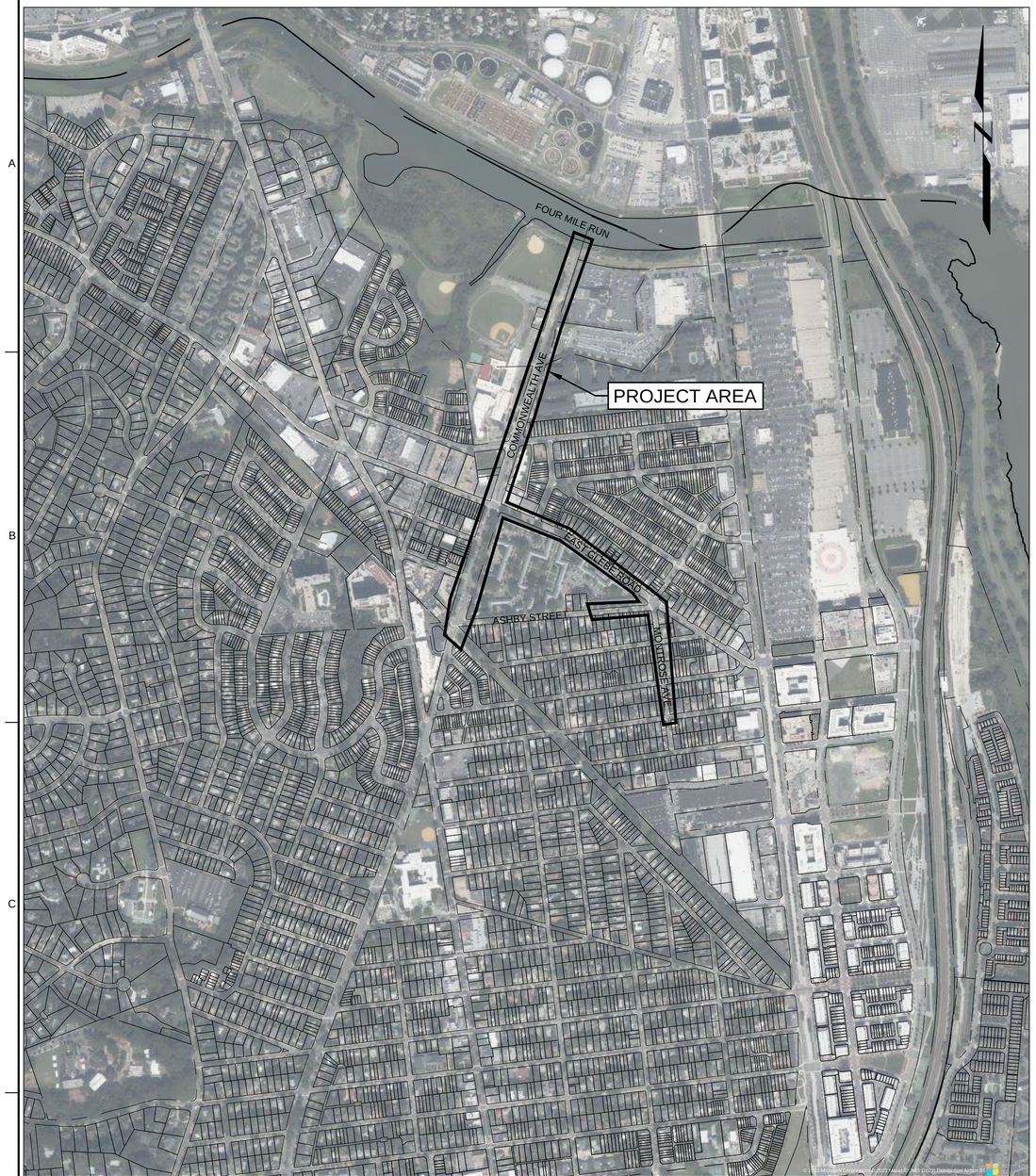

VICINITY MAP

0 500' 1000'
SCALE: 1" = 500'

CITY OF ALEXANDRIA, VA

FOUR MILE RUN STORM SEWER UPGRADES: COMMONWEALTH AVENUE & GLEBE ROAD AND ASHBY STREET & GLEBE ROAD CAPACITY PROJECTS

FINAL DESIGN
(NOT FOR CONSTRUCTION)

CIP 2022-00007

PROJECT DESCRIPTION:

THIS WORK INCLUDES STORM SEWER IMPROVEMENTS WITHIN APPROXIMATELY 5450 LF OF EXISTING PUBLIC RIGHT OF WAY TO INCREASE CAPACITY AND MINIMIZE STORMWATER SURCHARGE ALONG COMMONWEALTH AVENUE, GLEBE ROAD, ASHBY STREET, AND MONTROSE AVENUE.

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES.

APPROVED

X DATE:
DIRECTOR

RECOMMENDED FOR APPROVAL

X DATE:
DEPUTY DIRECTOR OF OPERATIONS

RECOMMENDED FOR APPROVAL

X DATE:
DEPUTY DIRECTOR OF INFRASTRUCTURE & ENVIRONMENTAL QUALITY

RECOMMENDED FOR APPROVAL

X DATE:
DEPUTY DIRECTOR OF RIGHT-OF-WAY & DEVELOPMENT SERVICES

RECOMMENDED FOR APPROVAL

X DATE:
DEPUTY DIRECTOR OF TRANSPORTATION

DEPARTMENT OF PROJECT IMPLEMENTATION

APPROVED

X DATE:
DIRECTOR

RECOMMENDED FOR APPROVAL

X DATE:
DIVISION CHIEF

OWNER:

JONATHAN WHITELEATHER, P.E.
CITY OF ALEXANDRIA
DEPARTMENT OF PROJECT IMPLEMENTATION
301 KING STREET, SUITE 3200
ALEXANDRIA, VA 22314
(703) 746 4637

CONTACT:

JULIANA CAMMARATA, P.E.
PROJECT MANAGER
1900 CAMPUS COMMONS
RESTON, VA 20191
(757) 671 6286

UTILITY NOTE:

BEFORE YOU DIG, CALL: “MISS UTILITY OF VIRGINIA” AT 811

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

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	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN J CAMMARATA DR T WEINSTEIN CHK J CAMMARATA APVD H LUSK

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL
COVER SHEET AND VICINITY MAP

1"=500'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-01
SHEET	1 of 158

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FINAL DESIGN (NOT FOR CONSTRUCTION)

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ADDITIONAL INFORMATION - SEALED BY OTHERS		
UTILITY RELOCATION DESIGNS BY OTHERS - FOR INFORMATION ONLY		

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DSGN J CAMMARATA

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
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GENERAL

SHEET INDEX

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0 1"

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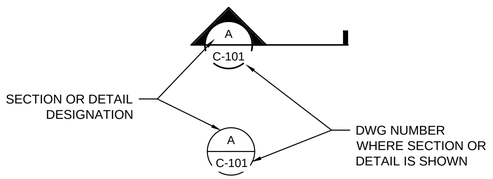
SHEET	2 of 158



DETAIL AND SECTION DESIGNATION

GENERAL NOTE:

ALL BOX CULVERT SIZES ARE REPRESENTED AS SPAN x RISE.

LEGEND

DESCRIPTION	EXISTING SURVEY (RDA)	EXISTING SURVEY (ACCUMARK)	EXISTING SURVEY (WSSI)	PROPOSED
CONTOUR (MAJOR)	10			10
CONTOUR (MINOR)	9			9
CURB & GUTTER				
CURB				
PROPERTY LINE				
SANITARY SEWER	SS			
SANITARY SEWER (FORCEMAIN)		SFM (QLD)		
STORM SEWER	ST			
OVERHEAD ELECTRIC				
GAS LINE		3"G		
WATER LINE		6"W		
FIBER OPTIC LINE		FO		
TELEPHONE DUCT BANK		T-DUCT		
BURIED TELEPHONE		T-BUR		
BURIED CABLE		C-BUR		
BURIED ELECTRICAL		E-BUR		
UNKNOWN BURIED CABLE		UNK		
FLAG POLE				
STORM SEWER MANHOLE	ST			ST
STORM SEWER OUTFALL				
CURB INLET				OR
JUNCTION BOX				
YARD INLET				
DOUBLE YARD INLET				
LIMITS OF DISTURBANCE				LOD
LIMITS OF WORK				LOW
SUPPORT OF EXCAVATION				
UTILITIES TO BE ABANDONED				
UTILITIES TO BE DEMOLISHED				
CRITICAL ROOT ZONE (CRZ)			CRZ CRZ	
SANITARY SEWER MANHOLE	S			SS
SANITARY CLENOUT				
STORM CLEANOUT				
MAIL BOX	M			
UTILITY POLE				
GUY WIRE				
LIGHT POLE				
CROSS WALK SIGN AND POST				
SIGN				
BOLLARD				
FIRE HYDRANT				
WATER VALVE		WV		
GAS VALVE		GV		
GAS METER				
IRRIGATION BOX				
DELINEATED WETLANDS				
RESOURCE PROTECTION AREA (RPA)				RPA
TREE				
BRUSHLINE				
RIPRAP				
WATER METER				
ELECTRICAL HANDHOLE				
FIBER OPTIC HANDHOLE				
IRRIGATION HANDHOLE				
CABLE TV PEDESTAL				
TRAFFIC LIGHT POLE				
TRAFFIC HANDHOLE				
TRAFFIC CONTROL BOX				
FULL DEPTH PAVEMENT REPLACEMENT				
MILL AND OVERLAY				

LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
ABAND	ABANDONED
BC	BOX CULVERT
BFE	BASE FLOOD ELEVATION
BUR	BURIED
BVCE	BEGINNING VERTICAL CURVE ELEVATION
BVCS	BEGINNING VERTICAL CURVE STATION
CA	EX. CONCRETE APRON
C&G	EX. CURB AND GUTTER
CMF	EX. CONCRETE MONUMENT FOUND
CMP	CORRUGATED METAL PIPE
CONC	CONCRETE
CRZ	CRITICAL ROOT ZONE
CS	CITY STANDARD
DBL	DOUBLE
DIA	DIAMETER
DIP	DUCTILE IRON PIPE
EL, ELEV	ELEVATION
EOI	END OF INVESTIGATION
EP	EX. EDGE OF PAVEMENT
ESMT	EASEMENT
EVCE	END OF VERTICAL CURVE ELEVATION
EVCS	END OF VERTICAL CURVE STATION
EX, EXST	EXISTING
FF	FINISHED FLOOR
FO	FIBER OPTIC
FT	FOOT
G	GAS
GV	GATE VALVE
HC	EX. HEADER CURB
HYD	FIRE HYDRANT
ID	IDENTIFICATION, INSIDE DIAMETER
IE	INVERT ELEVATION
IN	INCH
INV	INVERT
IPF	EX. IRON ROD FOUND
IRF	EX. IRON PIPE FOUND
JB	JUNCTION BOX
L	LENGTH
LF	LINEAR FEET
LP	LIGHT POLE
LVC	LENGTH OF VERTICAL CURVE
OD	OUTSIDE DIAMETER
PP	POWER POLE
PVC	POLYVINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
QLD	QUALITY LEVEL D
RCP	REINFORCED CONCRETE PIPE
RPA	RESOURCE PROTECTION AREA
R/W	RIGHT-OF-WAY
SD, ST	STORM DRAIN
SFHA	SPECIAL FLOOD HAZARD AREA
SFM	SANITARY FORCEMAIN
SP	SPACE
S, SS	SANITARY SEWER
SRZ	STRUCTURAL ROOT ZONE
STA	STATION
STL	STEEL
T-DUCT	TELEPHONE DUCT BANK
TH	TEST HOLE
TOC	TOP OF CONCRETE
UNK	UNKNOWN
VDOT	VIRGINIA DEPARTMENT OF TRANSPORTATION
W	WATER
WV	WATER VALVE

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5	09/2023	30% SUBMITTAL				

DSGN T WEINSTEIN

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GENERAL

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DWG	G-03
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PROJECT DESCRIPTION

THIS WORK INCLUDES STORM SEWER IMPROVEMENTS WITHIN APPROXIMATELY 5300 LF OF EXISTING PUBLIC RIGHT OF WAY TO INCREASE CAPACITY AND MINIMIZE STORMWATER SURCHARGE ALONG COMMONWEALTH AVENUE, GLEBE ROAD, ASHBY STREET, AND MONTROSE AVENUE. THIS WORK INCLUDES SITE, PIPE, AND STRUCTURE DEMOLITION, EROSION CONTROL, SANITARY SEWER RELOCATIONS, TRENCH EXCAVATION INCLUDING SHORING AND DEWATERING, DEEP FOUNDATIONS, LARGE STORM SEWER BOX CULVERTS, STORM SEWER PIPES, LARGE DRAINAGE STRUCTURES, JUNCTION BOXES, MANHOLES, CURB INLETS, CURBS, SIDEWALKS, GREEN INFRASTRUCTURE IMPROVEMENTS, ROADWAY ASPHALT PAVEMENT, AND PAVEMENT MARKINGS AND SIGNAGE.

THE MAJOR ELEMENTS OF CONSTRUCTION WORK CONSIST OF THE FOLLOWING ITEMS:

1. STORMWATER BOX CULVERTS
   a. DOUBLE BOX CULVERT, PRECAST CONCRETE, 9'X8' EA. (445 LF) - COMMONWEALTH AVENUE, THROUGH BALLFIELD TO THE WESTERN PROPERTY LINE OF THE HERTZ CORPORATION.
   b. DOUBLE BOX CULVERT, PRECAST CONCRETE, 7'X8' EA. (1500 LF) - COMMONWEALTH AVENUE, CONTINUATION TO GLEBE ROAD.
   c. BOX CULVERT, PRECAST CONCRETE, 8'X7' (770 LF) - COMMONWEALTH AVENUE, FROM GLEBE ROAD TO ASHBY STREET.
   d. BOX CULVERT, PRECAST CONCRETE, 7'X7' (170 LF) - COMMONWEALTH AVENUE NEAR ASHBY STREET; (450 LF) - E. GLEBE ROAD, FROM COMMONWEALTH AVENUE TO APPROXIMATELY 130 LF EAST OF WILSON AVENUE.

2. STORM SEWER PIPES
   a. LARGE DIAMETER REINFORCED CONCRETE PIPE RANGING FROM 48" TO 66" (800 LF) - E. GLEBE ROAD, FROM EAST OF WILSON AVE TO MONTROSE AVE.
   b. OTHER REINFORCED CONCRETE PIPE RANGING FROM 15" TO 48" (1200 LF) - MONTROSE AVENUE AND ASHBY STREET.

3. DRAINAGE STRUCTURES (CAST-IN-PLACE CONCRETE)
   a. STORMWATER OUTFALL, APPROX. 20'x40' TO DISCHARGE DBL 9'X8' BOX CULVERT TO FOUR MILE RUN.
   b. OFFSET STRUCTURE, APPROX. 20'X17' ALONG COMMONWEALTH AVENUE NEAR LUNA DRIVE.
   c. JUNCTION BOX, APPROX. 17'X12' ALONG COMMONWEALTH AVENUE AT GLEBE ROAD.
   d. JUNCTION BOX, APPROX. 17'X9' ALONG COMMONWEALTH AVENUE AT ASHBY STREET
   e. JUNCTION BOX, APPROX. 9'X6' ALONG COMMONWEALTH AVENUE AT ASHBY STREET.
   f. DI-2E DROP INLETS, APPROX. 6'X5', ON COMMONWEALTH AVENUE AT LEADBEATER STREET AND HERBERT STREET.

4. DRAINAGE STRUCTURES (PRECAST CONCRETE)
   a. CSDI-1, 1A AND 2, VARIOUS SIZES
   b. CSYI-1 4 SLOTS
   c. CSMH-1 AND 2, 48 INCHES
   d. VDOT DI-2B, C, D, E, F, 3A, VARIOUS SIZES
   e. VDOT MH-1A AND 2, VARIOUS SIZES
   f. VDOT JB-1 AND JB-1 MODIFIED, VARIOUS SIZES

5. ASPHALT PAVEMENT
   a. COMMONWEALTH AVENUE,
      i. SURFACE MILLING, 1 1/2" (5,730 SY)
      ii. SURFACE COURSE, SM OVERLAY, 1 ½" (6,955 SY)
      iii. BASE COURSE, BM, 3" (6,955 SY
      v. AGGREGATE BASE, VDOT #21A, 8" (6,955 SY)
      vi. ROADWAY REGRADING (1,400 CY)
   b. E. GLEBE ROAD
      vi. SURFACE MILLING, 1 1/2" (2305 SY)
      ii. SURFACE COURSE, SM OVERLAY, 1 ½" (3245 SY)
      iii. BASE COURSE BM, 3" (3245 SY)
      v. AGGREGATE BASE, VDOT #21A OR 21B, 8" (3245 SY)
   c. MONTROSE AVENUE & ASHBY STREET
      i. SURFACE MILLING, 1 1/2" (1280 SY)
      ii. SURFACE COURSE, SM OVERLAY, 1 ½" (1170 SY)
      iii. BASE COURSE, BM, 3" (1170 SY)
      v. AGGREGATE BASE, VDOT #21A OR 21B, 8" (1170 SY)

6. RECONSTRUCT REPLACEMENT FEATURES SUCH AS CURB, GUTTER, SIDEWALKS, RAMPS, AND APRONS TO MATCH ELEVATIONS EXISTING PRIOR TO THE PROJECT UNLESS OTHERWISE NOTED. THIS INCLUDES EXISTING CONDITIONS THAT DO NOT CONFORM TO CITY STANDARD DETAILS. REFER TO SPECIFICATION 01 11 00 EXECUTION REQUIREMENTS.

7. THE MAINTENANCE OR REPLACEMENT TO EXISTING CONDITIONS OF ALL EXISTING FEATURES NOT SHOWN ON THE PLANS AS REPLACED OR UPDATED ARE CONSIDERED INCIDENTAL TO THE WORK.

8. RELOCATION AND/OR REMOVAL OF UTILITIES OTHER THAN THE STORM AND SANITARY LINES SHOWN IN THE DRAWINGS ARE TO BE PERFORMED BY OTHERS. CONTRACTOR TO COORDINATE WITH UTILITY OWNERS PER SPECIFICATION 01 31 13B PROJECT COORDINATION.

THE FOLLOWING STUDIES AND INVESTIGATIONS WERE PERFORMED TO ESTABLISH SITE CONDITIONS AND ARE AVAILABLE FOR INFORMATIONAL PURPOSES AND USE BY THE CONTRACTOR:

1. LAND SURVEY: RINKER DESIGN ASSOCIATES (RDA), JANUARY 29, 2024
2. UTILITY LOCATION: ACCUMARK, JANUARY 29, 2024
3. FEDERAL WETLANDS, WOTUS FLOOD PLAIN & RESOURCE PROTECTION AREA: WETLANDS STUDIES AND SOLUTIONS, INC (WSSI), APRIL 26, 2023.
4. TREE SURVEY AND PRESERVATION PLAN, WETLANDS STUDIES AND SOLUTIONS, INC (WSSI), DATE
5. GEOTECHNICAL REPORT FOUR MILE RUN - SEWER ADDITIONS, ECS MID-ATLANTIC, LLC., JANUARY 25, 2024 REVISED MAY 20, 2025
6. ENVIRONMENTAL SUBSURFACE SAMPLING REPORT, ECS MID-ATLANTIC, LLC, NOVEMBER 10, 2023.
7. ARCHAEOLOGY: PHASE 1A CULTURAL RESOURCE RECONNAISSANCE OF THE FOUR MILE RUN SEWER UPGRADES PROJECT, ALEXANDRIA, VIRGINIA, GRAY & PAPE HERITAGE MANAGEMENT, MAY 15, 2023.

EXISTING CONDITION SITE SURVEY

1. EXISTING CONDITIONS SHOWN ARE MERGED DATA FROM MULTIPLE SOURCES. THE PRIMARY SOURCES ARE:

   A. TOPOGRAPHIC FIELD SURVEY BY RINKER DESIGN ASSOCIATES (RDA) DATED JANUARY THROUGH APRIL, AND EXTENDED AREA IN AUGUST - SEPTEMBER 2023. ALL ABOVE GROUND FEATURES AND UNDERGROUND STORM AND SANITARY PIPES ARE INCLUDED WITH THIS SURVEY. STORM AND SANITARY INVERTS WERE FIELD LOCATED WHERE STRUCTURES WERE ACCESSIBLE. ALL EXISTING CONDITIONS SHEETS AND DATA ARE INCLUDED WITHIN THIS CERTIFICATION. THE SURVEY IS NORTH AMERICAN DATUM OF 1983, STATE PLANE VIRGINIA NORTH ZONE. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988.

   B. UTILITY LOCATION BY ACCUMARK, DATED FEBRUARY 2023, AND EXTENDED AREA SEPTEMBER 2023. UTILITIES ARE GENERALLY LOCATED TO ASCE 38-02 QUALITY LEVEL B.

   C. RECORD DRAWINGS PROVIDED BY THE CITY OF ALEXANDRIA AND ALEXANDRIA SANITARY AUTHORITY (DBA ALEXANDRIA RENEW ENTERPRISES OR ALEXRENEW) SHOW DETAILS OF UNDERGROUND STORM AND SANITARY PIPES THAT ARE NOT VISIBLE FROM ABOVE GROUND EVIDENCE. IT IS UNCLEAR IF THE RECORD DRAWINGS ARE "AS-DESIGNED" OR AS-BUILT". THESE RECORD DRAWINGS ARE NOT ON THE CURRENT HORIZONTAL AND VERTICAL DATUM. FEATURES INCORPORATED FROM THESE SOURCES HAVE BEEN APPROXIMATED IN BASED ON THE RECOGNIZABLE FEATURES LOCATED ON THE RDA SURVEY.

   D. RECORD DRAWINGS PROVIDED BY DOMINION ENERGY, WASHINGTON GAS, VIRGINIA AMERICAN WATER, AND VARIOUS TELECOMMUNICATIONS PROVIDERS. NONE OF THESE ENTITIES GUARANTEE THE COMPLETENESS OR ACCURACY OF THEIR RECORDS. IN ADDITION, THIS PROJECT WILL REQUIRE RELOCATION OF EXISTING UTILITIES PARALLEL TO THE NEW STORM PIPES. SERVICE LATERALS AND MAINS CROSSING THE ALIGNMENT OF THE NEW STORM PIPES MUST ALSO BE ACCOMMODATED DURING CONSTRUCTION.

   E. LOCATION AND DEPTH OF CRITICAL EXISTING UNDERGROUND UTILITIES CROSSING THE NEW UTILITY ALIGNMENTS TO BE VERIFIED BY TEST HOLES.

