS, ISOLATED WETLANDS, HIGHLY ERODIBLE/PERMEABLE SOILS OR BUFFER AREAS ASSOCIATED WITH SHORES, STREAMS OR WETLANDS LOCATED ON THIS SITE. THERE ARE NO WETLANDS PERMITS REQUIRED FOR THIS DEVELOPMENT PROJECT. THIS PROJECT IS LOCATED IN A RPA AND HAS STEEP SLOPES.
2. THIS PROJECT IS NOT LOCATED WITHIN A 100-YR FLOOD PLAIN.
3. THE CITY OF ALEXANDRIA DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, DIVISION OF ENVIRONMENTAL QUALITY MUST BE NOTIFIED IF UNUSUAL OR UNANTICIPATED CONTAMINATION OR UNDERGROUND STORAGE TANKS, DRUMS AND CONTAINERS ARE ENCOUNTERED AT THE SITE. IF THERE IS ANY DOUBT ABOUT PUBLIC SAFETY OR A RELEASE TO THE ENVIRONMENT, THE ALEXANDRIA FIRE DEPARTMENT MUST BE CONTACTED IMMEDIATELY BY CALLING 911. THE TANK OR CONTAINERS REMOVAL, ITS CONTENTS, AND SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE AND CITY REGULATIONS.
4. IF REQUIRED, ALL WELLS TO BE DEMOLISHED ON THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH STATE WELL REGULATION. CONTACT THE ALEXANDRIA HEALTH DEPARTMENT AT 703-746-4996.

MISS UTILITY NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF, DURING CONSTRUCTION OPERATIONS, THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE LOCATIONS SHOWN ON THE PLANS, HE/SHE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND PROPERTY OWNERS AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
2. THE DEPTHS AND LOCATIONS OF ANY UNDERGROUND ELECTRIC, WATER, TELEPHONE, GAS MAINS OR OTHER UTILITIES THAT CANNOT BE FIELD SURVEYED, CALL MISS UTILITY (1-800-257-7777) 48 HOURS PRIOR TO EXCAVATING TO LOCATE THE UNDERGROUND UTILITIES.

ARCHAEOLOGY NOTES:

1. THE FINAL SITE PLAN, GRADING PLAN, OR ANY OTHER PERMITS INVOLVING GROUND-DISTURBING ACTIVITIES (SUCH AS CORING, GRADING, FILLING, VEGETATION REMOVAL, UNDERGROUNDING UTILITIES, PILE DRIVING, LANDSCAPING AND OTHER EXCAVATIONS AS DEFINED IN SECTION 2-151 OF THE ZONING ORDINANCE) SHALL NOT BE RELEASED UNTIL THE CITY ARCHAEOLOGIST CONFIRMS THAT ALL ARCHAEOLOGICAL FIELD WORK HAS BEEN COMPLETED OR THAT AN APPROVED RESOURCE MANAGEMENT PLAN IS IN PLACE TO RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM, CALL ALEXANDRIA ARCHAEOLOGY AT (703) 746-4399.
2. CALL ALEXANDRIA ARCHAEOLOGY (703-746-4399) TWO WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR THE CITY ARCHAEOLOGISTS CAN BE ARRANGED.
3. THE APPLICANT / DEVELOPER SHALL CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-746-4399) IF ANY BURIED STRUCTURAL REMAINS (WALL, FOUNDATIONS, WELLS, PRIVIES, CISTERNS, ETC.) OR CONCENTRATIONS OF ARTIFACTS ARE DISCOVERED DURING DEVELOPMENT. WORK MUST CEASE IN THE AREA OF THE DISCOVERY UNTIL A CITY ARCHAEOLOGIST COMES TO THE SITE AND RECORDS THE FINDS.
4. THE APPLICANT / DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

RODENT ABATEMENT NOTE:

1. PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION THAT WILL OUTLINE STEPS WHAT STEPS HAVE AND WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT ALEXANDRIA DEPARTMENT OF CODE ADMINISTRATION AT (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION. PLEASE BE ADVISED ONCE ANY DEMOLITION HAS BEEN COMPLETED ANY ABOVE GRADE BAIT BOXES MUST BE RELOCATED TO WITHIN 50 FEET OF A STRUCTURE IN KEEPING EPA REGULATIONS. IF THIS IS NOT POSSIBLE, THEY SHALL BE REMOVED AND REGULAR INSPECTIONS OF THE SITE CONDUCTED BY A VIRGINIA LICENSED PEST EXTERMINATOR TO ENSURE THE SITE REMAINS RODENT FREE.

MOSQUITO CONTROL NOTES:

1. STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICE (BMP) SYSTEMS THAT HOLD WATER FOR MORE THAN 5 DAYS BETWEEN THE MONTHS OF MAY AND OCTOBER HAVE THE POTENTIAL TO CAUSE MOSQUITO BREEDING HABITATS; THEREFORE, SUCH BMPS SHALL BE TREATED WITH A REGISTERED MOSQUITO LARVAL CONTROL PRODUCT. ALL LABELS SHOULD BE FOLLOWED FOR APPLICATION RATES AND AMOUNTS.
2. EXCESSIVE VEGETATION IN EXISTING BMPS ALSO INCREASES THE POTENTIAL FOR MOSQUITO PROBLEMS; THEREFORE, VEGETATION SHALL BE CONTROLLED AND CUT TO REDUCE MOSQUITO BREEDING.
3. CONTACT THE CITY OF ALEXANDRIA ENVIRONMENTAL HEALTH VECTOR BORNE ILLNESS PROGRAM (703-838-4910) FOR QUESTIONS OR TREATMENT ASSISTANCE.

UTILITY NOTES:

1. SANITARY AND STORM SEWERS ARE MAINTAINED BY THE CITY OF ALEXANDRIA.
2. ELECTRIC LINES ARE OWNED AND MAINTAINED BY DOMINION VIRGINIA POWER.
3. TELEPHONE/COMMUNICATION LINES ARE OWNED AND MAINTAINED BY VERIZON.
4. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME. ALL EXCAVATED MATERIAL TO BE REPLACED INTO THE TRENCH SHALL BE STOCKPILED ON THE HIGH SIDE OF THE TRENCH. IF ANY TRENCH WORK WILL REMAIN OPEN AFTER THE END OF THE WORKDAY ALL NEEDED EROSION AND SEDIMENT CONTROLS SHALL BE EMPLOYED. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
5. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE CITY OF ALEXANDRIA.

CONSTRUCTION NOTES:

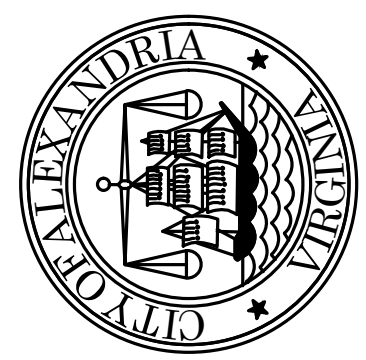
1. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITIES BEFORE COMMENCING WORK AND FOR ANY DAMAGES WHICH MAY OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE ENGINEER AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.
2. THE CONTRACTOR SHALL DIG TEST PITS AS REQUIRED FOLLOWING NOTIFICATION AND MARKING OF ALL EXISTING UTILITIES TO VERIFY THE LOCATION AND DEPTH OF EXISTING UTILITIES. TEST HOLES TO BE PERFORMED AT LEAST 30 DAYS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES ARE TO BE REPORTED IMMEDIATELY TO THE OWNER AND ENGINEER. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM ANY AUTHORITY ISSUING PERMITS.
4. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.
5. THE CONTRACTOR SHALL CLEAN THE SITE OF ALL TREES, BUILDINGS, FOUNDATIONS, ETC. WITHIN THE LIMITS OF CONSTRUCTION UNLESS OTHERWISE SPECIFIED, AND SHALL BE RESPONSIBLE FOR ENSURING THAT EXISTING UTILITIES ARE DISCONNECTED.
6. ALL AREAS, ON OR OFF-SITE, WHICH ARE DISTURBED BY THIS CONSTRUCTION AND WHICH ARE NOT PAVED OR BUILT UPON, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION. THE MINIMUM ACCEPTABLE STABILIZATION SHALL CONSIST OF PERMANENT GRASS, SEED MIXTURE TO BE RECOMMENDED BY THE CITY AGENT. ALL SLOPES 3:1 AND GREATER SHALL BE SODDED AND PEGGED OF OTHERWISE STABILIZED IN A MANNER APPROVED BY THE CITY OF ALEXANDRIA.
7. EXISTING SEPTIC FIELDS, IF APPLICABLE, SHALL BE ABANDONED IN ACCORDANCE WITH VIRGINIA HEALTH DEPARTMENT STANDARDS AND SPECIFICATIONS.
8. ALL ABOVE GROUND UTILITIES SERVING THE SITE SHALL BE RELOCATED AS REQUIRED BY THE OWNING UTILITY COMPANIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL ARRANGEMENTS AND COORDINATING ALL WORK REQUIRED FOR THE NECESSARY RELOCATIONS.
9. PRIOR TO BEGINNING OF CONSTRUCTION, CONTRACTOR SHALL VERIFY FROM THE ARCHITECTURAL DRAWINGS ALL DIMENSIONS, DETAILS AND TREATMENTS FOR THE PROPOSED BUILDINGS, WALKWAYS AND OTHER PROPOSED CONSTRUCTION WHERE INDICATED ON THE PLANS.
10. THE CONTRACTOR IS TO VERIFY INVERT, SIZE AND LOCATION OF BUILDING UTILITY CONNECTIONS WITH THE MECHANICAL PLANS PRIOR TO PLACEMENT OF UNDERGROUND UTILITIES.
11. EXISTING BUILDINGS, FENCES AND OTHER EXISTING PHYSICAL FEATURES ARE TO BE REMOVED AS REQUIRED BY THE CONTRACTOR.
12. EXISTING CONSTRUCTION SHALL BE REMOVED TO NEAREST JOINT. NEW CONSTRUCTION SHALL BE PROVIDED AS SHOWN AND ANY DAMAGED AREA SHALL BE REPAIRED TO MATCH CONDITIONS EXISTING PRIOR TO CONSTRUCTION OR TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES.
13. ALL PRIVATE BUILDING CONNECTIONS ARE TO BE INSTALLED IN ACCORDANCE WITH THE CURRENT PLUMBING CODE.
14. TOPS OF EXISTING STRUCTURES WHICH REMAIN IN USE ARE TO BE ADJUSTED IN ACCORDANCE WITH THE GRADING PLAN. ALL PROPOSED STRUCTURE TOP ELEVATIONS ARE TO BE VERIFIED BY THE CONTRACTOR WITH THE SITE GRADING PLANS. IN CASE OF CONFLICT, THE GRADING PLAN SHALL SUPERSEDE PROFILE ELEVATIONS. MINOR ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS, IF REQUIRED, SHALL BE MADE IN THE FIELD WITH APPROVAL OF SITE INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
15. THE DESIGN, CONSTRUCTION, FIELD PRACTICES AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH BY THE CITY OF ALEXANDRIA ZONING ORDINANCE AND DESIGN AND CONSTRUCTION STANDARDS MANUAL. FAILURE TO COMPLY WITH THE CODE, APPLICABLE MANUALS, AND PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENTS OR PERMITS SHALL BE DEEMED A VIOLATION.
16. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE OWNER/DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE CITY OF ALEXANDRIA.
17. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA.
18. THE CONTRACTOR IS REFERRED TO STRUCTURAL, GEOTECHNICAL, MECHANICAL AND ARCHITECTURAL PLANS FOR FOUNDATION TREATMENT INCLUDING, BUT NOT LIMITED TO, SHEETING AND SHORING FOR BUILDING EXCAVATION, WATERPROOFING FOR FILL AGAINST BUILDINGS, LOCATION OF MECHANICAL EQUIPMENT, AND CONNECTIONS AT THE FACES OF BUILDINGS.
19. SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO THE PROPOSED ENTRANCE AND/OR CURB & GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON THE ROADWAY.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING A SMOOTH TRANSITION TO EXISTING CURB AND SIDEWALKS, IF APPLICABLE.
21. THE CALIFORNIA BEARING RATIO (CBR) VALUES OF IN-SITU MATERIALS SHALL BE DETERMINED BY FIELD AND/OR LABORATORY TESTS FOR ACTUAL DETERMINATION OF REQUIRED THICKNESSES OF SURFACE, BASE, SUB-BASE, AND SUB GRADE MATERIALS. THE CONTRACTOR WILL REVISE THE PAVEMENT DESIGN BASED ON THE FIELD DETERMINED CBR. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL /LICENSED PROFESSIONAL ENGINEER TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING. IN THE CASE OF PAVEMENT PATCHES, PAVEMENT SECTION MUST MEET OR EXCEED EXISTING SECTION.
22. THE THICKNESSES OF SUB-BASE, BASE, AND WEARING COURSE SHALL BE DESIGNED USING "CALIFORNIA METHOD" AS SET FORTH ON PAGE 3-76 OF THE SECOND EDITION OF A BOOK ENTITLED, "DATA BOOK FOR CIVIL ENGINEERS, VOLUME ONE, DESIGN" WRITTEN BY ELWYN E. SEELYE. AN ALTERNATE PAVEMENT SECTION DESIGNED TO THE SATISFACTION OF DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR ALL PAVEMENTS INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON CBR AND VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATIONS SHALL BE ACCEPTABLE.
23. EMERGENCY VEHICLE EASEMENTS (EVE) AND AMERICAN WITH DISABILITY (ADA) ACCESSIBLE PARKING SPACES MUST BE DELINEATED WITH PAVEMENT MARKINGS PER THE CITY OF ALEXANDRIA STANDARD SIGNAGE AND AMERICAN WITH DISABILITIES (ADA) REQUIREMENTS.
24. ALL STRIPING SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) STANDARDS (LATEST EDITION) AND SHALL BE THERMOPLASTIC UNLESS OTHERWISE SPECIFIED.
25. ALL EARTHWORK OPERATIONS ARE TO BE PERFORMED UNDER THE FULL TIME, ON-SITE SUPERVISION OF A REGISTERED GEOTECHNICAL ENGINEER WITH GEOTECHNICAL TESTING IN ACCORDANCE WITH CONSTRUCTION SPECIFICATIONS AND GEOTECHNICAL REPORT REQUIREMENTS.
26. THE CONTRACTORS SHALL NOT CAUSE OR PERMIT VEHICLES TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.
27. UNLESS OTHERWISE APPROVED THE CONTRACTOR SHALL PROVIDE THERMOPLASTIC LADDER STYLE/STANDARD PEDESTRIAN CROSS WALKS AT ALL CROSSINGS AT THE PROPOSED DEVELOPMENT, WHICH MUST BE DESIGNED TO THE SATISFACTION OF THE DIRECTOR,TRANSPORTATION AND ENVIRONMENTAL SERVICES. THE DESIGN OF LADDER STYLE OR STANDARD PEDESTRIAN CROSS WALK SHALL BE EVALUATED ON A CASE BY CASE BASIS AND SHALL COMPLY WITH THE REQUIREMENTS OF POLICY MANUAL SECTION 30.18. PEDESTRIAN CROSSWALKS, JULY 13, 2008. A COPY OF THE POLICY MANUAL CAN BE OBTAINED FROM YON LAMBERT, BICYCLE AND PEDESTRIAN COORDINATOR/TRANSPORTATION PLANNER, TELEPHONE (703) 746-4081.
28. THE APPLICANT SHALL WORK WITH THE CITY FOR RECYCLING AND/OR REUSE OF THE EXISTING BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS, INCLUDING LEFTOVER, UNUSED, AND/OR DISCARDED BUILDING MATERIAL.
29. APPLICANT/CONTRACTOR SHALL IMPLEMENT A WASTE AND REFUSE CONTROL PROGRAM DURING THE CONSTRUCTION PHASE OF THIS DEVELOPMENT. THIS PROGRAM SHALL CONTROL WASTES SUCH AS DISCARDED BUILDING MATERIALS, CONCRETE TRUCK WASHOUT, CHEMICALS, LITTER OR TRASH, TRASH GENERATED BY CONSTRUCTION WORKER OR MOBILE FOOD VENDOR BUSINESSES SERVING THEM, AND ALL SANITARY WASTE AT THE CONSTRUCTION SITE AND PREVENT OFFSITE MIGRATION THAT MAY CAUSE ADVERSE IMPACTS TO NEIGHBORING PROPERTIES OR TO THE ENVIRONMENT TO THE SATISFACTION OF DIRECTORS OF T&ES AND CODE ADMINISTRATION. ALL WASTES SHALL BE PROPERLY DISPOSED OFFSITE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS.

ABBREVIATIONS

		F	
&	AND	FD	FLOOR DRAIN
∠	ANGLE	FDC	FIRE DEPARTMENT CONNECTION
@	AT	FF	FINISH FLOOR
☉	CENTER LINE	FH	FIRE HYDRANT
∅	DIAMETER	FL	FLOW LINE
Δ	DELTA	FM	FORCE MAIN
ℙ	PROPERTY LINE	FDN	FOUNDATION
W/	WITH	FO	FIBER OPTIC
A		G	
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	G	GAS
AC	ACRE	GA	GAUGE
AC-FT	ACRE-FEET	GAL	GALLON
AD	AREA DRAIN	GALV	GALVANIZED
ADJ	ADJACENT	GFA	GROSS FLOOR AREA
AGGR	AGGREGATE	GIS	GEOGRAPHICAL INFORMATION SYSTEM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	GM	GAS METER
ARCH	ARCHITECTURAL	GPM	GALLONS PER MINUTE
ASPH	ASPHALT	GR	GUARD RAIL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	GV	GAS VALVE
AVG	AVERAGE	GW	GUY WIRE
AWWA	AMERICAN WATER WORKS ASSOCIATION	H	
B		HC	HANDICAP COMPLIANT
BF	BASEMENT FLOOR	HB	HORIZONTAL BEND
BLDG	BUILDING	HDPE	HIGH DENSITY
BM	BENCHMARK		POLY ETHYLENE
BOC	BACK OF CURB	HGL	HYDRAULIC GRADE LINE
BOV	BLOW OF VALVE	HORZ	HORIZONTAL
BSMT	BASEMENT	HP	HIGH POINT
BW	BOTTOM OF WALL	HR	HOOR
C		HR	HANDRAIL
C/O	CLEAN OUT	HT	HEIGHT
C	RUNOFF COEFFICIENT	HW	HEADWATER
		I	
C&G	CURB AND GUTTER	I	RAINFALL INTENSITY
CB	CATCH BASIN	ID	INSIDE DIAMETER
CBR	CALIFORNIA BEARING RATIO	IN	INCH
C-C	CENTER TO CENTER	INV	INVERT
CF	CUBIC FOOT	IP	IRON PIPE
CFS	CUBIC FEET PER SECOND	IPF	IRON PIPE FOUND
CIP	CAST-IN-PLACE	IPS	IRON PIPE SET
		J	
CIR	CIRCLE	JB	JUNCTION BOX
CJ	CONTROL JOINT	JT	JOINT
		K	
CLR	CLEAR	Ke	CULVERT ENTRANCE LOSS COEFFICIENT
CMU	CONCRETE MASONRY UNIT	L	
CO	CLEAN OUT	L	LENGTH
COL	COLUMN	LAT	LATERAL
CONT	CONTINUOUS OR CONTINUE	LL	LOWER LEVEL
CONC	CONCRETE	LP	LOW POINT
CONST	CONSTRUCTION	LT	LEFT
		M	
D	DEPTH	M.E	MATCH EXISTING
DA	DRAINAGE AREA	MAX	MAXIMUM
DEMO	DEMOLITION	MECH	MECHANICAL
DEPT	DEPARTMENT	MFR	MANUFACTURER
DI	DROP INLET / DUCTILE IRON	MIN	MINIMUM
DIM	DIMENSION	MISC	MISCELLANEOUS
DIP	DUCTILE IRON PIPE	MON	MONUMENT
DIST	DISTANCE	MPH	MILE PER HOUR
DOM	DOMESTIC	MSL	MEAN SEA LEVEL
DN	DOWN	MW	MONITORING WELL
DS	DOWN SPOUT	N	
DTL	DETAIL	N/A	NOT APPLICABLE
DWG	DRAWING	NFA	NET FLOOR AREA
E		NO.	NUMBER
E/W	EACH WAY	NOM.	NOMINAL
EA	EACH	O	
EC	EROSION CONTROL	OC	ON CENTER
EG	EDGE OF GRAVEL	OD	OUTSIDE DIAMETER
EGL	ENERGY GRADE LINE	O/H	OVERHEAD
ELEC	ELECTRIC	OHC	OVERHEAD CABLE
ELEV	ELEVATION	OHE	OVERHEAD ELECTRIC
ENGR	ENGINEER	OHT	OVERHEAD TELEPHONE
EOC	EDGE OF CONCRETE	P	
EOP	EDGE OF PAVEMENT	P	PERIMETER
		PC	POINT OF CURVATURE
ES	END SECTION	PCC	POINT OF COMPOUND CURVATURE
ESMT	EASEMENT	PERF	PERFORATED
EQ	EQUAL	PI	POINT OF INTERSECTION
EW	END WALL	PIP	POURED IN PLACE
EX	EXISTING	PPF	PINCHED PIPE FOUND
EXP	EXPANSION	PRC	POINT OF REVERSE CURVATURE
		PROP	PROPOSED
		PSI	POUNDS PER SQUARE INCH
		PVC	POLYVINYL CHLORIDE
		PVMT	PAVEMENT
		Q	
Q	FLOW RATE	Q	QTY
QTY	QUANTITY	R	
		R	RISER
R	RAD	RAD	RADIUS
R/W	RIGHT OF WAY	R/W	RIGHT OF WAY
RCN	RUNOFF CURVE NUMBER	RCN	RUNOFF CURVE NUMBER
RCP	REINFORCED CONCRETE PIPE	RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN	RD	ROOF DRAIN
REINF	REINFORCED/REINFORCING	REINF	REINFORCED/REINFORCING
REQD	REQUIRED	REQD	REQUIRED
REV	REVISION	REV	REVISION
RPA	RESOURCE PROTECTION AREA	RPA	RESOURCE PROTECTION AREA
RR	RAILROAD	RR	RAILROAD
RT	RIGHT	RT	RIGHT
RTE	ROUTE	RTE	ROUTE
		S	
SAN	SANITARY	SAN	SANITARY
SCH	SCHEDULE	SCH	SCHEDULE
SDF	SPILLWAY DESIGN FLOOD	SDF	SPILLWAY DESIGN FLOOD
SEC	SECTION	SEC	SECTION
SEW	SEWER	SEW	SEWER
SIM	SIMILAR	SIM	SIMILAR
SPEC	SPECIFICATION	SPEC	SPECIFICATION
SQ	SQUARE	SQ	SQUARE
SS	SANITARY SEWER	SS	SANITARY SEWER
STA	STATION	STA	STATION
STD	STANDARD	STD	STANDARD
STM	STORM	STM	STORM
SVC	SERVICE	SVC	SERVICE
S/W	SIDEWALK	S/W	SIDEWALK
SWM	STORM WATER MANAGEMENT	SWM	STORM WATER MANAGEMENT
		T	
T	TREAD	T	TREAD
TBR	TO BE REMOVED	TBR	TO BE REMOVED
TBRL	TO BE RELOCATED	TBRL	TO BE RELOCATED
TELE	TELEPHONE	TELE	TELEPHONE
TEMP	TEMPORARY	TEMP	TEMPORARY
TH	TEST HOLE	TH	TEST HOLE
THR	THROAT	THR	THROAT
TOB	TOP OF BANK	TOB	TOP OF BANK
TOC	TOP OF CURB	TOC	TOP OF CURB
TP	TEST PIT	TP	TEST PIT
TS	TOP OF STAIRS	TS	TOP OF STAIRS
TW	TOP OF WALL	TW	TOP OF WALL
TYP	TYPICAL	TYP	TYPICAL
		U	
UD	UNDERDRAIN	UD	UNDERDRAIN
UG	UNDERGROUND	UG	UNDERGROUND
UGC	UNDERGROUND CABLE	UGC	UNDERGROUND CABLE
UGE	UNDERGROUND ELECTRIC	UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE	UGT	UNDERGROUND TELEPHONE
UNO	UNLESS NOTED OTHERWISE	UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE	UP	UTILITY POLE
USGS	UNITED STATES GEOLOGICAL SURVEY	USGS	UNITED STATES GEOLOGICAL SURVEY
		V	
VB	VERTICAL BEND	VB	VERTICAL BEND
VC	VERTICAL CURVE	VC	VERTICAL CURVE
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
VEL	VELOCITY	VEL	VELOCITY
VERT	VERTICAL	VERT	VERTICAL
VIF	VERIFY IN FIELD	VIF	VERIFY IN FIELD
VSMP	VIRGINIA STORMWATER MANAGEMENT PROGRAM	VSMP	VIRGINIA STORMWATER MANAGEMENT PROGRAM
VOL	VOLUME	VOL	VOLUME
		W	
W	WIDE/WIDTH	W	WIDE/WIDTH
WL	WATER LINE	WL	WATER LINE
WM	WATER METER	WM	WATER METER
WV	WATER VALVE	WV	WATER VALVE
WWF	WELDED WIRE FABRIC	WWF	WELDED WIRE FABRIC
WWM	WELDED WIRE MESH	WWM	WELDED WIRE MESH
		X	
XING	CROSSING	XING	CROSSING
		Y	
YD	YARD	YD	YARD
YI	YARD INLET	YI	YARD INLET
YR	YEAR	YR	YEAR
		Z	
Z	SIDE SLOPES	Z	SIDE SLOPES
ZO	ZONING ORDINANCE	ZO	ZONING ORDINANCE

BID SET

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DATE	DESCRIPTION
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SURVEY NOTES:

- HORIZONTAL DATUM FOR PROJECT CONTROL IS BASED UPON NAD 83 VIRGINIA NORTH ZONE (MYCS2), AND WAS ESTABLISHED BY RTK GPS OBSERVATION IN APRIL 2020.
- VERTICAL DATUM FOR PROJECT CONTROL IS BASED UPON NAVD 88 (GEOID 18), AND WAS ESTABLISHED BY RTK GPS OBSERVATION IN APRIL 2020.
- SUBSURFACE UTILITY DESIGNATION (NOT INCLUDING STORM AND SANITARY SEWER) WAS PERFORMED BY MISS UTILITY AND THEIR ASSIGNS IN MAY 2020. TICKET NUMBER IS A014301743
- UTILITY NOTES:
 - STORM AND SANITARY SEWER MANHOLES WERE FIELD SURVEYED BY CITY OF ALEXANDRIA SURVEY SECTION IN MAY 2020. STORM AND SANITARY SEWER PIPES ARE DEPICTED AT "QUALITY LEVEL C".
- EXISTING STRIPING/TRAFFIC PAINT IS NOT SHOWN ON THIS SURVEY.
- RESOURCE PROTECTION AREAS AND FEMA FLOOD ZONES (IF ANY) ARE SHOWN PER GIS LOCATION ONLY. THIS TOPOGRAPHIC SURVEY DID NOT INCLUDE A FLOOD STUDY OR ENVIRONMENTAL STUDY.
- LIMIT OF TOPOGRAPHIC SURVEY IS FROM GUTTER PAN OF NORTH BEAUREGARD STREET, TO 15' BEHIND EXISTING BACK OF SIDEWALK. NOT ALL PHYSICAL FEATURES, TREES, OR TOPOGRAPHY ARE SHOWN BEYOND THESE LIMITS.
- THE 2022 SURVEY DATA IS LIMITED TO OUTFALL LOCATIONS OF CERTAIN STORM DRAIN STRUCTURES, CROSS SECTIONS ALONG STREAM NEAR INTERSECTION OF BRANCH AVENUE, NEW HANDICAP RAMP/CONCRETE AT FILLMORE AVENUE INTERSECTION, AND ADDITIONAL TREE LOCATIONS PER REQUEST. ALL OTHER DATA, SURVEY POINTS, AND RELATED SURVEY INFO FOUND IN THIS DRAWING IS PER 2020 SURVEY AND HAS NOT BEEN UPDATED.

AFFECTED EXISTING UTILITIES:

UTILITIES	TYPE OF UTILITIES	REMARKS
EX. ST1	Storm structure	To be removed
EX. ST3	Storm structure	To be removed
EX. ST9	Storm structure	Yard inlet top to to be removed and replaced with manhole top.
EX. ST11	Storm structure	To be removed
EX. SS1	Sanitary manhole	Rim to be adjusted to finished grade (sta. 13+11.42, Offset=62.18'R)
Manhole	Electric manhole	Rim to be adjusted to finished grade (sta. 24+84.36, Offset=70.66'R)
Communication	Communication line (COX)	To be removed (from sta. 22+14.90 to 26+85.44)

EXISTING UTILITES LIST:

DOMINION ENERGY
PHONE: (866) 366-4357

COX COMMUNICATIONS
PHONE: (800) 234-3993

DEMOLITION NOTES:

- A SEPARATE PERMIT IS REQUIRED FOR DEMOLITION; HOWEVER, NO DEMOLITION SHALL BEGIN UNTIL ALL EROSION AND SEDIMENT AND TREE PROTECTION CONTROLS ARE IN PLACE AND ARE APPROVED BY AN EROSION AND SEDIMENT CONTROL INSPECTOR OF THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
- ALL WORK SHALL BE PERFORMED IN STRICT COMPLIANCE WITH THE MOST CURRENT APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS, INCLUDING BUT NOT LIMITED TO, ENVIRONMENTAL PROTECTION AGENCY (EPA), OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), VIRGINIA OCCUPATIONAL AND SAFETY HEALTH COMPLIANCE PROGRAM (VOSH ENFORCEMENT), VIRGINIA OVERHEAD HIGH VOLTAGE LINE SAFETY ACT, NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS), AND NATIONAL INSTITUTE OF OCCUPATIONAL SAFETY AND HEALTH (NIOSH).
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND FOR THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.
- THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT SAME TO THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER SITE DEMOLITION IN FULL COMPLIANCE WITH APPLICABLE CODES, REGULATIONS AND THE REQUIREMENTS OF UTILITY PURVEYORS HAVING JURISDICTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH THE UTILITY PURVEYORS, PAYMENT OF ASSOCIATED FEES AND PROCUREMENT OF ALL NECESSARY PERMITS.
- PRIOR TO REMOVAL OF MATERIALS OVER EXISTING UTILITY SYSTEMS, THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS AND, IF AT VARIANCE WITH CONDITIONS AS REPRESENTED ON THE PLANS, NOTIFY THE OWNER'S REPRESENTATIVE AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS/CLEAN FILL AS PER THE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).
- THE CONTRACTOR SHALL PROTECT AND PREVENT DAMAGE TO EXISTING ON-SITE UTILITY DISTRIBUTION FACILITIES THAT ARE TO REMAIN. ACTIVE UTILITY DISTRIBUTION FACILITIES ENCOUNTERED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE SHUT OFF AT THE SERVICE MAIN WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.
- DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE UPON ENCOUNTERING ANY EXISTING UTILITIES AND/OR UTILITY SYSTEM STRUCTURES NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL DOCUMENT THE SAME AND FORWARD THE INFORMATION TO THE RESIDENT ENGINEER/OWNER'S REPRESENTATIVE, AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.
- THE CONTRACTOR OR APPLICANT SHALL WORK WITH THE CITY STAFF TO REUSE THE EXISTING, LEFTOVER, UNUSED AND/OR DISCARDED BUILDING MATERIALS AS PART OF THE DEMOLITION PROCESS OR THE CONSTRUCTION DEBRIS MUST BE REMOVED TO AN APPROVED LANDFILL WITH ADEQUATE FREQUENCY IN ACCORDANCE WITH THE VIRGINIA STATE LITTER CONTROL ACT.

UTILITY WORKS NOTES:

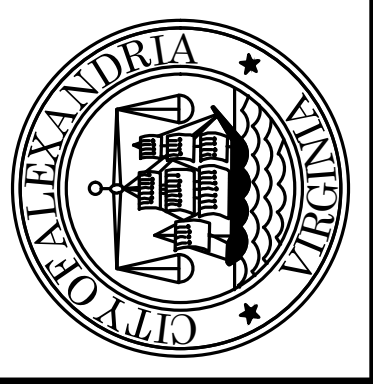
UNDERGROND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING MINIMUM STANDARDS DESCRIBED IN SECTION 4VAC50-30-40 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH) AND ADDITIONAL APPLICABLE PRACTICES FOLLOWED BY THE CITY OF ALEXANDRIA:

- ALL PRIVATE UTILITIES SHALL BE LOCATED OUTSIDE OF THE PUBLIC RIGHT OF WAY AND PUBLIC UTILITY EASEMENTS UNLESS THE UTILITY OWNERS HAVE FRANCHISE AGREEMENT WITH THE CITY OF ALEXANDRIA; HOWEVER, NO ELECTRIC TRANSFORMERS AND SWITCH GEARS/CONTROL BOXES SHALL BE PLACED IN THE PUBLIC RIGHT OF WAY.
- ALL THE EXISTING AND PROPOSED PUBLIC AND PRIVATE UTILITIES AND EASEMENTS SHALL BE SHOWN AND A DESCRIPTIVE NARRATION OF VARIOUS UTILITIES SHALL BE PROVIDED ON THE PLAN.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
- NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
- EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
- EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ACCORDANCE WITH THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
- SHOULD UTILITY CONSTRUCTION BE PERFORMED AFTER COMPLETING EARTHWORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACHIEVING 98 PERCENT OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY (ASTM D-1551) COMPACTION IN ALL TRENCH BACKFILL.
- RESTALLIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
- APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION, AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CITY OF ALEXANDRIA.
- A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.
- UTILITY CORRIDORS IN CONTAMINATED SOIL SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH CLEAN SOIL.
- GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.
- ALL NEW INSTALLATIONS AND/OR REINSTALLATION OF UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES INCLUDING WATER AND SEWER LATERALS BOTH ON PRIVATE PROPERTY AND IN THE PUBLIC RIGHT OF WAY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH 3" AND 6" WIDE MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPES (DUWT). THE 3" DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" AND 6" WIDE AT A DEPTH OF 24" SO AS TO MAKE UNDERGROUND INSTALLATIONS EASY TO FIND USING A NON-FERROUS LOCATOR. THE DUWT SHALL BE WITH ALUMINUM BACKING OR SOLID ALUMINUM CORE LAMINATED WITH A PROTECTIVE CLEAR FILM ON BOTH SIDES, SEALING AND PROTECTING THE GRAPHICS FROM UNDERGROUND MOISTURE, ACIDS, ALKALIS, AND OTHER SOIL SUBSTANCES. ALL DUWT TAPES SHALL BE PRINTED IN BLACK INK ON AMERICAN PUBLIC WORKS ASSOCIATION (APWA) APPROVED COLORS TO MEET OR EXCEED INDUSTRY STANDARDS. THE FOLLOWING ARE THE APWA COLOR CODES:

RED	CAUTION BURIED ELECTRIC POWER LINES, CABLES, CONDUITS, AND LIGHTING CABLES
YELLOW	CAUTION GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	CAUTION COMMUNICATIONS, ALARM OR SIGNAL LINES, TELECOMMUNICATIONS, CABLES OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES AND FORCE MAIN

BID SET

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

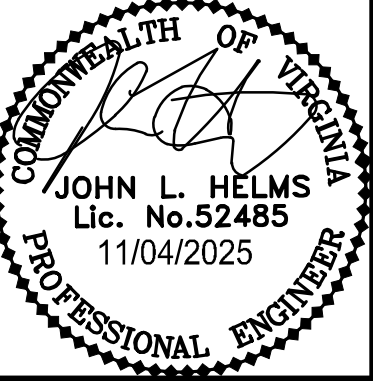


CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISENS	DESCRIPTION
DATE	

ALEXANDRIA PROJECT NO.: CP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY:	EG DATE:	-
DRAWN BY:	MQ DATE:	-
CHECKED BY:	AG DATE:	-
APPROVED BY:	DL DATE:	-



GENERAL NOTES

SCALE NOT TO SCALE

SHEET

C101

A
C400
C401

LIGHTING | STREET POLE

Purpose

The street pole light shall be used to illuminate portions of the park system, including streets, park roads and trails.

General Information

Light fixtures shall be installed as a street or park road light in areas not guided by historic light fixture requirements or small area plan requirements.

Lighting in Public Open Space zoned properties requires a Special Use Permit.

The standard light fixture is Hadco, Inc., R53, or City approved equal.

Materials and Finish

The globe/post top shall be Type V, clear stabilized acrylic with a Victorian style roof.

The pole and fixture shall be finished with a black UV-resistant catalyzed urethane coating.

Lights shall be mounted on fiberglass, fluted and tapered decorative poles for post top lights.

Light poles/fixtures/luminaires shall be 14 feet total height from finished grade and installed with an anchor base.

The ornamental base cover shall be designed to cover the anchor bolts in one or two pieces, be vandal resistant and finished to match the post.

Lamps shall be LED.

Features

Light fixtures that require separate ballast boxes are not permitted.

Post tops shall include full top reflectors and may include a house side shield if warranted by the pole location.

Color temperature shall be between 3,000K and 4,000K.

Installation

Light poles shall be located so as not to be in conflict with tree vegetation or plantings.

Lights shall be located a minimum of 3 feet clear from the edge of all shared-use paths or pedestrian walkways.

Top of light pole foundations shall be flush to finished grade. Top of footing shall be sloped to shed water.

Connections installed beneath paving shall be sleeved. Install ground fault protection at each pole.

Installation work shall be performed in conformity with USB3C.

Lights shall be installed on a GFCI circuit.

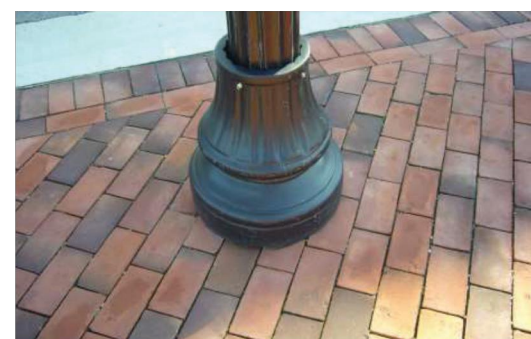
Lights shall have photocell and time clock activation.

Life Cycle Expectations

A 5 year minimum warranty is required on street pole light fixtures.

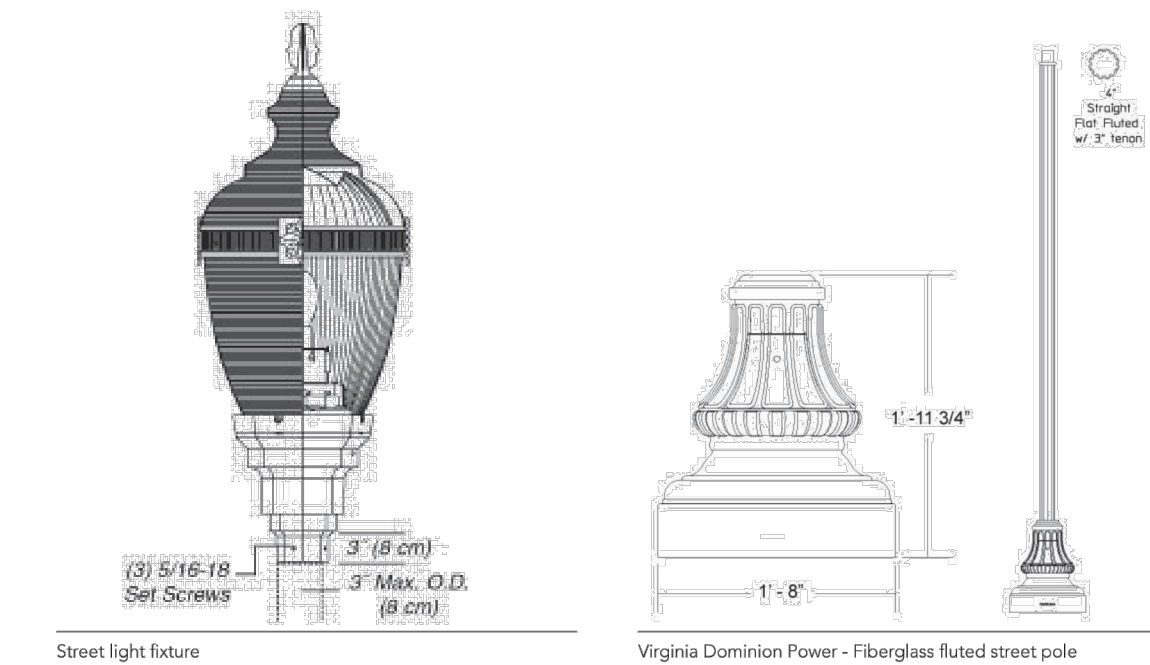
A 3 year minimum warranty is required on poles.

Lights are anticipated to require replacement after 20 years of normal and ordinary use.



Fiberless fluted base

LIGHTING | STREET POLE



Street light fixture

Virginia Dominion Power - Fiberglass fluted street pole

LIGHTING NOTES:

- REFER TO PHOTOMETRICS PLAN AND CALCULATIONS ON SHEETS C950-C951.
- REFER TO SHEET C952 FOR LIGHTING SPECS.

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C553

Table 7.6. Material Specifications for Underneath the Pavement Surface

Material	Specification	Notes
Bedding Layer	PC: None PA: 2 in. of No. 57 stone IP: 2 in. of No. 8 stone over 4 inches of No. 57 stone	ASTM D448 size No. 8 stone (e.g. 3/8 to 3/16 inch in size). Should be washed and clean and free of all fines.
Reservoir Layer	PC: No. 57 stone PA: No. 2 stone IP: No. 2, 3, or 4 stone	ASTM D448 size No. 57 stone (e.g. 1 1/2 to 1 1/2 inch in size); No. 2 Stone (e.g. 3 inch to 3/4 inch in size). Depth is based on the pavement structural and hydraulic requirements. Should be washed and clean and free of all fines.
Underdrain	Use 4 to 6 inch diameter perforated PVC (AASHTO M 252) pipe, with 3/8-inch perforations at 6 inches on center; each underdrain installed at a minimum 0.5% slope located 20 feet or less from the next pipe (or equivalent corrugated HDPE may be used for smaller load-bearing applications). Perforated pipe installed for the full length of the permeable pavement cell, and non-perforated pipe, as needed, is used to connect with the storm drain system. Ts and Ys installed as needed, depending on the underdrain configuration. Extend cleanout pipes to the surface with vented caps at the Ts and Ys.	
Filter Layer	The underlying native soils should be separated from the stone reservoir by a thin, 2 to 4 inch layer of choker stone (e.g. No. 8) covered by a 6 to 8 inch layer of coarse sand (e.g. ASTM C 33, gradation).	The sand should be placed between the stone reservoir and the choker stone, which should be placed on top of the underlying native soils.
Filter Fabric (optional)	Use an appropriate filter fabric for the particular application based on AASHTO M288-06 Filter Fabric should have a Flow Rate greater than 125 gpm/sq. ft. (ASTM D4491), and an Apparent Opening Size (AOS) equivalent to a US # 70 or # 80 sieve (ASTM D4751). The geotextile AOS selection is based on the percent passing the No. 200 sieve in "A" Soil subgrade, using FHWA or AASHTO selection criteria.	
Impermeable Liner	Use a thirty mil (minimum) PVC Geomembrane liner covered by 8 to 12 oz./sq. yd.2 non-woven geotextile. NOTE: THIS IS USED ONLY FOR KARST REGIONS.	
Observation Well	Use a perforated 4 to 6 inch vertical PVC pipe (AASHTO M 252) with a lockable cap, installed flush with the surface.	

BICYCLE PARKING RACK PLACEMENT

RACK PLACEMENT

RULES:

5' from:
Fire hydrant
Crosswalk

4' from:
Loading zone
Bus stop
Bus shelter
Bus bench

Min. 2', Rec. 3' from:
Curb

3' from:
Parking meter
Newspaper rack
US mailbox
Light pole
Sign pole
Driveway
Tree space
Trash can
Utility meter
Manhole
Other street furniture
Other sidewalk obstructions

WALL SETBACKS

For racks set parallel to a wall:

Min. 24", Rec. 36"

For racks set perpendicular to a wall:

Min. 28", Rec. 36"

SIDE VIEW

~24" (Varies by manufacturer)

4"

~35" (Varies by manufacturer)

SCALE 1/4" = 1'

36"

18"

6"

SCALE 1/4" = 1'

SURFACE MOUNT (SEE SHEET C202 FOR DETAIL)

Alexandria Department of Transportation and Environmental Services
Bicycle and Pedestrian Program

REVISED:
February 2013

SCALE:
AS NOTED

B

21"

28 1/2"

6"

24"

RECOMMENDED SEAT HEIGHT

CONCRETE FOOTING (SEE DETAIL THIS SHEET)

CONCRETE FOOTING (SEE DETAIL THIS SHEET)

2-3/8" O.D. TUBULAR STEEL

CONCRETE PEDESTAL W/ 1.5" PAM 9.5 (SEE DETAIL THIS SHEET)

70" SHEET

3/8" x 3" CENTER BRACE FOR ADDITIONAL SUPPORT

1.5" PAM 9.5

CONCRETE FOOTING (SEE DETAIL THIS SHEET)

60" CENTER-TO-CENTER

21"

28 1/2"

6"

24"

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2-3/8" O.D. TUBULAR STEEL

CONCRETE PEDESTAL W/ 1.5" PAM 9.5 (SEE DETAIL THIS SHEET)

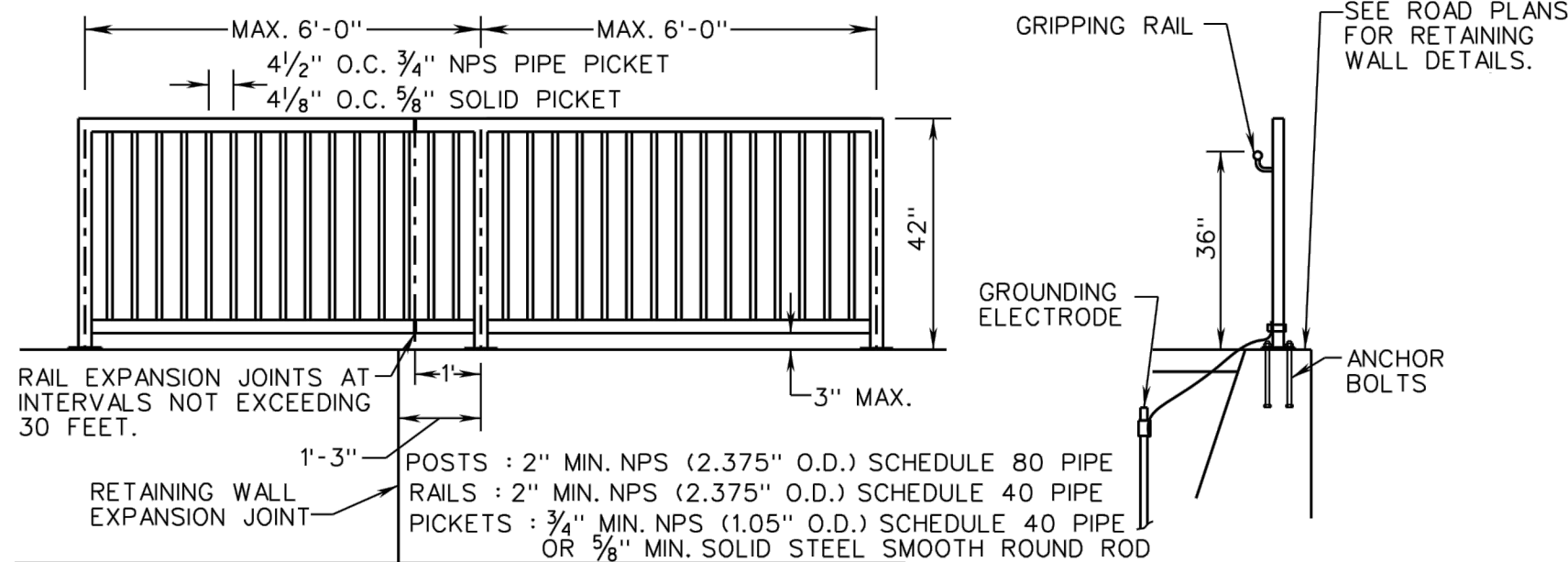
70" SHEET

3/8" x 3" CENTER BRACE FOR ADDITIONAL SUPPORT

1.5" PAM 9.5

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RETAINING WALL HANDRAIL DETAIL (OR APPROVED EQUIVALENT)



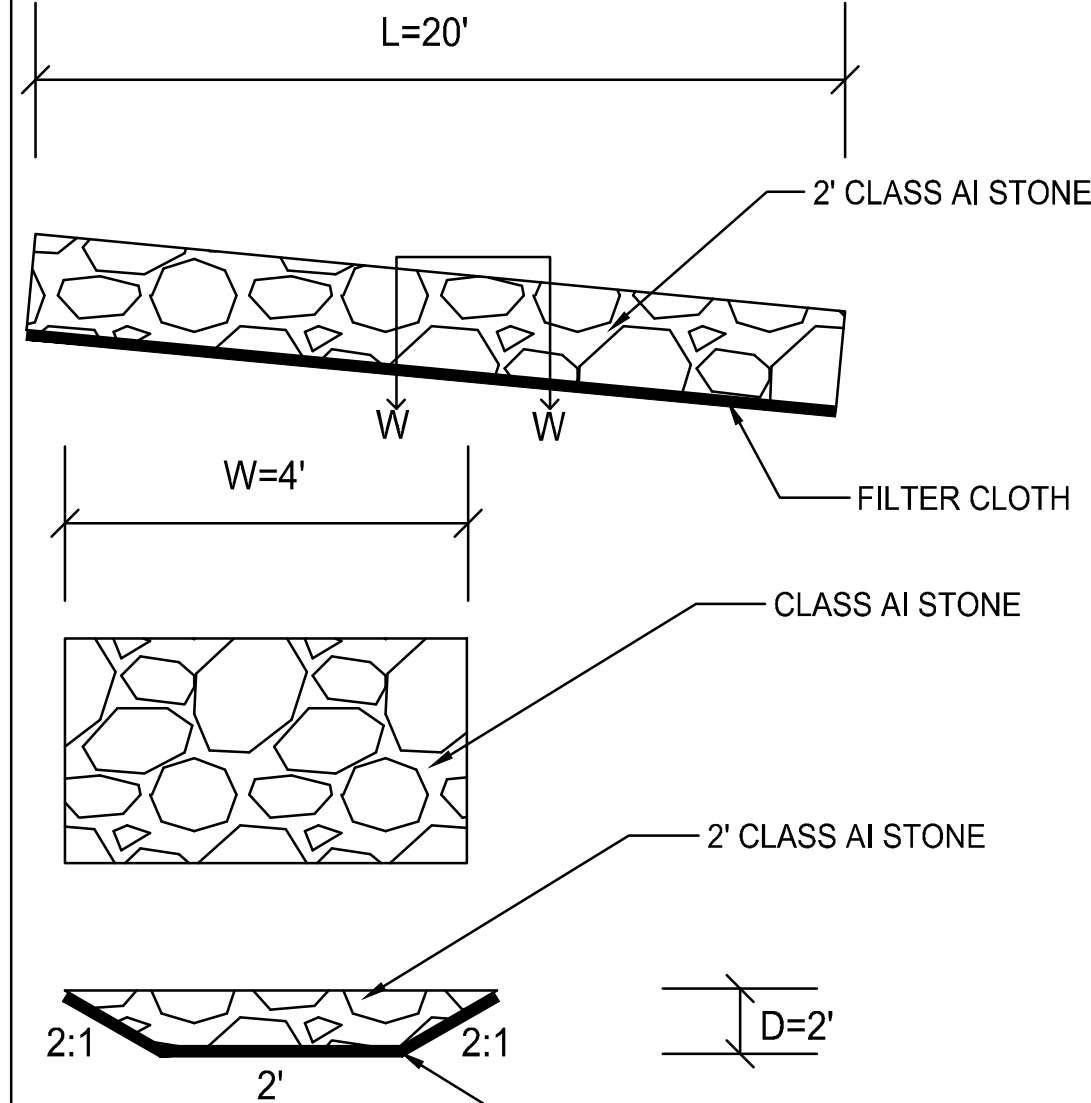
HR-1 TYPE II PEDESTRIAN RAILING
(FOR USE ALONG SIDEWALKS AND RAMPS)

NOTES:

- THE CONTRATOR SHALL SUBMIT DRAWINGS DETAILING ALL ASPECTS OF FABRICATION AND INSTALLATION OF RAILING, INCLUDING CONCRETE FOUNDATIONS FOR APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION. SHOP DRAWINGS SHALL BE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER, HOLDING A VALID LICENSE TO PRACTICE ENGINEERING IN THE COMMONWEALTH OF VIRGINIA.
- ALL RAILING COMPONENTS AND FASTENERS SHALL BE GALVANIZED IN ACCORDANCE WITH THE CURRENT ROAD AND BRIDGE SPECIFICATIONS. TO ACHIEVE A UNIFORM COATING ON ALL SURFACES VENTING AND DRAINAGE HOLES FOR GALVANIZING SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- ALL FASTENERS SHALL BE IN ACCORDANCE WITH ASTM A307, ASTM A563, AND ASTM F844. ALL ANCHOR BOLTS SHALL BE IN ACCORDANCE WITH AASHTO M314, GRADE 36.
- A CHEMICAL ANCHOR SYSTEM FROM VDOT'S APPROVED MATERIAL LIST MAY BE USED IN LIEU OF CAST IN PLACE ANCHORS AND SHALL BE INCLUDED IN THE SHOP DRAWINGS.
- ~~RAILINGS SHALL BE INSTALLED TO MATCH GRADE OF RAMPS, SIDEWALKS, AND STAIRS.~~
- ~~HANDRAILS SHALL MATCH GRADE OF RAMPS, SIDEWALKS AND STAIRS.~~
- ALL POSTS AND PICKETS SHALL BE SET PLUMB.
- RAILINGS SHALL BE GROUNDED AND EFFECTIVELY BONDED. GROUNDING MATERIALS INSTALLATION TO BE IN ACCORDANCE WITH STD. FE-6.
- COMMERCIALLY AVAILABLE RAILING SYSTEMS MAY BE USED IN LIEU OF DESIGNING AND FABRICATING THE RAILING. DOCUMENTATION FROM THE MANUFACTURER VERIFYING THAT PROJECT REQUIREMENTS ARE MET WITH THE RAILING SYSTEM SHALL BE SUBMITTED WITH THE INSTALLATION DRAWINGS AND APPROVED BY THE ENGINEER IN ACCORDANCE WITH NOTE 1.
- HANDRAIL TO BE IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
- THIS HANDRAIL IS TO BE USED ONLY AS A PROTECTION FOR PEDESTRIANS AND SHOULD NOT BE PLACED IN ANY LOCATION WHERE IT MIGHT BE SUBJECT TO ANY VEHICULAR IMPACT. FOR VEHICULAR PROTECTION STANDARD GUARDRAIL SHOULD BE USED.

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CLASS AI RIPRAP DETAIL



RIPRAP NOTES:

- STONE CLASS AI WITH STONE DIAMETER 0.9'.
- MINIMUM RIPRAP THICKNESS SHALL BE 2 TIMES THE MAXIMUM STONE DIAMETER.
- RIPRAP SIZING PER VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK PLATE 3.18-3

NOTES:

- WHEN SPECIFIED, CONCRETE APRONS (1/4" PER FEET MIN) TO BE INCLUDED IN PRICE OF YARD INLET.
- CONCRETE APRON MAY BE CAST IN PLACE OR PRECAST. REINFORCING MUST BE 6"x6" NO 6 WIRE MESH. ALL CONCRETE BE CLASS A3.
- AN 6" THICK CONC. APRON 2' WIDE (MIN.) WILL BE INSTALLED IN FRONT OF EACH THROAT. THEY WILL BE SHAPED TO MEET CONDITIONS AS DIRECTED IN THE FIELD BY CITY INSPECTOR. CLASS "A3" CONC. USED THROUGHOUT.
- WALLS OF POURED OR BLOCK CONC. OR BRICK IN MORTAR WILL BE PARGED 1/4" INSIDE (AND OUTSIDE ABOVE FINISHED GRADE).
- WALLS OF POURED OR SOLID BLOCK CONCRETE WILL BE 8" THICK.
- SPECIAL DESIGN WILL BE REQUIRED FOR PIPE SIZES GREATER THAN 36".
- FOR RETROFIT PROJECTS:
 - PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
 - GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS. IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BETWEEN THE RCP PIPE AND STRUCTURE'S
 - PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
 - PROVIDE RAILS (IF REQUIRED)

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TYPICAL 6" CLEAN OUT DETAIL (OR APPROVED EQUIVALENT)

SPECIFICATION SUBMITTAL SHEET
CAST IRON PUSH-ON CLEANOUT

features and benefits:

- Meets ASTM A74-98 and ASME A112.36.2M-91
- Cut pipe to desired level, lube gasket and push on pipe, tap with lead hammer to seat, then install plug
- Schedule 40 unit fits plastic and extra heavy cast iron pipe
- Brass plug

PART NO.	HEIGHT A	ID B	PIPE SIZE C	PLUG STYLE D
LESS GASKET				
□ C36-003	3"	4"	3" SV	Raised Head
□ C36-013	3"	4"	3" SV	Countersunk
□ C36-004	3"	5"	4" SV	Raised Head
□ C36-014	3"	5"	4" SV	Countersunk
□ C36-024	3"	5 3/8"	4" Sch. 40	Raised Head
□ C36-034	3"	5 3/8"	4" Sch. 40	Countersunk
□ C36-006	2 1/4"	7 3/16"	6" SV	Raised Head
□ C36-016	2 3/4"	7 3/16"	6" SV	Countersunk
WITH GASKET				
□ C36-104	3 1/4"	3 7/8"	4" SV	Raised Head
□ C36-114	3 1/4"	3 7/8"	4" SV	Countersunk
□ C36-124	3 1/4"	4 1/4"	4" Sch. 40	Raised Head
□ C36-134	3 1/4"	4 1/4"	4" Sch. 40	Countersunk
□ C36-106	3"	5 3/4"	6" SV	Raised Head
□ C36-116	3"	5 3/4"	6" SV	Countersunk

CIRCLE MANUFACTURING CO.

NO HUB CLEANOUT

DIMENSIONS

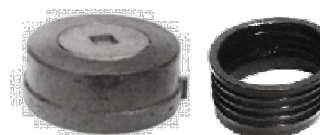
PIPE SIZE A	PLUG SIZE B	HEIGHT C
2"	2"	1 1/2" IPS
3"	3"	2 1/2" IPS
4"	4"	3" IPS
4 1/2"	4"	3 1/2" IPS
5"	5"	4" IPS
6"	6"	4 1/2" IPS
8"	8"	5" IPS
10"	10"	6" IPS



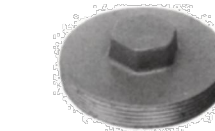
CAULK-COMPRESSION GASKET CONNECTION

CODE NO.	SIZE	TAPPING
C-702	2"	1 1/2"
C-702CS	2"	1 1/2"
C-703	3"	2 1/2"
C-703CS	3"	2 1/2"
C-704	4"	3"
C-704CS	4"	3"
C-704B	4"	3 1/2"
C-704BSC	4"	3 1/2"
C-706	6"	5"
C-706CS	6"	5"
C-708	8"	6"
C-708CS	8"	6"
C-710	10"	6"
C-710CS	10"	6"

PANELLA CLEANOUTS & GASKET



RAISED HOLLOW HEX HEAD CAST IRON PLUGS



BRASS PLUGS



COUNTERSINKING BRASS PLUG RANCH



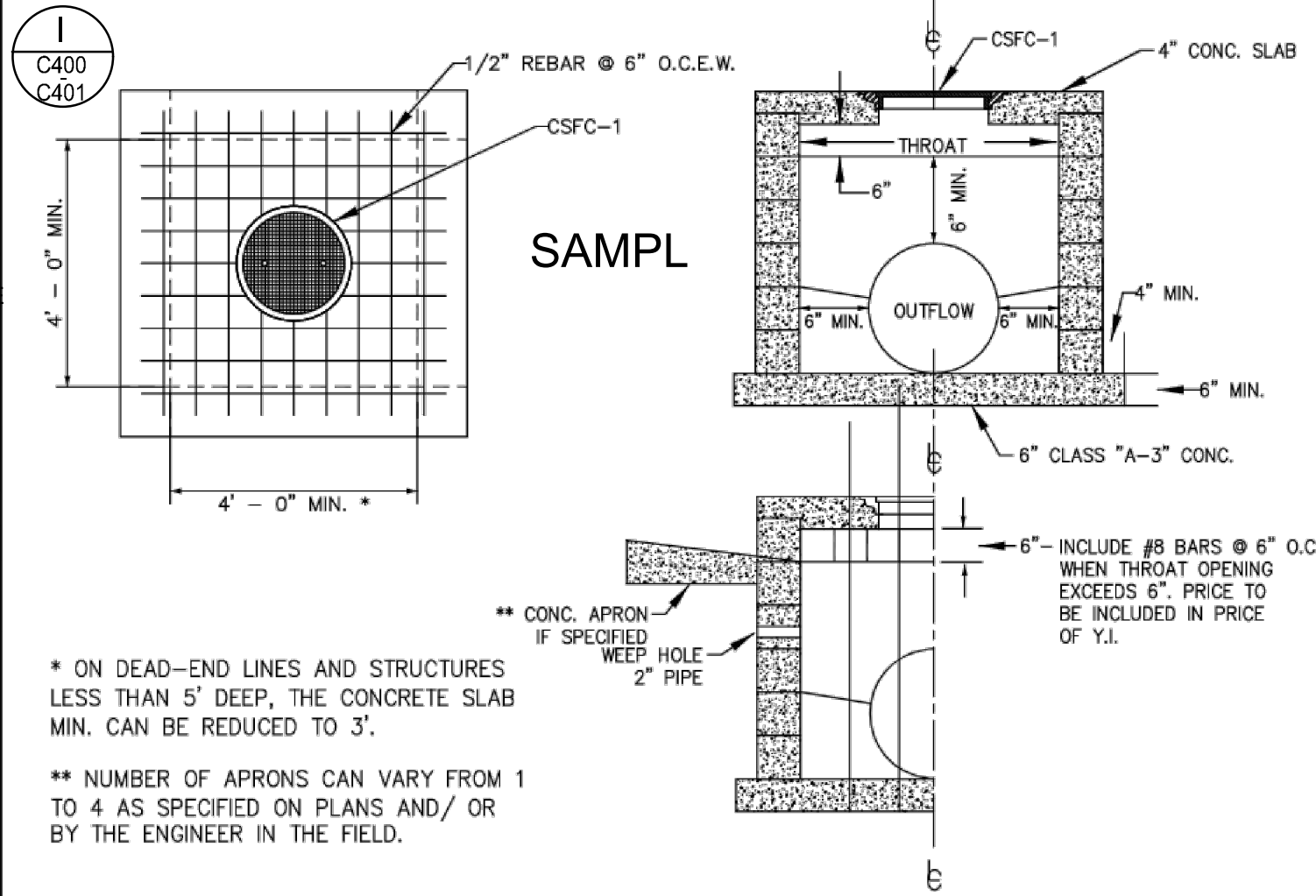
CODE NO.	SIZE
CP-711CS	3"
CP-712CS	4"
CP-713CS	5"
CP-714CS	6"
CP-715CS	8"
CP-716CS	10"

CODE NO.	SIZE
PC094	2"
PC095	3"
PC097	3 1/2"
PC098	4"
PC010	5"
PC012	6"

CODE NO.	SIZE
C708BR	2"
C708BRIC	3"
C708BR	3 1/2"
C708BRIC	4"
C708BR	5"
C708BRIC	6"
C708BR	8"
C708BRIC	10"

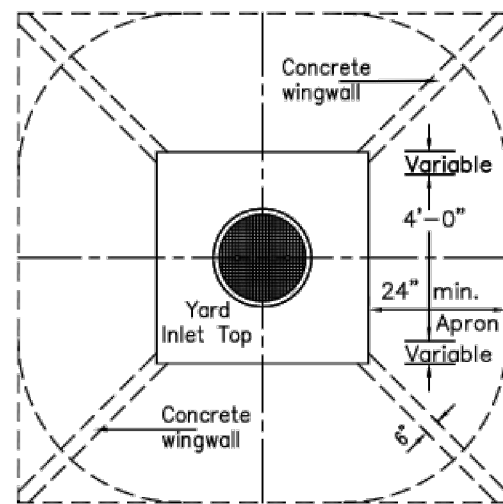
995 Griffin Road Road, Clarke Summit, PA 18411, Phone: (717) 989-2136, Fax: (717) 989-2141, Email: sales@circlemfg.com Website: www.circlemfg.com

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* ON DEAD-END LINES AND STRUCTURES LESS THAN 5' DEEP, THE CONCRETE SLAB MIN. CAN BE REDUCED TO 3'.

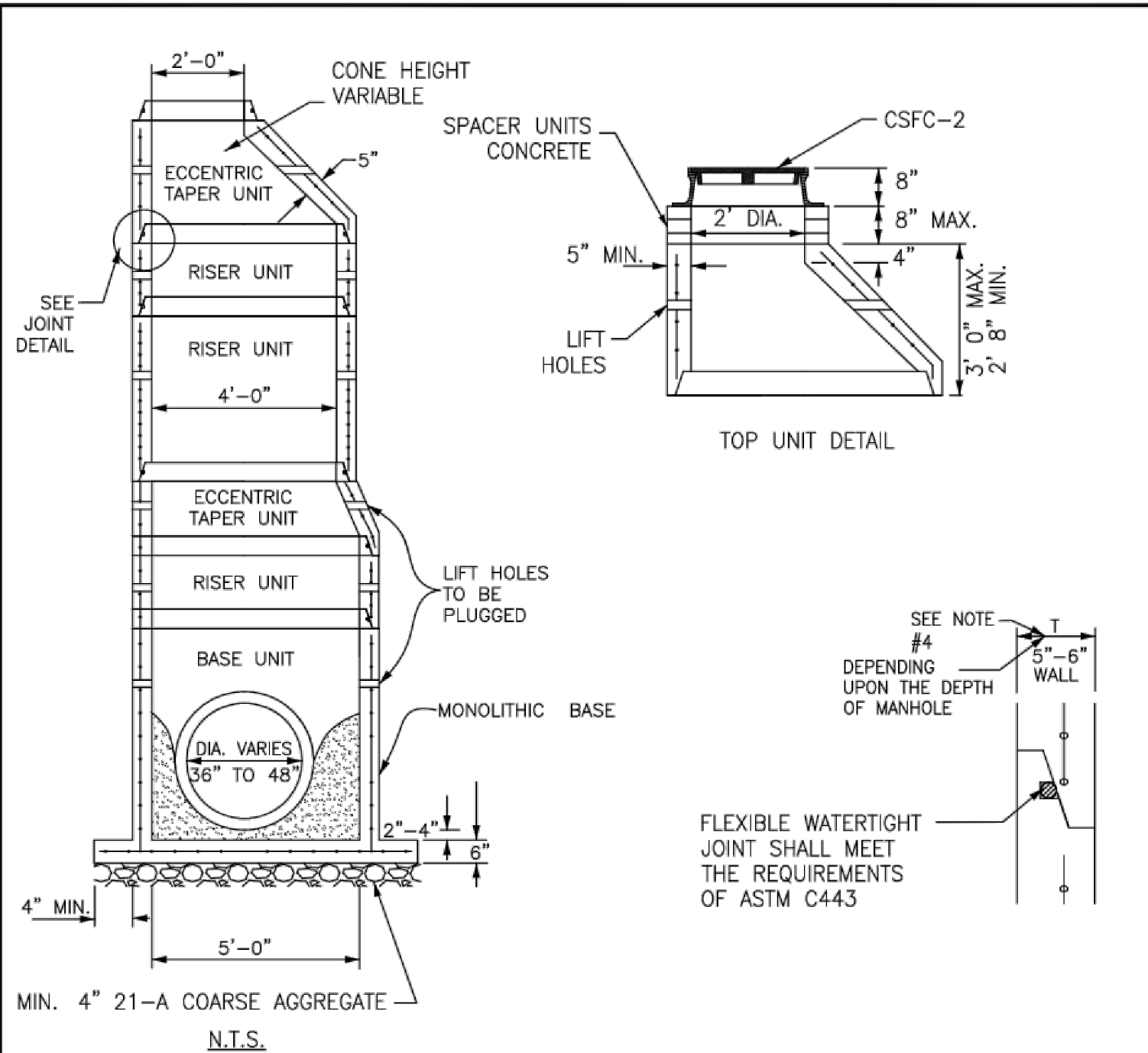
** NUMBER OF APRONS CAN VARY FROM 1 TO 4 AS SPECIFIED ON PLANS AND/OR BY THE ENGINEER IN THE FIELD.



YARD INLET

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

01/16/2021	REVISION DATE
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REINFORCEMENT SCHEDULE FOR 4' AND 5' INSIDE DIAMETER MANHOLES

Depth	Wall Thickness	Wall Reinforcement	Base Slab Thickness	Base Slab Reinforcement
<12'	5"	#4 @ 8" EW	6"	#4 @ 8" EW
>12'	6"	#4 @ 8" EW	6"	#4 @ 8" EW

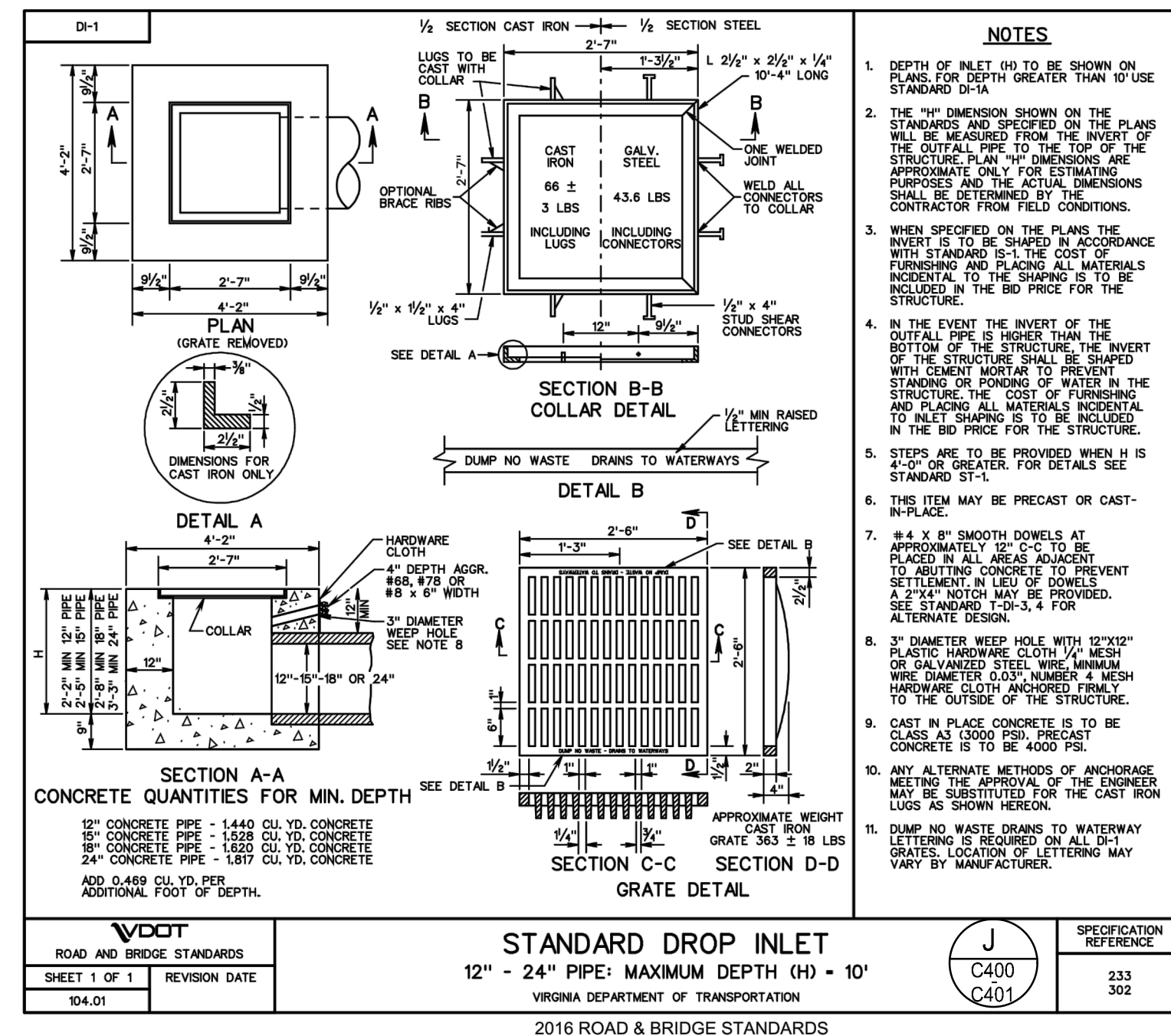
PRECAST MANHOLE

5' INSIDE DIAMETER; FOR PIPES 36" TO 48" IN DIAMETER

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

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2016 ROAD & BRIDGE STANDARDS



STANDARD DROP INLET

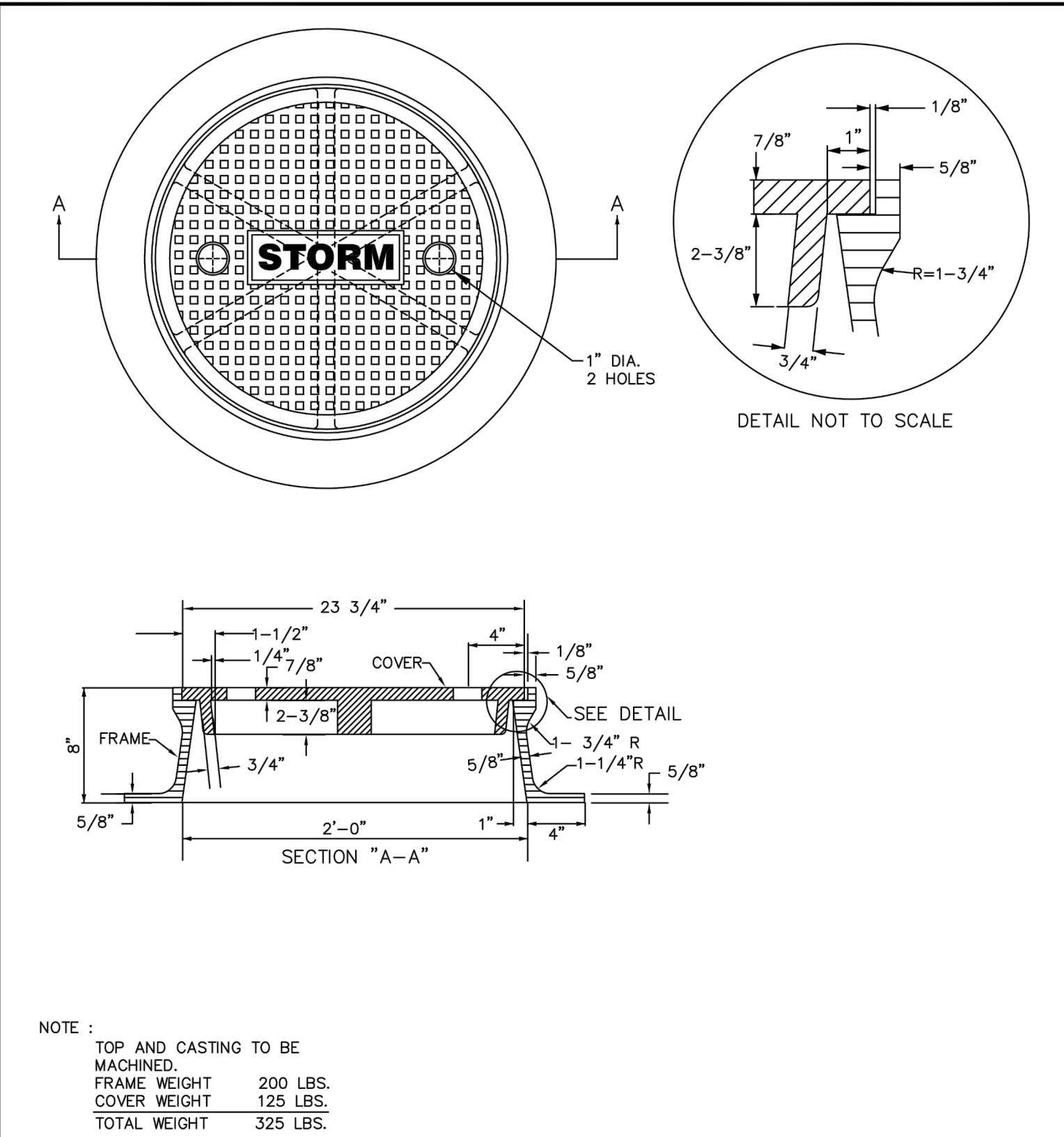
12" - 24" PIPE; MAXIMUM DEPTH (H) - 10'

VIRGINIA DEPARTMENT OF TRANSPORTATION

2016 ROAD & BRIDGE STANDARDS

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233	SPECIFICATION
302	



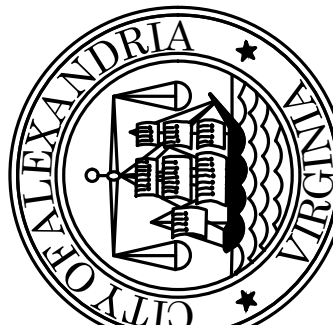
MANHOLE FRAME & COVER

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

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NOTES:

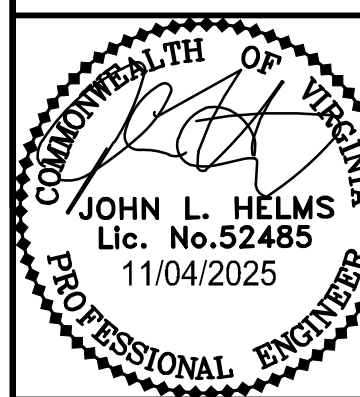
- THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.
- JOINTS BETWEEN UNITS SHALL BE TONGUE & GROOVE.
- PIPE MUST BE FLUSHED WITH INSIDE WALL OF MANHOLE.
- WALLS TO DEPTH OF 12' TO BE 5" THICK. WALLS DEEPER THAN 12' TO BE 6".
- LOSS FOR STRAIGHT RUN MANHOLE SHALL BE 0.05 FEET. IN NO CASE SHALL LOSS LESS THAN 0.05 FEET ALLOWED.
- FOR RETROFIT PROJECTS:
 - PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
 - GRADE AND SLOPE ADJUSTMENT SHALL BE PROVIDED IN THE FIELD BY CONTRACTOR PER APPROVED PLANS REQUIREMENTS.
- IF THE STRUCTURE IS NOT PRECAST OR HAS ANGLE BEEN THE RCP PIPE AND STRUCTURE'S
 - PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
 - PROVIDE RAILS (IF REQUIRED)
- THE INVERT OF THE STRUCTURE SHALL BE SHAPED WITH CEMENT MORTAR IN ACCORDANCE WITH CSIS-1 TO PREVENT STANDING OR PONDING OF WATER IN THE STRUCTURE.