   F. THE BOUNDARY INFORMATION FOR THE CITY RIGHT OF WAY AND PRIVATE PROPERTIES IS FROM CITY OF ALEXANDRIA GIS.

   G. CONTRACTOR SHALL CONFIRM ALL SERVICE LATERALS MARKED AND UNMARKED ON THE DRAWING PRIOR TO CONSTRUCTION.

   H. SEE SPECIFICATIONS 01 31 13 PROJECT COORDINATION.

ENVIRONMENTAL SITE ASSESSMENT

1. A PORTION OF THE PROJECT WORK TO THE NORTH OF GLEBE ROAD IS LOCATED WITHIN A CITY-DESIGNATED "POTENTIALLY CONTAMINATED AREA." THIS IS PRIMARILY DUE TO THE PRESENCE OF A CLOSED MUNICIPAL LANDFILL.
2. ENVIRONMENTAL TESTING HAS BEEN PERFORMED BY ECS MID-ATLANTIC, LLC. ENTITLED "ENVIRONMENTAL SUBSURFACE SAMPLING REPORT" AND DATED NOVEMBER 10, 2023, WHICH IS AVAILABLE FOR USE BY THE CONTRACTOR.
3. ENVIRONMENTAL TESTING RESULTS SHOW THAT A WIDE RANGE OF HAZARDOUS MATERIALS WERE DETECTED WITHIN THE PROJECT AREA IN MINUTE CONCENTRATIONS WELL BELOW THE THRESHOLD OF ACTION LEVELS. AN EXCEPTION IS FOR SOIL BORING HOLES CA-13 AND CA-16 WHERE SLIGHTLY ELEVATED LEVELS OF HYDROCARBONS WERE FOUND. IT IS WITHIN THIS AREA THAT CONSTRUCTION WORKERS MAY REQUIRE PERSONAL PROTECTIVE EQUIPMENT (PPE).
4. THE CITY OF ALEXANDRIA DEPARTMENT OF T&ES, OFFICE 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 CONTAINER'S REMOVAL, ITS CONTENTS, ANY SOIL CONTAMINATION AND RELEASES TO THE ENVIRONMENT WILL BE HANDLED IN ACCORDANCE WITH FEDERAL, STATE, AND CITY REGULATIONS. CONTACT THE CITY OF ALEXANDRIA DEPARTMENT OF T&ES, OFFICE OF ENVIRONMENTAL QUALITY AT (703) 838-4966.
5. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   A. MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND SATURDAYS FROM 9 AM TO 6 PM.
   B. NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
   C. PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
      - MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND
      - SATURDAYS FROM 10 AM TO 4 PM.
      *NOTE THAT THE WORK USES MICROPILES AND DOES NOT REQUIRE PILE DRIVING

PROJECT DESIGN CRITERIA

DESIGN FEATURES RELATING TO CONSTRUCTION OR THE REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE CITY OF ALEXANDRIA.
CONSTRUCT THIS PROJECT IN ACCORDANCE WITH THE CITY OF ALEXANDRIA DESIGN AND CONSTRUCTION STANDARDS, DATED JULY 1989 AND THE MEMORANDUM TO INDUSTRY 23-10 PUBLISHED IN DECEMBER 2022; VIRGINIA DEPARTMENT OF TRANSPORTATION 2020 ROAD AND BRIDGE SPECIFICATIONS, 2016 ROAD AND BRIDGE STANDARDS, 2011 WORK PROTECTION MANUAL AS AMENDED BY CONTRACTED PROVISIONS AND COMPLETE ELECTRONIC. PDF VERSION OF THE PLAN ASSEMBLY. ALL MANAGEMENT OF TRAFFIC WILL CONFORM TO THE LATEST REQUIREMENTS OF MUNICIPAL UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
ROADWAY POSTED SPEED: 25 MPH

GENERAL NOTES

1. OWNER: CITY OF ALEXANDRIA
2. SITE ADDRESS: 3700 COMMONWEALTH AVE, ALEXANDRIA, VA 22305
3. AREA TABULATIONS: NONE
4. THE SITE IS LOCATED IN THE CHESAPEAKE BAY WATERSHED.
5. ALL CONSTRUCTION METHODS AND MATERIAL SHALL CONFORM WITH THE PROJECT DRAWINGS, SPECIFICATIONS, AND WITH ALL CURRENT APPLICABLE CODES AND THE LATEST REVISIONS OF THE FOLLOWING REFERENCE DOCUMENTS:
   i. CITY OF ALEXANDRIA DESIGN AND CONSTRUCTION STANDARD
   j. VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), 2020 ROAD AND BRIDGE SPECIFICATIONS
   k. VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT), 2016 ROAD AND BRIDGE STANDARDS
   l. VIRGINIA STORMWATER MANAGEMENT HANDBOOK (VSMH)
   m. MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
   n. VIRGINIA WORK AREA PROTECTION MANUAL
6. OBTAIN ALL APPLICABLE PERMITS AND LICENSES AND KEEP COPIES OF THE SAME ON-SITE DURING CONSTRUCTION.
7. ALL PUBLIC AND PRIVATE EASEMENTS OR ALL KNOWN PUBLIC AND PRIVATE EASEMENTS, INCLUDING ALL UTILITY, EGRESS, AND CONSERVATION RESTRICTIONS ARE SHOWN. THE APPLICANT SHALL NOT CONSTRUCT ANY PERMANENT STRUCTURES OVER ANY EXISTING OR PROPOSED PUBLIC AND/OR PRIVATE EASEMENTS UNLESS OTHERWISE APPROVED BY THE PLANNING COMMISSION AND CITY OF ALEXANDRIA COUNCIL.
8. ALL NEW CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA.
9. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. IF THE CITY'S EXISTING PUBLIC INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO STREETS, ALLEYWAYS, 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 CONTRACTOR SHALL REPAIR THE SAME TO THE SATISFACTION OF DIRECTOR OF 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. ASPHALT PATCHES IN THE PUBLIC RIGHT-OF-WAY LARGER THAN 20 PERCENT OF THE TOTAL ASPHALT SURFACE, MEASURED ALONG THE LENGTH OF THE ROAD ADJACENT TO THE PROPERTY FRONTAGE AND/OR EXTENDING TO THE CENTERLINE OF THE STREET, WILL REQUIRE FULL CURB-TO-CURB RESTORATION.
10. 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. STORM PIPES, INLETS, AND JUNCTION CHAMBERS OF LARGER SIZES THAN CITY STANDARDS ARE IN ACCORDANCE WITH VDOT ROAD AND BRIDGE STANDARDS OR SPECIAL DESIGN AS REQUIRED.
11. ALL STREET CUT AND PATCH WORK LOCATED IN PUBLIC RIGHT-OF-WAYS 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 T&ES.
12. THE CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES WITHOUT RECORDED EASEMENT OR NOTARIZED LETTER OF PERMISSION FROM THE ADJACENT PROPERTY OWNERS.
13. 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), UNITED STATES ARMY CORPS OF ENGINEERS (USACE) AND VIRGINIA MARINE RESOURCES COMMISSION (VMRC), MUST BE IN PLACE FOR ALL PROJECT CONSTRUCTION AND MITIGATION WORK BEFORE START OF WORK. THIS INCLUDES THE STATE REQUIREMENT FOR A VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) GENERAL PERMIT FOR DISCHARGES OF STORMWATER FROM CONSTRUCTION ACTIVITIES FOR LAND DISTURBING ACTIVITIES GREATER THAN 2,500 SQUARE FEET.
14. PERMITS FROM THE CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY (OEQ), T&ES, AND FIRE CODE ADMINISTRATION WILL BE OBTAINED BY THE CITY, AS REQUIRED AND DOCUMENTED HEREIN. THE CONTRACTOR CAN CONTACT THE ALEXANDRIA FIRE AND CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
15. WORK PERFORMED WITHIN THE PUBLIC RIGHT OF WAY SHALL REQUIRE A SEPARATE PERMIT FROM THE DIRECTOR OF T&ES. THE CONTRACTOR CAN CONTACT THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES AT (703) 746-4035 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.
16. PROVIDE POSITIVE SITE DRAINAGE WITHIN AND AROUND THE CONSTRUCTION AREA TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.
17. STORM SEWER PIPES AND STRUCTURES AND SANITARY MAINS AND LATERALS WITHIN A CITY RIGHT OF WAY OR EASEMENT ARE CITY OWNED OR MAINTAINED.
18. STORM SEWER PIPES AND STRUCTURES AND SANITARY MAINS AND LATERALS ENCOUNTERED OUTSIDE OF A CITY RIGHT OF WAY OR EASEMENT ARE PRIVATELY OWNED. THE CONTRACTOR MUST NOT IMPACT THIS INFRASTRUCTURE WITHOUT DIRECTION FROM THE CITY.
19. EXCEPT WHERE SHOWN OTHERWISE, PUBLIC SIDEWALKS SHALL REMAIN OPEN DURING CONSTRUCTION, OR PEDESTRIAN ACCESS SHALL BE MAINTAINED TO THE SATISFACTION OF THE DIRECTOR OF T&ES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. WHERE NECESSARY, PROVIDE TEMPORARY PEDESTRIAN DETOURS AS A PART OF THE CONSTRUCTION MANAGEMENT PLAN SUBMITTED TO CITY DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES.
20. CHANNEL PROTECTION COMPLIES WITH CITY ZONING ORDINANCE 13-109.F.1.a.i. THE PROJECT CONVEYS CONCENTRATED STORMWATER THROUGH A MANMADE CONVEYANCE WHICH IS NON-ERODIBLE FOR THE 2 YEAR 24 HOUR PEAK RUNOFF RATE. THE LIMITS OF ANALYSIS PER 13-109.F.1.d IS THE TIDAL CHANNEL OF FOUR MILE RUN.

STORMWATER POLLUTION PREVENTION PLAN

PER DEQ GUIDANCE MEMO 15-2003, FOR LINEAR DEVELOPMENT PROJECTS SUCH AS THIS THAT WILL NOT RESULT IN SIGNIFICANT CHANGES TO THE PREDEVELOPMENT RUNOFF CHARACTERISTICS OF THE LAND SURFACE AFTER THE COMPLETION OF CONSTRUCTION AND FINAL STABILIZATION, THE REQUIREMENT FOR THE PREPARATION AND IMPLEMENTATION OF A STORMWATER MANAGEMENT PLAN IS WAIVED PROVIDED THE FOLLOWING LANGUAGE IS ADDED TO THE PLAN SET AND ADHERED TO IN THE FIELD:

THE DISTURBED LAND WHERE WORK HAS BEEN COMPLETED MUST BE ADEQUATELY STABILIZED ON A DAILY BASIS. THE OWNER AND/OR CONSTRUCTION ACTIVITY OPERATOR MUST DESIGN, INSTALL, IMPLEMENT, AND MAINTAIN POLLUTION PREVENTION MEASURES TO:

1. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS;
2. MINIMIZE THE EXPOSURE OF BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS PRESENT ON-SITE TO PRECIPITATION AND TO STORMWATER;
3. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM SPILLS AND LEAKS AND IMPLEMENT CHEMICAL SPILL AND LEAK PREVENTION AND RESPONSE PROCEDURES;
4. PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT OF CONCRETE;
5. PROHIBIT THE DISCHARGE OF WASTEWATER FROM THE WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS, AND OTHER CONSTRUCTION MATERIALS; AND
6. PROHIBIT THE DISCHARGE OF FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE.

SWPPP ITEMS FOR PRECONSTRUCTION:
THE DESIGNATED SWPPP OPERATOR, OR DULY AUTHORIZED DESIGNEE, MUST PROVIDE A COPY OF THE CONSTRUCTION GENERAL PERMIT DURING THE PRECONSTRUCTION MEETING WITH THE CITY OF ALEXANDRIA TO COMPLETE THE SWPPP CONTENT REQUIREMENTS. DESIGNATION OF THE QUALIFIED PERSONNEL TO CONDUCT INSPECTIONS MUST BE CONFIRMED OR IDENTIFIED AT THIS MEETING. IF THE ONSITE SWPPP OPERATOR IS DIFFERENT THAN THE INDIVIDUAL LISTED ON THE SIGNED SWPPP TITLE SHEET, THEN A LETTER DELEGATING AUTHORITY MUST BE PROVIDED.

WATER QUALITY VOLUME DEFAULT (WQVD)

TOTAL PROPOSED IMPERVIOUS AREA: 0.62 AC (27,020 SF)
TREATMENT OF FIRST HALF INCH OF RUNOFF: 0.5" X 27020 = 1,125 CU. FT REQUIRED.

WATER QUALITY VOLUME PROVIDED: 4,142 CU. FT. = 1.84 INCHES (AVERAGE)

PROJECT DESCRIPTION

DRAINAGE AREA	IMPERVIOUS	PERVIOUS	TOTAL	REFERENCE
ON-SITE TREATED	0.62 AC	0.20 AC	0.82 AC	D.A. TO BMP
TOTAL TREATED	0.62 AC	0.20 AC	0.82 AC	D.A. TO BMP

WATER TREATMENT ON-SITE

BMP TYPE	AREA TREATED BY BMP (ACRES)	IMPERVIOUS AREA TREATED BY BMP (ACRES)
BIORETENTION MEDIANS (1 THRU 4)	0.82	0.62

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H.LUSK	T.WEINSTEIN	H.LUSK	H.LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN H.LUSK APVD H.LUSK

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL
CITY OF ALEXANDRIA STANDARD NOTES (SHEET 1 OF 3)

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-04
SHEET	4 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-04.dwg PLOT DATE: 10/8/2025 PLOT TIME: 8:25 PM

DESIGN GUIDELINES FOR SITE PREPARATION

1. THE PLAN COMPLIES WITH THE CHESAPEAKE BAY PRESERVATION ACT IN ACCORDANCE WITH ARTICLE XIII OF THE CITY'S ZONING ORDINANCE, WHICH INCLUDES THE REQUIREMENTS FOR STORMWATER POLLUTANT LOAD REDUCTIONS, TREATMENT OF WATER QUALITY VOLUME DEFAULT, AND STORMWATER QUANTITY MANAGEMENT ACCORDING TO THE CITY OF ALEXANDRIA SUPPLEMENT TO THE NORTHERN VIRGINIA BMP HANDBOOK.

2. ALL SANITARY SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS.

3. ALL STORM SEWERS SHALL BE CONSTRUCTED TO THE CITY OF ALEXANDRIA STANDARDS AND SPECIFICATIONS. MINIMUM DIAMETER OF STORM SEWERS SHALL BE 18" IN THE PUBLIC RIGHT-OF-WAY AND MINIMUM SIZE STORM SEWER CATCH BASIN LEAD IS 15".
THE ACCEPTABLE PIPE MATERIALS WILL BE REINFORCED CONCRETE PIPE ASTM C-76 CL IV, PRECAST CONCRETE BOX CULVERT ASTM C-1577 - PER AASHTO LRFD, AND CAST-IN-PLACE CONCRETE IN ACCORDANCE WITH VDOT BCD-DT AND 02.

THE ACCEPTABLE MINIMUM AND MAXIMUM VELOCITIES WILL BE 2.0 FPS AND 15 FPS, RESPECTIVELY.

4. LATERAL SEPARATION OF SEWERS AND WATER MAINS: A HORIZONTAL SEPARATION OF 10' SHALL BE PROVIDED BETWEEN A SANITARY SEWER AND A POTABLE WATER LINE. HOWEVER, IF THIS HORIZONTAL SEPARATION CANNOT BE ACHIEVED THEN THE SEWER AND WATER MAIN SHALL BE INSTALLED IN SEPARATE TRENCHES AND THE BOTTOM OF THE POTABLE WATER MAIN SHALL BE AT LEAST 18" ABOVE OF THE TOP OF THE SANITARY SEWER. IF BOTH THE HORIZONTAL AND VERTICAL SEPARATIONS CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE BEFORE INSTALLATION.
   a. CROSSING POTABLE WATER MAIN OVER AND UNDER A SANITARY SEWER: WHEN A WATER MAIN OVER CROSSES OR UNDER CROSSES A SANITARY SEWER, THE VERTICAL SEPARATION BETWEEN THE BOTTOM OF ONE (I.E., SANITARY SEWER OR WATER MAIN) TO THE TOP OF THE OTHER (WATER MAIN OR SANITARY SEWER) SHALL BE AT LEAST 18". HOWEVER, IF THIS CANNOT BE ACHIEVED THEN BOTH THE WATER MAIN AND SANITARY SEWER SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10' ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF POTABLE WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING AND THE PIPES SHALL BE PRESSURE TESTED IN PLACE WITHOUT LEAKAGE BEFORE INSTALLATION. SANITARY SEWERS UNDER CREEKS AND STORM SEWER PIPE CROSSINGS WITH LESS THAN 6" CLEARANCE SHALL BE ENCASED IN CONCRETE.
   b. NO POTABLE WATER MAIN PIPE SHALL PASS THROUGH OR COME IN CONTACT WITH ANY PART OF SANITARY SEWER MANHOLE. MANHOLES SHALL BE PLACED AT LEAST 10' HORIZONTALLY FROM THE WATER MAIN WHENEVER POSSIBLE. WHEN LOCAL CONDITIONS PROHIBIT THIS HORIZONTAL SEPARATION, THE MANHOLE SHALL BE WATERTIGHT CONSTRUCTION AND TESTED IN PLACE.
   c. CROSSING EXISTING OR PROPOSED UTILITIES: UNDERGROUND TELEPHONE, CABLE, TV, GAS, AND ELECTRICAL DUCT BANKS SHALL BE CROSSED MAINTAINING A MINIMUM OF 12" OF SEPARATION OR CLEARANCE WITH WATER MAIN OR SANITARY SEWERS. IF THIS SEPARATION CANNOT BE ACHIEVED THEN THE SEWER PIPE MATERIAL SHALL BE DUCTILE IRON PIPE (DIP) AWWA C-151 (ANSI A21.51) CLASS 52 FOR A DISTANCE OF 10' ON EACH SIDE OF THE POINT OF CROSSING AND PRESSURE TESTED IN PLACE WITHOUT LEAKAGE BEFORE INSTALLATION. SANITARY/STORM SEWERS AND WATER MAINS CROSSING OVER THE UTILITIES SHALL HAVE ADEQUATE STRUCTURAL SUPPORT (PIER SUPPORT AND/OR CONCRETE ENCASEMENT) TO PREVENT DAMAGE TO THE UTILITIES.

5. RIP RAP SHALL BE DESIGNED AS PER THE REQUIREMENTS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

6. PER THE REQUIREMENTS OF TITLE 5: TRANSPORTATION AND ENVIRONMENTAL SERVICES, CHAPTER 3, SECTION 5-3-2, AND SECTION 5-3-3; CUSTOMER UTILITY SERVICES AND TRANSMISSION, DISTRIBUTION AND MAIN LINES, RESPECTIVELY, SHALL BE PLACED UNDERGROUND UNLESS OTHERWISE SPECIFICALLY EXEMPTED.

OUTFALL NOTES

1. PROVIDE CONSTRUCTION SURVEY STAKEOUT CUT SHEETS TO THE CHIEF, DIVISION OF CONSTRUCTION AND INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO CONSTRUCTION. CUT SHEETS MUST BE SEALED AND SIGNED BY A VIRGINIA PROFESSIONAL LICENSED SURVEYOR AND INCLUDE AN ENVIRONMENTAL SITE ASSESSMENT.

2. THE OUTFALL TO FOUR MILE RUN INVOLVES CONSTRUCTION WITHIN THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA). THE LOCATION OF THE RPA BOUNDARY SHOWN ON THIS PLAN IS BASED ON FIELD-DELINEATED WETLANDS. THE OUTFALL IS A WATER-DEPENDENT FACILITY. THE PROJECT IS IN COMPLIANCE WITH THE REQUIREMENTS OF ARTICLE 13-107 OF THE ALEXANDRIA ZONING ORDINANCE (AZO). A MAJOR WATER QUALITY IMPACT ASSESSMENT (WQIA) FOR THE PROJECT IS INCLUDED IN THE REVIEW PACKAGE. THIS PLAN COMPLIES WITH THE USACE AND VMRC PERMITS FOR THE OUTFALL.

3. THE OUTFALL TO FOUR MILE RUN IS WITHIN THE ZONE AE FLOODPLAIN AS SHOWN ON FLOOD INSURANCE RATE MAP (FIRM) PANEL 51013C0083C EFFECTIVE 8/19/2013, AND PANEL 515590033E EFFECTIVE 6/16/2011, PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA). THE 0.2 PERCENT ANNUAL CHANCE OR 1 PERCENT ANNUAL CHANCE WITH LESS THAN 1 FOOT OF FLOOD DEPTH ZONE EXTENDS TO APPROXIMATELY ELEVATION 15. THIS PROJECT DOES NOT ALTER THE FLOOD ELEVATION AND IS IN COMPLIANCE WITH SECTION 6-300 TO SECTION 6-311 OF ARTICLE VI SPECIAL AND OVERLAY ZONES OF THE AZO.

WELLS NOTES

1. NO WELLS ARE IDENTIFIED AS PART OF THIS PLAN. IF ENCOUNTERED DURING CONSTRUCTION, ALL WELLS TO BE DEMOLISHED IN THIS PROJECT, INCLUDING MONITORING WELLS, MUST BE CLOSED IN ACCORDANCE WITH VIRGINIA STATE WATER CONTROL BOARD (VSWBC) REQUIREMENTS. CONTACT THE ENVIRONMENTAL HEALTH SPECIALIST AND COORDINATE WITH THE ALEXANDRIA HEALTH DEPARTMENT AT 703-838-4400 EXT 267/255.

NOISE NOTES

1. ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
   i. MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND SATURDAYS FROM 9 AM TO 6 PM.
   ii. NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
   iii. PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
   MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND SATURDAYS FROM 10 AM TO 4 PM

*NOTE THAT THE WORK USES MICROPILES AND DOES NOT REQUIRE PILE DRIVING

STORMWATER BEST MANAGEMENT PRACTICES (BMP) NOTES

1. THE STORMWATER BEST MANAGEMENT PRACTICES (BMP) FOR THE PROJECT SHALL BE CONSTRUCTED AND INSTALLED UNDER THE DIRECT SUPERVISION OF THE PROFESSIONAL ENGINEER LICENSED IN VIRGINIA OR HIS/HER DESIGNATED REPRESENTATIVE. THE ENGINEER MUST MAKE A WRITTEN CERTIFICATION TO THE CITY THAT THE BMPS ARE CONSTRUCTED AND INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE APPROVED SITE PLAN. IN ADDITION, AGGREGATE LAYERS AND COLLECTOR PIPES MAY NOT BE INSTALLED UNLESS THE ENGINEER OR AUTHORIZED REPRESENTATIVE IS PRESENT.

2. CONTRACTOR MUST PROVIDE INFORMATION NECESSARY FOR THE ENGINEER TO COMPLETE THE CITY OF ALEXANDRIA BMP AS-BUILT CHECKLISTS. INFORMATION INCLUDES AS-BUILT SURVEY ELEVATIONS, AND AS-INSTALLED MATERIAL QUANTITIES.

AIR POLLUTION NOTES

CONTROL ODORS AND ANY OTHER AIR POLLUTION SOURCES RESULTING FROM OPERATIONS AT THE SITE AND PREVENT THEM FROM LEAVING THE PROPERTY OR BECOMING A NUISANCE TO NEIGHBORING PROPERTIES, AS DETERMINED BY THE DIRECTOR OF T&ES.

ARCHAEOLOGY NOTES

1. ALL REQUIRED ARCHAEOLOGICAL PRESERVATION MEASURES SHALL BE COMPLETED PRIOR TO 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, OR A RESOURCE MANAGEMENT PLAN MUST BE IN PLACE TO PRESERVE AND/OR RECOVER SIGNIFICANT RESOURCES IN CONCERT WITH CONSTRUCTION ACTIVITIES. TO CONFIRM CALL ALEXANDRIA ARCHAEOLOGY AT (703) 838-4399. WHERE REQUIRED, ARCHAEOLOGICAL PRESERVATION MEASURES MUST BE IN COMPLIANCE WITH SECTION 11-411 OF THE ZONING ORDINANCE.

2. THE CONTRACTOR MUST CALL ALEXANDRIA ARCHAEOLOGY (703) 838-4399) TWO (2) WEEKS BEFORE THE STARTING DATE OF ANY GROUND DISTURBANCE SO THAT AN INSPECTION OR MONITORING SCHEDULE FOR CITY ARCHAEOLOGISTS CAN BE ARRANGED.

3. THE CONTRACTOR MUST CALL ALEXANDRIA ARCHAEOLOGY IMMEDIATELY (703-838-4399) 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 CONTRACTOR MUST NOT ALLOW ANY METAL DETECTION AND/OR ARTIFACT COLLECTION TO BE CONDUCTED ON THE PROPERTY UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY. FAILURE TO COMPLY SHALL RESULT IN PROJECT DELAYS.

UTILITY WORKS NOTES

1. UNDERGROUND 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:
   a. 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.
   b. 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.
   c. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.
   d. NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
   e. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES OR LOADED DIRECTLY FOR OFFSITE DISPOSAL.
   f. 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.
   g. 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.
   h. 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.
   i. RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THE VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS, VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH).
   j. COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.
   k. THE CONTRACTOR IS RESPONSIBLE FOR THE 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.
   l. A REMEDIATION PLAN SHALL BE SUBMITTED DETAILING HOW CONTAMINATED SOILS AND/OR GROUNDWATER WILL BE DEALT WITH, INCLUDING PLANS TO REMEDIATE UTILITY CORRIDORS.
   m. UTILITY CORRIDORS IN AREAS OF CONTAMINATED SOIL THAT REQUIRE REMEDIATION SHALL BE OVER EXCAVATED BY 2 FEET AND BACKFILLED WITH "CLEAN" SOIL.
   n. GRADING CAN BE PERFORMED ON INSTALLATION OF UTILITIES.
   o. ALL UTILITIES SUCH AS ELECTRICAL LINES, GAS PIPES, COMMUNICATION CABLES, INCLUDING WATER AND SEWER LATERALS ON PRIVATE PROPERTY IN THE CITY OF ALEXANDRIA SHALL BE PROVIDED WITH MINIMUM 3" WIDE 5 MIL OVERALL THICKNESS DETECTABLE UNDERGROUND WARNING TAPE (DUWT). THE DUWT SHALL BE INSTALLED AT DEPTHS OF 12" TO 18" FOR DUWT WIDTHS OF 3" AND 24" FOR WIDTHS OF 6" 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, CABLES, OR CONDUITS
BLUE	CAUTION POTABLE WATER
PURPLE	CAUTION RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	CAUTION SEWER, DRAIN LINES, AND FORCE MAIN

UTILITY CONTACTS

SPECIFICATION 01 31 13 PROJECT COORDINATION SUPERSEDES THIS SUMMARY:

DOMINION ENERGY (DANA BISHOP)	703-258-2133
VERIZON COMMUNICATIONS (BRIAN HARLOW)	703-819-6822
WASHINGTON GAS (MARK TAJNAI)	703-750-5667
ALEXRENEW (FAITH OVIAWE)	703-721-3500 x 2209
VIRGINIA AMERICAN WATER (STEVEN CHEN)	703-706-3889
SANITARY SEWER - CITY OF ALEXANDRIA	703-746-4154
TELECOMMUNICATIONS	SPECIFICATION 01 31 13

CONTRACTOR SHALL CONFORM TO THE OVERHEAD HIGH VOLTAGE ACT (EFFECTIVE JULY 1, 2003) AND SHALL CONTACT THE NECESSARY AUTHORITIES PRIOR TO START OF CONSTRUCTION.

RODENT ABATEMENT NOTE

PRIOR TO THE ISSUANCE OF A DEMOLITION PERMIT OR LAND DISTURBANCE PERMIT, A RODENT ABATEMENT PLAN SHALL BE SUBMITTED TO THE CITY OF ALEXANDRIA BUILDING AND FIRE CODE ADMINISTRATION THAT WILL OUTLINE STEPS THAT WILL BE TAKEN TO PREVENT THE SPREAD OF RODENTS FROM THE CONSTRUCTION SITE TO THE SURROUNDING COMMUNITY AND SEWERS. THE CONTRACTOR CAN CONTACT ALEXANDRIA BUILDING AND FIRE CODE ADMINISTRATION DEPARTMENT AT (703) 838-4644 OR (703) 746-4200 FOR ANY QUESTIONS OR ADDITIONAL INFORMATION.

FIELD QUALITY CONTROL

1. CONCRETE WORK
   1.1. CONCRETE MATERIAL, MIXTURES, FORM WORK, COMPACTION REQUIREMENTS, INSTALLATION TOLERANCES AND JOINT MATERIAL SHALL CONFORM WITH VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, 2020 WITH 2022 SUPPLEMENTS.
   1.2. THE CONTRACTOR SHALL ENGAGE A QUALIFIED INDEPENDENT TESTING AND INSPECTING AGENCY TO PERFORM FIELD TESTS AND INSPECTIONS AND PREPARE TEST REPORTS FOR ALL CONCRETE INSTALLATIONS.

2. ASPHALT WORK
   2.1. ASPHALT PAVING SHALL COMPLY WITH MATERIALS, WORKMANSHIP, COMPACTION REQUIREMENTS, INSTALLATION TOLERANCES AND OTHER APPLICABLE REQUIREMENTS OF VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, 2020 WITH 2022 SUPPLEMENTS.
   2.2. FOR ALL ASPHALT PAVING, CONTRACTOR SHALL:
   A. ENGAGE A QUALIFIED TESTING AGENCY TO PERFORM TESTS AND INSPECTIONS
   B. REPLACE AND COMPACT HOT-MIX ASPHALT WHERE CORE TESTS WERE TAKEN
   C. REMOVE AND REPLACE OR INSTALL ADDITIONAL HOT-MIX ASPHALT WHERE TEST RESULTS OR MEASUREMENTS INDICATE THAT IT DOES NOT COMPLY WITH SPECIFIED REQUIREMENTS.

3. EARTHWORK
   3.1. EXCAVATIONS, GRADING, BORROW MATERIALS, SUBBASE AND BASE MATERIAL, COMPACTION REQUIREMENTS SHALL CONFORM WITH VIRGINIA DEPARTMENT OF TRANSPORTATION, ROAD AND BRIDGE SPECIFICATIONS, 2020 WITH 2022 SUPPLEMENTS.
   3.2. REMOVE ALL SURPLUS SOIL AND WASTE MATERIAL INCLUDING TRASH AND DEBRIS AND LEGALLY DISPOSE OF IT OFF PROJECT SITE.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	H LUSK	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN H LUSK APVD

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

CITY OF ALEXANDRIA
STANDARD NOTES
(SHEET 2 OF 3)

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-05
SHEET	5 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

CONSTRUCTION NOTES

1. SEE SPECIFICATIONS 01 00 00 GENERAL REQUIREMENTS.

2. 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).

3. 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 CITY AND TAKE NECESSARY ACTION AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUATION OF SERVICE.

4. 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 CITY. REDESIGN AND APPROVAL BY REVIEWING AGENCIES SHALL BE OBTAINED, IF REQUIRED.

5. THE CONTRACTOR SHALL VISIT THE SITE AND SHALL VERIFY EXISTING CONDITIONS PRIOR TO STARTING CONSTRUCTION.

6. PRIOR TO COMMENCING NEW WORK, THE CONTRACTOR SHALL PROTECT FROM DAMAGE ALL EXISTING ADJACENT AREAS. ALL ADJACENT AREAS DAMAGED DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE CITY.

7. 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.

8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRS TO THE ADJACENT CURB, GUTTER, AND RIGHT-OF-WAY, IF DAMAGED DURING CONSTRUCTION ACTIVITY AS DETERMINED BY THE CITY.

9. 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. ADJUSTMENTS TO MEET FINISHED GRADE ELEVATIONS MAY BE REQUIRED.

10. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS AS PER THE REQUIREMENTS OF OF THE CITY.

11. CONSTRUCTION STAKEOUT SHALL BE UNDER THE DIRECT SUPERVISION OF A LICENSED LAND SURVEYOR IN THE COMMONWEALTH OF VIRGINIA. CUT SHEETS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION.

12. 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 GUTTERS AND/OR THE PONDING OF WATER ON THE ROADWAY.

13. THE CONTRACTOR MUST ENSURE THAT POSITIVE DRAINAGE OCCURS ON SITE TO PREVENT PONDING OR DRAINAGE PROBLEMS ON ADJACENT PROPERTIES.

14. CONTRACTOR MUST ENSURE THAT THERE IS NO DISTURBANCE ON ADJACENT PROPERTIES, UNLESS OTHERWISE NOTED ON PLANS.

15. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN UTILITY SERVICES AT ALL TIMES DURING CONNECTION AND/OR CONSTRUCTION.

16. THE CONTRACTOR SHALL FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY FOR THE CONSTRUCTION OF THE IMPROVEMENT WORK.

17. THE COST OF INCIDENTAL WORK ASSOCIATED WITH THE PRICING SCHEDULE FOR WHICH THERE ARE NO SPECIFIC CONTRACT ITEMS, SHALL BE CONSIDERED AS PART OF THE GENERAL COST OF DOING THE WORK AND SHALL BE INCLUDED IN THE COST FOR THE VARIOUS CONTRACT ITEMS OR IN THE COST OF MOBILIZATION. NO ADDITIONAL PAYMENT WILL BE MADE THEREFORE.

18. EARTHWORK, REMOVAL AND DISPOSAL OF EXCESS SOIL AND/OR UNSUITABLE MATERIAL, PROTECTION OF SUBGRADE FROM INCLEMENT WEATHER, AND EXCAVATION- IF NECESSARY, INCLUDING UP TO 3 FEET DEPTH OF OVER EXCAVATION AND/OR FILL TO FINISHED SUBGRADE WITH #21A AGGREGATE TO ACHIEVE REQUIRED COMPACTION LEVEL SHALL BE CONSIDERED AS PART OF THE GENERAL COST INCIDENTAL TO THE COST OF THE VARIOUS CONTRACT ITEMS LISTED UNDER THE PRICING SCHEDULE.

19. CLEAR AND GRUB SHALL INCLUDES, BUT NOT LIMITED TO, THE REMOVAL OF ALL VEGETATION AND STUMPS DOWN TO A MINIMUM OF 6 INCHES BELOW PROPOSED GRADE.

20. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL DURING CONSTRUCTION INCLUDING THE DEVELOPMENT OF TRAFFIC CONTROL PLANS. ALL TRAFFIC CONTROL COSTS FOR ALL STAGES SHALL BE INCLUDED IN THE BID PRICE FOR "MAINTENANCE OF TRAFFIC (LS)." NO LANES SHALL BE CLOSED DURING CONSTRUCTION. IF LANES NEED TO BE CLOSED TO FACILITATE THE CONSTRUCTION THEN THE CONTRACTOR SHALL PROVIDE A LANE CLOSURE PLAN TO THE SATISFACTION OF THE CITY. TEMPORARY PAVEMENT MARKING AND REMOVAL MAY BE REQUIRED AND SHALL BE INCLUDED IN THE BID PRICE FOR "MAINTENANCE OF TRAFFIC (LS)." NO SIDE AND/OR CROSS WALK SHALL BE CLOSED DURING CONSTRUCTION. IF SIDE AND/OR CROSS WALKS NEED TO BE CLOSED TO FACILITATE THE CONSTRUCTION THEN THE CONTRACTOR SHALL PROVIDE A SIDE AND/OR CROSS WALK CLOSURE PLAN TO THE SATISFACTION OF THE CITY.

DEMOLITION NOTES

1. 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 T&ES.

2. 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 THE 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).

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF WORK WITH REPRESENTATIVE UTILITY COMPANIES AND THE IMPLEMENTATION OF REQUIRED UTILITY-RELATED WORK.

4. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER UPON ENCOUNTERING ANY HAZARDOUS MATERIALS DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL DOCUMENT THE SAME TO THE OWNER AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

5. DISCONNECTION OF SERVICES AND SYSTEMS SUPPLYING UTILITIES TO BE ABANDONED OR DEMOLISHED SHALL BE COMPLETED PRIOR TO OTHER 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.

6. 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 AND OBTAIN DIRECTIONS AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

7. THE CONTRACTOR SHALL BACKFILL EXCAVATED AREAS WITH APPROVED MATERIALS /CLEAN FILLS PER THE REQUIREMENTS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT).

8. 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.

9. DURING DEMOLITION AND/OR CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER 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 OWNER AND OBTAIN DIRECTION AS TO THE APPROPRIATE ACTION(S) TO BE TAKEN.

10. 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.

11. OTHER STANDARDS APPLICABLE TO THIS WORK:
    a. VIRGINIA AMERICAN WATER STANDARDS: STANDARD SPECIFICATIONS AND DETAILS OF VIRGINIA AMERICAN WATER GENERAL DISTRIBUTION, CURRENT EDITION 2024, OCT 09, 2019 PIPELINE DETAILS
    b. SPECIAL CONSTRUCTION REQUIREMENTS, REQUIRED SEPARATION BETWEEN WATER MAINS AND SANITARY SEWERS, STANDARD DETAIL SD-43
    c. VIRGINIA DEPARTMENT OF HEALTH, WATER WORKS REGULATIONS, CHAPTER 590, EFFECTIVE JUNE-2021: 12VAC5-590-1150, SEPARATION OF WATER AND SANITARY SEWERS.

12. THE CONTRACTOR IS RESPONSIBLE FOR THE DEMOLITION AND REMOVAL OF EXISTING, ABANDONED GAS LINES THAT ARE IN CONFLICT WITH THE CONSTRUCTION OF THE STORM SEWER. THE CONTRACTOR MUST COORDINATE WITH WASHINGTON GAS TO COMPLETE THIS DEMOLITION.

LANDSCAPE PLANTING NOTES

SEE SHEET L-05 FOR LANDSCAPE NOTES.

SIGNING AND PAVEMENT MARKING

1. ALL SIGN WORK AND PAVEMENT MARKING SHALL MEET ALL THE LASTEST APPLICABLE VDOT, CITY OF ALEXANDRIA STANDARDS, AND MANUAL ON UNIFORM TRAFFIC CONTROL (MUTCD) REQUIREMENTS.

2. ALL PAVEMENT MARKINGS ARE THERMOPLASTIC UNLESS OTHERWISE NOTED.

3. ALL EXISTING PAVEMENT MARKINGS MAY NOT BE SHOWN. ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE ERADICATED.

4. ALL SIGNS SHALL BE HIGH INTENSITY SHEETING MEETING THE REQUIREMENTS OF AASHTO M268.

5. NO PORTION OF PROPOSED SIGN PANEL SHALL OVERHANG ADJACENT ROADWAY PAVEMENT. I.E. SHALL NOT HANG IN FRONT OF FACE OF CURB.

6. PROPOSED SIGN POSTS SHALL BE LOCATED A MINIMUM OF 2 FEET BEHIND ANY ADJACENT FACE OF CURB (ADDITIONAL REQUIREMENTS APPLY TO ACCOMMODATE SIGN PANEL LATERAL AND VERTICAL CLEARANCE). IF LOCATED ADJACENT TO SIDEWALKS, A 32" MINIMUM CLEAR AND 48" PREFERRED PASSING SPACE ON EXISTING AND PROPOSED SIDEWALKS SHALL BE MAINTAINED.

7. PROPOSED SIGN POSTS SHALL BE INSTALLED IN NEW LOCATIONS SUCH THAT THE EXISTING SIGNS OR SIGNALS ARE NOT BLOCKED.

8. FOR NEW POST INSTALLATION, THE CONTRACTOR SHALL VERIFY THERE ARE NO CONFLICTING UNDERGROUND OR OVERHEAD UTILITIES.

9. SIGNS MOUNTED TO EXISTING LIGHT, SIGNAL OR UTILITY POLES SHALL BE FASTENED WITH A MANUFACTURED STEEL BANDING SYSTEM. POLES SHALL NOT BE DRILLED DIRECTLY, THE CONTRACTOR SHALL SUBMIT MANUFACTURER INFORMATION ON THE BANDING SYSTEM TO THE CITY FOR APPROVAL PRIOR TO INSTALLATION.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	H LUSK	H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

CITY OF ALEXANDRIA
STANDARD NOTES
(SHEET 3 OF 3)

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-06
SHEET	6 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-06.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:06 AM

DESIGN CRITERIA

1. APPLICABLE CODE: 2021 INTERNATIONAL BUILDING CODE (IBC), AS AMENDED BY THE COMMONWEALTH OF VIRGINIA AND ALL OTHER APPLICABLE LOCAL AGENCIES. THE LOCALLY ADOPTED CODE IS THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE 2021.
2. REFER TO THE DRAWINGS FOR ADDITIONAL AND SPECIFIC STRUCTURE LOADINGS AND REQUIREMENTS.
3. BUILDING RISK CATEGORY: = III
4. ALL LOADS SHOWN ARE SERVICE LEVEL (UNFACTORED) UNLESS SPECIFICALLY NOTED OTHERWISE.
5. DEAD LOADS = SELF WEIGHT
6. SNOW LOADS = NOT APPLICABLE FOR SCOPE OF PROJECT
7. LIVE LOADS = 300 PSF
8. WIND LOADS = NOT APPLICABLE FOR SCOPE OF PROJECT
9. SEISMIC LOADS = NOT APPLICABLE FOR SCOPE OF PROJECT
10. SOIL DESIGN PARAMETERS:
    A. NET ALLOWABLE SOIL BEARING PRESSURES: = 2000 PSF WITH REQUIRED OVER-EXCAVATION AND BACKFILL IN RD SERIES DRAWINGS.
11. EQUIVALENT UNDRAINED FLUID PRESSURE FROM GRADE ELEVATION = 90 PCF
12. NATIVE SOIL WEIGHT SATURATED = 130 PCF

GENERAL INFORMATION

1. FOR ABBREVIATIONS NOT LISTED, SEE ASME Y14.38 ABBREVIATIONS AND ACRONYMS: PUBLICATION AS DISTRIBUTED BY THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).
2. DESIGN DETAILS ARE INTENDED TO BE TYPICAL AND SHALL APPLY TO SIMILAR SITUATIONS OCCURRING THROUGHOUT THE PROJECT, WHETHER OR NOT THEY ARE INDIVIDUALLY CALLED OUT.
3. VERIFY FINAL OPENING DIMENSIONS IN WALLS AND SLABS WITH OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION OF THESE ELEMENTS.
4. DO NOT CUT OR MODIFY STRUCTURAL MEMBERS UNLESS SPECIFICALLY DETAILED OR APPROVED IN WRITING BY THE ENGINEER.
5. INFORMATION (DETAILING, DIMENSIONS, CONFIGURATIONS, AND ELEVATIONS, ETC.) OF EXISTING CONSTRUCTION SHOWN REFLECTS AVAILABLE EXISTING DESIGN DOCUMENTS, AND DOES NOT NECESSARILY REPRESENT THE AS-CONSTRUCTED CONDITIONS. THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS, ELEVATIONS AND DETAILING OF THE EXISTING STRUCTURES PRIOR TO UNDERTAKING ANY WORK, SUBMITTAL OF SHOP DRAWINGS AND FABRICATION, THAT IS AFFECTED BY THE EXISTING STRUCTURE. NOTIFY ENGINEER IF CONDITIONS VARY FROM THAT SHOWN PRIOR TO STARTING WORK.

INSPECTION AND TESTING

1. SPECIAL INSPECTION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR INSPECTIONS REQUIRED BY THE BUILDING OFFICIAL. CONTRACTOR WILL NOTIFY THE OWNER NOT LESS THAN 24 HOURS BEFORE WORK REQUIRING SPECIAL INSPECTIONS, SAMPLING, OR TESTING IS DUE TO COMMENCE.
2. SPECIFIED CONCRETE AND OTHER MATERIAL TESTING RELATED TO THE PERFORMANCE OF SPECIAL INSPECTION DURING CONSTRUCTION WILL BE OWNER FURNISHED PER THE CITY OF ALEXANDRIA - SPECIAL INSPECTION GUIDELINES AND PROCEDURES.
3. SPECIFIED LABORATORY TEST MIXES AND SIMILAR TEST RESULTS TO VERIFY MATERIAL QUALITY AND CONFORMANCE TO SPECIFICATIONS, AND SUBMITTED FOR REVIEW PRIOR TO ACCEPTANCE FOR USE ON THE PROJECT, NOT RELATED TO SPECIAL INSPECTIONS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. SPECIAL INSPECTION, TESTING AND OBSERVATION (OWNER FURNISHED) IS REQUIRED IN ACCORDANCE WITH IBC SECTIONS 110 AND 1704 AS INDICATED IN THE STATEMENT OF SPECIAL INSPECTIONS. REFER TO DRAWINGS 000-GS004 TO 000-GS006.

FOUNDATIONS

1. MICROPILES SHALL BE INSTALLED PER DRAWINGS AND IN ACCORDANCE WITH SPECIFICATION SECTION 31 63 33.
2. PREPRODUCTION AND PROOF LOAD TESTS SHALL BE PERFORMED FOR THE MICROPILES IN ACCORDANCE WITH SPECIFICATION SECTION 31 63 33.
3. RIGID INCLUSIONS SHALL BE DESIGNED AND INSTALLED PER DRAWINGS AND IN ACCORDANCE WITH SPECIFICATION SECTION 31 32 10.
4. FOUNDATION BEARING SURFACES SHALL BE OBSERVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF FORMWORK OR REINFORCING STEEL. THE OBSERVATION SHALL VERIFY IF THE ACTUAL EXPOSED SUBGRADE IS STABILIZED WHERE REQUIRED FOR OVER-EXCAVATION, BACKFILL, AND COMPACTION AND AS ANTICIPATED BY THE SITE SPECIFIC TESTING AND DATA REPORTS.
5. NO BACKFILL SHALL BE PLACED BEHIND WALLS UNTIL THE WALL'S CONCRETE HAS ATTAINED 100 PERCENT AND TOP SUPPORTING SLABS CONCRETE HAS ATTAINED 100 PERCENT (IF REQUIRED FOR SUPPORT) OF THEIR SPECIFIED 28 DAY COMPRESSIVE STRENGTH, UNLESS APPROVED BY ENGINEER.
6. NO BACKFILL SHALL BE PLACED BEHIND CANTILEVERED, FREE TOP WALLS UNTIL THE CONCRETE HAS ATTAINED 100 PERCENT OF ITS SPECIFIED 28 DAY COMPRESSIVE STRENGTH UNLESS APPROVED BY ENGINEER. BACKFILL SHALL BE PLACED EVENLY ON ALL SIDES OF THE STRUCTURE.

FORMWORK, SHORING, AND BRACING

1. STRUCTURES SHOWN ON THE DRAWINGS HAVE BEEN DESIGNED FOR STABILITY UNDER FINAL CONDITIONS ONLY. DESIGN SHOWN DOES NOT INCLUDE NECESSARY COMPONENTS OR EQUIPMENT FOR STABILITY OF THE STRUCTURES DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR WORK RELATING TO CONSTRUCTION ERECTION METHODS, BRACING, SHORING, RIGGING, GUYS, SCAFFOLDING, FORMWORK, AND OTHER WORK AIDS REQUIRED TO SAFELY PERFORM THE WORK SHOWN.
2. TEMPORARY SHORING SHALL REMAIN IN PLACE UNTIL ELEVATED CONCRETE FLOORS OR SLABS HAVE REACHED THE 28 DAY COMPRESSIVE STRENGTH AS DETERMINED BY FIELD CYLINDER BREAKS.
3. "BURY" BARS OR "CARRIER" BARS ARE NOT ALLOWED FOR THE BOTTOM MATS OF REINFORCING STEEL IN ALL ELEVATED SLABS AND ARE NOT ALLOWED FOR THE TOP MATS OF REINFORCING STEEL IN ELEVATED SLABS LESS THAN 12 INCHES THICK.

CONCRETE REINFORCING STEEL

1. REINFORCING STEEL = ASTM A615, GRADE 60
2. FABRICATION AND PLACEMENT OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH CRSI MSP-1 STANDARD PRACTICE AND ACI 301 "SPECIFICATIONS FOR STRUCTURAL CONCRETE".
3. CONCRETE COVER FOR REINFORCING STEEL, UNLESS SHOWN OTHERWISE, SHALL BE AS FOLLOWS:
   UNLESS SHOWN OTHERWISE, SHALL BE AS FOLLOWS:
   WHEN PLACED ON GROUND = 3"
   OTHER CONCRETE SURFACES = 2", UNLESS NOTED OTHERWISE
4. TYPICAL HORIZONTAL WALL REINFORCING BARS SHALL LAP WITH THE CORNER HORIZONTAL REINFORCING STEEL.
5. 90 DEGREE BENDS, UNLESS OTHERWISE SHOWN, SHALL BE ACI 318 STANDARD HOOKS.
6. WALL FOOTING CORNER AND INTERSECTION REINFORCEMENT BARS SHALL BE EXTENDED INTO CONNECTING FOOTINGS AND LAPPED ON THE OPPOSITE FACE OF THE CONNECTING FOOTING. OUTSIDE FACE WALL FOOTING REINFORCEMENT SHALL BE LAPPED WITH CORNER BARS.
8. LAP VERTICAL WALL BARS WITH DOWELS FROM BASE SLABS AND EXTEND INTO TOP FACE OF ROOF SLABS AND LAP WITH TOP SLAB REINFORCEMENT.
9. REINFORCING STEEL FOR SLABS ON GRADE SHALL BE ADEQUATELY SUPPORTED ON BAR SUPPORTS WITH SPACERS TO KEEP REINFORCING STEEL ABOVE THE PREPARED GRADE. LIFTING REINFORCING STEEL OFF GRADE DURING CONCRETE PLACEMENT IS NOT PERMITTED.