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

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CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: EG DATE: -
	DRAWN BY: MQ DATE: -
	CHECKED BY: AG DATE: -
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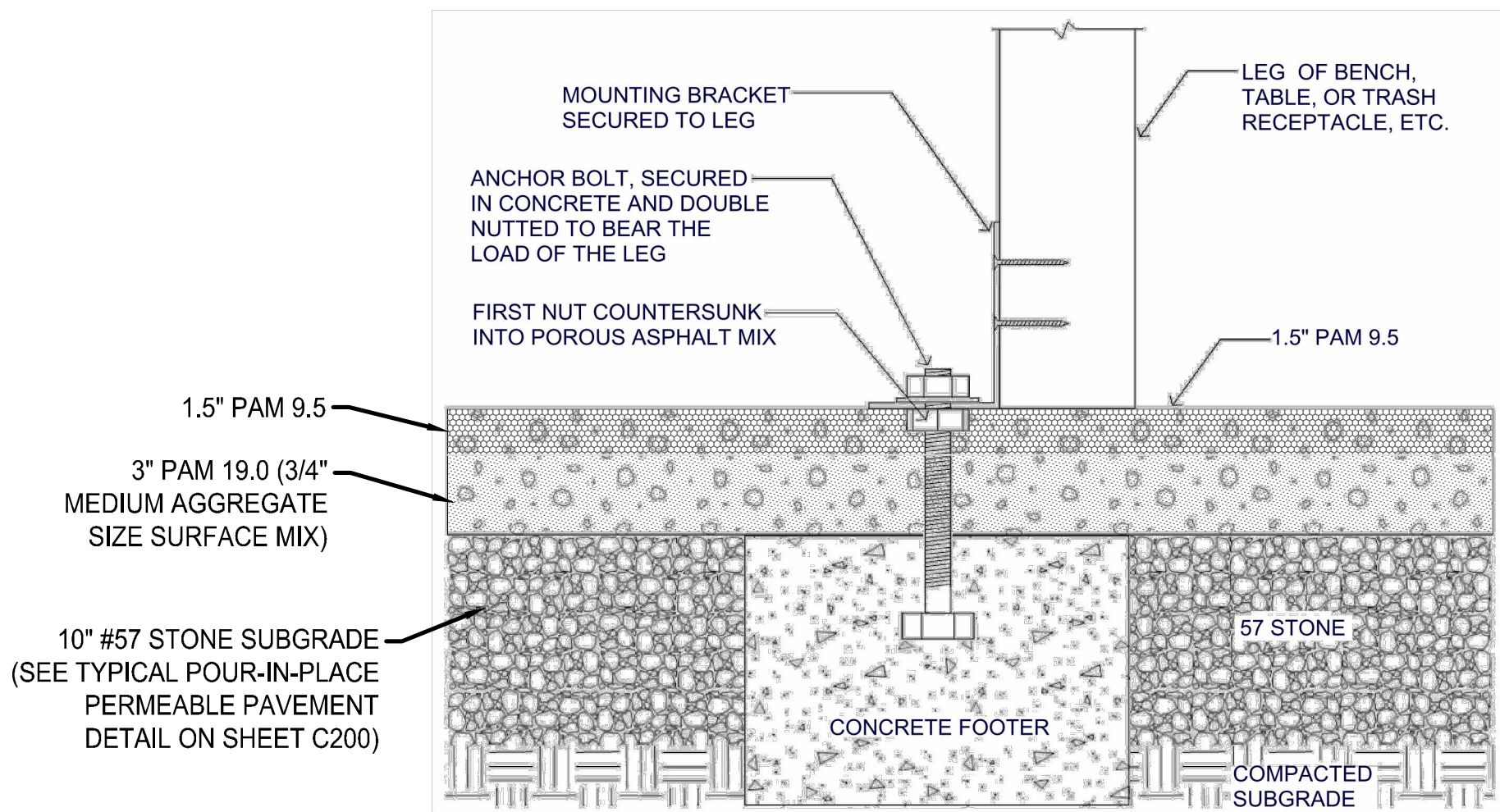
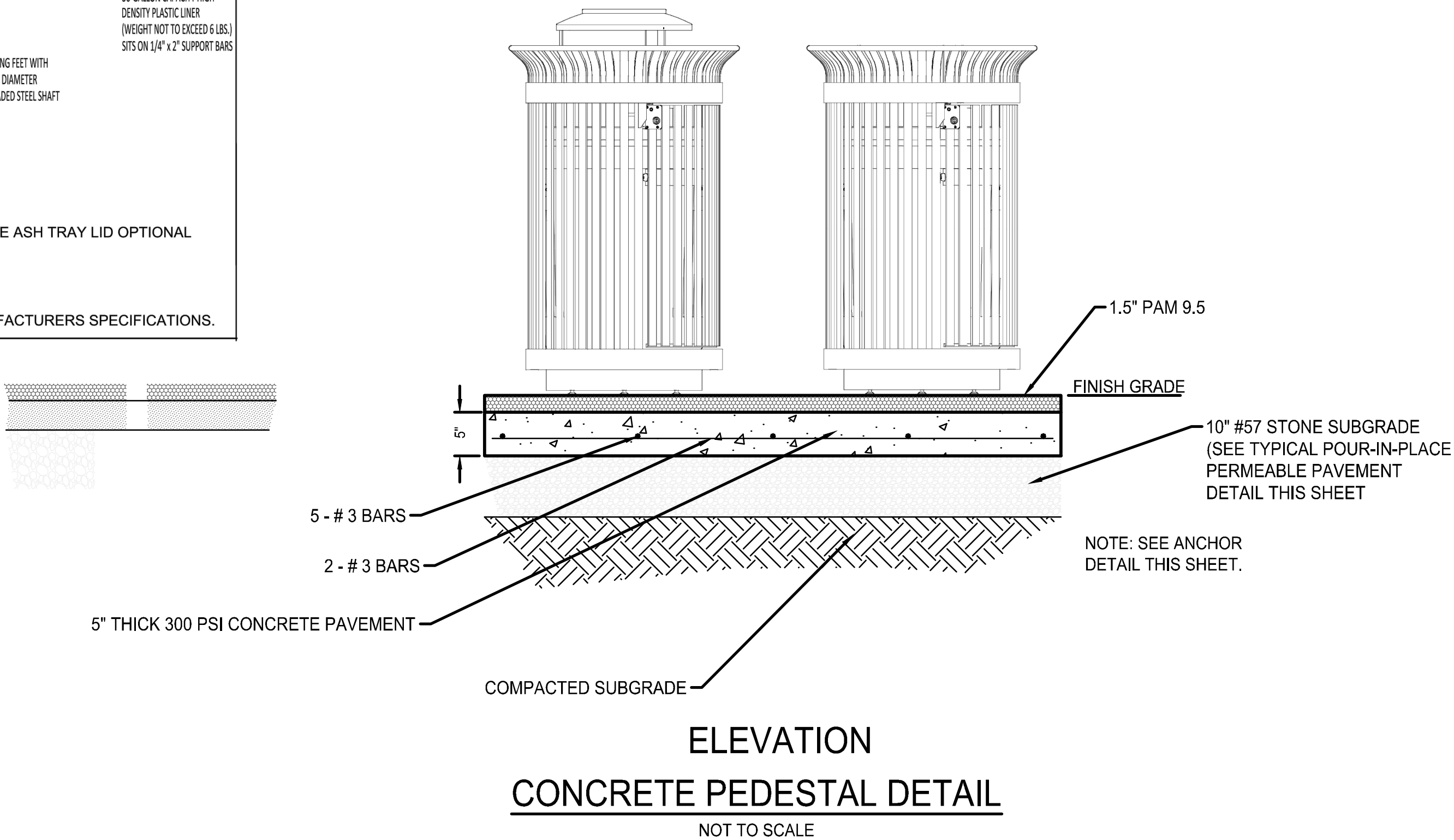
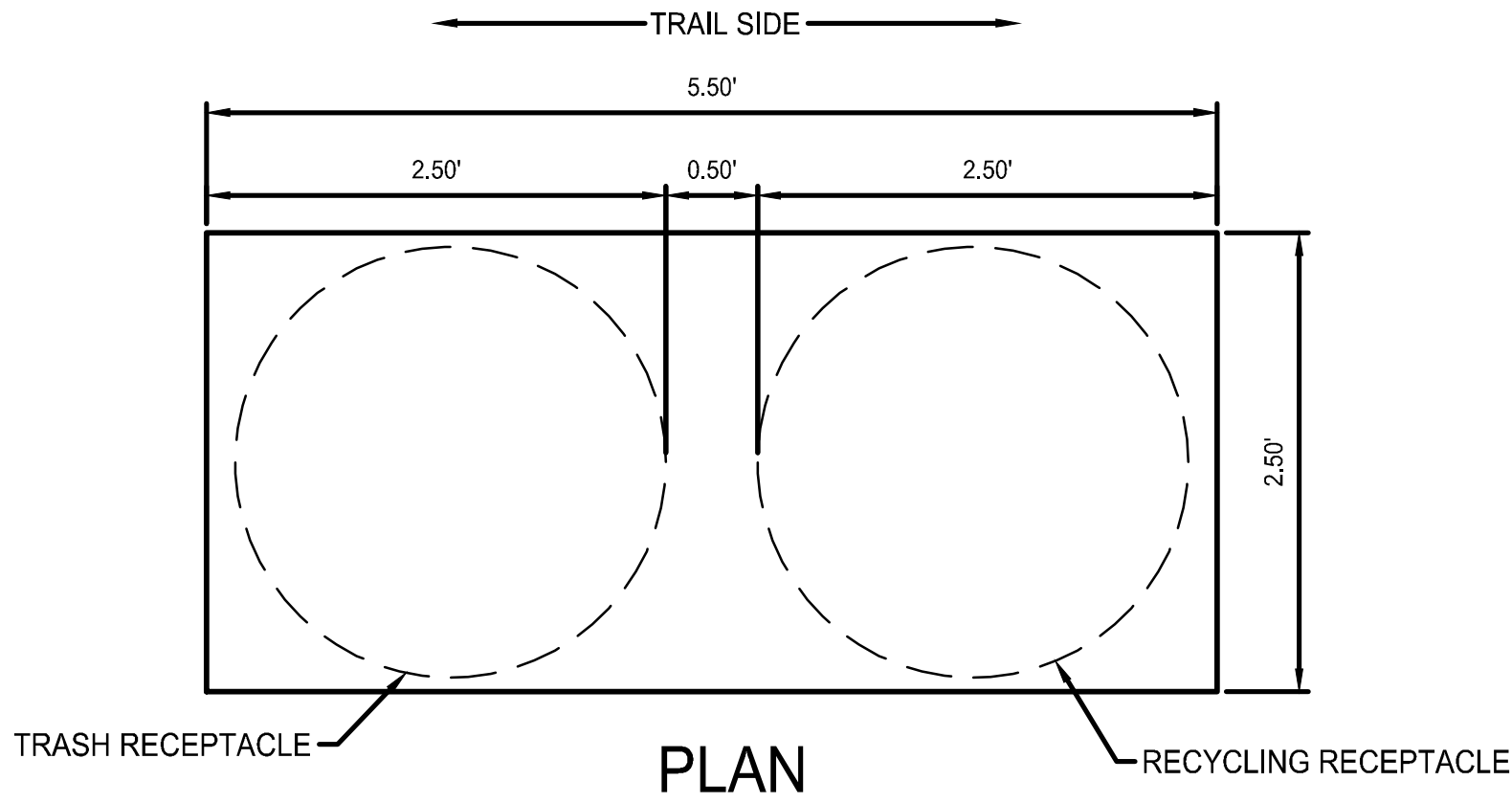
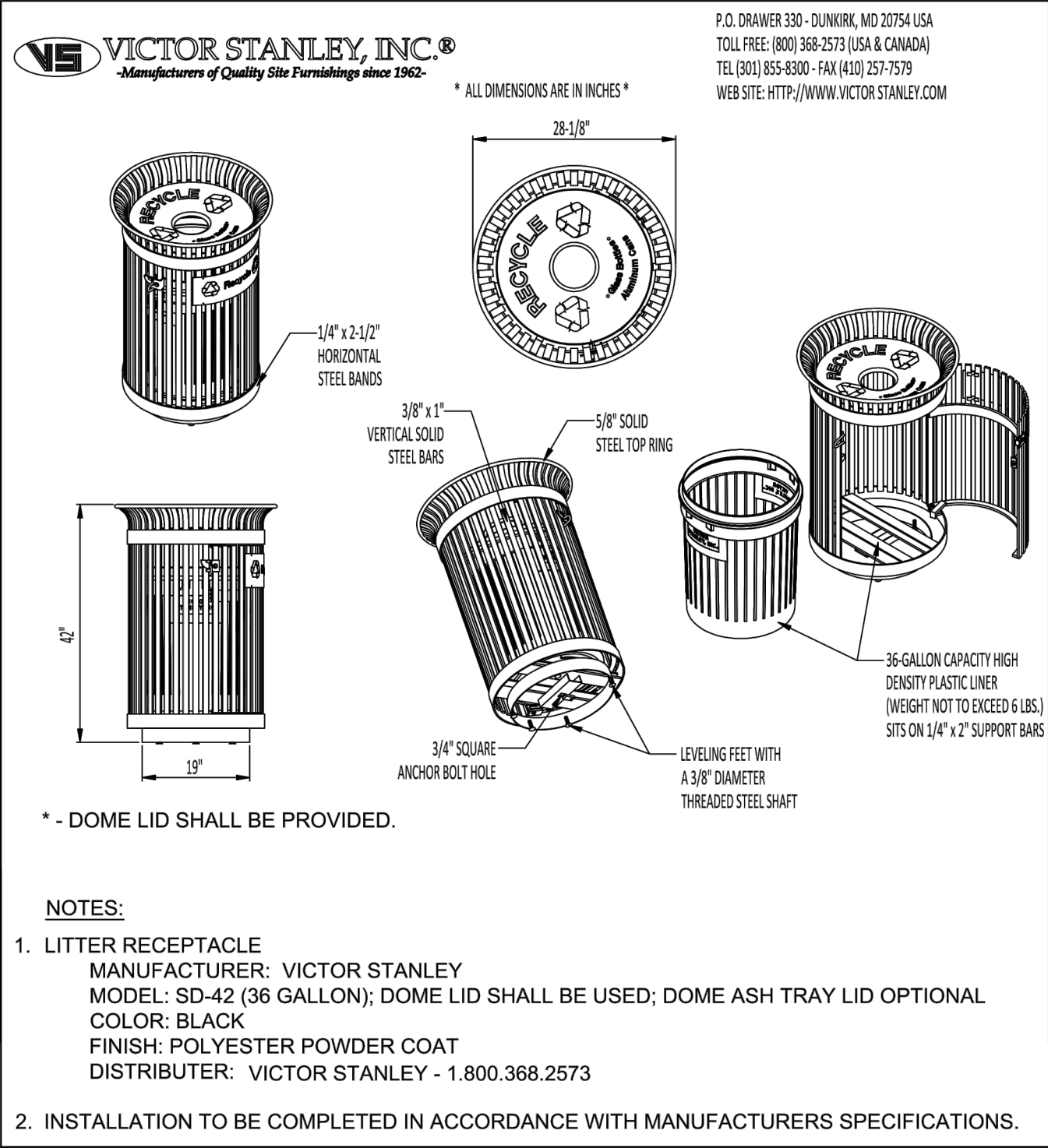
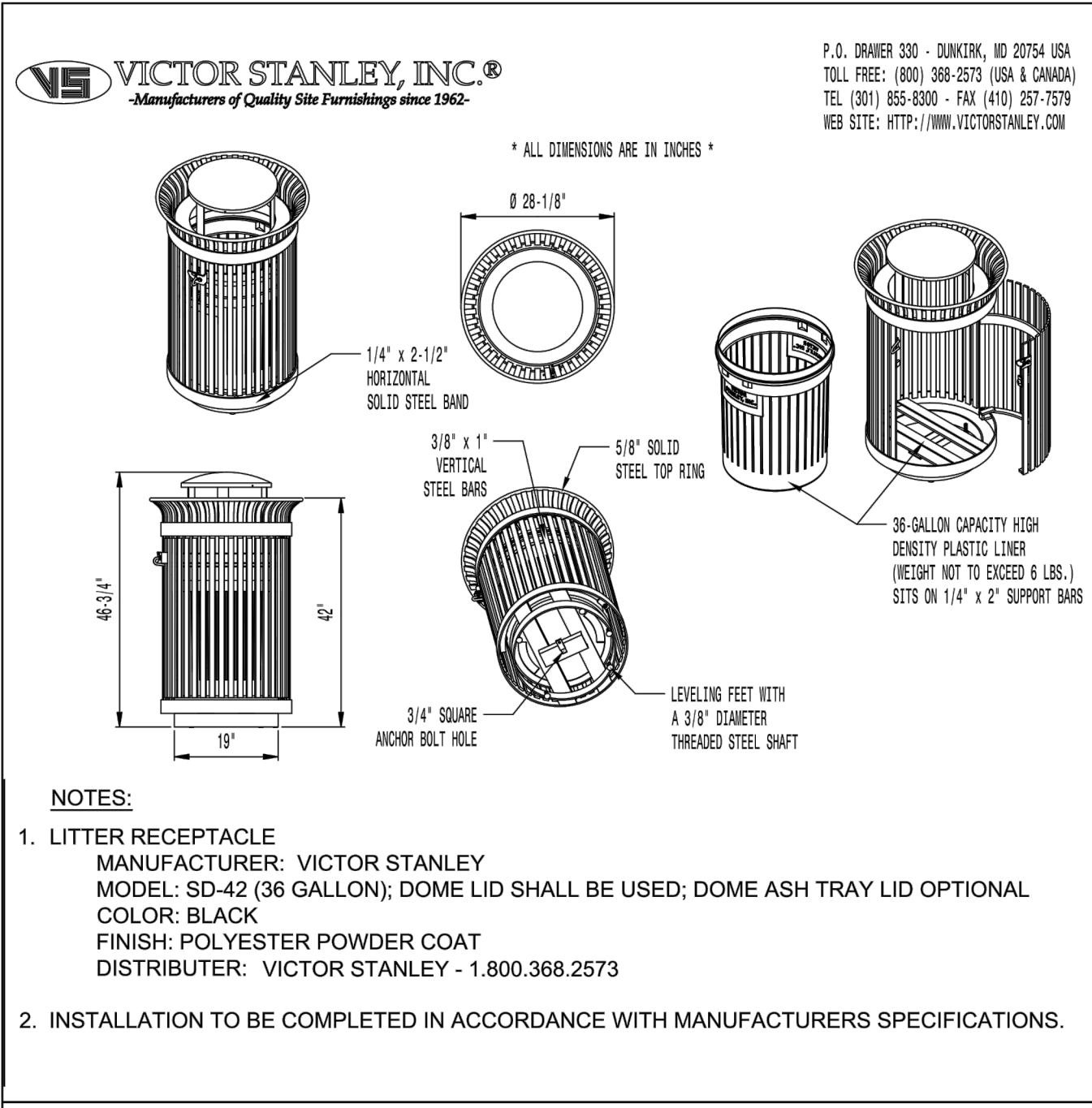
SITE DETAILS

SCALE NOT TO SCALE

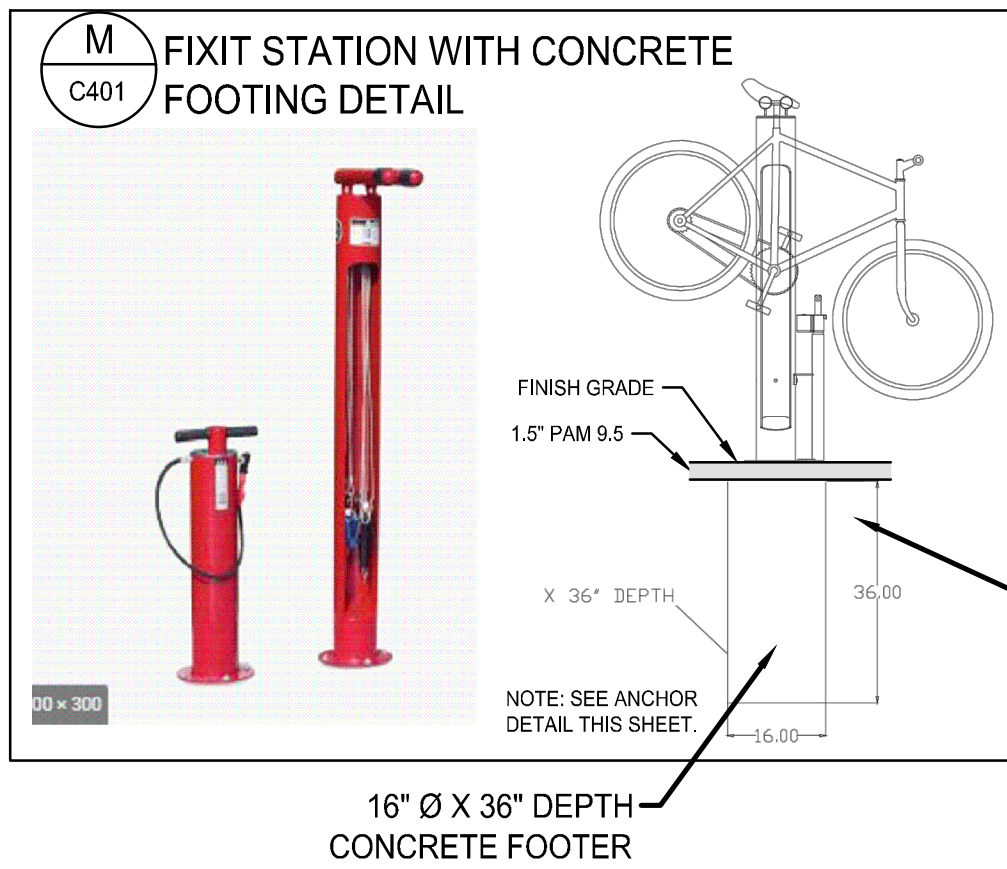
SHEET

C201

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



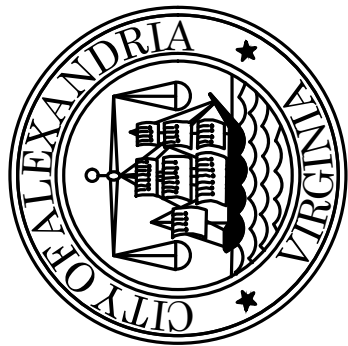
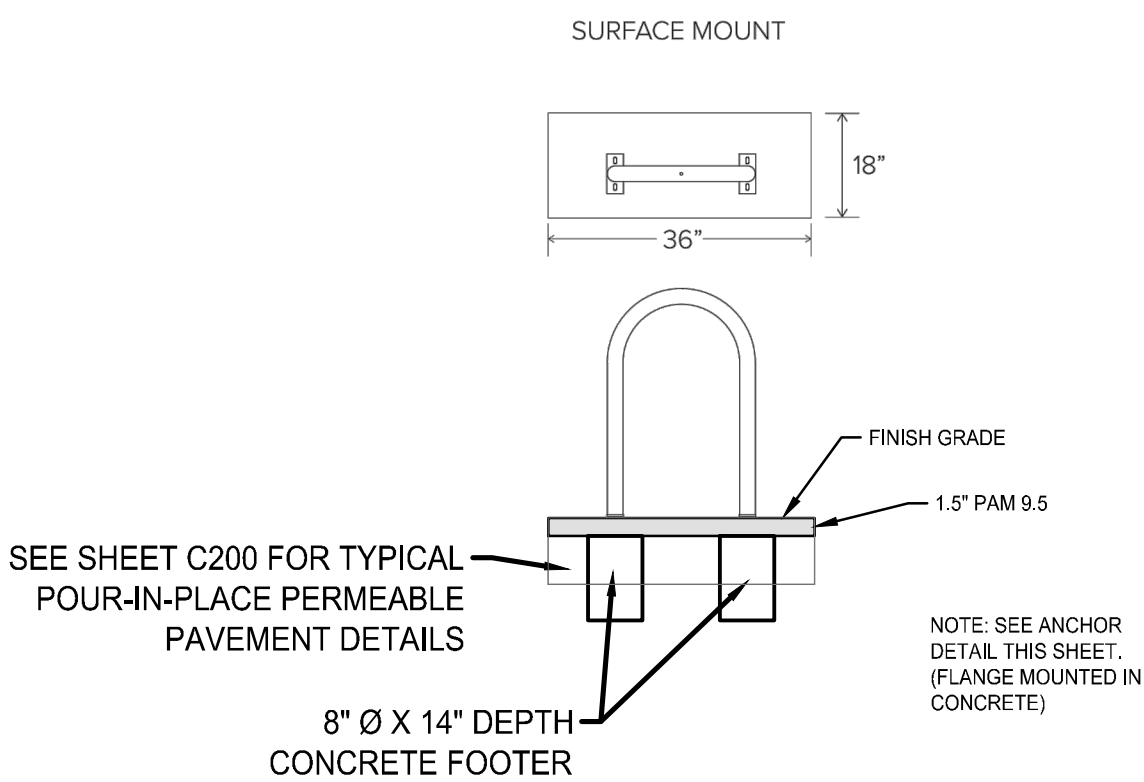
**POROUS ASPHALT MIX ANCHORING
FOR BENCHES, TABLES, TRASH RECEPTACLES**
NOT TO SCALE



Hoop Rack Heavy Duty

Installation Footing Diagrams

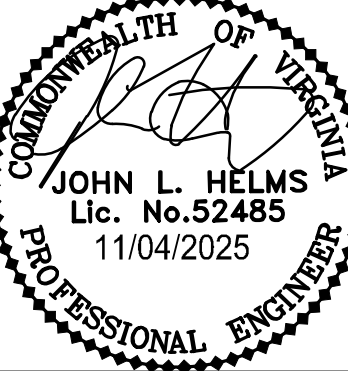
BIKE RACK - CONCRETE IN SURFACE MOUNT



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SITE DETAILS

SCALE NOT TO SCALE

SHEET

C202

BP.1 Shared-Use Path Directional

OBJECTIVES

- Clearly identify key bike trails as they enter Alexandria
- Consolidate national trail symbols into cohesive graphic expression
- Encourage exploration of Alexandria retail/dining by path users
- Point out bike-related amenities and services
- Coordinate trail signage and "brand" the paths, thereby presenting Alexandria as bike-friendly and encouraging visitation

RATIONALE

Double sided directional sign is scaled for visibility by cyclists and other trail users. The header panel unifies trails into a single citywide system.

LOCATIONS

Located along off-street multi-use trails throughout the city, at trailheads, key trail intersections, and transitions to on-street trails.

CONTENT

Multiple type grids allow for flexibility in information content. Typical content may:

- Provide direction at confusing turns or breaks in the trail
- Direct to amenities, attracting through-travelers to local services
- Identify named trails, particularly those with multiple designations

MATERIAL

Painted metal, applied vinyl and digitally printed graphics.

BP.1 Shared Use Path
structural details

FABRICATION DETAILS

Sign Post: 3" extruded aluminum square tube painted P2.

Post Cap: 4" x 4" x 1/2" aluminum plate welded to post, all welds ground smooth, painted P2.

Sign Blade (upper & lower): fabricated aluminum rectangular tube frame with 3/4" reveal exposed on top, left and right painted P6 mechanically fastened to sign post fasteners hidden by lower panels.

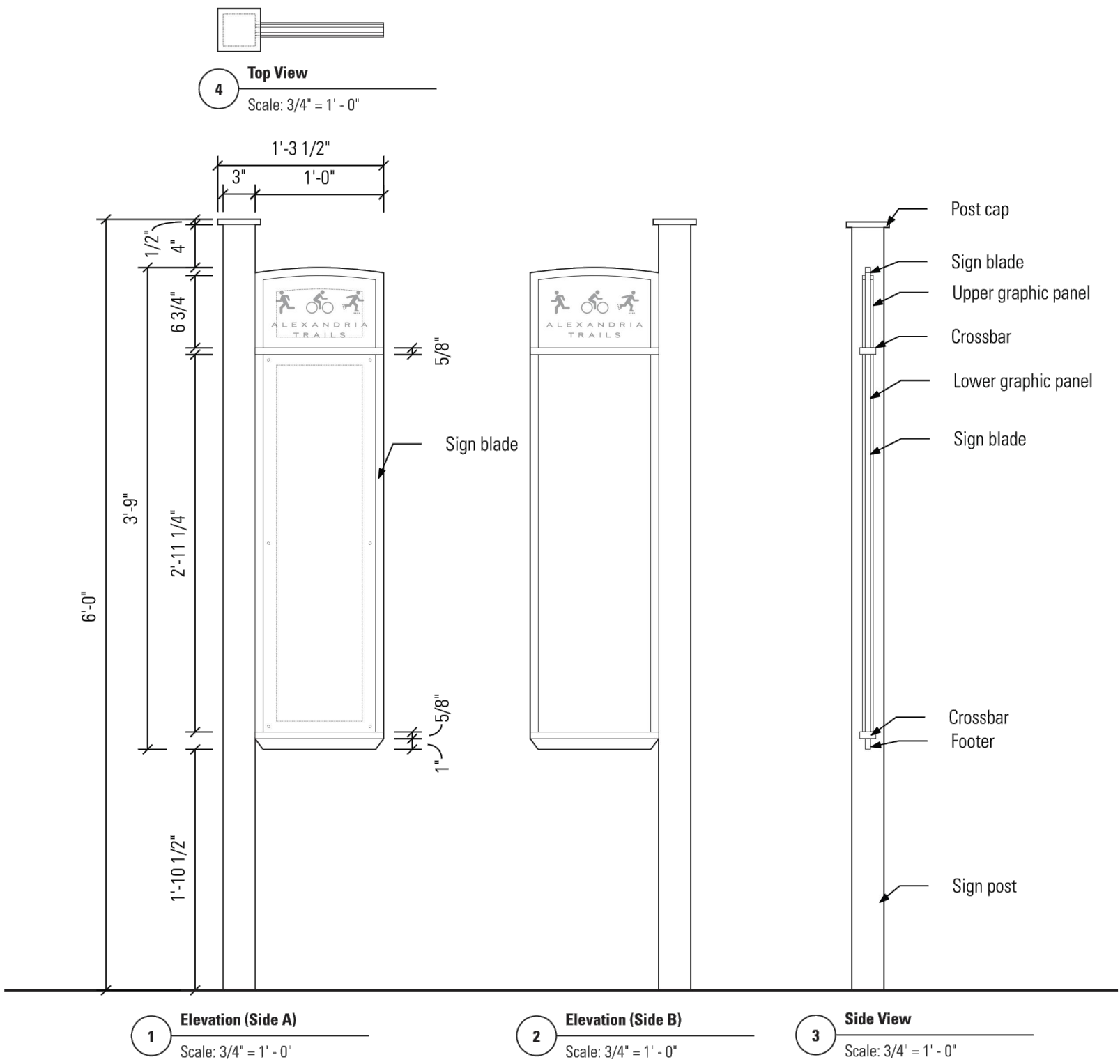
Crossbar(s): 5/8" h x 1 1/2" thick aluminum flat bar mechanically fastened to sign blade structure painted P2.

Upper Panel (x2): 1/4" aluminum panel painted P10 with P1 masked and sprayed graphics, attached to sign frame with VHB tape, and chemical bonding as required.

Lower Panel: (x2): 1/4" DHPL panels (12 HD color printed graphic) mounted to sign blade with 6 tamper resistant counter sunk painted machine screws inserted into rivnuts or drilled tapped holes located in sign blade frame.

Footer: 1" h x 3/4" thick aluminum flat bar painted P2 with chamfered ends bolted to sign blade frame, fasteners hidden by lower graphic panels.

Footings: direct burial in concrete footing as required.



BP.1 Shared-Use Path
graphic panel detail

LAYOUT GRID A

Panel: 1/4" digital high pressure laminate D5 with D1 text, arrows and rules, 6 drilled countersunk holes to receive tamper resistant painted P5 flat head machine screws pin-in-torx or spanner style.

Arrow field: 1 7/8" h x 2 3/8" w arrow field arrow aligned top left 3/4" left margin, located 1 1/4" below 1/16" rule for entries greater than 1.

Text: 1 5/8" cap height TF2 located 1/2" below arrow field, multiple line entries set on 1 5/8" line space, and 2 5/8" paragraph space.

Rule: D1, 1/16" thick rule located 3/4" below base line of last line of text.

LAYOUT GRID B

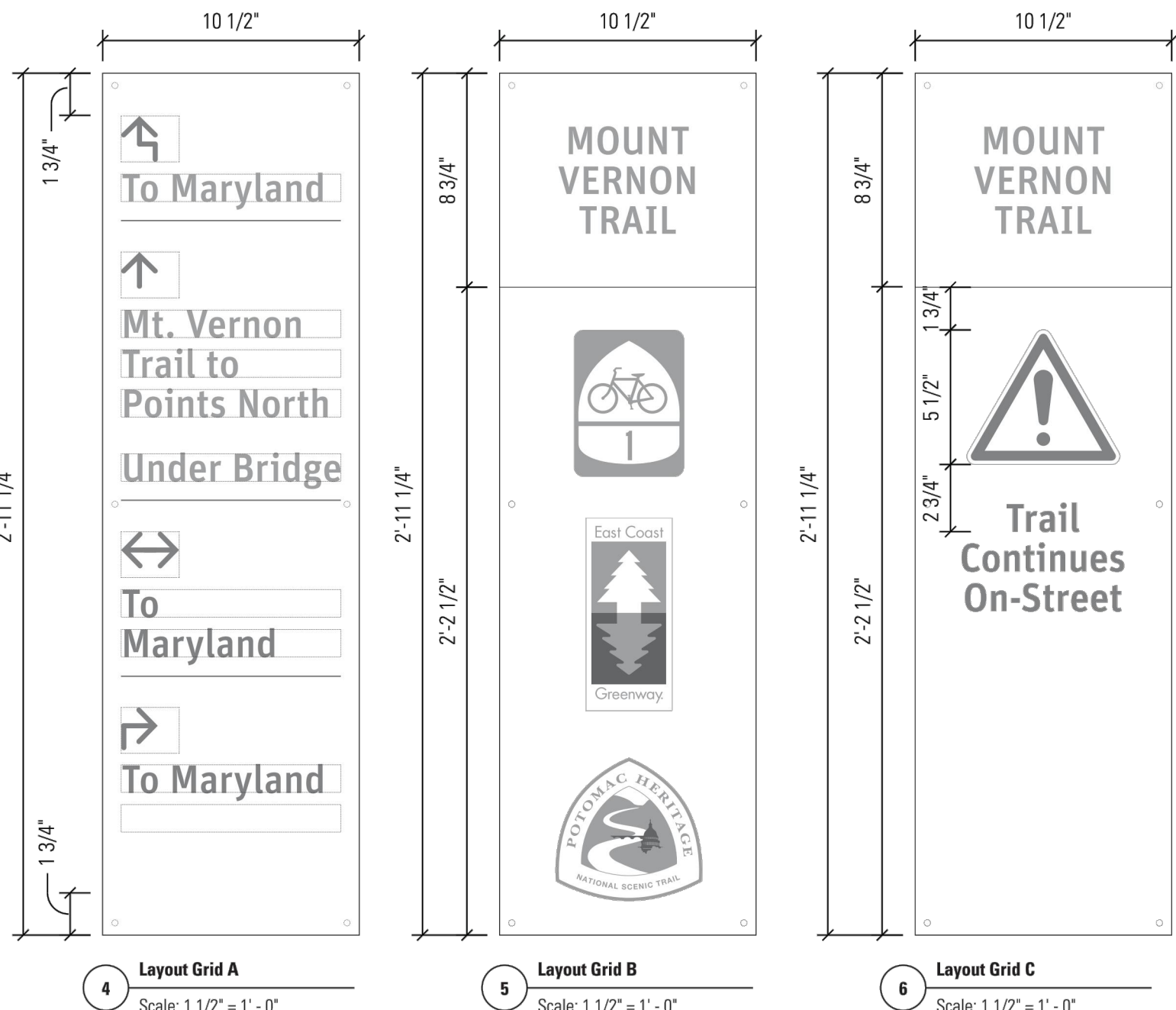
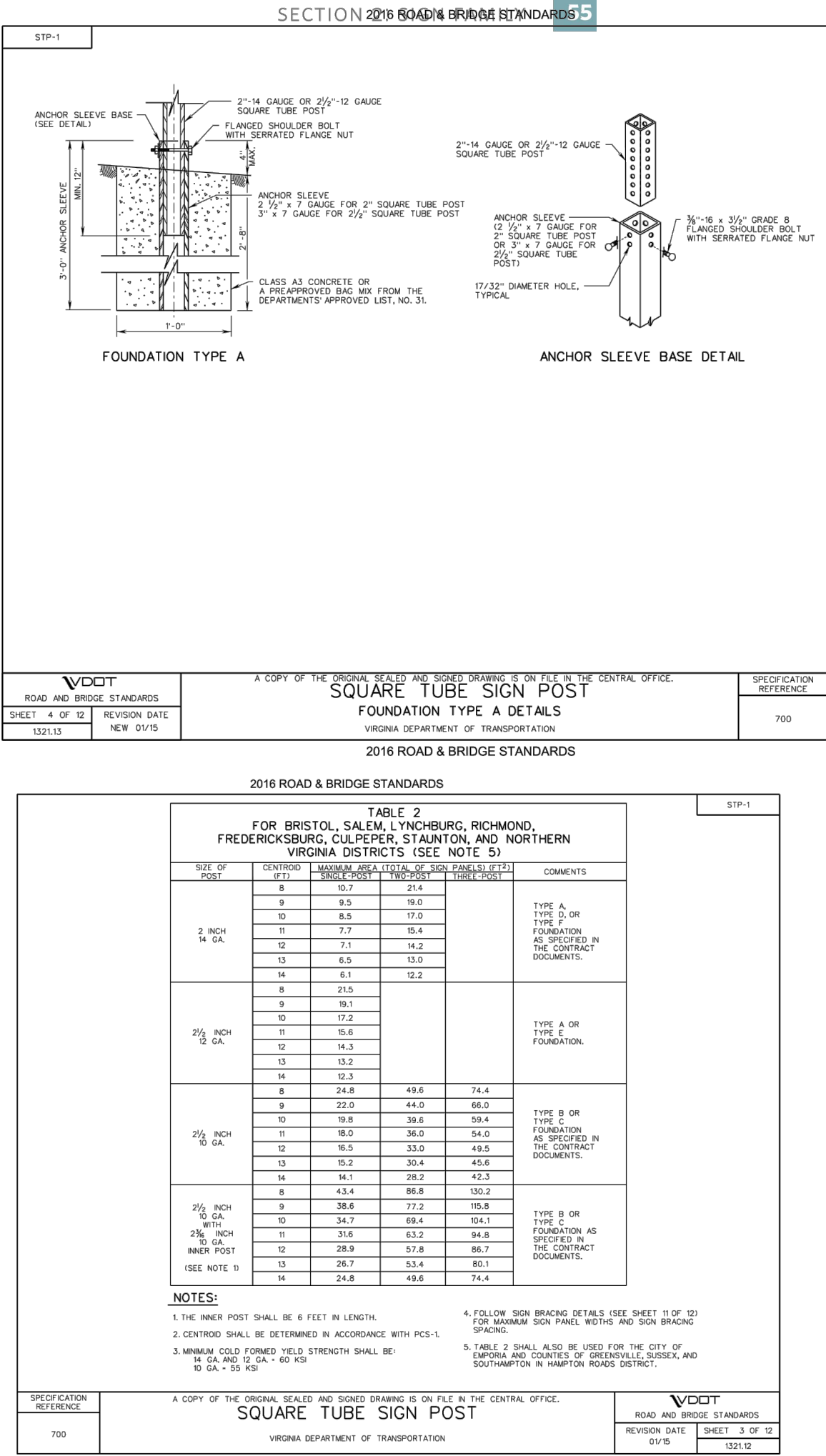
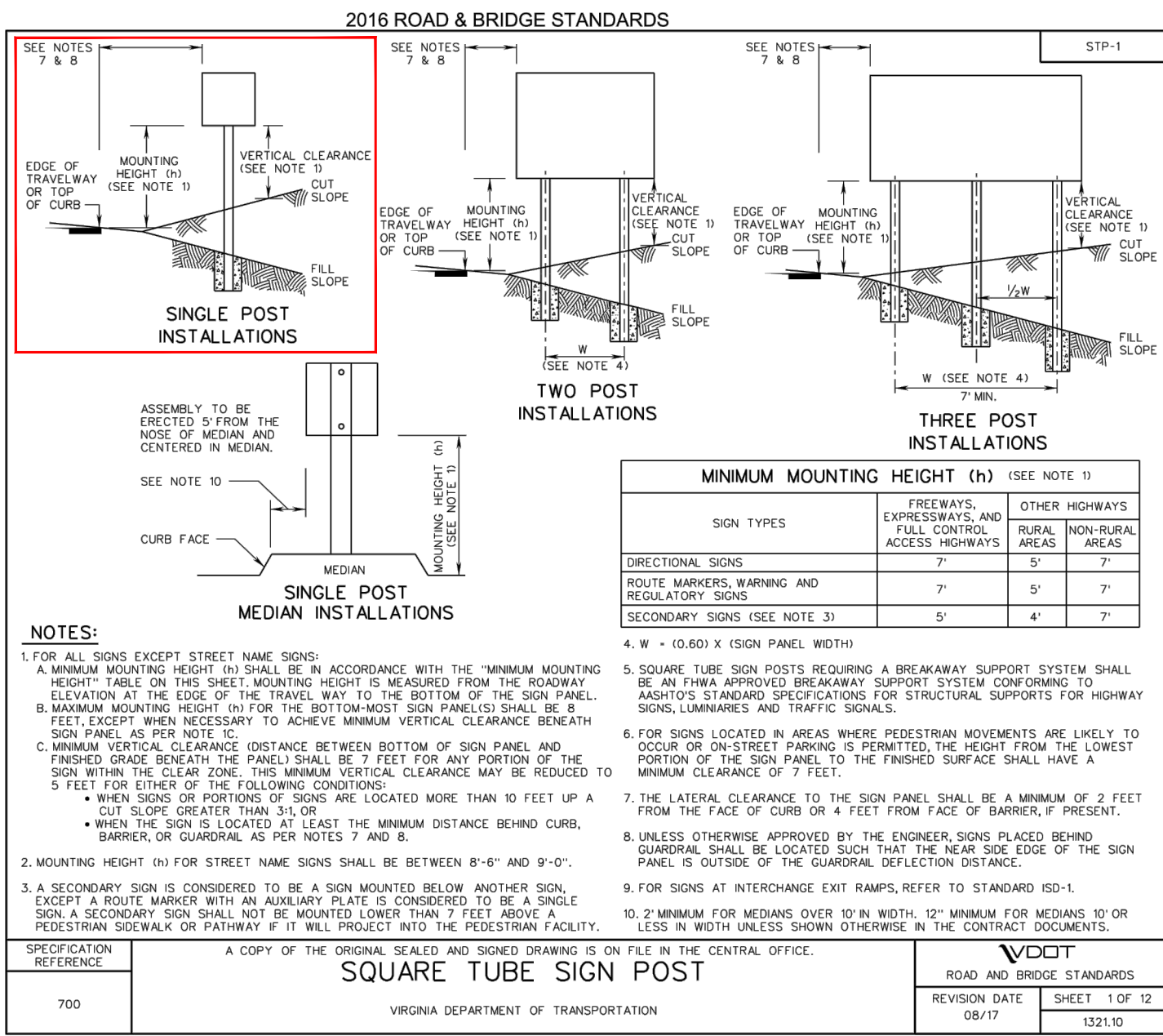
Panel: 1/4" digital high pressure laminate D10 top 8 3/4" with D1 text and D5 lower 2'-2 1/2" with symbols evenly spaced in centered format so all symbols have even visual weight. Symbol colors and artwork as provided by appropriate entity. 6 drilled countersunk holes to receive tamper resistant painted P10 (top) and P5 (bottom) flat head machine screws pin-in-torx or spanner style.

Upper section text: 1 1/8" cap height TF2 with 1 1/2" line space centered on center line of text within the 8 3/4" field.

LAYOUT GRID C

Panel: 1/4" digital high pressure laminate D10 top 8 3/4" with D1 text and D5 lower 2'-2 1/2". 6 drilled countersunk holes to receive tamper resistant painted P10 (top) and P5 (bottom) flat head machine screws pin-in-torx or spanner style.

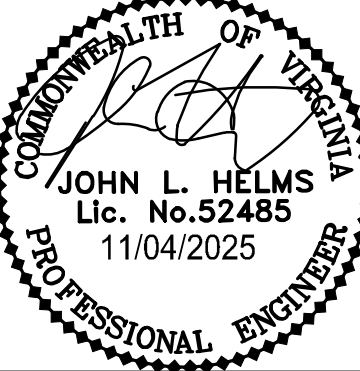
Text: 1 1/8" cap height TF2 on 1 5/8" line space.



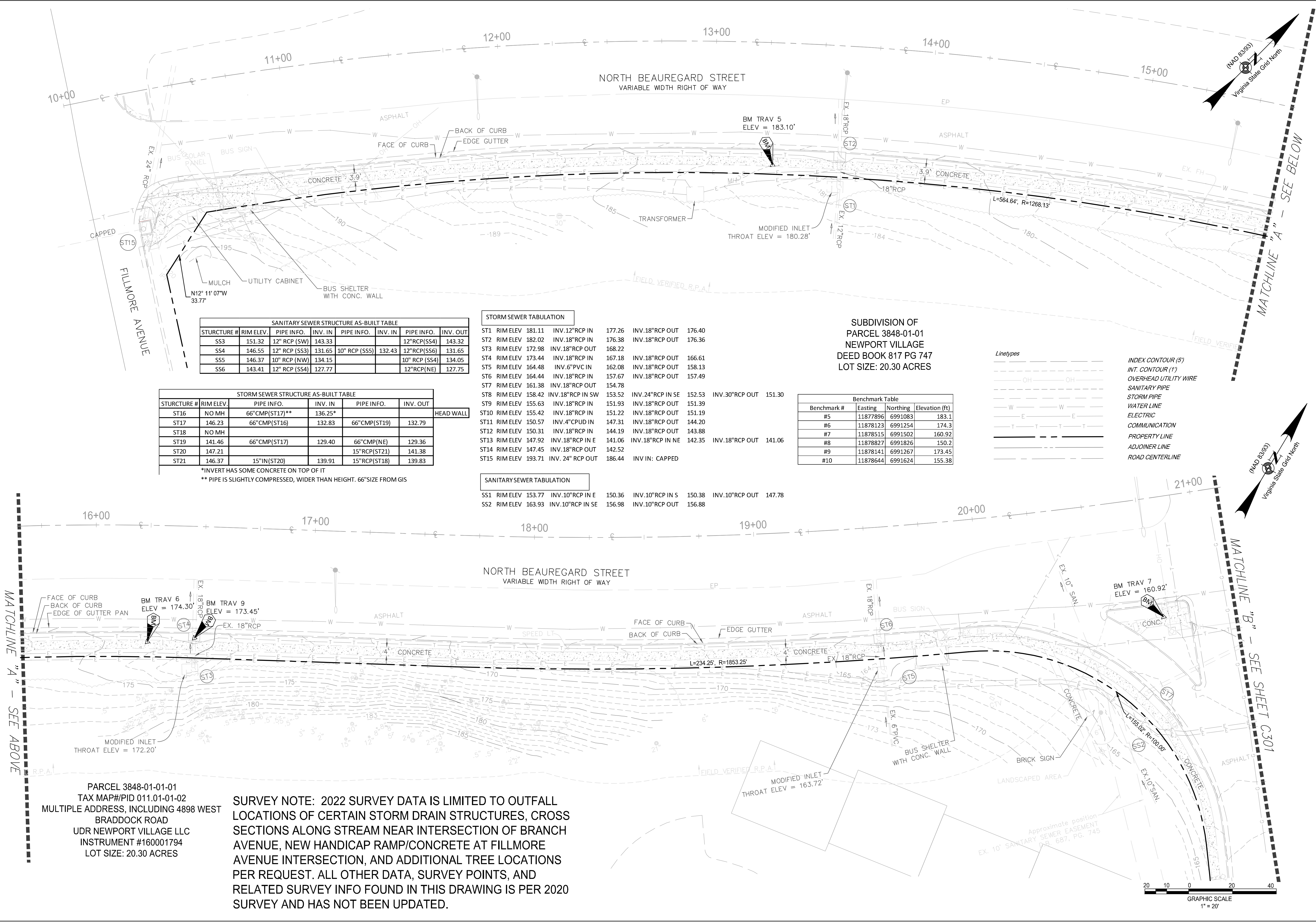
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P:\Projects\21266\00100\111671 - 90%\C300 EXISTING CONDITIONS PLAN.dwg PLOTTED: 11/3/2025 3:53:16 PM BY: AUGUST HINNENKAMP



SANITARY SEWER STRUCTURE AS-BUILT TABLE							
STURCTURE #	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
SS3	151.32	12" RCP (SW)	143.33			12" RCP (SS4)	143.32
SS4	146.55	12" RCP (SS3)	131.65	10" RCP (SS5)	132.43	12" RCP (SS6)	131.65
SS5	146.37	10" RCP (NW)	134.15			10" RCP (SS4)	134.05
SS6	143.41	12" RCP (SS4)	127.77			12" RCP (NE)	127.75

STORM SEWER STRUCTURE AS-BUILT TABLE					
STURCTURE #	RIM ELEV.	PIPE INFO.	INV. IN	PIPE INFO.	INV. OUT
ST16	NO MH	66" CMP (ST17)**	136.25*		HEAD WALL
ST17	146.23	66" CMP (ST16)	132.83	66" CMP (ST19)	132.79
ST18	NO MH				
ST19	141.46	66" CMP (ST17)	129.40	66" CMP (NE)	129.36
ST20	147.21			15" RCP (ST21)	141.38
ST21	146.37	15" IN (ST20)	139.91	15" RCP (ST18)	139.83

*INVERT HAS SOME CONCRETE ON TOP OF IT
** PIPE IS SLIGHTLY COMPRESSED, WIDER THAN HEIGHT. 66" SIZE FROM GIS

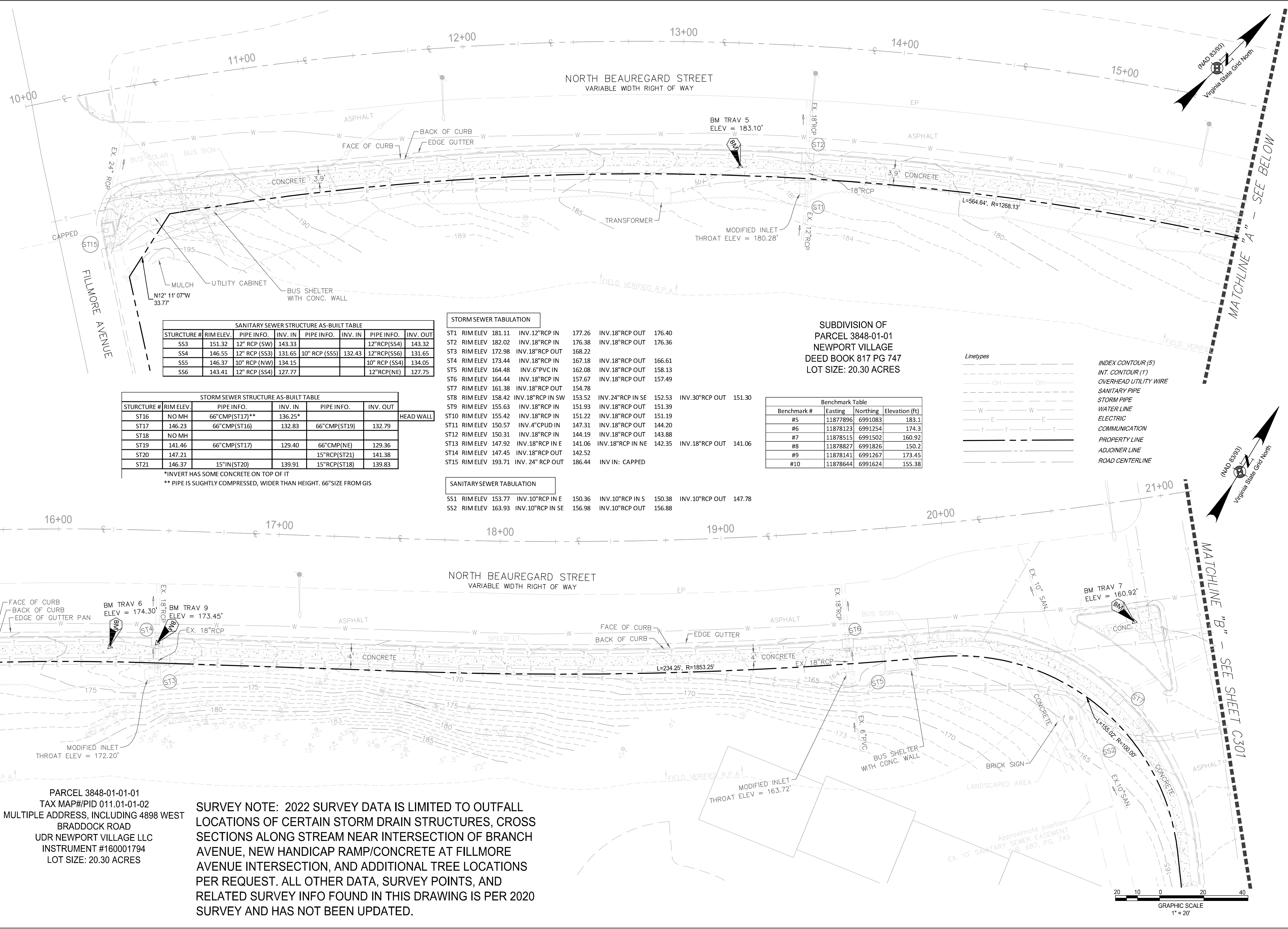
STORM SEWER TABULATION							
ST1	RIM ELEV	181.11	INV. 12" RCP IN	177.26	INV. 18" RCP OUT	176.40	
ST2	RIM ELEV	182.02	INV. 18" RCP IN	176.38	INV. 18" RCP OUT	176.36	
ST3	RIM ELEV	172.98	INV. 18" RCP OUT	168.22			
ST4	RIM ELEV	173.44	INV. 18" RCP IN	167.18	INV. 18" RCP OUT	166.61	
ST5	RIM ELEV	164.48	INV. 6" PVC IN	162.08	INV. 18" RCP OUT	158.13	
ST6	RIM ELEV	164.44	INV. 18" RCP IN	157.67	INV. 18" RCP OUT	157.49	
ST7	RIM ELEV	161.38	INV. 18" RCP OUT	154.78			
ST8	RIM ELEV	158.42	INV. 18" RCP IN SW	153.52	INV. 24" RCP IN SE	152.53	INV. 30" RCP OUT 151.30
ST9	RIM ELEV	155.63	INV. 18" RCP IN	151.93	INV. 18" RCP OUT	151.39	
ST10	RIM ELEV	155.42	INV. 18" RCP IN	151.22	INV. 18" RCP OUT	151.19	
ST11	RIM ELEV	150.57	INV. 4" CPUD IN	147.31	INV. 18" RCP OUT	144.20	
ST12	RIM ELEV	150.31	INV. 18" RCP IN	144.19	INV. 18" RCP OUT	143.88	
ST13	RIM ELEV	147.92	INV. 18" RCP IN E	141.06	INV. 18" RCP IN NE	142.35	INV. 18" RCP OUT 141.06
ST14	RIM ELEV	147.45	INV. 18" RCP OUT	142.52			
ST15	RIM ELEV	193.71	INV. 24" RCP OUT	186.44	INV IN: CAPPED		

SANITARY SEWER TABULATION							
SS1	RIM ELEV	153.77	INV. 10" RCP IN E	150.36	INV. 10" RCP IN S	150.38	INV. 10" RCP OUT 147.78
SS2	RIM ELEV	163.93	INV. 10" RCP IN SE	156.98	INV. 10" RCP OUT	156.88	

Benchmark Table			
Benchmark #	Easting	Northing	Elevation (ft)
#5	11877896	6991083	183.1
#6	11878123	6991254	174.3
#7	11878515	6991502	160.92
#8	11878827	6991826	150.2
#9	11878141	6991267	173.45
#10	11878644	6991624	155.38

Linetypes

INDEX CONTOUR (5')
INT. CONTOUR (1')
OVERHEAD UTILITY WIRE
SANITARY PIPE
STORM PIPE
WATER LINE
ELECTRIC
COMMUNICATION
PROPERTY LINE
ADJOINER LINE
ROAD CENTERLINE



PARCEL 3848-01-01-01
TAX MAP#/PID 011.01-01-02
MULTIPLE ADDRESS, INCLUDING 4898 WEST
BRADDOCK ROAD
UDR NEWPORT VILLAGE LLC
INSTRUMENT #160001794
LOT SIZE: 20.30 ACRES

SURVEY NOTE: 2022 SURVEY DATA IS LIMITED TO OUTFALL
LOCATIONS OF CERTAIN STORM DRAIN STRUCTURES, CROSS
SECTIONS ALONG STREAM NEAR INTERSECTION OF BRANCH
AVENUE, NEW HANDICAP RAMP/CONCRETE AT FILLMORE
AVENUE INTERSECTION, AND ADDITIONAL TREE LOCATIONS
PER REQUEST. ALL OTHER DATA, SURVEY POINTS, AND
RELATED SURVEY INFO FOUND IN THIS DRAWING IS PER 2020
SURVEY AND HAS NOT BEEN UPDATED.

BID SET



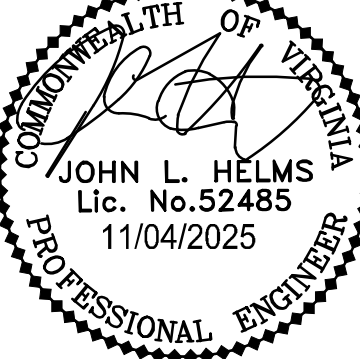
CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

NO.	DESCRIPTION	DATE

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

ALEXANDRIA PROJECT NO.: CP2021-0008
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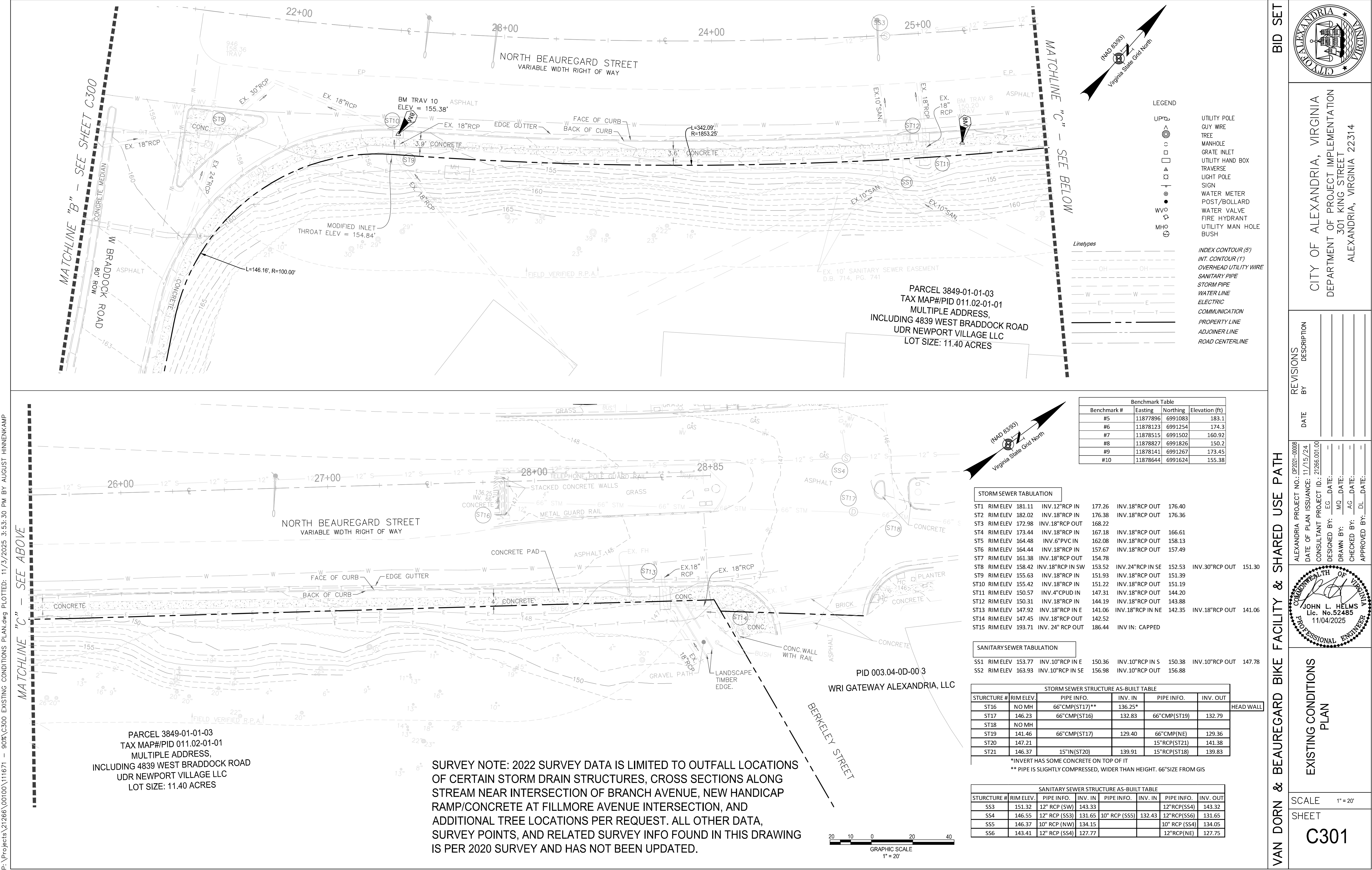


JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

EXISTING CONDITIONS
PLAN

SCALE 1" = 20'

SHEET C300



BID SET

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DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

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ALEXANDRIA PROJECT NO: CIP2021-00006

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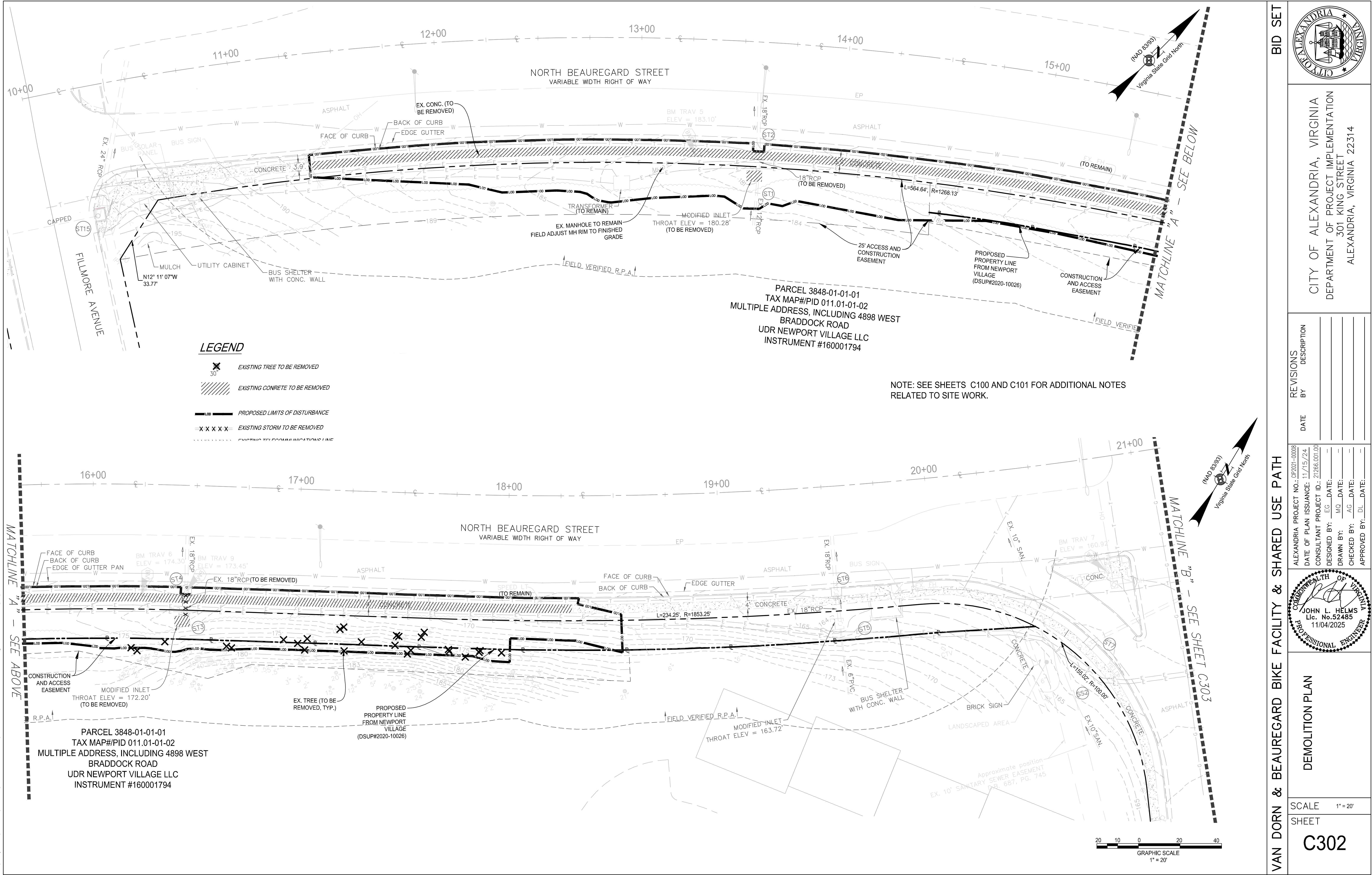
EXISTING CONDITIONS

PLAN

SCALE 1" = 20'

SHEET C301

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ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	DESCRIPTION

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

DEMOLITION PLAN

SCALE

1" = 20'

SHEET

C302

ALEXANDRIA PROJECT NO.: CP2021-00006

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CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -

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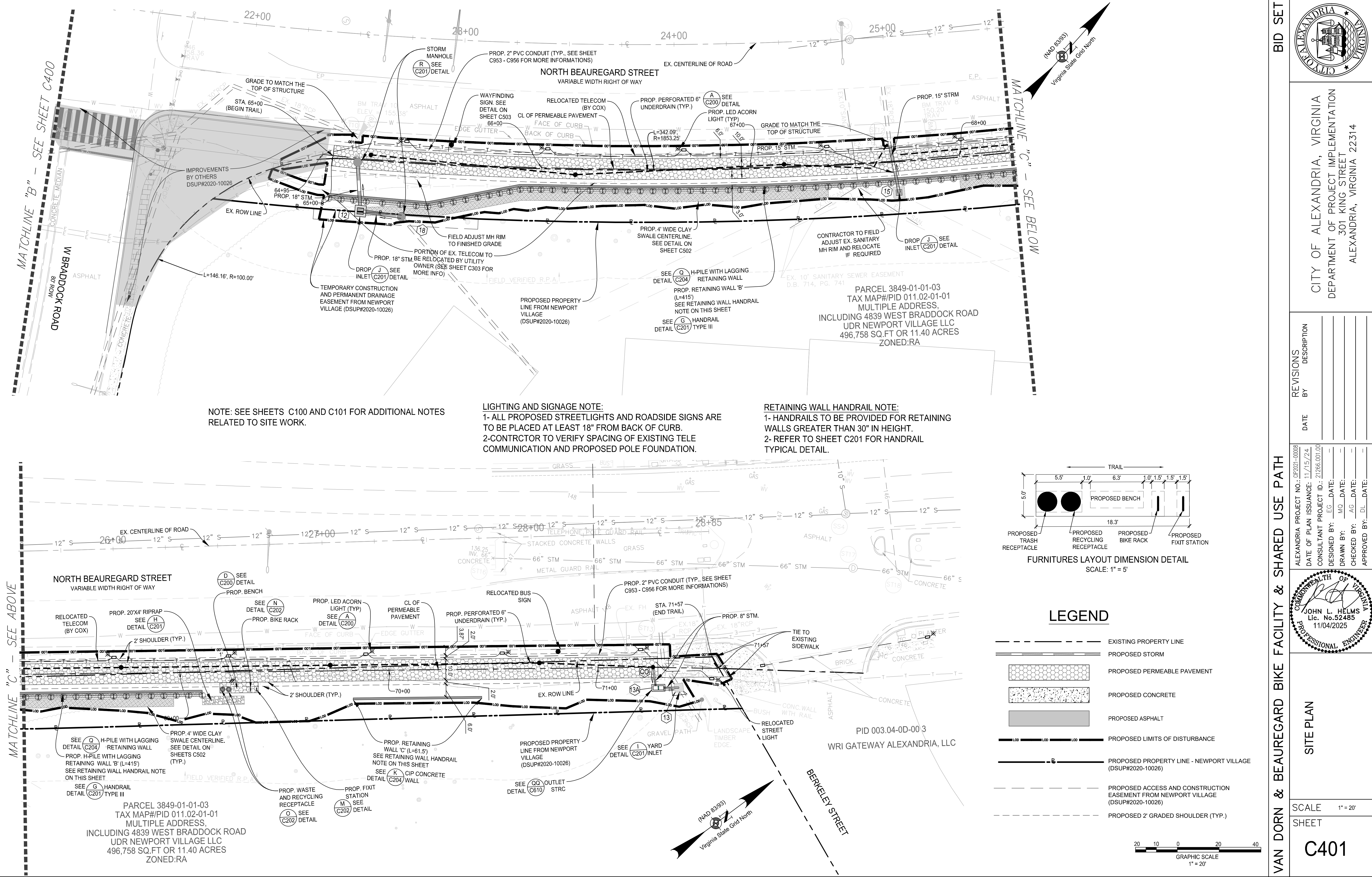
PROFESSIONAL ENGINEER

JOHN L. HELMS

Lic. No. 52485

11/04/2025

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VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SITE PLAN

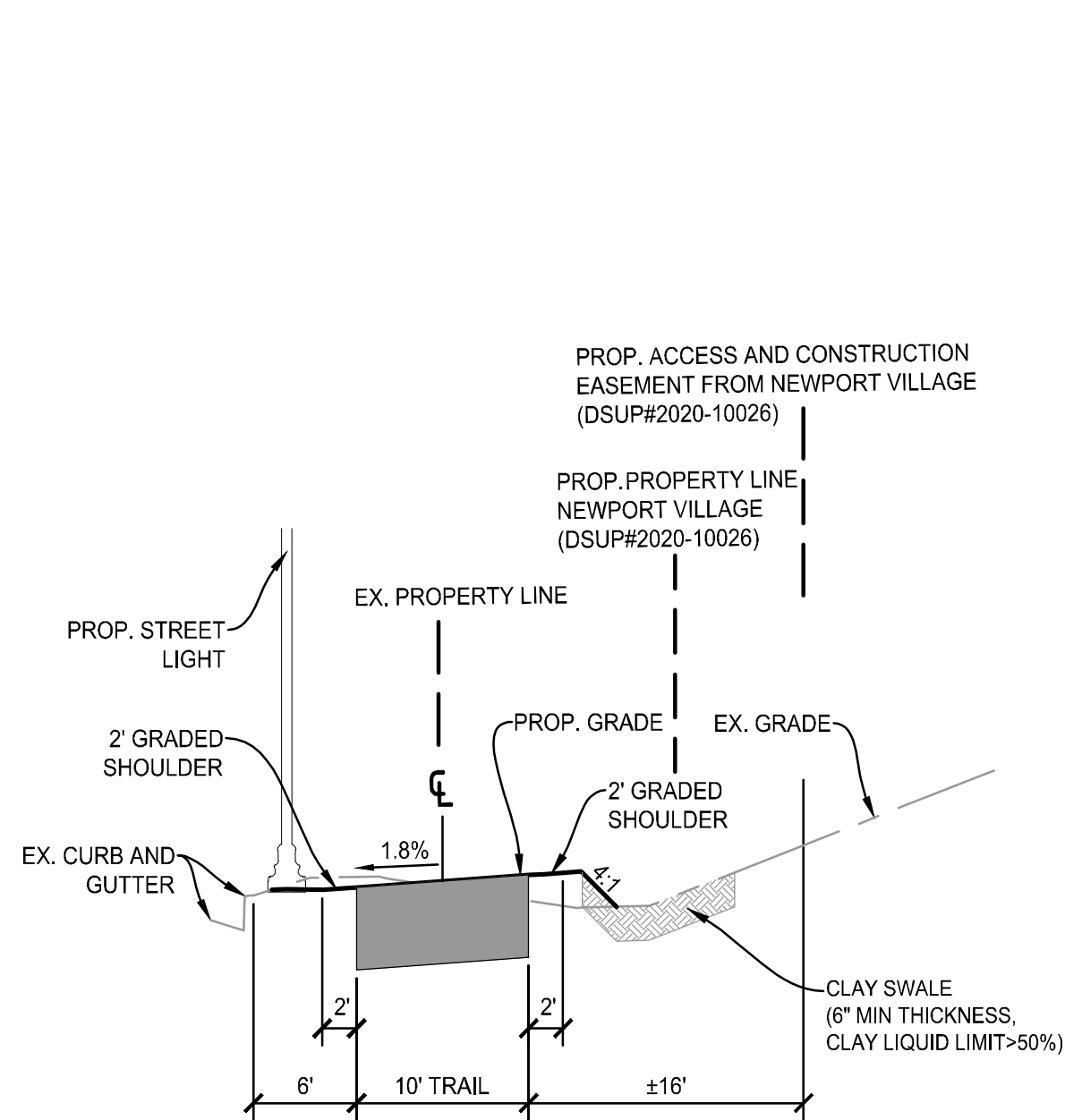
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SHEET C401

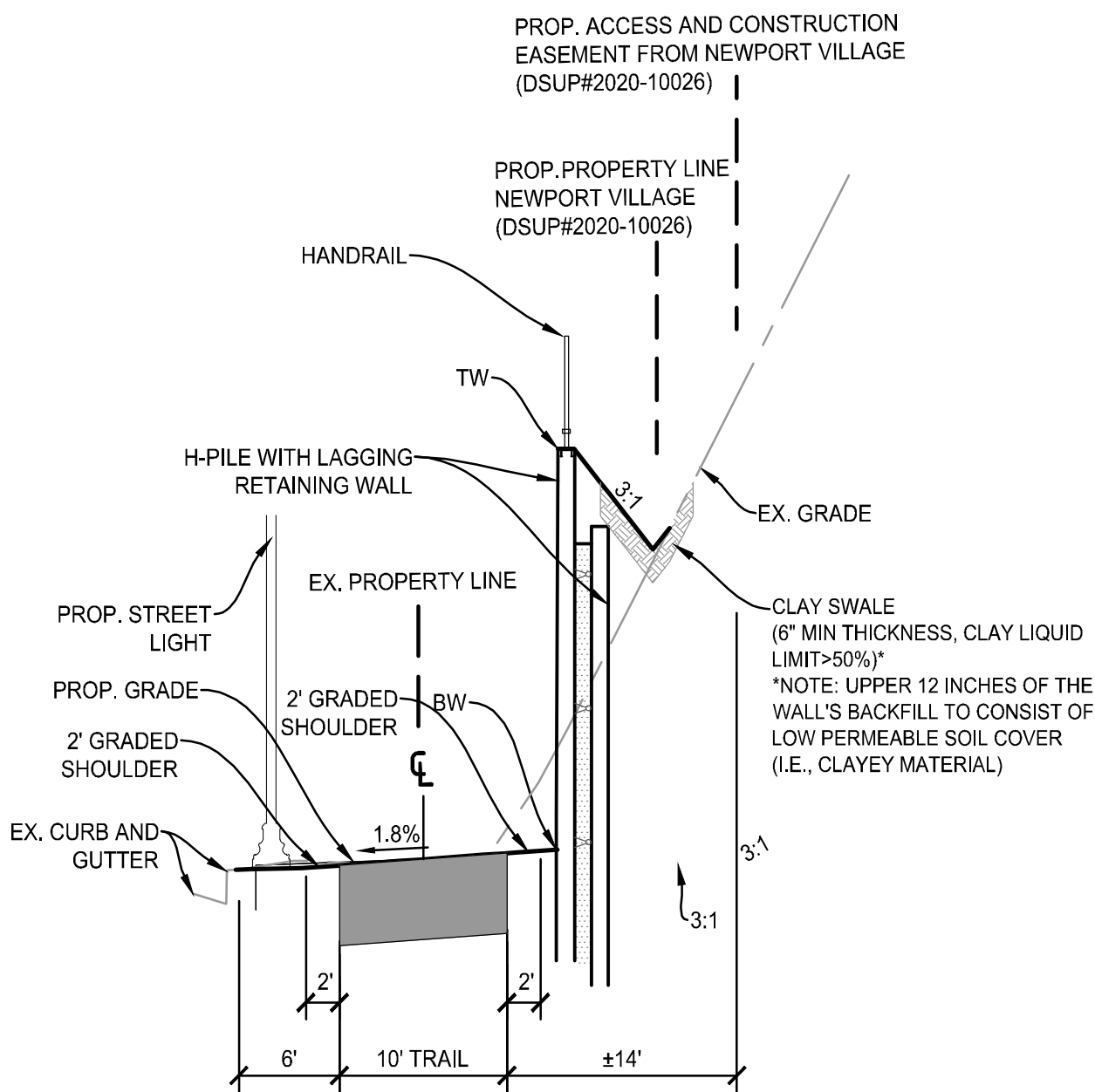
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COMMONWEALTH OF VIRGINIA
JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

P:\Projects\21266\00100\111671 - 90%\C502 TYPICAL TRAIL SECTION.dwg PLOTTED: 11/3/2025 3:57:06 PM BY AUGUST HINNENKAMP

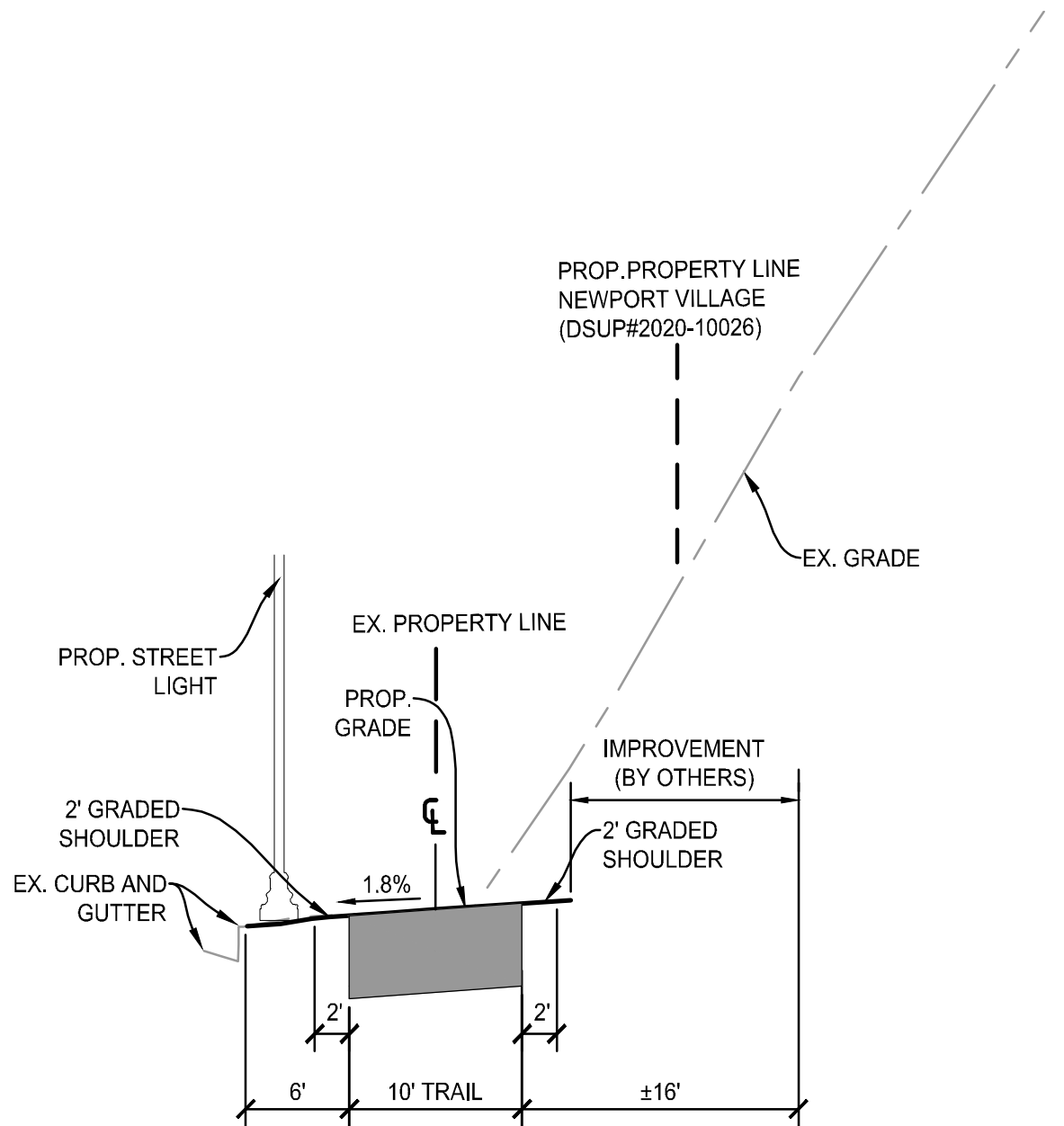


TRAIL SECTION
FOR STATIONS 12+32 TO 16+06.80
NOT TO SCALE

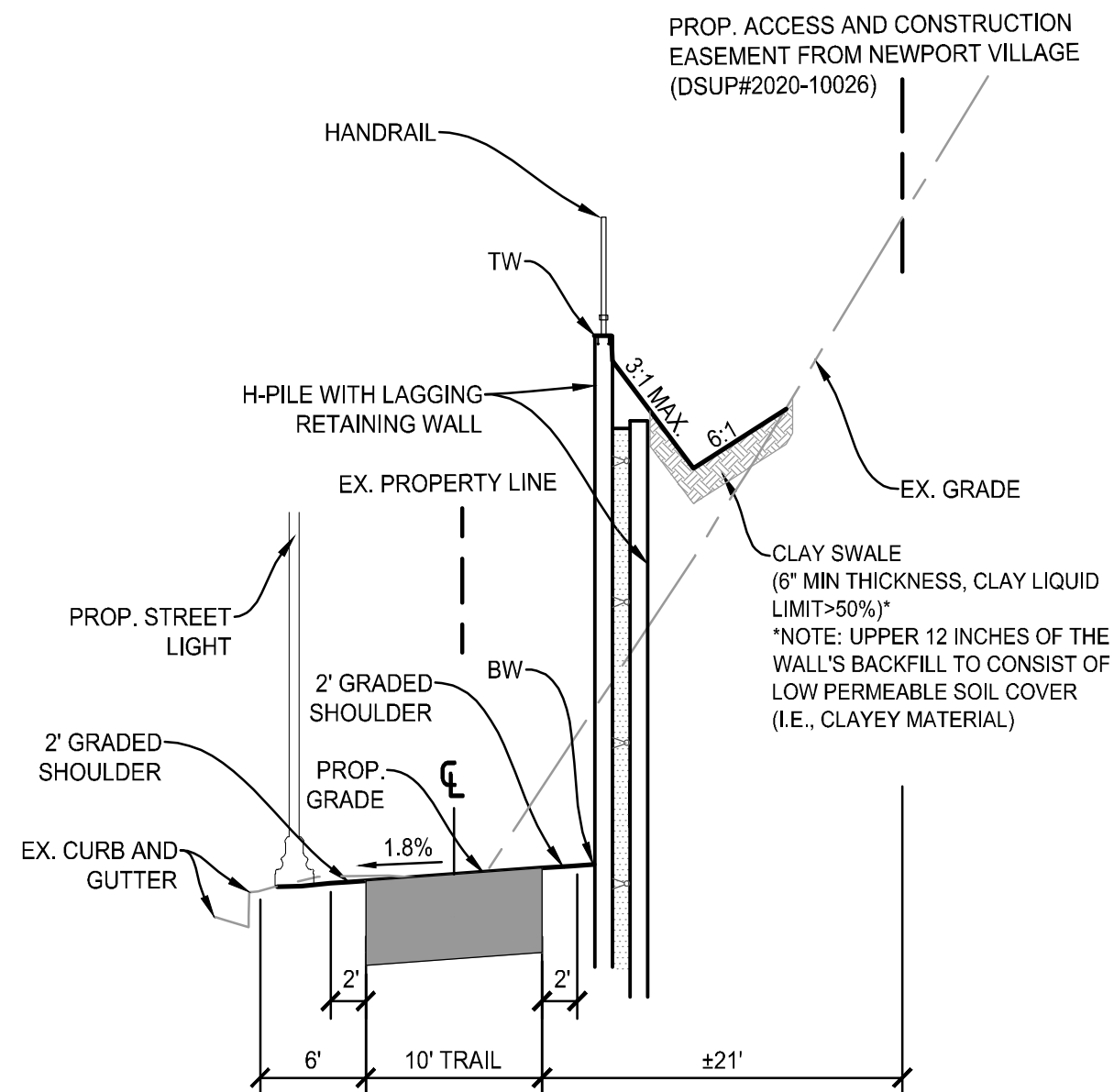


TRAIL SECTION
FOR STATIONS 16+06.80 TO 18+01.22
NOT TO SCALE

NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.