CONCRETE DESIGN STRENGTH = 5,000 PSI MIN AT 28 DAYS GRADE 60 REINFORCING STEEL COVER					
BAR SIZE		#3	#4	#5	#6
LAP SPLICE LENGTH (CLASS B)					
SPACING = 3"	TOP BAR	1'-1"	1'-7"	2'-0"	2'-9"
	OTHER BAR	0'-11"	1'-3"	1'-7"	2'-2"
SPACING ≥ 6"	TOP BAR	1'-1"	1'-7"	1'-11"	2'-2"
	OTHER BAR	0'-11"	1'-3"	1'-5"	1'-9"
DEVELOPMENT LENGTH					
SPACING = 3"	TOP BAR	0'-10"	1'-2"	1'-6"	2'-1"
	OTHER BAR	0'-8"	0'-11"	1'-2"	1'-8"
SPACING = 4"	TOP BAR	0'-10"	1'-2"	1'-5"	1'-8"
	OTHER BAR	0'-8"	0'-11"	1'-1"	1'-4"
SPACING ≥ 6"	TOP BAR	0'-10"	1'-2"	1'-5"	1'-8"
	OTHER BAR	0'-8"	0'-11"	1'-1"	1'-4"

STRUCTURAL STEEL AND METAL FABRICATIONS

1. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   W-SHAPES A992
   MISCELLANEOUS SHAPES INCLUDING ANGLES, CHANNELS, PLATES, ETC. A36
   HOLLOW STRUCTURAL SECTIONS (HSS) A500, GRADE B
   STEEL PIPE A53, GRADE B
   STAINLESS STEEL SHAPES A276
   STAINLESS STEEL PLATES A480/A666
2. ALUMINUM SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS:
   STRUCTURAL SHAPES B308
   PLATES B209
3. STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN CONFORMANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION, CURRENT EDITION, AND CURRENT OSHA STANDARDS.
4. FASTENERS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO THE FOLLOWING ASTM STANDARDS EXCEPT WHERE SPECIFICALLY INDICATED OTHERWISE:
   STRUCTURAL STEEL CONNECTIONS A325-N
   ANCHOR BOLTS (AB)
   STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
   STEEL OR GALVANIZED STEEL F1554, GR 55 / A153
   MACHINE BOLTS (MB)
   STEEL A307
   STAINLESS STEEL F593, AISI TYPE 316, CONDITION CW
   GALVANIZED STEEL A307 / A153
   ALUMINUM F468, ALLOY 2024-T4
5. ITEMS TO BE EMBEDDED IN CONCRETE SHALL BE CLEAN AND FREE OF OIL, DIRT AND PAINT.
6. NO HOLES OTHER THAN THOSE SPECIFICALLY DETAILED SHALL BE ALLOWED THROUGH STRUCTURAL STEEL MEMBERS. NO CUTTING OR BURNING OF STRUCTURAL STEEL IS PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.

MICROPILES

1. MICROPILE CASING SHALL BE API-5CT N80.

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	10/2025	100% SUBMITTAL	APVD	T WEINSTEIN	D LANGE	D LANGE
	04/2025	90% SUBMITTAL	APVD	L ZHANG		
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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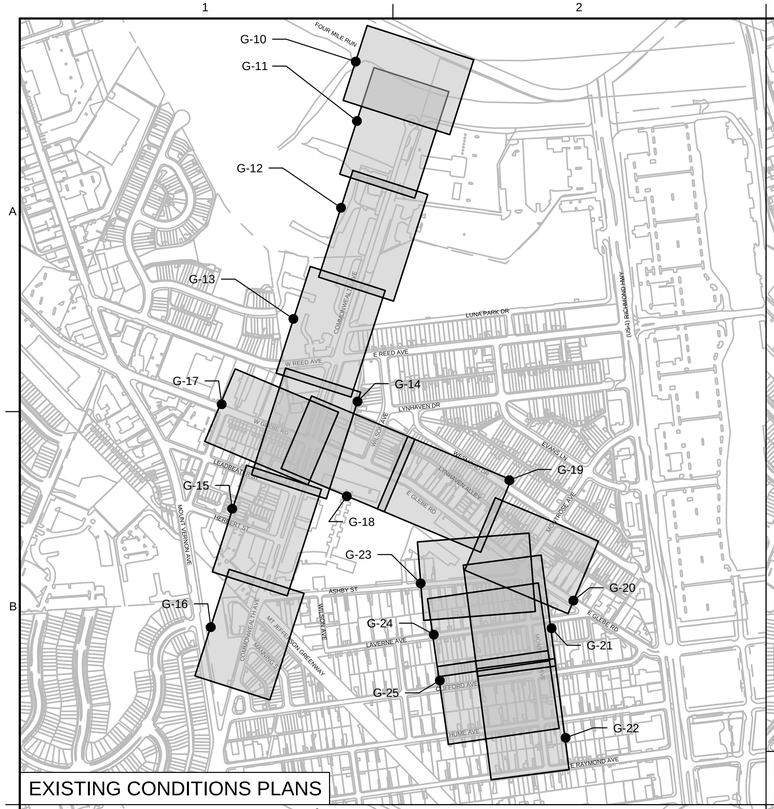
GENERAL
STRUCTURAL GENERAL NOTES

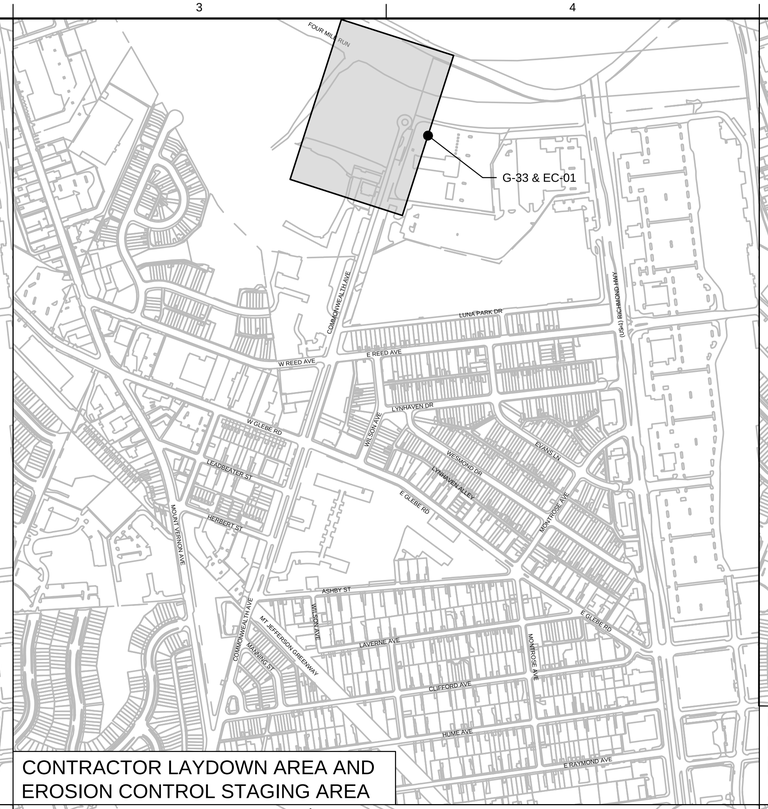
FINAL DESIGN (NOT FOR CONSTRUCTION)

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

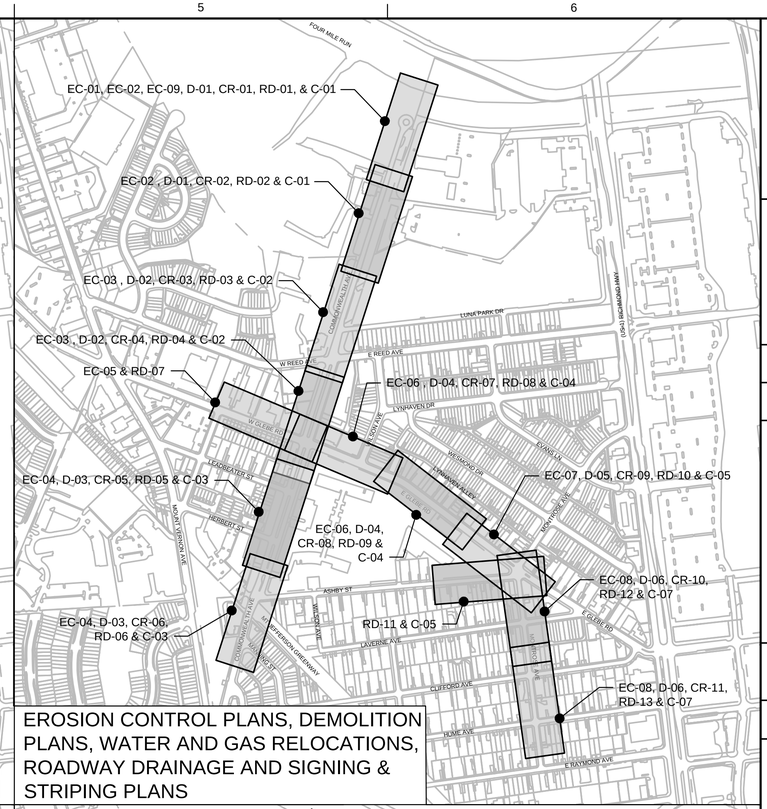
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-07
SHEET	7 of 158



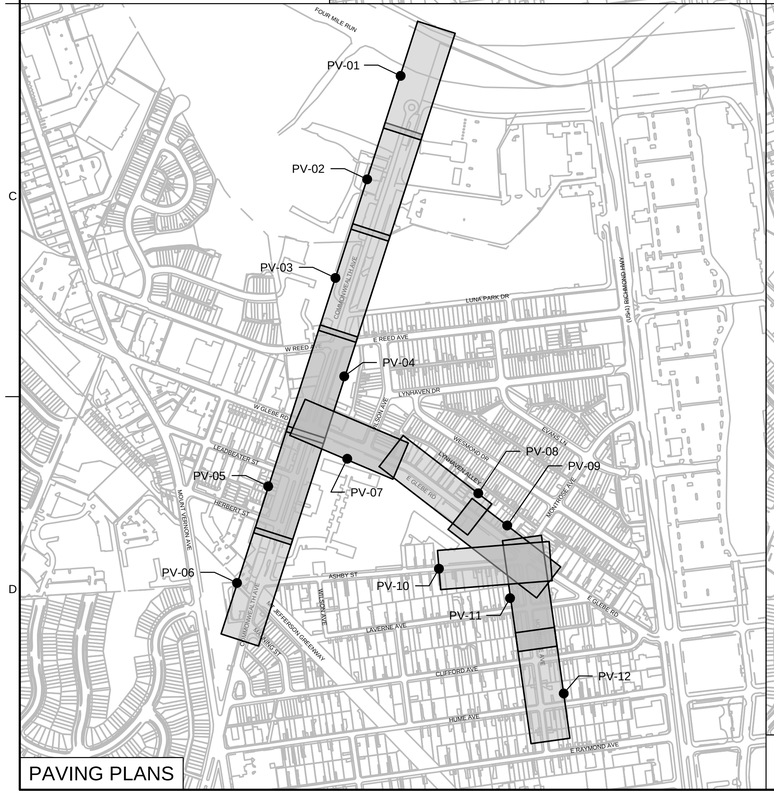
EXISTING CONDITIONS PLANS



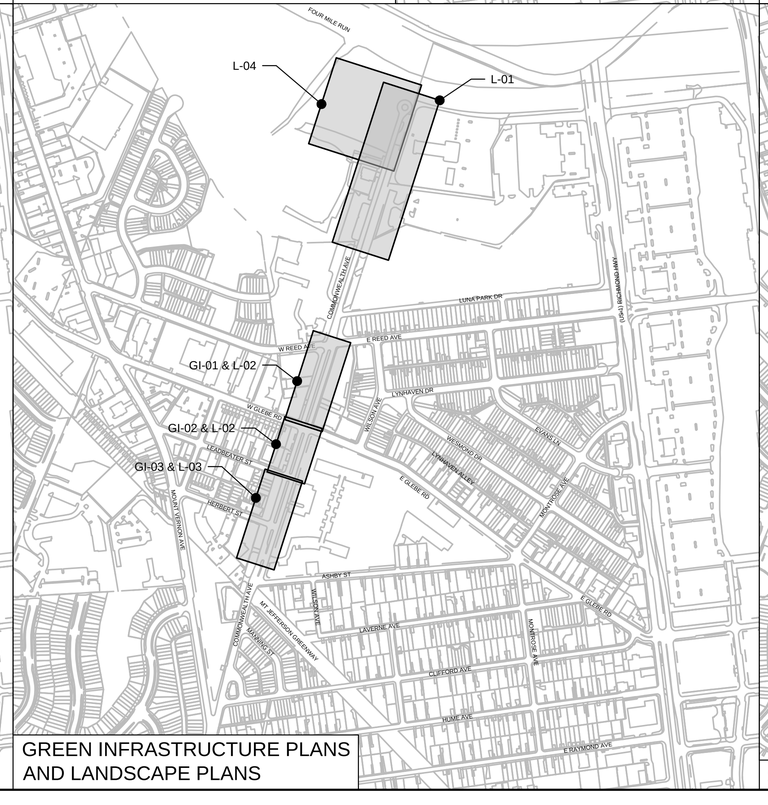
CONTRACTOR LAYDOWN AREA AND EROSION CONTROL STAGING AREA



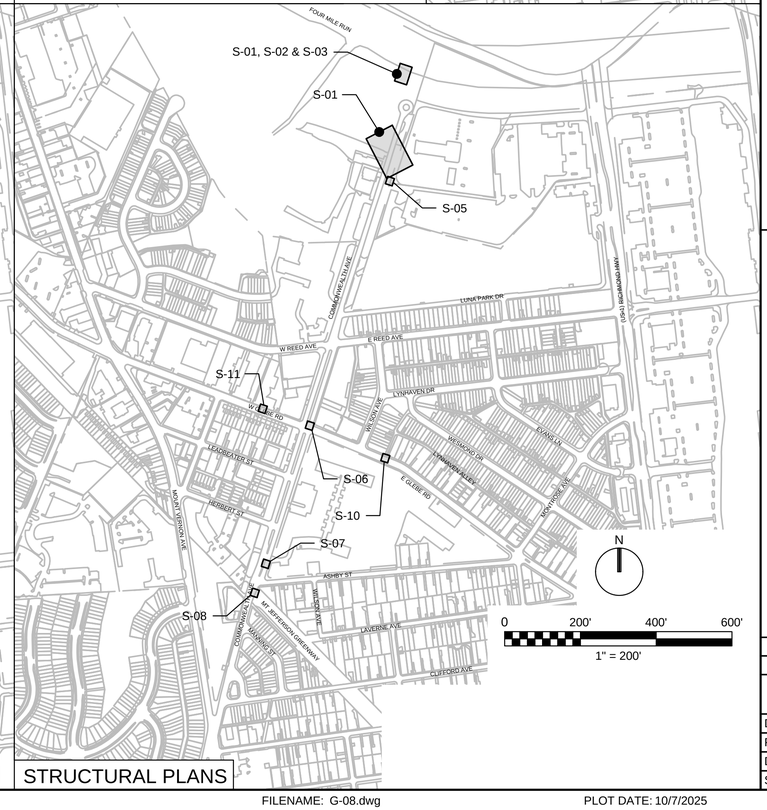
EROSION CONTROL PLANS, DEMOLITION PLANS, WATER AND GAS RELOCATIONS, ROADWAY DRAINAGE AND SIGNING & STRIPING PLANS



PAVING PLANS



GREEN INFRASTRUCTURE PLANS AND LANDSCAPE PLANS



STRUCTURAL PLANS

CITY OF ALEXANDRIA
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	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	85% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN J CAMMARATA DR T WEINSTEIN CHK H LUSK APVD H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

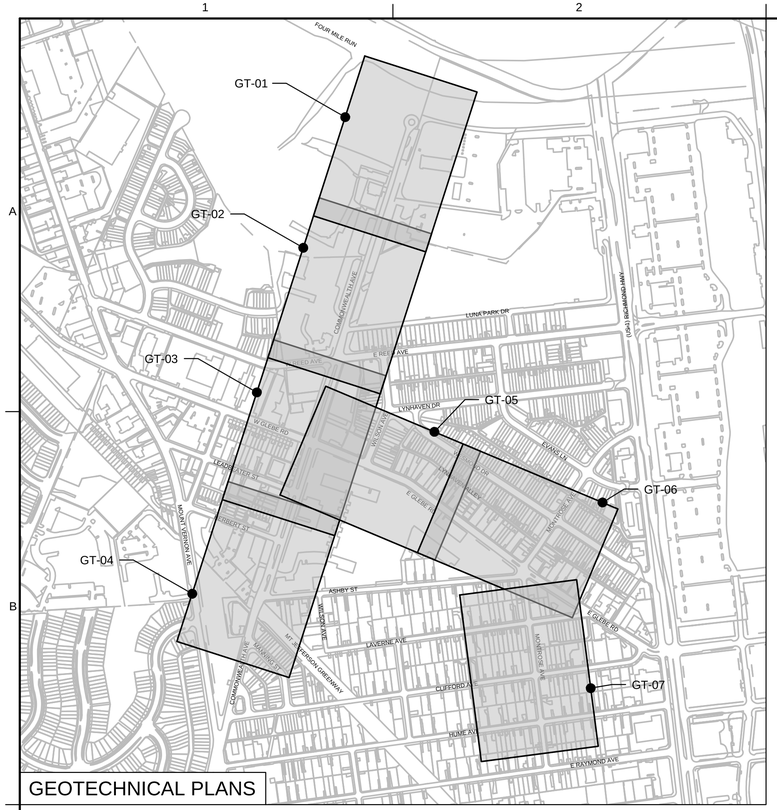
GENERAL
KEY PLANS
(SHEET 1 OF 2)

1"=200'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-08
SHEET	8 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-08.dwg PLOT DATE: 10/7/2025 PLOT TIME: 8:00 PM



GEOTECHNICAL PLANS

N

0 200' 400' 600'

1" = 200'

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ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY
	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	85% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			
DSGN	J CAMMARATA		T WEINSTEIN	H LUSK	APVD

APVD H LUSK

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ALEXANDRIA, VA 22314

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GENERAL
KEY PLANS
(SHEET 2 OF 2)

1"=200'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-09
SHEET	9 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-09.dwg PLOT DATE: 10/5/2025 PLOT TIME: 7:22 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

N

0 20' 40' 60'

1" = 20'

Four Mile Run

EDGE OF RIPRAP PER USACE RECORD DRAWINGS DATED MAY 1978

Ex. Water Elev=3.83' January 6, 2023 Approximately 10:30 AM

Ex. Channel Easement Deed Book 1015 Page 146

Map #: 008.03-01-04
The City of Alexandria
Instrument #060000119

DP 2

DP 3

DP 4

CA-16

OF-02

OF-03

REBAR

Ex. Concrete Pad

Ex. Dugout

Ex. Dirt Infield

Ex. Asphalt (Four Mile Run Park Trail)

Ex. Asphalt Area

COMMONWEALTH AVE

LP #(NO#)

LP #MQ27

LP #PF08

LP #PF27

PP #PH73

PP #PE57

TRANS NO#

E-BUR

T-Duct

FO-Duct

SS

EL

RPA

LWKNOHAL

A1

B1

B5

C4

NO.	DATE	REVISION	DR	CHK	BY	APVD
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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL			H LUSK	APVD

DSGN RDAJ CAMMARATA
DR T WEINSTEIN
CHK H LUSK
APVD RDA/H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

EXISTING CONDITIONS
COMMONWEALTH AVENUE
(SHEET 1 OF 7)

1"=20'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-10
SHEET	10 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-10.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:09 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
5	6992227.981	11894257.379	13.75	TRV ROD & CAP

0 20' 40' 60'
1" = 20'

Map #: 008.03-01-02
Hertz Realty Group
Deed Book 1015 Page 691

Map #: 007.04-09-04
City Of Alexandria
Account: 14401000

COMMONWEALTH AVE

Ex. Concrete Pad
Ex. Asphalt Area
Ex. 6' Wooden Fence
CONTROL POINT #5
Ex. Gravel Area
Ex. Grass
Ex. EP
Ex. 27" RCP
Ex. 15" RCP
Ex. 10" DIP
Ex. 30" RCP
Ex. 36" RCP
Ex. 48" RCP
Ex. C&G
Ex. Asphalt Walk
Ex. 6' Chain Link Fence
Ex. Steel Plate
Ex. Dugout
Ex. Dirt Infield
Ex. Grass Area
Ex. Asphalt (Four Mile Run Park Trail)
Unknown
UNKNOWN
(458.42')
(N25°59'00"E 1086.71') (Total)
CA-13
CA-14
CA-15
CA-16
OF-01
OF-02
DP 1
DP 4
LP #(NONE)
LP #(UNK)
LP #F32
LP #F33
LP #F34
LP #F35
LP #F36
LP #F37
LP #F38
TRANS NO#
E-BUR
RPA
SS
T-Duct
VZN
FO
FBL
11.44
11.60
11.70
11.86
11.55
11.59
11.37
12.84
12.81
12.46
12.43
13.07
12.80
13.08
13.05
12.81

NO.	DATE	REVISION	DR	CHK	APVD	BY
10/2025	100% SUBMITTAL	T WEINSTEIN	RDAJ CAMMARATA	H LUSK	RDA/H LUSK	APVD
04/2025	90% SUBMITTAL					
11/2024	65% SUBMITTAL					
05/2024	60% SUBMITTAL					
09/2023	30% SUBMITTAL					

DSGN

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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Jacobs

GENERAL

EXISTING CONDITIONS
COMMONWEALTH AVENUE
(SHEET 2 OF 7)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-11
SHEET	11 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-11.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:10 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
6	6991732.443	11894108.707	10.56	TRV ROD & CAP
7	6991394.530	11893999.672	12.09	TRV ROD & CAP

0 20' 40' 60'
1" = 20'

Map #: 008.03-01-03
Kody Holdings of Alexandria, LLC
Instrument #220015298

Map #: 016.01-01-01
EQR Alexandria, LLC
Instrument #060006058

Map #: 007.04-09-13
City Of Alexandria Sanitation Authority
Account: 50688040

Map #: 007.04-09-04
City Of Alexandria
Account: 14401000

COMMONWEALTH AVE

CONTROL POINT #6

CONTROL POINT #7

CA-11

CA-12

CA-10

(309.28')

(194.12')
(S71°08'37"W 194.29')

Ex. 36" RCP
Ex. 6' Metal Picket Fence
Ex. 10" PVC
Ex. 8" PVC
Ex. 15" RCP
Ex. 24" DIP
Ex. 10" DIP
Ex. 4" WATER STRUCTURE
Ex. 8" WATER STRUCTURE
Ex. 12" PVC
Ex. C&G
Ex. EP
Ex. Concrete Walk
Ex. Asphalt Walk
Ex. Brick Pavers
Ex. Stone Entrance Sign
Ex. Pavement Area
Ex. HC
Ex. Gate
Ex. 6' Wire Fence
Ex. 6' Chain Link Fence
Ex. Hatch Door
Ex. Chamber Door
Ex. Weir Wall
Ex. Valve
Unknown
Unknown (Forcemain)
Wooden Fence
Plate
PP #00053
PP #00038
PP #00039
PP #00040
PP #00041
PP #00042
PP #00043
PP #00044
PP #00045
PP #00046
PP #00047
PP #00048
PP #00049
PP #00050
PP #00051
PP #00052
TH #4
IRF
6
10.56
TRAV
7
12.09
TRAV
8"W(QLD)
10"W(QLD)
3"G(Aband)
3"G
2.5'
NZA
TWIN 24"-DIP
SEMI-HOLED
20"SFM
24"SFM
T-Duct
W (QLD)
G (QLD)
SFM (QLD)
FO
SS
6"W
12"W

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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	RDA/J CAMMARATA	T WEINSTEIN	H LUSK	RDA/H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS
COMMONWEALTH AVENUE
(SHEET 3 OF 7)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-12
SHEET	12 of 158

FILENAME: G-12.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:10 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

0 20' 40' 60'

1" = 20'

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
8	6990948.561	11893857.186	13.35	TRV ROD & CAP

Map #: 015.02-05-01
Jaswant Rai And Bella Alma
Account: 14124500

Map #: 015.02-07-01
Wesley Lynwatters, LLC
Account: 14149500

Map #: 015.02-06-08
City Of Alexandria
Account: 14347000

Map #: 015.02-09-01
City Of Alexandria
Account: 14123500

COMMONWEALTH AVE

EAST REED AVE

WEST REED AVE

CONTROL POINT #8

CA-08

Ex. 30" RCP
Ex. 36" RCP
Ex. 18" RCP
Ex. 15" RCP
Ex. 12" PVC
Ex. 24" DIP
Ex. 10" DIP
Ex. 8" DIP
Ex. 15" PVC
Ex. 24" PVC
Ex. 48" RCP
Ex. 8" RCP
Ex. 12" RCP

Ex. C&G
Ex. 6' Metal Picket Fence
Ex. 4' Chain Link Fence
Ex. Gate
Ex. Concrete Walk
Ex. Asphalt Walk
Ex. Bike Rack
Ex. Abandon Pole
Ex. Timber Retaining Wall
Ex. Brick Retaining Wall
Ex. Brick Entrance Sign
Ex. Concrete Planter
Ex. Entrance Sign
Ex. Pavers
Ex. Grass
Ex. HC
Ex. M.L.S.A.
Ex. Pavement Area
Ex. One/Two Story Brick Building

GAS VALVE, APPROXIMATE LOCATION

FF=14.98'

Ex. Unknown (Forcemain)

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	CHK
	10/2025	100% SUBMITTAL	APVD	H LUSK
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA
DR T WEINSTEIN
APVD RDA/H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

EXISTING CONDITIONS
COMMONWEALTH AVENUE
(SHEET 4 OF 7)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-13
SHEET	13 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-13.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:10 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

0 20' 40' 60'

1" = 20'

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
9	6990476.101	11893742.799	14.50	TRV ROD & CAP

CONTROL POINT #9

9
14.50
TRAV

Map #: 015.04-04-09
Steven Lecureux
Account: 14150000

Map #: 015.04-04-08
McLean Village, LLC
Account: 14150500

Ex. Two Story Brick Building

Map #: 015.04-04-10
Freedom Way Missionary Baptist Church
Account: 14346500

Map #: 015.04-03-35
James Bradley Hudson
Account: 50672180

Map #: 015.04-03-11
Hossein Garakyaraghi And Ahmad Loghmanian
Account: 15568500

Map #: 015.02-06-08
Of Alexandria
Account: 14347000

Map #: 015.02-06-07
Glebe Building And Realty Corp.
Account: 15553060

COMMONWEALTH AVE

EAST GLEBE RD

WEST GLEBE RD

*Per Plan Provided By Jacobs Engineering (Not Field Observed)

Possible Blind-Tie

CA-04 CA-05 CA-06 CA-07 GR-02 GR-03

NO.	DATE	REVISION	BY	APVD
1	10/2025	100% SUBMITTAL		
2	04/2025	90% SUBMITTAL		
3	11/2024	65% SUBMITTAL		
4	05/2024	60% SUBMITTAL		
5	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA DR T WEINSTEIN CHK H LUSK APVD RDA/H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

EXISTING CONDITIONS COMMONWEALTH AVENUE (SHEET 5 OF 7)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-14
SHEET	14 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-14.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:11 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	6990250.637	11893671.772	16.47	TRV ROD & CAP
11	6990040.779	11893570.870	18.02	TRV ROD & CAP

Map # 015.04-0A-00
Auburn Village Condominium
Account: 14347500

0 20' 40' 60'
1" = 20'

CONTROL POINT #10
CONTROL POINT #11
APPROXIMATE LOCATION

COMMONWEALTH AVE
LEADBEATER ST
HERBERT ST

Ex. 18" RCP
Ex. 15" RCP
Ex. 54" RCP
Ex. 15" DIP
Ex. 8" DIP
Ex. 6" PVC Lat.
Ex. 42" X 27" ERCP
Ex. 48" RCP
Ex. 8" PVC
Ex. 12" RCP
EXST 18" RCP PROVIDED FROM GIS - NOT SURVEYED
Possible Blind-Tie
Ex. Concrete Walk
Ex. C&G
Ex. HC
Ex. Grass
Ex. Curb
Unknown
24"SFM
10"G(In 12"Str)
3"G(Aband)
1.5"G

Map # 015.04-02-07
Nicole A. Uzzle
Account: 50322000

Map # 015.04-02-08
Elizabeth D. Gosselin
Account: 50322010

Map # 015.04-02-09
Michael H. Tall
Account: 50322020

Map # 015.04-02-10
Yuri Sakamoto Or Martin Vandyke
Account: 50322030

Map # 015.04-02-11
Brittany Meredith Baron And Warren Douglas Friedman
Account: 50322040

Map # 015.04-02-12
Herbert St. Station Home Owners Association, Inc.
Account: 50616350

Map # 015.04-02-35
Arlandria Chirilagua Housing Corporation
Account: 15583500

CA-01
CA-02
CA-03
VS-03

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
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NO.	DATE	REVISION	BY	CHK	APVD
1	10/2025	100% SUBMITTAL		H LUSK	
2	04/2025	90% SUBMITTAL			
3	11/2024	65% SUBMITTAL			
4	05/2024	60% SUBMITTAL			
5	09/2023	30% SUBMITTAL			
DSGN	RDA/J CAMMARATA	DR	T WEINSTEIN		RDA/H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS
COMMONWEALTH AVENUE
(SHEET 6 OF 7)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-15
SHEET	15 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-15.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:12 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
12	6989759.533	11893422.175	20.47	TRV ROD & CAP

N

0 20' 40' 60'

1" = 20'

Map # 024.02-03-04
Evelyn Urrutia And Nelson Ayala
Account: 13899000

Map # 024.02-03-03
Brevic Development, LLC
Account: 13898500

Tax Map: 024.02-03-02
Jorge Federico Perez Lopez & Kathleen Golitko Perez Lopez
Instrument #200013640

Tax Map: 024.02-03-01
Jorge Federico Perez Lopez & Kathleen Golitko Perez Lopez
Account: 13897500

Tax Map: N/A
Mt. Jefferson Park and Greenway
(No recordation information available.)

Map # 024.02-02-36
Elizabeth Jane Whalen
Account: 13886000

Map # 024.02-02-35
Marjorie L. Williams
Account: 13874000

Map # 024.02-02-64
Del Ray Central VA, LLC
Account: 60020600

Map # 024.02-02-02
Commonwealth Terrace, LLC
Account: 15342500

Map # 015.04-0B-00
Vernon Square Office Condominium
Account: 10514600

COMMONWEALTH AVE

ASHBY ST

CONTROL POINT #12

GAS VALVE, APPROXIMATE LOCATION

Possible Blind-Tie

Ex. 6' Wooden Fence

Ex. Brick Retaining Wall

Ex. Asphalt Trail

Ex. Concrete Walk

Ex. 12" RCP

Ex. 15" RCP

Ex. 18" RCP

Ex. 21" RCP

Ex. 54" RCP

Ex. 42" RCP

Ex. 12" PVC

Ex. 18" DIP

Ex. 8" DIP

Ex. 10" PVC

Ex. 10" DIP

Ex. 12" PVC

Ex. 15" PVC

Ex. 8" PVC

Ex. 10" PVC

Ex. Concrete

Ex. HC

Unknown

NO.	DATE	REVISION	DR	CHK	BY
DSGN	10/2025	100% SUBMITTAL	RDA/J CAMMARATA	T WEINSTEIN	H LUSK
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			APVD

RDA/H LUSK APVD

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS COMMONWEALTH AVENUE (SHEET 7 OF 7)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-16
SHEET	16 of 158

FILENAME: G-16.dwg PLOT DATE: 10/5/2025 PLOT TIME: 8:14 PM

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
9	6990476.101	11893742.799	14.50	TRV ROD & CAP

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

Map # 015.02-06-05
Poladian Construction Corporation
Account: 15552000

Map # 015.02-06-06
Glebe Building And Realty Corporation
Account: 15552500

Map # 015.04-04-10
Freedom Way Missionary Baptist Church
Account: 14346500

*Per Plan Provided By Jacobs Engineering (Not Field Observed)

WEST GLEBE RD

COMMONWEALTH AVE

Map # 015.04-03-24
Melanie B. Cline And William A. Cline
Account: 50672070

Map # 015.04-03-25
David Dobrowolski Or Leonor S. Dobrowolski
Account: 50672080

Map # 015.04-03-27
Raymond Gabriel Melusky
Account: 50672100

Map # 015.04-03-29
Mark Clifford Russell And Minnie Pearl Micu Russell
Account: 50672120

Map # 015.04-03-30
William Craig French And James Marvin Gallisdorfer
Account: 50672130

Map # 015.04-03-31
Panzer Or Jeffrey W. Piper Marissal L.
Account: 50672140

Map # 015.04-03-32
Barbara A. Boeheim
Account: 50672150

Map # 015.04-03-35
James Bradley Hudson
Account: 50672180

Map # 015.04-03-26
Samantha Salcedo-Mason And Blake Daniel Mason
Account: 50672090

Map # 015.04-03-28
Jeffrey L. Schlags Or Jana Kemp
Account: 50672110

Map # 015.04-03-33
Joseph M. Bloomer, Jr. Or David Paul Lundberg
Account: 50672160

Map # 015.04-03-34
Peter Lawrence Gignac, Jr. And Aysegul Gignac
Account: 50672170

GR-01
GR-02
CA-05
CONTROL POINT #9
9 14.50 TRV

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ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	H LUSK	H LUSK	RDA/H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN RDA/J CAMMARATA

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL
EXISTING CONDITIONS
WEST GLEBE ROAD

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-17
SHEET	17 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
9	6990476.101	11893742.799	14.50	TRV ROD & CAP
14	6990468.616	11893971.497	13.15	TRV MAG

0 20' 40' 60'
1" = 20'

CITY OF ALEXANDRIA
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	H LUSK	H LUSK	RDA/H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN	RDA/J CAMMARATA					

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS EAST GLEBE ROAD (SHEET 1 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-18
SHEET	18 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-18.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:08 PM

SURVEY CONTROL POINTS (THIS SHEET)				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
15	6990343.796	11894254.504	15.84	TRV MAG
16	6990132.873	11894536.950	21.39	TRV MAG

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

0 20' 40' 60'

1" = 20'

Map # 015.04-05-37
John W. Southard
Account: 1429300

Map # 015.04-05-36
Sadina A. Vanlson Wilkins Or
Lemuel E. Wilkins, Jr.
Account: 1429250

Map # 015.04-05-35
Rigoberto R. Sosa And
Blanca D. Fuentes And
Marvin L. Fuentes-Rios
Account: 5051010

Map # 015.04-05-34
Jameson David Cunningham And
Paige Winfield Cunningham
Account: 5051020

Map # 015.04-05-33
Michelle O. Gutzmer
Account: 1429150

Map # 015.04-05-51
Margaret Katz Or Alan Katz
Account: 6001750

Map # 015.04-05-52
David Weinred
Account: 6001757

Map # 015.04-05-31
Sophie E. Castro
Account: 1429050

Map # 015.04-05-53
Scott E. James And
David J. Blauvelt
Account: 6002390

Map # 015.04-05-54
Timothy James Beaty Or
Elizabeth Muller
Account: 6002391

Map # 015.04-05-29
William Keenan Torrans
Account: 1428950

Map # 016.03-07-39
East Glebe Mews Partnership
Account: 5062125

Map # 016.03-07-38
Prescott L. Eisele And Brooke A. Eisele
Account: 1428850

Map # 016.03-07-37
Edward Ray Norman, IV
Account: 1428800

Map # 015.04-04-00
Auburn Village Condominium
Account: 1434750

EAST GLEBE RD

Unknown

CONTROL POINT #15

Ex. Brick Retaining Wall

Ex. 15" RCP

Ex. 30" RCP

Ex. 24" RCP

Ex. 18" RCP

Ex. Steel Plate

Ex. Concrete Walk

Ex. Abandon Pole

PP #C1016 QA07

PP #C1018 QA07

PP #PA99

PP #PA98

PP #PA97

PP #PA96

PP #PA95

PP #PA94

PP #PA93

PP #PA92

NO.	DATE	REVISION	CHK	BY	APVD
	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	85% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			
DSGN	RDAJ CAMMARATA	DR	T WEINSTEIN	H LUSK	APVD
					RDA/H LUSK

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CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS
EAST GLEBE ROAD
(SHEET 2 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-19
SHEET	19 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-19.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:09 PM

SURVEY CONTROL POINTS (THIS SHEET)				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
17	6989990.966	11894725.245	25.76	TRV MAG
18	6989817.054	11894867.247	26.83	TRV MAG

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

0 20' 40' 60'

1" = 20'

EAST GLEBE RD

MONTROSE AVE

ASHBY ST

Map # 016.03-07-36 Erik Sorenson Account: 14287500

Map # 016.03-07-35 Jason A. Hinkle Account: 14286500

Map # 016.03-07-34 Jessica Burrell Account: 14286000

Map # 016.03-07-33 Brian M. Murphy, Tr. Account: 14285500

Map # 016.03-07-32 Thu Hang Thi Tran Or Phong The Nguyen Account: 14287000

Map # 016.03-07-31 Timothy J. Casey, Jr. And Allison E. Abney Account: 14285000

Map # 016.03-07-47 Michael Caison Account: 50582830

Map # 016.03-07-48 Wilson Kent Lambert & Christopher Murray Account: 50582820

Map # 016.03-07-49 EJM Holdings, LLC Account: 50582810

Map # 016.03-07-50 Dawn Lynn Ramsey And Owen Lewis Ford Account: 50582800

Map # 016.03-10-39 Arthur L. Plenty Account: 14345000

Map # 016.03-10-378 John Jr. & Dorothy Gray Account: 14345500

Map # 016.03-10-37 Farit C. Dalie Account: 14346000

Map # 016.03-10-36 Patricia Ann Tyler Account: 14331080

Map # 016.03-10-35 Matthew F. Croson Account: 14330500

Map # 016.03-10-34 Michele Z. Walz & Stephen A. Walz, Trustee Account: 14330000

Map # 016.03-10-33 Gutierrez Angela Cerrato & Rene Cerrato Account: 14329500

Map # 016.03-10-32 Richard S. Bottonari Account: 14329000

Map # 016.03-10-31 Corey Faherty & Lindsey Bachman Account: 14328500

Map # 016.03-09-13 Andrew Nguyen And Martha A. Nguyen Account: 13925500

Parcel ID: 016.03-09-12 Anita Fox Johnson Account: 13924000

Parcel ID: 016.03-09-11 Daniel L. Huizenga Account: 13912500

Map # 016.03-09-10 Christa Mar... Account: ...

Map # 025.01-01-79 Michael Malsz & Paula Wi...

Map # 015.04-0A-00 Auburn Village Condominium Account: 14347500

Map # 016.03-07-00 ...gy Norman, IV Account: 14288000

PP #QA84

PP #QA83

PP #QA82

PP #QA81

PP #QA61

2" GAS LINE (APPROXIMATE LOCATION)

GAS VALVE, APPROXIMATE LOCATION

CONTROL POINT #18

GAS VALVE, APPROXIMATE LOCATION

Ex. 15" RCP

Ex. 12" DIP

Ex. 10" DIP

Ex. 30" RCP

Ex. 18" RCP

Ex. 12" PVC

Ex. Concrete Walk

Ex. Brick Retaining Wall

Ex. C&G

Ex. 6"HC

GR-09

GR-10

TH #19

TH #20

TH #21

TH #22

17 25.76 TRV

18 26.83 TRV

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	CHK	BY
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA DR T WEINSTEIN CHK H LUSK BY APVD APVD RDA/H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314
N/A
E-IMPLEMENTATION
4

Jacobs

GENERAL

EXISTING CONDITIONS
EAST GLEBE ROAD
(SHEET 3 OF 3)

1"=20'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-20
SHEET	20 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-20.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:09 PM

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
18	6989817.054	11894867.247	26.83	TRV MAG
19	6989571.722	11894894.326	33.23	TRV MAG

N

0 20' 40' 60'

1" = 20'

MONTROSE AVE

EAST GLEBE RD

ASHBY ST

LAVERNE AVE

Parcel ID: 016.03-09-12
Anita Fox Johnson
Account: 13924000

Parcel ID: 025.01-01-10
Michelle D. Johannes
Account: 13927000

Parcel ID: 025.01-01-61
Jaeboon Park Or
Seongkyun Park
Account: 13963500

Parcel ID: 016.03-09-11
Daniel L. Huizenga
Account: 13912520

Parcel ID: 025.01-01-09
Alexander J. Hall And
Martha E. Hall
Account: 13914020

Parcel ID: 025.01-01-35
Michael G. Mitchell
Account: 139942500

Parcel ID: 025.01-01-60
Dumor Properties, LLC
Account: 13943000

Map # 016.03-09-10
Christa Marie Brzozowski
Account: 13912540

Parcel ID: 025.01-01-08
Matthew D. Morton And
Sarah Ann Taylor
Account: 13914040

Parcel ID: 025.01-01-36
Timothy L. Merrill And
Rodolfo F. Garcia
Account: 13942000

Map # 016.03-09-09
Joseph Berger And
Sara Pinder
Account: 13912512

Parcel ID: 025.01-01-07
Sasha L. Romanosky And
Theresa L. Romanosky
Account: 13914500

Parcel ID: 025.01-01-37
Rafael E. Lemaitre And
Elfije Salihu
Account: 13941500

Parcel ID: 025.01-01-59
Matthew A. Swartzwelder And
Matthew J. Reitz
Account: 13943500

Parcel ID: 025.01-01-38
CM Alexandria, LLC
Account: 13941000

Map # 016.03-09-08
Benjamin J. Correia And
Lauren F. Correia
Account: 13912510

Parcel ID: 025.01-01-06
Sasha L. Romanosky And
Theresa L. Romanosky
Account: 13915500

Parcel ID: 025.01-01-39
Coney D. Patterson, Tr.
Account: 13940500

Parcel ID: 025.01-01-58
Duane R. Shields
Account: 13944000

Map # 016.03-09-07
Vinay K. Oberoi And
Rashmi Diana Oberoi
Account: 13912000

Parcel ID: 025.01-01-05
Ursula McNamara
Account: 13915000

Parcel ID: 025.01-01-40
Deborah V. Khan
Account: 13940000

Parcel ID: 025.01-01-73
In The Estate of
Geneva V. Veney
Account: 50364510

Map # 016.03-09-06
Aaron Robert Cuny And
Lia Losonczy
Account: 13911500

Parcel ID: 025.01-01-71
Bradley E. H. Lentz And
Lindsey C. Robinson
Account: 13916020

Parcel ID: 025.01-01-41
Michael Swinney
Account: 13939500

Map # 016.03-09-05
Peggy A. Poncelet
Account: 13911000

Parcel ID: 025.01-01-42
Patrick Robertson
Account: 13939000

Parcel ID: 025.01-01-72
Harold G. Cook Or
Latania E. Cook
Account: 50364500

Map # 016.03-09-04
Cresencia A. Scache And
Daly Helen Scache
Account: 13910500

Parcel ID: 025.01-01-04
Marc W. Greenberg
Account: 13916010

Parcel ID: 025.01-01-43
Jennifer Watkins And
Amanda R. Simpson
Account: 13938500

Parcel ID: 025.01-01-55
Alison C. Damaskos Or
Dylan G. Raycroft
Account: 13945500

Map # 016.03-09-02
Carol Boyle And
Kevin Boyle
Account: 13909510

Parcel ID: 025.01-01-03
Mark S. Kasman
Account: 13916500

Parcel ID: 025.01-01-44
David S. Crowley And
Susan Kelly
Account: 13938000

Parcel ID: 025.01-01-54
Alison C. Damaskos Or

Map # 015.04-04-00
Auburn Village Condominium
Account: 1434500

MONTROSE AVE

Ex. Concrete Walk

Ex. 30" RCP

Ex. 10" DIP

Ex. 15" RCP

Ex. 12" PVC

Ex. Concrete/Stone Retaining Wall

Ex. Brick Retaining Wall

Ex. Wooden Picket Fence

Ex. Wood Fence

MA-01

MA-02

MA-03

MA-04

CONTROL POINT #18

CONTROL POINT #19

GAS VALVE, APPROXIMATE LOCATION

3/4" GAS LINE, APPROXIMATE LOCATION

ROADWAY LOW-POINT FLOOD AREA

Ex. 15" RCP

Ex. Concrete Walk

AS-08

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA DR T WEINSTEIN CHK H LUSK APVD RDA/H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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Jacobs

GENERAL

EXISTING CONDITIONS
MONTROSE AVE
(SHEET 1 OF 2)

1"=20'

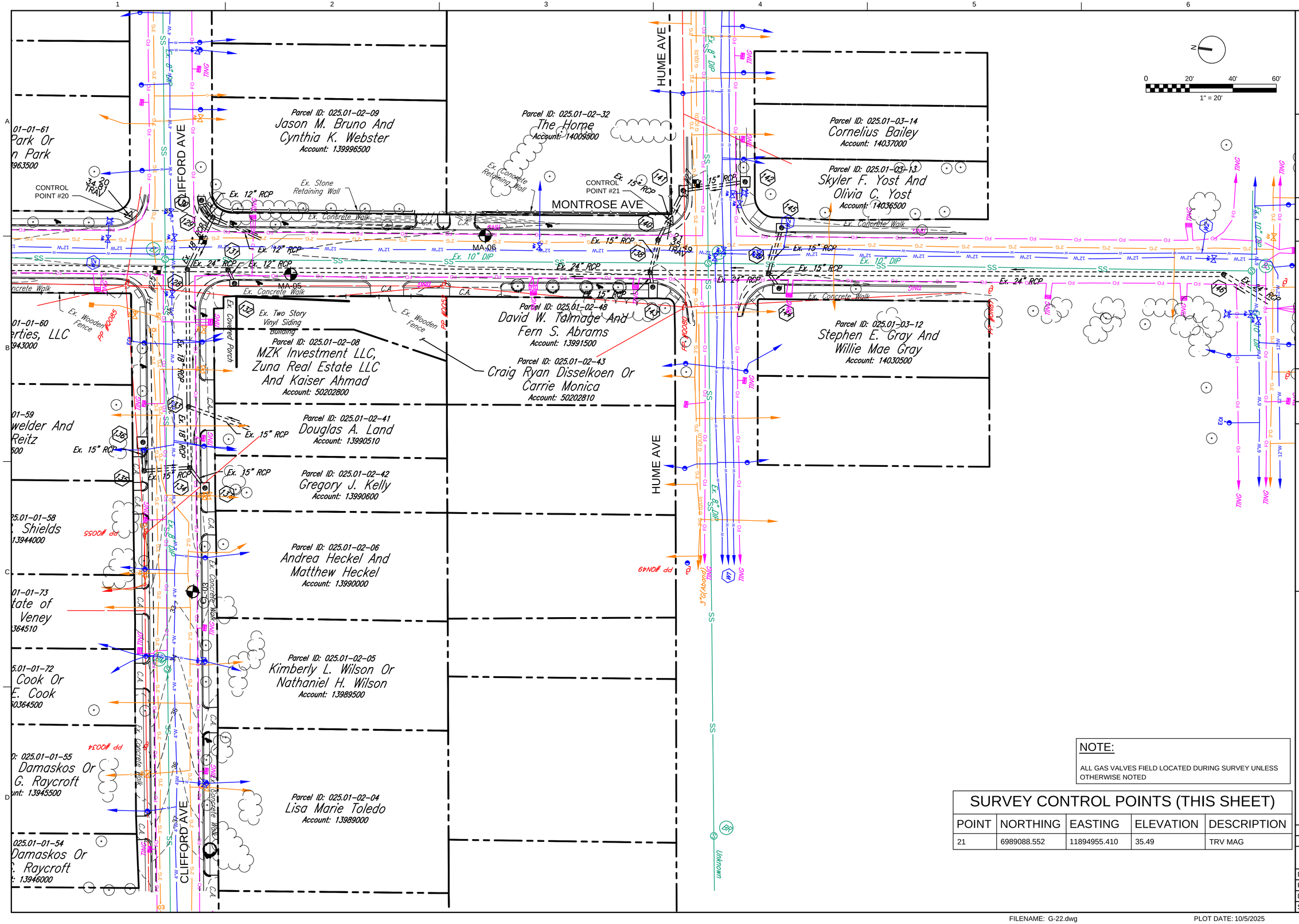
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-21
SHEET	21 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-21.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:09 PM



NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
21	6989088.552	11894955.410	35.49	TRV MAG

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	CHK
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDAJ CAMMARATA DR T WEINSTEIN CHK H LUSK APVD RDA/H LUSK APVD

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING CONDITIONS
MONTROSE AVE
(SHEET 2 OF 2)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-22
SHEET	22 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
17	6989990.966	11894725.245	25.76	TRV MAG
18	6989817.054	11894867.247	26.83	TRV MAG

N

0 20' 40' 60'

1" = 20'