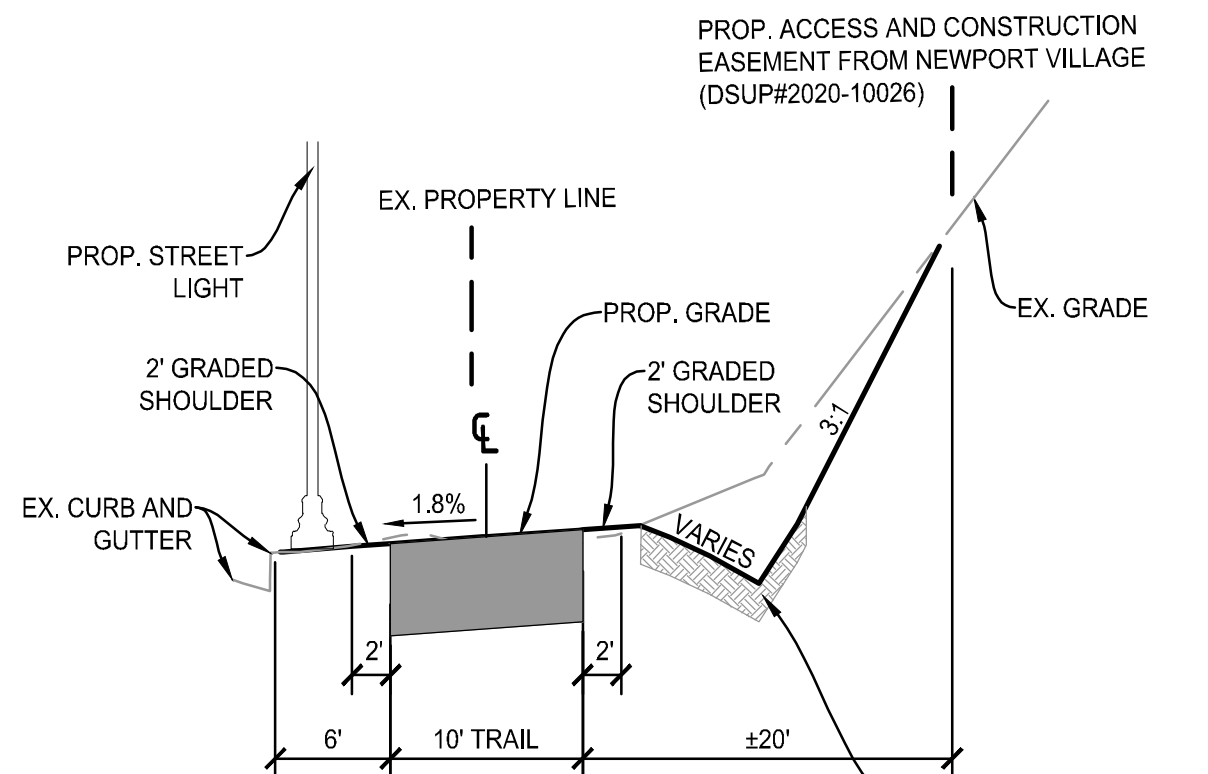


TRAIL SECTION
FOR STATIONS 18+01.22 TO 18+50.36
NOT TO SCALE



TRAIL SECTION
FOR STATIONS 22+41.04 TO 26+40.57
NOT TO SCALE

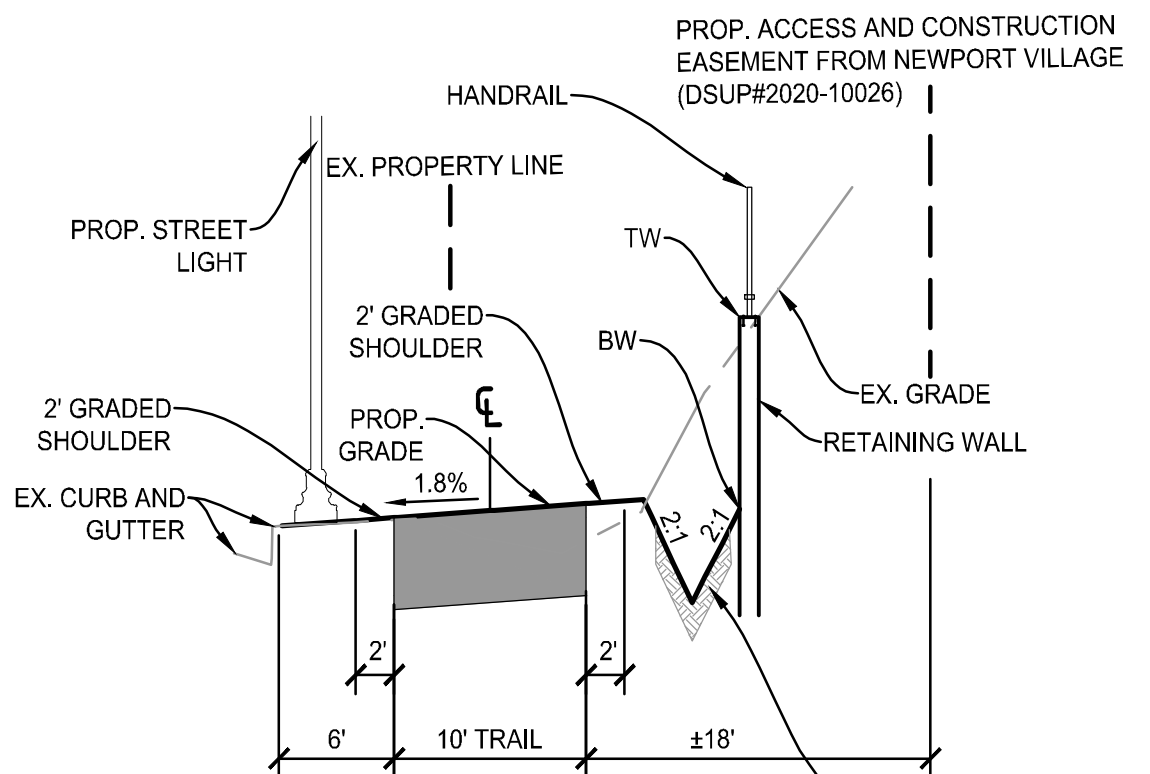
NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.



TRAIL SECTION
FOR STATIONS 26+40.57 TO 27+12.62
NOT TO SCALE

RETAINING WALL HANDRAIL NOTE:
REFER TO SHEET C201 FOR HANDRAIL TYPICAL DETAIL.

CLAY SWALE NOTES:
1. REFER TO ACCEPTABLE CLAYEY MATERIAL SPECIFICATIONS AND DETAILS ON GEOTECHNICAL REPORT.
2. *ADD MIN SLOPE NOTE HERE*



TRAIL SECTION
FOR STATIONS 27+12.62 TO 27+74.14
NOT TO SCALE

NOTE: REFER TO SHEETS C500 AND C501 FOR TOP OF WALL (TW) AND BOTTOM OF WALL (BW) ELEVATIONS. THIS SECTION IDENTIFIES WHERE THE TW AND BW ARE LOCATED IN RELATION TO THE WALL.

PERMEABLE PAVEMENT NOTE:
REFER TO SHEET C200 FOR PERMEABLE ASPHALT DETAIL.

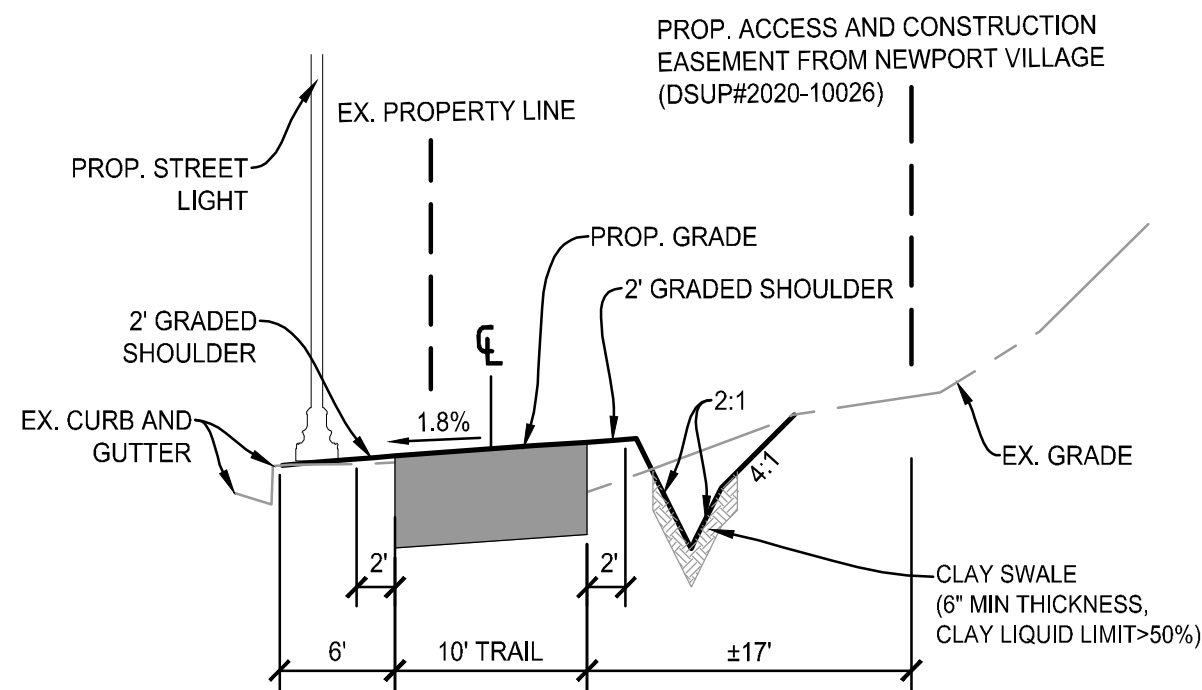
LIGHT POLE BASE NOTE:
CONTRACTOR TO PROVIDE POSITIVE DRAINAGE AND GRADING TO AVOID PONDING OF WATER AT BASE OF LIGHT POLES.



Notes: (1) excessively wet soil is defined as natural moisture content (w) > 20% of the optimum moisture content.
(2) Excessively soft or loose soil is defined as $N \leq 4$.
(3) Cut/fill depths are estimated based on the proposed roadway cross-section and existing elevations at the test boring locations.
(4) Low CBR value is defined as CBR Value<5.

RECOMMENDED TREATMENT METHODS:

- For unstable areas (but suitable material) as identified by proof rolling, disc soils or excavate to a minimum of 2 feet below subgrade, leave uncovered and allow to dry in-place to within 20 % of optimum moisture content prior to use as embankment foundation.
- For unstable areas as identified by proof rolling, dry to a minimum depth of 2 feet below subgrade using pelletized quicklime, 4% by weight.
- Undercut at least 3 feet below pavement subgrade or in their entirety to competent subgrade material, whichever is less, and replaced with properly compacted material with a minimum CBR value of 5.
- Undercut at least 2 feet below pavement subgrade or in their entirety to competent subgrade material, whichever is less, and replacement with select material, Type I, minimum CBR 30 per Section 207 of the Road and Bridge Specifications placed on subgrade stabilization geosynthetic fabric.



TRAIL SECTION
FOR STATIONS 27+74.14 TO 28+58.81
NOT TO SCALE

BID SET

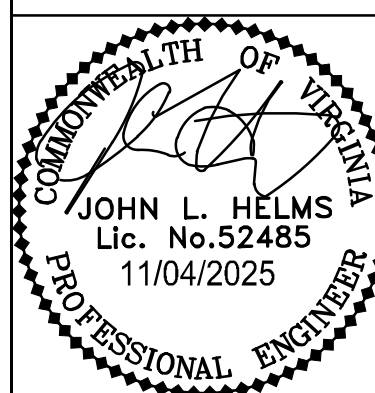
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



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TYPICAL TRAIL
SECTION

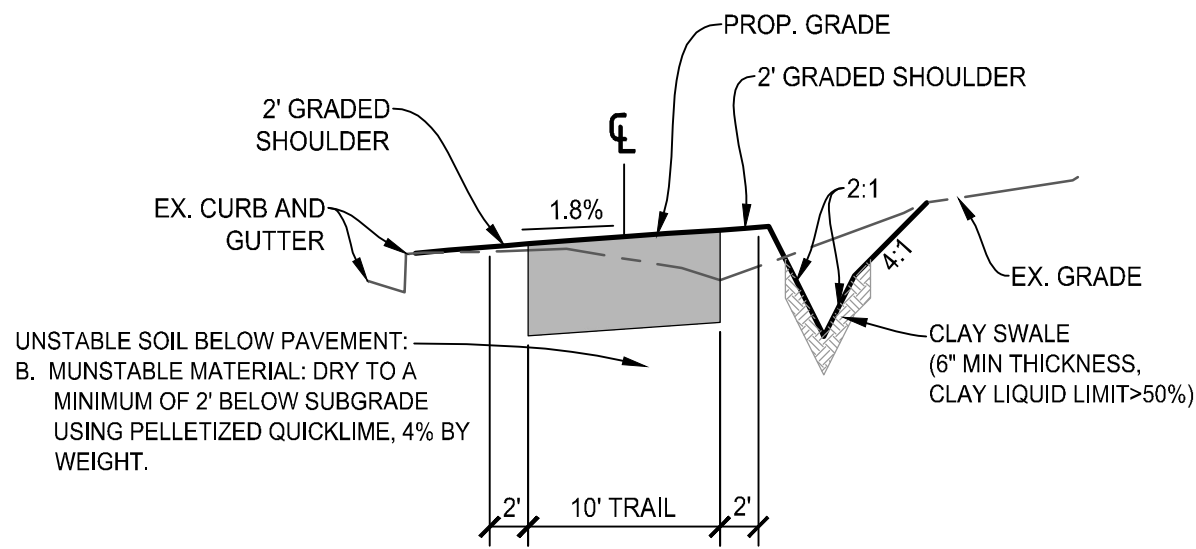
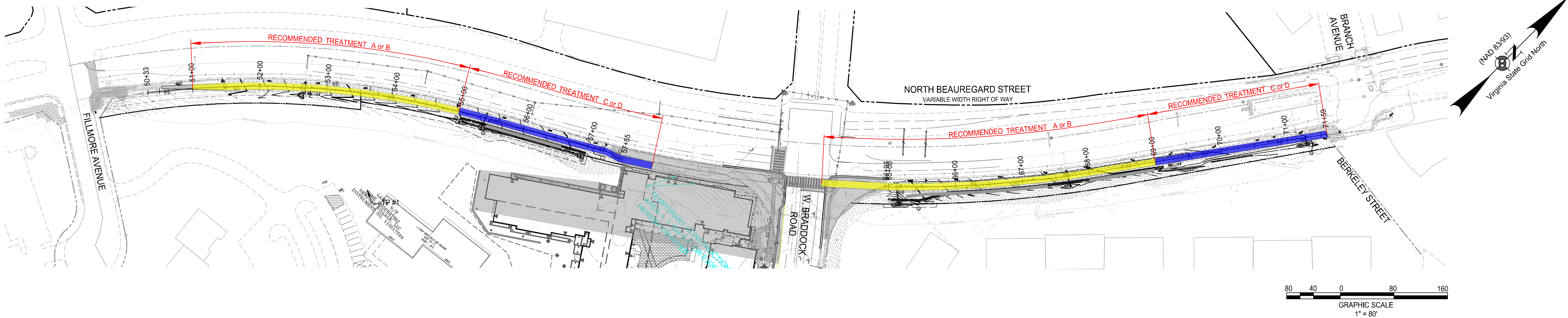
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SHEET

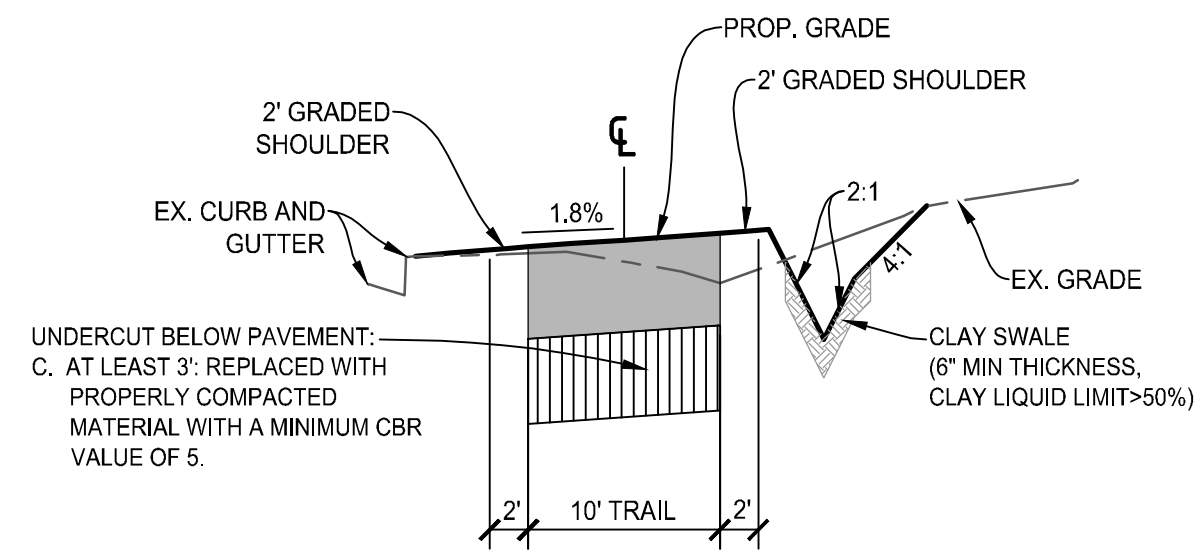
C502

P:\Projects\21266\00100\111671 - 90%\C502A OVERALL TRAIL PLAN.dwg PLOTTED: 11/3/2025 3:57:47 PM BY AUGUST HINNENKAMP

OVERALL TRAIL PLAN



TYPICAL TRAIL SECTION FOR UNSTABLE SUBGRADE
(RECOMMENDED TREATMENT B)
NOT TO SCALE



TYPICAL TRAIL SECTION FOR UNDERCUT SUBGRADE
(RECOMMENDED TREATMENT C)
NOT TO SCALE

NOTE: FOR PRICING PURPOSES UTILIZE RECOMMENDATIONS B AND C PER THE STATIONING PROVIDED ON TABLE 1 AND SHOWN ABOVE ON PLAN VIEW.

**Dulles Geotechnical and Materials
Testing Services, Inc. (DGMTS)**

14155 SULLYFIELD CIRCLE, SUITE H, CHANTILLY, VA 20151

PHONE: 703-999-3207

Table 1: Unsuitable Soil Locations: Van Dorn & Beauregard Bike Facilities & Shared Use Path

Station From	Station To	Representative Boring (s)	Reason for Potentially Unsuitable Soil					Recommended Treatment
			Excessively Wet Soil	LL> 45 or PI >25 (CH/MH)	Soft and Very Loose Soil	Design CBR <3.3% (Design CBR= 0.67x 5=3.3)	Swell >5%	
51+00	55+00	SUP-1	---	---	X	---	---	A or B
		SUP-2	X	---	---	---	---	
55+00	58+00	RW-1	X	X	---	---	---	C or D
		RW-2	X	X	X	---	---	
64+00	69+00	RW-3	X	---	---	---	---	A or B
		RW-4	X	---	---	---	---	
		RW-5	---	---	X	---	---	
69+00	71+59	RW-6	X	X	---	---	---	C or D
		RW-7	X	---	X	---	---	

**Dulles Geotechnical and Materials
Testing Services, Inc. (DGMTS)**

14155 SULLYFIELD CIRCLE, SUITE H, CHANTILLY, VA 20151

PHONE: 703-999-3207

Notes: (1) excessively wet soil is defined as natural moisture content (w) > 20% of the optimum moisture content.
(2) Excessively soft or loose soil is defined as N ≤ 4.
(3) Cut/fill depths are estimated based on the proposed roadway cross-section and existing elevations at the test boring locations.
(4) Low CBR value is defined as CBR Value<5.

RECOMMENDED TREATMENT METHODS:

- A. For unstable areas (but suitable material) as identified by proof rolling, disc soils or excavate to a minimum of 2 feet below subgrade, leave uncovered and allow to dry in-place to within 20 % of optimum moisture content prior to use as embankment foundation.
- B. For unstable areas as identified by proof rolling, dry to a minimum depth of 2 feet below subgrade using pelletized quicklime, 4% by weight.
- C. Undercut at least 3 feet below pavement subgrade or in their entirety to competent subgrade material, whichever is less, and replaced with properly compacted material with a minimum CBR value of 5.
- D. Undercut at least 2 feet below pavement subgrade or in their entirety to competent subgrade material, whichever is less, and replacement with select material, Type I, minimum CBR 30 per Section 207 of the Road and Bridge Specifications placed on subgrade stabilization geosynthetic fabric.

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SHEET TITLE

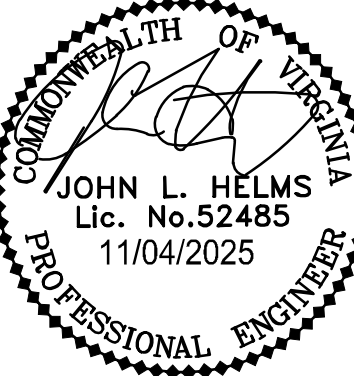
UNSUITABLE SOIL
LOCATION PLAN

SCALE SEE DWGS.

SHEET

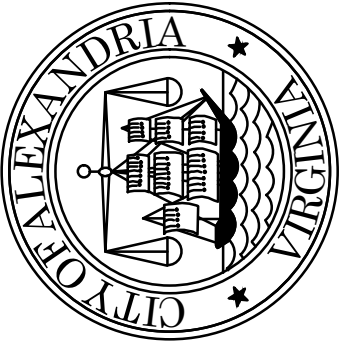
C502A

ALEXANDRIA PROJECT NO.: CP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: --
DRAWN BY: MQ DATE: --
CHECKED BY: AG DATE: --
APPROVED BY: DL DATE: --



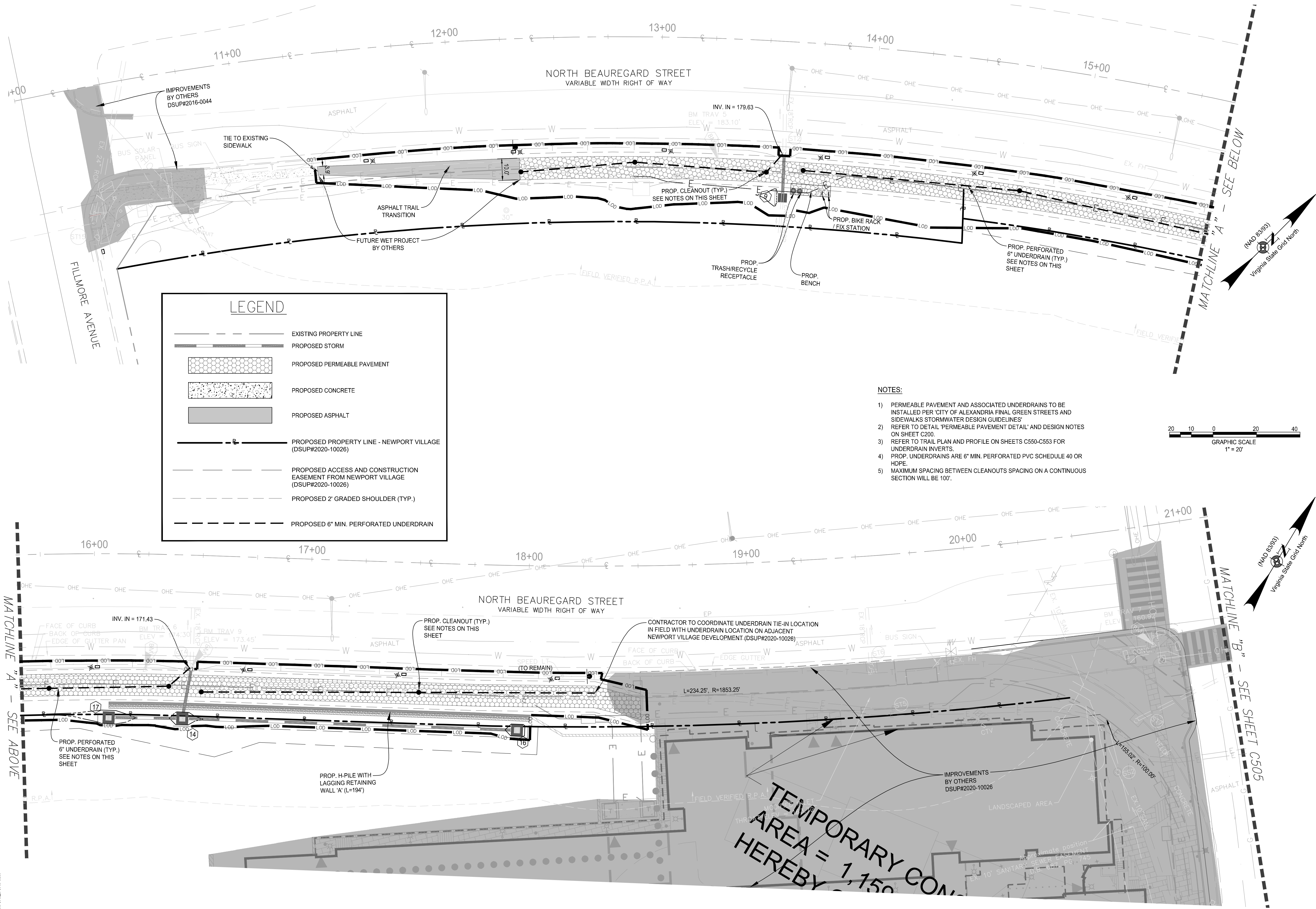
REVISIONS	DESCRIPTION
DATE	BY

BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

P:\Projects\21266\00100\111671 - 90%\C504 PERMEABLE PAVEMENT LAYOUT PLAN.dwg PLOTTED: 11/3/2025 3:59:08 PM BY AUGUST HINNENKAMP



BID SET

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DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	DESCRIPTION

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DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

JOHN F. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

PERMEABLE PAVEMENT PLAN

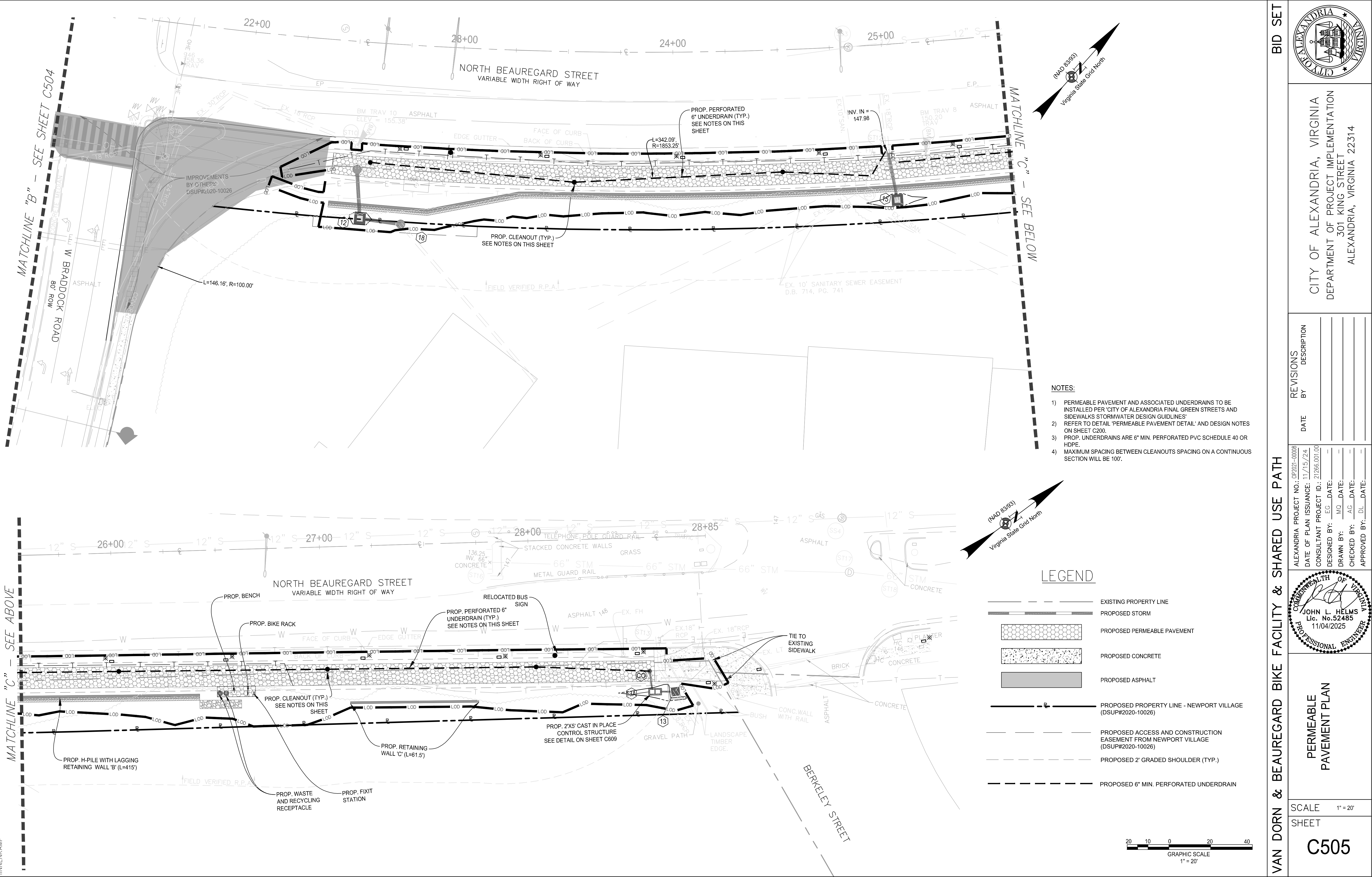
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SHEET C504

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

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DEPARTMENT OF PROJECT IMPLEMENTATION
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BID SET

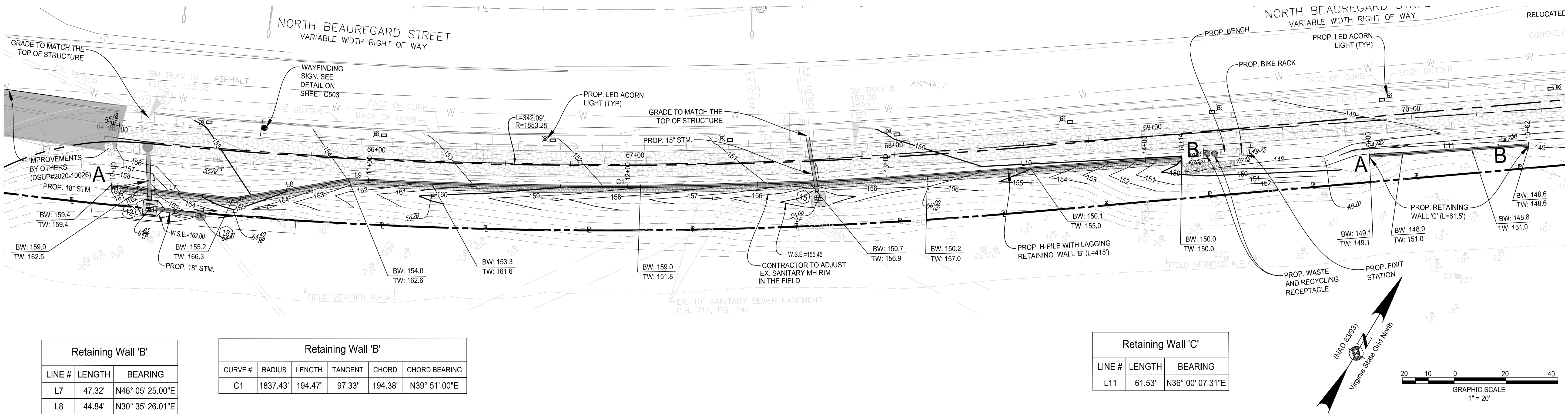
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



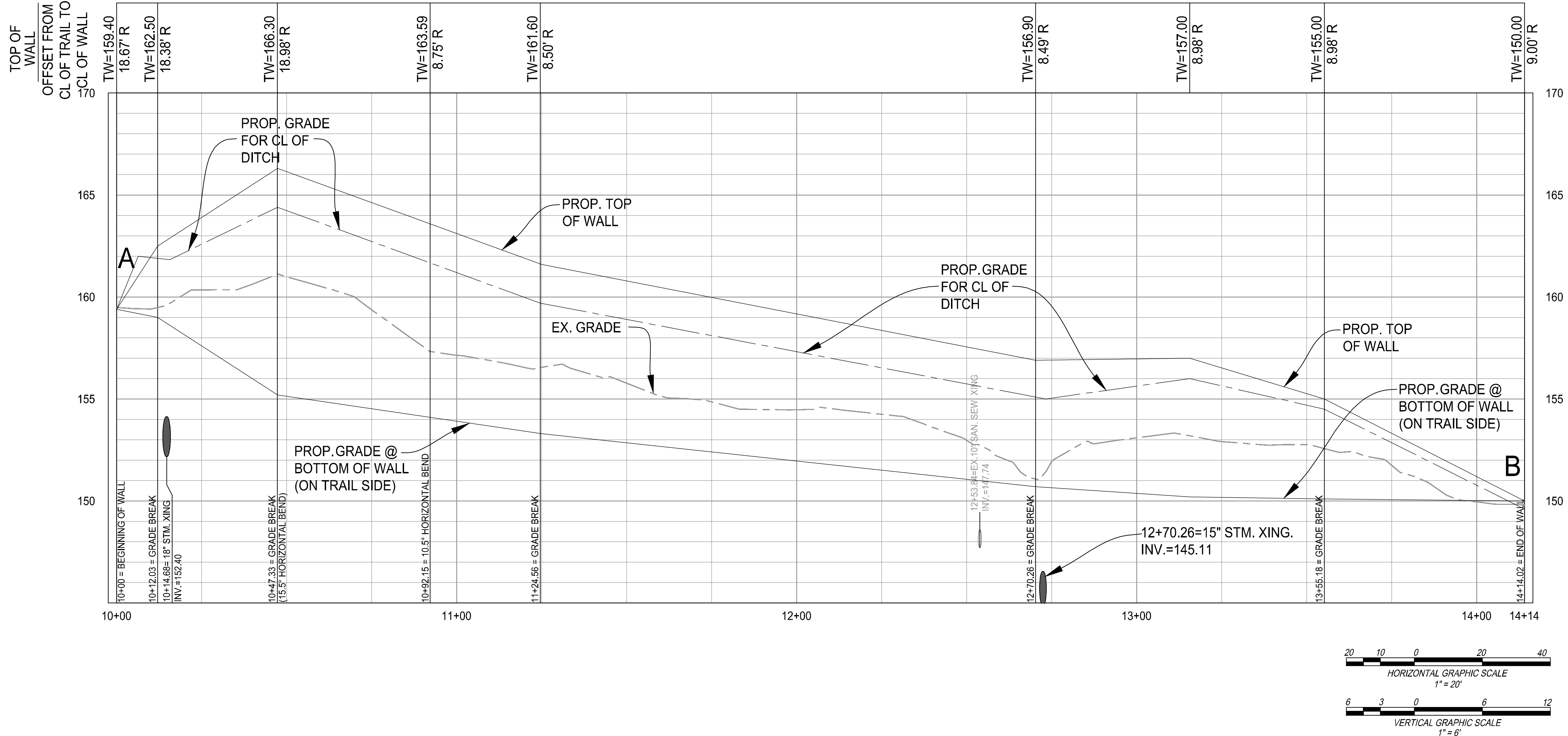
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ALEXANDRIA, VIRGINIA 22314

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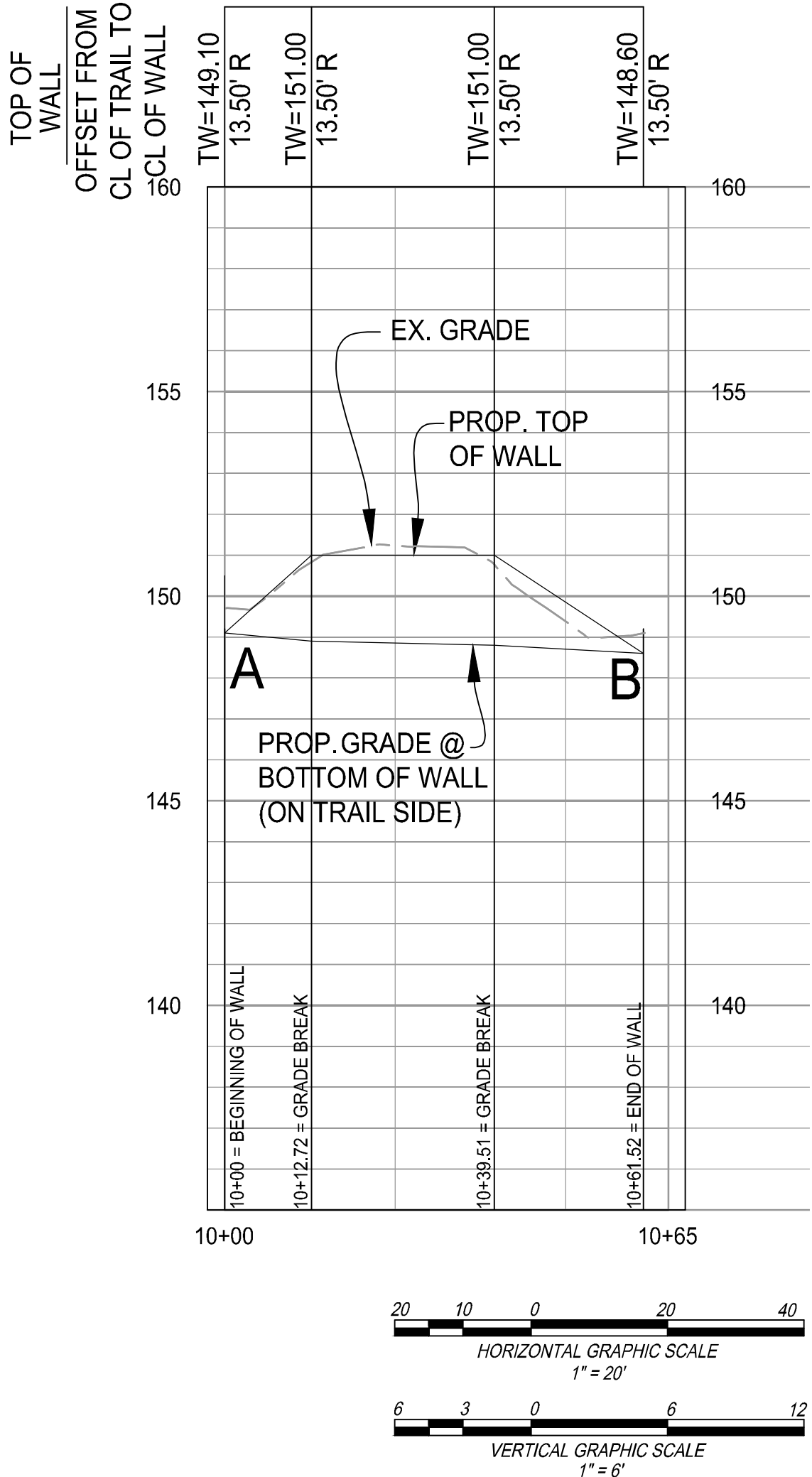
RETAINING WALLS 'B' & 'C' PLAN VIEW



RETAINING WALL 'B' ELEVATION



RETAINING WALL 'C' ELEVATION



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

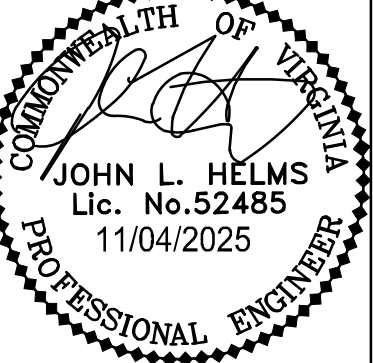


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ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION

DATE	BY

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DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
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APPROVED BY: DL DATE: -



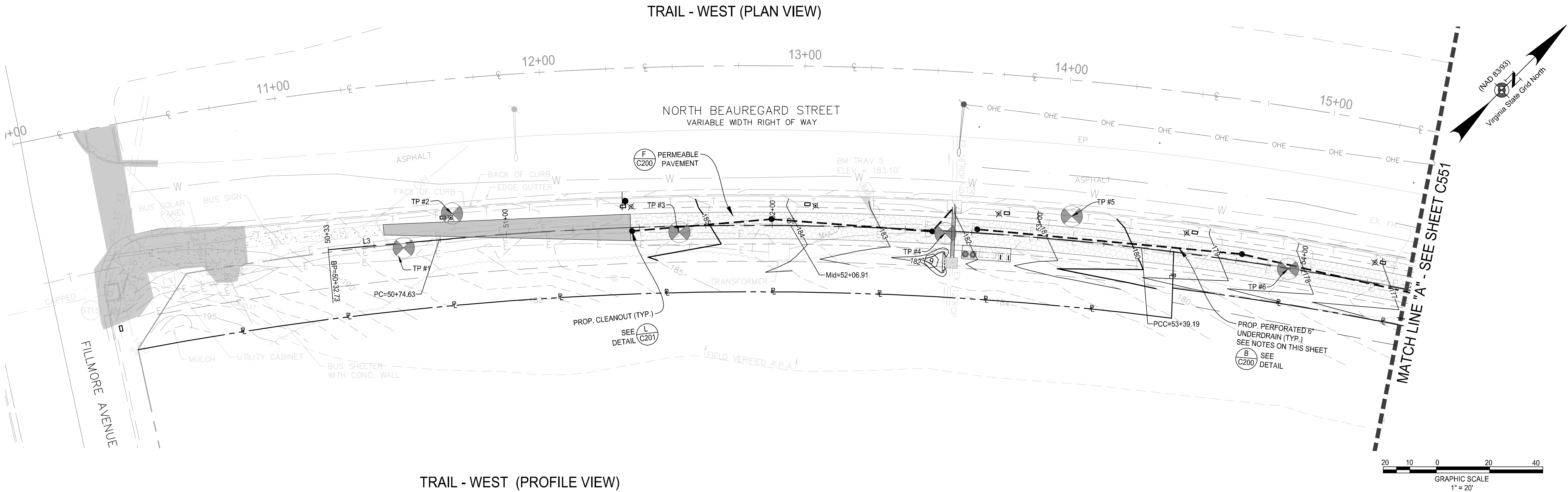
JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

RETAINING WALL PLAN
AND PROFILES

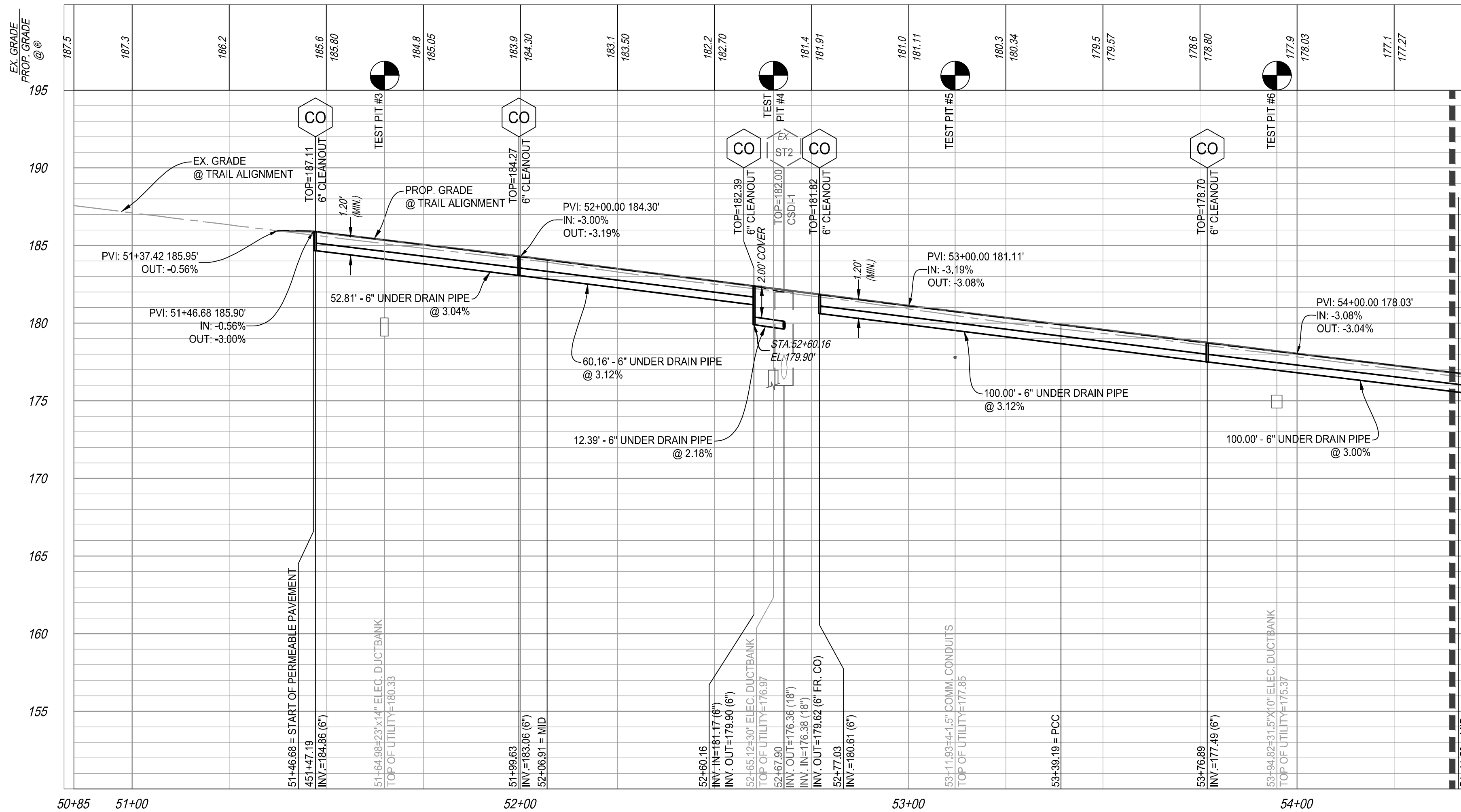
SCALE SEE DWGS.

SHEET

C511



TRAIL - WEST (PROFILE VIEW)



CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C3	1270.40	264.57	N45° 51' 02.73"E	264.09	N45° 51' 03"E
C4	1307.89	204.68	N56° 21' 28.07"E	204.47	N56° 21' 28"E
C5	26.83	11.84	N72° 29' 48.74"E	11.74	N72° 29' 49"E
C6	23.36	10.46	N74° 10' 59.65"E	10.38	N74° 11' 00"E
C7	535.25	4.86	N57° 28' 30.09"E	4.86	N57° 28' 30"E

Line Table: Alignments		
LINE #	LENGTH	BEARING
L3	41.90	N40° 00' 51.40"E
L4	183.96	N60° 38' 23.21"E

- NOTE:
- SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
 - SEE SHEET C200 FOR TRAIL SURFACING.
 - SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
 - DESIGN SPEED OF TRAIL IS 20 MPH.

BID SET

CITY OF ALEXANDRIA, VIRGINIA

DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00008

DATE OF PLAN ISSUANCE: 11/15/24

CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -

DRAWN BY: MQ DATE: -

CHECKED BY: AG DATE: -

APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA

JOHN L. HELMS

Lic. No. 52485

11/04/2025

PROFESSIONAL ENGINEER

SHEET TITLE

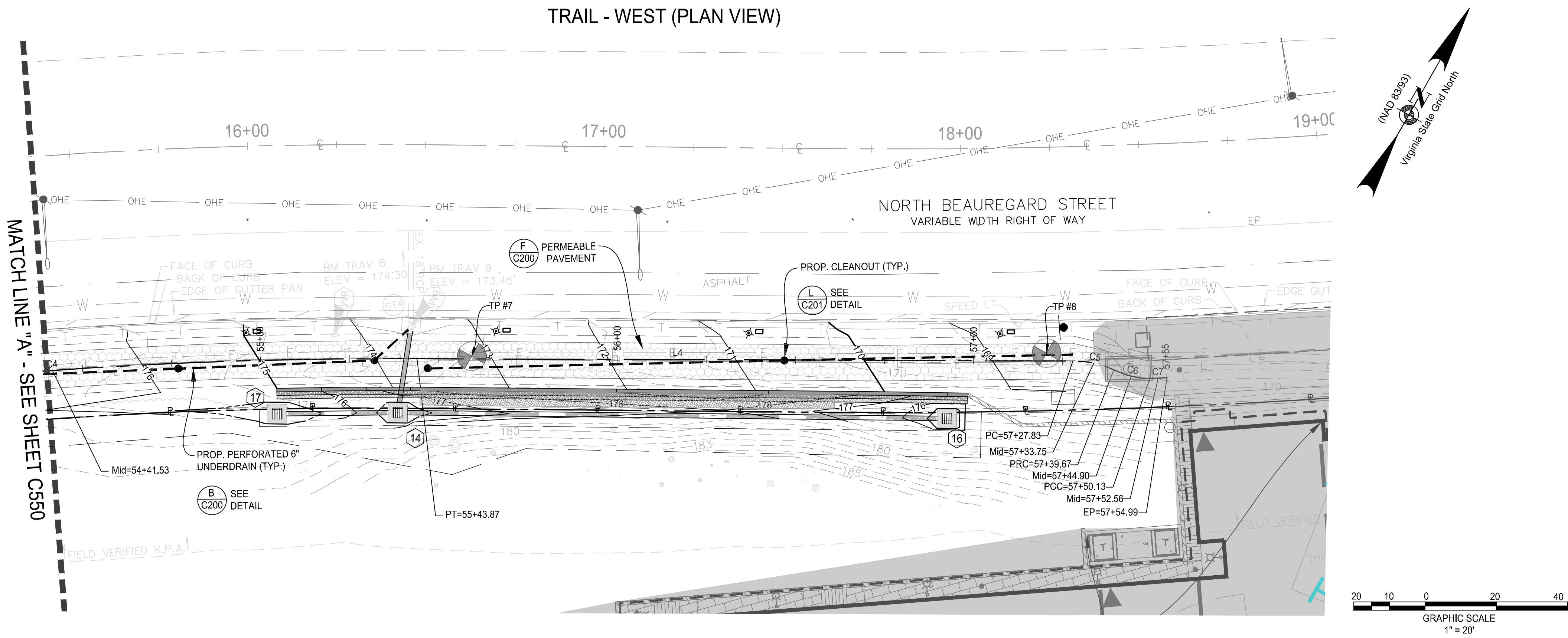
TRAIL PLAN AND PROFILE

SCALE

SEE DWGS.

SHEET

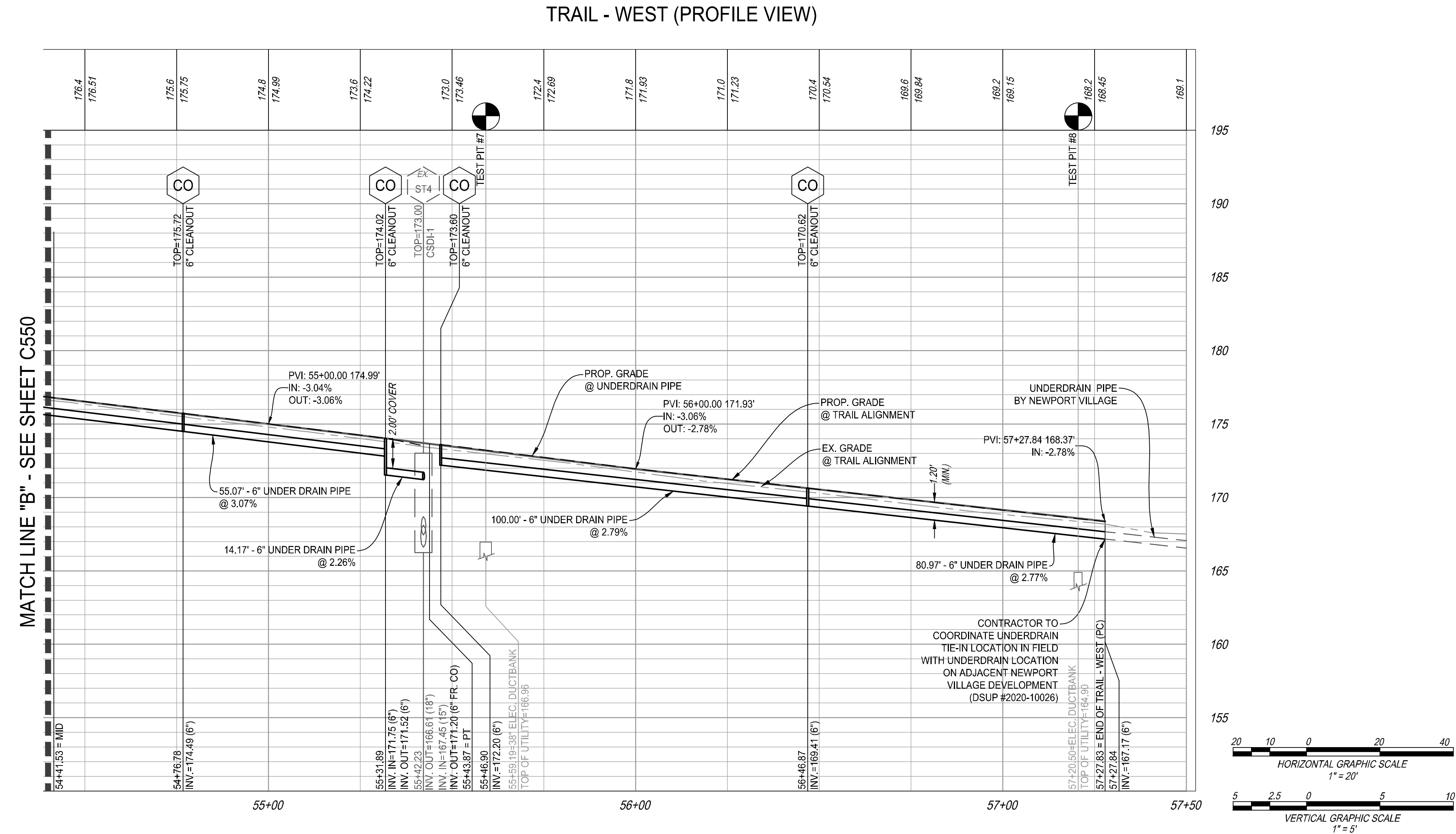
C550



CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C3	1270.40	264.57	N45° 51' 02.73"E	264.09	N45° 51' 03"E
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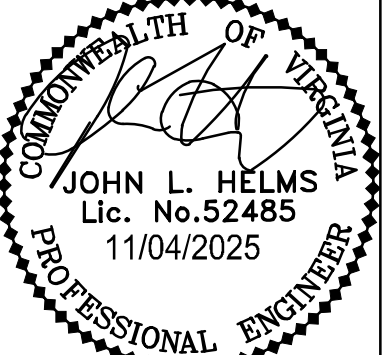
- NOTE:
- SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
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CITY OF ALEXANDRIA, VIRGINIA
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301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	
DATE	DESCRIPTION

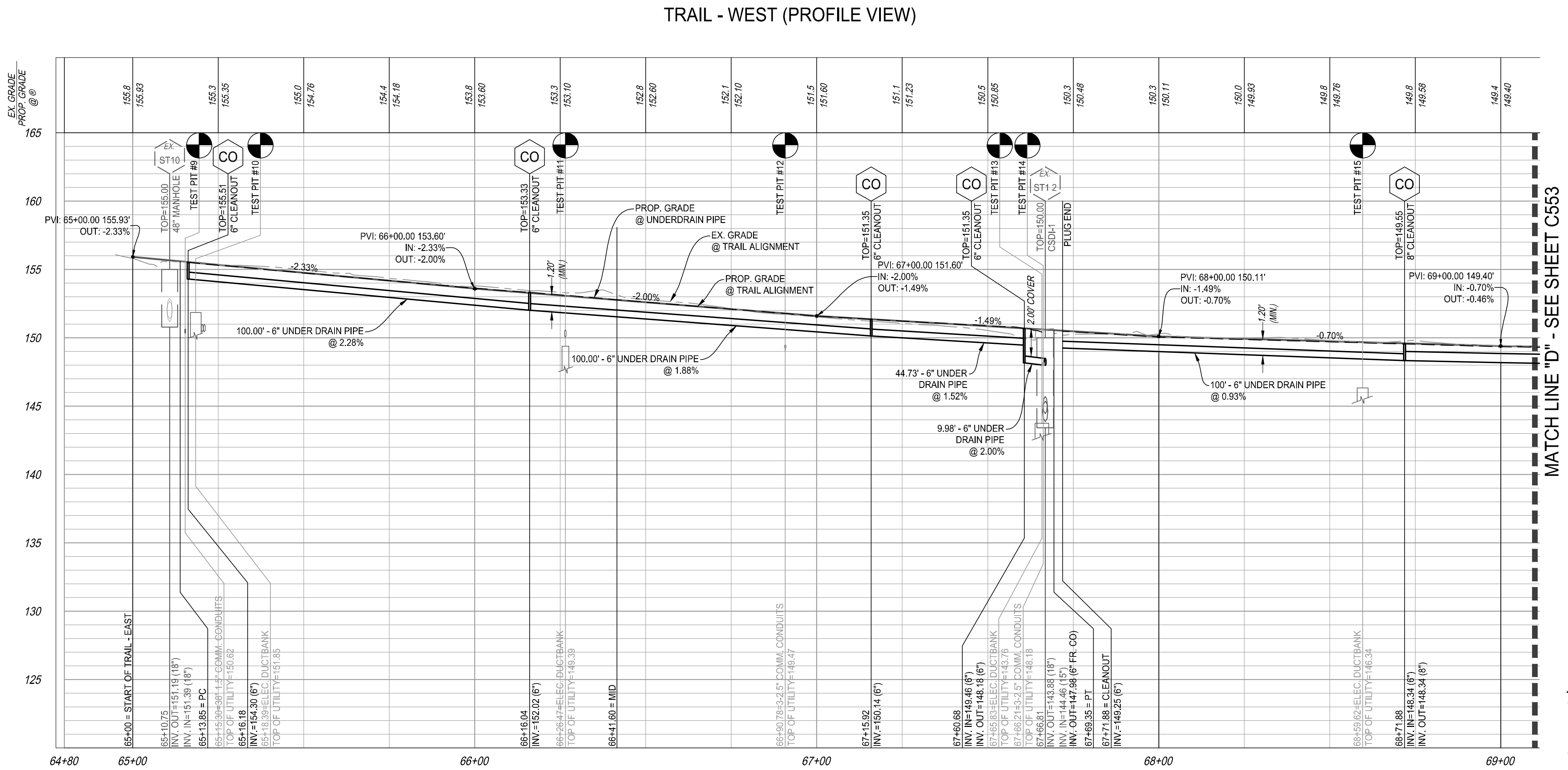
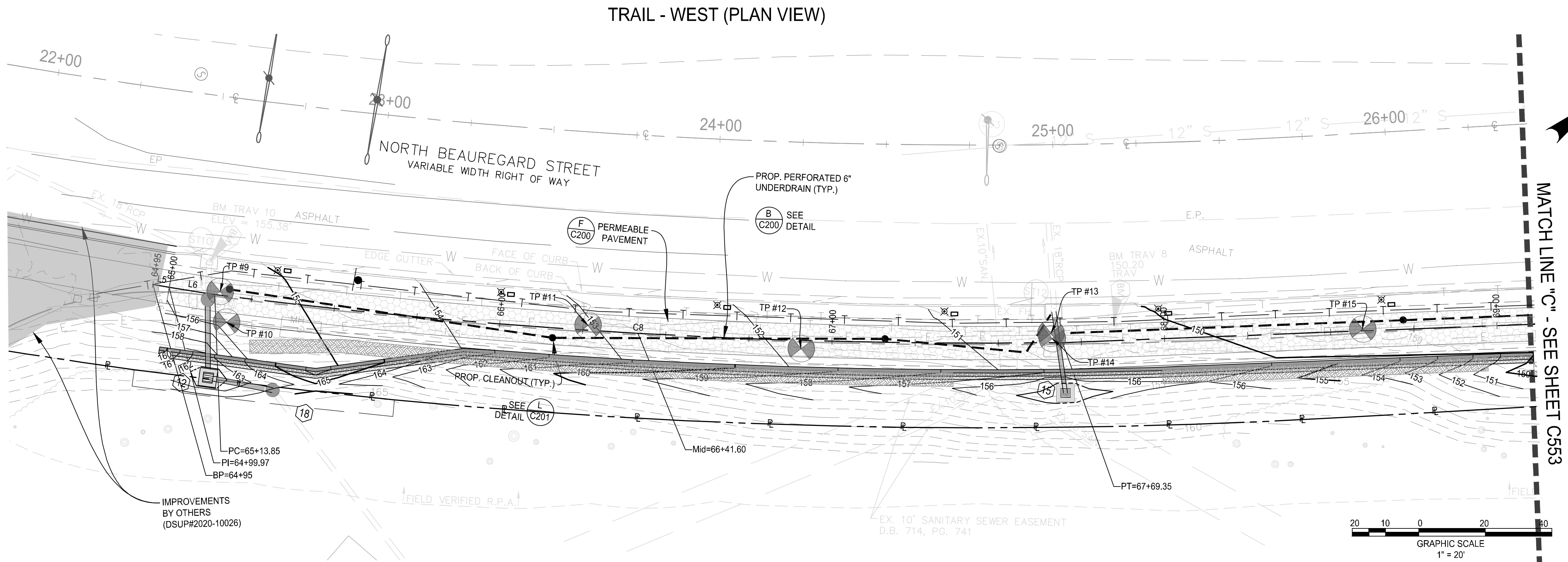
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CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: EG DATE: -
	DRAWN BY: MQ DATE: -
	CHECKED BY: AG DATE: -
	APPROVED BY: DL DATE: -



SHEET TITLE
TRAIL PLAN AND PROFILE

SCALE SEE DWGS.
SHEET

C551

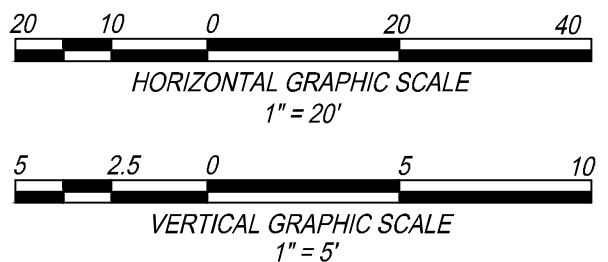


CURVE TABLE					
CURVE #	RADIUS	LENGTH	TANGENT	CHORD	CHORD BEARING
C8	1836.14	255.50	N41° 28' 59.30"E	255.29	N41° 28' 59"E

Line Table: Alignments		
LINE #	LENGTH	BEARING
L5	4.97	N48° 05' 38.91"E
L6	13.88	N47° 26' 22.97"E
L7	359.26	N36° 00' 05.60"E
L8	30.71	N36° 00' 05.60"E

NOTE:

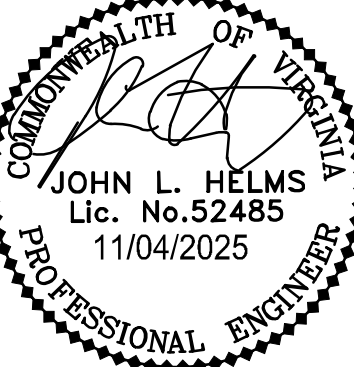
1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
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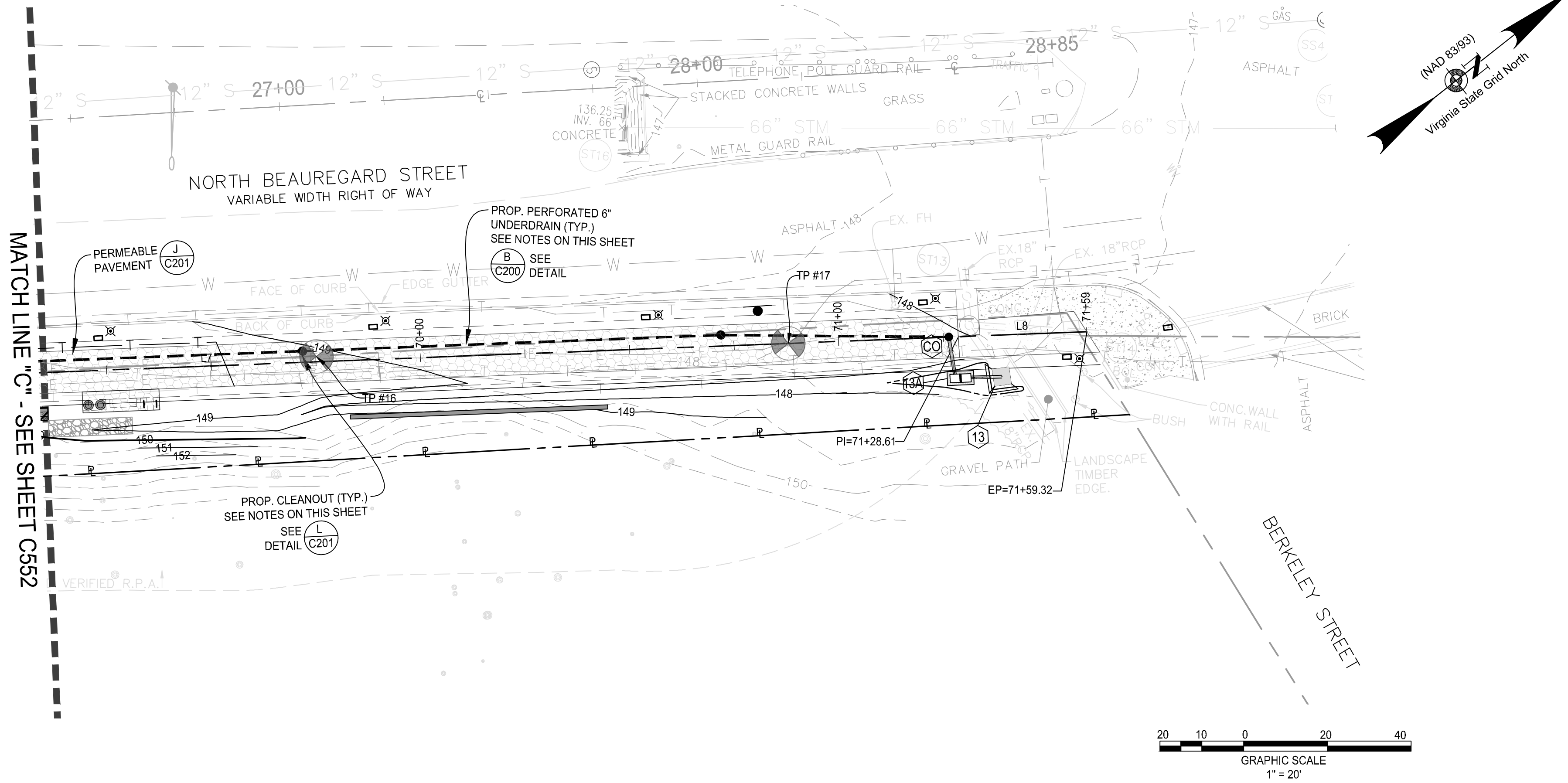
CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

DATE	BY	REVISIONS DESCRIPTION

ALEXANDRIA PROJECT NO.:	CP/2021-00001
DATE OF PLAN ISSUANCE:	11/15/24
CONSULTANT PROJECT ID.:	212661.001.00
DESIGNED BY:	EG_DATE: -
DRAWN BY:	MQ_DATE: -
CHECKED BY:	AG_DATE: -
APPROVED BY:	DL_DATE: -



TRAIL - WEST (PLAN VIEW)



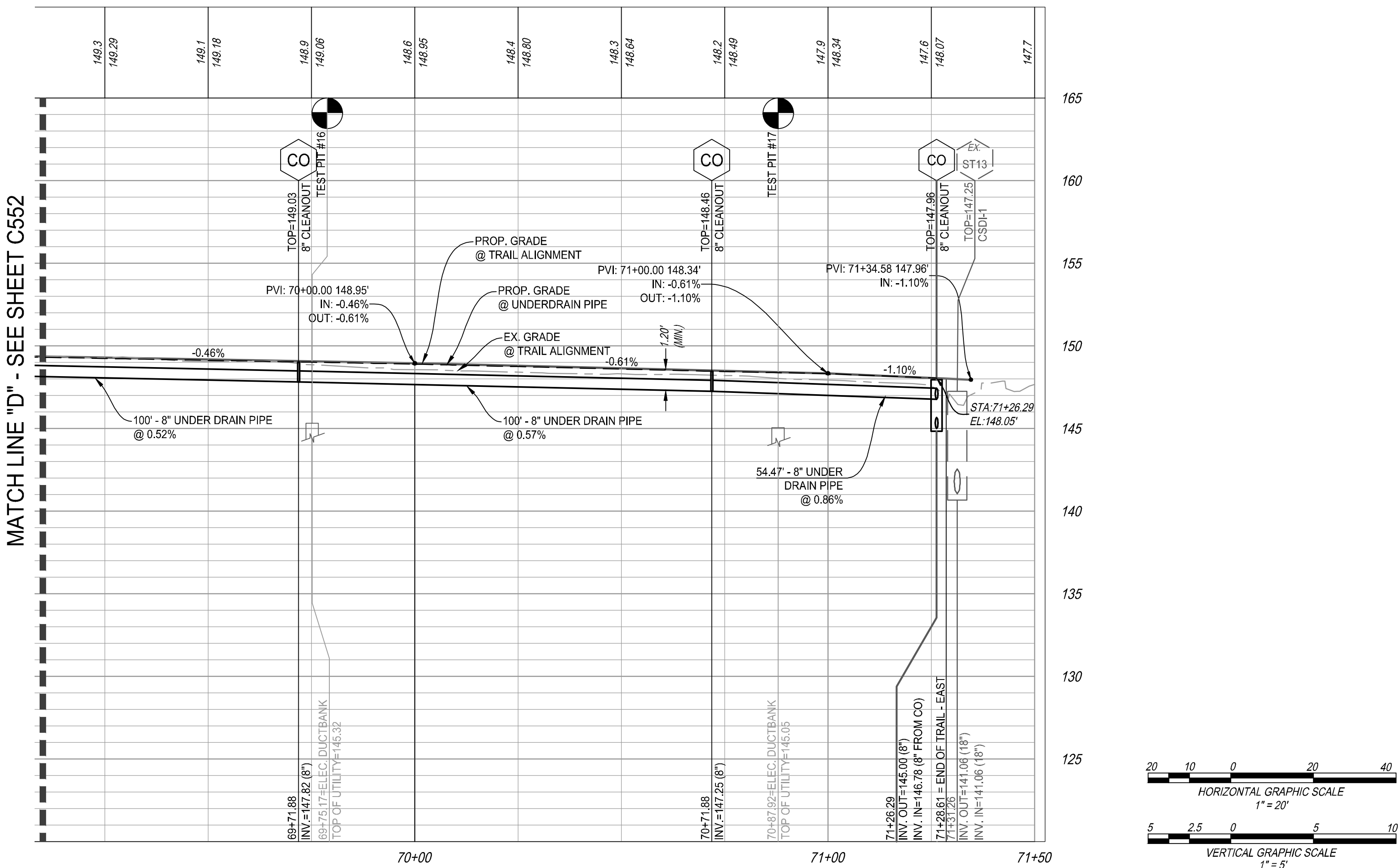
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NOTE:

1. SEE SHEET C502 FOR TYPICAL TRAIL SECTION.
2. SEE SHEET C200 FOR TRAIL SURFACING.
3. SEE SHEETS C710-C711 FOR TEST PIT LOCATION PLAN.
4. DESIGN SPEED OF TRAIL IS 20 MPH.

TRAIL - WEST (PROFILE VIEW)



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

SHEET TITLE

TRAIL PLAN AND PROFILE

SCALE SEE DWGS.

SHEET

C553

BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE _____

DESC

TION

ALEXANDRIA PROJECT NO.: CIP2021-00008

5124

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Only use

1147

PRO

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HE

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

© 2011 BMP Standards and Specifications© 2013 Draft BMP Standards and Specificat

Project Name:Beauregard Trail

Date:2/23/2024

CLEAR ALL

(Ctrl+Shift+R)

data input cells

constant values

calculation cells

final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) →0.87

Maximum reduction required:20%

The site's net increase in impervious cover (acres) is:0.17

Post-Development TP Load Reduction for Site (lb/yr):0.42

Check:

BMP Design Specifications List: 2013 Draft Stds & Specs

Linear project? Yes

Land cover areas entered correctly? ✓

Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be		0.45		0.28	0.73
Impervious Cover (acres)		0.04		0.10	0.14
					0.87

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be		0.33		0.23	0.56
Impervious Cover (acres)		0.16		0.15	0.31
Area Check	OK.	OK.	OK.	OK.	0.87

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY – PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted ¹
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	0.73	0.56
Weighted Rv(turf)	0.22	0.22
% Managed Turf	84%	80%
Impervious Cover (acres)	0.14	0.14
Rv(impervious)	0.95	0.95
% Impervious	16%	20%
Total Site Area (acres)	0.87	0.70
Site Rv	0.34	0.37

LAND COVER SUMMARY – POST DEVELOPMENT

Land Cover Summary-Post (Final)		Land Cover Summary-Post		Land Cover Summary-Post	
Post-ReDev. & New Impervious		Post-ReDevelopment		Post-Development New Impervious	
Forest/Open Space Cover (acres)	0.00	Forest/Open Space Cover (acres)	0.00		
Weighted Rv(forest)	0.00	Weighted Rv(forest)	0.00		
% Forest	0%	% Forest	0%		
Managed Turf Cover (acres)	0.56	Managed Turf Cover (acres)	0.56		
Weighted Rv (turf)	0.22	Weighted Rv (turf)	0.22		
% Managed Turf	64%	% Managed Turf	80%		
Impervious Cover (acres)	0.31	ReDev. Impervious Cover (acres)	0.14		
Rv(impervious)	0.95	Rv(impervious)	0.95		
% Impervious	36%	% Impervious	20%		
Final Site Area (acres)	0.87	Total ReDev. Site Area (acres)	0.70		
Final Post Dev Site Rv	0.48	ReDev Site Rv	0.37		

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0244	0.0214
Pre-ReDevelopment Treatment Volume (cubic feet)	1,064	931
Pre-ReDevelopment TP Load (lb/yr)	0.67	0.59
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.77	0.84
Baseline TP Load (lb/yr) (0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		0.29

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0348	
Final Post-Development Treatment Volume (cubic feet)	1,517	
Final Post-Development TP Load (lb/yr)	0.95	
Final Post-Development TP Load per acre (lb/acre/yr)	1.10	
Max. Reduction Required (Below Pre-ReDevelopment Load)	20%	
TP Load Reduction Required for Redeveloped Area (lb/yr)	0.12	
TP Load Reduction Required for New Impervious Area (lb/yr)	0.30	

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)	0.42
Linear Project TP Load Reduction Required (lb/yr):	0.42

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	4.78	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	6.82
-----------------------------------	------	--	------

Adjusted Land Cover Summary:

Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-ReDevelopment acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Site Results (Water Quality Compliance)

Area Checks

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.29	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.29	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.11	0.00	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.00	0.00	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft³)

1,517

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft³)	450	0	0	0	0	450
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.68	0.00	0.00	0.00	0.00	0.68
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.37	0.00	0.00	0.00	0.00	0.37
TP LOAD REMAINING (lb/yr)	0.31	0.00	0.00	0.00	0.00	0.31
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	2.64	0.00	0.00	0.00	0.00	2.64

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)

TP LOAD REDUCTION REQUIRED (lb/yr)

TP LOAD REDUCTION ACHIEVED (lb/yr)

TP LOAD REMAINING (lb/yr):

REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):

0.95

0.42

0.37

0.58

0.05

SEE LETTER ON SHEET C601 FOR THE REMAINING TP REQUIREMENT.

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)

NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)

REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)

6.82

2.64

4.18

BMP MAINTENANCE NOTE:

THE PERMEABLE PAVEMENT FACILITY IS TO BE MAINTAINED BY CITY OF ALEXANDRIA.

EXISTING CONDITION SITE NARRATIVE

THIS SITE IS 0.87 ACRES CITY RIGHT-OF-WAY AND IS AN EXISTING SIDEWALK. THE SITE IS LOCATED SOUTH OF NORTHERN VIRGINIA COMMUNITY COLLEGE ALEXANDRIA CAMPUS ON THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THE SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET; TO THE SOUTH BY EXISTING RESIDENTIAL APARTMENTS (#4898 & #4899 W BRADDOCK ROAD); TO THE EAST BY BERKELEY STREET; AND TO THE WEST BY FILLMORE AVENUE.

REVIEW OF EXISTING TOPOGRAPHY INDICATES THAT THE PROPERTY DRAINS FROM THE SOUTHWEST TO NORTHEAST. THE SITE DRAINS TO AN EXISTING STORM SYSTEM THAT RUNS NORTH DOWN N BEAUREGARD STREET.

THERE ARE RESOURCE PROTECTION AREAS ON THIS SITE.

PROPOSED CONDITION SITE NARRATIVE

THIS PROJECT PROPOSES A 10' WIDE SHARED USE PATH ALONG THE SOUTH SIDE OF NORTH BEAUREGARD STREET BETWEEN FILLMORE AVENUE AND BERKELEY STREET. THREE RETAINING WALLS WILL BE REQUIRED TO ACCOMMODATE THE EXPANDED WIDTH OF THE SHARED USE PATH.

WATER QUALITY TREATMENT (BMP) NARRATIVE

TO COMPLY WITH THE CHESAPEAKE BAY ACT (CBA) AND ARTICLE XIII OF THE ZONING ORDINANCE, THE PROJECT WILL PROVIDE WATER QUALITY TREATMENT THROUGH THE USE OF LEVEL I PERVIOUS PAVEMENT AND STORMFILTER.

THE PERVIOUS PAVEMENT WILL TREAT APPROXIMATELY 0.29 ACRE OF IMPERVIOUS RUNOFF FROM THE SIDEWALKS (SEE SHEET C603 FOR DRAINAGE AREA A).

SITE AREA
FOR THE BMP/SWM CALCULATIONS, THE LIMITS OF DISTURBANCE WILL ACT AS THE SITE AREA AND IS 0.87 ACRES. THIS VALUE WILL BE USED FOR THE WQVD CALCULATIONS.

WQV TREATMENT
THE WQV TO BE TREATED AS PER THE CITY OF ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK IS 1816 CU FT/ ACRE OF IMPERVIOUS SURFACE.

THEREFORE WQV REQUIRED = 0.31 x 1816 = 563 CU FT. SEE WQV CALCULATIONS ON SHEET C601.

MEMO TO INDUSTRY 01-18 REQUIREMENT:
THIS CITY REQUIREMENT IF FOR THE TREATMENT OF 65% OF THE STATE'S REQUIREMENT BY NON-PROPRIETARY BMP FACILITIES. THIS REQUIRES A TOTAL OF 0.36 LBS OF PHOSPHORUS BE REMOVED PER YEAR. THIS REQUIREMENT IS MET WITH PERMEABLE PAVEMENT. THESE BMP PRACTICES REMOVE 0.37 LBS OF PHOSPHORUS A YEAR.

BID SET

CITY OF ALEXANDRIA, VIRGINIA

DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	DESCRIPTION

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

ALEXANDRIA PROJECT NO.: CP2021-00008

DATE OF PLAN ISSUANCE: 11/15/24

CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: --

DRAWN BY: MQ DATE: --

CHECKED BY: AG DATE: --

APPROVED BY: DL DATE: --

CITY OF ALEXANDRIA

COMMONWEALTH OF VIRGINIA

JOHN L. HELMS

Lic. No.52485

11/04/2025

PROFESSIONAL ENGINEER

BMP WATER QUALITY

SCALE NOT TO SCALE

SHEET

C600

P:\Projects\21266\00100\111671 - 90%\C601 BMP WATER QUALITY.dwg PLOTTED: 11/3/2025 4:11:31 PM BY AUGUST HINNENKAMP

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)		0.08		0.03	0.11	0.21
Impervious Cover (acres)		0.15		0.14	0.29	0.95
Total					0.40	

CLEAR BMP AREAS

Total Phosphorus Available for Removal in D.A. A (lb/yr)	0.68
Post Development Treatment Volume in D.A. A (ft³)	1,085

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft³)	Runoff Reduction (ft³)	Remaining Runoff Volume (ft³)	Total BMP Treatment Volume (ft³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
3. Permeable Pavement (RR)													
3.a. Permeable Pavement #1 (Spec #7)	45		0.29	0	450	550	1,000	25	0.00	0.63	0.37	0.26	

--Select from dropdown lists--

WQVD CALCULATIONS

REQUIRED = (1816 CU FT/ACRE) * (0.31 ACRES) = 563 CU FT
PROVIDED (ON-SITE) = (1816 CU FT/ACRE) * (0.29 ACRES) = 527 CU FT
TOTAL WQVD REMAINING = 563 CU FT - 527 CU FT = 36 CU FT

IMPERVIOUS AREA COVERAGE

TOTAL IMPERVIOUS AREA = 0.31 ACRES
TOTAL IMPERVIOUS TREATED (ON-SITE) = 0.29 ACRES
TOTAL IMPERVIOUS AREA UNTREATED = 0.31 AC - 0.29 AC = 0.02 AC.

NOTE: A CONTRIBUTION TO THE WQIF IS BEING REQUESTED FOR THE UNTREATED IMPERVIOUS AREA (0.02 AC OR 871 SF) OF THE SITE.

Project Description

Development

Redevelopment

Drainage Area	Impervious	Pervious	Total
Site Area	0.31	0.56	0.87
On-Site Treated	0.29	0.11	0.40
Off-Site Treated	0.00	0.00	0.00
Total Treated	0.29	0.11	0.40

Miscellaneous Information

Total WQV treated

yes

 no
Detention on Site

yes

 no
Project is within which watershed?

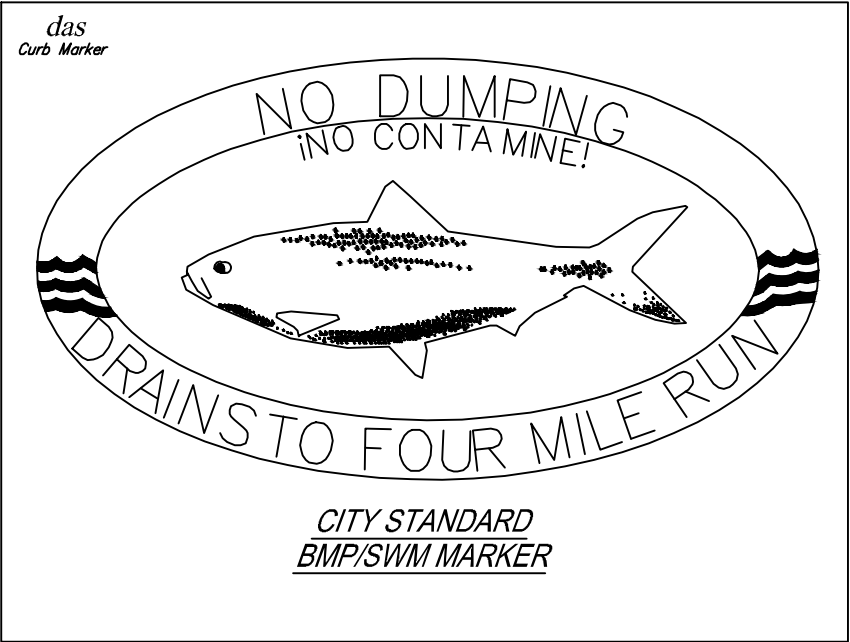
FOUR MILE RUN

Project Discharges to which body of water?

FOUR MILE RUN

Water Treatment On-Site

BMP Type	Total Area Treated by BMP (acres)	Impervious Area treated by BMP (acres)	Phosphorus Removal Efficiency (%)	Phosphorus Removed by BMP (lbs)
Permeable Pavement	0.40	0.29	25	0.37



Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm 2-year storm 10-year storm

2.70	3.20	5.20
------	------	------

Use NOAA Atlas 14 (<http://hdsc.nws.noaa.gov/hdsc/pfds/>)

*Notes (see below):

[1] The curve numbers and runoff volumes computed in this spreadsheet for each drainage area are limited in their applicability for determining and demonstrating compliance with water quantity requirements. See VRRM User's Guide and Documentation for additional information.

[2] Runoff Volume (RV) for pre- and post-development drainage areas must be in volumetric units (e.g., acre-feet or cubic feet) when using the Energy Balance Equation. Runoff measured in watershed-inches and shown in the spreadsheet as RV(watershed-inch) can only be used in the Energy Balance Equation when the pre- and post-development drainage areas are equal. Otherwise RV(watershed-inch) must be multiplied by the drainage area.

[3] Adjusted CNs are based on runoff reduction volumes as calculated in D.A. tabs. An alternative CN adjustment calculation for Vegetated Roofs is included in BMP specification No. 5.

Drainage Area Curve Numbers and Runoff Depths*

Curve numbers (CN, CNadj) and runoff depths (RV_{Developed}) are computed with and without reduction practices.

Drainage Area A		A Soils	B Soils	C Soils	D Soils	Total Area (acres): 0.40 Runoff Reduction Volume (ft³): 450
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00	
	CN	30	55	70	77	
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.08	0.00	0.03	
	CN	39	61	74	80	
Impervious Cover	Area (acres)	0.00	0.15	0.00	0.14	
	CN	98	98	98	98	
		CN _[D.A. A] 89				
		1-year storm	2-year storm	10-year storm		
RV _{Developed} (watershed-inch) with no Runoff Reduction*		1.63	2.08	3.96		
RV _{Developed} (watershed-inch) with Runoff Reduction*		1.32	1.77	3.65		
Adjusted CN*		85	85	86		

*See Notes above



Department of Project Implementation
301 King Street Suite 3200
Alexandria, Virginia 22314 Phone: 703.746.4045

April 9, 2024

Gavin Pellitteri
Stormwater Principal Planner, T&ES
2900 Business Center Dr
Alexandria, VA 22314

RE: CIP2021-00008 – Beauregard Bike Facility and Shared Use Path

Dear Mr. Pellitteri,

Department of Project Implementation is requesting to meet the Virginia Stormwater Phosphorus Removal Requirements, specified in the Environmental Management Ordinance (Article XIII of the City's zoning ordinance) through use of the City's Internal Phosphorous Exchange Bank. The installation of additional BMP is not feasible on this project due to the fact that there is no available open space in the project site.

I am requesting to purchase 0.05 lbs. of Phosphorus Credits in the amount of \$2,500. The purchased credits will be used to meet the Phosphorus Removal Requirements for the Beauregard Bike Facility and Shared Use Path project. ORG #51412870 will be used to purchase the credits. This letter confirms that funds are available in the budget as written.

Sincerely,

David Le

David Le, P.E.
Technical Project Manager
City of Alexandria, Virginia
Department of Project Implementation



DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES
Infrastructure and Environmental Quality
2900B Business Center Drive
Alexandria, Virginia 22314
www.alexandriava.gov

04/18/2024

David Le, P.E.
Technical Project Manager
City of Alexandria, Virginia
Department of Project Implementation
Alexandria, VA 22314

RE: CIP2021-00008 – Beauregard Bike Facility and Shared Use Path

Dear Mr. Le:

This is in regard to your letter dated 04/09/2024 requesting to meet the State Water Quality Phosphorous Removal requirements by utilizing the City's Internal Phosphorous Exchange Bank. You have requested to withdraw .05 pounds of credits from the bank and deposit \$2500 into the bank. This represents 100 percent of the overall phosphorous removal requirements.

Your request has been approved. The procedure now is to scan your request letter onto your final plan on a sheet that is labeled Stormwater Facility BMP Details or something similar. Your final plan will be eligible for approval when you have paid the fee \$2500. The approval of the plan (with your request therein) will act as the approval of your request.

Sincerely,

Gavin Pellitteri

Gavin Pellitteri
Stormwater Principal Planner
T&ES Stormwater Management



DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES
Infrastructure and Environmental Quality
2900B Business Center Drive
Alexandria, Virginia 22314
www.alexandriava.gov

07/12/2024

Susan H. Keen, P.E.
Design Engineer
Virginia Department of Transportation

RE: CIP2021-00008 – Beauregard Bike Facility and Shared Use Path

Dear Susan:

This is regarding your comments concerning compliance with the water quality technical criteria for the Beauregard Bike Facility and Shared Use Path located at 4899 W Braddock Road in Alexandria, Virginia. The project will meet the State Water Quality Phosphorous Removal requirements by utilizing the City's Internal Phosphorous Exchange Bank. The project has been approved to withdraw .05 pounds of credits from bank in lieu of onsite stormwater permanent control measures, which represents 100 percent of the overall phosphorous removal requirements.

Sincerely,

Gavin Pellitteri

Gavin Pellitteri
Stormwater Principal Planner
T&ES Stormwater Management

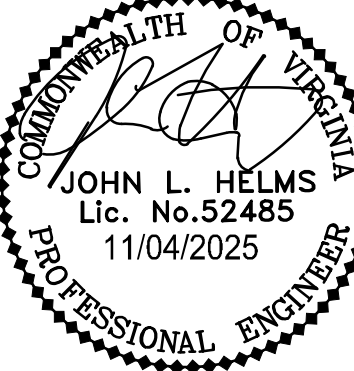
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS
DATE
DESCRIPTION

ALEXANDRIA PROJECT NO.: CIP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: --
DRAWN BY: MQ DATE: --
CHECKED BY: AG DATE: --
APPROVED BY: DL DATE: --



BMP WATER QUALITY

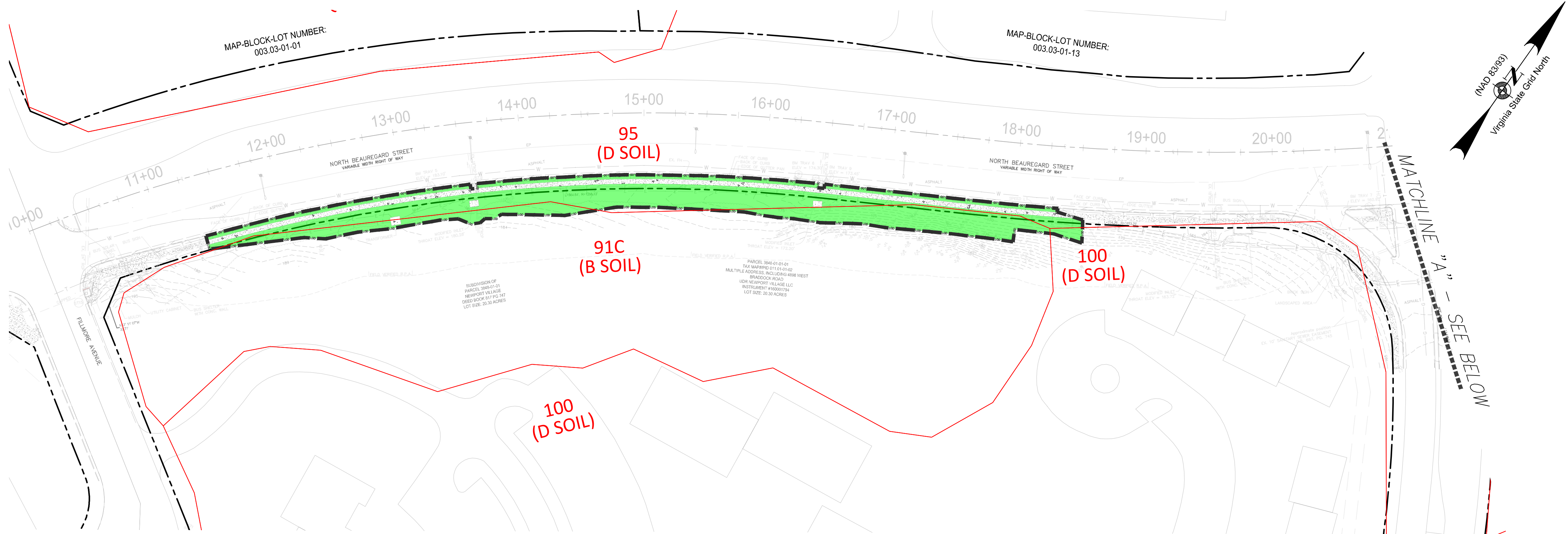
SCALE NOT TO SCALE

SHEET

C601

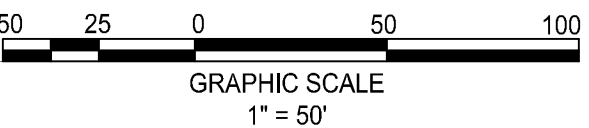
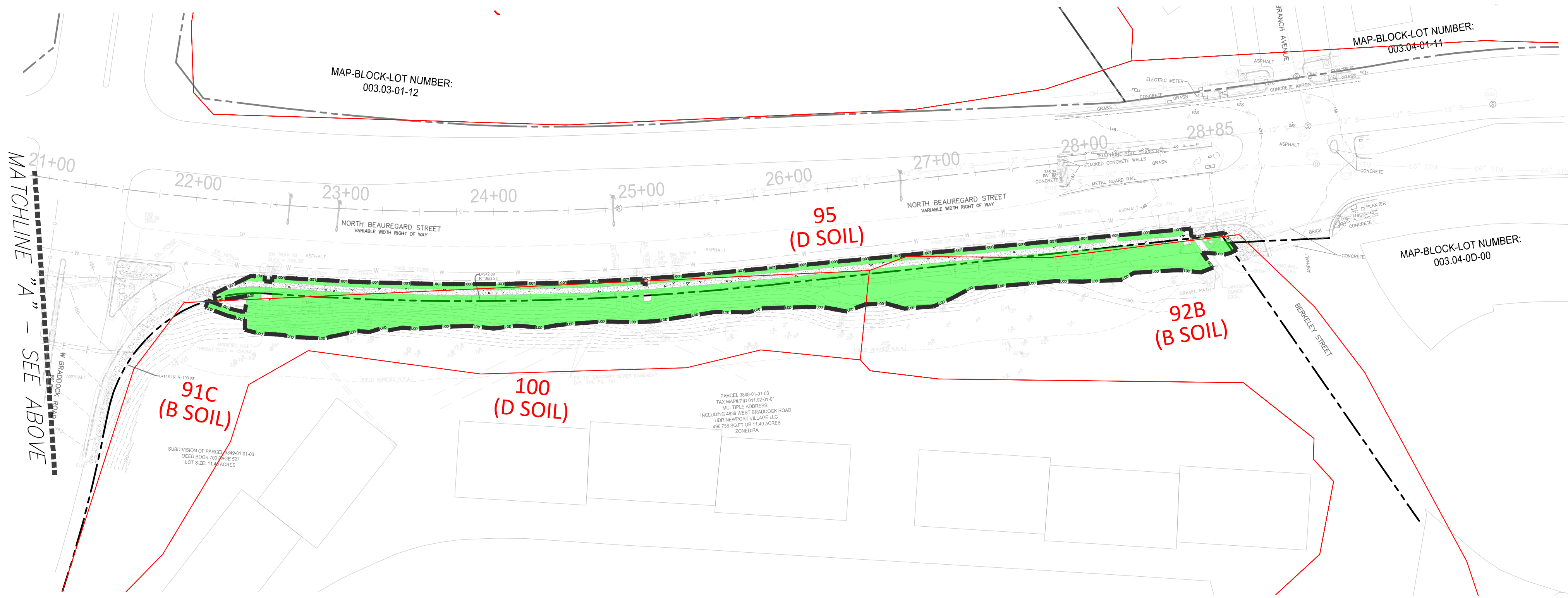
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

P:\Projects\21266\00100\111671 - 90%\C600 PRE BMP MAP.dwg PLOTTED: 11/3/2025 4:12:02 PM BY AUGUST HININENKAMP



PRE BMP MAP LEGEND

- : BMP LIMITS
(AREA = 0.87 AC.)
- : PROPERTY LINE
- : MANAGED TURF
(AREA = 0.73 AC.)
- : CONCRETE / IMPERVIOUS
(AREA = 0.14 AC.)
- : SOIL TYPE LIMITS



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DATE	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

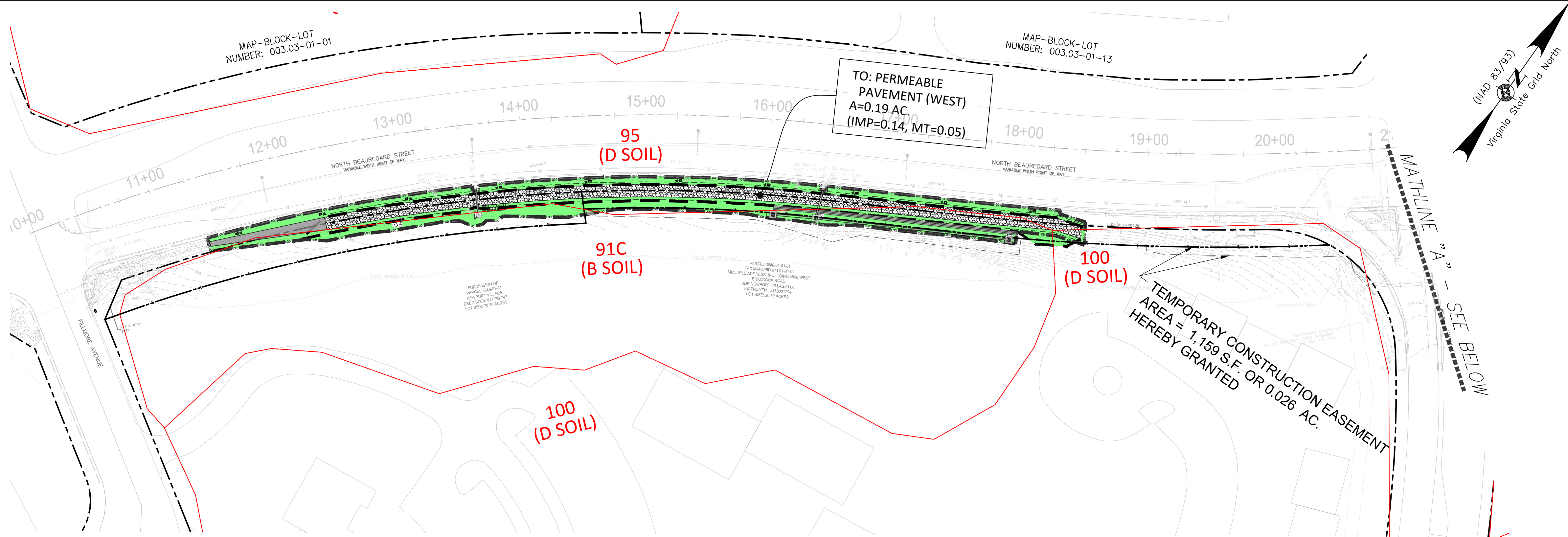
PRE BMP MAP

SCALE 1" = 50'

SHEET

C602

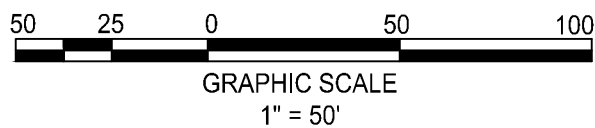
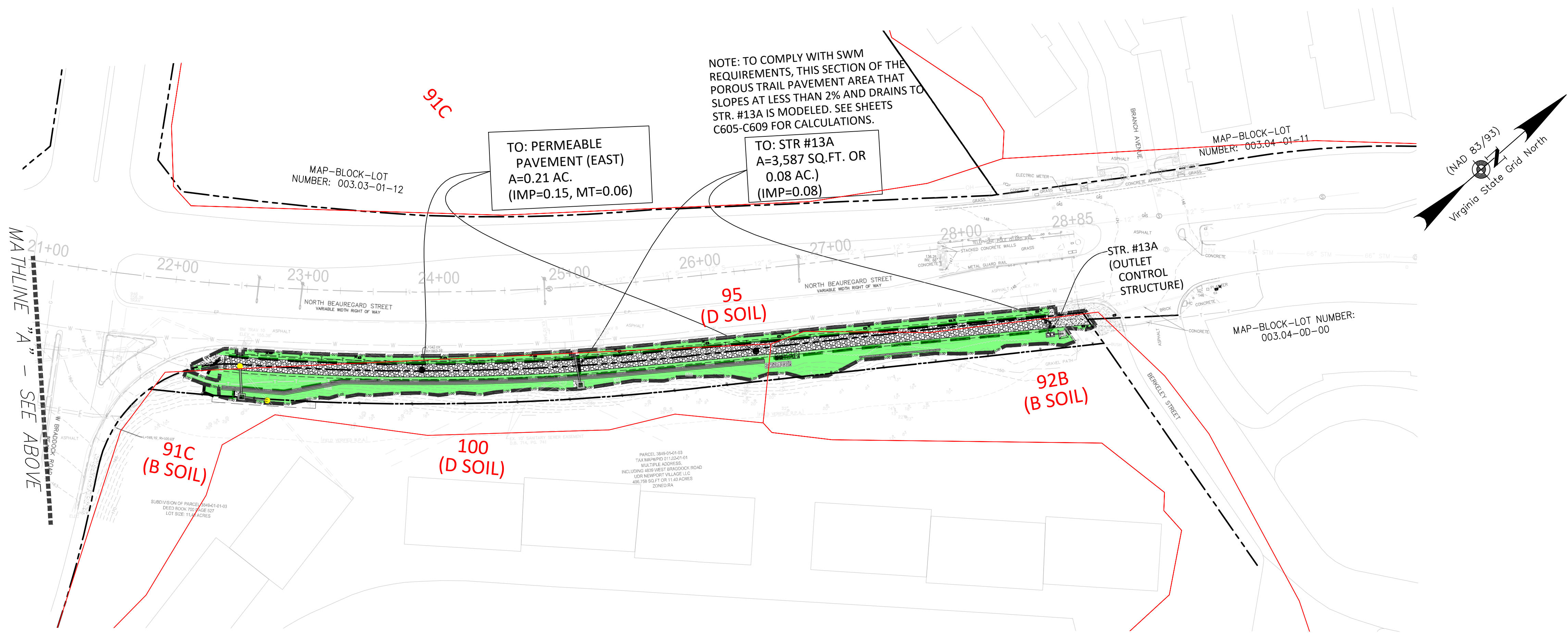
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POST BMP MAP LEGEND

- : BMP LIMITS (AREA = 0.87 AC.)
- : DRAINAGE DIVIDES
- : PROPERTY LINE
- : SOIL TYPE LIMITS
- : MANAGED TURF (AREA = 0.56 AC.)
- : CONCRETE / IMPERVIOUS (AREA = 0.02 AC.)
- : ASPHALT / IMPERVIOUS (AREA = 0.01 AC.)
- : PERMEABLE PAVEMENT (AREA = 0.28 AC.)

NOTE: TOTAL IMPERVIOUS AREA = 0.31 AC



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

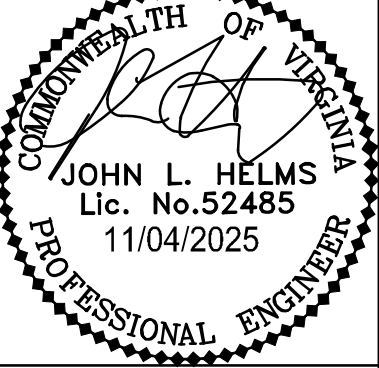
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	

ALEXANDRIA PROJECT NO.: 03P2021-00006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: --
DRAWN BY: MQ DATE: --
CHECKED BY: AG DATE: --
APPROVED BY: DL DATE: --



JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

POST BMP MAP

SCALE 1" = 50'

SHEET

C603

P:\Projects\21266\00100\111671 - 90%\C604 BMP CALCULATIONS AND MAINTENANCE SCHEDULE.dwg PLOTTED: 11/3/2025 4:13:16 PM BY AUGUST HINNENKAMP

Construction Inspection Checklist: Permeable Pavement



Project Name: _____

Address: _____

DSP/DSUP/GRD #: _____

Construction Start Date: _____

Contractor: _____

Telephone: _____

Certifying Professional: _____

Telephone: _____

BMP ID and General Location: _____

- The certifying professional must be a Virginia licensed Professional Engineer, Landscape Architect or Land Surveyor
- A certification is required pursuant to 9VAC25-870-55 of the Virginia Stormwater Management Regulations for all stormwater BMP facilities.
- Inspectors should review the plans carefully and adjust these items and the timing of inspection verification as needed to ensure the intent of the design is met. The standard for design of this practice is based on the Virginia Stormwater BMP Clearinghouse.

- Instructions:
- Mark each item as complete or write in "N/A" for those items that are not applicable.
 - Fill in the blanks for requested information on dimensions, materials, etc.
 - Provide one or more labeled photos for applicable items; check boxes indicate items that require photos. Photos requiring measurements (indicated with a dimension to be populated) must include visual verification (ruler, measuring tape, etc.).

Preconstruction Meeting			
Complete	Photo	Description	Date
☐		The tentative schedule for construction has been identified and the requirements and schedule for interim inspections verified.	
☐		A pre-construction meeting with the contractor designated to install the permeable pavement, the City SWM/ESC inspector, and the person completing this checklist has been conducted.	
☐		The SWPPP has been reviewed and requirements verified by the contractor, the person conducting inspections, and the City SWM/ESC inspector (projects over one acre of disturbance)	
☐		The sequence for building of permeable pavement has been determined. Measures for protection and surface cleaning have been reviewed.	

BMP Construction Preparation			
Complete	Photo	Description	Date
☐		The contributing drainage areas are stabilized and not eroding.	
☐		Runoff is diverted around the excavation area to a stabilized conveyance.	

Excavation			
Complete	Photo	Description	Date
☐		The permeable pavement area is marked, and the size and location conform to the approved plan.	
☐	☐	The excavation has achieved proper grades and the required geometry and elevations.	
☐		If the excavation is used as a sediment trap, verify that the bottom elevation of the proposed stone reservoir is lower than the bottom elevation of the existing trap.	

Excavation (continued)			
☐	☐	The subgrade surface is free of rocks and roots, and large voids. Any voids should be refilled with the base aggregate to create a level surface for the placement of aggregates and underdrain (if required).	
☐		Ensure the bottom of the excavation is scarified or tilled to a depth of 3-4 inches prior to placement of stone.	
☐		No groundwater seepage or standing water is present. Any standing water is dewatered to an acceptable dewatering device and the design consultant has been notified.	

Filter Layer, Underdrain, Stone Reservoir, and Bedding Layer Placement			
Complete	Photo	Description	Date
☐	☐	Sides of the excavation are covered with filter fabric prior to placing stone reservoir aggregate; no tears or holes, or excessive wrinkles are present.	
☐	☐	All aggregates, including, as required, the filter layer, the reservoir layer, and bedding layer conform to the approved plan/design specifications.	
☐	☐	The filter layer and initial layer of reservoir layer are spread (not dumped) to avoid aggregate segregation. Depth of filter layer _____ft.	
☐	☐	The aggregate layer for the installation of the underdrain system is installed per the approved plan/design specifications. Depth of aggregate layer _____ft. Size of aggregate layer _____	
☐	☐	Underdrain size and perforations meet the approved plan/design specifications. (if applicable) Underdrain Diameter _____ inches Underdrain Material _____ Underdrain Spacing _____ft. Perforation Size & Spacing _____inches. Number of Cleanouts _____	
☐		The placement of underdrains, observation wells, and underdrain fittings are in accordance with the approved plan/design specifications.	
☐	☐	The stone reservoir layer, aggregate placement, compaction, and thickness, are per the approved plan/design specifications. Depth of reservoir layer aggregate _____ inches	

Permeable Material Installation			
Complete	Photo	Description	Date
☐		The pavement surface is even and runoff spreads evenly across surface.	
☐		Concrete curbs and plastic/metal edge restraints are installed.	
☐		For porous asphalt and pervious concrete pavement, the full permeability of paved surface has been properly tested (clean water applied at a min. rate of 5 gpm over the entire surface), and all water infiltrated directly without puddle formation or surface runoff.	
☐	☐	Provide a photo of the completed BMP after completion of construction.	

Construction Inspection Checklist: Permeable Pavement

Comments	Date

All items checked above have been inspected by me (or by an individual under my responsible charge) and have been completed to my satisfaction and conform to the approved plans and specifications (or deviations as noted above).

Signature: _____ Date: _____

Certifying Professional's License Number (or Seal): _____

Construction Inspection Checklist: Permeable Pavement

DEQ SPECIFICATION NO. 7 DESIGN CALCULATIONS
PERMEABLE PAVEMENT

Equation 7.1

$$d_{stone} = \frac{(P \times A_I \times Rv_I) + (P \times A_P)}{\eta_r \times A_P}$$

Where:

- d_{stone} = Depth of the stone reservoir layer (ft.)
- P = The rainfall depth (in feet) for the Treatment Volume (Level 1 = 1 inch (0.08 ft); Level 2 = 1.1 inch (0.09 ft)), or other design storm
- A_I = Contributing impervious drainage area, (ft²)
- Rv_I = Volumetric runoff coefficient for impervious cover = 0.95
- A_P = Area of permeable pavement (ft²)
- η_r = Porosity of reservoir layer (0.4)

Equation 7.2

$$d_{stone-max} = \frac{1/2 i \times t_d}{\eta_r \times 12}$$

Where:

- $d_{stone-max}$ = The maximum depth of the infiltration reservoir or the infiltration sump (ft.)
- i = The field-verified infiltration rate for the native soils (in./hr.)
- t_d = The maximum allowable time to drain the reservoir layer or sump, 48hours
- η_r = Porosity of reservoir layer

1. Depth of Stone (Equation 7.1):

- P = 1 inch
- A₁ = 15246 sq.ft. or 0.35 ac.
- Rv1 = 0.95
- Ap = 13453.5 sq.ft.
- η_r = 0.4
- d_{stone} = 0.43 ft.
- d_{stone} (provided) = 10 in.

Actual Storage Volume Provided

- = d_{stone} x η_r x Ap
- = 4484.5 cu.ft. > 1207 cu.ft. (VRRM Treatment Volume)

2. Ratio of Contributing Drainage Area tio Area of Permeable Pavement:

- Ratio = 15246 / 13453.5
- = 1.13 < 2.5

SEE DETAIL ON SHEET C200 FOR THE PROPOSED SECTION OF THE PERMEABLE PAVEMENT. THE ACTUAL STORAGE VOLUME PROVIDED IS GREATER THAN THE STORAGE VOLUME REQUIRED.

VIRGINIA DEQ STORMWATER DESIGN SPECIFICATION NO. 7
PERMEABLE PAVEMENT
CONSTRUCTION AND MAINTENANCE

SECTION 9: MAINTENANCE

9.1. Maintenance Agreements

The Virginia Stormwater Management regulations (9 VAC 25-870) specify the circumstances under which a maintenance agreement must be executed between the owner and the VSMP authority, and sets forth inspection requirements, compliance procedures if maintenance is neglected, notification to the local program upon transfer of ownership, and right-of-entry for local program personnel.

- The regulations require that all post-construction BMPs, including Permeable Pavement installations, must be covered by a long term maintenance agreement and drainage easement to allow inspection and maintenance.
- The maintenance agreements should note which conventional parking lot maintenance tasks must be *avoided* (see **Section 9.2** below). Signs should be posted on larger parking lots to indicate their stormwater function and special maintenance requirements. When micro-scale or small-scale permeable pavement are installed on private residential lots, homeowners should be provided a simple document that explains the purpose of the Permeable Pavement and outlines (1) the routine maintenance needs, (2) the long-term maintenance plan, and (3) the basic parameters of the deed restriction, drainage easement or other mechanism enforceable by the VSMP Authority to help ensure that the permeable pavement system is maintained and functioning.
- The mechanism should, if possible, grant authority for the VSMP authority to access the property for inspection or corrective action.

9.2. Maintenance Tasks

It is difficult to prescribe the specific types or frequency of maintenance tasks that are needed to maintain the hydrologic function of permeable pavement systems over time. Most installations work reasonably well year after year with little or no maintenance, whereas some have problems right from the start.

The following tasks **must be avoided** on all permeable pavements:

- sanding
- re-sealing
- re-surfacing
- power washing
- storage of snow piles containing sand
- storage of mulch or soil materials
- construction staging on unprotected pavement
- The drawdown rate should be measured at the observation well for three (3) days following a storm event in excess of 1/2-inch in depth. If standing water is still observed in the well after three days, this is a clear sign that clogging is a problem.
- Inspect the surface of the permeable pavement for evidence of sediment deposition, organic debris, staining or ponding that may indicate surface clogging. If any signs of clogging are noted, schedule a vacuum sweeper (no brooms or water spray) to remove deposited material. Then, test sections by pouring water from a five gallon bucket to ensure they work.
- Inspect the structural integrity of the pavement surface, looking for signs of surface deterioration, such as slumping, cracking, spalling or broken pavers. Replace or repair affected areas, as necessary.
- Check inlets, pretreatment cells and any flow diversion structures for sediment buildup and structural damage. Note if any sediment needs to be removed.
- Inspect the condition of the observation well and make sure it is still capped.
- Generally inspect any contributing drainage area for any controllable sources of sediment or erosion.

An example maintenance inspection checklist for permeable pavement can be accessed in **Appendix 9-C of Chapter 9** of the *Virginia Stormwater Management Handbook* (2nd edition, 2013). Based on inspection results, specific maintenance tasks will be triggered and scheduled to keep the facility in operating condition.

A preventative maintenance task for large-scale applications involves regenerative air vacuum sweeping on a frequency consistent with the use and loadings encountered in the parking lot. Many consider an annual, dry-weather sweeping in the spring months to be important. The contract for sweeping should specify that a vacuum sweeper be used that does not use water spray, since spraying may lead to subsurface clogging. Vacuum settings for large-scale interlocking paver applications should be calibrated so they *do not* pick up the small stones between pavement blocks.

Table 7.8. Recommended Maintenance Tasks for Permeable Pavement Practices

Maintenance Task	Frequency ¹
• For the first 6 months following construction, the practice and contributing drainage area should be inspected at least twice after storm events that exceed 1/2 inch of rainfall. Conduct any needed repairs or stabilization. • Mow grass in grid paver applications	After installation At least 1 time every 1-2 months during the growing season
• Stabilize the CDA to prevent erosion • Remove any soil or sediment deposited on pavement. • Replace or repair any necessary pavement surface areas that are degenerating or spalling	As needed
• Vacuum pavement with a standard street sweeper to prevent clogging • Conduct a maintenance inspection • Spot weeding of grass applications	2-4 times per year (depending on use) Annually
• Remove any accumulated sediment in pre-treatment cells and inflow points • Conduct maintenance using a regenerative street sweeper • Replace any necessary joint material	Once every 2 to 3 years If clogged
¹ Required frequency of maintenance will depend on pavement use, traffic loads, and surrounding land use.	

9.3. Maintenance Inspections

It is highly recommended that a spring maintenance inspection and cleanup be conducted at each permeable pavement site, particularly at large-scale applications.

Maintenance of permeable pavement is driven by annual inspections that evaluate the condition and performance of the practice. Any permeable pavement installation that captures external drainage area (run-on) should be inspected more frequently during the first year (four seasons) to ensure that there are no unexpected loads of sediment or pavement particulates from the contributing area. If so, the property owner should assess ways to limit the contributions, or the maintenance schedule should be adjusted to ensure the pavement does not become clogged.

The following are suggested routine annual maintenance inspection points for permeable pavements:

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

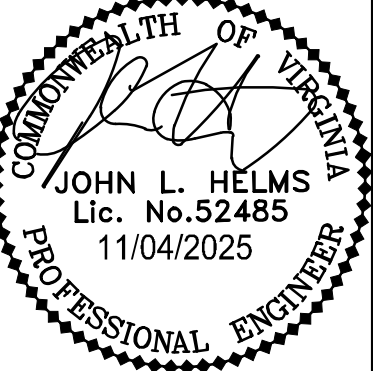
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	
DATE	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

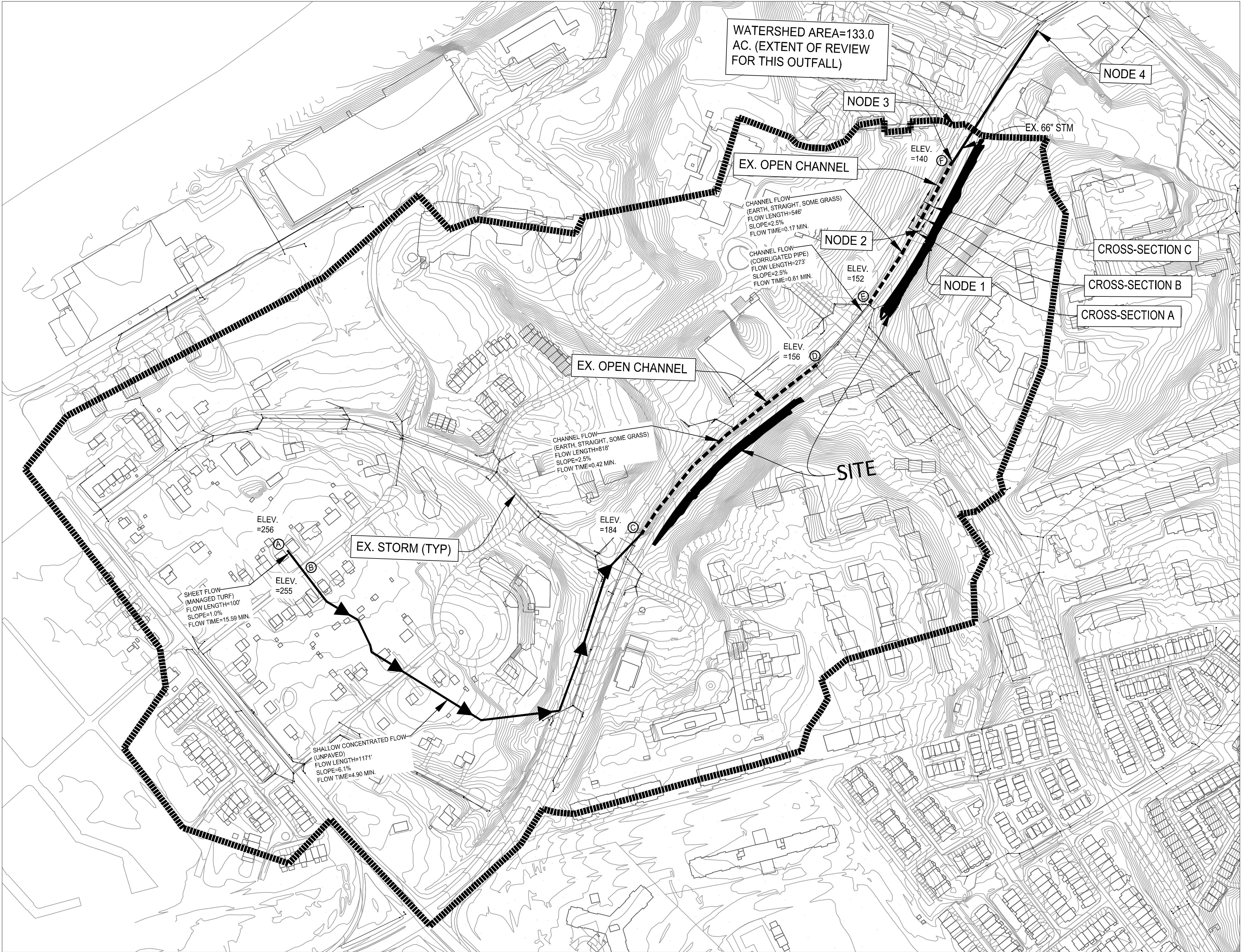


BMP CALCULATIONS
AND MAINTENANCE
SCHEDULE

SCALE NOT TO SCALE

SHEET

C604



STORM WATER MANAGEMENT NARRATIVE

THIS SITE DRAINS TO A 66" STORM PIPE ON THE NORTH EAST EDGE OF THE SITE. THIS OUTFALL PIPE FLOWS TO THE NORTHEAST AND ULTIMATELY DRAINS TO FOUR MILE RUN.

CHANNEL PROTECTION - NO EROSION OCCURS FROM THE 2-YEAR 24 HOUR STORM FOR THIS OUTFALL BECAUSE THE ENTIRE DOWNSTREAM STORMWATER CONVEYANCE SYSTEM IS PIPED FOR THE EXTENT OF THE REVIEW, MEETING 13-109-F-1-a-1.

IN ADDITION TO MEETING THE DOWNSTREAM CHANNEL PROTECTION REQUIREMENTS, WE ANALYZED A PORTION OF THE EXISTING STREAM AT THE POINT THE LAST STORM PIPE FROM THE PROJECT SITE THAT TIES TO THE STREAM AND 150' DOWNSTREAM OF THAT POINT. THE PEAK FLOW RATES AND ASSOCIATED VELOCITIES TO EACH CROSS-SECTION ARE CALCULATED USING THE TR-55 METHODOLOGY AND CITY OF ALEXANDRIA RAINFALL DATA. THE 2-YEAR 24-HOUR STORM EVENT CROSS SECTION CALCULATION IS LOCATED ON SHEET C609. IT IS DETERMINED THAT VELOCITIES FOR EACH CROSS-SECTION ARE NON EROSIIVE.

FLOOD PROTECTION - BASED ON THE PERMEABLE PAVEMENT, THE POST-DEVELOPED RUNOFF FOR THE 10-YEAR 24-HOUR STORM WILL BE LESS THAN THE PRE-DEVELOPED RUNOFF FOR THIS OUTFALL, MEETING 13-109-F-2-a-1. THE PRE-DEVELOPED PEAK RUNOFF FOR THE 10-YEAR 24-HOUR STORM WAS 4.825 CFS AND THE POST-DEVELOPED RUNOFF RATE IS 4.439 CFS.

IN ADDITION TO MEETING THE DOWNSTREAM FLOOD PROTECTION REQUIREMENTS, WE ANALYZED A PORTION OF THE EXISTING STREAM AT THE POINT THE LAST STORM PIPE FROM THE PROJECT SITE THAT TIES TO THE STREAM AND 150' DOWNSTREAM OF THAT POINT. THE PEAK FLOW RATES TO EACH CROSS-SECTION ARE CALCULATED USING THE TR-55 METHODOLOGY AND CITY OF ALEXANDRIA RAINFALL DATA. THE 10-YEAR 24-HOUR STORM EVENT CROSS SECTION CALCULATION IS LOCATED ON THIS SHEET AND THE WATER SURFACE ELEVATION FOR THE STORM EVENT IS LOCATED WITHIN THE CROSS SECTIONS DISPLAYED ON THIS SHEET.

EXTENT OF REVIEW - THE EXTENT OF REVIEW FOR THIS OUTFALL IS TO THE POINT IN WHICH IT REACHES 1% OF THE WATERSHED. THE SITE AREA IS 0.87 ACRES, SO THE ANALYSIS MUST EXCEED A TOTAL WATERSHED AREA OF 87 ACRES. THE TOTAL WATERSHED SHOWN FOR THE EXTENT OF THIS REVIEW ON THE MAP ON THIS SHEET IS APPROXIMATELY 133.00 ACRES.

DUE TO THE POST-DEVELOPED RUNOFF BEING DECREASED (SEE SHEET C606-C608) AND OUR ANALYSIS OF THE EXISTING STREAM, IT IS OUR OPINION THAT THE OUTFALL FOR THIS DEVELOPMENT IS ADEQUATE.

100-YR STORM ANALYSIS NARRATIVE:

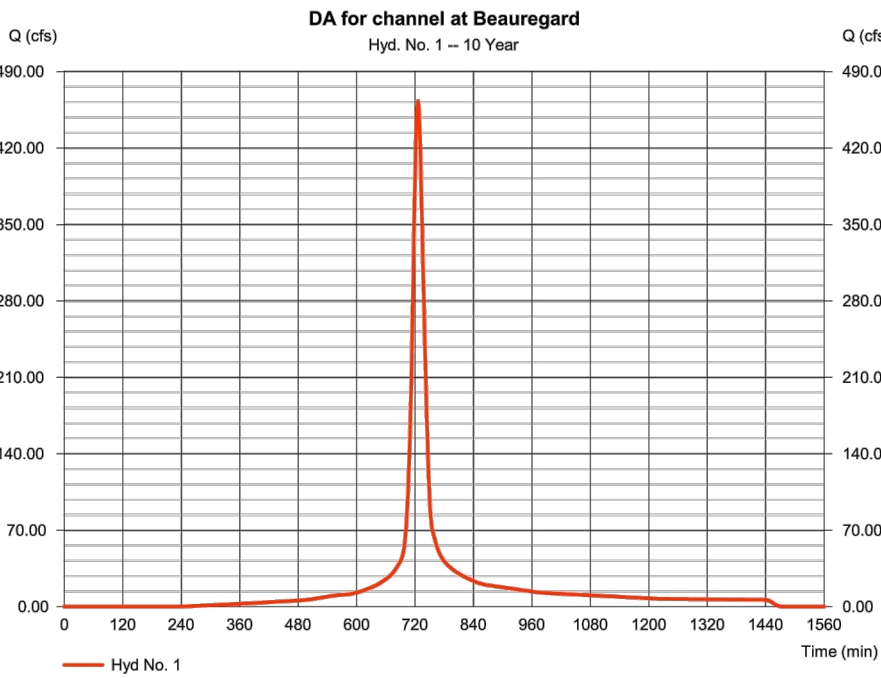
THE PRE-DEVELOPED PEAK RUNOFF FOR THE 100-YEAR 24-HOUR STORM IS 8.277 CFS AND THE POST-DEVELOPED RUNOFF RATE IS 8.046 CFS. SINCE THIS SITE LIES WITHIN THE FOUR MILE RUN WATERSHED, THE POST-DEVELOPED RUNOFF FOR THE 100-YEAR STORM SHALL NOT BE INCREASED FROM THE PRE-DEVELOPED CONDITION TO THE POST-DEVELOPED CONDITION. THIS IS COMPLIED WITH BY DETAINEING A PORTION OF THE RUNOFF USING A CONTROL STRUCTURE WHAT CAUSED THE RUNOFF RATE GO FROM 8.277 CFS TO 8.046 CFS. REFER TO SHEETS C606-C608 FOR STORM HYDROGRAPHS.

STORM WATER MANAGEMENT POND NARRATIVE:

THIS PROJECT IS A LINEAR PROJECT TO CONSTRUCT A 10 FT WIDE SHARED USE PATH. TO MEET THE SWM REQUIREMENTS, PERMEABLE PAVEMENT IS UTILIZED THUS RENDERING THE SWM POND AS NOT REQUIRED. A SWM POND IS NOT REQUIRED FOR THIS PROJECT BECAUSE IT MEETS THE SWM REQUIREMENTS WITH JUST PERMEABLE PAVEMENT AND DUE TO THE NATURE OF THE SCOPE OF THE PROJECT, THE CONSTRUCTION OF A SWM POND IS NOT FEASIBLE.

Hydrograph Report (10-YR FOR SECTION A, B, & C)

Hydrograph type	= SCS Runoff	Peak discharge	= 462.90 cfs
Storm frequency	= 10 yrs	Time to peak	= 726 min
Time interval	= 2 min	Hyd. volume	= 1,650,863 cuft
Drainage area	= 133.000 ac	Curve number	= 92
Basin Slope	= 0.0 %	Hydraulic length	= 0 ft
To method	= TR55	Time of conc. (Tc)	= 21.69 min
Total precip.	= 4.25 in	Distribution	= Type II
Storm duration	= 24 hrs	Shape factor	= 484

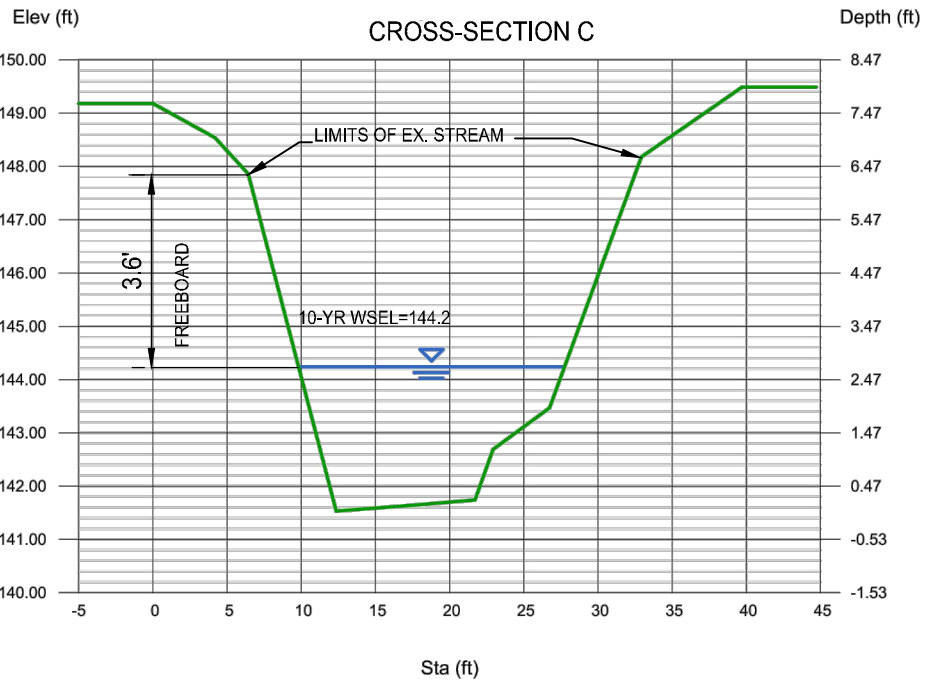
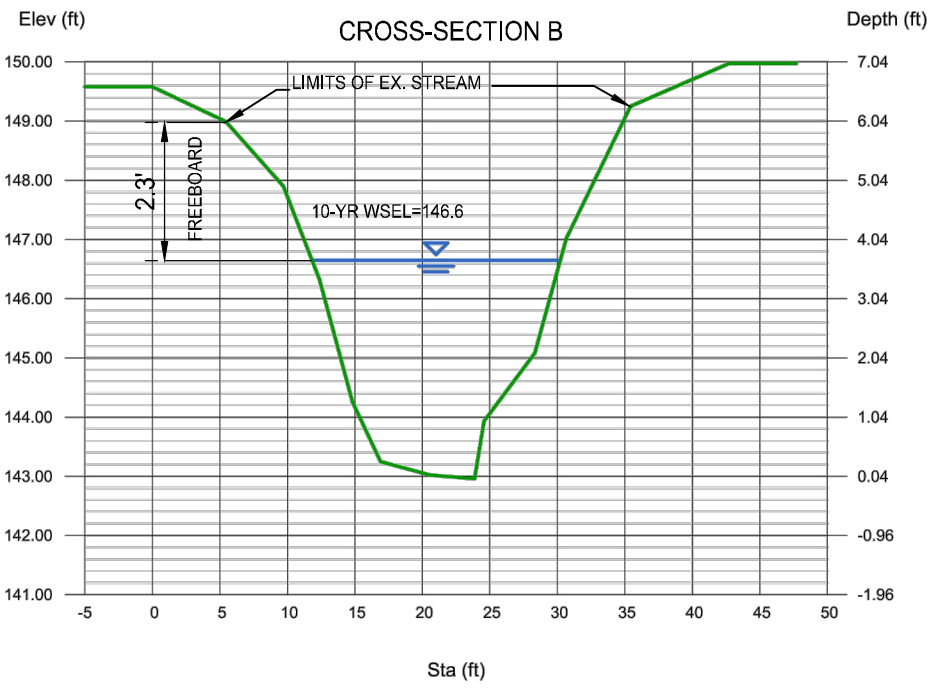
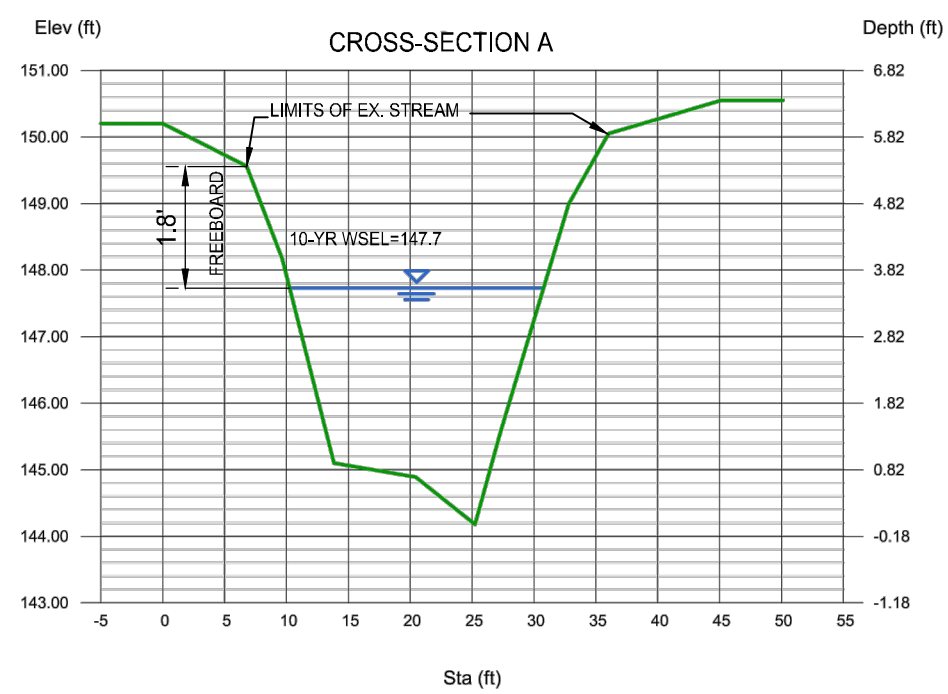
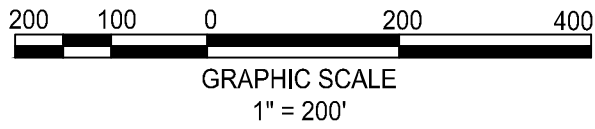


TR55 tc Worksheet (FOR SECTION A, B, & C)

Hyd. No. 1	DA for channel at Beaugard			
Description	A	B	C	Totals
Sheet Flow				
Manning's n-value	= 0.150	0.011	0.011	
Flow length (ft)	= 100.0	0.0	0.0	
Two-year 24-hr precip. (in)	= 2.20	0.00	0.00	
Land slope (%)	= 1.00	0.00	0.00	
Travel Time (min)	= 15.59	+ 0.00	+ 0.00	= 15.59
Shallow Concentrated Flow				
Flow length (ft)	= 1171.00	0.00	0.00	
Watercourse slope (%)	= 6.10	0.00	0.00	
Surface description	= Unpaved	Paved	Paved	
Average velocity (ft/s)	= 3.98	0.00	0.00	
Travel Time (min)	= 4.90	+ 0.00	+ 0.00	= 4.90
Channel Flow				
X sectional flow area (sqft)	= 286.00	23.75	286.00	
Wetted perimeter (ft)	= 45.00	34.00	45.00	
Channel slope (%)	= 2.50	2.50	2.50	
Manning's n-value	= 0.025	0.025	0.015	
Velocity (ft/s)	= 32.53	7.41	54.22	
Flow length (ft)	((9))816.0	273.0	546.0	
Travel Time (min)	= 0.42	+ 0.61	+ 0.17	= 1.20
Total Travel Time, Tc				[21.69 min]

NOTE

INFORMATION SHOWN ON THIS MAP IS FROM AVAILABLE CITY GIS.



NOTE: SEE SHEET C609 FOR 2-YR WATER SURFACE ELEVATION.

BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
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VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

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DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
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APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA
JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

SCALE

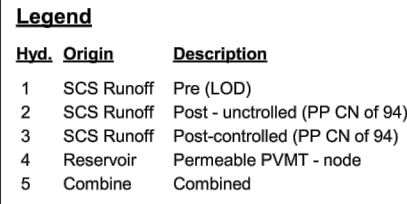
SEE DWGS.

SHEET

C605

STORMWATER
MANAGEMENT - WATER
QUANTITY

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Sunday, 12 / 10 / 2023

Post - unctrolled (PP CN of 94)

* Composite (Area/CN) = $[(0.560 \times 80) + (0.200 \times 98)] / 0.760$



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Proj. file: Hydrographs - Beauregard.gpw Sunday, 12 / 10 / 2023

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Sunday, 12 / 10 / 2023

Post-controlled (PP CN of 94)

* Composite (Area/CN) = $[(0.110 \times 98)] / 0.110$



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Hydrographs - Beauregard.gpw Return Period: 1 Year Sunday, 12 / 10 / 2023

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Sunday, 12 / 10 / 2023

Permeable PVMt - node

Storage Indication method used.



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Sunday, 12 / 10 / 2023

Pre (LOD)

* Composite (Area/CN) = $[(0.730 \times 80) + (0.140 \times 98)] / 0.870$



Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022 Sunday, 12 / 10 / 2023

Pond Data

Pond storage is based on user-defined values.

Culvert / Orifice Structures					Weir Structures				
	[A]	[B]	[C]	[PrRsr]		[A]	[B]	[C]	[D]
Rise (in)	= 8.00	1.00	Inactive	Inactive	Crest Len	= 2.00	0.00	0.00	0.00
Span (in)	= 6.00	1.00	0.00	0.00	Crest EL (in)	= 145.35	0.00	0.00	0.00
No. Barreils	= 1	0.00	0.00	0.00	Weir Crest	= 3.33	0.00	3.33	0.00
Invert EL (ft)	= 144.70	144.70	0.00	0.00	Weir Type	= Rect	Yes	Yes	Yes
Length (ft)	= 10.00	0.00	0.00	0.00	Multi-Stage	= Yes	No	No	No
Slope (%)	= 2.75	0.00	0.00	n/a					
N-Value	= 0.13	0.13	0.13	n/a					
Coef. Frict.	= 0.50	0.50	0.50	0.50	Spill (in/hr)	= 0.00	(By Weir area)		
Multi-Stage	= n/a	Yes	No	n/a	TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).



P:\Projects\21266\00100\111671 - 90% C608 PRE AND POST HYDROGRAPH.dwg PLOTTED: 11/3/2025 4:14:30 PM BY AUGUST HINNENKAMP

Hydrograph Report

17

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

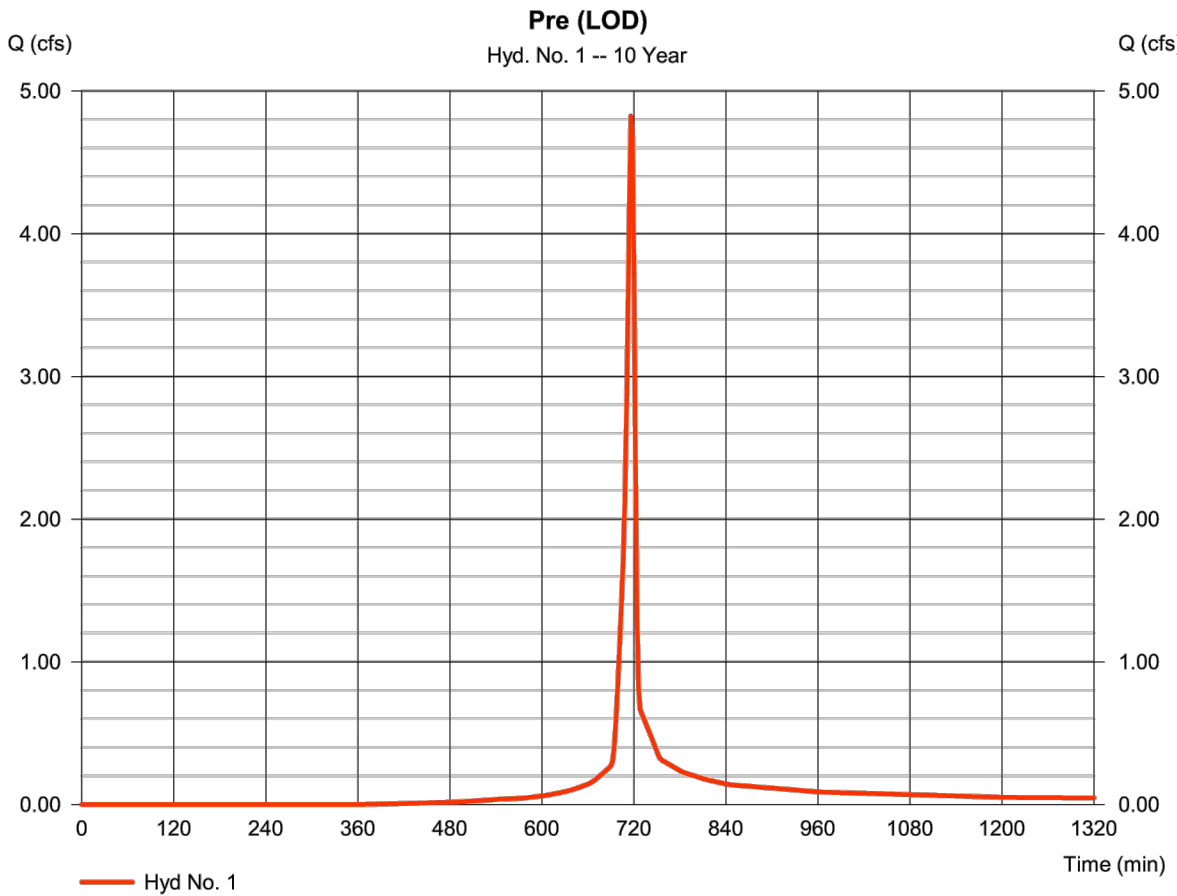
Sunday, 12 / 10 / 2023

Hyd. No. 1

Pre (LOD)

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.825 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	9,935 cuft
Drainage area	=	0.870 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.730 x 80) + (0.140 x 98)] / 0.870



Hydrograph Report

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

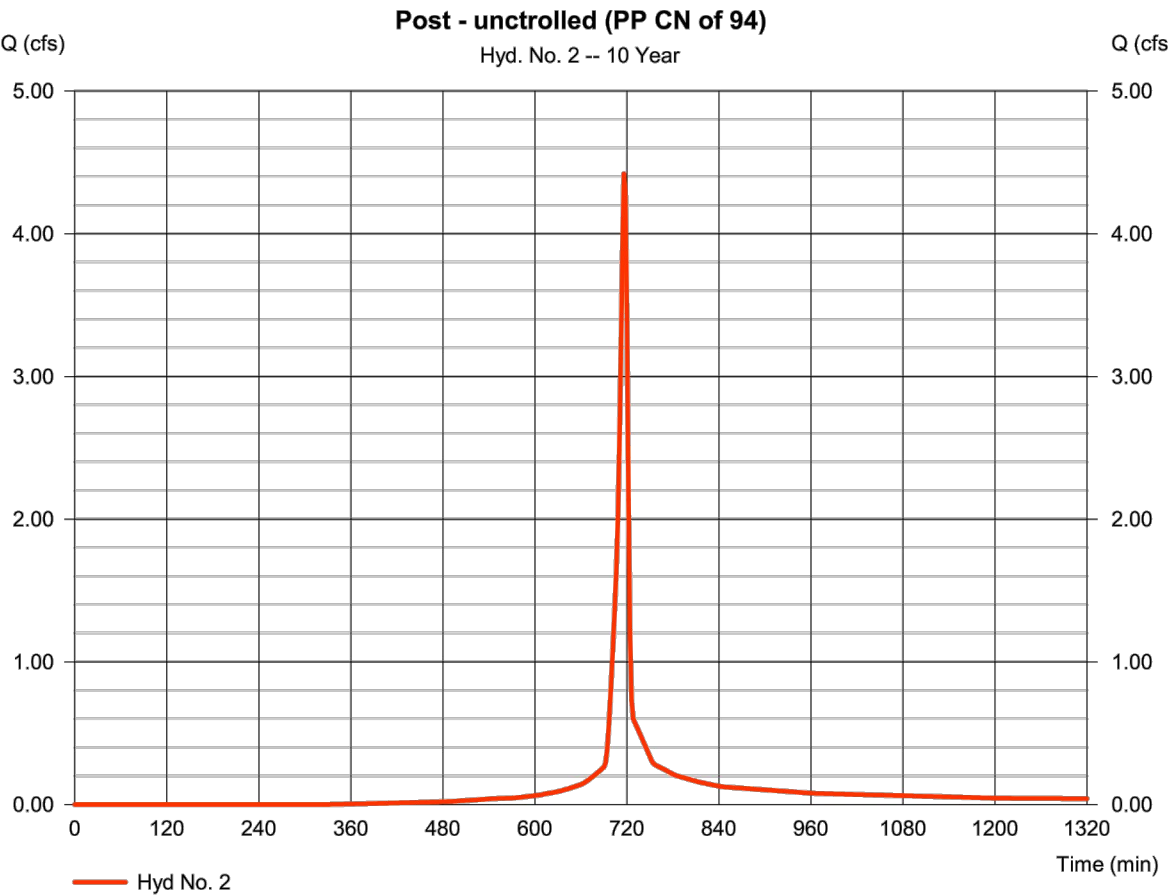
Sunday, 12 / 10 / 2023

Hyd. No. 2

Post - uncontrolled (PP CN of 94)

Hydrograph type	=	SCS Runoff	Peak discharge	=	4.421 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	9,190 cuft
Drainage area	=	0.760 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.560 x 80) + (0.200 x 98)] / 0.760



Hydrograph Report

19

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

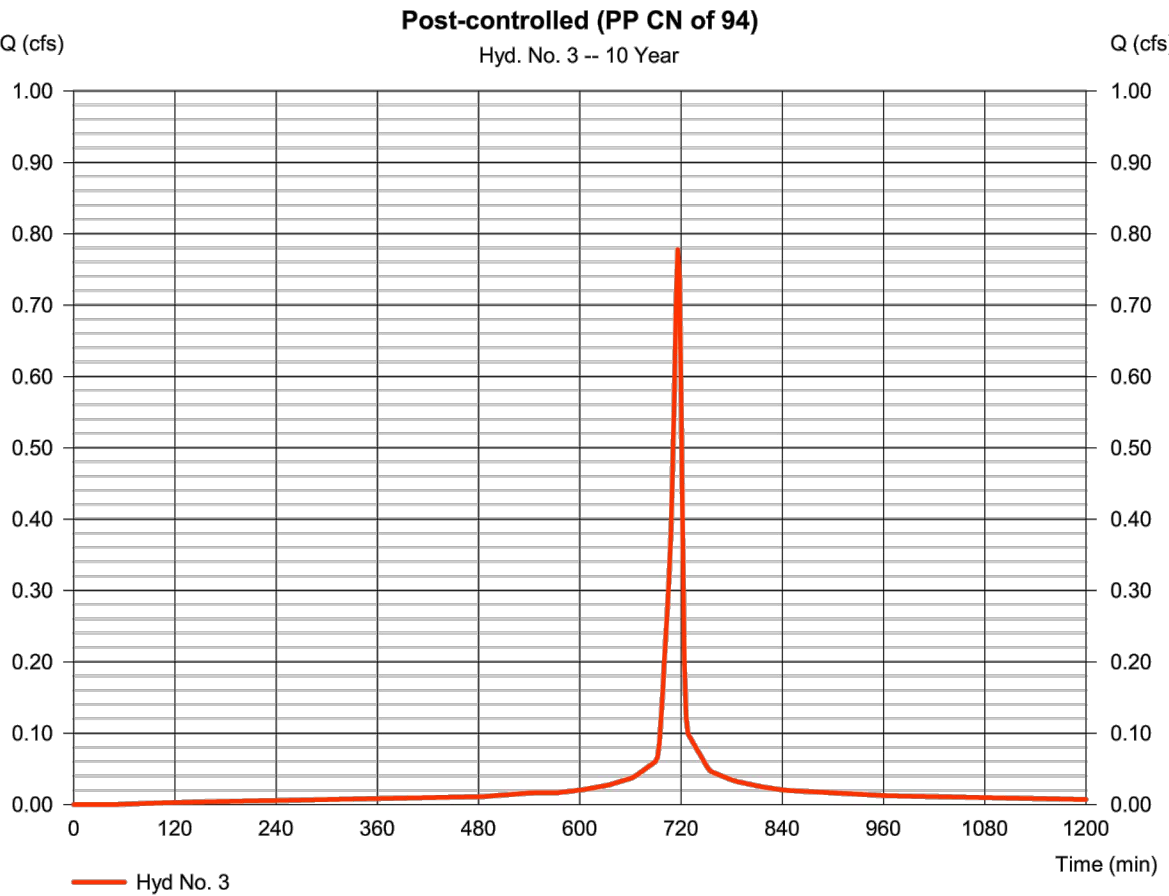
Sunday, 12 / 10 / 2023

Hyd. No. 3

Post-controlled (PP CN of 94)

Hydrograph type	=	SCS Runoff	Peak discharge	=	0.778 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	1,858 cuft
Drainage area	=	0.110 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	5.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.110 x 98)] / 0.110



Hydrograph Report

20

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

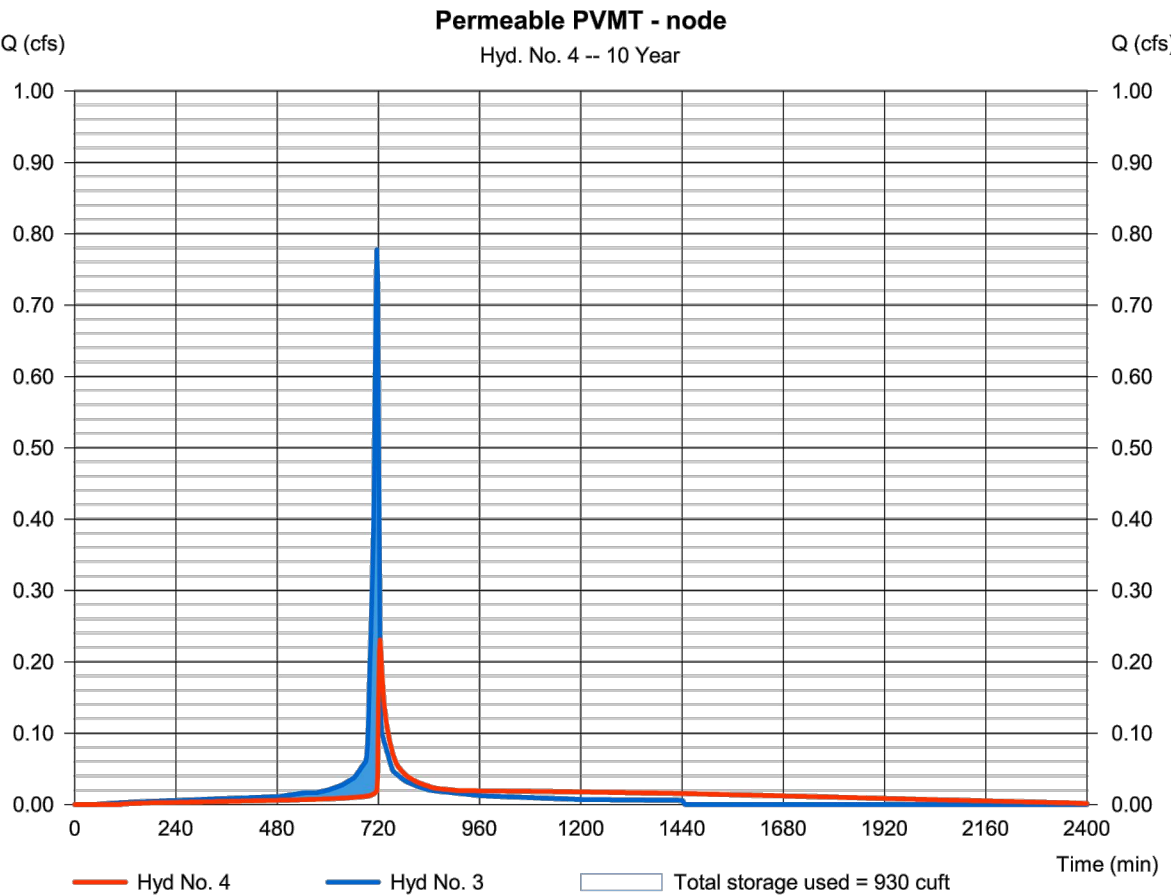
Hyd. No. 4

Permeable PVMT - node

Hydrograph type	=	Reservoir	Peak discharge	=	0.231 cfs
Storm frequency	=	10 yrs	Time to peak	=	724 min
Time interval	=	2 min	Hyd. volume	=	1,853 cuft
Inflow hyd. No.	=	3 - Post-controlled (PP CN of 94)	Elevation	=	145.45 ft
Reservoir name	=	Permeable Pavement	Max. Storage	=	930 cuft

Storage Indication method used.

Storage Indication method used.



Hydrograph Report

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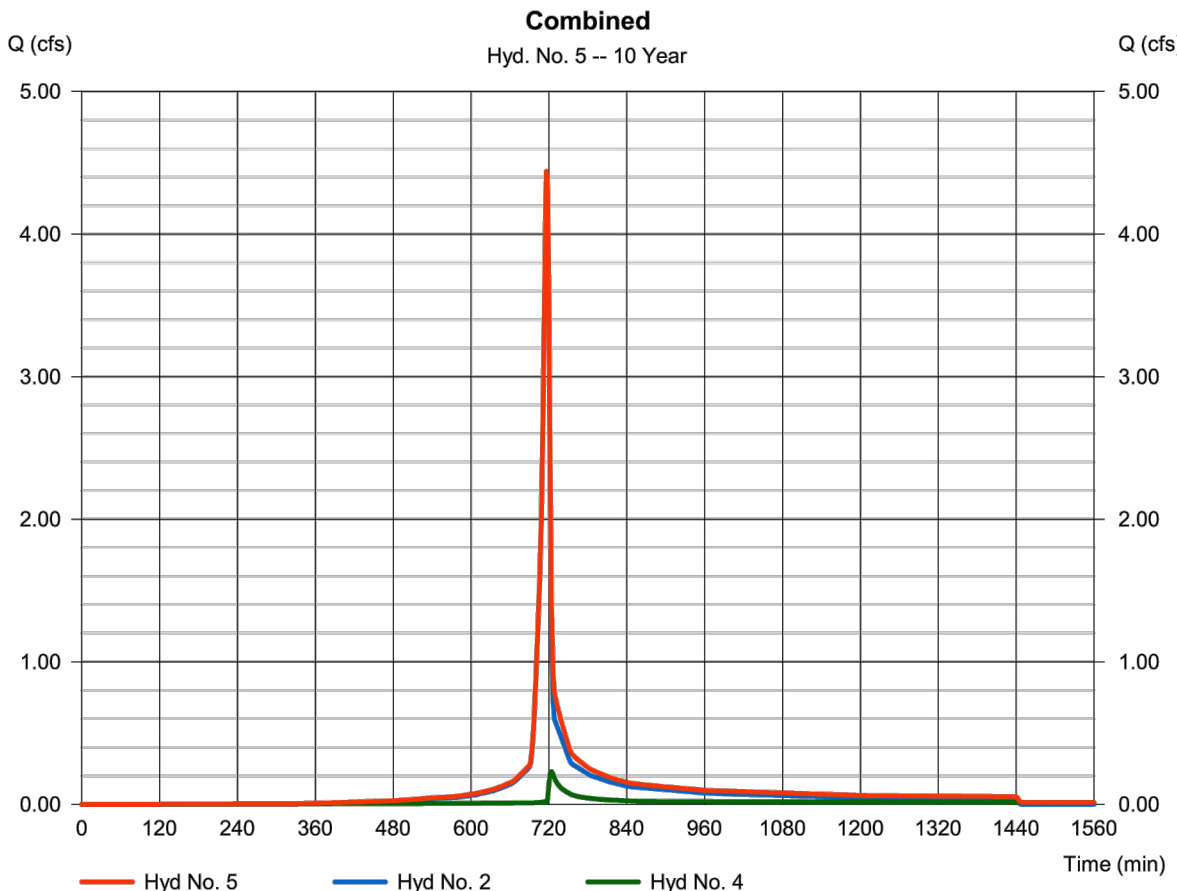
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

Hyd. No. 5

Combined

Hydrograph type	=	Combine	Peak discharge	=	4.439 cfs
Storm frequency	=	10 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	11,043 cuft
Inflow hyd.	=	2, 4	Contrib. drain. area	=	0.760 ac



Hydrograph Summary Report

22

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022								
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hydro(s)	Maximum elevation (ft)	Total strge used (cuft)
1	SCS Runoff	8.277	2	716	17,556	----	----	----
2	SCS Runoff	7.431	2	716	15,945	----	----	----
3	SCS Runoff	1.192	2	716	2,886	----	----	----
4	Reservoir	0.861	2	720	2,881	3	145.60	1,154
5	Combine	8.046	2	716	18,826	2, 4	----	----
Hydrograph Description								
Pre (LOD)								
Post - uncontrolled (PP CN of 94)								
Post-controlled (PP CN of 94)								
Permeable PVMT - node								
Combined								
Hydrographs - Beauregard.gpw								
Return Period: 100 Year								
Sunday, 12 / 10 / 2023								

Hydrograph Report

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

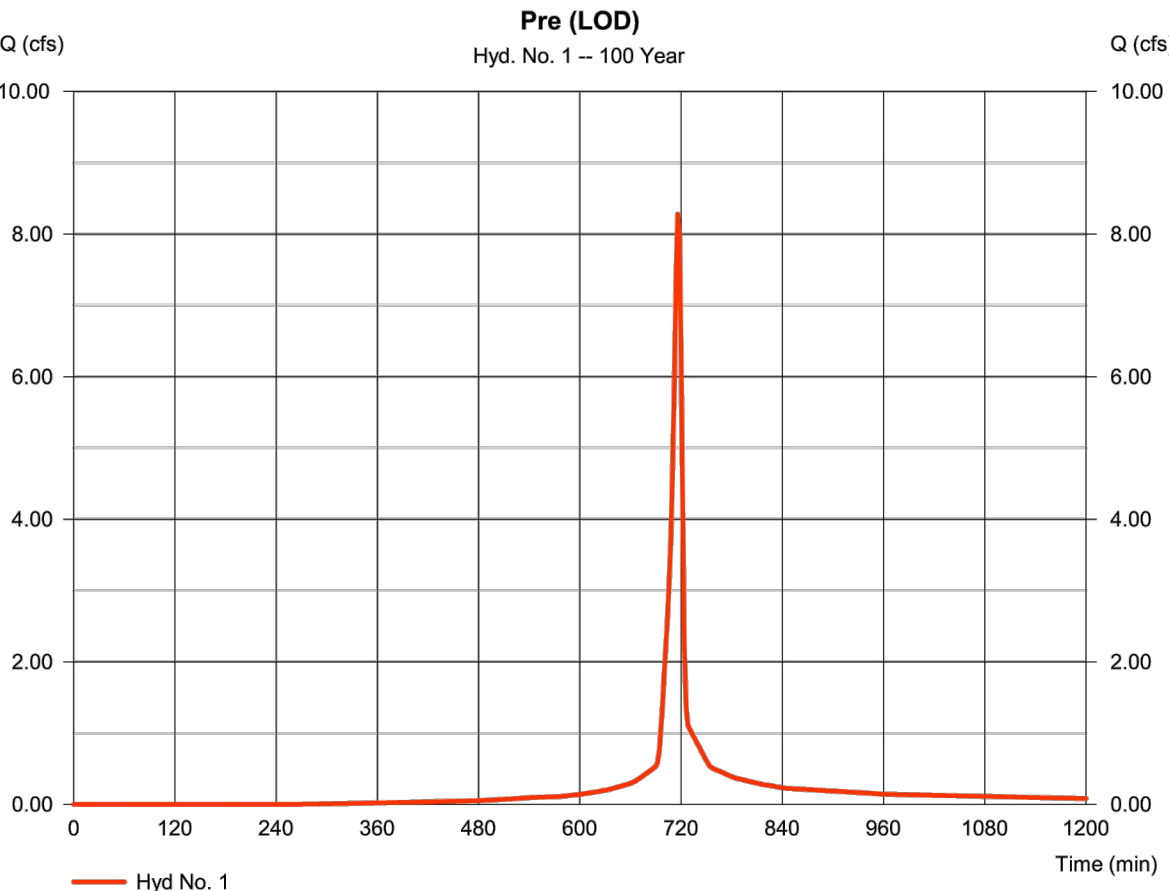
Hyd. No. 1

Pre (LOD)

Hydrograph type	=	SCS Runoff	Peak discharge	=	8.277 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	17,556 cuft
Drainage area	=	0.870 ac	Curve number	=	83*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.95 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

$$\text{Composite (Area/CN)} = [(0.730 \times 80) + (0.140 \times 98)] / 0.870$$

* Composite (Area/CN) = [(0.730 x 80) + (0.140 x 98)] / 0.870



Hydrograph Report

24

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

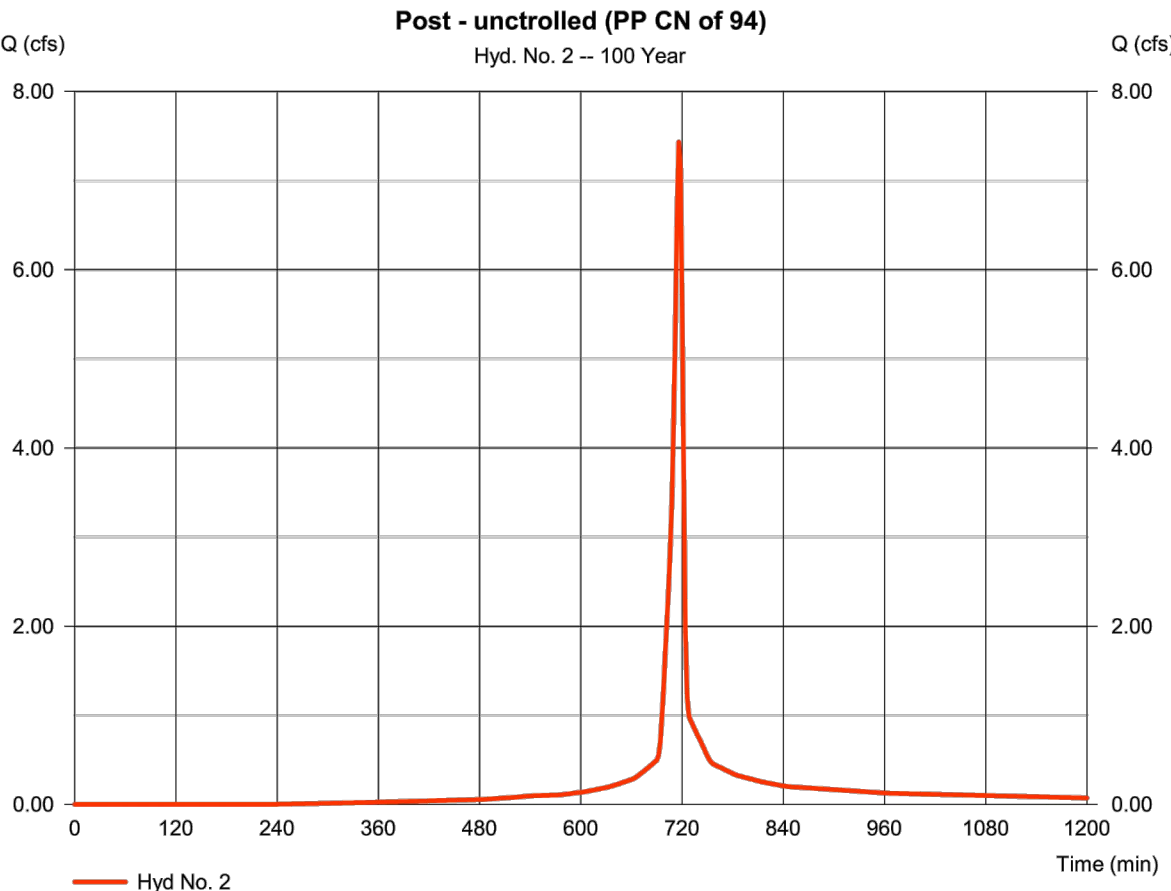
Hyd. No. 2

Post - uncontrolled (PP CN of 94)

Hydrograph type	=	SCS Runoff	Peak discharge	=	7.431 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	15,945 cuft
Drainage area	=	0.760 ac	Curve number	=	85*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.95 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

Composite (Area/CN) = [(0.560 × 80) + (0.200 × 98)] / 0.760

* Composite (Area/CN) = [(0.560 x 80) + (0.200 x 98)] / 0.760



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

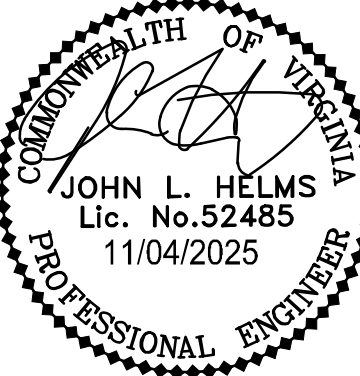
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	

ALEXANDRIA PROJECT NO. CP2021-00008	DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: EG DATE: --
	DRAWN BY: MQ DATE: --
	CHECKED BY: AG DATE: --
	APPROVED BY: DL DATE: --



PRE AND POST
HYDROGRAPH

SCALE NOT TO SCALE
SHEET

C608

P:\Projects\21266\00100\111671 - 90%\C608 PRE AND POST HYDROGRAPH.dwg PLOTTED: 11/3/2025 4:14:40 PM BY AUGUST HINNENKAMP

Hydrograph Report

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

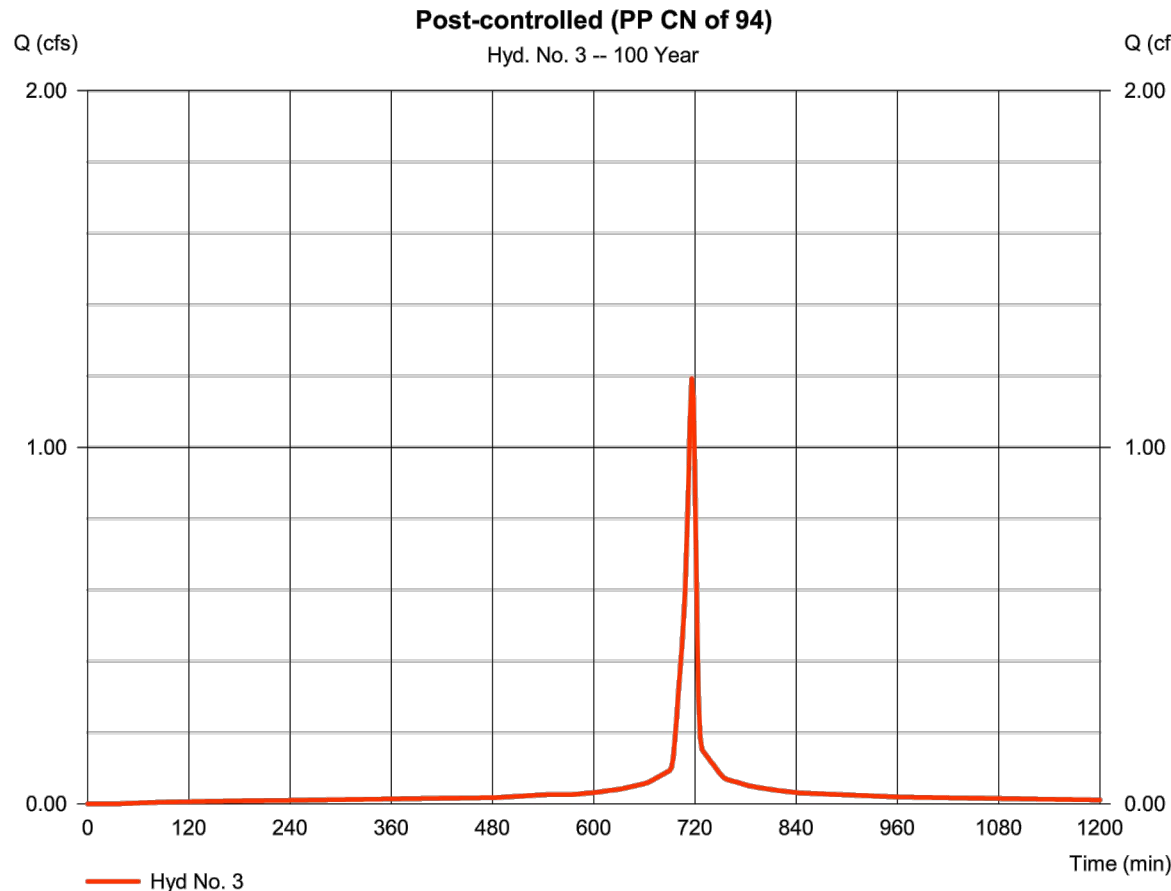
Sunday, 12 / 10 / 2023

Hyd. No. 3

Post-controlled (PP CN of 94)

Hydrograph type	=	SCS Runoff	Peak discharge	=	1.192 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	2,886 cuft
Drainage area	=	0.110 ac	Curve number	=	98*
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	User	Time of conc. (Tc)	=	5.00 min
Total precip.	=	7.95 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

* Composite (Area/CN) = [(0.110 x 98)] / 0.110



Hydrograph Report

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

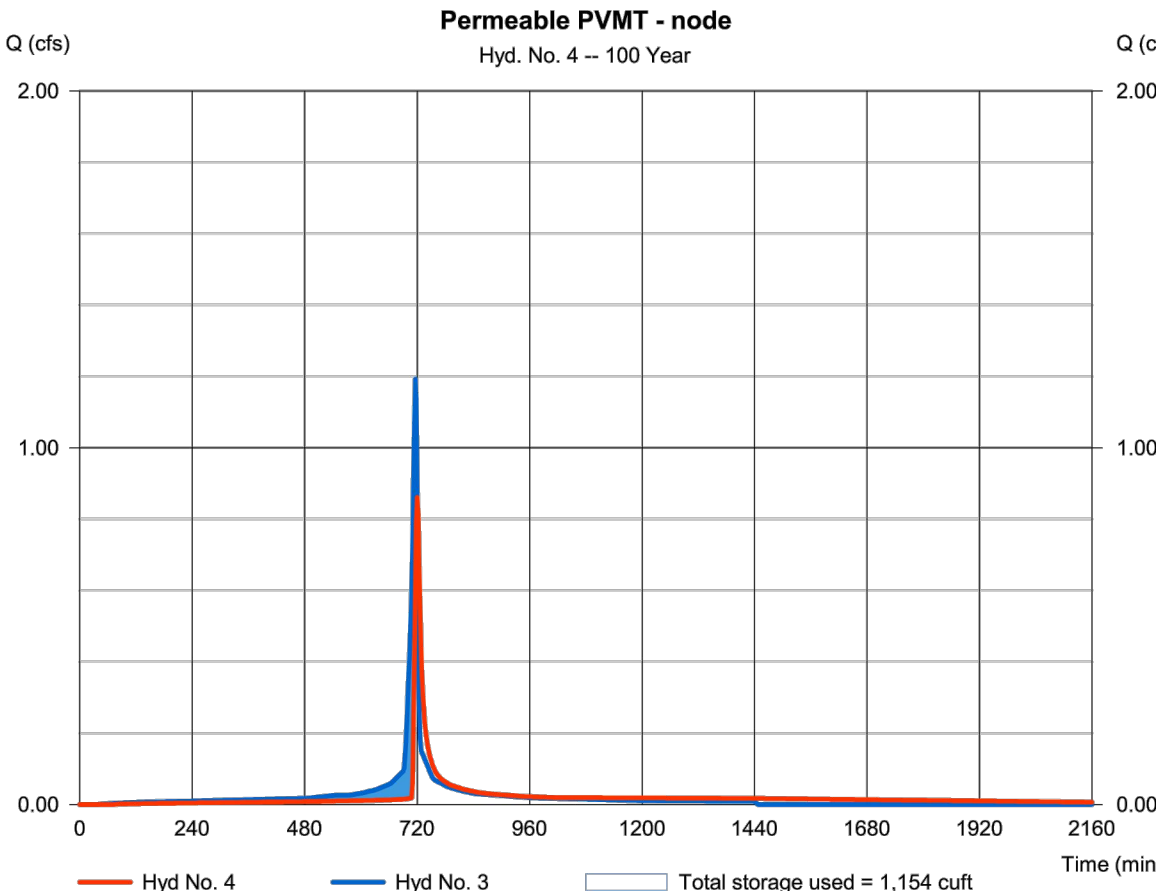
Hyd. No. 4

Permeable PVMT - node

Hydrograph type	=	Reservoir	Peak discharge	=	0.861 cfs
Storm frequency	=	100 yrs	Time to peak	=	720 min
Time interval	=	2 min	Hyd. volume	=	2,881 cuft
Inflow hyd. No.	=	3 - Post-controlled (PP CN of 94)	Max. Elevation	=	145.60 ft
Reservoir name	=	Permeable Pavement	Max. Storage	=	1,154 cuft

Storage Indication method used.