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

Map # 015.04-06-02
Lisa M. Balzereit And

Map # 015.04-06-03
Balraj Bhasin And
Nicky P. Bhasin
Account: 1434900

Map # 015.04-0A-00
Auburn Village Condominium
Account: 14347500

ROADWAY LOW-POINT FLOOD AREA

EAST GLEBE RD

ASHBY ST

MONTROSE AVE

Map # 016.03-07-49
EJM Holdings, LLC
Account: 50582810

Map # 016.03-07-50
Owen Lyn Ramsey And
Account: 50582800

Timothy J. Case,
Allison E. Ab.
Account: 14285000

Wilson Kent Lambe
Christopher Murroy
Account: 50582820

Map # 024.02-03-18
Judith A. Munday
Account: 13907000

Map # 024.02-03-19
Shannon C. Doyle
Account: 13907500

Map # 024.02-03-20
Laurine D. Young And
Christopher T. Young
Account: 13908000

Map # 024.02-03-21
Laurine D. Young Or
Christopher T. Young
Account: 13908500

Map # 016.03-09-01
William H. Maurer, III
Account: 13909000

Map # 016.03-09-02
Carol Boyle And
Kevin Boyle
Account: 13909510

Map # 016.03-09-04
Cresencia A. Scache And
Daly Helen Scache
Account: 13910500

Map # 016.03-09-05
Peggy A. Poncelet
Account: 13911000

Map # 016.03-09-06
Aaron Robert Cuny And
Lia Losonczy
Account: 13911500

Map # 016.03-09-07
Vinay K. Oberoi And
Rashmi Diana Oberoi
Account: 13912000

Map # 016.03-09-08
Benjamin J. Correia And
Lauren F. Correia
Account: 13912510

Map # 016.03-09-09
Joseph Berger And
Sara Pinder
Account: 13912512

Map # 016.03-09-10
Christa Marie Brzozowski
Account: 13912540

Parcel ID: 016.03-09-11
Daniel L. Huizenga
Account: 13912520

Parcel ID: 025.01-01-
Alexander
Matthe
Account

Parcel ID: 025.01-01-
Matthew
Sarah Ann Lo
Account: 13914040

Parcel ID: 025.01-01-
Sasha L. Romanos
Theresa L. Roma
Account: 13914500

Parcel ID: 025.01-
Sasha L. Roma
Theresa L. Rom
Account: 1391

Parcel ID: 025.0
Bradley E. H.
Lindsey C. H
Account: 139

Parcel ID: 025.01-
Ursula McN
Account: 1391

Parcel ID: 025.0
Marc W. G
Account: 1

Parcel ID: 0
Mark S.
Account:

Parcel ID: 02
Walter L. G
Julia A.
Account:

Ex. 30" RCP
Ex. 15" RCP
Ex. 12" RCP
Ex. 10" RCP
Ex. 24" RCP
Ex. 15" RCP
Ex. 30" RCP
Ex. 10" SS
Ex. 15" RCP
Ex. 30" RCP
Ex. 15" RCP
Ex. 15" RCP
Ex. 30" RCP
Ex. 30" RCP
Ex. 10" SS
Ex. 15" RCP
Ex. 15" RCP
Ex. 15" RCP

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

GENERAL
EXISTING CONDITIONS
LA VERNE AVENUE

Jacobs

NO.	DATE	REVISION	BY	CHK	APVD
	09/2023	30% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	11/2024	85% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	10/2025	100% SUBMITTAL			

DSGN: RDAJ CAMMARATA | DR: T WEINSTEIN | CHK: H LUSK | APVD: RDAJH LUSK

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. IF NOT ONE INCH ON THIS SHEET ADJUST SCALE ACCORDINGLY

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-24
SHEET	24 of 158

PLOT TIME: 9:17 PM
PLOT DATE: 10/5/2025
FILENAME: G-24.dwg

Parcel ID: 016.03-09-12
Anita Fox Johnson
Account: 13924000

Parcel ID: 025.01-01-10
Michelle D. Johannes
Account: 13927000

Parcel ID: 025.01-01-34
Ellen P. Nelson, Tr.
Account: 13952500

MONTROSE AVE

LA VERNE AVE

CONTROL POINT #19

Ex. Concrete/Stone Retaining Wall

Ex. 15" RCP

Ex. Concrete Walk

Ex. 10" DIP

Ex. 30" RCP

MA-01

MA-02

MA-03

MA-04

Parcel ID: 016.03-09-11
Daniel L. Huizenga
Account: 13912520

Ex. Wooden Picket Fence

Parcel ID: 025.01-01-09
Alexander J. Hall And
Martha E. Hall
Account: 13914020

Parcel ID: 025.01-01-35
Michael G. Mitchell
Account: 139942500

Map # 016.03-09-10
Christa Marie Brzozowski
Account: 13912540

Parcel ID: 025.01-01-08
Matthew D. Morton And
Sarah Ann Taylor
Account: 13914040

Parcel ID: 025.01-01-36
Timothy L. Merrill And
Rodolfo F. Garcia
Account: 13942000

Map # 016.03-09-09
Joseph Berger And
Sara Pinder
Account: 13912512

Parcel ID: 025.01-01-07
Sasha L. Romanosky And
Theresa L. Romanosky
Account: 13914500

Unknown

Ex. 15" RCP

Parcel ID: 025.01-01-37
Rafael E. Lemaitre And
Elfije Salihu
Account: 13941500

Map # 016.03-09-08
Jamin J. Correia And
Lauren F. Correia
Account: 13912510

Parcel ID: 025.01-01-06
Sasha L. Romanosky And
Theresa L. Romanosky
Account: 13915500

Parcel ID: 025.01-01-38
CM Alexandria, LLC
Account: 13941000

SOT GAS LINE APPROXIMATE LOCATION

Map # 016.03-09-07
Jay K. Oberoi And
Ashmi Diana Oberoi
Account: 13912000

Parcel ID: 025.01-01-05
Ursula McNamara
Account: 13915000

Parcel ID: 025.01-01-39
Coney D. Patterson, Tr.
Account: 13940500

Parcel ID: 025.01-01-40
Deborah V. Khan
Account: 13940000

Map # 016.03-09-06
Aaron Robert Cuny And
Lia Losonczy
Account: 13911500

Parcel ID: 025.01-71
Bradley E. H. Lentz And
Lindsey C. Robinson
Account: 13916020

Parcel ID: 025.01-01-41
Michael Swinney
Account: 13939500

Map # 016.03-09-05
Peggy A. Poncelet
Account: 13911000

Parcel ID: 025.01-01-42
Patrick Robertson
Account: 13939000

Map # 016.03-09-04
Marcia A. Scache And
Guy Helen Scache
Account: 13910500

Parcel ID: 025.01-01-04
Marc W. Greenberg
Account: 13916010

Parcel ID: 025.01-01-43
Jennifer Watkins And
Amanda R. Simpson
Account: 13938500

Map # 016.03-09-02
Carol Boyle And

Parcel ID: 025.01-01-03
Mark S. Kasman
Account: 13916500

Parcel ID: 025.01-01-44
David S. Crowley And
Susan Kelly
Account: 13938000

Parcel ID: 025.01.01-02
Walter L. Gaskins And
Julia A. Gaskins
Account: 13917000

Parcel ID: 025.01-01-45
Teresa A. Rowe
Account: 13937500

Ex. 8" DIP

LA-03

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
19	6989571.722	11894894.326	33.23	TRV MAG

NOTE:
ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

N

1" = 20'

0 20' 40' 60'

A B C D

1 2 3 4 5 6

SURVEY CONTROL POINTS (THIS SHEET)

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
20	6989335.747	11894925.500	34.81	TRV MAG

NOTE:

ALL GAS VALVES FIELD LOCATED DURING SURVEY UNLESS OTHERWISE NOTED

N

0 20' 40' 60'

1" = 20'

CONTROL POINT #20

CLIFFORD AVE

MONTROSE AVE

HUME AVE

CL-02

CL-03

Parcel ID: 025.01-01-61 Jaeboon Park Or Seongkyun Park Account: 13963500

Parcel ID: 025.01-01-60 Dumor Properties, LLC Account: 13943000

Parcel ID: 025.01-01-59 Matthew A. Swartzwelder And Matthew J. Reitz Account: 13943500

Parcel ID: 025.01-01-58 Duane R. Shields Account: 13944000

Parcel ID: 025.01-01-73 In The Estate of Geneva V. Veney Account: 50364510

Parcel ID: 025.01-01-72 Harold G. Cook Or Tania E. Cook Account: 50364500

Parcel ID: 025.01-01-55 Dylan C. Damaskos Or Dylan G. Raycroft Account: 13945500

Parcel ID: 025.01-01-54 In C. Damaskos Or In G. Raycroft Account: 13946000

Parcel ID: 025.01-02-09 Jason M. Bruno And Cynthia K. Webster Account: 13999500

Parcel ID: 025.01-02-08 MZK Investment LLC, Zuna Real Estate LLC And Kaiser Ahmad Account: 50202800

Parcel ID: 025.01-02-41 Douglas A. Land Account: 13990510

Parcel ID: 025.01-02-42 Gregory J. Kelly Account: 13990600

Parcel ID: 025.01-02-06 Andrea Heckel And Matthew Heckel Account: 13990000

Parcel ID: 025.01-02-05 Kimberly L. Wilson Or Nathaniel H. Wilson Account: 13989500

Parcel ID: 025.01-02-04 Lisa Marie Toledo Account: 13989000

Parcel ID: 025.01-02-43 Craig Ryan Disselkoen Or Carrie Monica Account: 50202810

Parcel ID: 025.01-02-48 David W. Talmage And Fern S. Abrams Account: 13991500

Parcel ID: 025.01-02-32 The Home Account: 14006500

Ex. Concrete Walk

Ex. Wooden Fence

Ex. Covered Porch

Ex. Two Story Vinyl Siding Building

Ex. Stone Retaining Wall

Ex. Concrete Retaining Wall

Unknown

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
1	10/2025	100% SUBMITTAL	RDA/J CAMMARATA	T WEINSTEIN	H LUSK	APVD
2	04/2025	90% SUBMITTAL				RDA/H LUSK
3	11/2024	65% SUBMITTAL				
4	05/2024	60% SUBMITTAL				
5	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

EXISTING CONDITIONS
CLIFFORD AVENUE
AND HUME AVENUE

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-25
SHEET	25 of 158

FILENAME: G-25.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:17 PM

Revised September 12, 2023

Storm As-built

Str. #	1	Ex. End Wall			Point #	50245
		Ex. Top=	2.86		Dip	
		Ex. Inv. Out=	-1.37	(27" RCP from 2)	4.23	
Str. #	2	Ex. Storm Vault **			Point #	50472
		Ex. Top=	10.10		Dip	
		Ex. Inv. @ weir=	6.51	(Elevation between chambers)	3.59	
		Ex. Inv. In=	-0.56	(* from West)	10.66	
		Ex. Inv. In=	-0.27	(* from 3)	10.37	
		Ex. Inv. Out=	-0.48	(27" RCP to 1)	10.58	
		*Unable to obtain, confined space permit required.				
		** Weir type concrete wall separate the vault into two				
		separate chambers.				
Str. #	3	Ex. Manhole			Point #	50459
		Ex. Top=	10.07		Dip	
		Ex. Inv. Out @ C/L=	-0.28	(** to 2)	10.35	
		** Unable to obtain, confined space permit required.				
Str. #	3A	Ex. Manhole **			Point #	50457
		Ex. Top=	10.28		Dip	
		Ex. Inv. @ C/L=	-0.14		10.42	
		** Manhole appears to be abandon.				
Str. #	4	Ex. Manhole			Point #	50358
		Ex. Top=	9.79		Dip	
		Ex. Inv. In=	1.44	(48" RCP from 5)	8.35	
		Ex. Inv. Out=	1.32	(48" RCP to West)	8.47	
Str. #	5	Ex. Curb Inlet			Point #	50381
		Ex. Top=	9.23		Dip	
		Ex. Inv. In=	**	(48" RCP from 6)		
		Ex. Inv. In=	4.42	(** from 8)	4.81	
		Ex. Inv. Out=	2.27	(48" RCP to 4)	6.96	
		** Unable to obtain, confined space permit required.				
Str. #	6	Ex. Yard Inlet **			Point #	50291
		Ex. Top=	10.31		Dip	
		Ex. Inv. In=	3.14	(36" RCP from 10)	7.17	
		Ex. Inv. @ Throat (A)=	9.59	(Throat Dim. 3.85' x 0.70')		
		Ex. Inv. In=	4.21	(30" RCP from 7)	6.10	
		Ex. Inv. @ Throat (B)=	9.29	(Throat Dim. 3.85' x 0.70')		
		Ex. Inv. @ Throat (C)=	9.40	(Throat Dim. 3.85' x 0.70')		
		Ex. Inv. Out=	2.19	(48" RCP to 5)	8.12	
		**All the throats are full debris.				
Str. #	8	Ex. Curb Inlet			Point #	50321
		Ex. Top=	11.60		Dip	
		Ex. Inv. In=	6.32	(15" RCP from 9)	5.28	
		Ex. Inv. Out=	5.94	(** to 5)	5.66	
		** Unable to obtain, confined space permit required.				
Str. #	9	Ex. Yard Inlet **			Point #	50274
		Ex. Top=	11.05		Dip	
		Ex. Inv. Out=	6.74	(15" RCP to 8)	4.31	
		**Top of structure has shifted off its base.				
Str. #	10	Ex. Yard Inlet **			Point #	25379
		Ex. Top=	11.36		Dip	
		Ex. Inv. In=	4.99	(36" RCP from 13)	6.37	
		Ex. Inv. In=	7.03	(15" RCP from 11)	4.33	
		Ex. Inv. Out=	4.97	(36" RCP to 6)	6.39	
		** Unable to obtain throat dimensions, base is broken.				
Str. #	11	Ex. Curb Inlet			Point #	50553
		Ex. Top=	10.99		Dip	
		Ex. Inv. In=	7.86	(12" PVC from 12)	3.13	
		Ex. Inv. Out=	7.76	(15" RCP to 10)	3.23	
Str. #	12	Ex. Inv. In=	9.16	(12" PVC to 11)	Point #	50599
Str. #	12A	Ex. Inv. In=	9.01	(15" RCP from 12B)	Point #	51055
Str. #	12B	Ex. Inv. In=	9.33	(15" RCP to 12A)	Point #	25331
Str. #	13	Ex. Yard Inlet			Point #	25200
		Ex. Top=	12.44		Dip	
		Ex. Inv. In=	6.72	(30" RCP from 16)	5.72	
		Ex. Inv. @ Throat (A)=	11.28	(Throat Dim. 3.85' x 0.45')		
		Ex. Inv. In=	7.90	(** from 14)	4.54	
		Ex. Inv. @ Throat (B)=	11.67	(Throat Dim. 3.85' x 0.45')		
		Ex. Inv. @ Throat (C)=	11.69	(Throat Dim. 3.85' x 0.45')		
		Ex. Inv. Out=	6.29	(36" RCP to 16)	6.15	
		Ex. Inv. @ Throat (D)=	11.19	(Throat Dim. 3.85' x 0.45')		
		** Unable to obtain, confined space permit required.				

Str. #	14	Ex. Curb Inlet			Point #	25215
		Ex. Top=	11.43		Dip	
		Ex. Inv. In=	7.91	(15" RCP from 15)	3.52	
		Ex. Inv. Out=	7.91	(** to 13)	3.52	
		** Unable to obtain, confined space permit required.				
Str. #	15	Ex. Curb Inlet			Point #	25082
		Ex. Top=	11.54		Dip	
		Ex. Inv. Out=	8.33	(15" RCP to 14)	3.21	
Str. #	16	Ex. Yard Inlet			Point #	30000
		Ex. Top=	11.94		Dip	
		Ex. Inv. In=	7.67	(36" RCP from 22)	4.27	
		Ex. Inv. @ Throat (C)=	10.85	(Throat Dim. 3.30' x 0.55')		
		Ex. Inv. In=	8.66	(18" RCP from 17)	3.28	
		Ex. Inv. @ Throat (A)=	10.85	(Throat Dim. 3.30' x 0.55')		
		Ex. Inv. In=	9.10	(12" RCP from 20)	2.84	
		Ex. Inv. @ Throat (B)=	11.11	(Throat Dim. 3.30' x 0.55')		
		Ex. Inv. Out=	7.54	(30" RCP to 13)	4.40	
		Ex. Inv. @ Throat (D)=	10.86	(Throat Dim. 3.30' x 0.55')		
Str. #	17	Ex. Yard Inlet			Point #	30300
		Ex. Top=	12.56		Dip	
		Ex. Inv. In=	9.59	(15" RCP from 18)	2.97	
		Ex. Inv. In=	10.19	(12" PVC from 19)	2.37	
		Ex. Inv. @ Throat (A)=	11.79	(Throat Dim 4.20' x 0.37')		
		Ex. Inv. Out=	9.41	(18" RCP to 16)	3.15	
Str. #	18	Ex. Curb Inlet			Point #	30263
		Ex. Top=	13.17		Dip	
		Ex. Inv. Out=	10.29	(15" RCP to 17)	2.88	
Str. #	19	Ex. Curb Inlet			Point #	30206
		Ex. Top=	13.05		Dip	
		Ex. Inv. Out=	10.68	(12" PVC to 17)	2.37	
Str. #	20	Ex. Curb Inlet			Point #	50632
		Ex. Top=	12.12		Dip	
		Ex. Inv. Out=	9.60	(12" RCP to 16)	2.52	
Str. #	21	Possible underground connection			Point #	
Str. #	22	Ex. Manhole			Point #	50633
		Ex. Top=	12.42		Dip	
		Ex. Inv. In=	8.32	(36" RCP from East)	4.10	
		Ex. Inv. Out=	8.16	(36" RCP to 16)	4.26	
Str. #	23	Ex. Curb Inlet			Point #	25003
		Ex. Top=	12.77		Dip	
		Ex. Inv. Out=	8.51	(15" RCP to 21)	4.26	
Str. #	24	Ex. Curb Inlet			Point #	31500
		Ex. Top=	12.28		Dip	
		Ex. Inv. In=	8.60	(12" RCP from 25)	3.68	
		Ex. Inv. In=	8.48	(12" RCP from North)	3.80	
		Ex. Inv. Out=	8.28	(12" PVC to Southwest)	4.00	
Str. #	25	Ex. Curb Inlet			Point #	31495
		Ex. Top=	12.85		Dip	
		Ex. Inv. Out=	8.65	(12" RCP to 24)	4.20	
Str. #	26	Ex. Manhole			Point #	30816
		Ex. Top=	12.34		Dip	
		Ex. Inv. In=	5.87	(48" RCP from 30)	6.47	
		Ex. Inv. In=	6.21	(8" RCP from Southwest)	6.13	
		Ex. Inv. In=	7.23	(24" RCP from 27)	5.11	
		Ex. Inv. Out=	5.78	(48" RCP to Northwest)	6.56	
Str. #	27	Ex. Manhole			Point #	30630
		Ex. Top=	13.06		Dip	
		Ex. Inv. In=	8.11	(24" RCP from 28)	4.95	
		Ex. Inv. In=	8.63	(15" PVC from 29)	4.43	
		Ex. Inv. Out=	8.08	(24" RCP to 26)	4.98	
Str. #	28	Ex. Curb Inlet			Point #	30382
		Ex. Top=	12.68		Dip	
		Ex. Inv. Out=	8.93	(24" RCP to 27)	3.75	
Str. #	29	Ex. Curb Inlet			Point #	30670
		Ex. Top=	12.99		Dip	
		Ex. Inv. Out=	9.18	(15" PVC to 27)	3.81	
Str. #	30	Ex. Manhole			Point #	30789
		Ex. Top=	12.67		Dip	
		Ex. Inv. In=	5.91	(48" from 31)	6.76	
		Ex. Inv. Out=	5.87	(48" RCP to 26)	6.80	

Str. #	31	Ex. Manhole			Point #	30837
		Ex. Top=	13.43		Dip	
		Ex. Inv. In=	9.18	(21" DIP from 34)	4.25	
		Ex. Inv. In=	**	(** from 32)		
		Ex. Inv. Out=	**	(48" RCP to 30)		
		** Unable to obtain, confined space permit required.				
Str. #	32	Ex. Manhole			Point #	30964
		Ex. Top=	14.18		Dip	
		Ex. Inv. @ C/L=	8.00		6.18	
		** Unable to obtain, confined space permit required.				
Str. #	33	Ex. Manhole			Point #	30932
		Ex. Top=	13.93		Dip	
		Ex. Inv. In @ C/L=	8.89	(** from 72)	5.04	
		Ex. Inv. Out @ C/L=	8.89	(** to 32)	5.04	
		** Unable to obtain, confined space permit required.				
Str. #	34	Ex. Manhole			Point #	30931
		Ex. Top=	13.77		Dip	
		Ex. Inv. In @ C/L=	8.49	(18" RCP from 67)	5.28	
		Ex. Inv. Out @ C/L=	8.49	(21" DIP to 31)	5.28	
		** Unable to obtain, confined space permit required.				
Str. #	35	Ex. Curb Inlet			Point #	31100
		Ex. Top=	13.94		Dip	
		Ex. Inv. Out=	10.64	(18" RCP to Northwest)	3.30	
Str. #	36	Ex. Manhole			Point #	30967
		Ex. Top=	14.74		Dip	
		** Unable to obtain, confined space permit required.				
Str. #	36A	Ex. Curb Inlet			Point #	
		No ability to access storm structure, no lid.				
Str. #	37	Ex. Manhole			Point #	31254
		Ex. Top=	15.77		Dip	
		Ex. Inv. In=	12.17	(12" RCP from 38)	3.60	
		Ex. Inv. Out=	13.83	(15" RCP to East)	1.94	
Str. #	38	No ability to access storm structure, no lid.			Point #	
Str. #	39	Ex. Manhole			Point #	31293
		Ex. Top=	16.28		Dip	
		Ex. Inv. In=	13.72	(12" RCP from 41)	2.56	
		Ex. Inv. In=	13.22	(15" RCP from 40)	3.06	
		Ex. Inv. Out=	10.99	(15" RCP to East)	5.29	
Str. #	40	Ex. Curb Inlet			Point #	31283
		Ex. Top=	16.67		Dip	
		Ex. Inv. Out=	13.38	(15" RCP to 39)	3.29	
Str. #	41	**Unable obtain inverts, no storm structure lid.			Point #	
Str. #	42	Ex. Curb Inlet **			Point #	25469
		Ex. Top=	16.05		Dip	
		**A plastic liner is preventing us to obtain inverts or pipe direction.				
Str. #	43	Ex. Curb Inlet **			Point #	25473
		Ex. Top=	15.91		Dip	
		Ex. Inv. Out=	13.44	(15" RCP to Northwest)	2.47	
		** Full of debris.				
Str. #	44	Ex. Manhole			Point #	35415
		Ex. Top=	17.78		Dip	
		Ex. Inv. In @ C/L=	11.23	(54" RCP from 101)	6.55	
		Ex. Inv. Out @ C/L=	11.23	(54" RCP to 32)	6.55	
		** Unable to obtain, confined space permit required.				
Str. #	45	Ex. Curb Inlet			Point #	35306
		Ex. Top=	17.69		Dip	
		Ex. Inv. Out=	13.84	(15" RCP to West)	3.85	
Str. #	46	**Unable obtain inverts, no storm structure lid.			Point #	
Str. #	47	Ex. Manhole			Point #	20134/1-25065
		Ex. Top=	18.39		Dip	
		Ex. Inv. In=	15.86	(42" x 27" ERCP from 48)	2.53	
		Ex. Inv. Out=	15.74	(** to East)	2.65	
		** Unable to obtain, confined space permit required.				
Str. #	48	Ex. Curb Inlet **			Point #	26770
		Ex. Top=	24.26		Dip	
		Ex. Inv. In=	19.15	(18" RCP from North)	5.11	
		Ex. Inv. In=	18.87	(** from 48A)	5.39	
		Ex. Inv. Out @ C/L=	18.20	(42" x 27" ERCP from 47)	6.06	
		** Unable to obtain, confined space permit required.				