Storage Indication method used.



Hydrograph Report

27

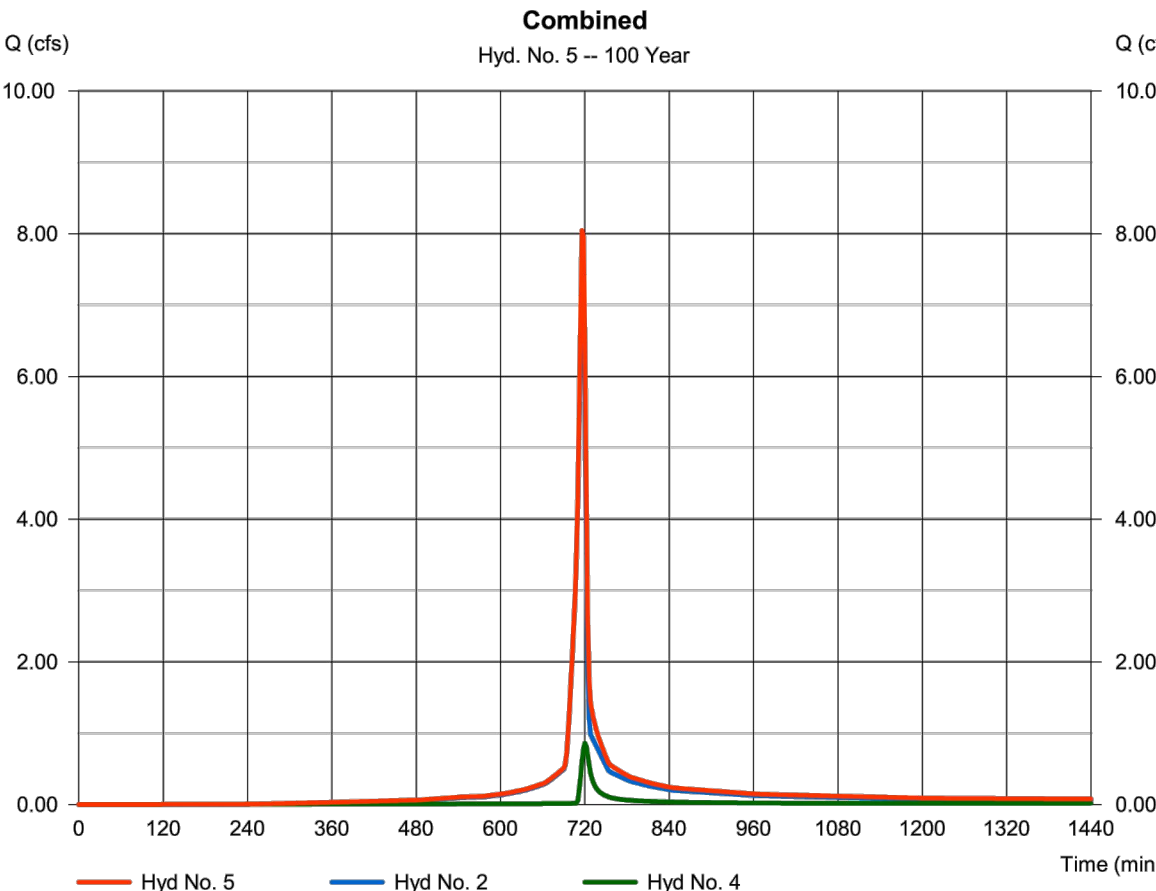
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

Hyd. No. 5

Combined

Hydrograph type	=	Combine	Peak discharge	=	8.045 cfs
Storm frequency	=	100 yrs	Time to peak	=	716 min
Time interval	=	2 min	Hyd. volume	=	18,826 cuft
Inflow hyd.	=	2, 4	Contrib. drain. area	=	0.760 ac



Hydraflow Rainfall Report

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

Sunday, 12 / 10 / 2023

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	0.0000	0.0000	0.0000	-----
2	69.8703	13.1000	0.8658	-----
3	0.0000	0.0000	0.0000	-----
5	79.2597	14.8000	0.8369	-----
10	86.2351	15.5000	0.8279	-----
25	102.6072	16.5000	0.8217	-----
50	114.8193	17.2000	0.8199	-----
100	127.1596	17.8000	0.8186	-----

File name: SampleFHA.txt

Intensity = B / (Tc + D)^E												
Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.69	4.61	3.89	3.38	2.99	2.69	2.44	2.24	2.07	1.93	1.81	1.70
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	6.57	5.43	4.65	4.08	3.65	3.30	3.02	2.78	2.59	2.42	2.27	2.15
10	7.24	6.04	5.21	4.59	4.12	3.74	3.43	3.17	2.95	2.77	2.60	2.48
25	8.25	6.95	6.03	5.34	4.80	4.38	4.02	3.73	3.48	3.26	3.07	2.91
50	9.04	7.65	6.66	5.92	5.34	4.87	4.49	4.16	3.88	3.65	3.44	3.25
100	9.83	8.36	7.30	6.50	5.87	5.36	4.94	4.59	4.29	4.03	3.80	3.60

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp								
Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.70	3.20	0.00	3.30	5.20	5.77	6.80	7.95
SCS 6-Hr	0.00	1.80	0.00	0.00	2.60	0.00	0.00	4.00
Huff-1st	0.00	1.55	0.00	2.75	4.00	5.38	6.50	8.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	1.75	0.00	2.80	3.90	5.25	6.00	7.10

Hydraflow Table of Contents

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Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

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Hydrograph Report (2-YR STORM FOR SECTION A, B, & C)

4

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2022

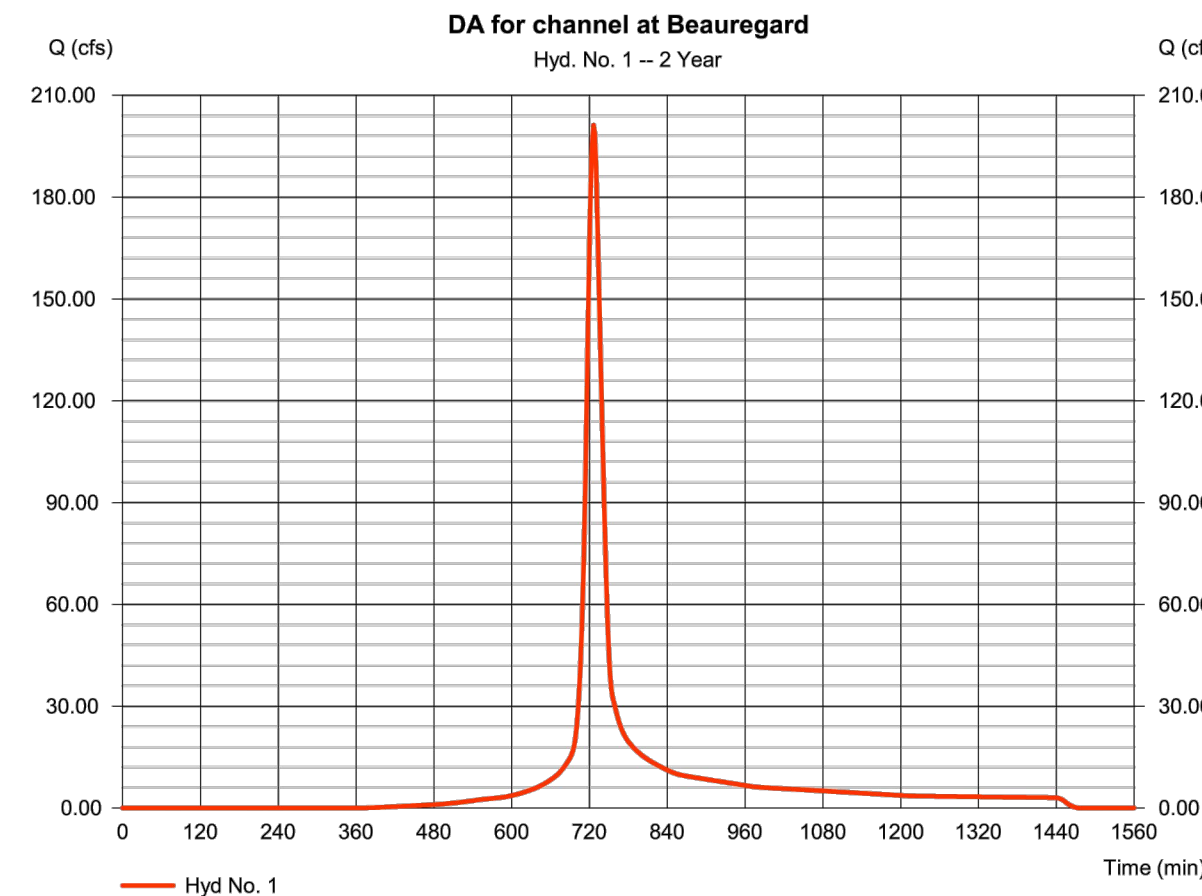
Wednesday, 06 / 8 / 2022

Hyd. No. 1

DA for channel at Beaugard

Hydrograph type	=	SCS Runoff	Peak discharge	=	201.21 cfs
Storm frequency	=	2 yrs	Time to peak	=	726 min
Time interval	=	2 min	Hyd. volume	=	696,650 cuft
Drainage area	=	133,000 ac	Curve number	=	92
Basin Slope	=	0.0 %	Hydraulic length	=	0 ft
Tc method	=	TR55	Time of conc. (Tc)	=	21.69 min
Total precip.	=	2.20 in	Distribution	=	Type II
Storm duration	=	24 hrs	Shape factor	=	484

SEE SHEET C605 FOR TC CALCULATION



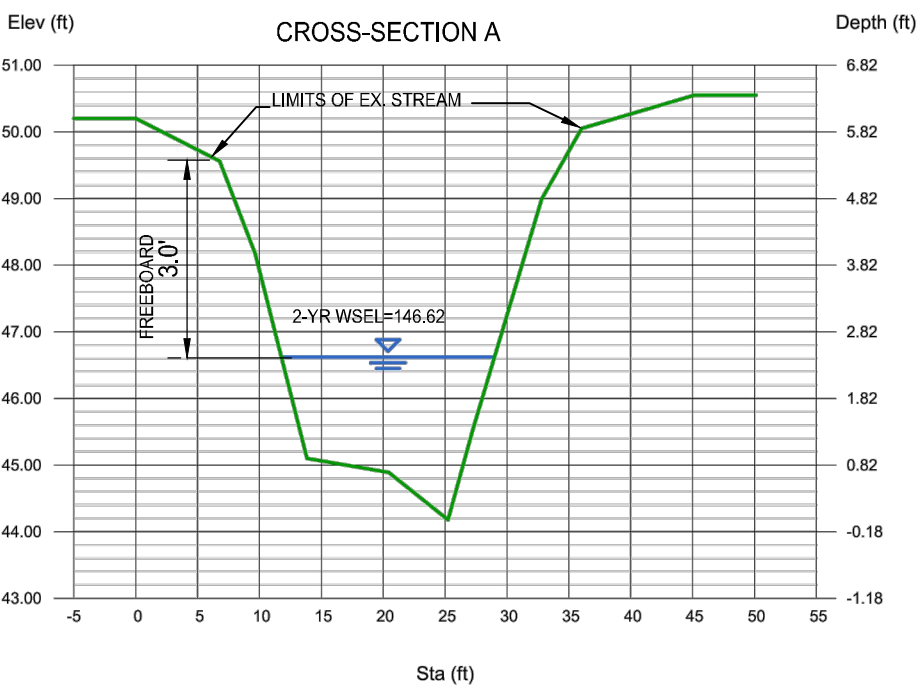
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Jun 8 2022

CROSS SECTION A

User-defined		Highlighted	
Invert Elev (ft)	= 144.18	Depth (ft)	= 2.44
Slope (%)	= 2.50	Q (cfs)	= 201.21
N-Value	= 0.040	Area (sqft)	= 26.78
Calculations		Velocity (ft/s)	= 7.51
Compute by:	Known Q	Wetted Perim (ft)	= 16.50
Known Q (cfs)	= 201.21	Crit Depth, Yc (ft)	= 2.52
		Top Width (ft)	= 17.22
		EGL (ft)	= 3.32
(Sta, El, n)-(Sta, El, n)...			
(-138, 148.29)(0.16, 148.16, 0.040)(-13.88, 145.10, 0.040)(-22.45, 144.89, 0.040)(-25.23, 144.18, 0.040)(-27.24, 145.53, 0.040)			
(-32.80, 148.99, 0.040)(-38.04, 150.05, 0.040)(-45.14, 150.35, 0.040)			



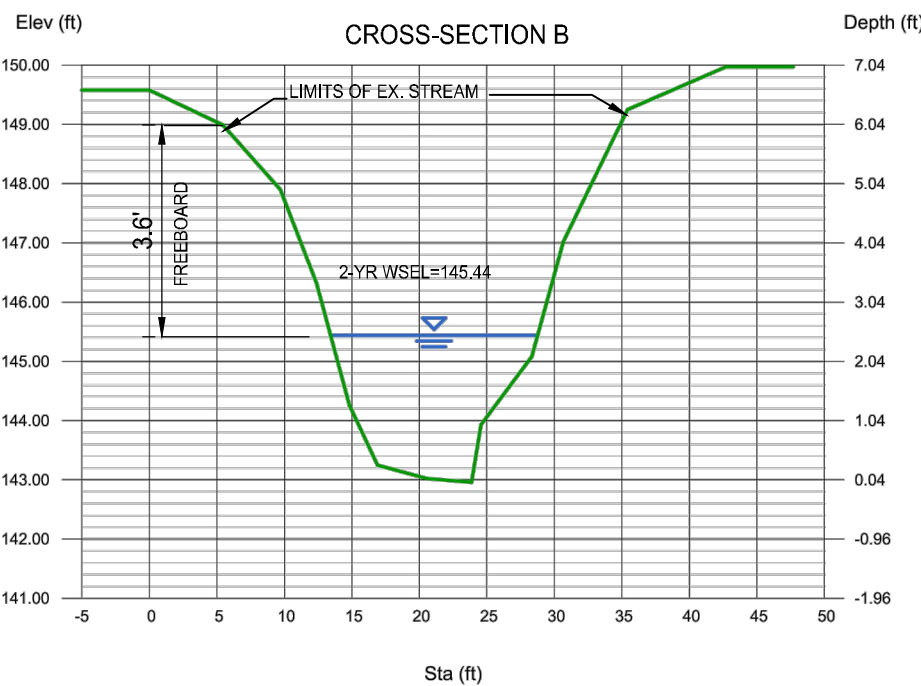
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Jun 8 2022

Cross Section B

User-defined		Highlighted	
Invert Elev (ft)	= 142.96	Depth (ft)	= 2.48
Slope (%)	= 2.50	Q (cfs)	= 201.21
N-Value	= 0.040	Area (sqft)	= 25.85
Calculations		Velocity (ft/s)	= 7.78
Compute by:	Known Q	Wetted Perim (ft)	= 16.61
Known Q (cfs)	= 201.21	Crit Depth, Yc (ft)	= 2.55
		Top Width (ft)	= 15.33
		EGL (ft)	= 3.42
(Sta, El, n)-(Sta, El, n)...			
(138, 148.29)(0.16, 148.16, 0.040)(13.88, 145.10, 0.040)(22.45, 144.89, 0.040)(25.23, 144.18, 0.040)(27.24, 145.53, 0.040)			
(-32.80, 148.99, 0.040)(-38.04, 150.05, 0.040)(-45.14, 150.35, 0.040)			



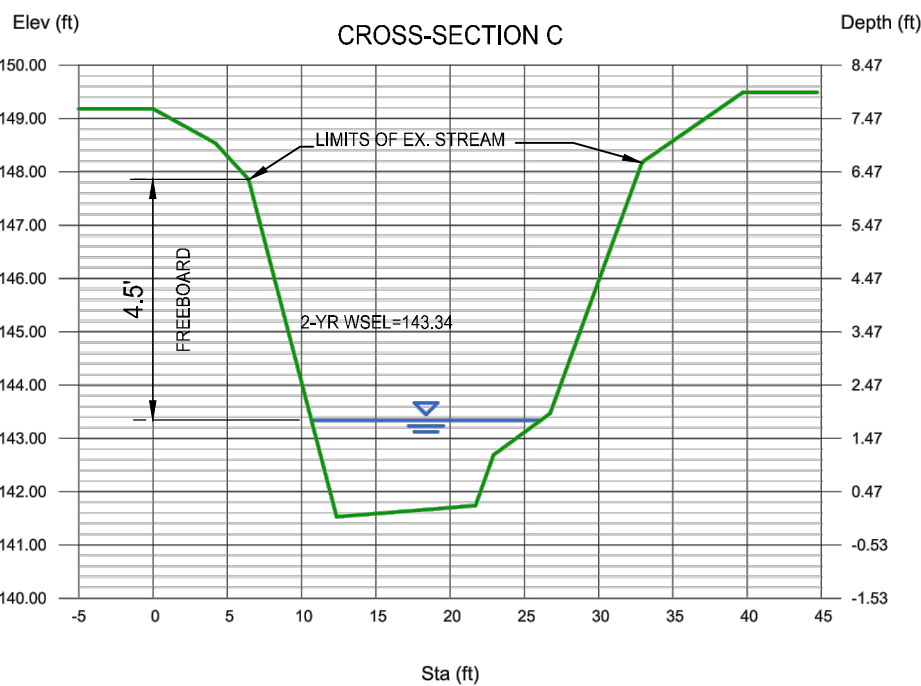
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc.

Wednesday, Jun 8 2022

Cross Section C

User-defined		Highlighted	
Invert Elev (ft)	= 141.53	Depth (ft)	= 1.81
Slope (%)	= 2.50	Q (cfs)	= 201.21
N-Value	= 0.026	Area (sqft)	= 19.89
Calculations		Velocity (ft/s)	= 10.11
Compute by:	Known Q	Wetted Perim (ft)	= 15.61
Known Q (cfs)	= 201.21	Crit Depth, Yc (ft)	= 2.29
		Top Width (ft)	= 15.43
		EGL (ft)	= 3.40
(Sta, El, n)-(Sta, El, n)...			
(138, 148.29)(0.16, 148.16, 0.040)(13.88, 145.10, 0.040)(22.45, 144.89, 0.040)(25.23, 144.18, 0.040)(27.24, 145.53, 0.040)			
(-32.80, 148.99, 0.040)(-38.04, 150.05, 0.040)(-45.14, 150.35, 0.040)			



NOTE: THIS PROJECT DECREASES THE STORMWATER RUNOFF FOR THE Q2, Q10 AND Q100. THE ADJACENT PROJECT (DSUP#2020-10026) IS PROPOSING STREAM RESTORATION IMPROVEMENTS FOR THIS STREAM.

BID SET

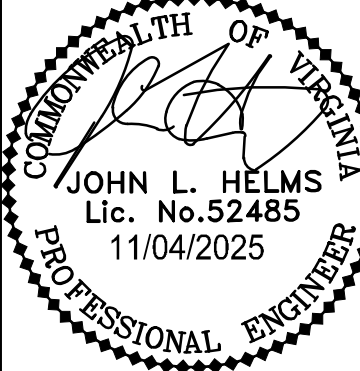


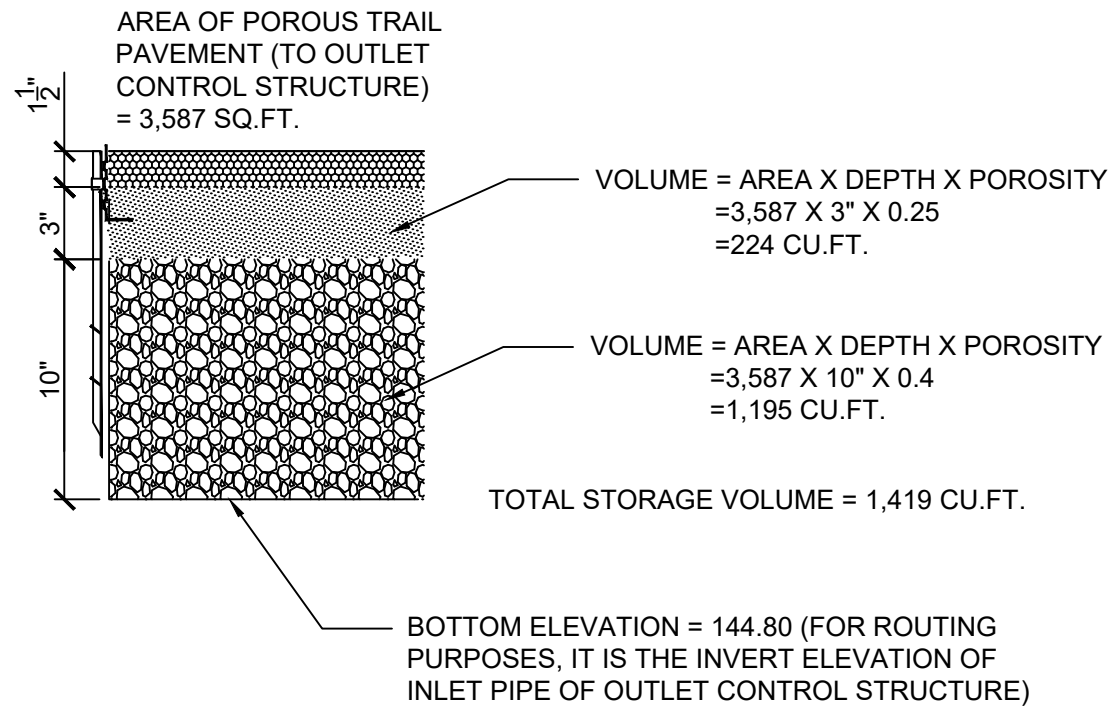
CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO.: CP2021-00006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY:	EG	DATE:	-
DRAWN BY:	MQ	DATE:	-
CHECKED BY:	AG	DATE:	-
APPROVED BY:	DL	DATE:	-

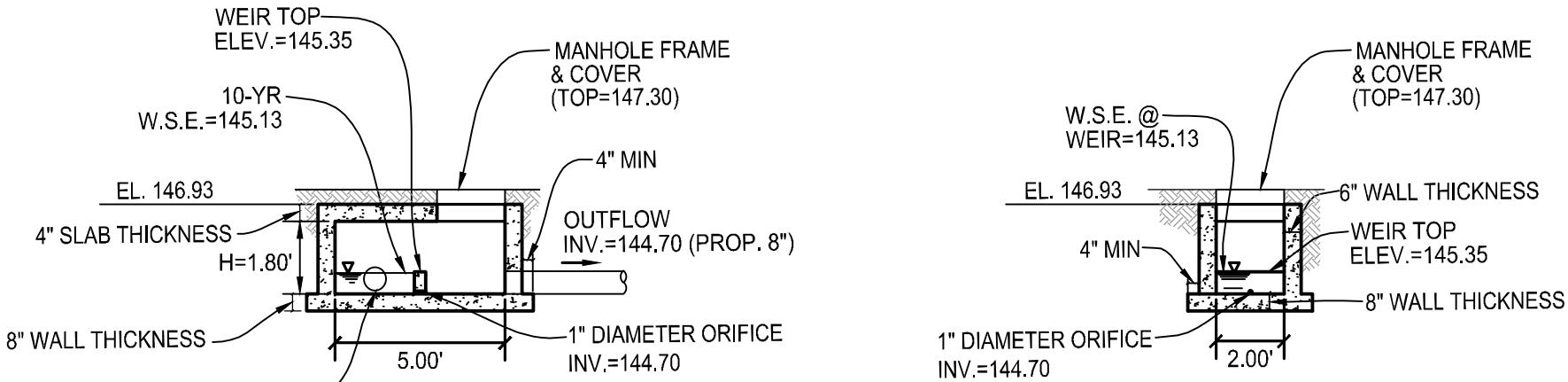
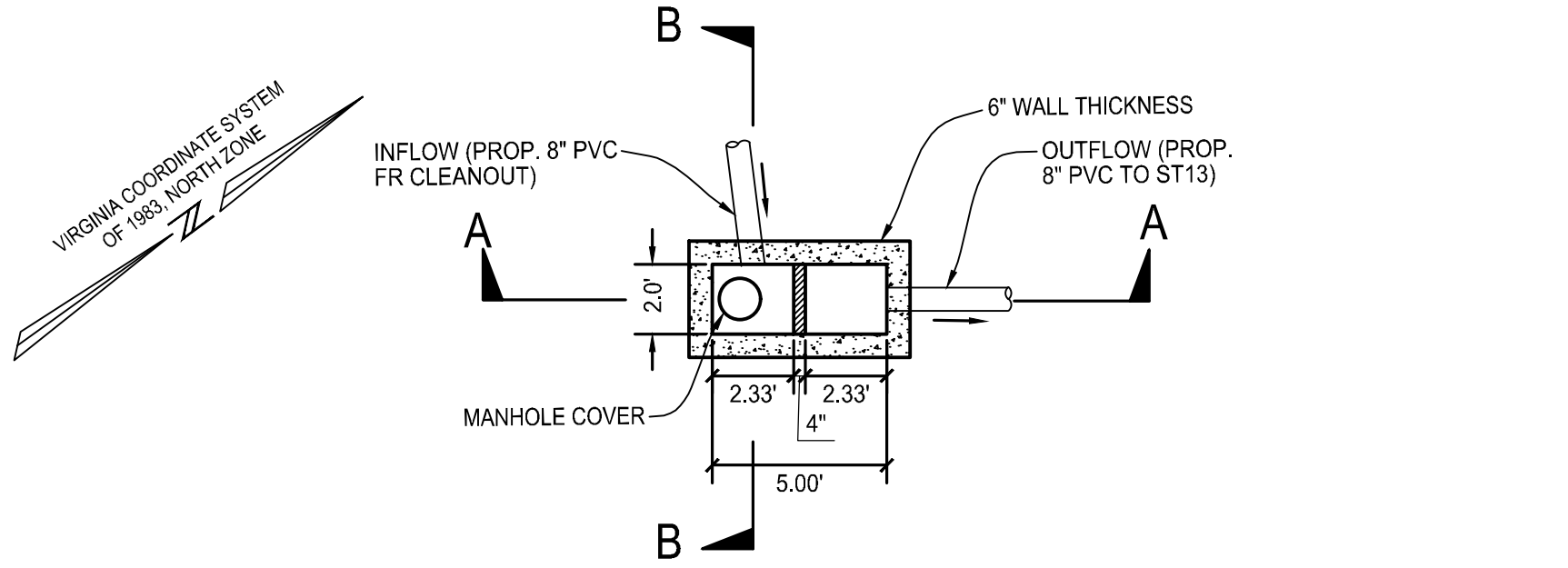




SECTION OF POROUS TRAIL PAVEMENT
(NOT TO SCALE)

STORAGE VOLUME TABULATION:

ELEV.	DEPTH (inch)	DEPTH (feet)	INCREMENTAL VOLUME (CU.FT)	CUMMULATIV E VOLUME (CU.FT.)
144.80	0	0.00	0.0	0.0
144.88	1	0.08	119.5	119.5
144.97	2	0.17	119.5	239.0
145.05	3	0.25	119.5	358.5
145.13	4	0.33	119.5	478.0
145.22	5	0.42	119.5	597.5
145.30	6	0.50	119.5	717.0
145.38	7	0.58	119.5	836.5
145.47	8	0.67	119.5	956.0
145.55	9	0.75	119.5	1075.5
145.63	10	0.83	119.5	1195.0
145.72	11	0.92	74.7	1269.7
145.80	12	1.00	74.7	1344.3
145.88	13	1.08	74.7	1419.0
TOTAL			1419.0	



OUTLET CONTROL STRUCTURE (STRUCTURE #13A)

SCALE: 1"=5'



NOTES:

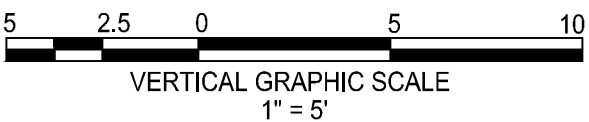
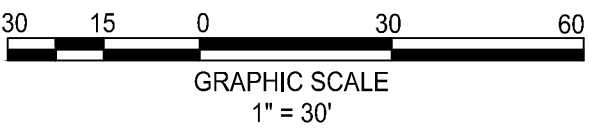
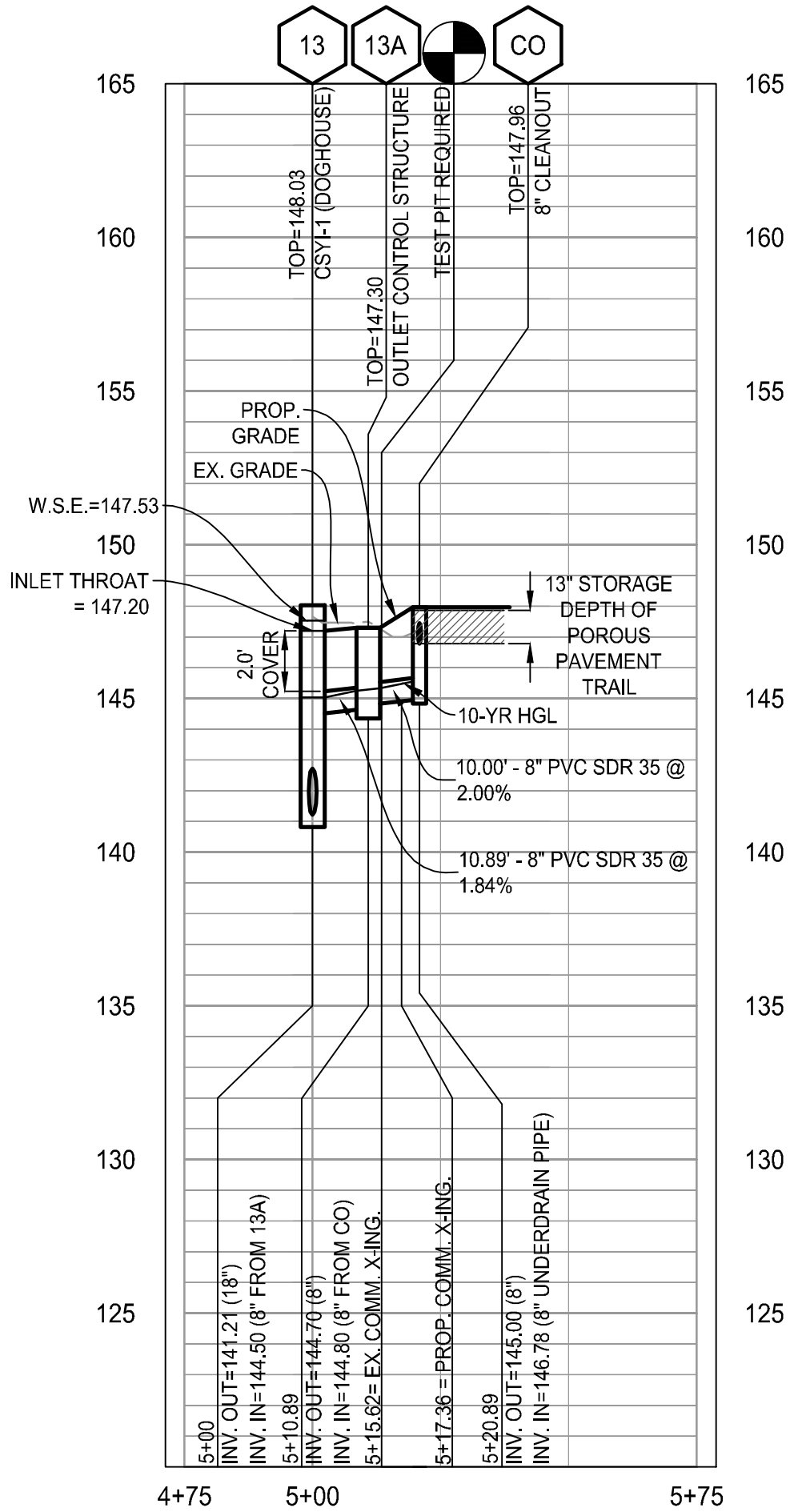
- STRUCTURE 13A TO BE DESIGNED AND CERTIFIED BY A LICENSED STRUCTURAL ENGINEER.
- SHOP DRAWINGS SHALL BE SUBMITTED TO CIVIL ENGINEER FOR REVIEW PRIOR TO PRECASTING.

ST13 - CO STORM PROFILE

HOR. SCALE: 1" = 30'

VERT. SCALE: 1" = 5'

(PUBLIC)



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

OUTLET CONTROL
DETAIL

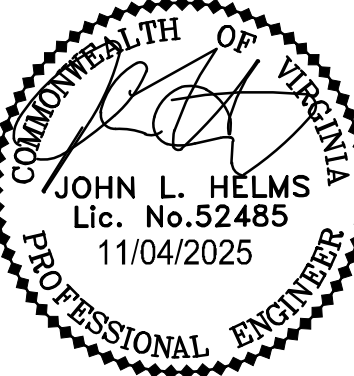
SCALE SEE DWGS.

SHEET

C610

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO. 01P2021-00008	DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: EG DATE: -
	DRAWN BY: MQ DATE: -
	CHECKED BY: AG DATE: -
	APPROVED BY: DL DATE: -

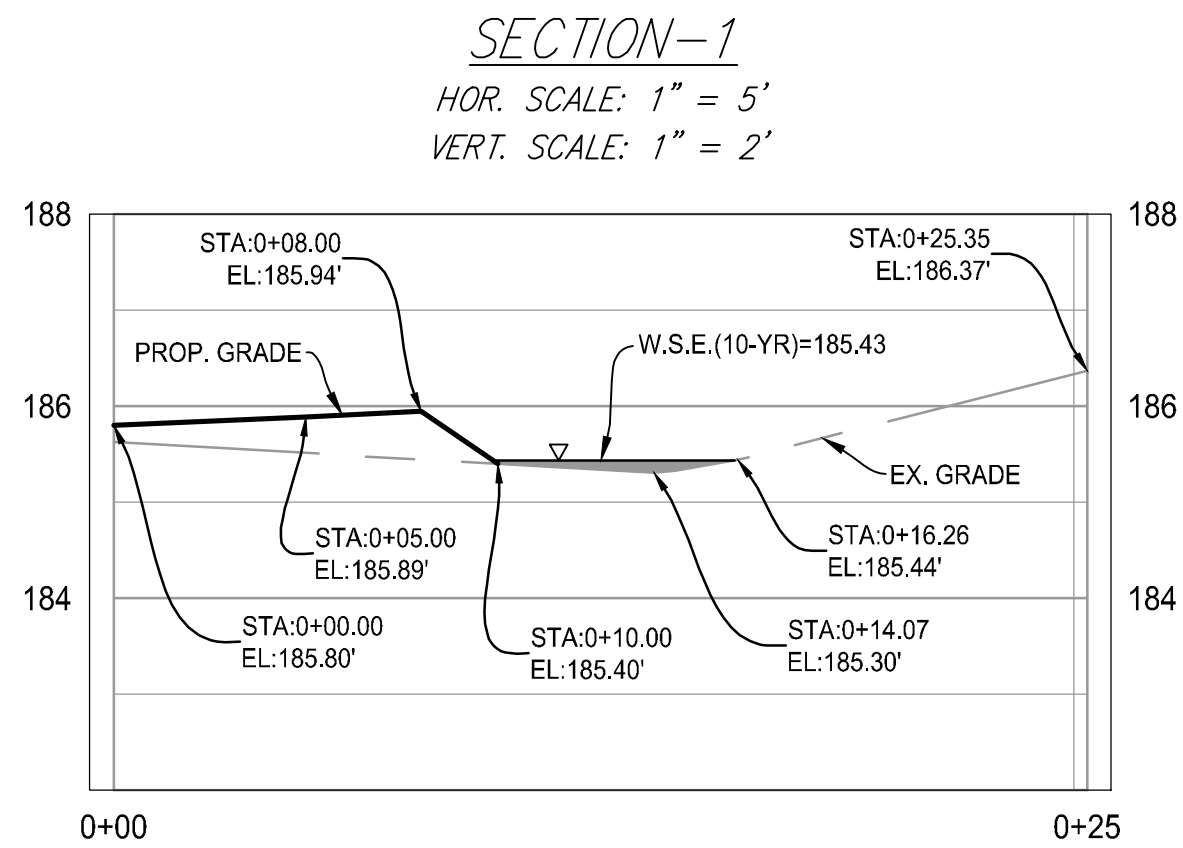


CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

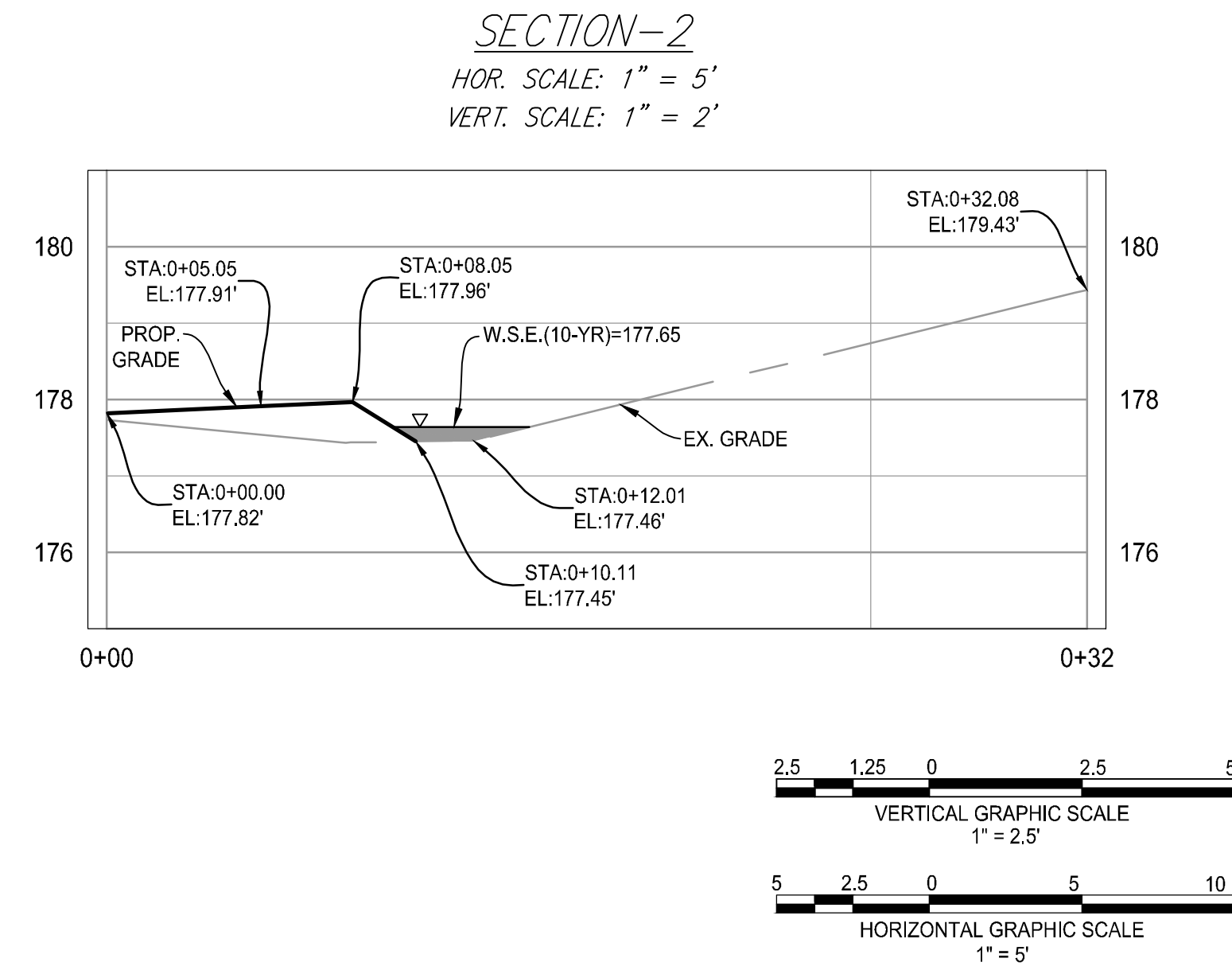


Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Dec 5 2023

User-defined		Highlighted	
Invert Elev (ft)	= 185.30	Depth (ft)	= 0.13
Slope (%)	= 4.40	Q (cfs)	= 0.790
N-Value	= 0.026	Area (sqft)	= 0.46
		Velocity (ft/s)	= 1.72
Calculations		Wetted Perim (ft)	= 6.22
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.14
Known Q (cfs)	= 0.79	Top Width (ft)	= 6.21
		EGL (ft)	= 0.18
(Sta, El, n)-(Sta, El, n)...			
(0.00, 185.80)-(5.00, 185.89, 0.026)-(8.00, 185.94, 0.026)-(10.00, 185.40, 0.026)-(14.07, 185.30, 0.026)-(16.26, 185.44, 0.026)-(25.35, 186.37, 0.026)			

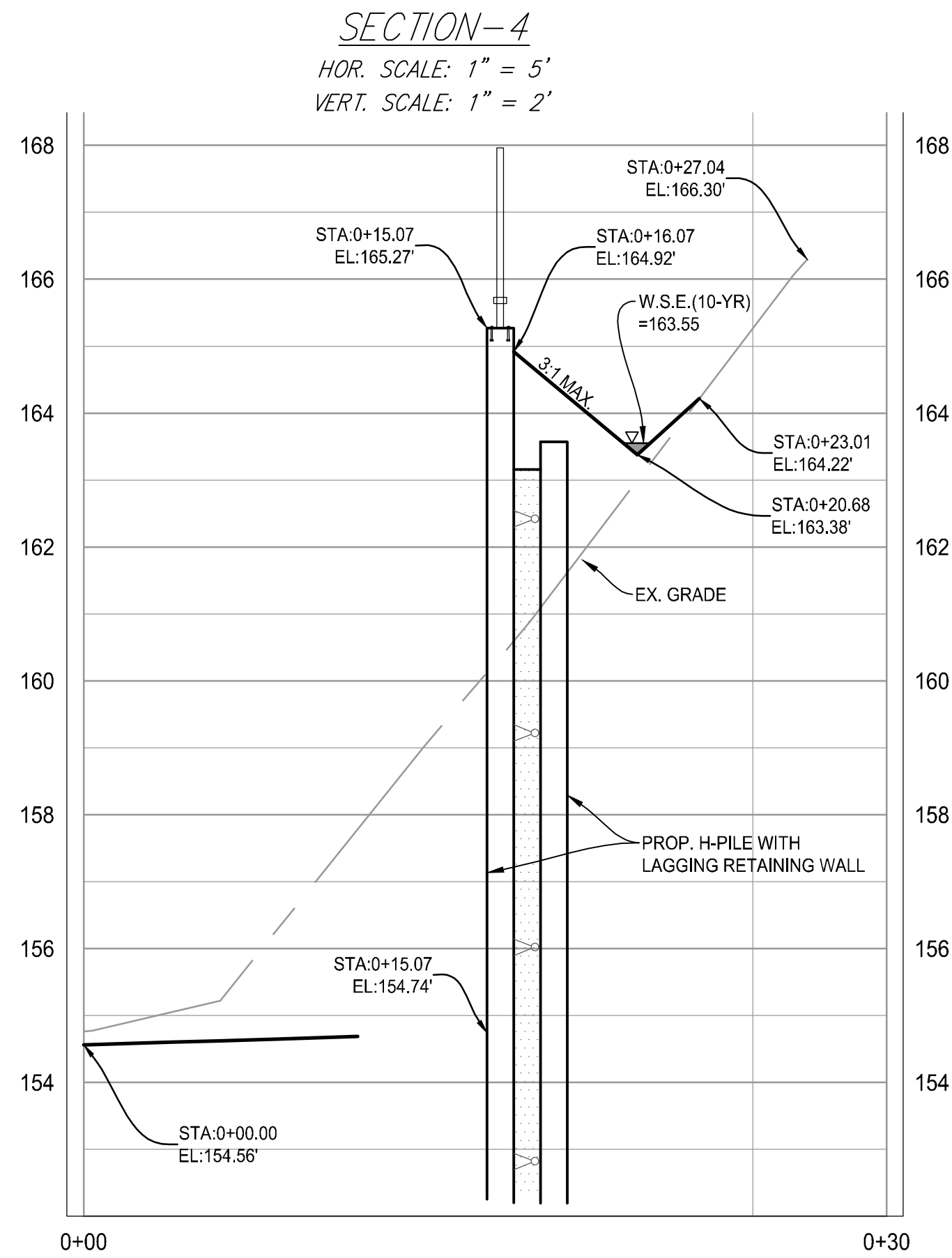
Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Dec 6 2023

User-defined		Highlighted	
Invert Elev (ft)	= 177.45	Depth (ft)	= 0.20
Slope (%)	= 3.10	Q (cfs)	= 1.580
N-Value	= 0.026	Area (sqft)	= 0.64
		Velocity (ft/s)	= 2.49
Calculations		Wetted Perim (ft)	= 4.68
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.22
Known Q (cfs)	= 1.58	Top Width (ft)	= 4.64
		EGL (ft)	= 0.30
(Sta, El, n)-(Sta, El, n)...			
(0.00, 177.82)-(5.05, 177.91, 0.026)-(8.05, 177.96, 0.026)-(10.11, 177.45, 0.026)-(12.01, 177.46, 0.026)-(32.08, 179.43, 0.026)			

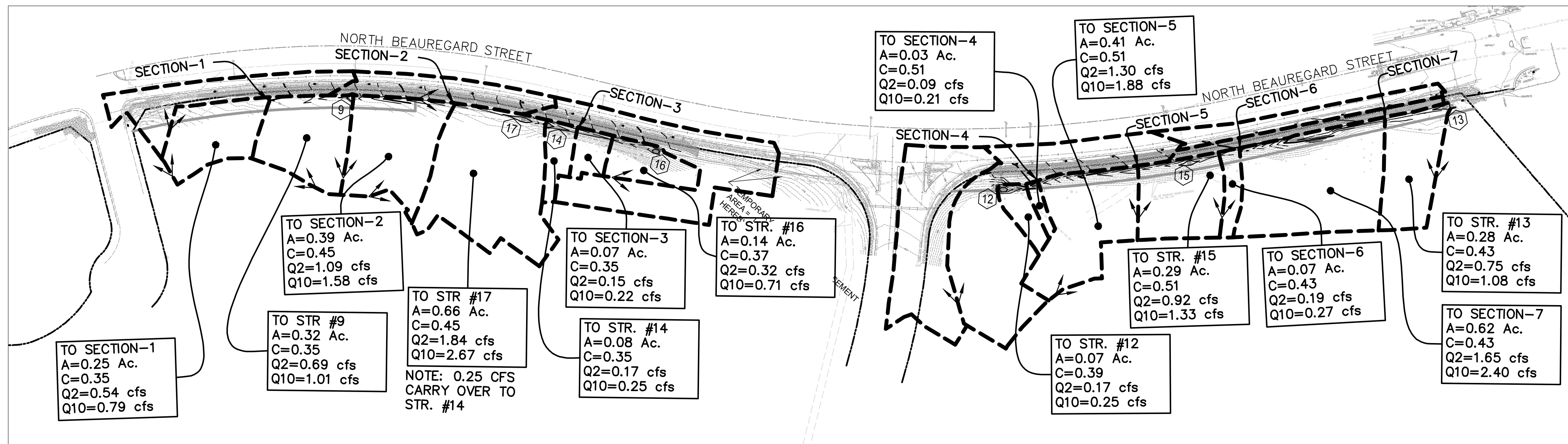
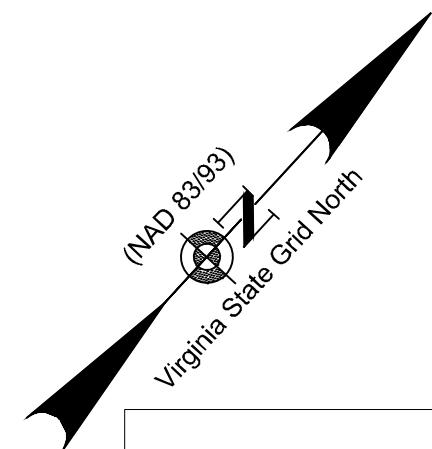
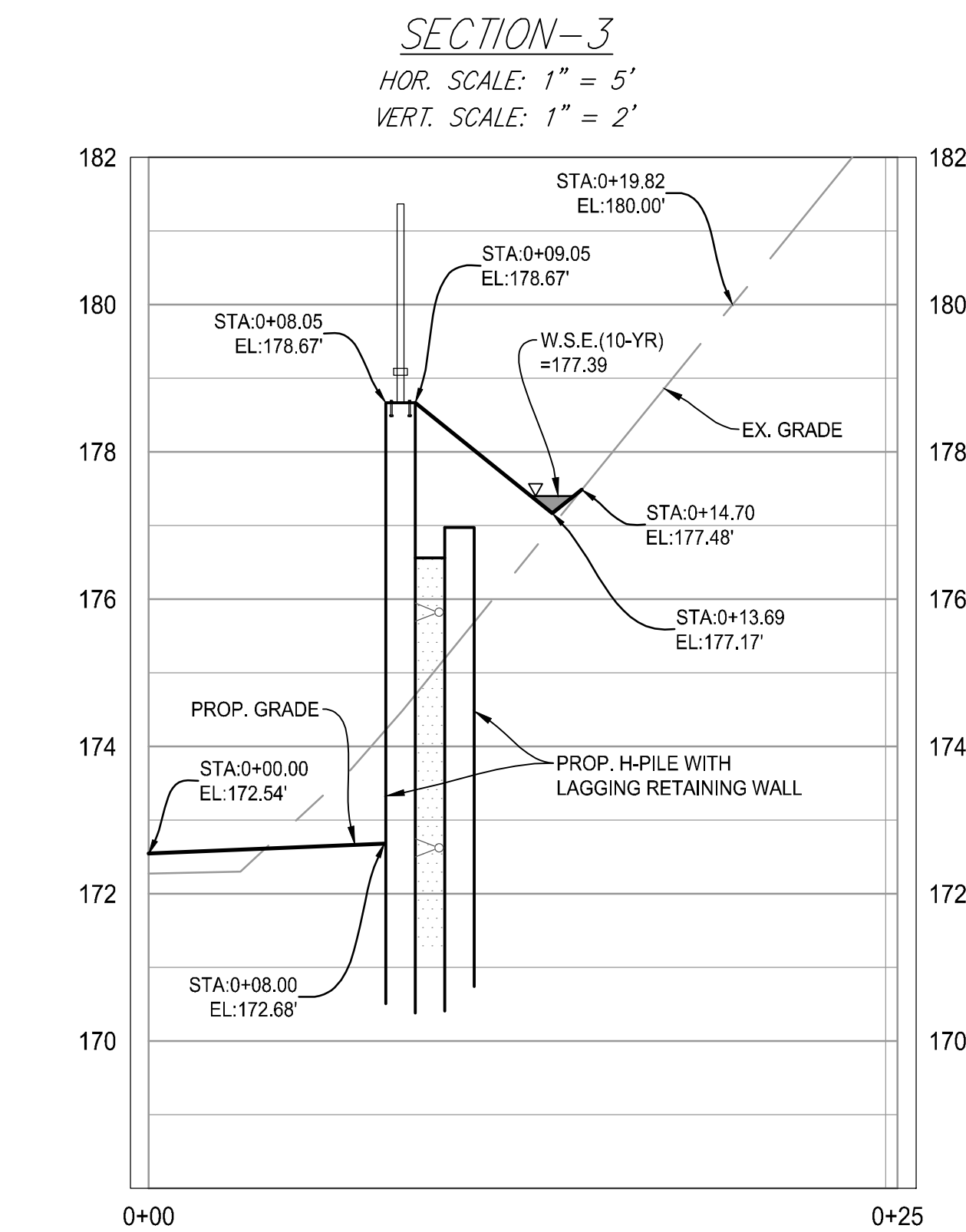


Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Dec 7 2023

User-defined		Highlighted	
Invert Elev (ft)	= 163.38	Depth (ft)	= 0.17
Slope (%)	= 7.20	Q (cfs)	= 0.210
N-Value	= 0.026	Area (sqft)	= 0.08
		Velocity (ft/s)	= 2.52
Calculations		Wetted Perim (ft)	= 1.04
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.21
Known Q (cfs)	= 0.21	Top Width (ft)	= 0.98
		EGL (ft)	= 0.27
(Sta, El, n)-(Sta, El, n)...			
(16.07, 164.92)-(20.68, 163.38, 0.026)-(23.01, 164.22, 0.026)-(27.04, 166.30, 0.026)			

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Wednesday, Dec 6 2023

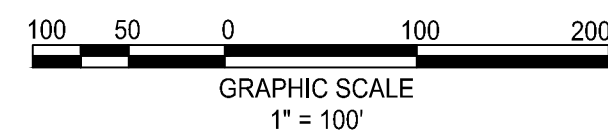
User-defined		Highlighted	
Invert Elev (ft)	= 177.17	Depth (ft)	= 0.22
Slope (%)	= 1.60	Q (cfs)	= 0.220
N-Value	= 0.026	Area (sqft)	= 0.15
		Velocity (ft/s)	= 1.43
Calculations		Wetted Perim (ft)	= 1.47
Compute by:	Known Q	Crit Depth, Yc (ft)	= 0.20
Known Q (cfs)	= 0.22	Top Width (ft)	= 1.40
		EGL (ft)	= 0.25



NOTES:

1. SEE SHEETS C500-C501 FOR THE LOCATION OF SECTIONS.
2. SEE SHEET C801 FOR EROSION & SEDIMENT CONTROL PLAN - PHASE2.
3. SEE SHEET C650 FOR STORM SEWER COMPUTATIONS.

SCALE: 1" = 100'

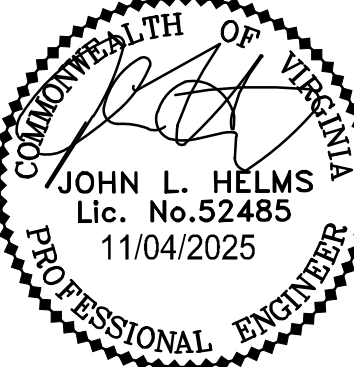


VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



DATE	BY	REVISIONS DESCRIPTION

CIP 2021-00008	
ALEXANDRIA PROJECT NO.:	11/15/24
DATE OF PLAN ISSUANCE:	21266.001.00
CONSULTANT PROJECT ID.:	
DESIGNED BY:	EG DATE:
DRAWN BY:	MQ DATE:
CHECKED BY:	AG DATE:
APPROVED BY:	DL DATE:



DITCH SECTIONS AND CALCULATIONS

SCALE SEE DWGS.

SHEET

C611

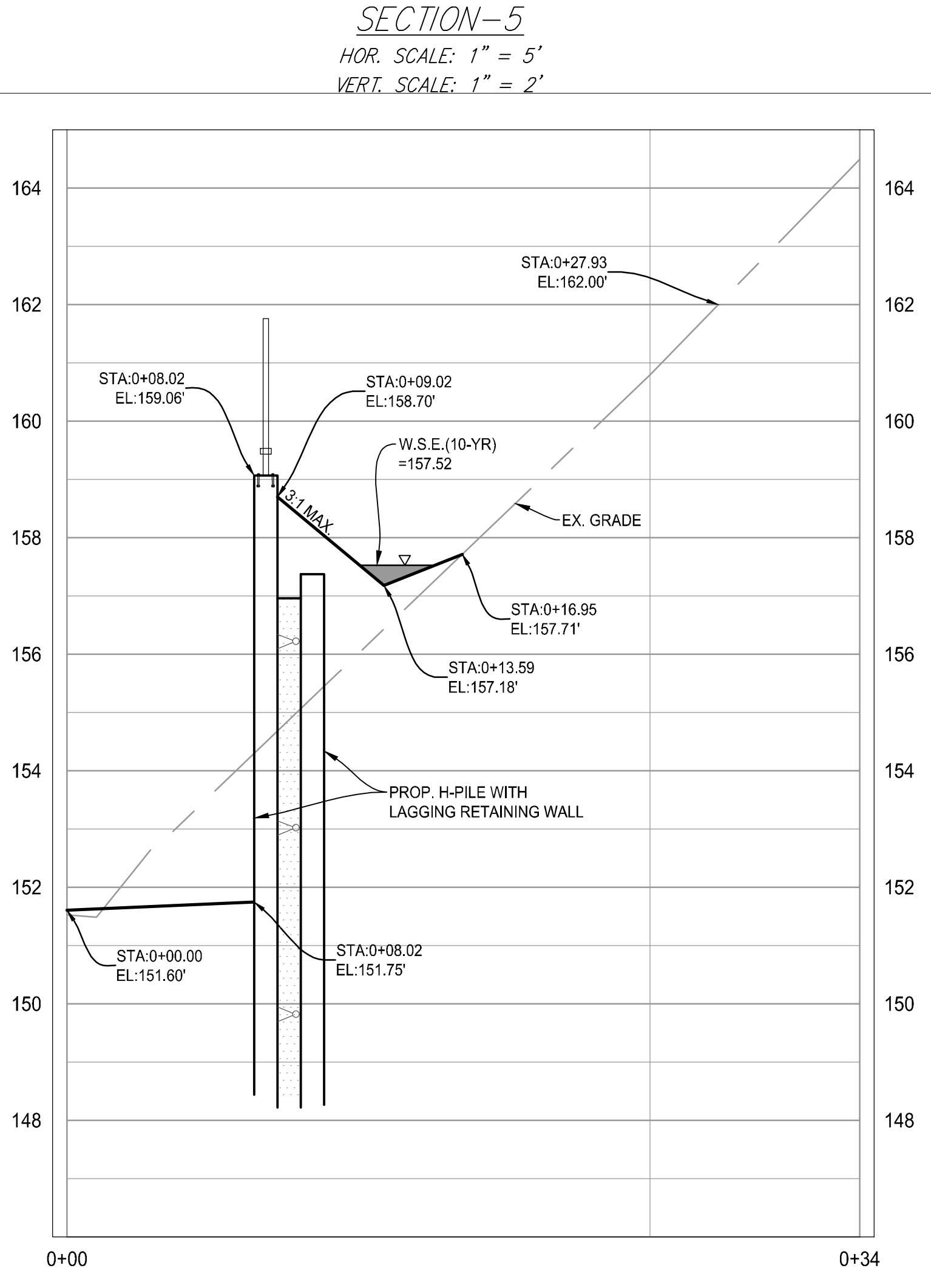
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Thursday, Dec 7 2023

Section - 5 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 157.18	Depth (ft)	= 0.34
Slope (%)	= 4.50	Q (cfs)	= 1.880
N-Value	= 0.026	Area (sqft)	= 0.54
		Velocity (ft/s)	= 3.48
		Wetted Perim (ft)	= 3.26
		Crit Depth, Yc (ft)	= 0.40
		Top Width (ft)	= 3.18
		EGL (ft)	= 0.53
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 1.88		

(Sta, El, n)-(Sta, El, n)...
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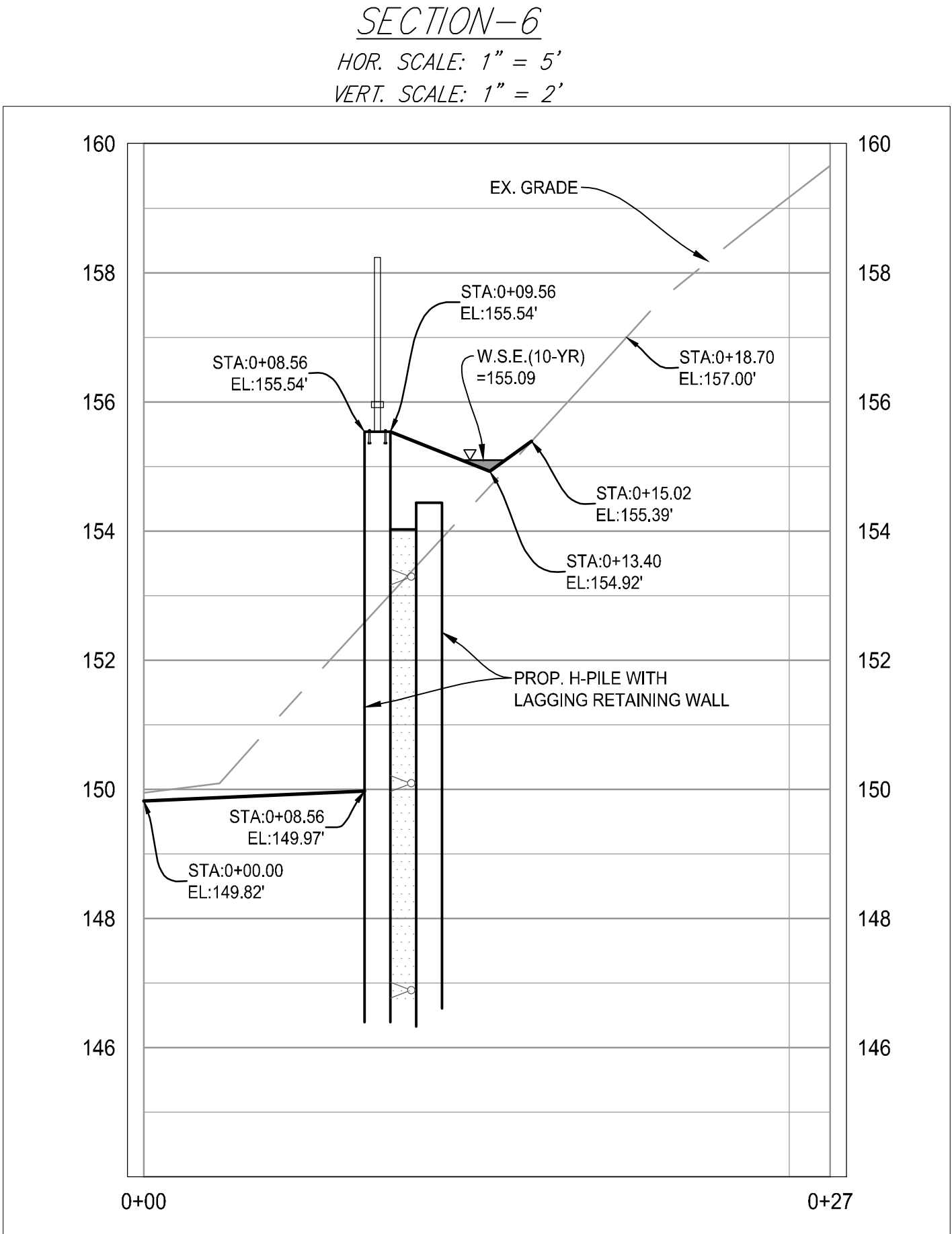
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Dec 5 2023

Section - 6 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 154.92	Depth (ft)	= 0.17
Slope (%)	= 3.50	Q (cfs)	= 0.270
N-Value	= 0.026	Area (sqft)	= 0.14
		Velocity (ft/s)	= 1.94
		Wetted Perim (ft)	= 1.68
		Crit Depth, Yc (ft)	= 0.19
		Top Width (ft)	= 1.64
		EGL (ft)	= 0.23
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 0.27		

(Sta, El, n)-(Sta, El, n)...
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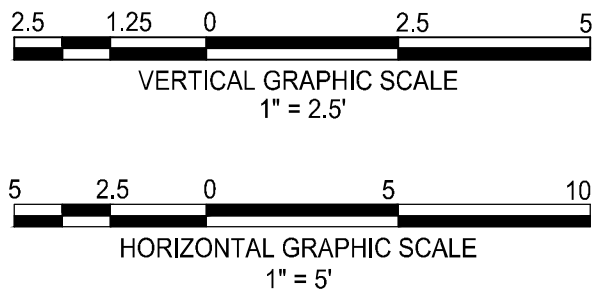
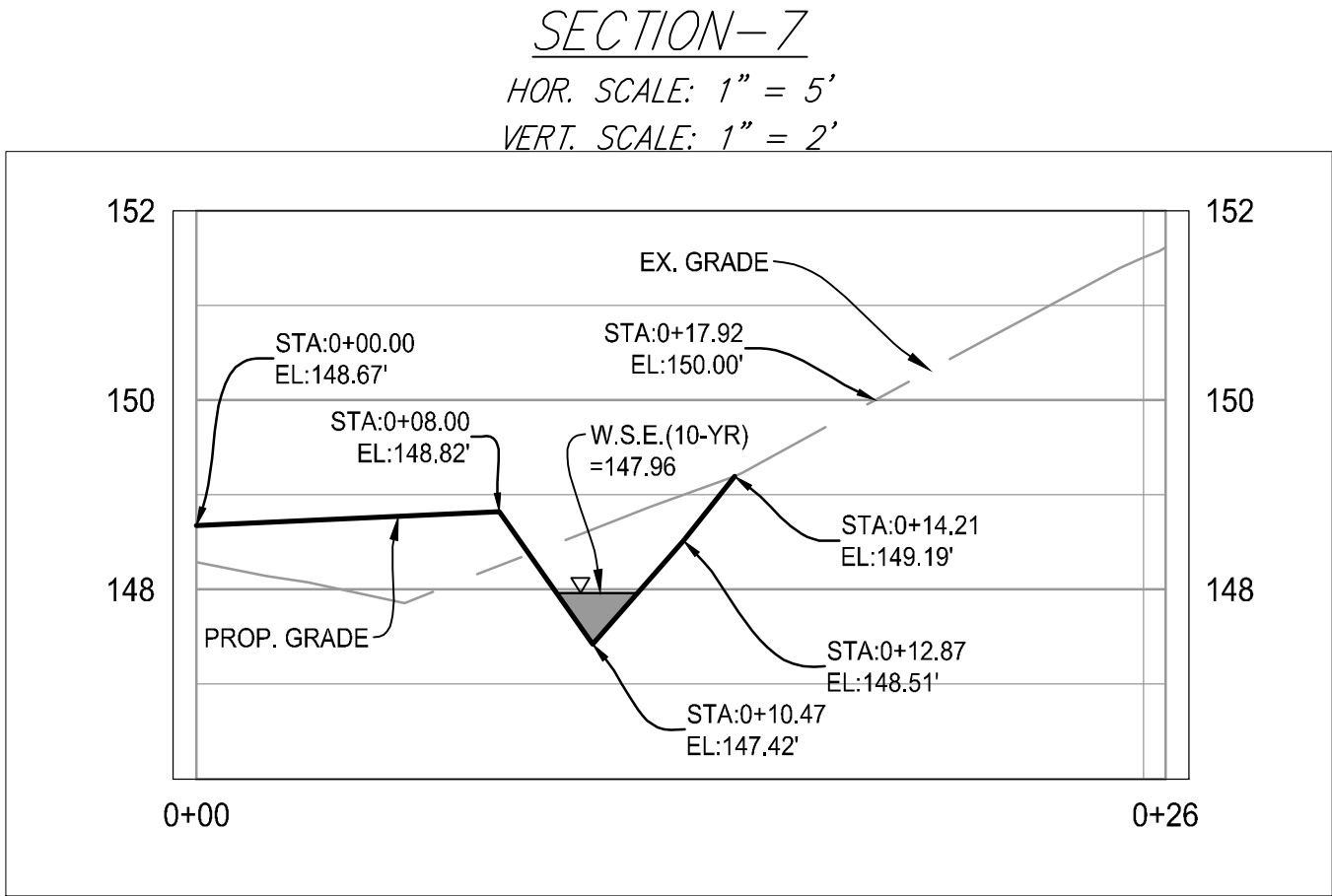
Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. Tuesday, Dec 5 2023

Section - 7 (10-yr)

User-defined		Highlighted	
Invert Elev (ft)	= 147.42	Depth (ft)	= 0.54
Slope (%)	= 3.80	Q (cfs)	= 2.400
N-Value	= 0.026	Area (sqft)	= 0.58
		Velocity (ft/s)	= 4.15
		Wetted Perim (ft)	= 2.40
		Crit Depth, Yc (ft)	= 0.62
		Top Width (ft)	= 2.14
		EGL (ft)	= 0.81
Calculations			
Compute by:	Known Q		
Known Q (cfs)	= 2.40		

(Sta, El, n)-(Sta, El, n)...
(8.00, 148.82)-(10.47, 147.42, 0.026)-(12.87, 148.51, 0.026)-(14.21, 149.19, 0.026)-(17.92, 150.00, 0.026)



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

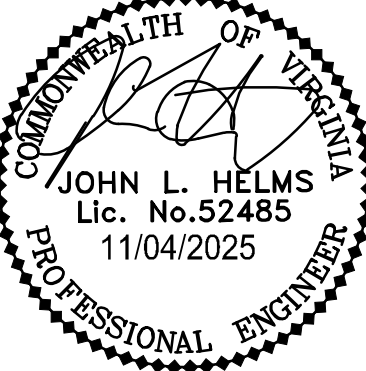
BID SET

DITCH SECTIONS AND
CALCULATIONS

SCALE SEE DWGS.

SHEET

C612



ALEXANDRIA PROJECT NO.:	CP2021-00008
DATE OF PLAN ISSUANCE:	11/15/24
CONSULTANT PROJECT ID:	21266.001.00
DESIGNED BY:	EG DATE:
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REVISIONS	DESCRIPTION
DATE	BY

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314



P:\Projects\21266\00100\111671 - 90%\C650 STORM SEWER COMPS.dwg PLOTTED: 11/3/2025 4:16:25 PM BY AUGUST HINNENKAMP

STORM COMPUTATION

FROM	TO	DRAIN AREA	RUNOFF COEFF.	CA		INLET TIME	RAINFALL INTENSITY	RUNOFF Q	INVERT ELEVATIONS (FT)		LENGTH	SLOPE	DIA.	N	CAPACITY	VELOCITY	FULL FLOW VELOCITY	FLOW TIME	Q/Q _{full}	V/V _{full}	V _{full}	NOTES
POINT	POINT	ACRES	C	INCREM.	ACCUM.	MIN.	IN/HR.	C.F.S.	UPPER	LOWER	FT	FT/FT	IN.		C.F.S.	FPS	FPS	SEC.				
9	EX ST2	0.570	0.35	0.20	0.20	5.00	8.99	1.79	176.90	176.38	20.92	0.0249	18	0.015	14.35	5.3	8.12	4.0	0.12	0.65	8.12	
EX ST2	EX ST21	0.300	0.70	0.21	0.41	5.07	8.96	3.67	176.36	175.86	39.18	0.0128	18	0.015	10.28	5.3	5.82	7.5	0.36	0.90	5.82	Existing storm
16	14	0.140	0.37	0.05	0.05	5.00	9.00	0.47	171.30	169.30	154.00	0.0130	15	0.015	6.38	3.0	5.20	51.3	0.07	0.58	5.20	
14	EX ST4	0.150	0.35	0.05	0.10	5.85	8.99	0.94	169.20	167.45	24.56	0.0713	15	0.015	14.94	6.5	12.18	3.8	0.06	0.54	12.18	
EX ST4	EX ST41	0.210	0.70	0.15	0.25	5.92	8.98	2.26	166.61	164.24	37.32	0.0635	18	0.015	22.94	8.0	12.98	4.7	0.10	0.62	12.98	Existing storm
18	12	0.140	0.51	0.07	0.07	5.00	9.00	0.64	153.70	153.35	19.74	0.0177	18	0.015	12.12	3.4	6.86	5.8	0.05	0.50	6.86	Tie to ex. 18" storm
12	EX ST9	0.070	0.39	0.03	0.10	5.00	9.00	0.89	152.60	151.93	22.83	0.0293	18	0.015	15.60	4.7	8.83	4.8	0.06	0.54	8.83	
EX ST9	EX ST10	0.000	0.00	0.00	0.10	5.08	8.94	0.88	151.39	151.22	11.86	0.0143	18	0.015	10.90	3.6	6.17	3.3	0.08	0.58	6.17	Existing storm
15	EX ST12	0.590	0.51	0.30	0.30	5.00	9.00	2.71	145.20	144.80	24.72	0.0162	15	0.015	7.12	5.4	5.80	4.6	0.38	0.92	5.80	
EX ST12	EX ST121	0.730	0.75	0.55	0.85	5.08	8.97	7.61	143.88	143.00	27.10	0.0325	18	0.015	16.41	8.9	9.28	3.0	0.46	0.96	9.28	NODE 1- NODE 2 Existing storm
CO	13A	0.110	0.85	0.09	0.09	5.00	9.00	0.84	145.00	144.80	10.00	0.0200	8	0.011	2.02	5.5	5.79	1.8	0.42	0.94	5.79	
13A	13	0.000	0.00	0.00	0.09	5.00	9.00	0.84	144.70	144.50	10.89	0.0184	8	0.011	1.94	5.3	5.54	2.0	0.43	0.96	5.54	
13	EX ST13	0.970	0.43	0.42	0.51	5.03	8.97	4.58	141.21	141.06	14.29	0.0105	18	0.015	9.33	5.2	5.28	2.8	0.49	0.98	5.28	
17	14	1.050	0.45	0.47	0.47	5.00	9.00	4.25	169.85	169.30	33.87	0.0162	15	0.015	7.13	6.0	5.81	5.6	0.60	1.03	5.81	

HGL COMPUTATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23				
Inlet Str.	Outlet Water Surf Elev (ft)	Do (in)	Qo (cfs)	Lo (ft)	Sfo (%)	Hf (ft)	JUNCTION LOSS										Hi (ft)	Angle (deg)	Ha (ft)	Ht (ft)	1.3Ht (ft)	0.5Ht (ft)	Final H (ft)	Inlet Water Surf Elev (ft)	Rim Elev (ft)	Δ Freeboard (ft)
							Vo (fps)	Ho (ft)	Qi (cfs)	Vi (fps)	QiVi	Vi²/2g														
EX. ST2	177.06	18	3.67	39.18	0.16	0.06	5.3	0.11	1.79	5.3	9.48	0.43	0.15	0	0.00	0.26	0.00	0.13	0.19	177.25	182.00	4.75				
9	177.58	18	1.79	20.92	0.04	0.01	5.3	0.11	0.00	0.0	0.00	0.00	0.00	0	0.00	0.11	0.00	0.05	0.06	177.64	182.23	4.59				
EX. ST4	165.44	18	2.26	37.32	0.06	0.02	8.0	0.25	0.94	6.5	6.14	0.67	0.23	0	0.00	0.48	0.00	0.24	0.26	165.70	173.45	7.75				
14	168.45	15	0.94	24.56	0.03	0.01	6.5	0.17	0.47	3.0	1.40	0.14	0.05	0	0.00	0.22	0.00	0.11	0.11	168.56	176.50	7.94				
16	170.30	15	0.47	154.00	0.01	0.01	3.0	0.03	0.00	0.0	0.00	0.00	0.00	90	0.00	0.03	0.05	0.02	0.03	170.33	175.50	5.17				
EX. ST9	152.42	18	0.88	11.86	0.01	0.00	3.6	0.05	0.89	4.7	4.21	0.35	0.12	0	0.00	0.17	0.00	0.09	0.09	152.51	155.38	2.87				
12	153.13	18	0.89	22.83	0.01	0.00	4.7	0.09	0.00	0.0	0.00	0.00	0.00	79	0.00	0.09	0.00	0.04	0.05	153.18	162.79	9.61				
18	154.55	18	0.64	19.74	0.00	0.00	3.4	0.04	7.61	8.9	68.11	1.24	0.44	41	0.00	0.48	0.00	0.24	0.24	154.79	164.21	9.42				
EX. ST12	144.20	18	7.61	27.10	0.70	0.19	8.9	0.31	2.71	5.4	14.52	0.45	0.16	0	0.00	0.47	0.00	0.23	0.42	144.62	150.31	5.69				
15	145.80	15	2.71	24.72	0.23	0.06	5.4	0.11	0.00	0.0	0.00	0.00	0.00	0	0.00	0.11	0.00	0.06	0.11	145.91	155.00	9.09				
13	142.26	18	4.58	14.29	0.25	0.04	5.2	0.10	0.84	5.3	4.50	0.44	0.16	90	0.00	0.26	0.00	0.13	0.17	142.43	148.03	5.60				
13A	145.03	8	0.84	10.89	0.65	0.07	5.3	0.11	0.84	5.5	4.60	0.46	0.16	90	0.00	0.27	0.00	0.14	0.21	145.24	147.30	2.06				
CO	145.33	8	0.84	10.00	0.65	0.06	5.5	0.12	4.25	6.0	25.51	0.56	0.20	30	0.00	0.31	0.00	0.16	0.22	145.55	147.96	2.41				
17	170.30	15	4.25	33.87	0.58	0.20	6.0	0.14	0.00	0.0	0.00	0.00	0.00	90	0.00	0.14	0.18	0.09	0.29	170.59	175.00	4.41				

INLET COMPUTATION

Rainfall Intensity = 9 in/hr

YARD INLET COMPUTATIONS										
INLET NO.	AREA	C	INLET	Q TO INLET	PONDED DEPTH	% INTER-CEPTION	PICKUP Q	BYPASS Q	THROAT LENGTH	COMMENTS
9	0.57	0.35	YI-1	1.80	0.33	100	1.80	0	4'	1 THROAT
13	0.97	0.43	YI-1	3.75	0.33	100	3.75	0	4'	2 THROATS

Rainfall Intensity = 9 in/hr

DROP INLET COMPUTATIONS														
INLET NO.	AREA	C	INLET	Q TO INLET	Q CARRY OVER	Q TOTAL	Q/(P/2)	PONDED DEPTH	% INTER-CEPTION	PICKUP Q	BYPASS Q	TOP ELEV	50% BLOCKED ELEV (10 YR)	COMMENTS
14	0.15	0.35	DI-1	0.47	0.25	0.73	0.16	0.17	100	0.47	0.00	176.50	176.67	
12	0.07	0.39	DI-1	0.25	0.00	0.25	0.05	0.17	100	0.25	0.00	161.83	162.00	
15	0.73	0.51	DI-1	3.35	0.00	3.35	0.74	0.45	100	3.35	0.00	155.00	155.45	
16	0.14	0.37	DI-1	0.47	0.00	0.47	0.10	0.17	100	0.47	0.00	175.50	175.67	
17	1.05	0.45	DI-1	4.25	0.00	4.25	0.95	0.50	94.06%	4.00	0.25	175.00	175.50	

NOTE: SEE SHEET C801 - EROSION & SEDIMENT CONTROL PLAN - PHASE 2 FOR DRAINAGE DIVIDE AREAS AND MANNING'S N VALUES.