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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	85% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA | DR T WEINSTEIN | CHK H LUSK | APVD RDA/H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING STORM STRUCTURE TABLE (SHEET 1 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-26
SHEET	26 of 158

Str. #	48A	Ex. Curb Inlet				Point #	26936
		Ex. Top=	26.13			Dip	
		Ex. Inv. In=	19.91	(48" RCP from Southwest)		6.22	
		Ex. Inv. Out=				6.24	
		** Unable to obtain, confined space permit required.					
Str. #	49	Ex. Manhole				Point #	35029
		Ex. Top=	18.94			Dip	
		Ex. Inv. In=	15.50	(15" RCP from West)		3.44	
		Ex. Inv. In=	15.17	(15" RCP from 50)		3.77	
		Ex. Inv. Out=	14.37	(15" RCP to East)		4.57	
Str. #	50	Ex. Curb Inlet				Point #	35075
		Ex. Top=	19.17			Dip	
		Ex. Inv. In=	15.97	(15" RCP from 51)		3.20	
		Ex. Inv. Out=	15.51	(15" RCP to 49)		3.66	
Str. #	51	Ex. Curb Inlet				Point #	20134/1-25070
		Ex. Top=	22.39			Dip	
		Ex. Inv. Out=	18.39	(15" RCP to 50)		4.00	
Str. #	52	Ex. Manhole				Point #	35022
		Ex. Top=	19.19			Dip	
		Ex. Inv. In=	16.47	(12" RCP from East)		2.72	
		Ex. Inv. Out=	15.37	(15" RCP to West)		3.82	
Str. #	60	Ex. Curb Inlet				Point #	25985
		Ex. Top=	12.60			Dip	
		Ex. Inv. In=	8.97	(15" RCP from 61)		3.63	
		Ex. Inv. In=	10.60	(12" RCP from Southeast)		2.00	
		Ex. Inv. Out=	9.04	(15" RCP to North)		3.56	
Str. #	61	Ex. Curb Inlet				Point #	26037
		Ex. Top=	12.45			Dip	
		Ex. Inv. In=	9.93	(15" RCP from 62)		2.52	
		Ex. Inv. In=	9.95	(15" RCP from 63)		2.50	
		Ex. Inv. In=	10.50	(12" RCP from Southeast)		1.95	
		Ex. Inv. Out=	9.70	(15" RCP to 60)		2.75	
Str. #	62	Ex. Yard Inlet				Point #	26038
		Ex. Top=	13.78			Dip	
		Ex. Inv. @ Throat (A)=	12.64	(Throat Dim. 4.00' x 0.60')			
		Ex. Inv. @ Throat (B)=	12.62	(Throat Dim. 4.00' x 0.60')			
		Ex. Inv. @ Throat (C)=	12.48	(Throat Dim. 4.00' x 0.60')			
		Ex. Inv. Out=	9.97	(15" RCP to 61)		3.81	
Str. #	63	Ex. Curb Inlet				Point #	A-25008
		Ex. Top=	14.31			Dip	
		Ex. Inv. Out=	10.51	(15" RCP to 61)		3.80	
Str. #	64	Ex. Manhole				Point #	25942
		Ex. Top=	13.62			Dip	
		Ex. Inv. @ C/L=	7.06			6.56	
		** Unable to obtain, confined space permit required.					
Str. #	65	Ex. Manhole				Point #	25941
		Ex. Top=	12.59			Dip	
		Ex. Inv. @ C/L=	7.69			4.90	
		** Unable to obtain, confined space permit required.					
Str. #	66	Ex. Manhole				Point #	25920
		Ex. Top=	13.08			Dip	
		Ex. Inv. @ C/L=	7.28			5.80	
		** Unable to obtain, confined space permit required.					
Str. #	67	Ex. Curb Inlet				Point #	51419
		Ex. Top=	13.09			Dip	
		Ex. Inv. In=	9.69	(18" RCP from 68)		3.40	
		Ex. Inv. Out=	9.56	(18" RCP to 34)		3.53	
Str. #	68	Ex. Curb Inlet				Point #	51458
		Ex. Top=	12.98			Dip	
		Ex. Inv. In=	10.00	(15" DIP from 69)		2.98	
		Ex. Inv. Out=	9.96	(18" RCP to 67)		3.02	
Str. #	69	Ex. Manhole				Point #	51529
		Ex. Top=	13.32			Dip	
		Ex. Inv. In=	10.42	(15" DIP from 71)		2.90	
		Ex. Inv. In=	10.42	(15" DIP from 70)		2.90	
		Ex. Inv. Out=	10.36	(15" DIP to 68)		2.96	
Str. #	70	Ex. Curb Inlet				Point #	51398
		Ex. Top=	13.90			Dip	
		Ex. Inv. Out=	10.70	(15" DIP to 69)		3.20	
Str. #	71	Ex. Curb Inlet				Point #	51515
		Ex. Top=	13.98			Dip	
		Ex. Inv. Out=	10.73	(15" DIP to 69)		3.25	

Str. #	72	Ex. Manhole				Point #	51528
		Ex. Top=	13.62			Dip	
		Ex. Inv. In @ C/L=	9.62	(** from 73)		4.00	
		Ex. Inv. Out @ C/L=	9.62	(** to 33)		4.00	
		** Unable to obtain, confined space permit required.					
Str. #	73	Ex. Manhole				Point #	51307
		Ex. Top=	14.51			Dip	
		Ex. Inv. In @ C/L=	10.17	(** from Southeast)		4.34	
		Ex. Inv. Out @ C/L=	10.17	(** to 72)		4.34	
		** Unable to obtain, confined space permit required.					
Str. #	74	Ex. Storm Grate				Point #	51564
		Ex. Top=	15.14			Dip	
		Ex. Inv. Out @ C/L=	11.54	(** to South)		3.60	
		** Unable to remove grates.					
Str. #	75	Ex. Manhole				Point #	31195
		Ex. Top=	13.38			Dip	
		Ex. Inv. In=	9.23	(24" RCP from 76)		4.15	
		Ex. Inv. In=	9.18	(30" RCP from 77)		4.20	
		Ex. Inv. Out=	9.06	(30" RCP to Northwest)		4.32	
Str. #	76	Ex. Manhole				Point #	51549
		Ex. Top=	14.20			Dip	
		Ex. Inv. In=	10.05	(24" RCP from Southwest)		4.15	
		Ex. Inv. Out=	9.95	(24" RCP to 75)		4.25	
Str. #	77	Ex. Curb Inlet				Point #	51226
		Ex. Top=	12.90			Dip	
		Ex. Inv. In @ C/L=	10.56	(** from 78)		2.34	
		Ex. Inv. Out @ C/L=				3.06	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					
Str. #	78	Ex. Curb Inlet *				Point #	51255
		Ex. Top=	13.09			Dip	
		Ex. Inv. @ C/L=	9.94	(** from 79)		3.15	
		Ex. Inv. Out @ C/L=	9.94	(** to 77)		3.15	
		Ex. Inv. @ Bot. Str.=	10.79	(Bottom of structure)		2.30	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					
Str. #	79	Ex. Curb Inlet *				Point #	A-25029
		Ex. Top=	13.50			Dip	
		Ex. Inv. In @ C/L =	10.20	(** from 80)		3.30	
		Ex. Inv. Out @ C/L=	10.20	(** to 78)		3.30	
		Ex. Inv. @ Bot. Str.=	11.32	(Bottom of structure)		2.18	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					
Str. #	80	Ex. Curb Inlet				Point #	51773
		Ex. Top=	14.54			Dip	
		Ex. Inv. In=	11.83	(15" RCP from 81)		2.71	
		Ex. Inv. In=	10.97	(30" RCP from 82)		3.57	
		Ex. Inv. Out=	10.91	(30" RCP to 79)		3.63	
Str. #	81	Ex. Curb Inlet				Point #	A-25026
		Ex. Top=	16.10			Dip	
		Ex. Inv. Out=	12.32	(15" RCP to 80)		3.78	
Str. #	82	Ex. Manhole				Point #	51756
		Ex. Top=	14.92			Dip	
		Ex. Inv. In=	11.35	(30" RCP from 83)		3.57	
		Ex. Inv. In=	12.60	(15" RCP from 82A)		2.32	
		Ex. Inv. Out=	11.26	(30" RCP to 80)		3.66	
Str. #	82A	Ex. Manhole				Point #	51801
		Ex. Top=	17.77			Dip	
		Ex. Inv. Out=	15.12	(15" RCP to 82)		2.65	
Str. #	83	Ex. Curb Inlet *				Point #	26244
		Ex. Top=	16.13			Dip	
		Ex. Inv. In @ C/L=	12.63	(** from 84)		3.50	
		Ex. Inv. Out @ C/L=	12.63	(** to 82)		3.50	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					

Str. #	84	Ex. Curb Inlet *				Point #	26267
		Ex. Top=	17.77			Dip	
		Ex. Inv. In @ C/L=	14.65	(** from 85)		3.12	
		Ex. Inv. Out @ C/L=	14.65	(** to 83)		3.12	
		Ex. Inv. @ Bot. Str.=	14.15	(Bottom of structure)		3.62	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					
Str. #	85	Ex. Curb Inlet				Point #	26125
		Ex. Top=	21.41			Dip	
		Ex. Inv. In=	18.55	(15" RCP from 86)		2.86	
		Ex. Inv. In=	**	(15" RCP from 87)			
		Ex. Inv. Out=	17.78	(** to 84)		3.63	
		Ex. Inv. @ Bot. Str.=	17.13	(Bottom of structure)		4.28	
		* Pipes are offset to the rear of storm structure.					
		** Unable to obtain, confined space permit required.					
Str. #	86	Ex. Curb Inlet				Point #	26194
		Ex. Top=	22.71			Dip	
		Ex. Inv. Out=	18.71	(15" RCP to 85)		4.00	
Str. #	87	Ex. Manhole				Point #	26100
		Ex. Top=	23.99			Dip	
		Ex. Inv. In=	17.99	(15" RCP from North)		6.00	
		Ex. Inv. In=	17.59	(30" RCP from 88)		6.40	
		Ex. Inv. Out=	17.37	(30" RCP to 85)		6.62	
Str. #	88	Ex. Manhole				Point #	52081
		Ex. Top=	25.05			Dip	
		Ex. Inv. Bot. Str.=	19.90	(Bottom of structure)		5.15	
		Ex. Inv. In=	**	(** from 98)			
		Ex. Inv. In=	20.14	(** from 90)		4.91	
		Ex. Inv. In=	20.15	(15" RCP from 89)		4.90	
		Ex. Inv. Out=	19.94	(30" RCP to 87)		5.11	
		** Unable to obtain, confined space permit required.					
Str. #	89	Ex. Curb Inlet				Point #	
		Ex. Top=	24.75			Dip	
		Ex. Inv. Bot. Str.=	20.72	(Bottom of structure)		4.03	
		Ex. Inv. Out=	21.41	(15" RCP to 88)		3.34	
Str. #	90	Ex. Manhole				Point #	26570
		Ex. Top=	26.73			Dip	
		Ex. Inv. In @ C/L=	21.05	(** from 93)		5.68	
		Ex. Inv. In @ C/L=	21.05	(** from 91)		5.68	
		Ex. Inv. Out @ C/L=	21.05	(** to 88)		5.68	
		** Unable to obtain, M.O.T. required.					
Str. #	91	Ex. Manhole				Point #	26571
		Ex. Top=	26.95			Dip	
		Ex. Inv. In @ C/L=	21.31	(** from 92)		5.64	
		Ex. Inv. Out @ C/L=	21.31	(** to 90)		5.64	
		** Unable to obtain, M.O.T. required.					
Str. #	92	Ex. Manhole				Point #	26573
		Ex. Top=	26.27			Dip	
		Ex. Inv. In=	21.77	(15" RCP from 92C)		4.50	
		Ex. Inv. In=	21.71	(15" RCP from 92A)		4.56	
		Ex. Inv. In=				4.15	
		Ex. Inv. Out=	21.68	(** to 91)		4.59	
		** Unable to obtain, M.O.T. required.					
Str. #	92A	Ex. Manhole				Point #	27246
		Ex. Top=	26.70			Dip	
		Ex. Inv. In=	22.58	(15" RCP from 92B)		4.12	
		Ex. Inv. Out=	22.55	(15" RCP to 92)		4.15	
Str. #	92B	Ex. Manhole				Point #	27273
		Ex. Top=	29.88			Dip	
		Ex. Inv. In=	27.00	(15" RCP from Northeast)		2.88	
		Ex. Inv. In=	25.98	(15" RCP from Southeast)		3.90	
		Ex. Inv. In=	26.38	(15" RCP from South)		3.50	
		Ex. Inv. Out=	25.96	(15" RCP to 92A)		3.92	
Str. #	92C	Ex. Curb Inlet				Point #	27133
		Ex. Top=	26.52			Dip	
		Ex. Inv. Out=	22.92	(15" RCP to 92)		3.60	
Str. #	92D	Ex. Curb Inlet				Point #	27257
		Ex. Top=	26.43			Dip	
		Ex. Inv. Out=	22.26	(15" RCP to 92)		4.17	
Str. #	93	Ex. Manhole				Point #	26562
		Ex. Top=	26.87			Dip	
		Ex. Inv. In =	21.69	(15" RCP from 94)		5.18	
		Ex. Inv. In =	21.44	(18" RCP from 93A)		5.43	
		Ex. Inv. In =	21.79	(15" RCP from 96)		5.08	
		Ex. Inv. Out =	21.12	(18" RCP to 90)		5.75	

CITY OF ALEXANDRIA
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ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
1	10/2025	100% SUBMITTAL	T WEINSTEIN	H LUSK	APVD	RDA/H LUSK
2	04/2025	90% SUBMITTAL				
3	11/2024	65% SUBMITTAL				
4	05/2024	60% SUBMITTAL				
5	09/2023	30% SUBMITTAL				

DSGN RDA/J CAMMARATA

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING STORM STRUCTURE TABLE (SHEET 2 OF 3)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-27
SHEET	27 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: G-27.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:18 PM

Str. #						Point #	
		Ex. Manhole	32.76			Point #	34015
		Ex. Top=	32.76			Dip	
		Ex. Inv. In =	27.71	(12" RCP from North)		5.05	
		Ex. Inv. In =	26.46	(18" RCP from Northeast)		6.30	
		Ex. Inv. In =	27.76	(12" RCP from Northeast)		5.00	
		Ex. Inv. Out =	26.41	(18" RCP to 93)		6.35	
Str. #	94	Ex. Manhole				Point #	26435
		Ex. Top=	27.08			Dip	
		Ex. Inv. In=	25.30	(15" RCP from 95)		1.78	
		Ex. Inv. Out=	23.18	(15" RCP to 93)		3.90	
Str. #	95	Ex. Curb Inlet **				Point #	
		** No ability to access storm structure, no lid.				Dip	
Str. #	96	Ex. Manhole				Point #	26547
		Ex. Top=	27.09			Dip	
		Ex. Inv. In=	25.01	(15" RCP from 97)		2.08	
		Ex. Inv. Out=	23.36	(15" RCP to 93)		3.73	
Str. #	97	Ex. Curb Inlet **				Point #	
		** No ability to access storm structure, no lid.				Dip	
Str. #	98	Ex. Curb Inlet				Point #	52015
		Ex. Top=	24.99			Dip	
		Ex. Inv. In=	20.31	(30" RCP from 99)		4.68	
		Ex. Inv. Out @ C/L=	20.44	(** to 88)		4.55	
Str. #	99	Ex. Manhole				Point #	52278
		Ex. Top=	26.80			Dip	
		Ex. Inv. In @ C/L=	21.79	(30" RCP from 100)		5.01	
		Ex. Inv. Out=	21.71	(30" RCP to 98)		5.09	
		Unable to obtain, confined space permit required.					
Str. #	99A	Ex. Curb Inlet				Point #	52252
		Ex. Top=	26.90			Dip	
		Ex. Inv. Out=	24.57	(12" PVC to Northwest)		2.33	
Str. #	100	Ex. Manhole				Point #	A-25041
		Ex. Top=	26.83			Dip	
		Ex. Inv. In @ C/L=	21.97	(30" RCP from 120)		4.86	
		Ex. Inv. Out=	21.93	(30" RCP to 99)		4.90	
		Unable to obtain, confined space permit required.					
Str. #	101	Ex. Manhole				Point #	33048
		Ex. Top=	19.68			Dip	
		Ex. Inv. In=	13.45	(54" RCP from 102)		6.23	
		Ex. Inv. In=	14.02	(21" RCP from Northwest)		5.66	
		Ex. Inv. In=	**	(42" RCP from 104)			
		Ex. Inv. In=	13.62	(18" RCP from 106)		6.06	
		Ex. Inv. Out=	13.02	(54" RCP to 44)		6.66	
		** Unable to obtain, confined space permit required.					
Str. #	102	Ex. Manhole				Point #	60980
		Ex. Top=	19.65			Dip	
		Ex. Inv. In=	12.13	(12" RCP from Southeast)		7.52	
		Ex. Inv. In=	12.29	(12" RCP from Northwest)		7.36	
		Ex. Inv. In=	11.09	(54" RCP from 102A)		8.56	
		Ex. Inv. Out=	10.95	(54" RCP to 101)		8.70	
Str. #	102A	Ex. Manhole				Point #	33232
		Ex. Top=	22.05			Dip	
		Ex. Inv. In=	15.20	(54" RCP from Southwest)		6.85	
		Ex. Inv. Out=	15.10	(54" RCP to 102)		6.95	
Str. #	103	Possible Blind-Tie				Point #	
Str. #	104	Ex. Manhole				Point #	33121
		Ex. Top=	21.73			Dip	
		Ex. Inv. In=	15.47	(42" RCP from Southwest)		6.26	
		Ex. Inv. In=	16.78	(18" RCP from 110)		4.95	
		Ex. Inv. Out=	15.37	(42" RCP to 101)		6.36	
Str. #	105	Ex. Manhole				Point #	33040
		Ex. Top=	19.42			Dip	
		Ex. Inv. In=	17.27	(12" RCP from South)		2.15	
		Ex. Inv. In=	16.42	(12" RCP from Southwest)		3.00	
		Ex. Inv. In=	16.42	(15" RCP from Northwest)		3.00	
		Ex. Inv. Out=	16.02	(21" RCP to Northeast)		3.40	
Str. #	106	Ex. Manhole				Point #	33057
		Ex. Top=	20.30			Dip	
		Ex. Inv. In=	14.16	(12" RCP from 107)		6.14	
		Ex. Inv. Out=	13.94	(18" RCP to 101)		6.36	
Str. #	107	Ex. Manhole				Point #	33153
		Ex. Top=	21.06			Dip	
		Ex. Inv. In=	17.24	(10" PVC from 108)		3.82	
		Ex. Inv. Out=	16.89	(12" RCP to 106)		4.17	
Str. #	108	Ex. Manhole				Point #	33163
		Ex. Top=	23.87			Dip	
		Ex. Inv. In=	20.55	(10" PVC from North)		3.32	
		Ex. Inv. Out=	20.44	(10" PVC to 107)		3.43	

Str. #						Point #	
	109	Ex. Curb Inlet				Point #	33044
		Ex. Top=	19.78			Dip	
		Ex. Inv. Out=	16.28	(15" RCP to Southeast)		3.50	
Str. #	110	Ex. Curb Inlet				Point #	33130
		Ex. Top=	21.53			Dip	
		Ex. Inv. Out=	**	(18" RCP to 104)			
		Unable to obtain, confined space permit required.					
Str. #	111	Ex. Curb Inlet				Point #	60999
		Ex. Top=	20.10			Dip	
		Ex. Inv. In=	17.05	(12" RCP from 112)		3.05	
		Ex. Inv. Out=	16.30	(12" RCP to Northwest)		3.80	
Str. #	112	Ex. Storm Grate				Point #	60985
		Ex. Top=	19.51			Dip	
		Ex. Inv. Out=	17.26	(12" RCP to 111)		2.25	
Str. #	113	Ex. Manhole				Point #	35020
		Ex. Top=	19.28			Dip	
		Ex. Inv. In=	17.18	(12" RCP from 115)		2.10	
		Ex. Inv. In=	16.21	(21" RCP from 114)		3.07	
		Ex. Inv. Out=	16.18	(18" RCP to Northwest)		3.10	
Str. #	114	Ex. Head Wall				Point #	33233
		Ex. Top=	18.74			Dip	
		Ex. Inv. In=	16.15	(21" RCP to 113)		2.59	
Str. #	115	Ex. Curb Inlet **				Point #	
		** No ability to access storm structure, no lid.				Dip	
Str. #	116	Ex. Curb Inlet**				Point #	
		** No ability to access storm structure, no lid.				Dip	
Str. #	120	Ex. Manhole				Point #	32173
		Ex. Top=	32.69			Dip	
		Ex. Inv. In=	25.13	(15" RCP from 121)		7.56	
		Ex. Inv. In=	23.82	(30" RCP from 128)		8.87	
		Ex. Inv. In=	24.07	(18" RCP from 123)		8.62	
		Ex. Inv. Out=	23.81	(30" RCP to 100)		8.88	
Str. #	121	Ex. Curb Inlet				Point #	32209
		Ex. Top=	33.16			Dip	
		Ex. Inv. In=	26.75	(15" RCP from 122)		6.41	
		Ex. Inv. Out=	26.49	(15" RCP to 120)		6.67	
Str. #	122	Ex. Curb Inlet				Point #	32180
		Ex. Top=	34.18			Dip	
		Ex. Inv. Out=	27.59	(15" RCP to 121)		6.59	
Str. #	123	Ex. Manhole				Point #	32350
		Ex. Top=	29.57			Dip	
		Ex. Inv. In=	24.47	(18" RCP from 124)		5.10	
		Ex. Inv. In=	24.86	(15" RCP from South)		4.71	
		Ex. Inv. Out=	24.42	(18" RCP to 120)		5.15	
Str. #	124	Ex. Manhole				Point #	32351
		Ex. Top=	29.00			Dip	
		Ex. Inv. In=	25.13	(15" RCP from 125)		3.87	
		Ex. Inv. In=	25.47	(15" RCP from 126)		3.53	
		Ex. Inv. Out=	24.64	(18" RCP to 123)		4.36	
Str. #	125	Ex. Curb Inlet				Point #	32623
		Ex. Top=	28.93			Dip	
		Ex. Inv. Out=	25.19	(15" RCP to 124)		3.74	
Str. #	126	Ex. Curb Inlet				Point #	32370
		Ex. Top=	28.93			Dip	
		Ex. Inv. Out=	26.68	(15" RCP to 124)		2.25	
Str. #	127	Ex. Manhole **				Point #	32339
		** Possibly abandon structure.				Dip	
Str. #	128	Ex. Manhole				Point #	31720
		Ex. Top=	34.47			Dip	
		Ex. Inv. In=	28.74	(18" RCP from 129)		5.73	
		Ex. Inv. In=	30.11	(24" RCP from 131)		4.36	
		Ex. Inv. In=	28.23	(18" RCP from 133)		6.24	
		Ex. Inv. Out=	27.71	(30" RCP to 120)		6.76	
Str. #	129	Ex. Curb Inlet				Point #	31755
		Ex. Top=	35.23			Dip	
		Ex. Inv. In=	31.89	(12" RCP from 130)		3.34	
		Ex. Inv. In= **	31.67	(12" RCP Southwest)		3.56	
		Ex. Inv. Out=	30.84	(18" RCP to 128)		4.39	
		** Possible stub-out.					
Str. #	130	Ex. Curb Inlet				Point #	31730
		Ex. Top=	35.68			Dip	
		Ex. Inv. Out=	32.38	(12" RCP to 129)		3.30	
Str. #	131	Ex. Manhole				Point #	31719
		Ex. Top=	34.24			Dip	
		Ex. Inv. In=	31.57	(12" RCP from 132)		2.67	
		Ex. Inv. In=	29.91	(24" RCP from 138)		4.33	
		Ex. Inv. Out=	29.88	(24" RCP to 128)		4.36	

Str. #						Point #	
	132	Ex. Curb Inlet				Point #	31712
		Ex. Top=	34.39			Dip	
		Ex. Inv. Out=	31.63	(12" RCP to 131)		2.76	
Str. #	133	Ex. Manhole				Point #	60406
		Ex. Top=	32.42			Dip	
		Ex. Inv. In=	29.66	(** from Southwest)		2.76	
		Ex. Inv. In=	28.79	(18" RCP from 134)		3.63	
		Ex. Inv. Out=	28.79	(18" RCP to 128)		3.63	
		Unable to obtain, confined space permit required.					
Str. #	134	Ex. Manhole				Point #	31607
		Ex. Top=	32.13			Dip	
		Ex. Inv. In=	28.91	(15" RCP from 137)		3.22	
		Ex. Inv. In=	28.74	(15" RCP from 135)		3.39	
		Ex. Inv. Out=	28.72	(18" RCP to 133)		3.41	
Str. #	135	Ex. Manhole				Point #	60405
		Ex. Top=	31.69			Dip	
		Ex. Inv. In=	29.73	(15" RCP from 136)		1.96	
		Ex. Inv. Out=	29.16	(15" RCP to 134)		2.53	
Str. #	136	Ex. Curb Inlet				Point #	60504
		Ex. Top=	32.03			Dip	
		Ex. Inv. Out=	29.68	(15" RCP to 135)		2.35	
Str. #	137	Ex. Curb Inlet				Point #	60428
		Ex. Top=	32.22			Dip	
		Ex. Inv. Out=	28.93	(15" RCP to 134)		3.29	
Str. #	138	Ex. Manhole				Point #	34001
		Ex. Top=	35.15			Dip	
		Ex. Inv. In=	31.15	(24" RCP from 139)		4.00	
		Ex. Inv. In=	31.83	(15" RCP from 143)		3.32	
		Ex. Inv. In=	31.75	(15" RCP from 140)		3.40	
		Ex. Inv. Out=	31.12	(24" RCP to 131)		4.03	
Str. #	139	Ex. Manhole				Point #	60245
		Ex. Top=	35.13			Dip	
		Ex. Inv. In=	31.45	(24" RCP from 146)		3.68	
		Ex. Inv. In=	31.86	(15" RCP from 144)		3.27	
		Ex. Inv. In=	31.81	(15" RCP from 145)		3.32	
		Ex. Inv. Out=	31.39	(24" RCP to 138)		3.74	
Str. #	140	Ex. Manhole				Point #	60263
		Ex. Top=	35.32			Dip	
		Ex. Inv. In=	31.98	(15" RCP from 141)		3.34	
		Ex. Inv. Out=	31.90	(15" RCP to 138)		3.42	
Str. #	141	Ex. Curb Inlet				Point #	60252
		Ex. Top=	35.82			Dip	
		Ex. Inv. In=	32.52	(15" RCP from 142)		3.30	
		Ex. Inv. Out=	32.48	(15" RCP to 140)		3.34	
Str. #	142	Ex. Curb Inlet				Point #	60183
		Ex. Top=	36.00			Dip	
		Ex. Inv. Out=	32.82	(15" RCP to 141)		3.18	
Str. #	143	Ex. Curb Inlet				Point #	60347
		Ex. Top=	35.33			Dip	
		Ex. Inv. Out=	32.63	(15" RCP to 138)		2.70	
Str. #	144	Ex. Curb Inlet				Point #	52512
		Ex. Top=	35.18			Dip	
		Ex. Inv. Out=	31.96	(15" RCP to 139)		3.22	
Str. #	145	Ex. Curb Inlet				Point #	60156
		Ex. Top=	35.67			Dip	
		Ex. Inv. Out=	32.01	(15" RCP to 139)		3.66	
Str. #	146	Ex. Manhole				Point #	34003
		Ex. Top=	39.04			Dip	
		Ex. Inv. In=	34.86	(24" RCP from Southwest)		4.18	
		Ex. Inv. Out=	33.54	(24" RCP to 139)		5.50	