STORM COMPUTATION

NOTE: THE INVERTS, PIPE DIAMETER, AND RIM ELEVATION INFORMATION BELOW ARE OBTAINED FROM GIS.

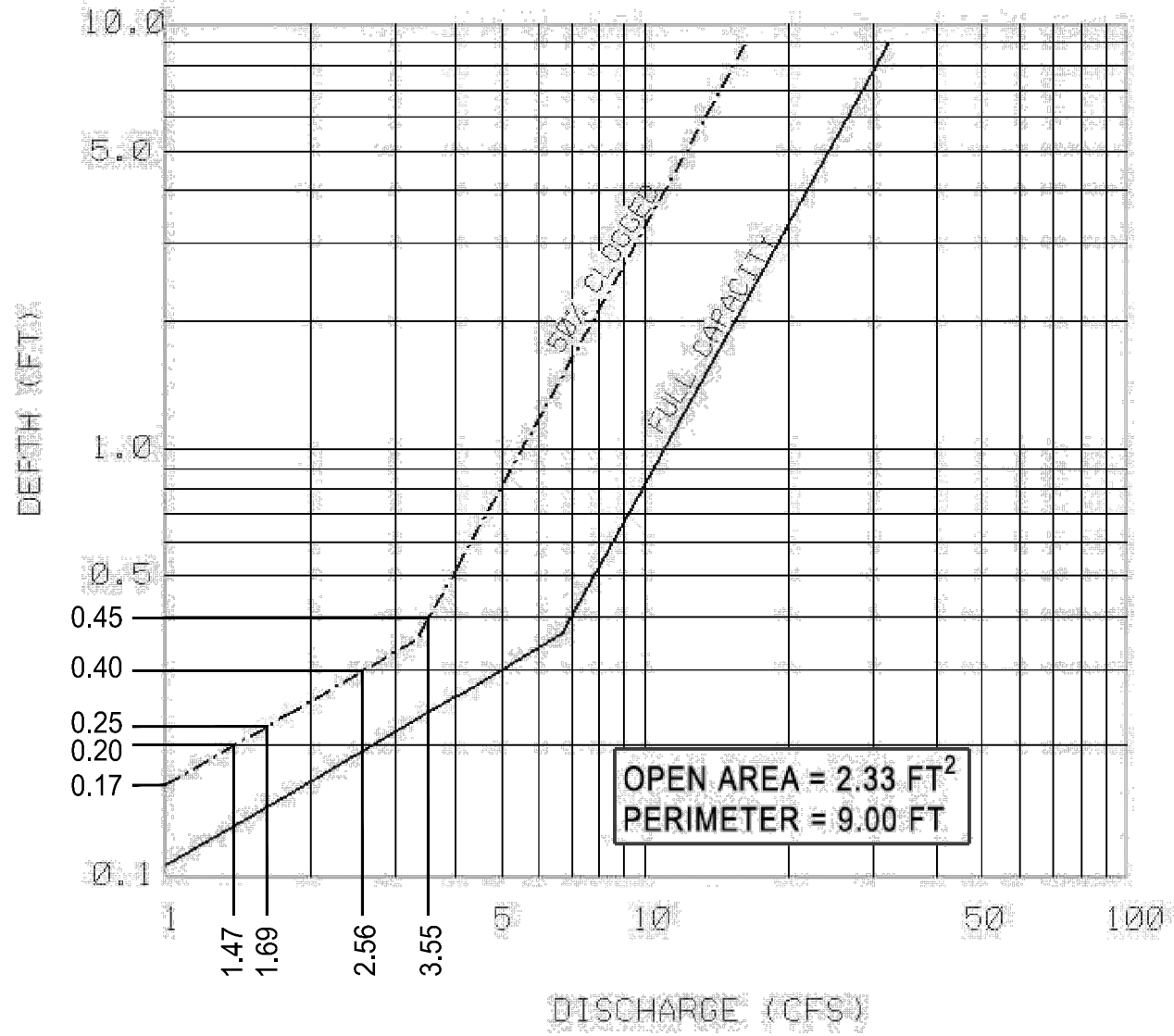
FROM	TO	DRAIN AREA	RUNOFF COEFF.	CA		INLET TIME	RAINFALL INTENSITY	RUNOFF Q	INVERT ELEVATIONS (FT)		LENGTH	SLOPE	DIA.	N	CAPACITY	VELOCITY	FULL FLOW VELOCITY	FLOW TIME	Q/Q _{full}	V/V _{full}	V _{full}	NOTES
POINT	POINT	ACRES	C	INCREM.	ACCUM.	MIN.	IN/HR.	C.F.S.	UPPER	LOWER	FT	FT/FT	IN.		C.F.S.	FPS	FPS	SEC.				
NODE 3	NODE 4														462.90	136.14	126.78	522.00	0.0179	66	0.013	See Q10 os sheet C605

HGL COMPUTATION

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Inlet Str.	Outlet Water Surf Elev (ft)	Do (in)	Qo (cfs)	Lo (ft)	Sfo (%)	Hf (ft)	JUNCTION LOSS										Final H (ft)	Inlet Water Surf Elev (ft)	Rim Elev (ft)	Δ Freeboard (ft)		
							Vo (fps)	Ho (ft)	Qi (cfs)	Vi (fps)	QjVi	Vi^2 2g	Hi (ft)	Angle (deg)	Ha (ft)	Ht (ft)					1.3Ht (ft)	0.5Ht (ft)
NODE 3	131.18	66	462.90	522.00	2.53	13.21	21.6	1.80	0.00	0.0	0.00	0.00	0.00	0	0.00	1.80	0.00	0.90	14.11	145.29	146.14	0.85

Chapter 9 – Storm Drains

Appendix 9C-13 Performance Curve DI-1 in a Sump



NOTE: TYPICAL GRATE INLET IN SUMP DI-1 PONDING DEPTH

Source: VDOT Transportation Research Council publication "HYDRAULIC EFFICIENCY OF GRATE INLET", 1988

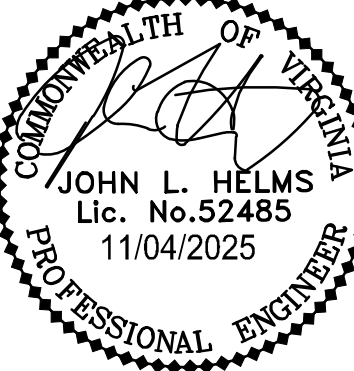
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO. CP2021-00008
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CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MO DATE: -
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APPROVED BY: DL DATE: -



STORM SEWER COMPS

SCALE NOT TO SCALE

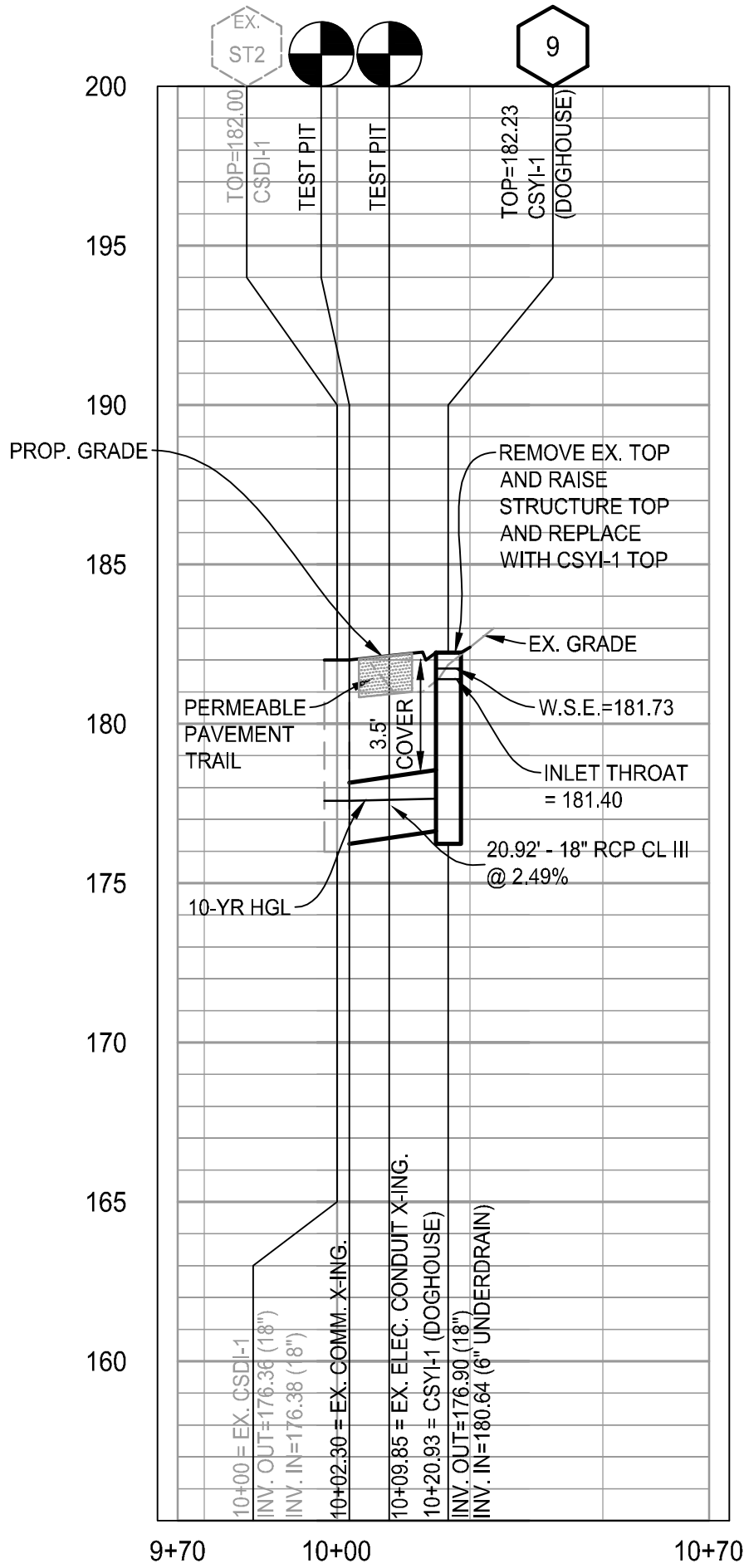
SHEET

C650

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

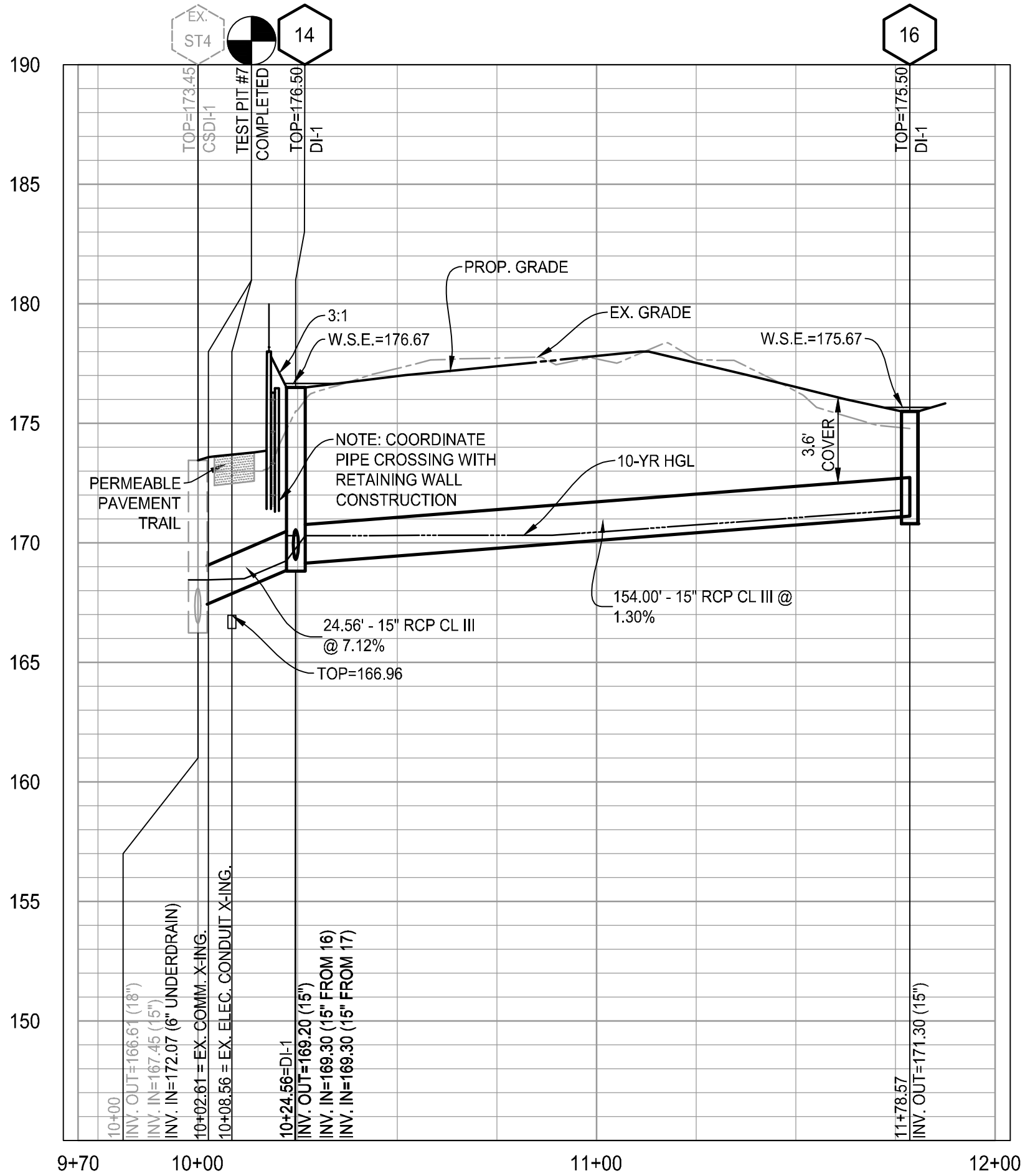
EX.ST2-9 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



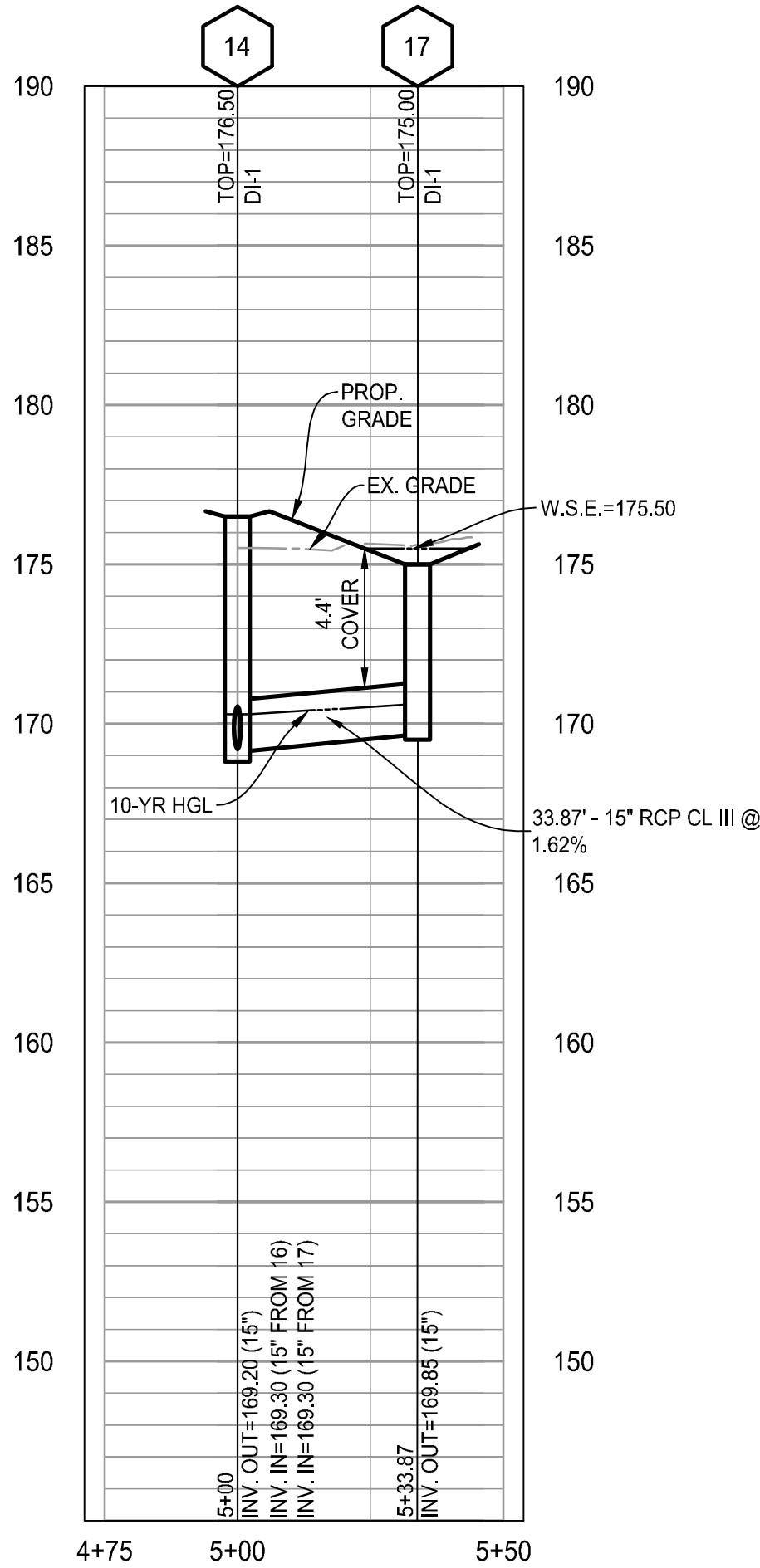
EX.ST4-16 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



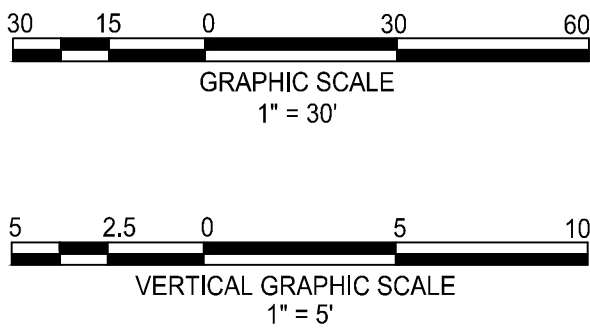
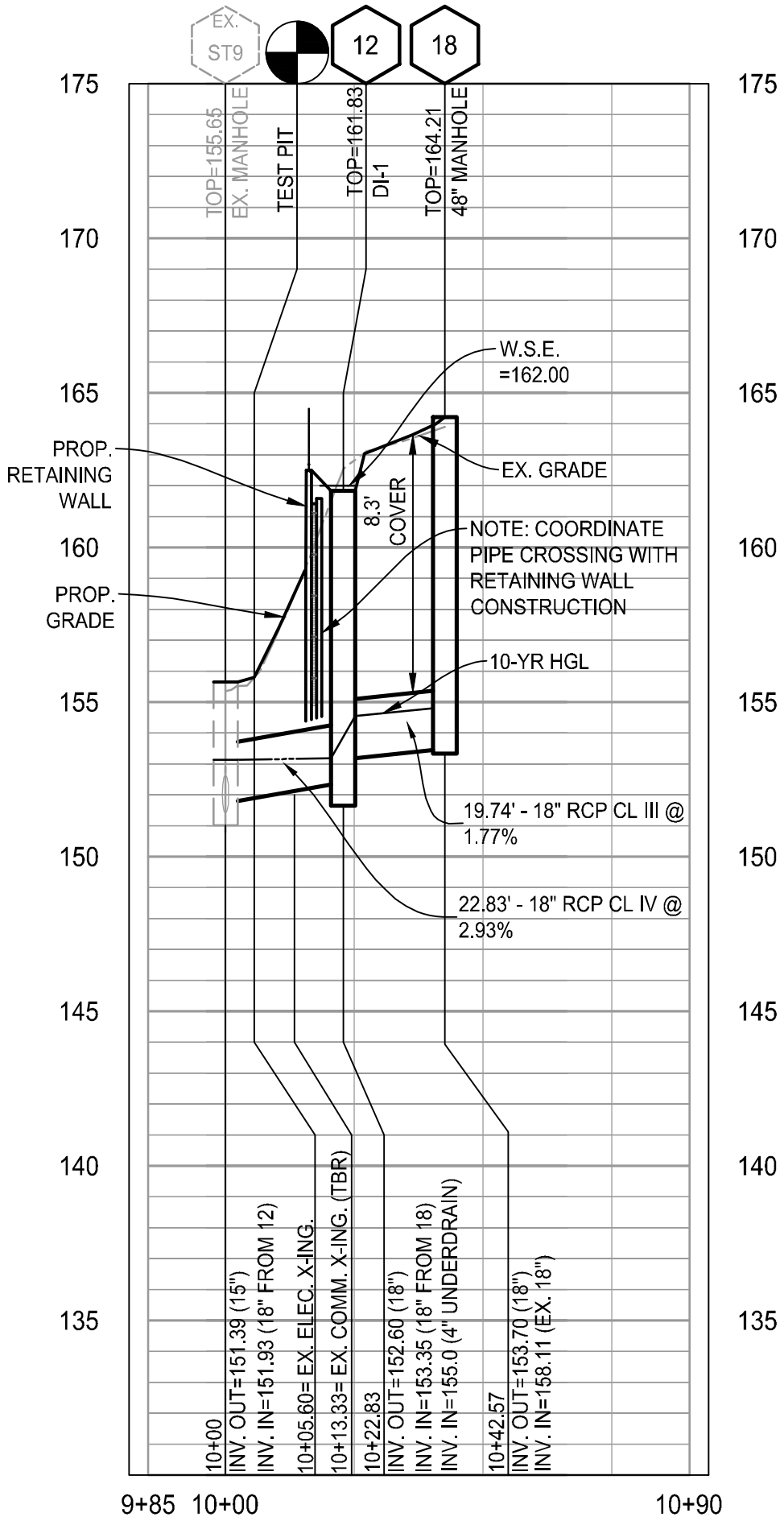
14-17 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



EX.ST9-18 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

STORM SEWER
PROFILES

SCALE SEE DWGS.

SHEET

C651

ALEXANDRIA PROJECT NO.: CP2021-0006
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APPROVED BY: DL DATE: -

JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

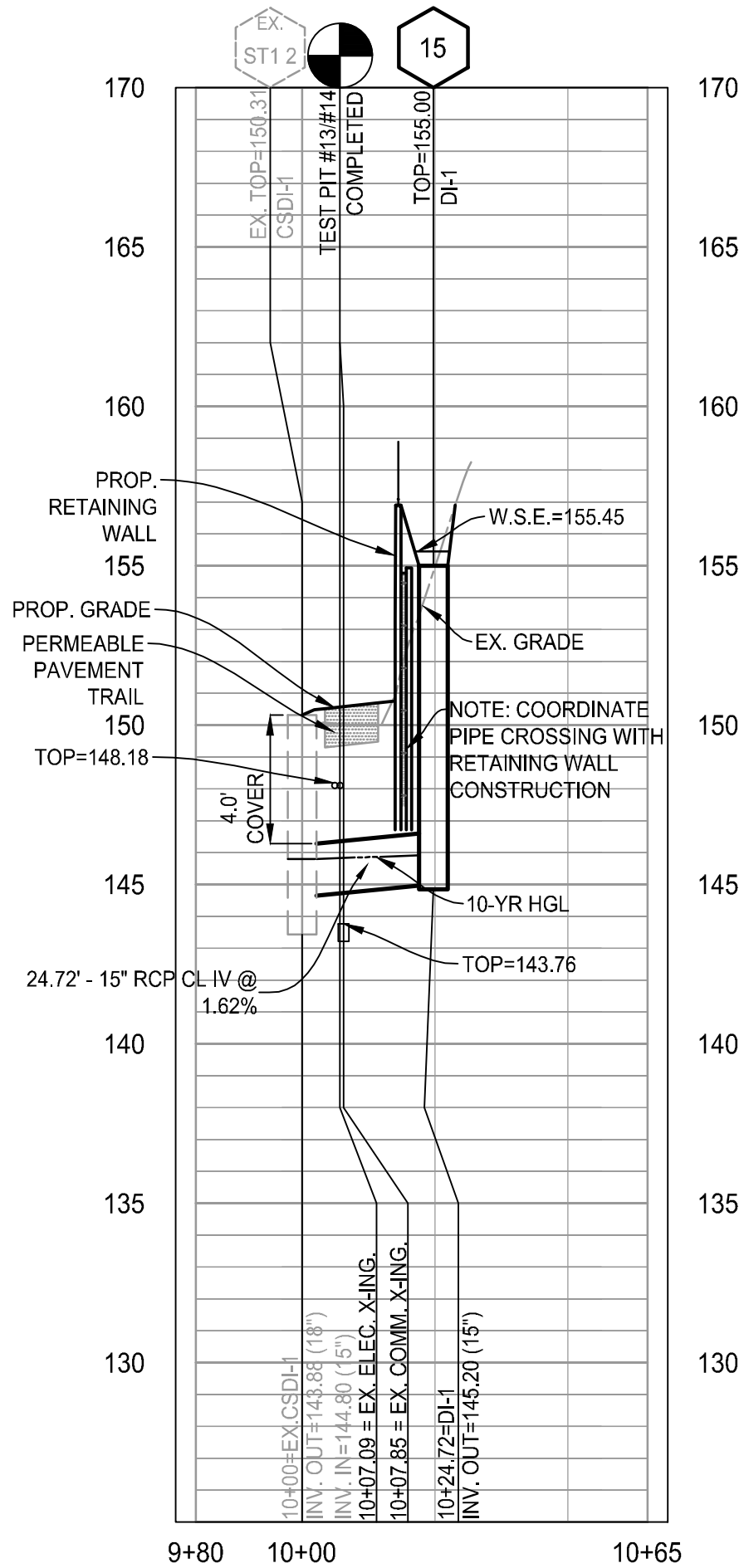
REVISIONS	DATE	DESCRIPTION

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DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314



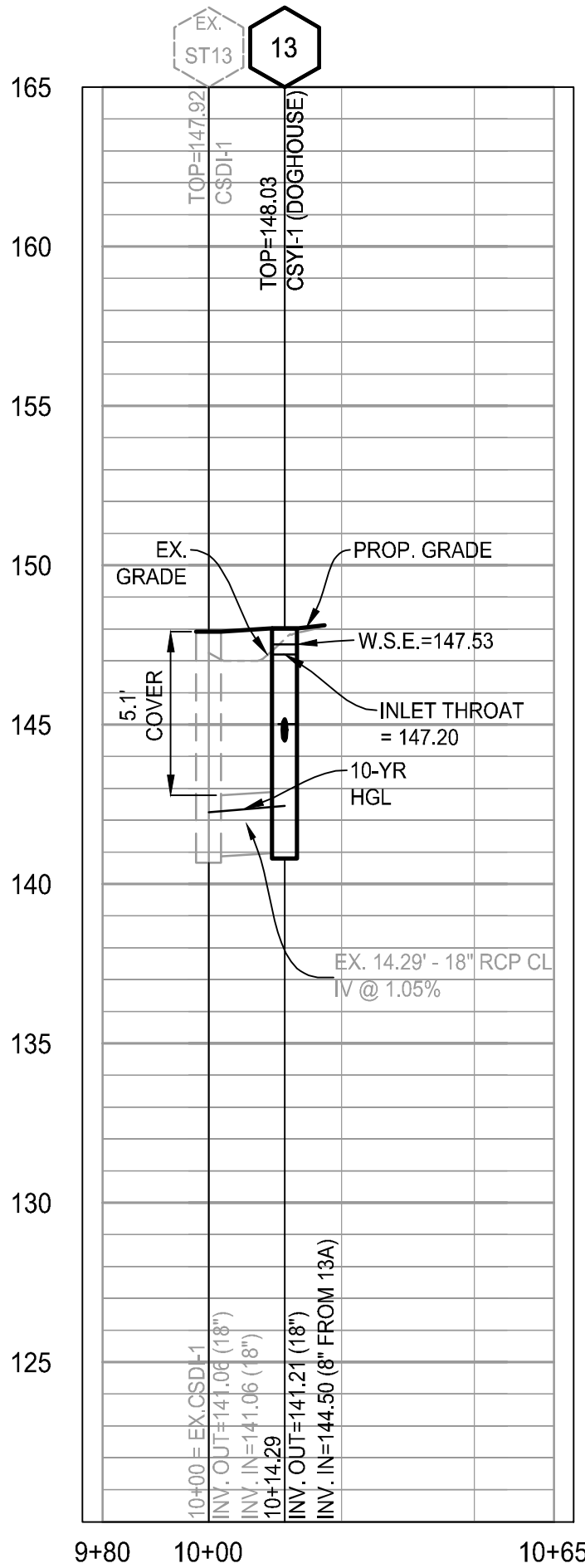
EX.ST12-15 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



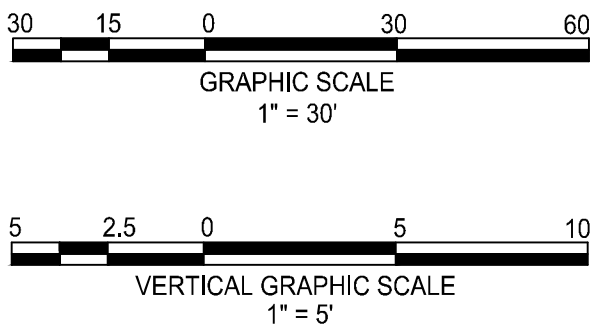
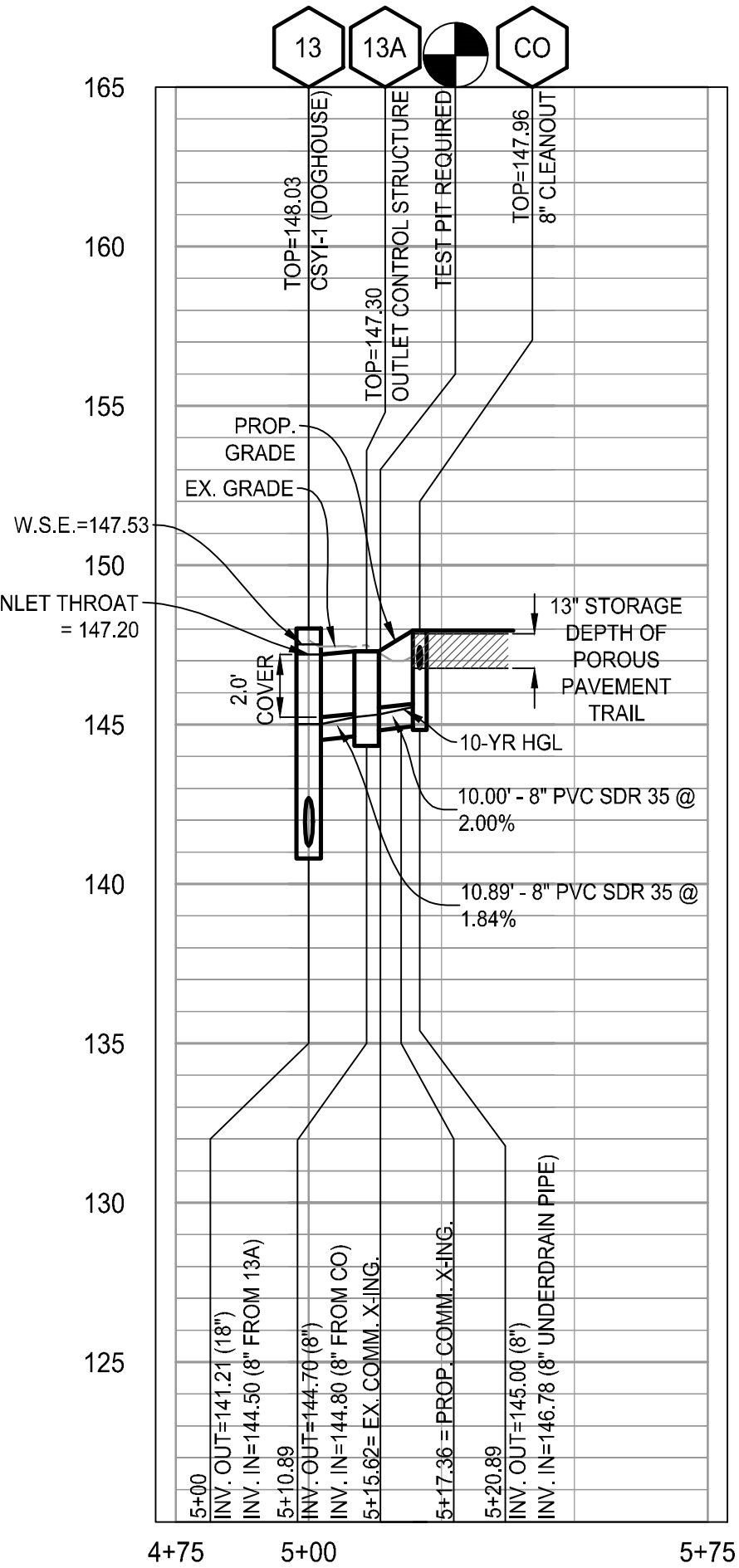
EX.ST13 - 13 STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



13 - CO STORM PROFILE

HOR. SCALE: 1" = 30'
VERT. SCALE: 1" = 5'
(PUBLIC)



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

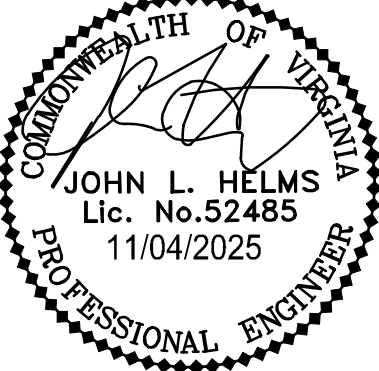
BID SET

STORM SEWER
PROFILES

SCALE SEE DWGS.

SHEET

C652



ALEXANDRIA PROJECT NO.:	CP2021-00008
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DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314



P:\Projects\21266\00100\111671 - 90%\C701 CONCEPTUAL TRAFFIC CONTROL PLAN.dwg PLOTTED: 7/18/2025 8:49:57 AM BY AUGUST HINENKAMP

OVERALL PROJECT:

THE MAINTENANCE OF TRAFFIC (MOT) PLAN WILL ACCOMMODATE THE CONSTRUCTION ACTIVITIES FOR THE DEMOLITION OF EXISTING SIDEWALK AND PLACEMENT OF PERVIOUS PAVEMENT AS A SHARED USE PATH LOCATED ON THE SOUTH SIDE OF NORTH BEAUREGARD STREET (ROUTE 942) BETWEEN FILLMORE AVE AND BERKELEY ST.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING TES PERMIT REQUIREMENTS.

THE MOT PLAN WILL BE IMPLEMENTED IN TWO PHASES.

SEE SHEET C701 FOR MAINTENANCE OF TRAFFIC PLAN.

NOTE:

1. THE SITE WORK AREA WILL REQUIRE TO FOLLOW TTC-16.2 REGULATIONS PER VIRGINIA WORK PROTECTION MANUAL.
2. THE DISTANCE BETWEEN SIGNS AND THE BEGINNING OF CHANNELIZING DEVICES SHOULD BE 350'-500' IN AREAS WHERE THE SPEED LIMIT IS 45 MPH OR LESS AND SPACING SHOULD BE 500'-800' IN AREAS WHERE THE SPEED LIMIT IS GREATER THAN 45 MPH. THE POSTED SPEED LIMIT ON NORTH BEAUREGARD STREET NEAR THE PROJECT IS 35 MPH.

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER. CONTRACTOR WILL CONTACT CITY BEFORE SETTING WORK ZONE.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLANS, OR DIRECTED BY THE ENGINEER.

1. TRAFFIC CONTROL AND SAFETY MEASURES SHALL BE IN CONFORMANCE WITH THE FOLLOWING, AND THE LATEST REVISIONS THERETO:

a) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

b) THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE STANDARDS.

c) THE VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE SPECIFICATIONS.

d) THE 2011 VIRGINIA WORK AREA PROTECTION MANUAL, REVISION 2.1, NOVEMBER 1, 2020.
2. UNLESS OTHERWISE APPROVED OR DIRECTED BY THE CITY INSPECTOR, THE CONTRACTOR SHALL PLAN AND EXECUTE THE WORK IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION.
3. THE SEQUENCE OF CONSTRUCTION AND MAINTENANCE OF TRAFFIC SHOW THE MAJOR TRAFFIC CONTROL AND THE SEQUENCING OF CONSTRUCTION. THE DAILY CONTROL OF TRAFFIC, INCLUDING THE PROVISION, PLACEMENT, MAINTENANCE, AND THE REMOVAL OF TRAFFIC DEVICES SHALL BE THE CONTRACTOR'S RESPONSIBILITY. THE TRAFFIC CONTROL DEVICES REQUIRED ARE SHOWN ON THE PLAN AND THE IDENTIFIED FIGURES OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
4. ROAD DRUMS TO BE REMOVED FROM ROAD AND PLACED ON SHOULDER AFTER COMPLETION OF EACH DAYS WORK.
5. CONTRACTOR TO COORDINATE WITH CITY OF ALEXANDRIA PRIOR TO IMPLEMENTING PLAN AND ANY OTHER CONSTRUCTION ACTIVITY WITHIN RIGHT OF WAY.
6. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE II, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:

MONDAY THROUGH FRIDAY FROM 9:00 AM TO 3:30 PM

SATURDAYS FROM 9:00 AM TO 3:30 PM

NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAY

7. DO NOT CLOSE OR NARROW TRAVEL LANES FOR ALL ROADS DURING SPECIAL EVENTS AS FOLLOWS:

SPECIAL EVENTS

a) FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.

b) FOR ANY SPECIAL EVENT, SUCH AS THE CHRISTMAS WALK, OCCURRING BETWEEN 3 HOURS BEFORE THE START AND 3 HOURS AFTER THE END OF THE SPECIAL EVENT, AS DIRECTED BY THE ENGINEER.
8. DO NOT CLOSE OR NARROW TRAVEL LANES OR CLOSE SIDEWALKS OR PEDESTRIAN CROSSINGS WITHIN $\frac{1}{2}$ MILE OF A SCHOOL DURING ARRIVAL AND DISMISSAL HOURS ON A SCHOOL DAY. COORDINATE WITH THE AFFECTED SCHOOL CONCERNING OPERATION HOURS AND SCHOOL DAYS. AS A MINIMUM, DO NOT CLOSE OR NARROW A LANE OR CLOSE A SIDEWALK OR PEDESTRIAN CROSSING DURING HOURS POSTED ON SCHOOL SPEED ZONE SIGNS (WHEN PRESENT).
9. WHEN WORK REQUIRES, USE A POLICE OFFICER(S) TO DIRECT TRAFFIC THROUGH THE INTERSECTION WHILE A TRAFFIC SIGNAL IS NOT IN OPERATION. DO NOT TAKE TRAFFIC SIGNAL OUT OF OPERATION FOR MORE THAN 1 HOUR AT A GIVEN INTERSECTION. DO NOT TAKE ANY TRAFFIC SIGNAL OUT OF OPERATION BETWEEN THE HOUR OF 4:00 PM AND 9:00 AM THE FOLLOWING MORNING.

LANE AND SHOULDER CLOSURE REQUIREMENTS

10. FOR WORK BEYOND THE SHOULDER, POST SIGNAGE IN ACCORDANCE WITH FIGURE TTC-01 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
11. FOR WORK ON THE SHOULDER, PERFORM IN ACCORDANCE WITH FIGURE TTC-04 AND TTC-05 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
12. FOR WORK IN THE TRAVELWAY, PERFORM IN ACCORDANCE WITH APPLICABLE FIGURES TTC-15 THROUGH TTC-17 AND TTC-21 THROUGH TTC-23 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
13. FOR WORK IN THE TRAVELWAY AT AN INTERSECTION, PERFORM LANE CLOSURES IN ACCORDANCE WITH APPLICABLE FIGURES TTC-26 THROUGH TTC-29 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
14. PERFORM SIDEWALK AND CROSSWALK CLOSURES IN ACCORDANCE WITH FIGURES TTC-35 AND TTC-36 OF THE VIRGINIA WORK AREA PROTECTION MANUAL.
15. DO NOT INSTALL MORE THAN ONE LANE CLOSURE IN ANY ONE DIRECTION ON ANY ROADWAY.

SIGNING

16. INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE. INSTALL SIGNS IMMEDIATELY PRIOR TO THE BEGINNING OF CONSTRUCTION AND REMOVE OR COVER SIGNS UPON COMPLETION AND DURING INACTIVE PERIODS.
17. ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.
18. THE WORD "SIGNAL" OR "UTILITY" MAY BE USED IN LIEU OF "ROAD" ON W20-1 (ROAD WORK AHEAD) SIGNS G20-2a (END ROAD WORK) SIGNS. HOWEVER, DO NOT INTERMIX SIGNS.

TRAFFIC CONTROL DEVICES

19. SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.
20. PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PEDESTRIANS

21. MAINTAIN REASONABLE AND SAFE PEDESTRIAN ACCESS TO ALL BUSINESSES, SCHOOLS AND DWELLINGS IN AREAS AFFECTED BY CONSTRUCTION AT ALL TIMES.
22. WHEN CONSTRUCTION ACTIVITIES WILL BLOCK PEDESTRIAN ACCESS TO PEDESTRIAN SIGNAL PUSHBUTTONS, NOTIFY THE ENGINEER AT LEAST 24 HOURS IN ADVANCE OF SUCH WORK TO HAVE THE TRAFFIC SIGNAL PLACE ON PEDESTRIAN RECALL.
23. REFER TO MUTCD SECTION 6D.01, "PEDESTRIAN CONSIDERATIONS" AND SECTION 6D.02, "ACCESSIBILITY CONSIDERATIONS" FOR ADDITIONAL REQUIREMENTS AND CONSIDERATIONS FOR MAINTAINING PEDESTRIAN TRAFFIC THROUGH WORK AREA.

MISCELLANEOUS

24. POLICE MAY BE USED TO MAINTAIN TRAFFIC THROUGH THE WORK AREA AND/OR INTERSECTIONS, AS DIRECTED AND APPROVED IN ADVANCE BY THE ENGINEER, AND SUBJECT TO THE FOREMENTIONED TIME RESTRICTIONS. THE CONTRACTOR IS RESPONSIBLE FOR ANY COST ASSOCIATED WITH HAVING THE POLICE DIRECT TRAFFIC.

CONTACT INFORMATION

1. ALEXANDRIA EMERGENCY MANAGEMENT (703) 746-5200
2. TES PERMIT (703) 746-4035
3. VDOT NOVA WORK ZONE SAFETY COORDINATOR (703) 259-2394



Commonwealth of Virginia

Virginia Department of Transportation



VDOT

VERIFICATION OF COMPLETION OF VDOT ADVANCED WORK ZONE TRAFFIC CONTROL TRAINING

This is to verify that Paul Fleck has successfully completed training and an examination by the Department on the proper practices and methods for the installation, maintenance, removal of temporary traffic control devices and flagging operations.

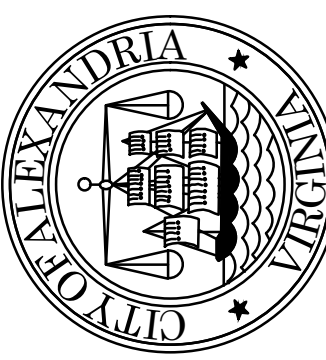
Expiration Date: 6/30/2027

Verification Number: 061523107



State Traffic Ops Eng

BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00068

DATE OF PLAN ISSUANCE: 11/15/24

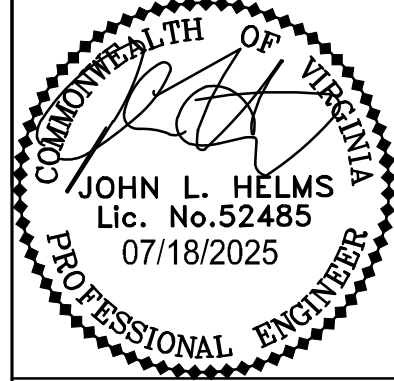
CONSULTANT PROJECT ID.: 21266.001.00

DESIGNED BY: EG DATE: -

DRAWN BY: MO DATE: -

CHECKED BY: AG DATE: -

APPROVED BY: DL DATE: -



JOHN L. HELMS
Lic. No. 52485
07/18/2025
PROFESSIONAL ENGINEER

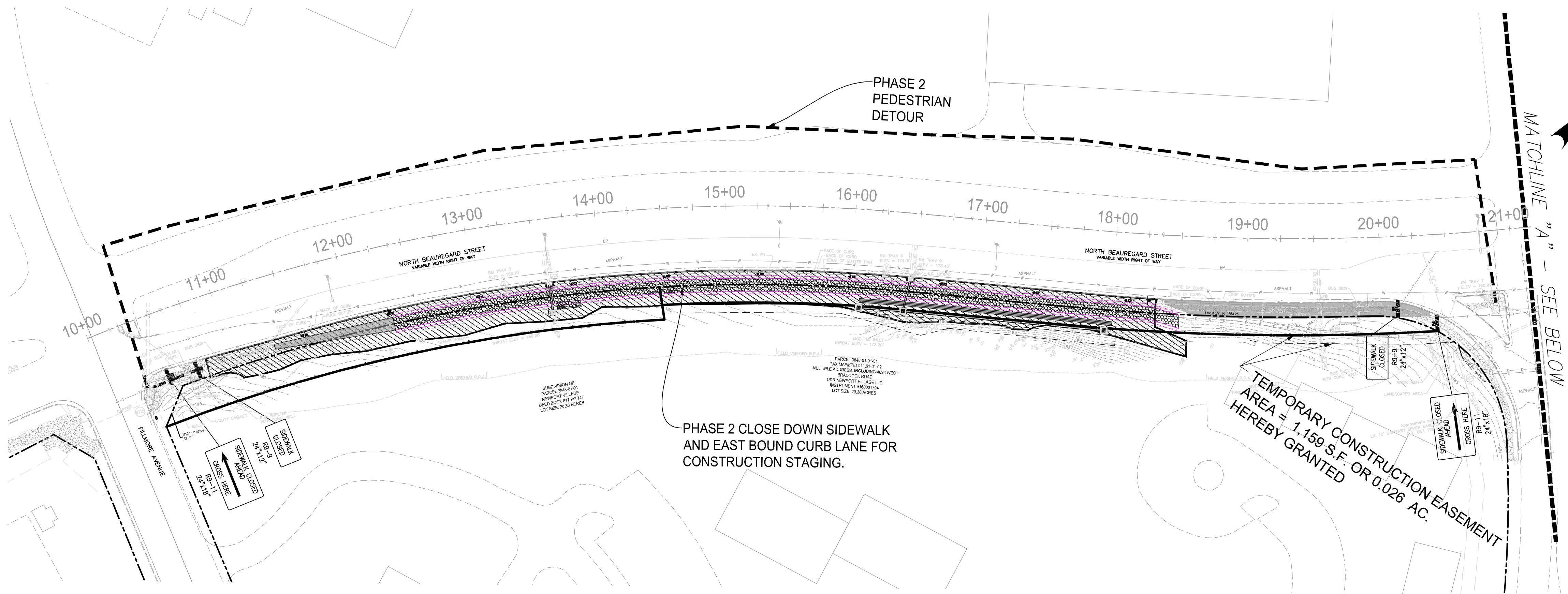
TRANSPORTATION
MANAGEMENT PLAN
(TMP)

SCALE NOT TO SCALE

SHEET

C700

P:\Projects\21266\00100\111671 - 90%\C701 CONCEPTUAL TRAFFIC CONTROL PLAN.dwg PLOTTED: 7/18/2025 8:50:09 AM BY AUGUST HINENKAMP



- NOTE:**
- SEE SHEET C702 FOR TYPICAL TRAFFIC CONTROL OUTSIDE LANE CLOSURE OPERATION ON A FOUR-LANE ROADWAY (FIGURE TTC-16.2).
 - SIDEWALK CLOSURES ARE SUBJECT TO SEPARATE APPROVAL FROM TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) AT THE TIME OF PERMIT APPLICATION. PER MEMO TO INDUSTRY #04-18, PEDESTRIANS SHALL NOT BE DIVERTED ACROSS THE STREET WITHOUT THE APPROVAL FROM THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES OR HIS DESIGNEE.
 - CONTRACTOR SHALL APPLY FOR ALL NECESSARY PERMITS FOR USES OF THE CITY RIGHT OF WAY AND SHALL SUBMIT MOT PLANS WITH THE T&ES APPLICATION FOR FINAL APPROVAL AT THAT TIME.

TRAFFIC CONTROL AND PHASING NARRATIVE:

THE CONSTRUCTION OF THIS PROJECT WILL BE BROKEN UP TO 2 DIFFERENT PHASES:

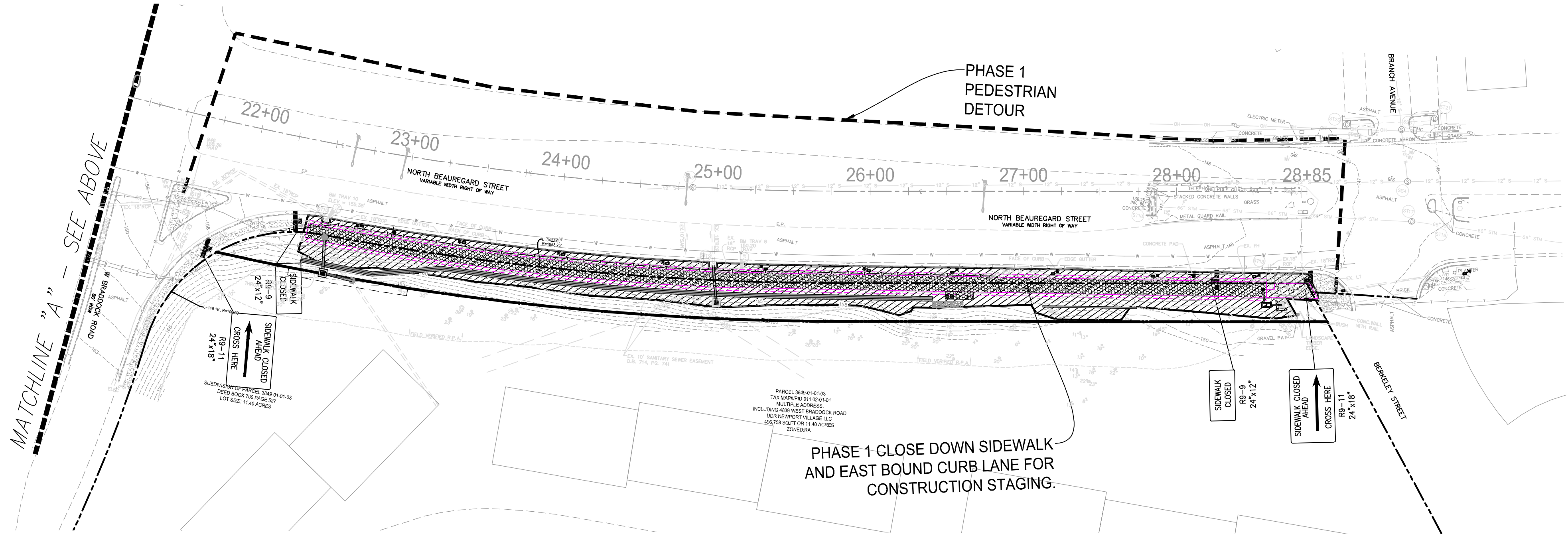
PHASE 1: CONSTRUCTION OF THIS PHASE IS BETWEEN BRADDOCK ROAD AND BERKELEY STREET. THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF THE STREET WILL BE CLOSED AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE SIDEWALK ON THE NORTH SIDE OF THE STREET. A PORTION OF THE EAST BOUND TRAVEL LANE ADJACENT TO THE CURB WILL BE CLOSED DOWN DURING WORK HOURS TO ALLOW FOR AN AREA FOR THE CONTRACTOR TO USE FOR STAGING PURPOSES.

PHASE 2: CONSTRUCTION OF THIS PHASE IS BETWEEN BRADDOCK ROAD AND FILLMORE STREET. THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF THE STREET WILL BE CLOSED AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE SIDEWALK ON THE NORTH SIDE OF THE STREET. A PORTION OF THE EAST BOUND TRAVEL LANE ADJACENT TO THE CURB WILL BE CLOSED DOWN DURING WORK HOURS TO ALLOW FOR AN AREA FOR THE CONTRACTOR TO USE FOR STAGING PURPOSES.

PEDESTRIAN DETOUR NARRATIVE:

PHASE 1: THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF N. BEAUREGARD STREET WILL BE CLOSED FROM W. BRADDOCK ROAD TO BERKELEY STREET AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE 5' WIDE SIDEWALK ON THE NORTH SIDE OF N. BEAUREGARD STREET. PEDESTRIAN PATH DETOUR INCLUDES CROSSING SIGNS FOR WEST AND EAST BOUND TO CROSS NORTH AT THE BERKELEY AND N. BEAUREGARD STREET INTERSECTION AND W. BRADDOCK ROAD AND N. BEAUREGARD STREET INTERSECTION.

PHASE 2: THE ENTIRE SIDEWALK ON THE SOUTH SIDE OF N. BEAUREGARD STREET WILL BE CLOSED FROM FILLMORE AVENUE TO W. BRADDOCK ROAD AND PEDESTRIANS WILL FOLLOW A DETOUR TO WALK ON THE 5' WIDE SIDEWALK ON THE NORTH SIDE OF N. BEAUREGARD STREET. PEDESTRIAN PATH DETOUR INCLUDES CROSSING SIGNS FOR WEST AND EAST BOUND TO CROSS NORTH AT THE BERKELEY AND N. BEAUREGARD STREET INTERSECTION AND W. BRADDOCK ROAD AND N. BEAUREGARD STREET INTERSECTION.



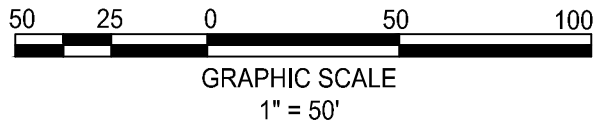
Commonwealth of Virginia
Virginia Department of Transportation
VERIFICATION OF COMPLETION OF VDOT ADVANCED WORK
ZONE TRAFFIC CONTROL TRAINING

This is to verify that Paul Fleck has successfully completed training and an examination by the Department on the proper practices and methods for the installation, maintenance, removal of temporary traffic control devices and flagging operations.

Expiration Date: 6/30/2027
Verification Number: 061523107

State Traffic Ops Eng

THIS MOT PLAN IS FOR INFORMATION ONLY!!!



BID SET

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO.: CP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -



JOHN L. HELMS
Lic. No. 52485
07/18/2025

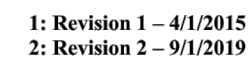
TRAFFIC CONTROL PLAN

SCALE 1" = 50'

SHEET

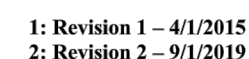
C701

NOTES



**** NOT PROPOSED WITH THIS
TRAFFIC CONTROL PLAN**

NOTES



1: Revision 1 – 4/1/2015
2: Revision 2 – 7/1/2018

THIS MOT PLAN IS FOR INFORMATION ONLY!!!

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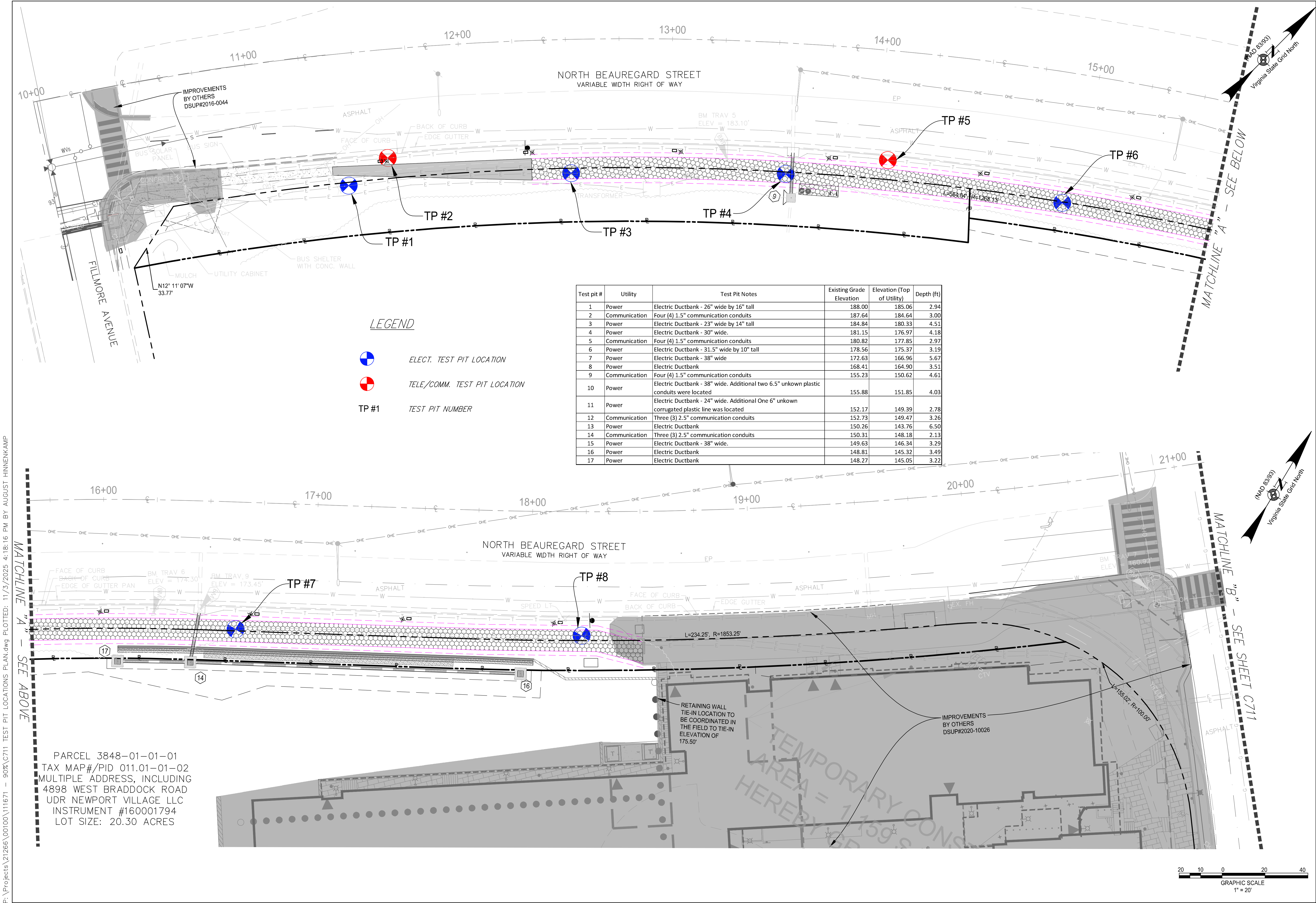
MALEXANDRIA PROJECT NO.:	QP/2021-00008
DATE OF PLAN ISSUANCE:	11/15/24
CONSULTANT PROJECT ID.:	21266.001.00
DESIGNED BY:	EG DATE: —
DRAWN BY:	MQ DATE: —
CHECKED BY:	AG DATE: —
APPROVED BY:	DL DATE: —



SHEET

C702

P:\Projects\21266\00100\111671 - 90%\C711 TEST PIT LOCATIONS PLAN.dwg PLOTTED: 11/3/2025 4:18:16 PM BY AUGUST HINNENKAMP



BID SET

CITY OF ALEXANDRIA, VIRGINIA

DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

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DATE OF PLAN ISSUANCE: 11/15/24

CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -

DRAWN BY: MO DATE: -

CHECKED BY: AG DATE: -

APPROVED BY: DL DATE: -

COMMONWEALTH OF VIRGINIA

JOHN L. HELMS

Lic. No. 52485

11/04/2025

PROFESSIONAL ENGINEER

TEST PITS LOCATION PLAN

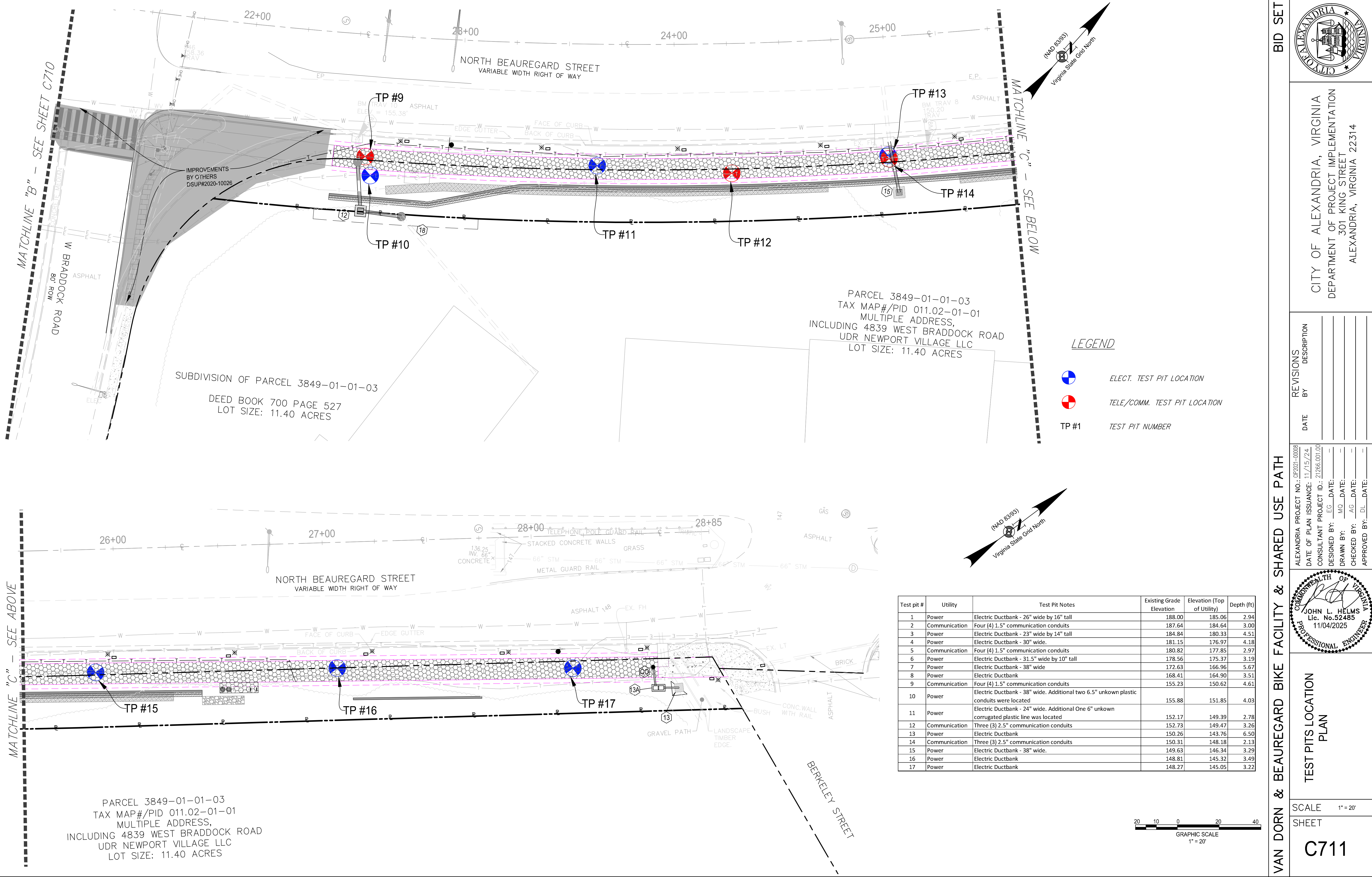
SCALE 1" = 20'

SHEET

C710

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

P:\Projects\21266\00100\111671 - 90% C711 TEST PIT LOCATIONS PLAN.dwg PLOTTED: 11/3/2025 4:18:31 PM BY AUGUST HINNENKAMP



BID SET

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MQ DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -

JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

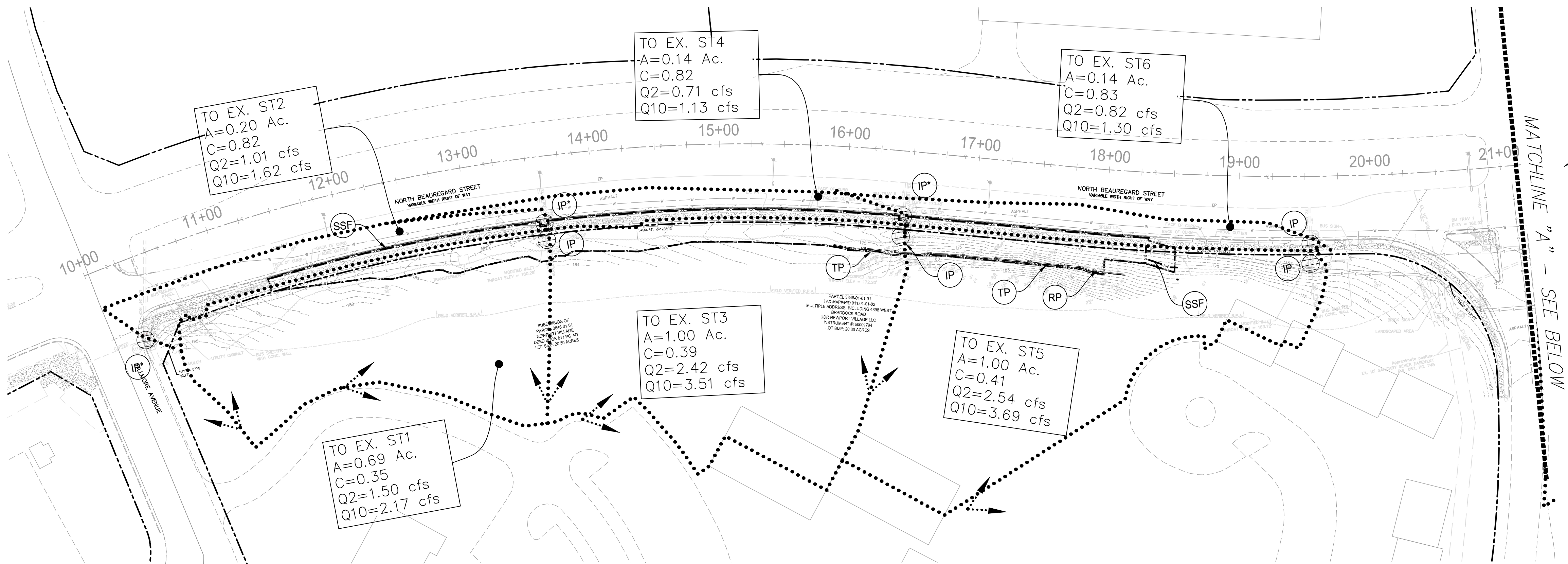
TEST PIT LOCATION
PLAN

SCALE 1" = 20'

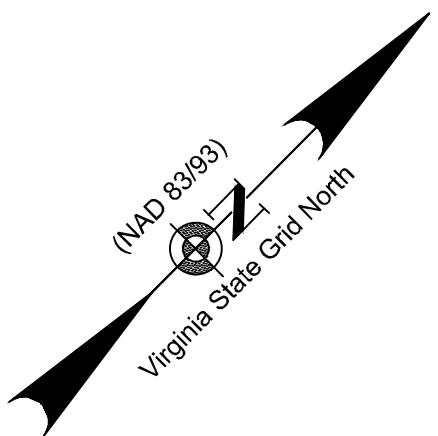
SHEET C711

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

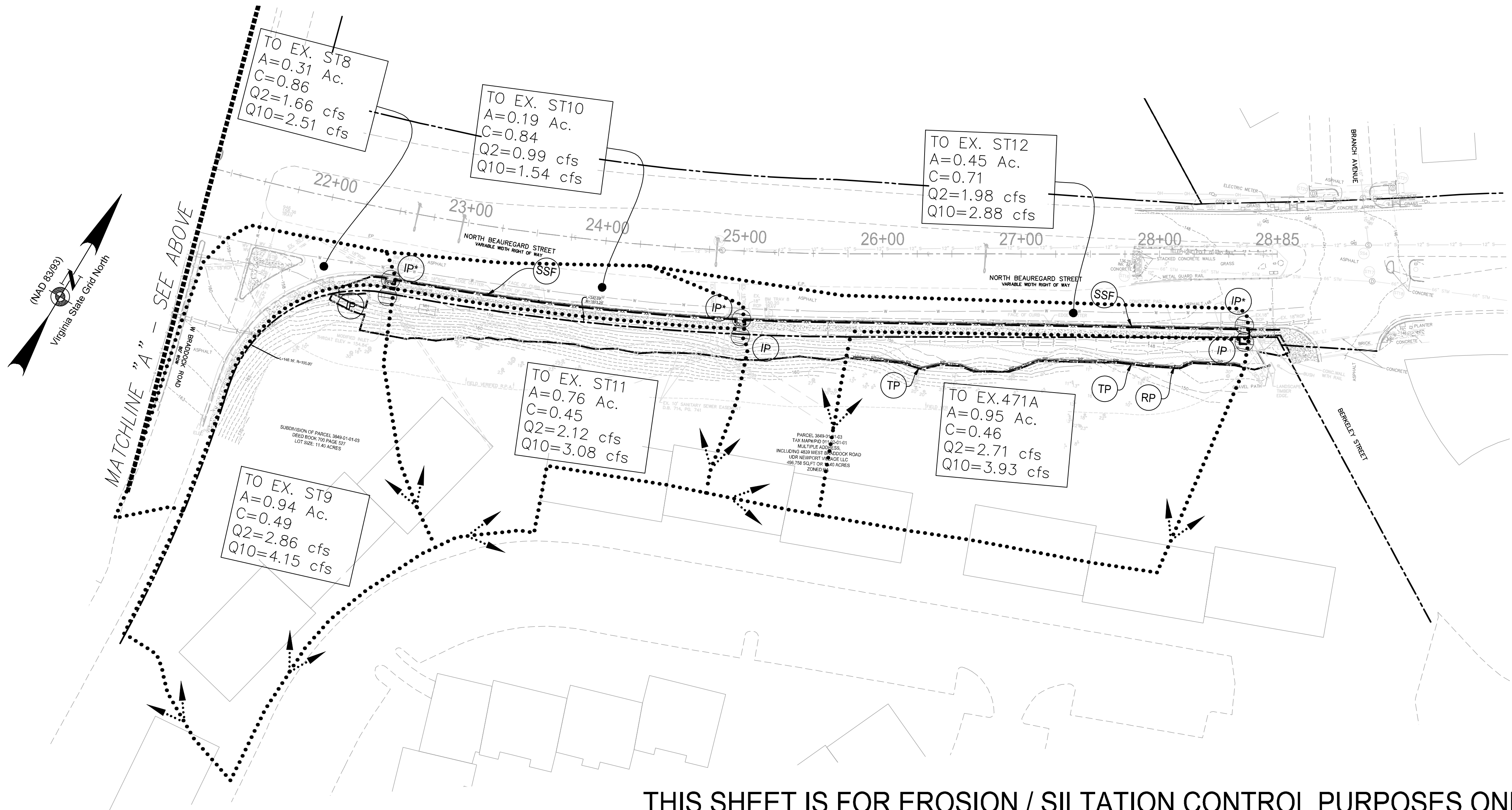
P:\Projects\21266\00100\111671 - 90%\C801 EROSION & SEDIMENT CONTROL PLAN - PHASE 1.dwg PLOTTED: 11/3/2025 4:19:04 PM BY AUGUST HINNENKAMP



TOTAL DISTURBED AREA = 37,900 SF OR 0.87 AC



MATCHLINE "A" - SEE BELOW

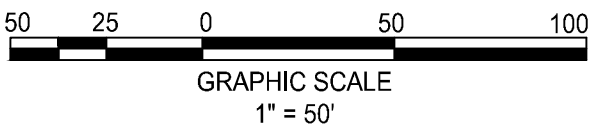


NOTES:

- A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF INFRASTRUCTURE AND RIGHT OF WAY (ROW) PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF.
- ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL CONFORM TO THE LATEST EDITION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK".
- ADDITIONAL EROSION AND SEDIMENT CONTROLS SHALL BE PROVIDED, IF DIRECTED BY THE CITY INSPECTOR.

EROSION/SEDIMENT CONTROL LEGEND

- IP INLET PROTECTION, SPEC 3.07
- IP* INLET PROTECTION, SPEC 3.07 GUTTER GATOR
- SSF SUPER SILT FENCE
- XX PHASE 1 DRAINAGE DIVIDE
- LOD LIMITS OF DISTURBANCE
- TP TREE PROTECTION FENCING, SPEC 3.38
- RP ROOT PRUNING



THIS SHEET IS FOR EROSION / SILTATION CONTROL PURPOSES ONLY!

BID SET

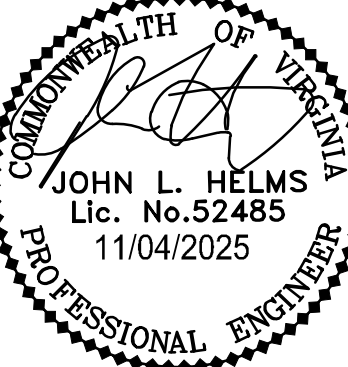
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO. CP2021-00008	DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: EG DATE: -
	DRAWN BY: MO DATE: -
	CHECKED BY: AG DATE: -
	APPROVED BY: DL DATE: -



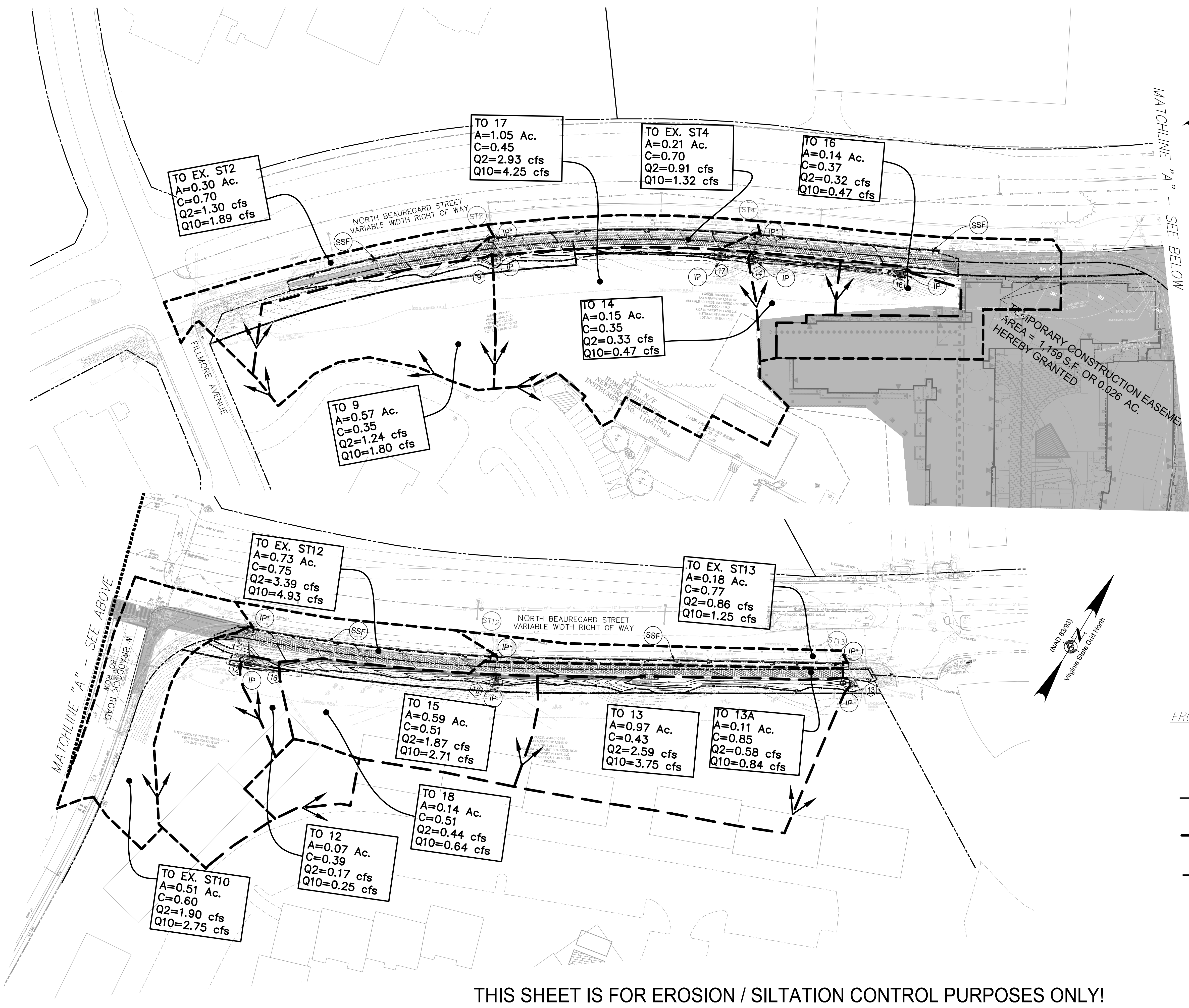
EROSION & SEDIMENT
CONTROL PLAN -
PHASE 1

SCALE 1" = 50'

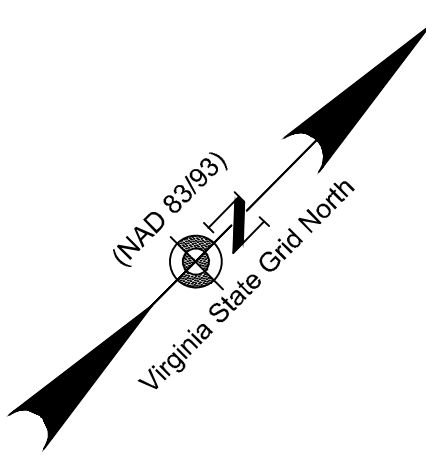
SHEET

C800

P:\Projects\21266\00100\111671 - 90%\C802 EROSION & SEDIMENT CONTROL PLAN - PHASE 2.dwg PLOTTED: 11/3/2025 4:19:47 PM BY AUGUST HINNENKAMP



TOTAL DISTURBED AREA = 37,900 SF OR 0.87 AC

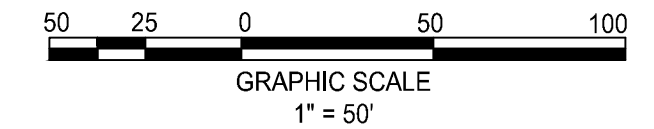


MATCHLINE "A" - SEE BELOW

MATCHLINE "A" - SEE ABOVE

EROSION/SEDIMENT CONTROL LEGEND

- (IP) INLET PROTECTION, SPEC 3.07
- (IP*) INLET PROTECTION, SPEC 3.07 GUTTER GATOR
- (SSF) SUPER SILT FENCE
- PHASE 2 DRAINAGE DIVIDE
- LIMITS OF DISTURBANCE



THIS SHEET IS FOR EROSION / SILTATION CONTROL PURPOSES ONLY!

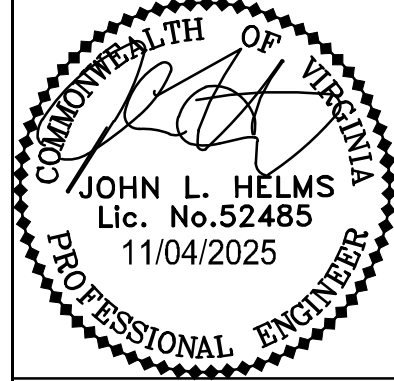
BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	BY

ALEXANDRIA PROJECT NO.: CP2021-00008
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: E.G. DATE: -
DRAWN BY: M.O. DATE: -
CHECKED BY: A.G. DATE: -
APPROVED BY: D.L. DATE: -



JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL PLAN - PHASE 2

SCALE 1" = 50'

SHEET

C801

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

P:\Projects\21266\00100\111671 - 90%\C803 EROSION & SEDIMENT CONTROL NOTES.dwg PLOTTED: 11/3/2025 4:20:04 PM BY AUGUST HINNENKAMP

EROSION AND SEDIMENT CONTROL PLAN NARRATIVE

PROJECT DESCRIPTION:
THIS SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET; TO THE SOUTH BY RESIDENTIAL HOUSES; TO THE EAST BY BERKELEY STREET; AND TO THE WEST BY FILLMORE AVENUE.

THIS PROJECT CONSISTS OF IMPROVEMENTS TO THE RIGHT-OF-WAY TO INSTALL A PERMEABLE PAVEMENT TRAIL AS A SHARED USE PATH FOR PEDESTRIANS AND BIKES.

ACCESS TO THE SITE WILL BE FROM NORTH BEAUREGARD STREET.

EXISTING SITE CONDITIONS:
THIS SITE IS 0.87 ACRES AND IS A RIGHT-OF-WAY CITY SIDEWALK AND GRASS AREAS.

REVIEW OF EXISTING TOPOGRAPHY INDICATES THAT THE SITE DRAINS TO THE STREAM SYSTEM IN NORTH BEAUREGARD STREET, WHICH DRAINS TO A PIPED STORM SYSTEM IN NORTH BEAUREGARD STREET.

THERE ARE RESOURCE PROTECTION AREAS ON SITE.

DATE OF CONSTRUCTION:
CONSTRUCTION IS ANTICIPATED TO BEGIN AT THE TIME OF FINAL SITE PLAN APPROVAL.

ADJACENT PROPERTIES:
THE PROJECT SITE IS BORDERED TO THE NORTH BY NORTH BEAUREGARD STREET, AND TO THE SOUTH BY RESIDENTIAL AREAS, TO THE WEST BY FILLMORE AVENUE, AND TO THE EAST BY BERKELEY STREET .

SOIL DATA:
PER THE USDA NRCS WEB SOIL SURVEY, THE SITE IS CLASSIFIED AS URBAN LAND - GRIST MILL. ADDITIONAL SOIL INFORMATION WILL BE PROVIDED ONCE THE GEOTECHNICAL REPORT IS COMPLETE.

LIMITS OF DISTURBANCE:
THE LIMITS OF DISTURBANCE AS SHOWN ON THIS PLAN ARE THE ULTIMATE LIMITS FOR THIS PROJECT. LIMITS OF DISTURBANCE = 37,900 SQ. FT. OR 0.87 AC.

CRITICAL EROSION AREAS:
THERE ARE STEEP SLOPES AND KNOWN CRITICAL EROSION AREAS ON THIS SITE. HOWEVER, SILT SHALL NOT LEAVE THE SITE AND WILL BE CONTROLLED DURING ALL PHASES OF CONSTRUCTION.

STRUCTURAL PRACTICES:
1. SUPER SILT FENCE BARRIER - 3.05
SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED AS SHOWN ON THE APPROVED PLAN TO FILTER SEDIMENT-LADEN RUNOFF FROM THE CONSTRUCTION AREA.

2. STORM DRAIN INLET PROTECTION - 3.07
ALL STORM SEWER INLETS INVOLVED SHALL BE PROTECTED DURING CONSTRUCTION. SEDIMENT-LADEN WATER SHALL BE FILTERED BEFORE ENTERING THE STORM SEWER INLETS.

3. TREE PRESERVATION AND PROTECTION (3.38): WILL BE CONSTRUCTED AT TREE SAVE AREAS TO ENSURE THE SURVIVAL OF DESIRABLE TREES WHERE THEY WILL BE EFFECTIVE FOR EROSION AND SEDIMENT CONTROL, WATERSHED PROTECTION, LANDSCAPE BEAUTIFICATION, DUST AND POLLUTION CONTROL, NOISE REDUCTION, SHADE AND OTHER ENVIRONMENTAL BENEFITS WHILE THE LAND IS BEING CONVERTED FROM FOREST TO URBAN TYPE USES.

VEGETATIVE PRACTICES:
1. TOPSOIL STOCKPILING ON-SITE IS NOT ANTICIPATED. FOR BORROW SOIL STOCKPILING THAT WOULD BE DEEMED NECESSARY, THE E&S CONTROL NOTE ON STOCKPILED MATERIALS WOULD APPLY.

2. TEMPORARY SEEDING - 3.31
ALL DENUDED AREAS THAT WILL BE LEFT DORMANT FOR EXTENDED PERIODS OF TIME SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF YEAR IT IS APPLIED.

3. PERMANENT SEEDING - 3.32
TO PERMANENTLY STABILIZE UNPAVED DISTURBED AREAS. SEED WITH GRASS IS SUITABLE FOR THE SITE.

PERMANENT STABILIZATION:
ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINISH GRADING. SEEDING SHALL BE DONE WITH KENTUCKY 31, RED TOP GRASS, AND A NURSE CROP AT THE FOLLOWING RATES:

KENTUCKY BLUE GRASS:	128 LBS/AC
RED TOP GRASS:	2 LBS/AC
NURSE CROP:	20 LBS/AC

NURSE CROP SHALL BE:

FEB-APR:	ANNUAL RYE
MAY-AUG:	FOXTAIL MILLET
SEP-NOV 15:	ANNUAL RYE
NOV 16-JAN:	WINTER RYE

ACCORDING TO STANDARD AND SPECIFICATION 3.32, PERMANENT SEEDING, OF THE HANDBOOK. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME WILL BE APPLIED PRIOR TO MULCHING.

STORMWATER MANAGEMENT/BEST MANAGEMENT PRACTICES:
THIS PROJECT WILL COMPLY WITH THE WATER QUALITY TREATMENTS REQUIREMENTS IN ACCORDANCE WITH ARTICLE XIII OF THE ZONING ORDINANCE. WATER QUALITY TREATMENT AND WATER QUANTITY CONTROL WILL BE PROVIDED ONSITE THROUGH THE USE OF PERMEABLE PAVERS.

CONSTRUCTION PHASING:
THIS SITE PLAN REFLECTS TWO STAGES OF EROSION AND SEDIMENT CONTROL PROCEDURES TO ADDRESS ADAPTATION OF EROSION AND SEDIMENT CONTROL MEASURES TO CHANGES IN SITE CONDITIONS.

PHASE 1 - IN GENERAL, PHASE 1 ADDRESSES PERIMETER CONTROLS DURING DEMOLITION AND MINOR EXCAVATION ACTIVITIES IN PREPARATION FOR THE PROPOSED WORK.

PHASE II - PHASE II IS IMPLEMENTED DURING SITE STABILIZATION. THIS COVERS SHORT AND LONG TERM PROTECTION AND STABILIZATION OF FINAL GRADE IN ALL DENUDED AREAS AND THE PROTECTION OF EXISTING AND PROPOSED DRAINAGE STRUCTURES.

NOTE: THE CONSTRUCTION AND THE E&S CONTROLS SHALL BE COORDINATED WITH THE ADJACENT NEWPORT VILLAGE DEVELOPMENT.

SEDIMENT CONTROL PROGRAM:
PHASE 1 EROSION CONTROL

ALL PROPOSED CONTROLS AS SHOWN ON THE PHASE I - EROSION CONTROL PLAN SHALL BE IN PLACE PRIOR TO COMMENCING WITH SITE WORK. THE INITIAL CONTROL MEASURES SHALL BE AS FOLLOWS:

- INSTALL INLET PROTECTION AT EXISTING INLET STRUCTURES AS SHOWN ON THE APPROVED PLAN.
- INSTALL SUPER SILT FENCE BARRIER AND TREE PROTECTION FENCING AS SHOWN ON THE APPROVED PLAN.

THE CONTRACTOR SHALL RECEIVE VERIFICATION FROM THE CITY OF ALEXANDRIA INSPECTORS THAT THE EROSION AND SEDIMENT CONTROL MEASURES ARE FUNCTIONING PROPERLY PRIOR TO PROCEEDING WITH SITE WORK, THAT SHALL PROCEED AS FOLLOWS:

- ROUGH GRADING INCLUDING DEMOLISHING, STRIPPING, CUT AND FILL AND BORROW FILL IF REQUIRED MAY BEGIN.
- WHENEVER POSSIBLE TRENCHING MAY BEGIN TO ALLOW INSTALLATION OF SITE STORM SEWER.
- TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO DENUDED AREAS NOT CONTINUOUSLY WORKED FOR SEVEN DAYS AFTER INITIAL ROUGH GRADING. RE-VEGETATION SHOULD BE ACCOMPLISHED AS SOON AS POSSIBLE.
- ROUGH GRADING ACTIVITIES WILL BE COMPLETED AND FINAL TOPSOIL APPLICATIONS APPLIED TO ALL AREAS AS SOON AS POSSIBLE WITHIN THE CONSTRUCTION SCHEDULE.

NOTE: AS CONSTRUCTION PROGRESSES WITHIN THE SITE, PORTIONS OF THE SITE MAY GO FROM PHASE 1 TO PHASE II. ADEQUATE EROSION AND SEDIMENT CONTROL SHALL ALWAYS BE PROVIDED THROUGHOUT EVERY PHASE OF CONSTRUCTION.

ALL PHASE I CONTROLS WILL REMAIN IN PLACE UNTIL SUCH TIME THAT THE SITE INSPECTOR APPROVED THEIR REMOVAL.

PHASE II - FINAL CONSTRUCTION ACTIVITIES

THE CONTRACTOR SHALL ESTABLISH ALL STRUCTURAL MEASURE ON THE PHASE II EROSION CONTROL PLAN AS PERMITTED IN THE CONSTRUCTION SCHEDULE. THE PHASE II EROSION AND SEDIMENT CONTROL PROGRAM SHALL PROGRESS AS FOLLOWS:

- MAINTAIN EROSION & SEDIMENT CONTROLS IMPLEMENTED DURING PHASE I.
- AFTER CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS ARE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND STABILIZED WITH VEGETATION UPON APPROVAL OF THE CITY OF ALEXANDRIA'S INSPECTOR.

MANAGEMENT STRATEGIES:

- CONSTRUCTION SHALL BE SEQUENCED SO THAT GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- TEMPORARY SEEDING OR OTHER STABILIZATION SHALL FOLLOW IMMEDIATELY AFTER GRADING.
- AREAS WHICH ARE NOT TO BE DISTURBED SHALL BE CLEARLY MARKED.
- THE JOB SUPERINTENDENT SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.

MAINTENANCE:

- THE SUPER SILT FENCE BARRIER WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
- THE SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND SEEDED AS NEEDED.

NOTE:
ALL EROSION AND SILTATION CONTROLS SHALL CONFORM TO THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

CRITICAL TREE AREA:
CONTRACTOR SHALL PRESERVE TREES PER SHEETS L200- L201. CONTRACTOR TO MINIMIZE IMPACT ON CRITICAL ROOT ZONE BY LIMITING MACHINERY USE AROUND THEM.

EROSION AND SEDIMENT CONTROL STANDARD NOTES

- AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.
- ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), VIRGINIA REGULATIONS 54VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
- A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF. A NOTE TO THIS EFFECT SHALL BE PLACED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE PLAN.
- THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.
- AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA.
- THE CONTRACTOR IS TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERIAL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.
- ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.
- ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY.
- THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
- THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL (T&ES) SERVICES OF THE CITY OF ALEXANDRIA.
- ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
- ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT-OF-WAY.
- THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILTATION DEVICE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUN OFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT-OF-WAY.
- INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
- DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION/WATER TRUCK AS NEEDED.
- UPON COMPLETION OF DEMOLITION, CONSTRUCTION AND LAND DISTURBING ACTIVITIES, PROVIDE PERMANENT STABILIZATION ACCORDING TO APPROVED METHODS AND REMOVE ALL REMAINING EROSION AND SEDIMENT CONTROL MEASURES WITH THE APPROVAL OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
- IF STOCKPILING IS REQUIRED ONSITE, THE CONTRACTOR SHALL COORDINATE WITH THE SITE INSPECTOR AND PROVIDE THE NECESSARY EROSION CONTROL MEASURES.
- V/PDES PERMITS WILL BE FILED FOR WITH THE CITY OF ALEXANDRIA. PERMITS SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
- NO POTW PERMIT IS REQUIRED.

DUST MANAGEMENT PLAN

1. DUST CONTROL- 3.39 TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES, THE SITE WILL BE SPRINKLED WITH WATER UNTIL THE SURFACE IS WET AND REPEATED AS NEEDED. WATER SHALL BE PROVIDED BY WATER TRUCK IF PUBLIC WATER IS NOT AVAILABLE.

OTHER CONCERNS ARE BARE DISTURBED AREAS THAT ARE POTENTIAL SOURCES OF FUGITIVE DUST EMISSIONS DURING DRY WEATHER. SITE-SPECIFIC ENGINEERING CONTROLS FOR DUST SUPPRESSION WILL CONSIST OF STAGING A SPRAY TRUCK ONSITE AT ALL TIMES, AND WETTING SOILS DAILY, OR MORE FREQUENTLY, AS NECESSARY. AN AIR-MONITORING PROGRAM BY THE DEVELOPER AND/OR ITS ASSIGNEE(S) FOR FUGITIVE DUST WILL CONFIRM THE EFFECTIVENESS OF THE CONTROLS AND PRACTICES.

CITY REQUIREMENT ON VEHICLE IDLING:
NO VEHICLE ASSOCIATED WITH THE SITE CONSTRUCTION SHALL BE PERMITTED TO IDLE FOR MORE THAN 10 MINUTES WHEN PARKED.

CONTAMINATED SOILS NOTE

TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CONTAMINANTS ON SITE. REFER TO THE PHASE 2 ENVIRONMENTAL SITE ASSESSMENT FOR MORE INFORMATION.

TABLE 3.31-B ACCEPTABLE TEMPORARY SEEDING PLANT MATERIALS "QUICK REFERENCE FOR ALL REGIONS"		
Planting Dates	Species	Rate (lbs./acre)
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (<i>Lolium multi-florum</i>) & Cereal (Winter) Rye (<i>Secale cereale</i>)	50 - 100
Feb. 16 - Apr. 30	Annual Ryegrass (<i>Lolium multi-florum</i>)	60 - 100
May 1 - Aug 31	German Millet (<i>Setaria italica</i>)	50

Source: Va. DSWC

CITY OF ALEXANDRIA

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-00008

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CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: EG DATE: -

DRAWN BY: MQ DATE: -

CHECKED BY: AG DATE: -

APPROVED BY: DL DATE: -

CITY OF ALEXANDRIA

JOHN L. HELMS
Lic. No. 52485
11/04/2025

PROFESSIONAL ENGINEER

EROSION & SEDIMENT
CONTROL NOTES

SCALE NOT TO SCALE

SHEET

C802

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

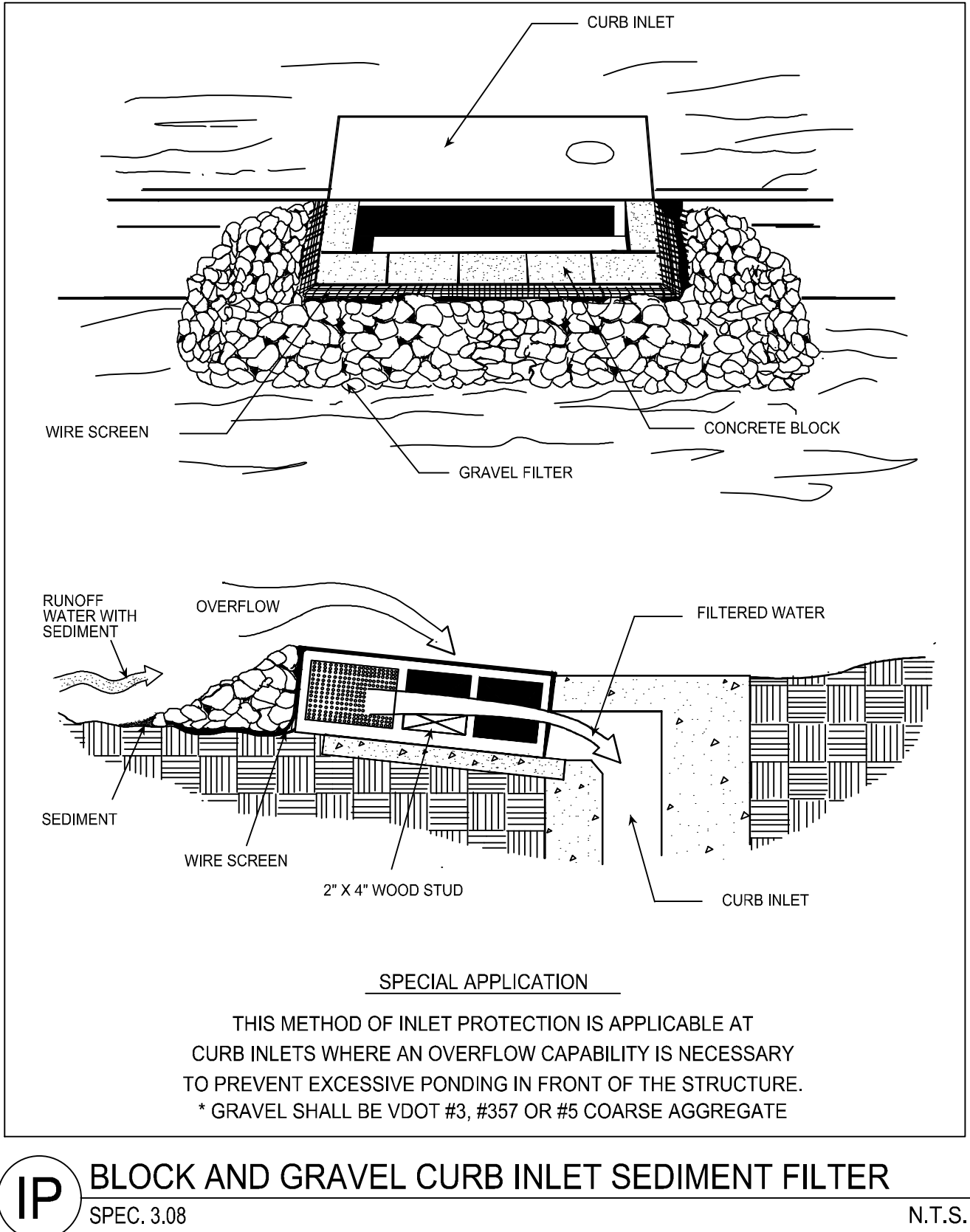
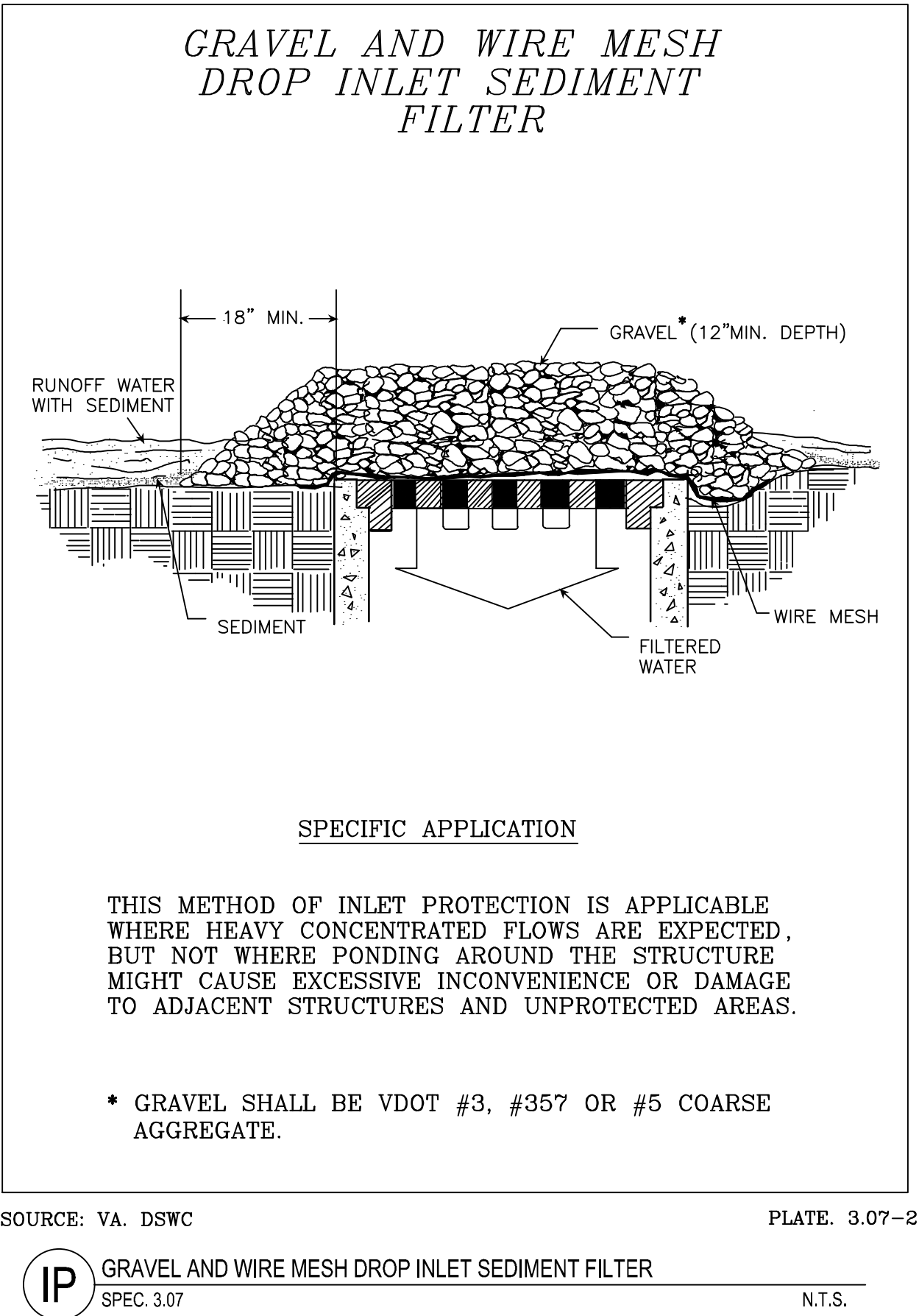
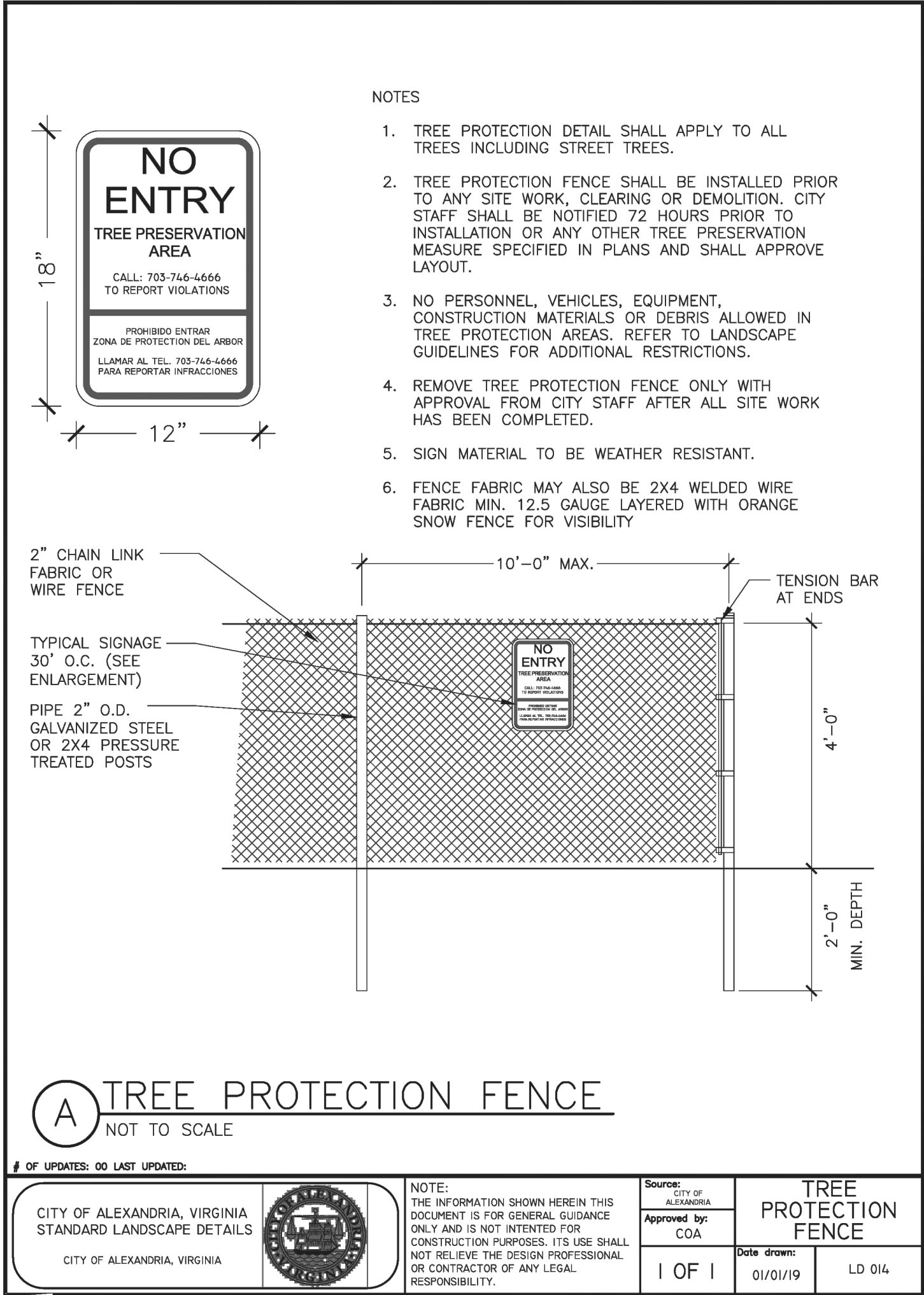


Figure 3 - Super Silt Fence

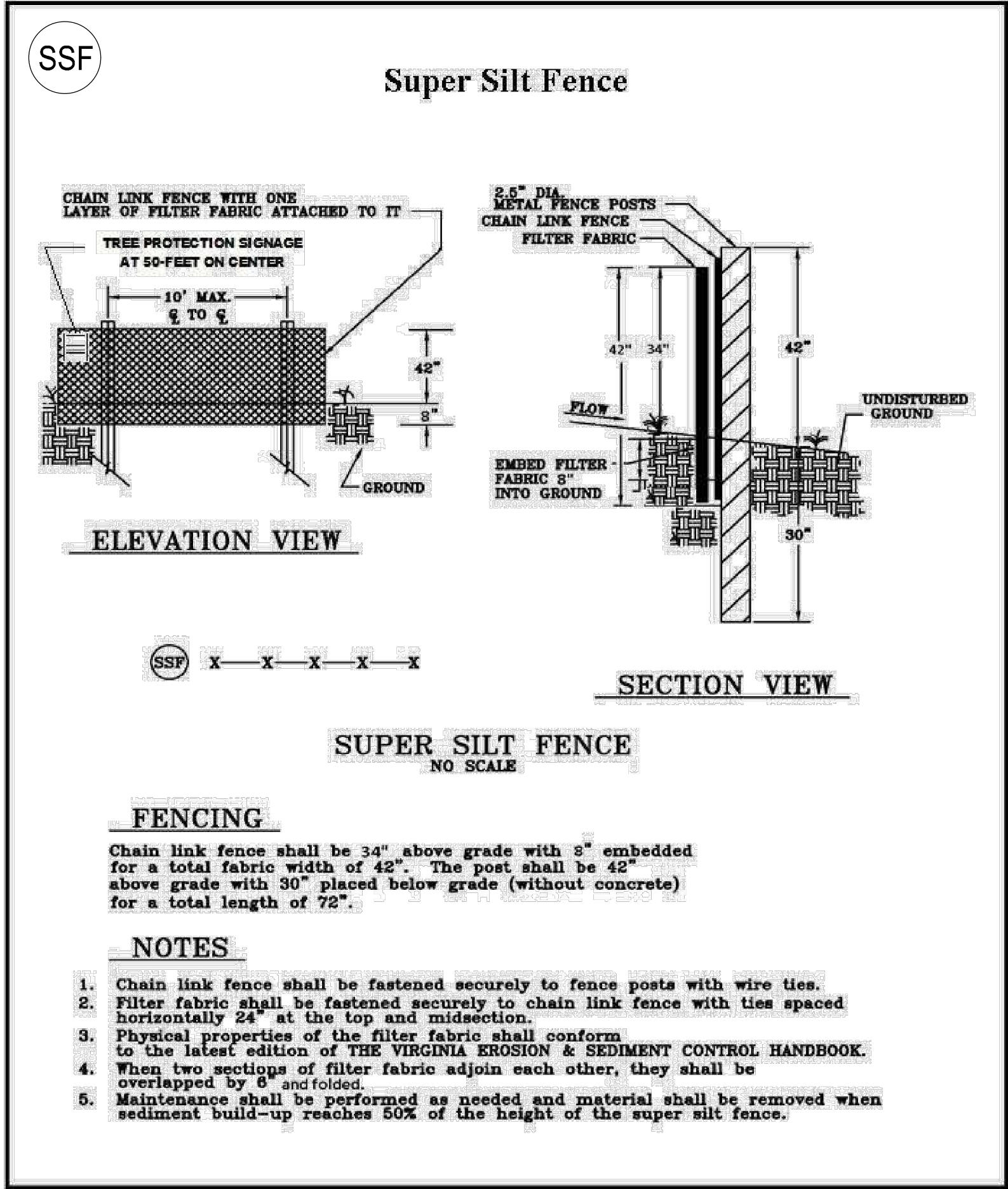


FIGURE 3
Section 7.600
Section 7.600 – Erosion and Sediment Control
Effective Date: 01/15/2018

- GutterGator Specification:**
For Curb Gutter Storm Drains
- 1.0 Description**
- 1.1** This work shall consist of furnishing, placing, maintaining and removing the GutterGator sediment control device as directed by the engineer and as shown on the contract drawings. The GutterGator sediment control system manufactured by:
ACF Environmental, Inc.
2831 Cardwell Road
Richmond, Virginia 23234
Phone: 800-448-3636 • Fax: 804-743-7779
www.acfenvironmental.com
- 2.0 Materials**
- 2.1 GUTTERGATOR**
- 2.1.1** The GutterGator will be manufactured to 4" molds in 4', 6', 8', 10', 12', 14' and 16' lengths and a minimum of twenty-four (24) inches longer than the curb inlet opening. This will allow for sufficient length to cover the inlet with twelve (12) inches beyond the inlet on both ends.
- 3.0 Construction Sequence**
- 3.1 General**
- 3.1.1** Install the GutterGator in front of the curb inlet opening. Drop 7lb weight sock into inlet opening, secure tie pouch straps, if applicable. Each end of the GutterGator should overlap the curb inlet approximately 12".
- 3.1.2** The GutterGator should be cleaned if a visual inspection shows sediment and debris build up around the GutterGator.
- 3.1.3** To remove the GutterGator, lift out of curb opening with provided lift strap.
- 3.1.4** Clean as needed. Store out of direct sunlight.
- 3.1.5** Ponding is likely if sediment is not removed regularly. Inspection of GutterGator should be on a regular basis and immediately after wet weather events.
- GutterGator Installation and Maintenance:**
- Place GutterGator on the ground near curb inlet.
 - Place unit in curb inlet so weighted flap hangs down in curb inlet holding GutterGator firmly in place.
 - Center unit so 1' of GutterGator extends beyond each end of curb inlet.
 - Secure tie back straps with sod pin or stake if applicable.
 - Inspection after each wet weather event is recommended.
 - Remove all sediment and debris from surface after each wet weather event.
 - Remove GutterGator, clean out and replace.
- lift strap*
weight sock
tie back strap

ACF Environmental
"Complete Source for Storm Water Solutions"

THE STORE
(800) 644-3223
www.thestoreusa.com

Distributed by:

ACF
2831 Cardwell Road
Richmond, Virginia 23234
(800) 448-3636 • FAX (804) 743-7779
www.acfenvironmental.com

IP* GUTTER GATOR CURB INLET SEDIMENT FILTER
(OR APPROVED EQUIVALENT)

BID SET

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

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EG. DATE: -
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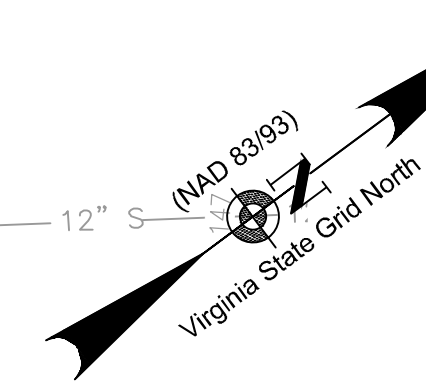
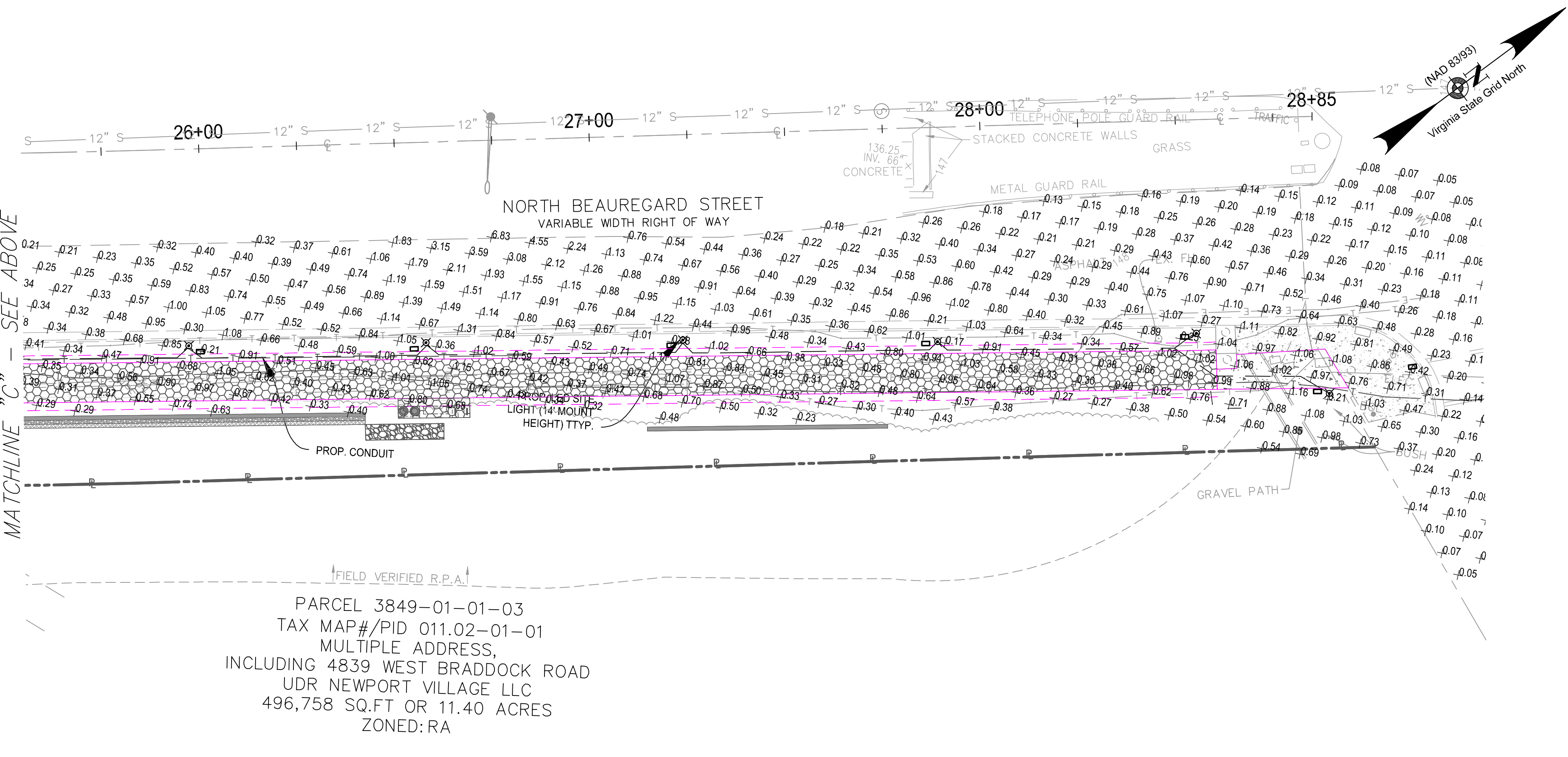
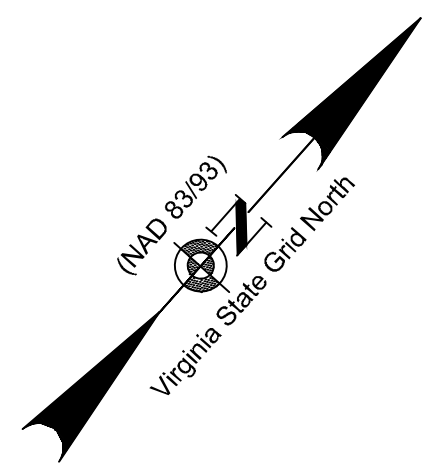
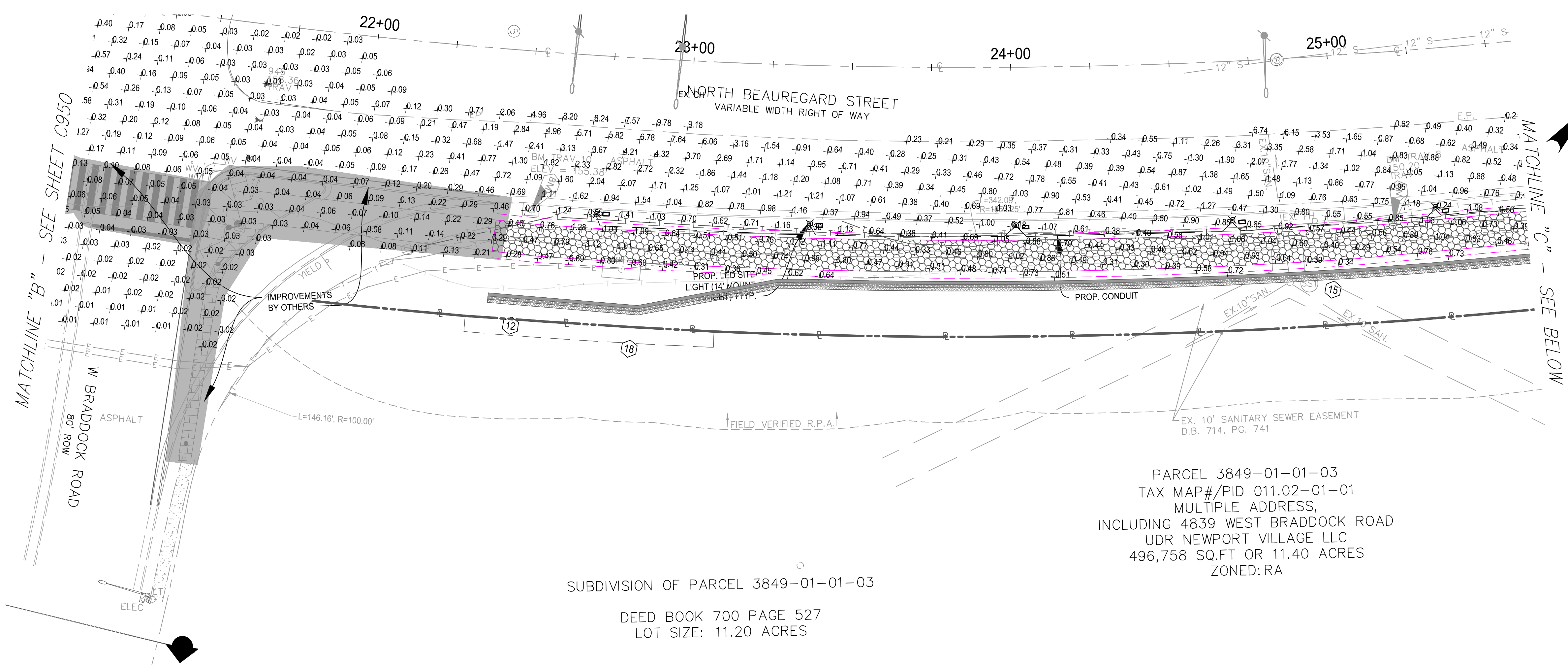
COMMONWEALTH OF VIRGINIA
JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

EROSION & SEDIMENT CONTROL DETAILS

SCALE NOT TO SCALE
SHEET

C803

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



PARCEL 3849-01-01-03
TAX MAP#/PID 011.02-01-01
MULTIPLE ADDRESS,
INCLUDING 4839 WEST BRADDOCK ROAD
UDR NEWPORT VILLAGE LLC
496,758 SQ.FT OR 11.40 ACRES
ZONED:RA

SUBDIVISION OF PARCEL 3849-01-01-03

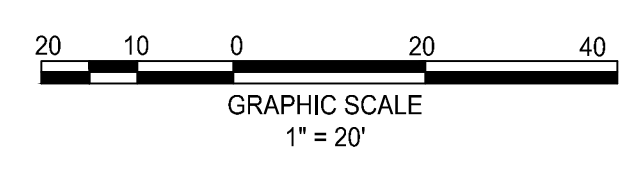
DEED BOOK 700 PAGE 527
LOT SIZE: 11.20 ACRES

- LIGHTING NOTES:**
- CENTER OF FOUNDATION FOR LUMINARIES SHALL BE 2 FEET BACK OF THE CURB LINE, UNLESS OTHERWISE NOTED.
 - RUN TWO #10 RHW COPPER CONDUCTORS PLUS GROUND FROM LUMINAIRE BALLAST TO POLE BASE, LEAVE 3 FT SLACK FOR TAP SPLICE.
 - CONDUIT SHOWN ON THIS PLAN IS FOR INFORMATIONAL PURPOSES. THE CONTRACTOR IS RESPONSIBLE FOR THE LIGHTING CONDUIT LAYOUT.
 - SEE SHEET C952 FOR LIGHTS SPECS.

Luminaire Schedule				
Project: N. Beauregard From Fillmore Ave to Berkeley St				
Symbol	Qty.	Arrangement	Lumens	Description
☒	18	Single	8838	Prop. LED Acorn - Single Pole Mounted - 14 ft Pole - Type V - 4000K Color Temp.
EX. CH	8	Single	14575	EX. Cobra Head 250W HID EQUIVALENT (TYPE iii) - 22 ft Pole - Type III

Numeric Summary							
Project: N. Beauregard							
Label	Calc. Type	Units	Avg.	Max	Min.	Avg./Min.	Max/Min.
N. Beauregard St - West	Illuminance	Fc	1.82	10	0.16	11.40	62.50
N. Beauregard St - East	Illuminance	Fc	1.15	7.61	0.21	5.48	36.24
Shared Path - West	Illuminance	Fc	0.88	2.4	0.28	3.16	8.57
Shared Path - East	Illuminance	Fc	0.68	1.27	0.29	2.33	4.38

Luminaire Schedule				
Project: N. Beauregard From Fillmore Ave to Berkeley St				
Symbol	Qty.	Arrangement	Lumens	Description
	18	Single	8838	Prop. LED Acorn - Single Pole Mounted - 14 ft Pole - Type V - 4000K Color Temp.
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BID SET

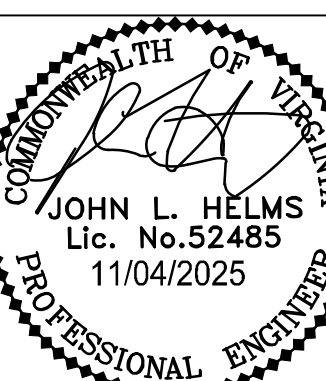
VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS	DESCRIPTION
DATE	

ALEXANDRIA PROJECT NO.: CP2021-00006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: EG DATE: -
DRAWN BY: MG DATE: -
CHECKED BY: AG DATE: -
APPROVED BY: DL DATE: -



JOHN L. HELMS
Lic. No. 52485
11/04/2025
PROFESSIONAL ENGINEER

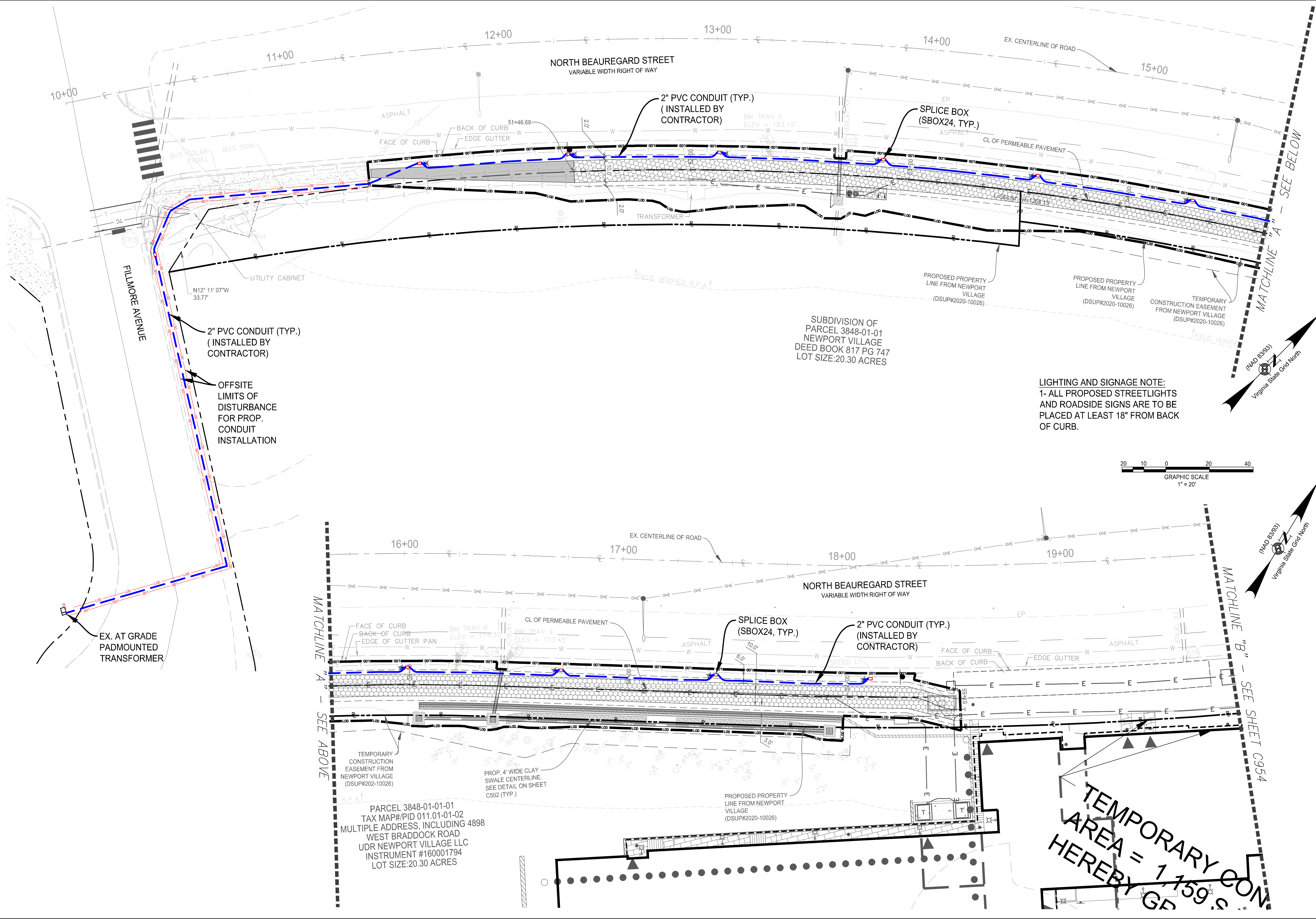
LIGHTING PLAN

SCALE 1" = 20'

SHEET

C951

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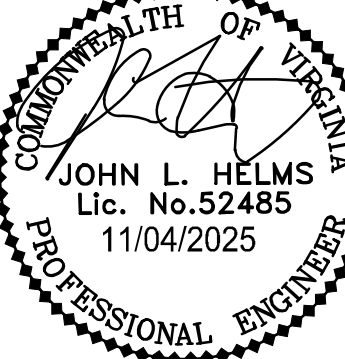


CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	DESCRIPTION

ALEXANDRIA PROJECT NO.: CP2021-0006
DATE OF PLAN ISSUANCE: 11/15/24
CONSULTANT PROJECT ID: 21266.001.00
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APPROVED BY: DL DATE: -



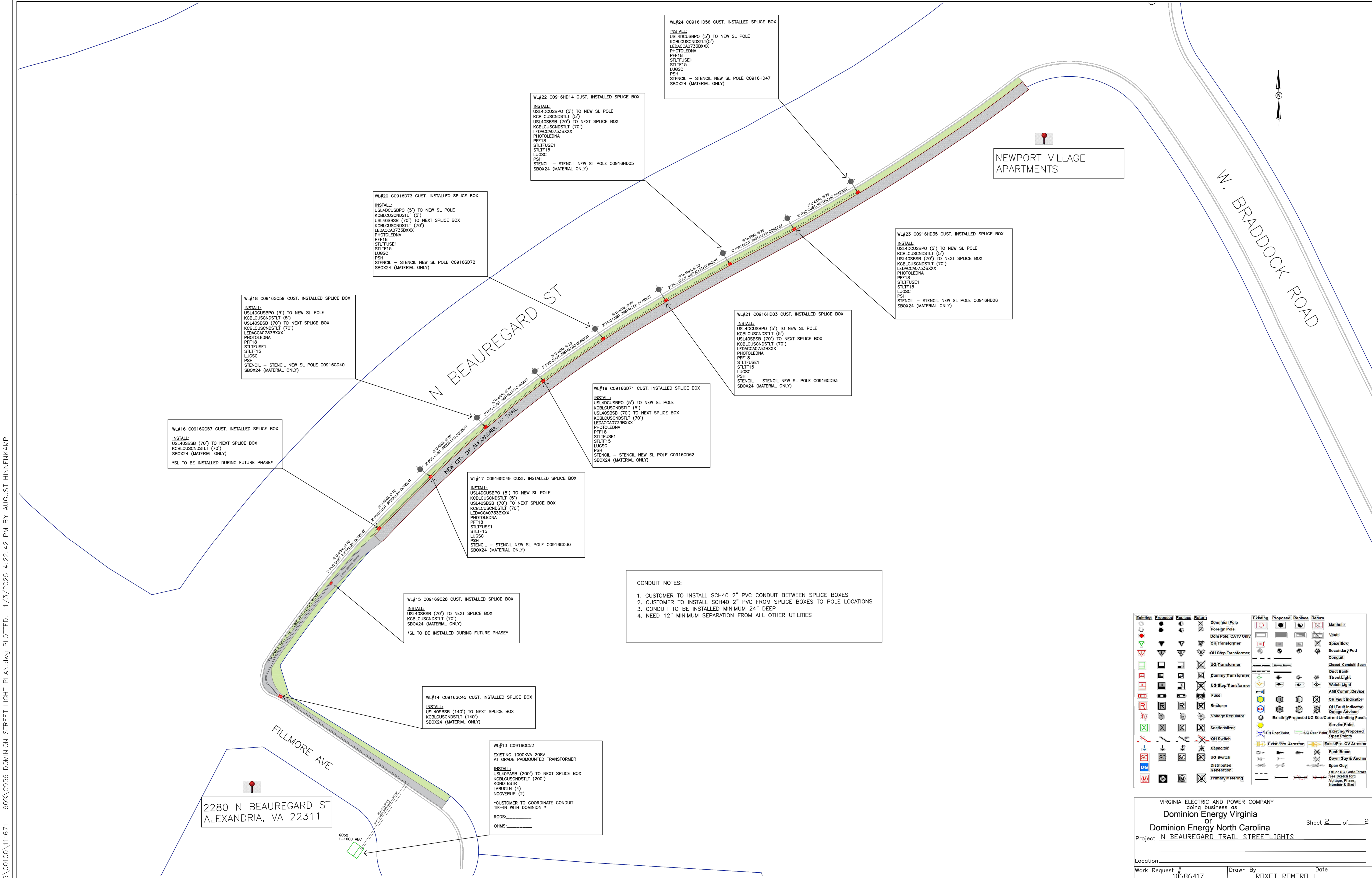
DOMINION STREET
LIGHT PLAN

SCALE 1" = 20'
SHEET C953

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TEMPORARY CONSTRUCTION AREA = 1,759.8 SQ. FT. HEREBY GRANTED

P:\Projects\21266\00100\111671 - 90%\C956 DOMINION STREET LIGHT PLAN.dwg PLOTTED: 11/3/2025 4:22:42 PM BY AUGUST HINNENKAMP



2280 N BEAUREGARD ST
ALEXANDRIA, VA 22311

GC52
1-1000 ABC

- CONDUIT NOTES:
1. CUSTOMER TO INSTALL SCH40 2" PVC CONDUIT BETWEEN SPLICE BOXES
 2. CUSTOMER TO INSTALL SCH40 2" PVC FROM SPLICE BOXES TO POLE LOCATIONS
 3. CONDUIT TO BE INSTALLED MINIMUM 24" DEEP
 4. NEED 12" MINIMUM SEPARATION FROM ALL OTHER UTILITIES

Exist	Proposed	Replace	Return	Exist	Proposed	Replace	Return

VIRGINIA ELECTRIC AND POWER COMPANY
doing business as
Dominion Energy Virginia
Dominion Energy North Carolina
Project **N BEAUREGARD TRAIL STREETLIGHTS**

Location _____

Work Request # **10686417** Drawn By **ROXET ROMERO** Date _____

Sheet **2** of **2**

CITY OF ALEXANDRIA, VIRGINIA

DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION

ALEXANDRIA PROJECT NO. CP2021-00008

DATE OF PLAN ISSUANCE: 11/15/24

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DRAWN BY: _____

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APPROVED BY: _____

DOMINION STREET

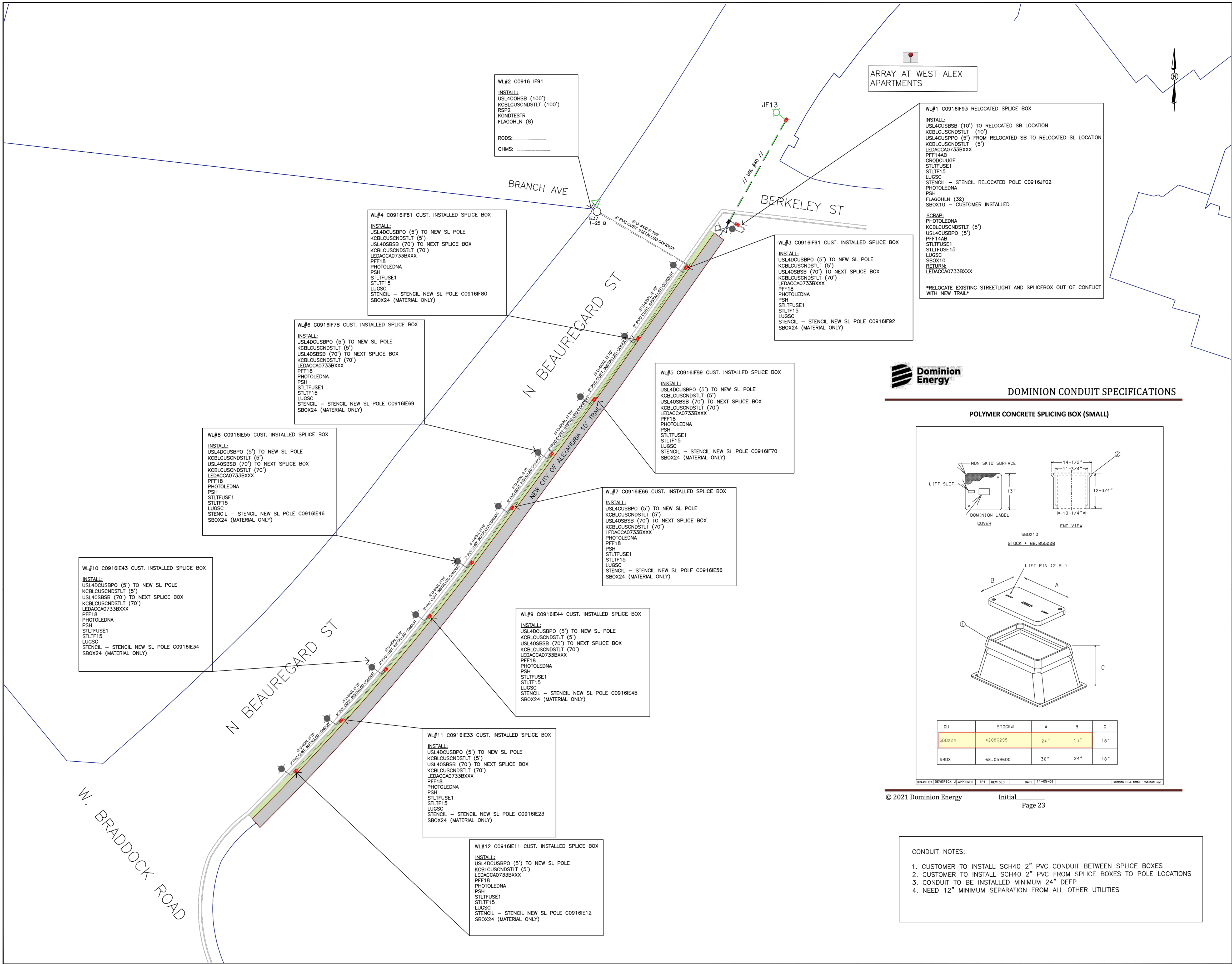
LIGHT PLAN

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

SCALE 1" = 20'

SHEET C955



Vicinity Map

Construction Notes

WR# 10686417

NEW CITY OF ALEXANDRIA STREETLIGHTS AT INTERSECTIONS OF N BEAUREGARD/FILLMORE AND N BEAUREGARD/BERKELEY ST

- PULL CABLE THROUGH CUSTOMER INSTALLED CONDUIT AND SPLICE BOXES TO NEW SL POLE LOCATIONS.
- EXISTING SL POLE BEING RELOCATED AT WL#1.
- POLES TO BE DIRECT BURIED.
- CUSTOMER TO INSTALL ALL CONDUIT AND SPLICE BOXES. DOMINION TO PROVIDE SPLICE BOXES.
- CUSTOMER RESPONSIBLE FOR STAKING AND MARKING SL LOCATIONS.
- CUSTOMER TO COORDINATE WITH DOMINION FOR CONDUIT TIE INTO TRANSFORMER AT WL#13.

RELIABILITY NOTES:

- GROUNDING: REPAIR/UPGRADE GROUNDING AS NEEDED. ENSURE ALL POLES TOUCHING PRIMARY ARE GROUNDED AND ALL GROUNDS ARE INSTALLED AND MEGGER ACCORDING TO CURRENT METHODS AND STANDARDS.
- INSTALL/REPAIR GROUND MOLDING AND STAPLES AS NEEDED. INSTALL GUY BONDING, ANCHIR CLAMPS AND REPAIR SLACK GUYS AS NEEDED.
- STENCIL/RETEST/REPAIR: STENCIL ON NEW AND EXISTING POLES TO INCLUDE: DEVICE #, GRID #, POLE #, AND COMPANY I.D. TAG.
- INSTALL WILDLIFE GUARDS AS REQUIRED.
- INSTALL K-MATE AS REQUIRED.

DOMINION DESIGNER: ROXET ROMERO 571-867-8887
CUSTOMER CONTACT: DAVID LE 703-746-4058

Legend

Existing	Proposed	Replace	Return	Existing	Proposed	Replace	Return
Manhole				Manhole			
Foreign Pole				Foreign Pole			
OH Transformer				OH Transformer			
UG Transformer				UG Transformer			
Dummy Transformer				Dummy Transformer			
UG Step Transformer				UG Step Transformer			
Fuse				Fuse			
Recloser				Recloser			
Voltage Regulator				Voltage Regulator			
Sectionalizer				Sectionalizer			
OH Switch				OH Switch			
Capacitor				Capacitor			
UG Switch				UG Switch			
Distributed Generation				Distributed Generation			
Primary Metering				Primary Metering			

Project Data

Sub. Sta	ARLINGTON	Cir #	794
Tax District	xxxxx	Co. Grid #	C0916
Easement #	xxxxx	Miss "U"	811
Fault Current	xxxxx	Voltage Drop	xxxxx
Est. Demand	xxxxx	Flicker	xxxxx
Project Manager	xxxxx	Device #	KF22
Phone Number	xxxxx	Scale	NOT TO SCALE

VIRGINIA ELECTRIC AND POWER COMPANY
doing business as
Dominion Energy Virginia
or
Dominion Energy North Carolina

Page 1 of 2

Project	N BEAUREGARD TRAIL		
Location	N BEAUREGARD ST AND FILLMORE AVE		
Work Request #	10686417	Designer	ROXET ROMERO
		Date	05/09/2024

BID SET

CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

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DATE: _____
MO: _____
YEAR: _____

DOMINION STREET LIGHT PLAN

FOR INFORMATIONAL PURPOSES ONLY!

SCALE 1" = 20'

SHEET

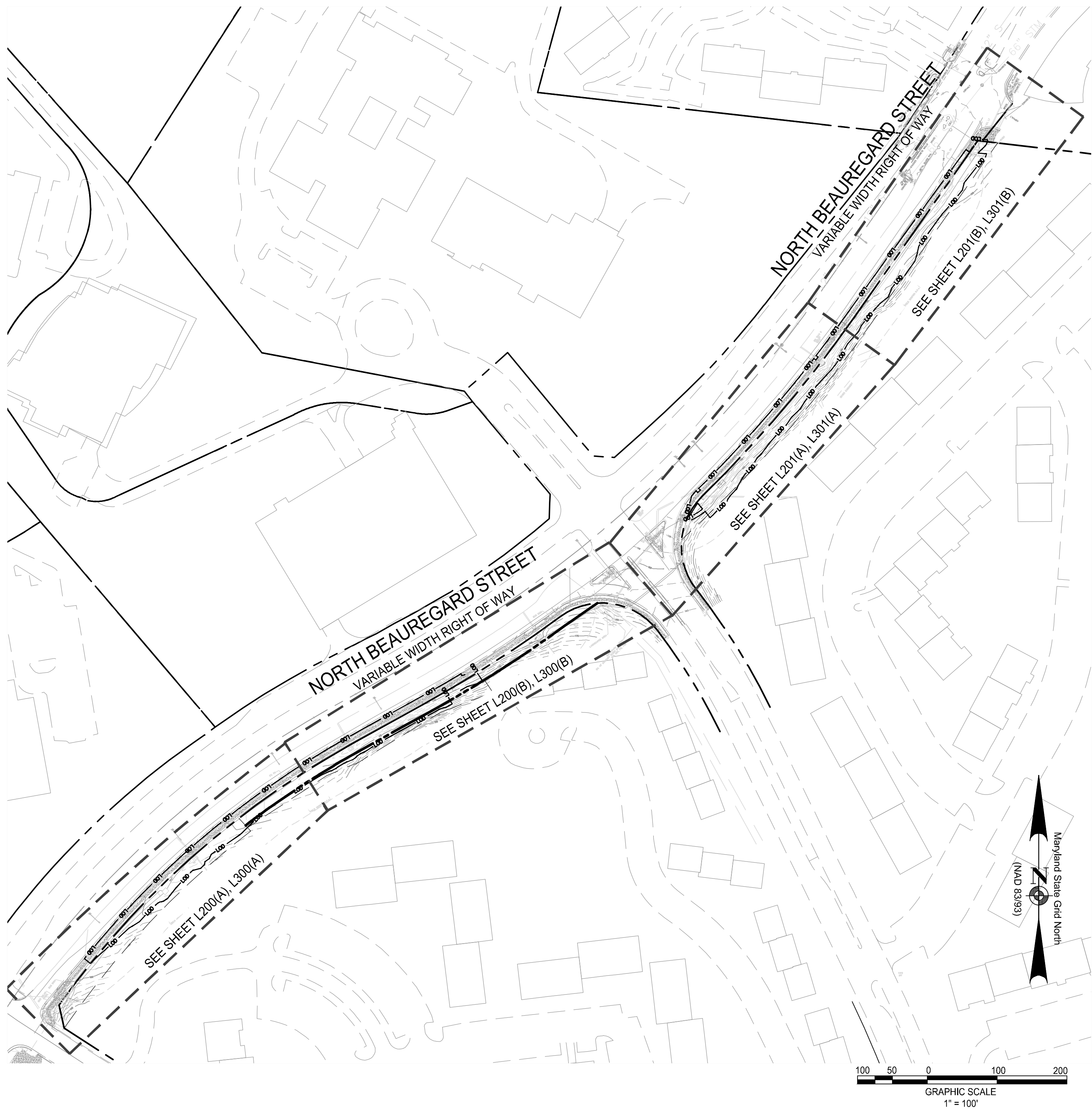
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P:\Projects\21266\00100\111671 - 90%\L100 LANDSCAPE COVER.dwg PLOTTED: 11/3/2025 4:23:12 PM BY AUGUST HINNENKAMP

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

TREE PRESERVATION AND LANDSCAPE PLAN

SHEET KEY MAP:
4899 WEST BRADDOCK ROAD
ALEXANDRIA, VIRGINIA 22311



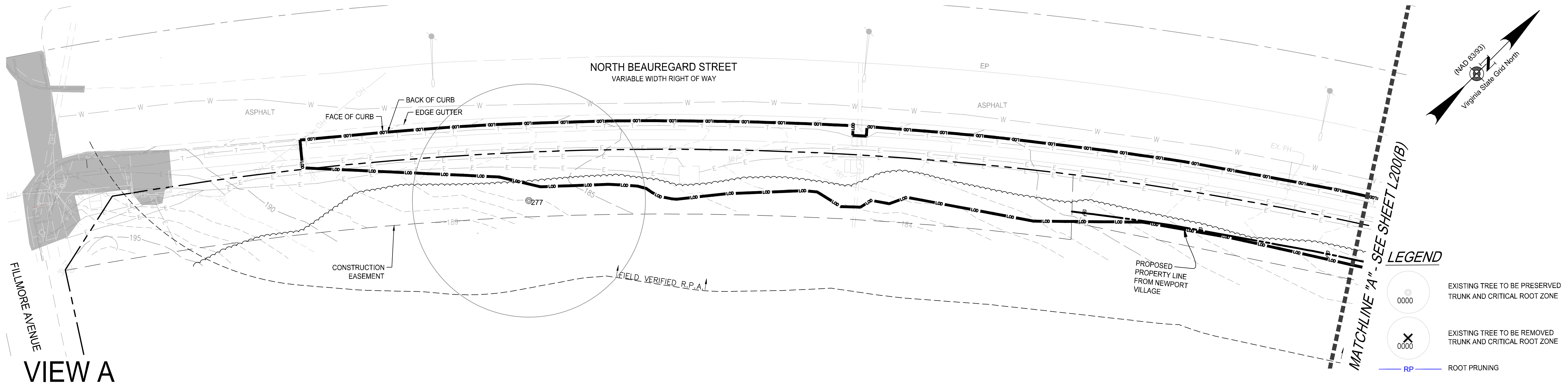
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STATE PROJECT # U000-100-814
FEDERAL JOB # P101 FEDERAL #CMAQ-5B01(105)
UPC # 105563
RFQU # 912
CCL # 21266.001.00

SHEET INDEX	
L100	LANDSCAPE COVER
L200	TREE PRESERVATION PLAN
L201	TREE PRESERVATION PLAN
L202	TREE PRESERVATION INVENTORY
L203	TREE PRESERVATION NOTES AND DETAILS
L300	LANDSCAPE PLAN
L301	LANDSCAPE PLAN
L302	LANDSCAPE SCHEDULE AND CALCULATIONS
L303	LANDSCAPE DETAILS AND SPECIFICATIONS

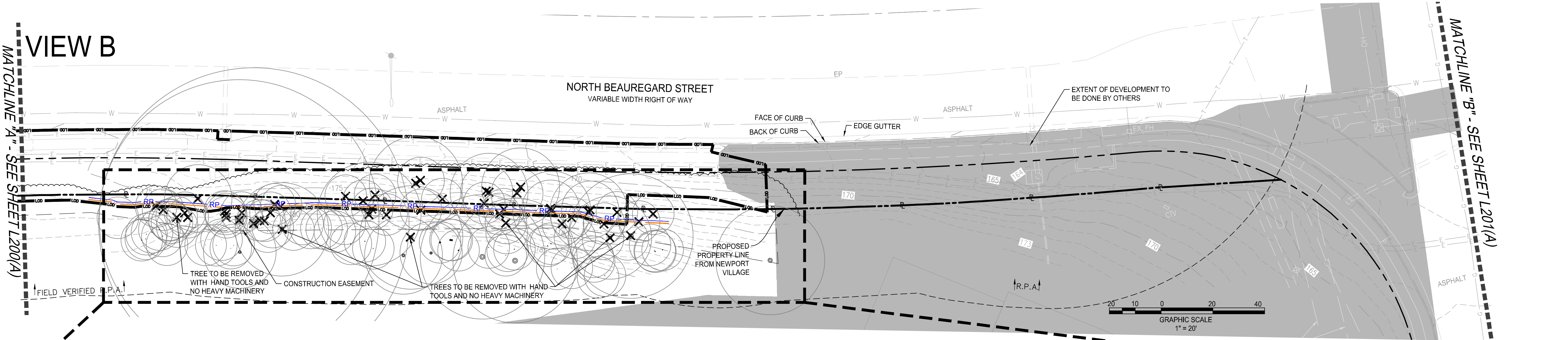
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60% SUBMISSION: 2022-03-09
90% SUBMISSION: 2022-12-18
100% SUBMISSION: 2024-11-15
BID SET: 2025-05-02

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH		BID SET	
LANDSCAPE COVER		CITY OF ALEXANDRIA, VIRGINIA DEPARTMENT OF PROJECT IMPLEMENTATION 301 KING STREET ALEXANDRIA, VIRGINIA 22314	
L100			

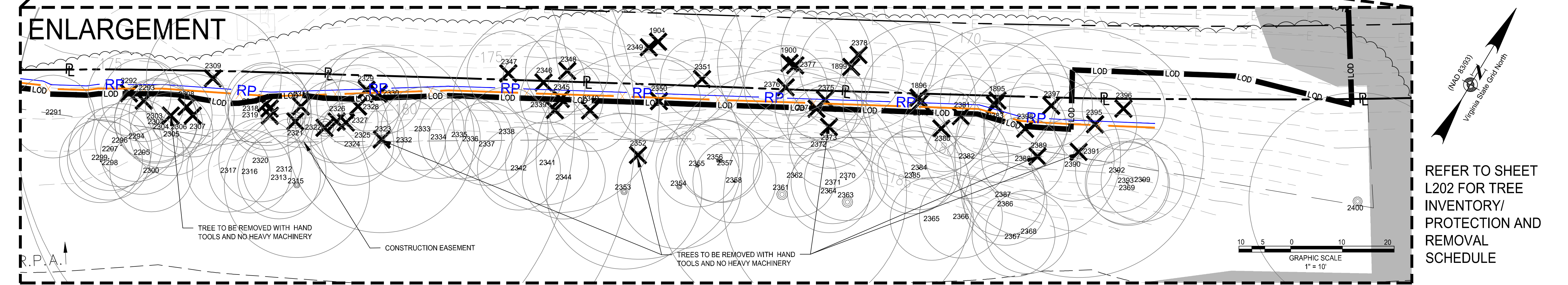
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VIEW A



VIEW B



ENLARGEMENT

BID SET

VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

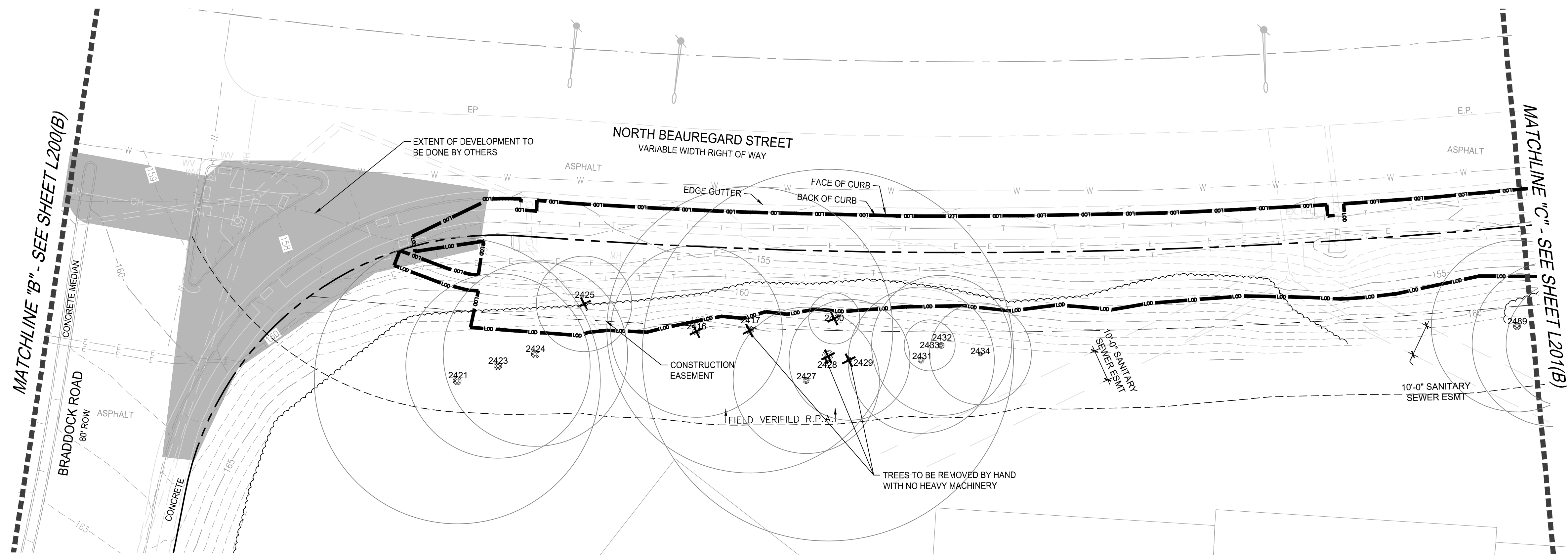
REVISIONS	
DATE	DESCRIPTION
2023-09-18	ZY REVISE PER COMMENTS
2024-03-06	PG REVISE PER COMMENTS

ALEXANDRIA PROJECT NO.: CP2021-0006
DATE OF PLAN ISSUANCE: 03/28/25
CONSULTANT PROJECT ID: 21266.001.00

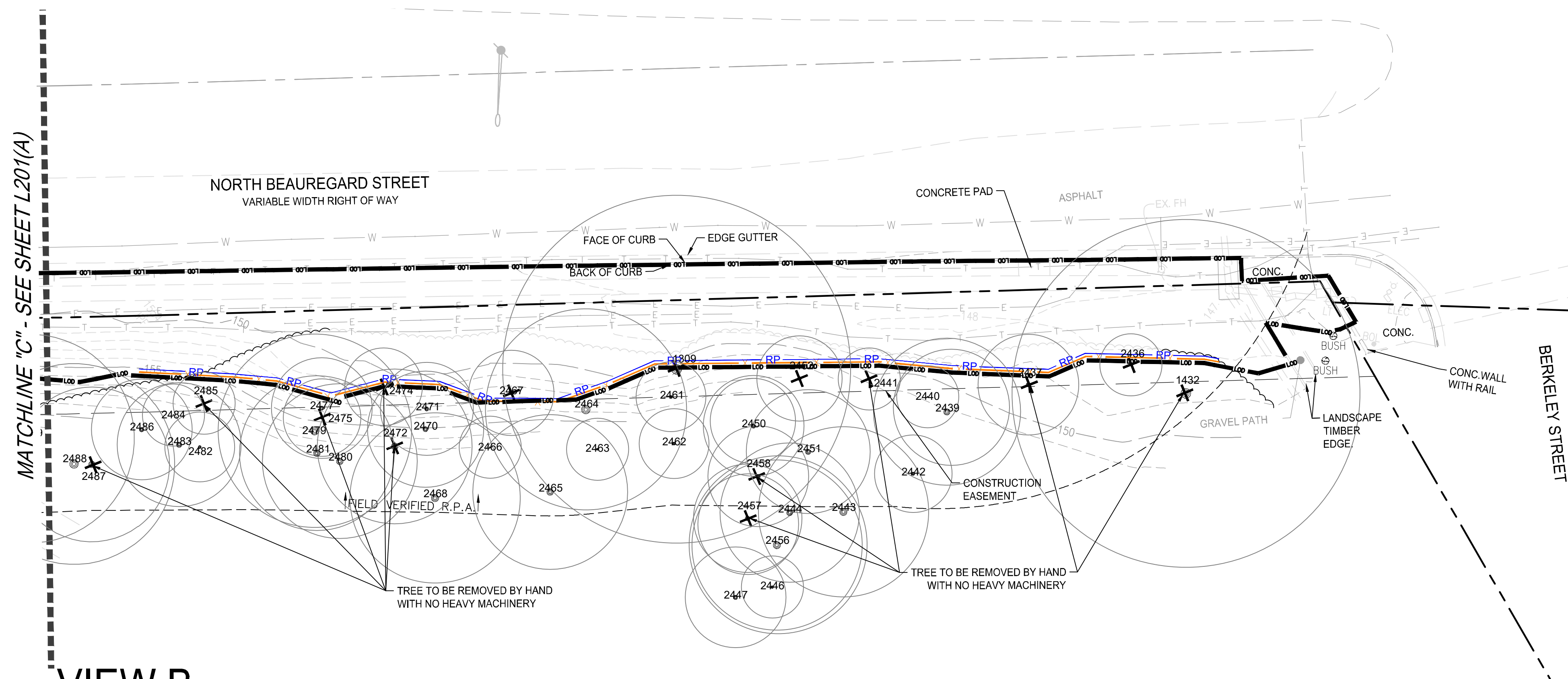
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TREE PRESERVATION
PLAN

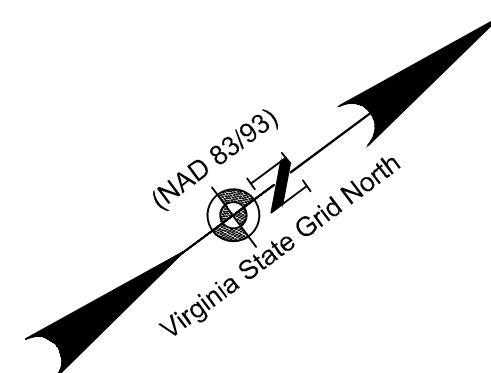
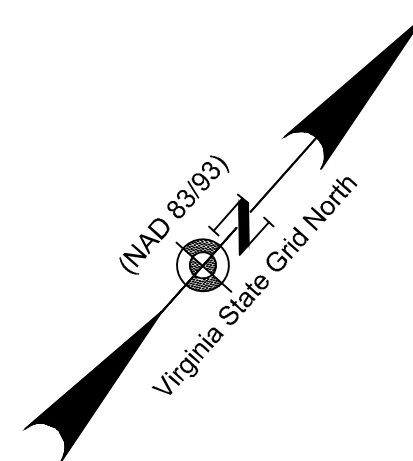
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VIEW A



VIEW B



LEGEND



EXISTING TREE TO BE PRESERVED
TRUNK AND CRITICAL ROOT ZONE

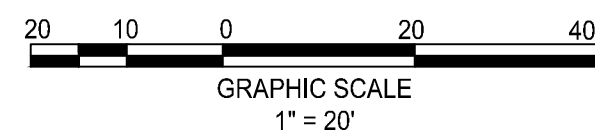
EXISTING TREE TO BE REMOVED
TRUNK AND CRITICAL ROOT ZONE

— RP ——— ROOT PRUNING

— X — TREE PROTECTION FENCE

LOD PROPOSED LIMITS OF DISTURBANCE

REFER TO SHEET L202 FOR TREE
INVENTORY/PROTECTION AND
REMOVAL SCHEDULE



BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS			
DATE	BY	DESCRIPTION	
2023-09-18	ZY	REVISE PER COMMENTS	
2024-03-06	PC	REVISE PER COMMENTS	

ALEXANDRIA PROJECT NO.: CIP2021-00008
 DATE OF PLAN ISSUANCE: 03/28/25
 CONSULTANT PROJECT ID: 21266.001.00
 DESIGNED BY: TR DATE: —
 DRAWN BY: PG DATE: —
 CHECKED BY: DL DATE: —
 APPROVED BY: DL DATE: —

TREE PRESERVATION PLAN

L201

TREE INVENTORY

TREE #	BOTANICAL NAME	COMMON NAME	CRITICAL ROOT ZONE RADIUS (FEET)	TRUNK DIAMETER (INCHES)	CONDITION RATING	STATUS	COMMENTS
277			45	30			
1309	QUERCUS ALBA	WHITE OAK	45	30	68	REMOVE	25% DEAD CANOPY
1432	QUERCUS RUBRA	NORTHERN RED OAK	45	30	0	REMOVE	DEAD
2292	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	60	REMOVE	LEANING
2293	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	25	REMOVE	TOP SNAPPED OFF
2295	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	2	65		RUBBING BRANCHES, LEANING
2297	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	2	65		BASE IN POOR CONDITION
2298	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	2	68		
2299	PRUNUS SEROTINA	BLACK CHERRY	8	2	65		POOR FORM
2300	QUERCUS MONTANA	CHESTNUT OAK	8	2	70		BARK DAMAGE
2301	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	67		LEANING, VINES
2302	PRUNUS SEROTINA	BLACK CHERRY	8	0.5	65		CRUSHED UNDER VINES AND VEGETATION
2304	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	70		
2305	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	70		
2306	PRUNUS SEROTINA	BLACK CHERRY	8	0.5	60	REMOVE	CANKER
2307	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	65	REMOVE	LEANING, BAD LEADER
2308	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	65	REMOVE	LEANING
2309	ROBINIA PSEUDOACACIA	BLACK LOCUST	13	13	65	REMOVE	BAD LEADER, VINES
2310	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	70	REMOVE	
2311	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	2	50	REMOVE	SPLIT
2313	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	70		
2314	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	50		BARK DAMAGE, LEADER SNAPPED OFF, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2316	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	60		BARK DAMAGE, RECOMMENDED FOR MONITORING
2317	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	70		LEANING
2318	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	71	REMOVE	LEANING
2319	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	73	REMOVE	
2320	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	65		BASE IN POOR CONDITION
2321	QUERCUS MONTANA	CHESTNUT OAK	54	36	68	REMOVE	DUAL LEADERS, MISSING BRANCHES, SNAG
2322	UNIDENTIFIED	DEAD TREE	60	40	0	REMOVE	DEAD
2323	QUERCUS MONTANA	CHESTNUT OAK	18	18	68	REMOVE	DUAL LEADERS, HANGING BRANCH, SPROUTING
2324	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	71		
2325	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	68	REMOVE	VINES
2326	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	68	REMOVE	VINES
2327	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	40	REMOVE	TOP SNAPPED OFF, LEANING
2328	NYSSA SYLVATICA	BLACK GUM	8	0.5	30	REMOVE	DYING
2329	UNIDENTIFIED	DEAD TREE	8	0.5	0	REMOVE	DEAD
2330	NYSSA SYLVATICA	BLACK GUM	8	0.5	30	REMOVE	CRUSHED UNDER VINES AND VEGETATION
2331	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	65		VINES, CROSSING LIMBS
2332	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	65		VINES, CROSSING LIMBS
2333	NYSSA SYLVATICA	BLACK GUM	8	0.5	65		VINES
2334	QUERCUS MONTANA	CHESTNUT OAK	8	0.5	72		UNEVEN CANOPY
2335	NYSSA SYLVATICA	BLACK GUM	8	0.5	35		TOP SNAPPED OFF, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2336	NYSSA SYLVATICA	BLACK GUM	8	0.5	70		VINES
2337	NYSSA SYLVATICA	BLACK GUM	8	0.5	70		DEAD BRANCHES
2338	NYSSA SYLVATICA	BLACK GUM	8	0.5	68		BAD FORM, CROWDED, EPICORMIC SPROUTING
2339	ACER RUBRUM	RED MAPLE	8	0.5	65	REMOVE	POOR FORM, VINES
2340	LIRIODENDRON TULIPIFERA	TULIP POPLAR	8	3	50	REMOVE	VINES, NO BUDS
2341	NYSSA SYLVATICA	BLACK GUM	8	3	72		
2342	NYSSA SYLVATICA	BLACK GUM	8	3	72		UNEVEN CANOPY
2344	NYSSA SYLVATICA	BLACK GUM	8	2	60		LEANING, RECOMMENDED FOR MONITORING
2345	ACER RUBRUM	RED MAPLE	8	0.5	73	REMOVE	VINES
2347	ACER RUBRUM	RED MAPLE	8	0.5	65	REMOVE	VINES
2349	ROBINIA PSEUDOACACIA	BLACK LOCUST	9	9	67	REMOVE	DUAL LEADERS, VINES
2350	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	74	REMOVE	DUAL LEADERS
2351	ACER RUBRUM	RED MAPLE	8	0.5	72	REMOVE	
2352	QUERCUS RUBRA	NORTHERN RED OAK	20	20	67	REMOVE	MULTIPLE DEAD LEADERS
2353	QUERCUS MONTANA	CHESTNUT OAK	15	15	71		EPICORMIC SPROUTING
2354	QUERCUS MONTANA	CHESTNUT OAK	12	12	72		EPICORMIC SPROUTING
2355	QUERCUS MONTANA	CHESTNUT OAK	8	8	70		DEAD BRANCHES
2356	QUERCUS MONTANA	CHESTNUT OAK	8	8	68		POOR FORM
2358	QUERCUS MONTANA	CHESTNUT OAK	8	5	35		TOP SNAPPED OFF, ROTTING, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2361	QUERCUS MONTANA	CHESTNUT OAK	24	24	70		
2362	NYSSA SYLVATICA	BLACK GUM	8	2	74		CROWDED
2363	QUERCUS RUBRA	NORTHERN RED OAK	24	24	72		BROKEN BRANCHES
2364	NYSSA SYLVATICA	BLACK GUM	8	2	70		
2365	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	74		
2366	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	73		
2367	SASSAFRAS ALBIDUM	SASSAFRAS	8	2			
2368	SASSAFRAS ALBIDUM	SASSAFRAS	8	2	65		
2369	UNIDENTIFIED	DEAD TREE	8	2	0	REMOVE	DEAD, RECOMMENDED FOR REMOVAL AND/OR MONITC
2370	ROBINIA PSEUDOACACIA	BLACK LOCUST	15	15	63		DEAD BRANCHES, LEANING, VINES
2371	NYSSA SYLVATICA	BLACK GUM	8	0.5	72		
2372	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	74		
2373	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	0	REMOVE	DEAD
2374	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	60	REMOVE	DEAD BRANCHES
2375	PRUNUS SEROTINA	BLACK CHERRY	8	0.5	65	REMOVE	LEANING
2376	ACER RUBRUM	RED MAPLE	8	0.5	70	REMOVE	VINES
2377	ROBINIA PSEUDOACACIA	BLACK LOCUST	15	15	63	REMOVE	BROKEN BRANCHES, VINES
2379	ROBINIA PSEUDOACACIA	BLACK LOCUST	15	15	65	REMOVE	LEANING
2380	LIRIODENDRON TULIPIFERA	TULIP POPLAR	8	3	70	REMOVE	

TREE INVENTORY

TREE #	BOTANICAL NAME	COMMON NAME	CRITICAL ROOT ZONE RADIUS (FEET)	TRUNK DIAMETER (INCHES)	CONDITION RATING	STATUS	COMMENTS
2382	LIRIODENDRON TULIPIFERA	TULIP POPLAR	8	3	67	REMOVE	LEANING
2383	ROBINIA PSEUDOACACIA	BLACK LOCUST	15	15	65	REMOVE	BAD FORM, VINES
2384	LIRIODENDRON TULIPIFERA	TULIP POPLAR	8	3	72		VINES
2385	NYSSA SYLVATICA	BLACK GUM	8	3	70		RUBBING BRANCHES
2386	SASSAFRAS ALBIDUM	SASSAFRAS	8	0.5	60		SEVERE VINES
2387	PRUNUS SEROTINA	BLACK CHERRY	8	0.5	68		POOR FORM
2388	ILEX OPACA	AMERICAN HOLLY	8	0.5	70		VINES
2389	ROBINIA PSEUDOACACIA	BLACK LOCUST	16	16	60	REMOVE	SPLIT
2390	PRUNUS SEROTINA	BLACK CHERRY	8	3	70		VINES
2391	ROBINIA PSEUDOACACIA	BLACK LOCUST	24	24	65	REMOVE	DUAL LEADERS, VINES, BROKEN AND DEAD BRANCHES
2392	PRUNUS SEROTINA	BLACK CHERRY	8	3	70		BAD FORM, VINES
2393	PRUNUS SEROTINA	BLACK CHERRY	8	2	74		
2395	ACER RUBRUM	RED MAPLE	8	3	70	REMOVE	VINES
2396	ACER RUBRUM	RED MAPLE	8	3	65	REMOVE	VINES, BROKEN BRANCHES
2397	ACER RUBRUM	RED MAPLE	8	3	70	REMOVE	
2398	ILEX OPACA	AMERICAN HOLLY	8	3	68	REMOVE	BAD FORM
2399	PRUNUS SEROTINA	BLACK CHERRY	8	3	65		LEANING, VINES
2400	PINUS STROBUS	WHITE PINE	21	21	68		LOTS OF IVY, DEAD LIMBS
2416	QUERCUS ALBA	WHITE OAK	27	27	73	REMOVE	DUAL LEADERS
2417	QUERCUS RUBRA	NORTHERN RED OAK	45	30	70	REMOVE	LEANING, SOME DEAD
2421	QUERCUS ALBA	WHITE OAK	45	30	76		
2423	QUERCUS ALBA	WHITE OAK	29	29	73		DUAL LEADERS
2424	QUERCUS ALBA	WHITE OAK	29	29	70		DUAL LEADERS, BROKEN LIMB
2427	QUERCUS RUBRA	NORTHERN RED OAK	23	23	68		LEANING, DEAD LARGER BRANCHES
2428	UNIDENTIFIED	DEAD TREE	60	39	0	REMOVE	
2429	UNIDENTIFIED	DEAD TREE	19	19	0	REMOVE	
2430	GLEDTISIA TRIACANTHOS	HONEYLOCUST	8	3	68	REMOVE	VINES
2431	QUERCUS ALBA	WHITE OAK	23	23	65		DEAD BRANCHES
2432	QUERCUS RUBRA	NORTHERN RED OAK	22	22	60		MAJOR DIEBACK, RECOMMENDED FOR MONITORING
2433	ANA						MISSING
2434	QUERCUS ALBA	WHITE OAK	16	16	68		VINE IN CANOPY, POOR FORM
2436	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	4	73	REMOVE	POOR FORM
2437	QUERCUS ALBA	WHITE OAK	13	13	0	REMOVE	DEAD
2439	QUERCUS ALBA	WHITE OAK	19	19	74		NARROW BRANCH ANGLE
2440	CARYA TOMENTOSA	MOCKERNUT HICKORY	8	3	72		CROWDED RUBBING BRANCHES,VINES
2441	CARYA TOMENTOSA	MOCKERNUT HICKORY	8	3	70	REMOVE	CROWDED RUBBING BRANCHES,VINES
2442	QUERCUS RUBRA	NORTHERN RED OAK	40	10	68		EPICORMIC SPROUTING
2443	QUERCUS ALBA	WHITE OAK	22	22	80		
2444	QUERCUS ALBA	WHITE OAK	18	18	78		DUAL LEADERS
2446	QUERCUS ALBA	WHITE OAK	8	8	73		BENT TOP
2447	CARYA TOMENTOSA	MOCKERNUT HICKORY	13	13	68		EPICORMIC SPROUTING, POOR FORM
2450	QUERCUS MONTANA	CHESTNUT OAK	13	13	68		POOR FORM
2451	QUERCUS MONTANA	CHESTNUT OAK	16	16	73		DEAD LIMBS, EPICORMIC SPROUTING
2452	QUERCUS ALBA	WHITE OAK	11	11	71	REMOVE	POOR FORM
2456	QUERCUS RUBRA	NORTHERN RED OAK	22	22	67		LEANING, SOME DEAD BRANCHES, SPROUTS, HEALED BASE WOUND
2457	QUERCUS MONTANA	CHESTNUT OAK	14	14	35	REMOVE	EXTENSIVE DECAY, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2458	QUERCUS MONTANA	CHESTNUT OAK	13	13	40	REMOVE	INSECT HOLES, EXTENSIVE DECAY , RECOMMENDED FOR REMOVAL AND/OR MONITORING
2461	QUERCUS MONTANA	CHESTNUT OAK	9	9			
2462	QUERCUS ALBA	WHITE OAK	9	9	74		EPICORMIC SPROUTING
2463	FAGUS GRANDIFOLIA	AMERICAN BEECH	8	6	73		BAD BRANCHING ANGLES
2464	QUERCUS ALBA	WHITE OAK	26	26	75		SOME DECAY
2465	QUERCUS ALBA	WHITE OAK	20	20	75		
2466	ULMUS AMERICANA	AMERICAN ELM	8	4	80		GOOD FORM
2467	ROBINIA PSEUDOACACIA	BLACK LOCUST	11	11	65	REMOVE	DEAD BRANCHES, LEANING
2468	QUERCUS ALBA	WHITE OAK	22	22	74		EPICORMIC SPROUTING, SLIGHT LEAN
2470	QUERCUS RUBRA	NORTHERN RED OAK	15	15	70		SLIGHT LEAN, DEAD BRANCHES
2471	QUERCUS RUBRA	NORTHERN RED OAK	12	12	65		POOR FORM, MULTIPLE CURVES IN TRUNK, LEANING
2472	QUERCUS RUBRA	NORTHERN RED OAK	20	20	40	REMOVE	EXTENSIVE DECAY, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2474	NYSSA SYLVATICA	BLACK GUM	10	10	0	REMOVE	DEAD, EXTENSIVE DECAY
2475	QUERCUS MONTANA	CHESTNUT OAK	10	10	50	REMOVE	EXTENSIVE DECAY, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2477	QUERCUS RUBRA	NORTHERN RED OAK	13	13	70		
2479	QUERCUS RUBRA	NORTHERN RED OAK	25	25	68		SLIGHT LEAN, SOME BROKEN BRANCHES
2480	QUERCUS ALBA	WHITE OAK	20	20	72		LEANING, UNEVEN CANOPY
2481	LIRIODENDRON TULIPIFERA	TULIP POPLAR	20	20	73		LEANING, SMALL ROOT HOLE
2482	CARYA TOMENTOSA	MOCKERNUT HICKORY	9	9	75		LEANING
2483	QUERCUS ALBA	WHITE OAK	16	16	75		
2484	CATALPA SPECIOSA	NORTHERN CATALPA	8	2	80		
2485	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	8	2	45	REMOVE	TOP SNAPPED OFF, RECOMMENDED FOR REMOVAL AND/OR MONITORING
2486	LIRIODENDRON TULIPIFERA	TULIP POPLAR	13	13	76		
2487	QUERCUS ALBA	WHITE OAK	20	20	0	REMOVE	DEAD
2488	QUERCUS ALBA	WHITE OAK	26	26	70		DUAL LEADERS,LEANING
2489	QUERCUS ALBA	WHITE OAK	27	27	73		GALL
5308	ROBINIA PSEUDOACACIA	BLACK LOCUST	8	0.5	0		DEAD
5419	ROBINIA PSEUDOACACIA	BLACK LOCUST	20	20	63		DUAL LEADERS, BROKEN BRANCHES
5450	QUERCUS RUBRA	NORTHERN RED OAK	21	21	65		MULTIPLE DEAD LIMBS, UNEVEN CANOPY
2313 A	QUERCUS ALBA	WHITE OAK	14	14	70		DUAL LEADERS, EPICORMIC SPROUTING
2396 A	PRUNUS SEROTINA	BLACK CHERRY	8	3	68		VINES



REVISONS		DESCRIPTION	
DATE	BY	DATE	DESCRIPTION
2023-09-18	ZY	2023-09-18	REVISION PER COMMENTS
2024-03-06	PG	2024-03-06	REVISION PER COMMENTS

ALEXANDRIA PROJECT NO.: 01P2021-0006
DATE OF PLAN ISSUANCE: 03/26/25
CONSULTANT PROJECT ID: 21266.001.00
DESIGNED BY: TR DATE: -
DRAWN BY: PG DATE: -
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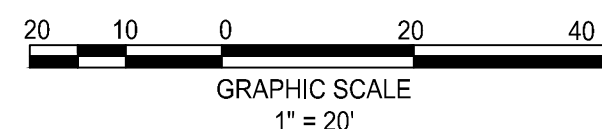
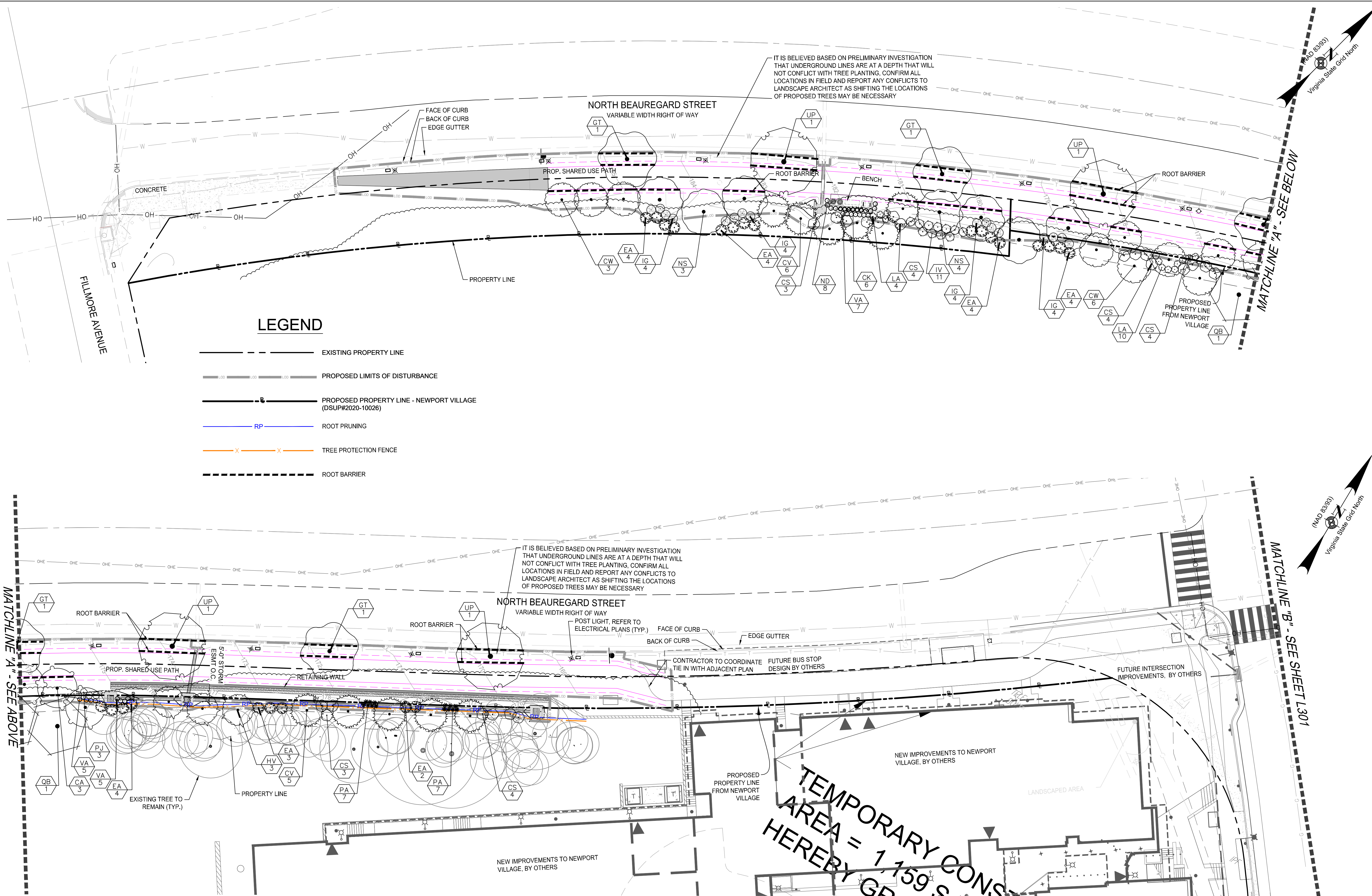
- ALL WORK PERFORMED SHALL MEET OR EXCEED THE MOST RECENT INDUSTRY STANDARDS, AS PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA). IN THE EVENT CULTURAL TREATMENTS PRESCRIBED ARE NOT COVERED BY AN EXISTING STANDARD, ALL WORK PERFORMED SHALL MEET OR EXCEED STANDARDS APPROVED BY THE CITY URBAN FORESTER.



CP2021-00006
ALEXANDRIA PROJECT NO.: 03/28/25
DATE OF PLAN ISSUANCE: 21266.001.00
CONSULTANT PROJECT ID:
DESIGNED BY: TR DATE: —
DRAWN BY: PG DATE: —
CHECKED BY: DL DATE: —
APPROVED BY: DL DATE: —

TREE PRESERVATION
NOTES AND DETAILS

L203

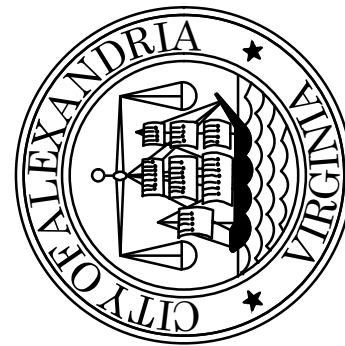


VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LANDSCAPE PLAN

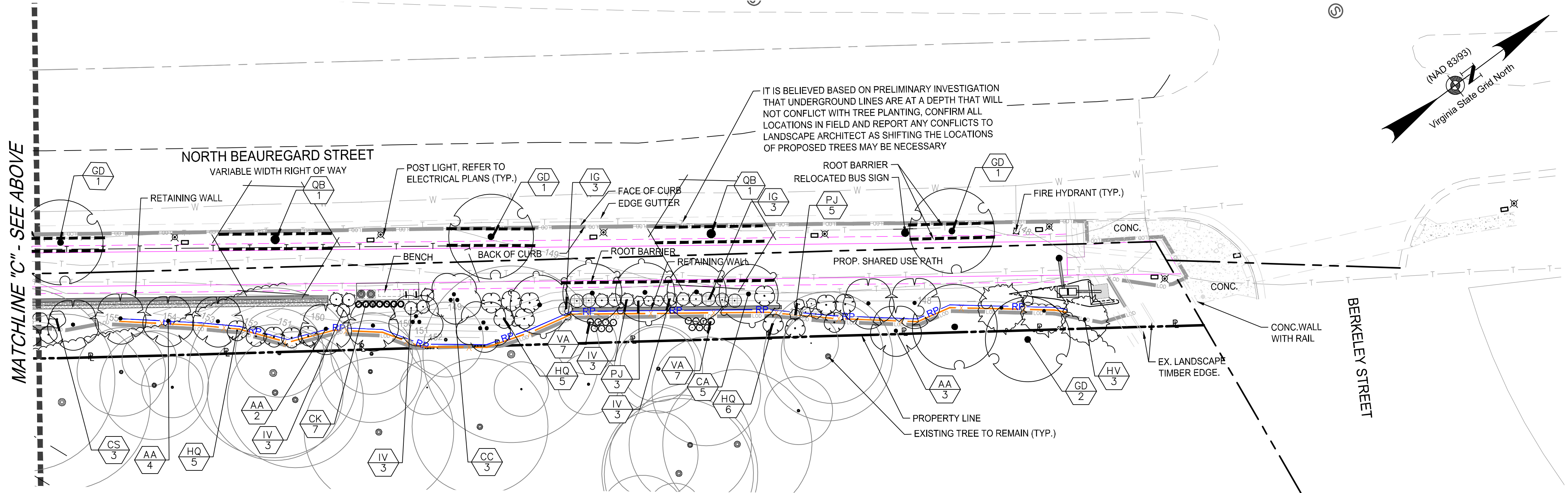
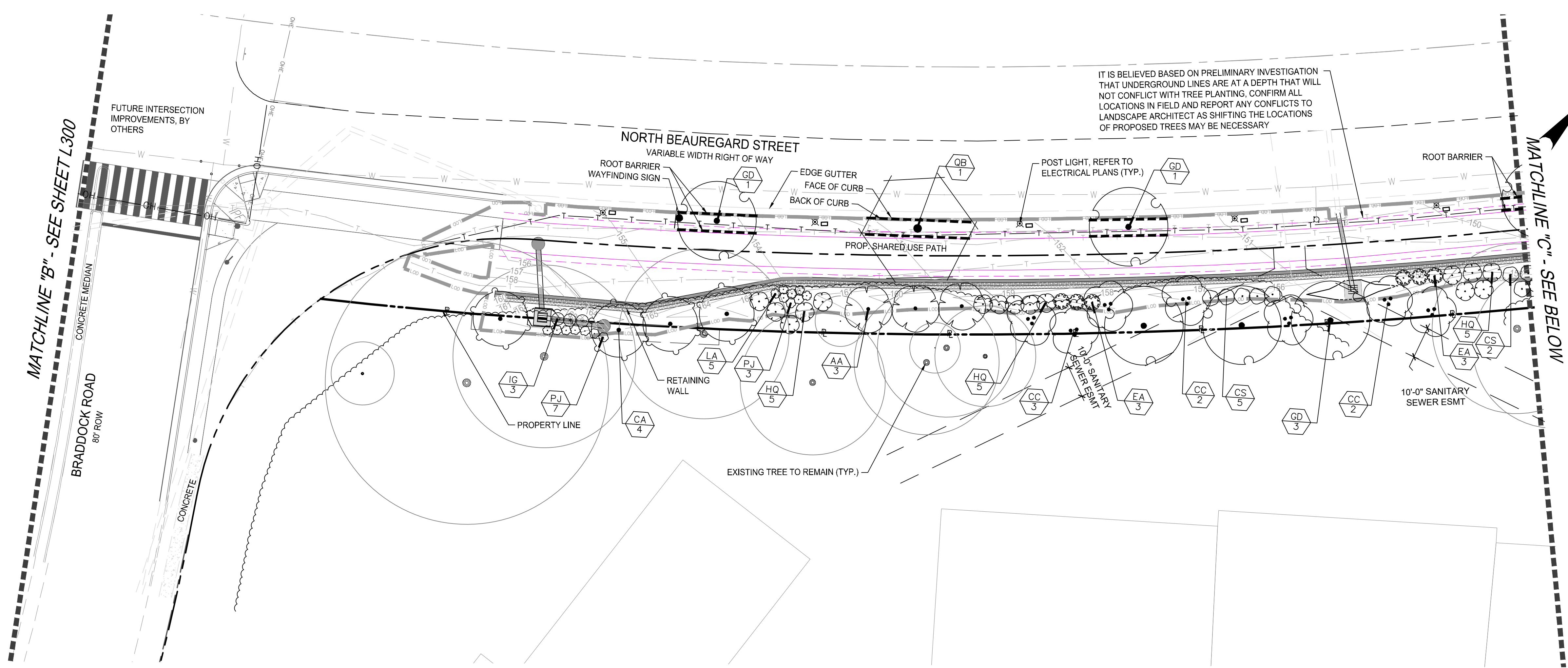
L300

BID SET



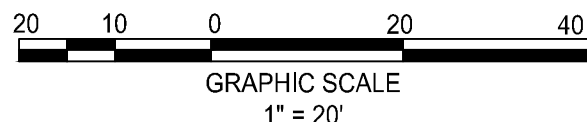
CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

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LEGEND

- EXISTING PROPERTY LINE
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED PROPERTY LINE - NEWPORT VILLAGE (DSUP#2020-10026)
- RP
- TREE PROTECTION FENCE
- ROOT BARRIER

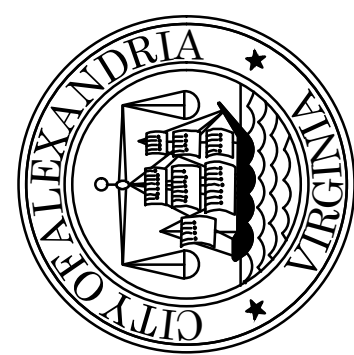


VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

LANDSCAPE PLAN

L301

BID SET



CITY OF ALEXANDRIA, VIRGINIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET
ALEXANDRIA, VIRGINIA 22314

REVISIONS		DESCRIPTION	
DATE	BY	REVISION	COMMENTS
2023-09-18	ZY	REVISE	PER COMMENTS
2024-03-06	PG	REVISE	PER COMMENTS

ALEXANDRIA PROJECT NO.: 012021-00006	DATE OF PLAN ISSUANCE: 03/28/25
CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: TR DATE: -
	DRAWN BY: PG DATE: -
	CHECKED BY: DL DATE: -
	APPROVED BY: DL DATE: -

PLANT TYPE	PLAN INFORMATION		BOTANIC/Common Name				SIZE	NOTES	CROWN COVER ALLOWANCE (CCA)		NATIVE PLANTS PROVIDED		
URBAN TREES	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	QB	5	Quercus	bicolor		Swamp White Oak	2.5" MIN CAL.	symmetrical, single leader	1,250	6,250	5	0	5
	GD	10	Gymnocladus	dioicus	Espresso	Espresso Kentucky Coffeetree	2.5" MIN CAL.	symmetrical, single leader	1,250	12,500	10	0	10
	CA	12	Carpinus	caroliniana		American Hornbeam	2.5" MIN CAL.	symmetrical, single leader	500	6,000	12	0	12
	NS	7	Nyssa	sylvatica	Wildfire	Black Gum	2.5" MIN CAL.	symmetrical, single leader	750	5,250	7	0	7
	GT	4	Gleditsia	triacanthos	Inermis Skycole	Skyline Thornless Honeylocust	2.5" MIN CAL.	symmetrical, single leader	750	3,000	4	0	4
	UP	4	Ulmus	americana	Princeton	Princeton Elm	2.5" MIN CAL.	symmetrical, single leader	1,250	5,000	4	0	4
	TOTALS	42							URBAN TREE CCA:	38,000	42	0	42
											100.0%	0.0%	100.0%
STANDARD TREES	PLAN KEY	QUANTITY	GENUS	SPECIES		COMMON NAME	CALIPER/HEIGHT		CCA PER TREE (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	AA	12	Amelanchier	arborea		Serviceberry	1.5" MIN CAL.	symmetrical, single leader	500	6,000	12	0	12
	CC	10	Cercis	canadensis		Redbud	1.5" MIN CAL.	symmetrical, multileader	500	5,000	10	0	10
	CV	11	Chionanthus	virginicus		White Fringetree	1.5" MIN CAL.	symmetrical, single leader	500	5,500	11	0	11
	CW	9	Crataegus	viridis	Winter King	Winter King Hawthorn	1.5" MIN CAL.	symmetrical, single leader	500	4,500	9	0	9
	TOTALS	42							STANDARD TREE CCA:	21,000	42	0	42
											100.0%	0.0%	100.0%
LARGE SHRUBS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	HEIGHT		CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	CS	32	Clethra	alnifolia		Summersweet	24" HT.		10	320	32	0	32
	EA	31	Euonymus	americanus		Strawberry bush	24" HT.		10	310	31	0	31
	HV	6	Hamamelis	virginiana		Common Witch Hazel	24" HT.		50	300	6	0	6
	HQ	31	Hydrangea	quercifolia		Oakleaf Hydrangea	24" HT.		25	775	0	31	31
	TOTALS	100							EVERGREEN SHRUB CCA:	1,705	69	31	100
											69.0%	31.0%	100.0%
SMALL SHRUBS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	HEIGHT		CCA PER SHRUB (SF)	TOTAL CROWN COVER (SF)	LOCAL/ REGIONAL (#)	EASTERN U.S. (#)	TOTAL
	IG	25	Ilex	glabra	Compacta	Compact Inkberry	18" HT.		25	625	25	0	25
	IV	23	Itea	virginica	Henry's Garnet	Henry's Garnet Sweetspire	18" HT.		10	230	23	0	23
	LA	19	Leucothoe	axillaris		Coastal Leucothoe	18" HT.		10	190	19	0	19
	ND	8	Nandina	domestica	Nana'	Dwarf Heavenly Bamboo	18" HT.		10	80	0	0	0
	PJ	21	Physocarpus	opulifolius	Jenfam	Amber Jubilee Ninebark	18" HT.		10	210	21	0	21
	VA	31	Vaccinium	pallidum		Lowbush Blueberry	18" HT.		10	310	31	0	31
	TOTALS	127							DECIDUOUS SHRUB CCA:	1,645	119	0	119
											93.7%	0.0%	93.7%
ORNAMENTAL GRASSES, FERNS	PLAN KEY	QUANTITY	GENUS	SPECIES	VAR./CULTIVAR/HYBRID	COMMON NAME	HEIGHT						
	CK	13	Calamagrostis	x acutiflora	Karl Foerster	Feather Reed Grass	18" HT.						
	PA	14	Polystichum	arcostichoides		Christmas Fern	18" HT.						
	TOTALS	27											
									TOTAL PROPOSED CCA (SF):	62,350			

NATIVE PLANT TABULATIONS					
PLANT TYPE	QUANTITY	NATIVE TYPE	JANUARY 2, 2020 – JANUARY 1, 2024		
			REQUIRED	PROVIDED	
			%	QTY.	%
Standard Trees	84	Regional/Local	25%	84	100.0%
		Total Natives	60%	84	100.0%
Large Shrubs	100	Regional/Local	8%	69	69.0%
		Total Natives	30%	100	100.0%
Small Shrubs, Groundcovers	127	Regional/Local	15%	119	93.7%
		Total Natives	60%	119	93.7%
TOTALS					
TOTAL PLANTS SPECIFIED		TOTAL SUM OF REGIONAL/LOCAL NATIVE PLANTS		TOTAL SUM OF NATIVE PLANTS	
311		272		303	
		87.5%		97.4%	
NOTES:					
1) Percentages apply to the total quantity of each plant type specified on Completeness/Preliminary Plans and Final #1 Grading Plans submitted during the listed time frames.					
2) Total Natives is the sum of Eastern U.S. Native, Regionally Native, and Locally Native vegetation specified on the plans for each plant type.					
3) Non-native vegetation for the purposes of providing edible fruits, seeds, or nuts may be planted and shall not be calculated in the above-stated requirements for native species regardless of plant type.					

VIRGINIA RIPARIAN BUFFER MODIFICATION					
TOTAL LAND DISTURBANCE (LOD)		38,100	SF		
Exclusions (Non-plantable area)		21,430	SF		
TOTAL BUFFER DISTURBANCE		16,670	SF		
Canopy Trees Required:	1	per	400 s.f.	=	42 , provided: 42
Understory Trees Required:	1	per	400 s.f.	=	42 , provided: 42
Large Shrubs Required:	2	per	400 s.f.	=	84 , provided: 100
Small Shrubs Required:	3	per	400 s.f.	=	126 , provided: 127

NOTE:
PLANT MATERIAL PROPOSED FOR RIPARIAN BUFFER MITIGATION HAS BEEN COMPUTED PER TABLE B, CHAPTER 5.1 OF 'RIPARIAN BUFFERS MODIFICATION AND MITIGATION GUIDANCE MANUAL'.

UB 24-2 TECH SHEET

This 24" high by 24" wide barrier is for linear, surround, and root pruning applications. It is ideal for protection from aggressive, invasive roots in sidewalks, curbs and gutters, driveways, and patios, as well as many other planting situations.

UB 24-2



SPECIFICATIONS + FEATURES

USES

Redirect tree roots down and away from hardscapes.

MATERIALS

High-quality 90% reprocessed recycled injection molded co-polymer polypropylene. Manufactured in ISO 9001:2008 registered factories.

SIZES & PACKAGING

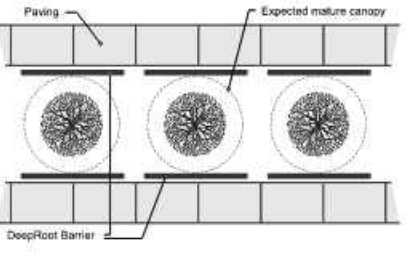
Each panel is 24" (61 cm) x 24" (61 cm)
20 Panels (40 linear feet / 12.2 m) per carton, 20 cartons per pallet, approximately 43 lbs. (19.5 kg) per carton.

FEATURES

- 90° ribs redirect root growth down and away from hardscapes
- Instant assembly: panels slide together with a zipper joiner system
- Patented double top edge for strength, safety, appearance and root overgrowth protection
- Added UV inhibitors prevent breakdown from sun exposure
- Rounded edges for safety in handling
- Made in the USA

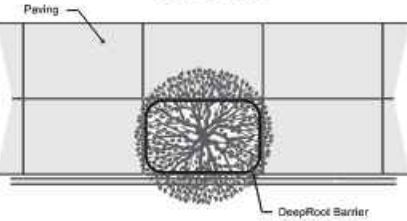
APPLICATIONS

LINEAR



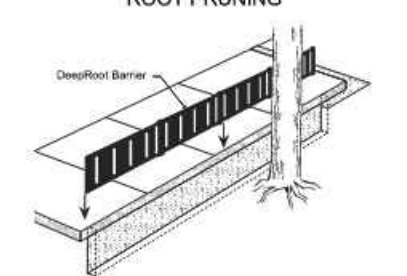
LINEAR
Provide maximum hardscape protection while utilizing all available roofing space for improved tree health by placing guides in a straight line directly along the hardscape to be protected.

SURROUND



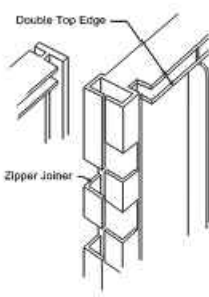
SURROUND
Protect hardscapes that surround a planting on all four sides. Plan to line the perimeter of the planting area with the panels—this provides the maximum available uncompacted soil volume for immediate root growth.

ROOT PRUNING



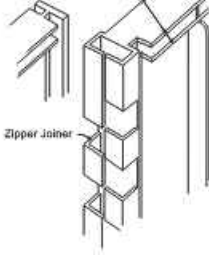
ROOT PRUNING
Root pruning can help save existing trees and prevent future damage to paving. Disruptive roots are cleanly cut and removed; linear Root Barrier is then installed. There are limitations to root pruning and an ISA Certified Arborist should be consulted.

ZIPPER JOINING SYSTEM



ZIPPER JOINING SYSTEM
Each panel has a built-in zipper joiner along one edge, making assembly of the panels in the field quick and easy.

DOUBLE TOP EDGE



DOUBLE TOP EDGE
Patented double top edge adds strength, safety, and root overgrowth protection.

DeepRoot Green Infrastructure, LLC

1032 Irving Street, #614, San Francisco, CA 94122-220

Tel: 415 781 9700
Toll Free: 800 459 7668
Fax: 415 373 4134
www.deeproot.com



ROOT BARRIER DETAIL

BID SET

CITY OF ALEXANDRIA, VIRGINIA

DEPARTMENT OF PROJECT IMPLEMENTATION

301 KING STREET

ALEXANDRIA, VIRGINIA 22314

REVISIONS

DATE	BY	DESCRIPTION
2023-09-18	ZY	REVISE PER COMMENTS
2024-03-06	PG	REVISE PER COMMENTS

ALEXANDRIA PROJECT NO.: 01P2021-00006

DATE OF PLAN ISSUANCE: 03/26/25

CONSULTANT PROJECT ID: 21266.001.00

DESIGNED BY: TR DATE: -

DRAWN BY: PG DATE: -

CHECKED BY: DL DATE: -

APPROVED BY: - DATE: -

LANDSCAPE SCHEDULE AND CALCULATIONS

L302

P:\Projects\21266\00100\111671 - 90%L\303 LANDSCAPE DETAILS AND SPECIFICATIONS.dwg PLOTTED: 11/3/2025 4:25:20 PM BY AUGUST HINNECAVE

GENERAL LANDSCAPE SPECIFICATION SUMMARY

SPECIFICATION: THIS IS A SUMMARY OF IMEG, CORP. GENERAL LANDSCAPE SPECIFICATION. ALL WORK SHALL FOLLOW THE PROCEDURES OUTLINED IN THE SPECIFICATIONS AND DETAILS CONTAINED HEREIN, WHICH ARE DESIGNED TO EXCEED CURRENT INDUSTRY STANDARDS. SHOULD THERE EXIST A DISCREPANCY BETWEEN THIS SPECIFICATION AND THE INCLUDED CONSTRUCTION DETAILS, THE WRITTEN SPECIFICATION SHALL TAKE PRECEDENCE.

REFERENCES: IN LIEU OF PROVIDING COMPREHENSIVE PROPRIETARY SPECIFICATIONS, THE FOLLOWING ARE REFERENCED TO BE GENERAL DEFAULT SPECIFICATIONS WITH THE FOLLOWING MODIFICATIONS. THESE MODIFICATIONS AND THE CONSTRUCTION DETAILS SHOWN IN THIS PLAN SET SHALL TAKE PRECEDENCE OVER THE GENERAL REFERENCED SPECIFICATIONS.

- "LANDSCAPE SPECIFICATION GUIDELINES" LANDSCAPE CONTRACTORS ASSOCIATION OF MD, DC, VA - MOST CURRENT EDITION.
- "AMERICAN STANDARD FOR NURSERY STOCK - ANSI Z60.1" BY AMERICANHORT - MOST CURRENT EDITION
- "TT-77 RECOMMENDED TURFGRASS CULTIVARS FOR CERTIFIED SOD PRODUCTION IN MARYLAND" - MARYLAND TURFGRASS COUNCIL
- "LANDSCAPE ARCHITECTURE/DESIGN SPECIFICATIONS FOR COMPOST USE" - US COMPOSTING COUNCIL
- RIPARIAN BUFFERS MODIFICATION AND MITIGATION GUIDANCE MANUAL - VA DCR

IF THERE ARE DISCREPANCIES OR CONTRADICTIONS IN SPECIFICATION SECTIONS OR DETAILS, THE STRICTER SPECIFICATION SHALL TAKE PRECEDENCE. A REQUEST FOR INFORMATION (RFI) CAN ALSO BE SUBMITTED FOR CLARIFICATION.

LIST OF PLANT MATERIAL: THE CONTRACTOR WILL VERIFY PLANT QUANTITIES PRIOR TO BIDDING AND ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL PLANT MATERIALS REQUIRED TO COMPLETE THE WORK AS SHOWN ON THE DRAWINGS. QUANTITIES IN THE PLANTING SCHEDULE SHALL TAKE PRECEDENCE OVER QUANTITIES GRAPHICALLY SHOWN ON THE PLAN. SUBSTITUTIONS SHALL NOT BE MADE WITHOUT THE WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE.

PLANT IDENTIFICATION: ALL TREES SHALL BE TRUE TO NAME AS ON PLANT SCHEDULE OR SHOWN ON PLANTING PLANS AND SHALL BE CORRECTLY LABELED INDIVIDUALLY OR IN GROUPS BY GENUS, SPECIES, VARIETY AND CULTIVAR. LABELS ARE TO REMAIN INTACT UNTIL SITE IS APPROVED THROUGH AGENCY INSPECTION, SUBSTANTIAL COMPLETION APPROVAL, OR PER OWNER'S REPRESENTATIVE'S INSTRUCTION.

PLANT QUALITY: ALL PLANT MATERIALS SHALL CONFORM TO THE SIZE AND FORM STANDARDS SET FORTH IN THE LATEST EDITION OF AMERICANHORT'S "AMERICAN STANDARD FOR NURSERY STOCK - ANSI Z60.1". ABOVE GROUND: TREES SHALL BE HEALTHY WITH THE COLOR, SHAPE, SIZE, AND DISTRIBUTION OF TRUNK, STEMS, BRANCHES, BUDS AND LEAVES TYPICAL OF THE PLANT SPECIFIED. ANY SIGNS OF STRESS, IMPROPER HANDLING (WOUNDS OR BROKEN BRANCHES), INSECT OR DISEASE DAMAGE, OR DEAD/DISTORTED BRANCHES SHOULD NOT BE PRESENT. TREES SHALL HAVE ONE CENTRAL LEADER (UNLESS OTHERWISE SPECIFIED) AND GRAFTS SHOULD BE FULLY CLOSED AND VISIBLE ABOVE THE SOIL LINE. BELOW GROUND: A MINIMUM OF 3 STRUCTURAL ROOTS SHOULD BE REASONABLY DISTRIBUTED AROUND THE TRUNK (REJECT A TREE WITH STRUCTURAL ROOTS ONLY ON ONE SIDE), THE ROOT CROWN SHOULD NOT BE MORE THAN 2 INCHES BELOW THE SOIL LINE, THE TOP 2 STRUCTURAL ROOTS SHOULD NOT BE MORE THAN 3 INCHES BELOW THE SOIL LINE WHEN MEASURED 4 INCHES AWAY FROM THE TRUNK. THE TOP OF THE OTHER STRUCTURAL ROOT SHOULD NOT BE MORE THAN 5 INCHES BELOW THE SURFACE. THE ROOT SYSTEM SHOULD BE FREE OF POTENTIALLY STEM-GIRDLING OR KINKED ROOTS ABOVE THE ROOT COLLAR AND MAIN STRUCTURAL ROOTS.

INSPECTION: PLANTS ARE TO BE INSPECTED UPON DELIVERY TO CONTRACTOR BY A CONTRACTOR'S REPRESENTATIVE AND/OR OWNER'S REPRESENTATIVE. TREES NOT PRESENTING PROPER FORM, INCORRECT VARIETY, SIGNS OF POOR HEALTH OR OVER-STRESS, AND GIRDLING ROOTS ARE TO BE REJECTED.

STORAGE & TRANSPORT: PLANT MATERIALS SHOULD BE PROTECTED FROM DESSICATION DURING TRANSPORT VIA BREATHABLE FABRIC COVERING THE CANOPY AND BY WATERING ROOTBALL/POT THOROUGHLY IMMEDIATELY PRIOR TO TRANSPORT. PLANT MATERIALS SHOULD BE INSTALLED ON DAY OF DELIVERY TO SITE. IF THAT IS NOT POSSIBLE, A TEMPORARY STORAGE AREA CAN BE CONSTRUCTED ON-SITE. PLANTS ARE NOT TO BE STORED ON BARE ASPHALT. IF STORAGE AREA IS ASPHALT, COVER BARE ASPHALT WITH A LAYER OF WOODCHIPS. STORAGE SHOULD BE IN SHADE, AND PLANTS BE REGULARLY WATERED AT ROOT-BALL LEVEL, AND SPACED SO FOLIAGE FROM ONE PLANT DOES NOT INTERFERE WITH FOLIAGE OF ANOTHER. TALL PLANT MATERIALS ARE TO REMAIN UPRIGHT DURING STORAGE. LONGER TERM STORAGE PLANTS ARE TO BE HEELED-IN OR STORED IN MULCH TO THE TOP OF THE CONTAINER/ROOT BALL. PLANT MATERIALS SHALL NOT BE STORED ON-SITE FOR MORE THAN TWO WEEKS. PLANTS STORED IMPROPERLY OR FOR TOO LONG MAY BE SUBJECT TO REJECTION AND REPLACEMENT DEPENDENT ON ULTIMATE PLANTING CONDITION.

PLANTING: PLANTINGS SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS AND SPECIFICATIONS ON THIS SHEET. DETAILS AND SPECIFICATIONS FOR OTHER SPECIFIC LANDSCAPE ITEMS, SUCH AS TREE PRESERVATION OR EROSION CONTROL MAY BE FOUND ELSEWHERE IN THIS DRAWING SET ON THEIR OWN RESPECTIVE SHEET. FOR ITEMS NOT SPECIFICALLY ADDRESSED BY THIS PLAN SET, REFER TO THE LATEST EDITION OF "THE LANDSCAPE SPECIFICATION GUIDELINES" DEVELOPED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MD, DC, AND VA. SHOULD THERE BE ANY AMBIGUITIES OR QUESTIONS, PLEASE UTILIZE THE FORMAL RFI/SUBMITTAL PROCESS.

TREES: THE PLANTING HOLE DIAMETER IS TO BE AT A MINIMUM THREE TIMES THE DIAMETER OF THE ROOT BALL. THE DEPTH OF THE PLANTING HOLE SHALL BE DUG SO THAT THE SHOULDER OF THE ROOT BALL IS LEVEL WITH THE EXISTING GRADE LEAVING THE ROOT FLARE SLIGHTLY HIGHER. WHEN PLANTING ON A SLOPE, THE DEPTH OF THE HOLE SHALL BE DUG SO THAT THE BOTTOM OF THE ROOT FLARE IS AT THE LEVEL OF THE EXISTING GRADE AT THE SIDES OF THE HOLE. IF THE PLANTING HOLE IS MECHANICALLY DUG, THE HOLE IS TO BE SCARIFIED BY SLIGHTLY ENLARGING HOLE BY HAND DIGGING THE SIDES AND BOTTOM TO PREVENT GLAZING. THE SIDES OF THE HOLE SHOULD BE VERTICAL OR SLOPING OUTWARDS. HOLES ARE NOT TO BE DUG WHEN SOIL IS SATURATED. FOR BALLED AND BURLAPPED TREES, THE WIRE ROOT BALL CAGE IS TO BE REMOVED AND BURLAP IS TO BE CUT AND COMPLETELY REMOVED FROM THE TOP AND A MINIMUM OF 8" TO 12" DOWN THE SIDE OF THE ROOT BALL. DO NOT FOLD BURLAP DOWN INTO HOLE, IT MUST BE REMOVED. ANY SYNTHETIC MATERIALS ARE TO BE COMPLETELY REMOVED FROM THE TRUNK AND ROOT BALL. BACKFILL IN LIFTS USING THE SAME SOIL DUG TO CREATE THE HOLE, BEING CAREFUL NOT TO OVER-COMPACT THE SOIL. INOCULATE BACKFILL SOIL OR ROOTBALL WITH AN APPROVED BALANCED (ENDO/ECTO) COMMERCIAL MYCORRHIZAE APPLICATION. DO NOT AMEND OR ADD FERTILIZER UNLESS EXPRESSLY SPECIFIED TO DO SO OR IS PART OF THE APPROVED MYCORRHIZAE INNOCULANT PRODUCT. DO NOT PLACE ANY SOIL ON TOP OF ROOT BALL. TREES ARE TO BE MULCHED TO FULL DEPTH SPECIFIED IMMEDIATELY AFTER PLANTING. A 1/2" LAYER OF APPROVED COMPOST IS TO BE PLACED UNDER THE MULCH LAYER. DO NOT PLACE MULCH AGAINST TREE TRUNK.

STAKING: STAKING (IF ANY) IS TO BE INSTALLED PER THE ACCOMPANYING DETAILS. UTILIZING TREE WEBBING STRAPS WITH GROMMETS TO PREVENT WIRE FROM COMING IN CONTACT WITH THE TREE. WHILE NOT PREFERRED, FULL TREE WEBBING SYSTEMS ARE ALSO PERMISSIBLE IF APPROVED THROUGH SUBMITTAL, AND INSTALLED PER MANUFACTURER'S INSTRUCTIONS. WIRE IS TO BE TENSIONED TO ALLOW FOR 1/2 INCH OF DEFLECTION UP OR DOWN, AND TENSION SHALL BE RECHECKED AND ADJUSTED ON A REGULAR BASIS. STAKING IS TO BE REMOVED AS SOON AS POSSIBLE AFTER ONE YEAR. GARDEN HOSE IS NOT TO BE UTILIZED FOR STAKING.

IRRIGATION: FOR PERMANENT SYSTEMS, IRRIGATION SHOULD BE LARGELY INSTALLED PRIOR TO PLANT INSTALLATION TO AVOID HAVING TO DISTURB PLANTING BEDS OR MOVE PLANTS TO ACCOMMODATE THE INSTALLATION OF THE IRRIGATION SYSTEM. FOR SITES WITH NO PERMANENT IRRIGATION SYSTEM, TREES ARE TO BE IRRIGATED UNTIL ESTABLISHED BY THE USE OF TEMPORARY WATER BAGS THROUGH ONE GROWING YEAR OR UNTIL ESTABLISHED. SHRUBS, PERENNIAL BEDS, AND LAWNS ARE TO BE THOROUGHLY HAND-WATERED OR BY MOVABLE TEMPORARY IRRIGATION (SPRINKLERS OR DRIP HOSE) AS NECESSARY TO REFLECT LOCAL WEATHER CONDITIONS. WATERING IS TO BE DEEP INTO THE SOIL AND INFREQUENT, AS OPPOSED TO LIGHT SURFICIAL WATERING PERFORMED OFTEN.

SHRUBS: FOR CONTAINER SHRUBS, THE PLANTING HOLE IS TO BE DUG 3 TIMES THE WIDTH OF THE INTACT CONTAINER. THE CONTAINER IS TO BE COMPLETELY REMOVED AND THE SIDES OF THE SOIL/ROOT CLUMP SCARIFIED WITH A STERILE SHARP KNIFE. THEY SHALL BE PLANTED SO THAT THE TOP OF THE SOIL LEVEL OF THE CONTAINER IS NO MORE THAN 1.5" ABOVE THE ORIGINAL GRADE. FOR BALLED AND BURLAPPED SHRUBS, REMOVE AS MUCH BURLAP AS POSSIBLE FROM THE TOP AND SIDES OF THE ROOTBALL. DO NOT FOLD BURLAP INTO HOLE. PLANT WITH THE ROOT FLARE SLIGHTLY HIGHER THAN THE SURROUNDING GRADE. BACKFILL WITH SOIL DUG TO CREATE THE HOLE. DO NOT COVER TOP OF ROOT BALL/CLUMP.

GROUND COVERS/PERENNIALS: BEDS ARE TO BE PREPARED BY TILLING WELL TO A MINIMUM DEPTH OF 6", AND SOILS SHALL BE AMENDED BY INCORPORATING 1" OF COMPOST MEETING THE US COMPOSTING COUNCIL REFERENCE SPECIFICATION, 1" OF WORM CASTINGS AND/OR WELL DECOMPOSED COMMERCIALLY PRODUCED COMPOST, OR A CLASS A BIOSOLID ALSO MEETING THE REFERENCED US COMPOSTING COUNCIL SPECIFICATION PRIOR TO PLANTING. APPLY 3" OF SHREDDED NON-DYED HARDWOOD MULCH IMMEDIATELY AFTER PLANTING.

COMPACTED OR POORLY DRAINED SOILS: FOR SITES WITH HEAVILY COMPACTED OR POORLY DRAINING SOILS, ALTERNATE PLANTING METHODS WILL NEED TO BE EMPLOYED. CONTACT PROJECT LANDSCAPE ARCHITECT FOR ADDITIONAL PLANTING DETAILS AND SPECIFICATIONS SHOULD EITHER UNFORESEEN CONDITION BE ENCOUNTERED.

CONFLICTS WITH EXISTING ROOTS: PROPOSED LANDSCAPE MAY BE SHOWN TO BE PLANTED IN THE CRITICAL ROOT ZONES OF EXISTING LARGE TREES. SHOULD, IN THE COURSE OF PLANTING, LARGE WOODY ROOTS BE DISCOVERED BELONGING TO ADJACENT LARGE TREES THAT ARE TO BE PRESERVED, SHIFT THE PLANTING LOCATION OF THE TREE TO BE PLANTED TO AVOID CUTTING THE WOODY ROOT. SHOULD A SUITABLE PLANTING LOCATION NOT BE FOUND WITHIN THE PROXIMITY OF WHERE A PROPOSED TREE IS TO BE PLANTED, CONTACT THE PROJECT LANDSCAPE ARCHITECT FOR ALTERNATE PLANTING LOCATION AND RECORDING OF THE DISCREPANCY FOR LANDSCAPE INSPECTION/APPROVAL PURPOSES.

IRRIGATION: NEW PLANT MATERIALS ARE TO BE WATERED AS NECESSARY TO MAINTAIN HEALTH AND IN ACCORDANCE WITH THE SPECIFICATIONS LAID OUT IN THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. IF NO PERMANENT IRRIGATION SYSTEM IS INSTALLED, TREES ARE TO BE WATERED UNTIL ESTABLISHED THROUGH THE USE OF TEMPORARY WATER BAGS. SHRUBS, PERENNIALS, AND GROUND COVERS SHALL BE HAND-WATERED. INFREQUENT DEEP WATERING IS PREFERRED TO MORE FREQUENT QUICK/SHALLOW WATERING.

LAWN AREAS:

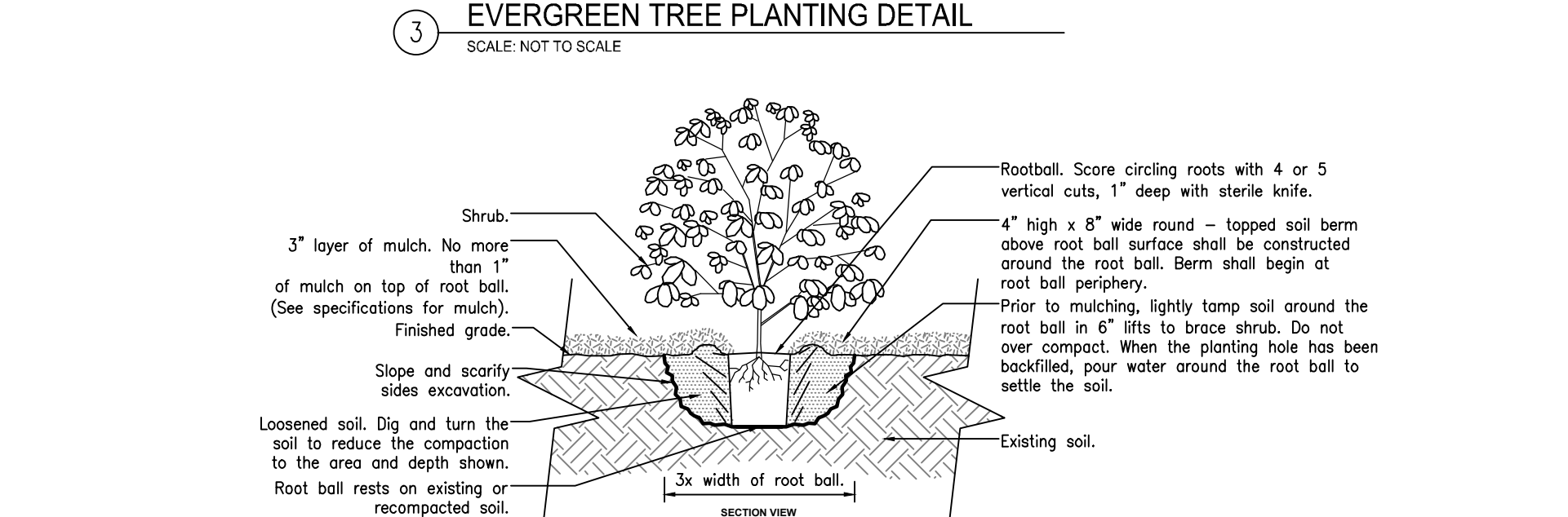
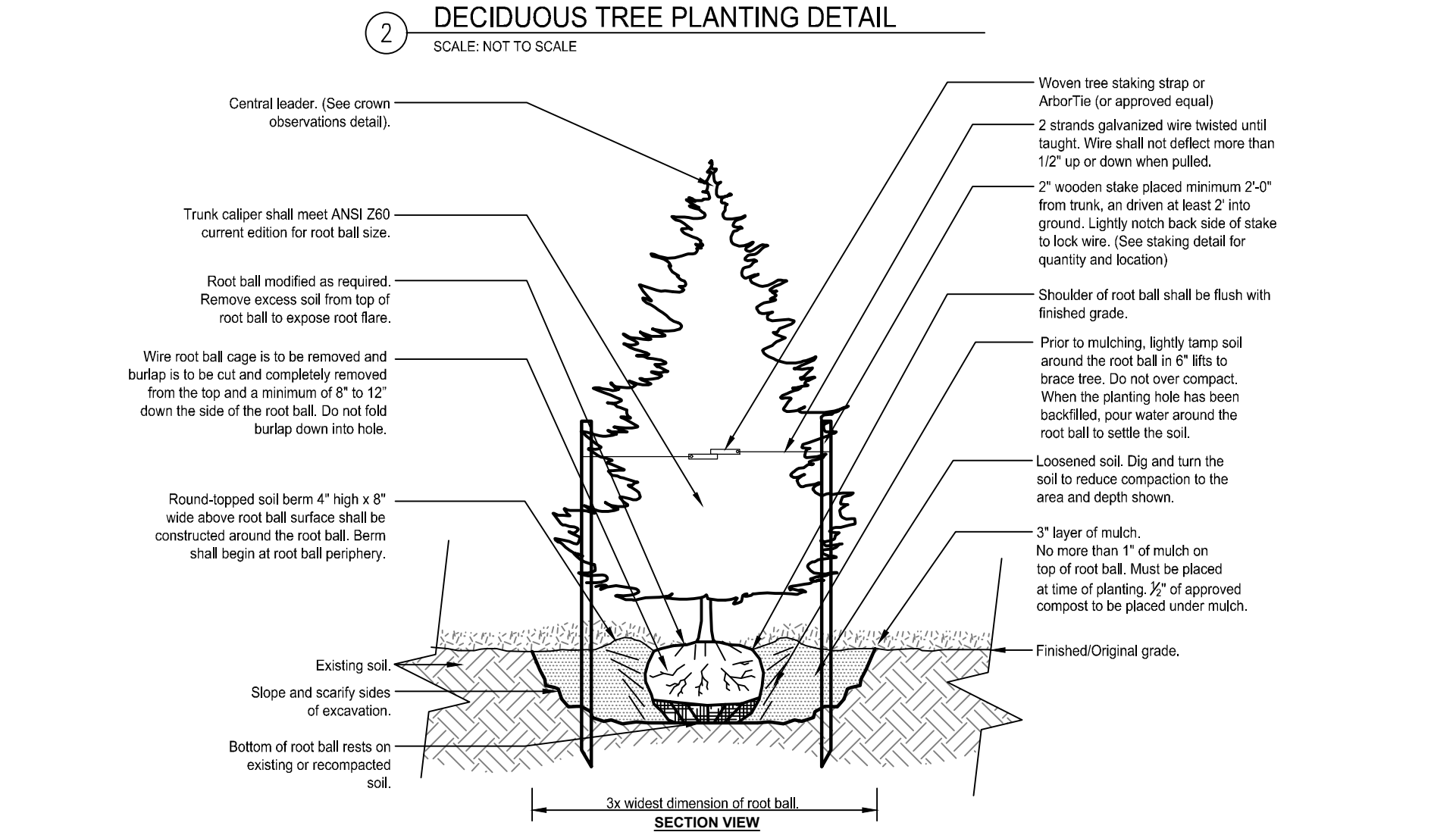
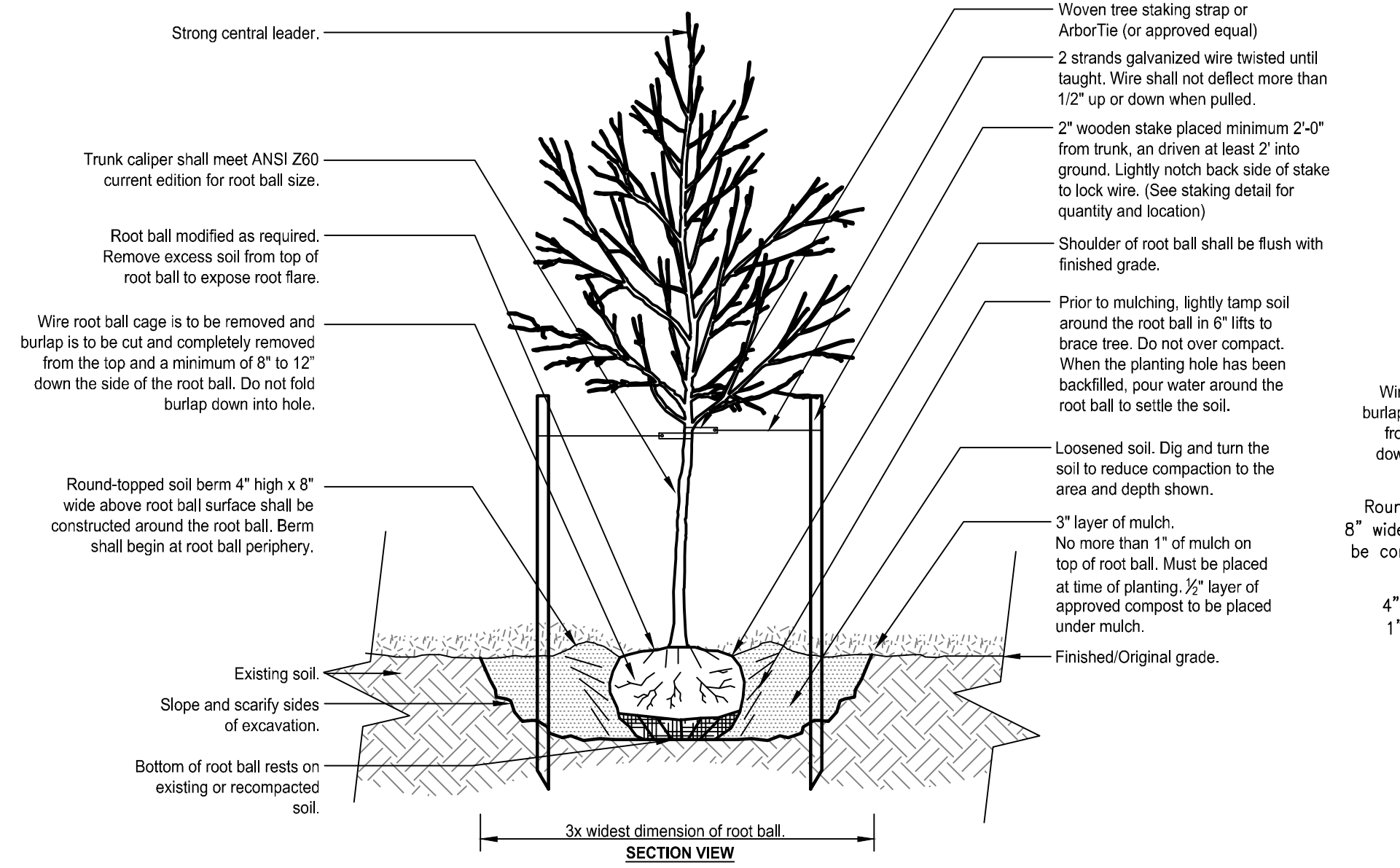
SEEDED LAWN AREA: AREAS TO BE SEEDED SHALL HAVE PLANTING SOIL TILLED TO A DEPTH OF 6" AND FREE OF STONES GREATER THAN 1" DIAMETER OR LENGTH. ANY AMENDMENTS THAT ARE TO BE ADDED SHOULD BE TILLED INTO SOIL PRIOR TO SEEDING. A SEED MIX COMPOSITION CHART SHALL BE SUBMITTED FOR REVIEW PRIOR TO INSTALLATION. UNLESS SPECIFIED BY THE OWNER'S REPRESENTATIVE, THE SEED MIX MUST CONTAIN A MINIMUM OF THREE CULTIVARS OR TYPES OF GRASS IN THE BLEND, CHOSEN FROM THE RECOMMENDED CULTIVARS LIST OF THE MOST RECENT "TT-77 RECOMMENDED TURFGRASS CULTIVARS FOR CERTIFIED SOD PRODUCTION IN MARYLAND" DOCUMENT PRODUCED BY THE UNIVERSITY OF MARYLAND AND THE MARYLAND TURFGRASS COUNCIL. USE OF CULTIVARS ALSO APPEARING ON THE TURFGRASS WATER CONSERVATION ALLIANCE APPROVED LIST IS ENCOURAGED. SEEDS COATINGS THAT AID IN

GERMINATION, MOISTURE RETENTION AND PREVENT LOSS TO BIRD CONSUMPTION ARE ACCEPTABLE. SEEDED AREAS ARE TO BE COVERED BY A LIGHT AND LOOSE LAYER OF RAPIDLY DEGRADABLE MULCH SUCH AS STRAW OR HYDRAULICALLY APPLIED CELLULOSE. USE OF EROSION CONTROL BLANKETS OR ANY SYNTHETIC WEBBING IS NOT PERMISSIBLE FOR LAWN AREAS UNLESS SPECIFIED BY THE OWNER'S REPRESENTATIVE.

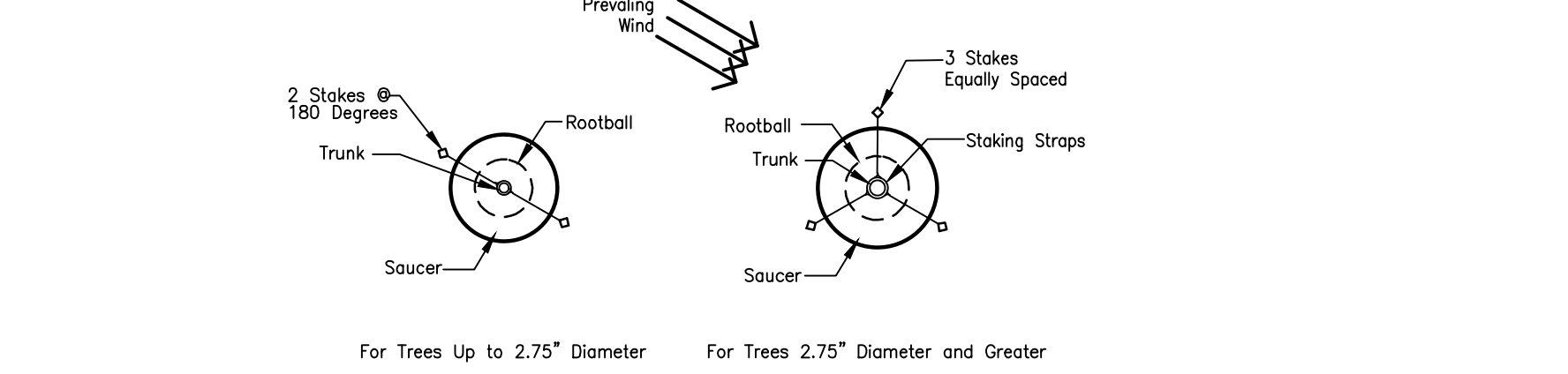
SODDED LAWN AREA: UNLESS A PROPRIETARY SOD IS SPECIFIED BY THE OWNER'S REPRESENTATIVE, SOD MUST BE OF A MARYLAND OR VIRGINIA CERTIFIED VARIETY SUITED TO THE SPECIFIC GROWING REQUIREMENTS OF WHERE IT IS TO BE INSTALLED. GROWER AND VARIETY TO BE SUBMITTED TO OWNER'S REPRESENTATIVE FOR REVIEW PRIOR TO ORDERING. CERTIFICATION DOCUMENTATION FOR ALL SOD IS TO BE PROVIDED TO THE OWNER'S REPRESENTATIVE UPON DELIVERY. FOR INSTALLATION ON SLOPES, THE CONTRACTOR SHALL USE BIODEGRADABLE SOD SPIKES TO SECURE SOD IN PLACE. METAL SOD STAPLES ARE NOT TO BE UTILIZED FOR INSTALLATION.

INVASIVE SPECIES: EXISTING INVASIVE SPECIES ARE TO BE REMOVED UTILIZING APPROPRIATE APPROVED METHODS INCLUDING IN THE INVASIVE SPECIES MANAGEMENT PLAN (IF APPLICABLE) PRIOR TO THE INSTALLATION OF NEW PLANT MATERIALS, AND IS SUBJECT TO INSPECTION, AND IS A FACTOR IN THE CERTIFICATION OF INSTALLATION.

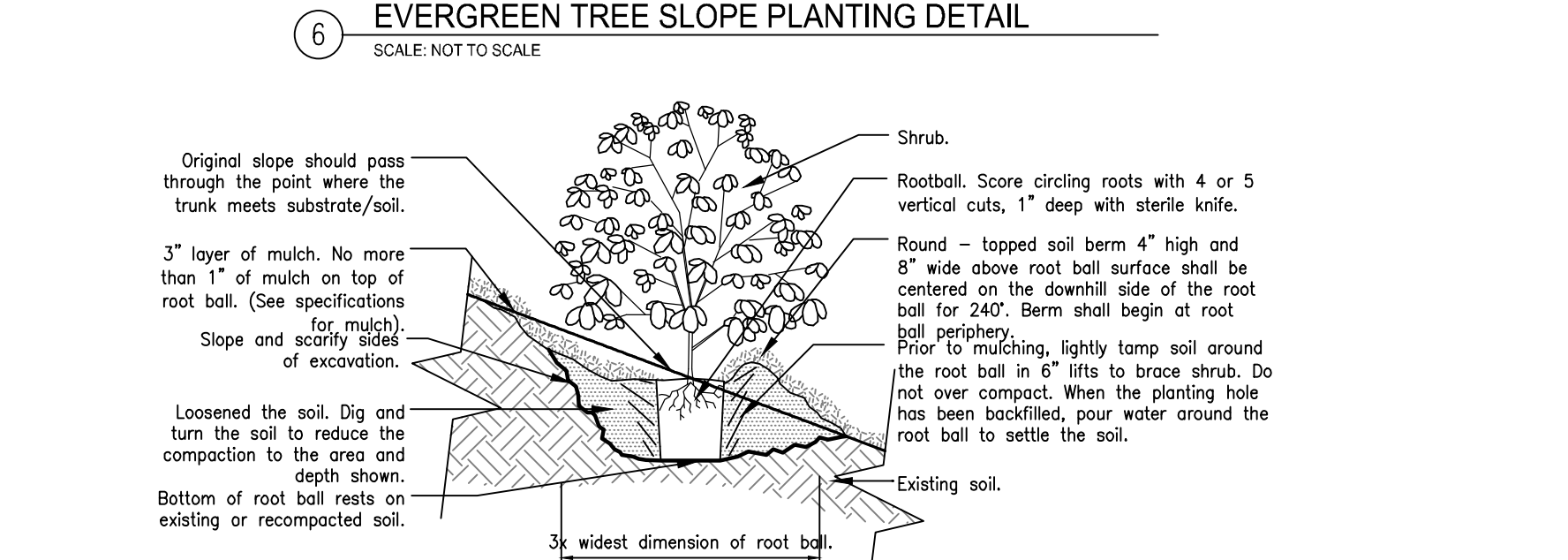
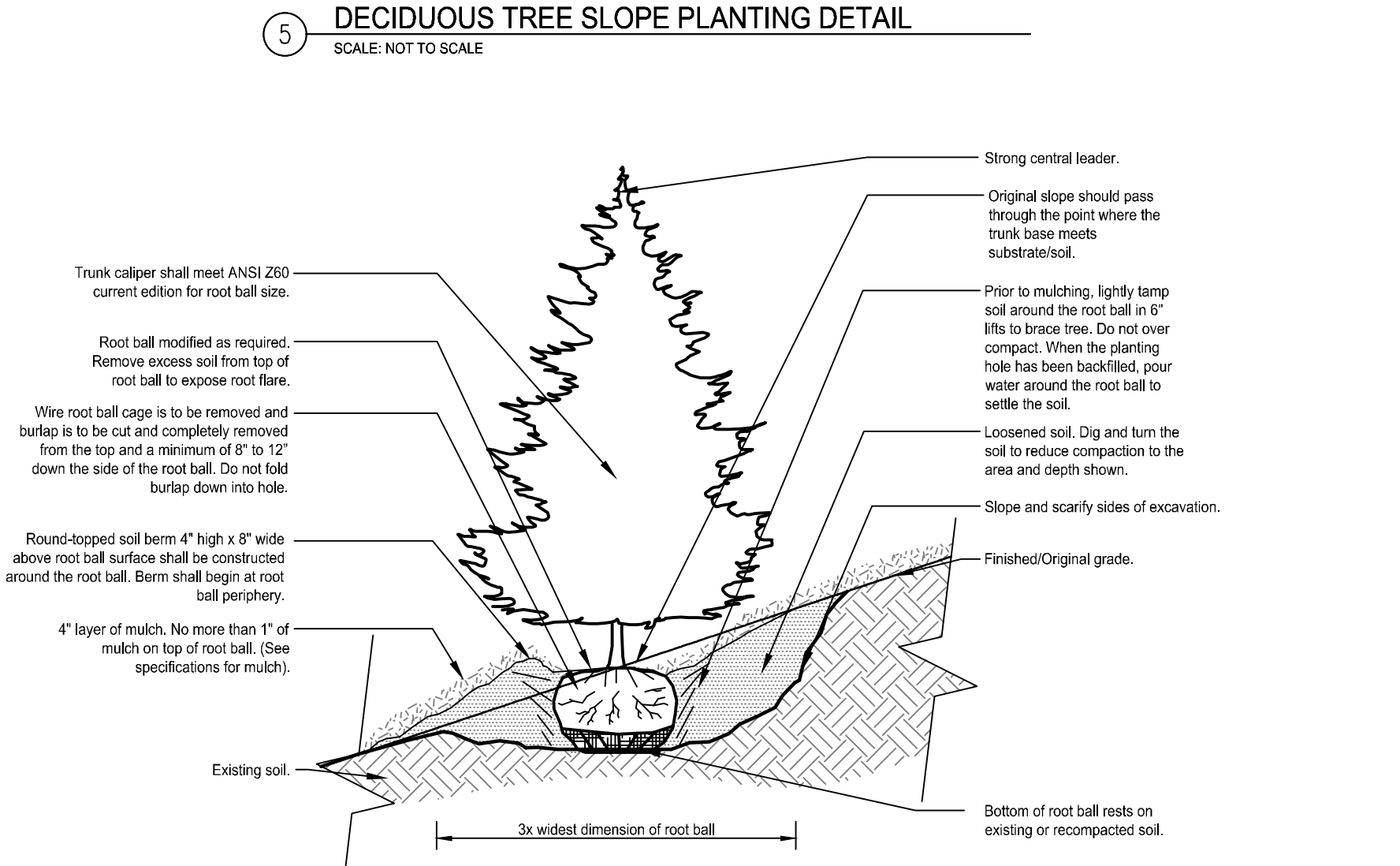
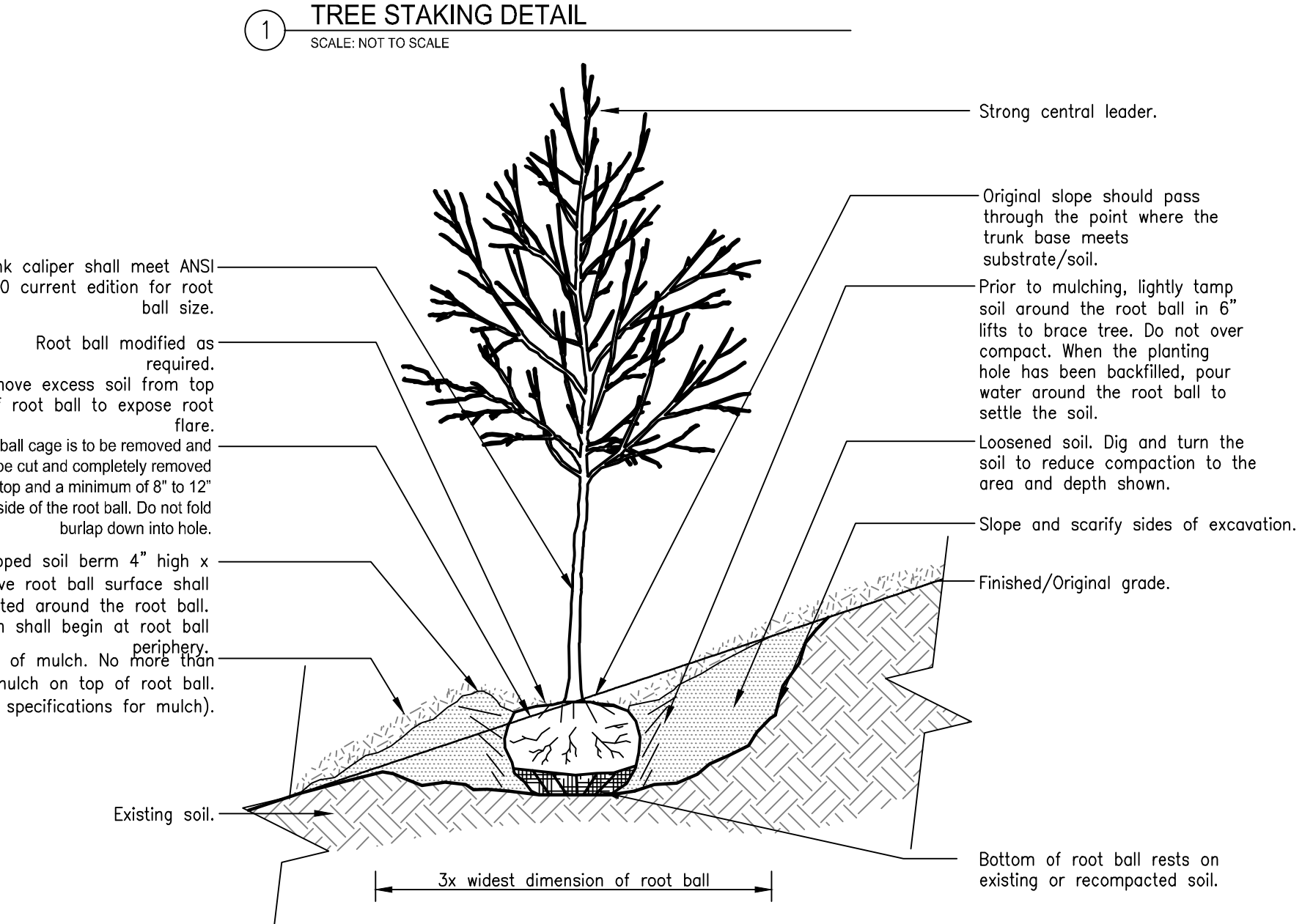
NOTE: THESE SPECIFICATIONS AND DETAILS ARE BASED ON THOSE DEVELOPED BY THE URBAN TREE FOUNDATION, AND HAVE BEEN IMPROVED TO REFLECT CURRENT RESEARCH INTO EFFECTIVE PLANTING. THE ISA HAS ALSO REPLACED THEIR OWN DETAILS AND NOW REFERENCE THE UTF DETAILS. THE SPECIFICATIONS AND DETAILS ILLUSTRATED IN THIS PLAN SET EXCEED THE STANDARDS SET IN THE ISA, LCA, AND LOCAL JURISDICTIONAL PLANTING DETAILS AND SPECIFICATIONS.



- Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole.
 2. See specifications for further requirements related to this detail.



- Notes:
1. Utilize only Arbor-tie or approved equal or staking straps against tree trunks.
 2. Reference manufacturer's detail of approved system for installation instructions.
 3. Wire tension (if used) should not allow greater than 1/2" of play in any direction.
 4. Staking should be removed on year after planting or as instructed.



- Notes:
1. For ball and burlapped shrubs, remove completely as much burlap as possible, minimum halfway down the side of the rootball. Do not fold burlap down into hole.
 2. See written specifications for further requirements related to this detail.



VAN DORN & BEAUREGARD BIKE FACILITY & SHARED USE PATH

BID SET

	
CITY OF ALEXANDRIA, VIRGINIA DEPARTMENT OF PROJECT IMPLEMENTATION 301 KING STREET ALEXANDRIA, VIRGINIA 22314	
REVISIONS	DESCRIPTION
DATE	BY
2023-09-18	ZY
2024-03-06	PG
ALEXANDRIA PROJECT NO.: CP2021-0006	DATE OF PLAN ISSUANCE: 03/26/25
CONSULTANT PROJECT ID: 21266.001.00	DESIGNED BY: TR DATE: -
	DRAWN BY: PG DATE: -
	CHECKED BY: DL DATE: -
	APPROVED BY: DL DATE: -
LANDSCAPE DETAILS AND SPECIFICATIONS	
L303	