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ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	H LUSK	APVD	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN RDA/J CAMMARATA RDA/H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING STORM STRUCTURE TABLE (SHEET 3 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-28
SHEET	28 of 158

FILENAME: G-28.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:19 PM

Revised August 4, 2023

Sanitary As-built

Str. #							
B	Ex. Manhole **				Point #	50458
	Ex. Top=	10.18			Dip	
	Ex. Inv. @ Bottom C/L=	-0.01			10.19	
	Ex. Inv. @ Top of pipe=	1.01	(10" DIP from C)		9.17	
	**Unconventional manhole layout. Solid 10" DIP pipe is running thru manhole.					
C	Ex. Manhole				Point #	50296
	Ex. Top=	10.66			Dip	
	Ex. Inv. In=	0.28	(10" DIP from D)		10.38	
	Ex. Inv. Out=	0.20	(10" DIP to B)		10.46	
D	Ex. Manhole				Point #	50771
	Ex. Top=	12.59			Dip	
	Ex. Inv. In=	2.31	(10" DIP from E)		10.28	
	Ex. Inv. Out=	2.35	(10" DIP to C)		10.24	
E	Ex. Manhole				Point #	50075
	Ex. Top=	13.00			Dip	
	Ex. Inv. In=	**	(10" DIP from F)			
	Ex. Inv. Out=					
	**Unable to obtain inverts. Large rock sitting on manhole lid.					
F	Ex. Manhole				Point #	50222
	Ex. Top=	15.02			Dip	
	Ex. Inv. In=	4.50	(10" DIP from East)		10.52	
	Ex. Inv. Out=	4.35	(10" DIP to E)		10.67	
G	Ex. Manhole				Point #	50456
	Ex. Top=	10.33			Dip	
	Ex. Inv. In=	-0.05	(24" DIP from O)		10.38	
	Ex. Inv. In=	0.59	(15" DIP from H)		9.74	
	Ex. Inv. Out=	-0.58	(24" DIP to Northeast)		10.91	
H	Ex. Manhole				Point #	50484
	Ex. Top=	10.86			Dip	
	Ex. Inv. In=	1.93	(10" PVC from I)		8.93	
	Ex. Inv. In=	0.71	(10" PVC from L)		10.15	
	Ex. Inv. Out=	0.54	(15" DIP to G)		10.32	
I	Ex. Manhole				Point #	50486
	Ex. Top=	11.64			Dip	
	Ex. Inv. In=	**	(10" PVC from J)			
	Ex. Inv. Out=	**	(10" PVC to H)			
	**Unable to obtain inverts. Tree growing over manhole lid.					
J	Ex. Manhole				Point #	50297
	Ex. Top=	11.73			Dip	
	Ex. Inv. In=	3.19	(10" PVC from K)		8.54	
	Ex. Inv. Out=	2.74	(10" PVC to I)		8.99	
K	Ex. Manhole				Point #	50475
	Ex. Top=	14.13			Dip	
	Ex. Inv. In=	6.26	(10" PVC from East)		7.87	
	Ex. Inv. In=	6.19	(6" PVC from Northeast)		7.94	
	Ex. Inv. Out=	6.03	(10" PVC to J)		8.10	
L	Ex. Manhole				Point #	50485
	Ex. Top=	11.11			Dip	
	Ex. Inv. In=	1.16	(** from M)		9.95	
	Ex. Inv. In=	8.73	(4" PVC from Southeast)		2.38	
	Ex. Inv. Out=	1.06	(10" PVC to G)		10.05	
	** Unable to obtain. Confined space permit required.					
M	Ex. Manhole				Point #	25249
	Ex. Top=	12.54			Dip	
	Ex. Inv. In=	2.21	(10" PVC from N)		10.33	
	Ex. Inv. Out=	2.12	(** to L)		10.42	
	** Unable to obtain. Confined space permit required.					
N	Ex. Manhole				Point #	25414
	Ex. Top=	14.55			Dip	
	Ex. Inv. @ Upper=	6.70	(8" PVC from East)		7.85	
	Ex. Inv. @ Lower=	2.84	(10" PVC from East)		11.71	
	Ex. Inv. In=	2.58	(10" PVC from South)		11.97	
	Ex. Inv. Out=	2.35	(10" PVC to M)		12.20	
O	Ex. Manhole				Point #	25103
	Ex. Top=	11.57			Dip	
	Ex. Inv. In=	1.59	(24" DIP from P)		9.98	
	Ex. Inv. Out=	1.12	(24" DIP to G)		10.45	

Str. #							
P	Ex. Manhole				Point #	30122
	Ex. Top=	12.72			Dip	
	Ex. Inv. In=	4.07	(24" DIP from W)		8.65	
	Ex. Inv. In=	4.64	(12" DIP from S)		8.08	
	Ex. Inv. In=	**	(10" DIP from Q)			
	Ex. Inv. Out=				8.72	
	** Unable to obtain. Confined space permit required.					
Q	Ex. Manhole				Point #	30330
	Ex. Top=	12.86			Dip	
	Ex. Inv. In=	6.92	(8" DIP from R)		5.94	
	Ex. Inv. Out=	6.81	(10" DIP to P		6.05	
R	Ex. Manhole				Point #	30329
	Ex. Top=	18.11			Dip	
	Ex. Inv. In=	8.32	(8" DIP from East)		9.79	
	Ex. Inv. In=	8.97	(6" PVC from North)		9.14	
	Ex. Inv. Out=	8.27	(8" DIP to Q)		9.84	
S	Ex. Manhole				Point #	30753
	Ex. Top=	12.81			Dip	
	Ex. Inv. In=	6.38	(8" DIP from T)		6.43	
	Ex. Inv. Out=	6.18	(12" DIP to P)		6.63	
T	Ex. Manhole				Point #	30777
	Ex. Top=	12.88			Dip	
	Ex. Inv. In=	6.83	(8" DIP to S)		6.05	
	Ex. Inv. Out=	6.80	(12" DIP from South)		6.08	
U	Ex. Manhole				Point #	25897
	Ex. Top=	14.01			Dip	
	Ex. Inv. In=	1.25	(** from V)		12.76	
	Ex. Inv. Out=	1.12	(** to North)		12.89	
	** Unable to obtain. Confined space permit required.					
V	Ex. Manhole				Point #	250905
	Ex. Top=	10.44			Dip	
	Ex. Inv. In=	1.99	(** from West)		8.45	
	Ex. Inv. In=	4.11	(12" DIP from South)		6.33	
	Ex. Inv. Out=				8.49	
	** Unable to obtain. Confined space permit required.					
W	Ex. Manhole				Point #	30965
	Ex. Top=	14.47			Dip	
	Ex. Inv. In=	6.37	(24" DIP from AJ)		8.10	
	Ex. Inv. In=	6.78	(** from X)		7.69	
	Ex. Inv. Out=	6.37	(24" DIP to P)		8.10	
	** Unable to obtain. Confined space permit required.					
X	Ex. Manhole				Point #	30966
	Ex. Top=	14.61			Dip	
	Ex. Inv. In=	6.77	(12" ** from AN)		7.84	
	Ex. Inv. Out=	6.75	(** to W)		7.86	
	** Unable to obtain. Confined space permit required.					
Y	Ex. Manhole				Point #	31603
	Ex. Top=	16.09			Dip	
	Ex. Inv. In=	7.86	(15" DIP from AA)		8.23	
	Ex. Inv. In=	8.18	(8" DIP from Z)		7.91	
	Ex. Inv. Out=	7.84	(24" DIP to AH)		8.25	
Z	Ex. Manhole				Point #	31604
	Ex. Top=	18.64			Dip	
	Ex. Inv. In=	11.44	(8" DIP from Southwest)		7.20	
	Ex. Inv. In=	10.93	(** from Northwest)		7.71	
	Ex. Inv. Out=				7.74	
	** Unable to obtain. Confined space permit required.					
AA	Ex. Manhole				Point #	35416
	Ex. Top=	17.71			Dip	
	Ex. Inv. In=	9.33	(15" DIP from AE)		8.38	
	Ex. Inv. In=	9.73	(8" DIP from AB)		7.98	
	Ex. Inv. Out=	9.26	(15" DIP to Y)		8.45	
AB	Ex. Manhole				Point #	35417
	Ex. Top=	18.36			Dip	
	Ex. Inv. In=	12.22	(8" DIP from AC)		6.14	
	Ex. Inv. Out=	11.28	(8" DIP to AA)		7.08	
AC	Ex. Manhole				Point #	35418
	Ex. Top=	19.56			Dip	
	Ex. Inv. In=	12.29	(8" DIP from AD)		7.27	
	Ex. Inv. In=	13.26	(6" PVC Lateral from North)		6.30	
	Ex. Inv. Out=	12.21	(8" DIP to AB)		7.35	

Str. #							
AD	Ex. Manhole				Point #	35419
	Ex. Top=	25.26			Dip	
	Ex. Inv. In=	18.21	(8" DIP from Northwest)		7.05	
	Ex. Inv. In=	18.39	(8" PVC from South)		6.87	
	Ex. Inv. Out=	18.06	(8" DIP to AC)		7.20	
AE	Ex. Manhole				Point #	35028
	Ex. Top=	19.70			Dip	
	Ex. Inv. In=	12.04	(8" DIP from AE1)		7.66	
	Ex. Inv. In=	14.12	(15" DIP from BD)		5.58	
	Ex. Inv. In=	11.47	(12" PVC from AF)		8.23	
	Ex. Inv. Out=	11.06	(15" DIP to AA)		8.64	
AE1	Ex. Manhole				Point #	35027
	Ex. Top=	19.62			Dip	
	Ex. Inv. In=	14.12	(8" DIP from AG)		5.50	
	Ex. Inv. Out=	13.77	(8" DIP to AE)		5.85	
AF	Ex. Manhole				Point #	35030
	Ex. Top=	22.44			Dip	
	Ex. Inv. In=	12.82	(6" PVC from Northwest)		9.62	
	Ex. Inv. Out=	12.49	(12" PVC to AE)		9.95	
AG	Ex. Manhole				Point #	35000
	Ex. Top=	23.61			Dip	
	Ex. Inv. In=	17.15	(8" DIP from East)		6.46	
	Ex. Inv. In=	17.18	(6" PVC Lateral from South)		6.43	
	Ex. Inv. Out=	17.14	(8" DIP to AE)		6.47	
AH	Ex. Manhole				Point #	30969
	Ex. Top=	14.39			Dip	
	Ex. Inv. In=	6.70	(24" DIP from Y)		7.69	
	Ex. Inv. In=	7.09	(8" ** from AI)		7.30	
	Ex. Inv. Out=	6.66	(24" DIP to AJ)		7.73	
AI	Ex. Manhole				Point #	51525
	Ex. Top=	13.82			Dip	
	Ex. Inv. In=	8.02	(8" DIP from Southeast)		5.80	
	Ex. Inv. Out=	7.98	(8" ** to AH)		5.84	
	** Unable to obtain. Confined space permit required.					
AJ	Ex. Manhole				Point #	30966
	Ex. Top=	14.68			Dip	
	Ex. Inv. In=	6.65	(24" DIP from AH)		8.03	
	Ex. Inv. In=	6.99	(** from AK)		7.69	
	Ex. Inv. Out=				8.12	
	** Unable to obtain. Confined space permit required.					
AK	Ex. Manhole				Point #	26085
	Ex. Top=	13.45			Dip	
	Ex. Inv. In=	7.45	(** from AL)		6.00	
	Ex. Inv. Out=				6.00	
	** Unable to obtain. Confined space permit required.					
AL	Ex. Manhole				Point #	26084
	Ex. Top=	13.72			Dip	
	Ex. Inv. In=	7.96	(10" ** from AM)		5.76	
	Ex. Inv. Out=	7.82	(** to AK)		5.90	
	** Unable to obtain. Confined space permit required.					
AM	Ex. Manhole				Point #	25999
	Ex. Top=	14.90			Dip	
	Ex. Inv. In=	9.28	(** from Northwest)		5.62	
	Ex. Inv. Out=				5.64	
	** Unable to obtain. Confined space permit required.					
AN	Ex. Manhole				Point #	51527
	Ex. Top=	13.47			Dip	
	Ex. Inv. In=	8.22	(8" DIP from AO)		5.25	
	Ex. Inv. In=	7.91	(** from AP)		5.56	
	Ex. Inv. Out=	7.89	(12" ** to X)		5.58	
	** Unable to obtain. Confined space permit required.					
AO	Ex. Manhole				Point #	51530
	Ex. Top=	20.66			Dip	
	Ex. Inv. In=	10.02	(8" DIP from Northeast)		10.64	
	Ex. Inv. In=	10.09	(8" DIP from Southeast)		10.57	
	Ex. Inv. Out=	9.98	(8" DIP to AN)		10.68	
AP	Ex. Manhole				Point #	51526
	Ex. Top=	13.38			Dip	
	Ex. Inv. In=	9.23	(8" ** from AQ)		4.15	
	Ex. Inv. In=	7.94	(10" ** from AT)		5.44	
	Ex. Inv. Out=				5.46	
	** Unable to obtain. Confined space permit required.					

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NO.	DATE	REVISION	DR	CHK	BY	APVD
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DSGN	RDA/J CAMMARATA					

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GENERAL

EXISTING SANITARY STRUCTURE TABLE (SHEET 1 OF 2)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-29
SHEET	29 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

Str. #	AQ	Ex. Manhole				Point #	51803
		Ex. Top=	15.95			Dip	
		Ex. Inv. In=	11.15	(** from AR)		4.80	
		Ex. Inv. Out=	10.98	(8" ** to AP)		4.97	
		** Unable to obtain. Confined space permit required.					

Str. #	AR	Ex. Manhole				Point #	26305
		Ex. Top=	21.19			Dip	
		Ex. Inv. In=	13.84	(** from AS)		7.35	
		Ex. Inv. In=	13.99	(4" ** from Northeast)		7.20	
A		Ex. Inv. Out=	13.84	(** to AQ)		7.35	
		** Unable to obtain. Confined space permit required.					

Str. #	AS	Ex. Manhole				Point #	26310
		Ex. Top=	24.81			Dip	
		Ex. Inv. In=	15.84	(4" ** from Northeast)		8.97	
		Ex. Inv. Out=	14.98	(** to AR)		9.83	
		** Unable to obtain. Confined space permit required.					

Str. #	AT	Ex. Manhole				Point #	51802
		Ex. Top=	15.80			Dip	
		Ex. Inv. In=	10.20	(** from AU)		5.60	
		Ex. Inv. Out=				5.62	
		** Unable to obtain. Confined space permit required.					

Str. #	AU	Ex. Manhole				Point #	26301
		Ex. Top=	19.29			Dip	
		Ex. Inv. In=	12.01	(** from AV)		7.28	
		Ex. Inv. Out=				7.30	
B		** Unable to obtain. Confined space permit required.					

Str. #	AV	Ex. Manhole				Point #	26304
		Ex. Top=	20.48			Dip	
		Ex. Inv. In=	12.80	(** from AW)		7.68	
		Ex. Inv. Out=	12.74	(** to AU)		7.74	
		** Unable to obtain. Confined space permit required.					

Str. #	AW	Ex. Manhole				Point #	26311
		Ex. Top=	24.73			Dip	
		Ex. Inv. In=	14.40	(** from AX)		10.33	
		Ex. Inv. Out=	14.38	(** to AV)		10.35	
		** Unable to obtain. Confined space permit required.					

Str. #	AX	Ex. Manhole				Point #	26569
		Ex. Top=	27.00			Dip	
		Ex. Inv. In=	17.04	(12" DIP from BA)		9.96	
		Ex. Inv. In=	16.32	(12" DIP from BB)		10.68	
		Ex. Inv. In=	16.36	(8" DIP from AY)		10.64	
		Ex. Inv. Out=	15.00	(12" DIP to AW)		12.00	

Str. #	AY	Ex. Manhole				Point #	26572
		Ex. Top=	27.04			Dip	
		Ex. Inv. In=	17.37	(8" DIP from AZ)		9.67	
		Ex. Inv. In=	17.33	(8" DIP from BC)		9.71	
		Ex. Inv. Out=	17.29	(8" DIP to AX)		9.75	

Str. #	AZ	Ex. Manhole				Point #	52142
		Ex. Top=	26.21			Dip	
		Ex. Inv. In=	20.32	(** from West)		5.89	
		Ex. Inv. Out=	20.23	(8" DIP to AY)		5.98	
		** Unable to obtain. Confined space permit required.					

Str. #	BA	Ex. Manhole				Point #	26563
		Ex. Top=	32.67			Dip	
		Ex. Inv. In=	**	(** from Northeast)			
		Ex. Inv. In=	22.59	(10" ** from Northwest)		10.08	
		Ex. Inv. In=	23.60	(10" ** from Southeast)		9.07	
		Ex. Inv. Out=				10.30	
		** Unable to obtain. Confined space permit required.					

Str. #	BB	Ex. Manhole				Point #	26574
		Ex. Top=	32.82			Dip	
D		Ex. Inv. In=	26.51	(** from Southwest)		6.31	
		Ex. Inv. In=	26.51	(** from Southeast)		6.31	
		Ex. Inv. Out=				6.35	
		** Unable to obtain. Confined space permit required.					

Str. #	BC	Ex. Manhole				Point #	32174
		Ex. Top=	32.84			Dip	
		Ex. Inv. In=	22.48	(10" DIP from BJ)		10.36	
		Ex. Inv. In=	22.52	(8" DIP from BO)		10.32	
		Ex. Inv. In=	22.54	(8" DIP from BP)		10.30	
		Ex. Inv. Out=	22.44	(8" DIP to AY)		10.40	

Str. #	BD	Ex. Manhole				Point #	61011
		Ex. Top=	20.02			Dip	
		Ex. Inv. In=	14.07	(18" DIP from BE)		5.95	
		Ex. Inv. Out=	14.00	(18" DIP to AE)		6.02	

Str. #	BE	Ex. Manhole				Point #	60969
		Ex. Top=	20.14			Dip	
		Ex. Inv. In=	11.80	(18" DIP from BF)		8.34	
		Ex. Inv. Out=	11.58	(18" DIP to BD)		8.56	

Str. #	BF	Ex. Manhole				Point #	61037
		Ex. Top=	20.80			Dip	
		Ex. Inv. In=	11.93	(** from BH)		8.87	
		Ex. Inv. In=	11.91	(10" PVC from BG)		8.89	
		Ex. Inv. In=	12.06	(10" DIP from BI)		8.74	
		Ex. Inv. Out=				8.92	
		** Unable to obtain. Confined space permit required.					

Str. #	BG	Ex. Manhole				Point #	33159
		Ex. Top=	24.75			Dip	
		Ex. Inv. In=	15.47	(10" DIP from Southeast)		9.28	
		Ex. Inv. In=	13.17	(10" DIP from Southwest)		11.58	
		Ex. Inv. Out=	12.98	(10" PVC to BF)		11.77	

Str. #	BH	Ex. Manhole				Point #	61071
		Ex. Top=	21.57			Dip	
		Ex. Inv. In=	12.17	(** from Southeast)		9.40	
		Ex. Inv. Out=				9.43	
		** Unable to obtain. Confined space permit required.					

Str. #	BI	Ex. Manhole				Point #	33160
		Ex. Top=	22.11			Dip	
		Ex. Inv. In=	12.34	(8" DIP from West)		9.77	
		Ex. Inv. Out=	12.08	(10" DIP to BF)		10.03	

Str. #	BJ	Ex. Manhole				Point #	31721
		Ex. Top=	34.69			Dip	
		Ex. Inv. In=	25.20	(10" DIP from BK)		9.49	
		Ex. Inv. In=	25.26	(8" DIP from BM)		9.43	
		Ex. Inv. In=	25.27	(8" DIP from BL)		9.42	
		Ex. Inv. Out=	25.19	(10" DIP to BC)		9.50	

Str. #	BK	Ex. Manhole				Point #	60244
		Ex. Top=	35.65			Dip	
		Ex. Inv. In=	27.70	(10" DIP from BS)		7.95	
		Ex. Inv. In=	27.74	(8" DIP from BR)		7.91	
		Ex. Inv. In=	27.71	(8" DIP from BQ)		7.94	
		Ex. Inv. Out=	27.64	(10" DIP to BJ)		8.01	

Str. #	BL	Ex. Manhole				Point #	31606
		Ex. Top=	45.14			Dip	
		Ex. Inv. In=	36.94	(8" DIP from East)		8.20	
		Ex. Inv. Out=	36.86	(8" DIP to BJ)		8.28	

Str. #	BM	Ex. Manhole				Point #	60605
		Ex. Top=	33.73			Dip	
		Ex. Inv. In=	27.80	(8" DIP from BN)		5.93	
		Ex. Inv. Out=	27.73	(8" DIP to BJ)		6.00	

Str. #	BN	Ex. Manhole				Point #	60809
		Ex. Top=	45.66			Dip	
		Ex. Inv. In=	38.94	(8" DIP BM)		6.72	
		Ex. Inv. Out=	38.88	(8" DIP to West)		6.78	

Str. #	BO	Ex. Manhole				Point #	32877
		Ex. Top=	34.24			Dip	
		Ex. Inv. In=	25.52	(8" DIP from West)		8.72	
		Ex. Inv. Out=	25.44	(8" DIP to BC)		8.80	

Str. #	BP	Ex. Manhole				Point #	32175
		Ex. Top=	36.72			Dip	
		Ex. Inv. In=	32.00	(8" DIP from East)		4.72	
		Ex. Inv. Out=	31.97	(8" DIP to BC)		4.75	

Str. #	BQ	Ex. Manhole				Point #	60278
		Ex. Top=	43.31			Dip	
		Ex. Inv. In=	34.45	(8" DIP from East)		8.86	
		Ex. Inv. Out=	34.42	(8" DIP to BK)		8.89	

Str. #	BR	Ex. Manhole				Point #	60197
		Ex. Top=	37.63			Dip	
		Ex. Inv. In=	30.39	(** from West)		7.24	
		Ex. Inv. Out=				7.17	
		** Unable to obtain, possible lateral Confined space permit required.					

Str. #	BS	Ex. Manhole				Point #	34005
		Ex. Top=	39.61			Dip	
		Ex. Inv. In=	30.33	(10" DIP from East)		9.28	
		Ex. Inv. In=	30.31	(10" DIP from West)		9.30	
		Ex. Inv. Out=	30.24	(10" DIP to BK)		9.37	

CITY OF ALEXANDRIA
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	10/2025	100% SUBMITTAL	T WEINSTEIN	H LUSK	APVD	RDA/H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

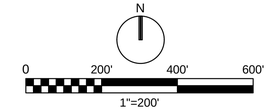
EXISTING SANITARY STRUCTURE TABLE (SHEET 2 OF 2)

FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-30
SHEET	30 of 158



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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN RDA/J CAMMARATA | DR T WEINSTEIN | CHK H LUSK | APVD RDA/H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL

OVERALL WORK PLAN

FINAL DESIGN (NOT FOR CONSTRUCTION)

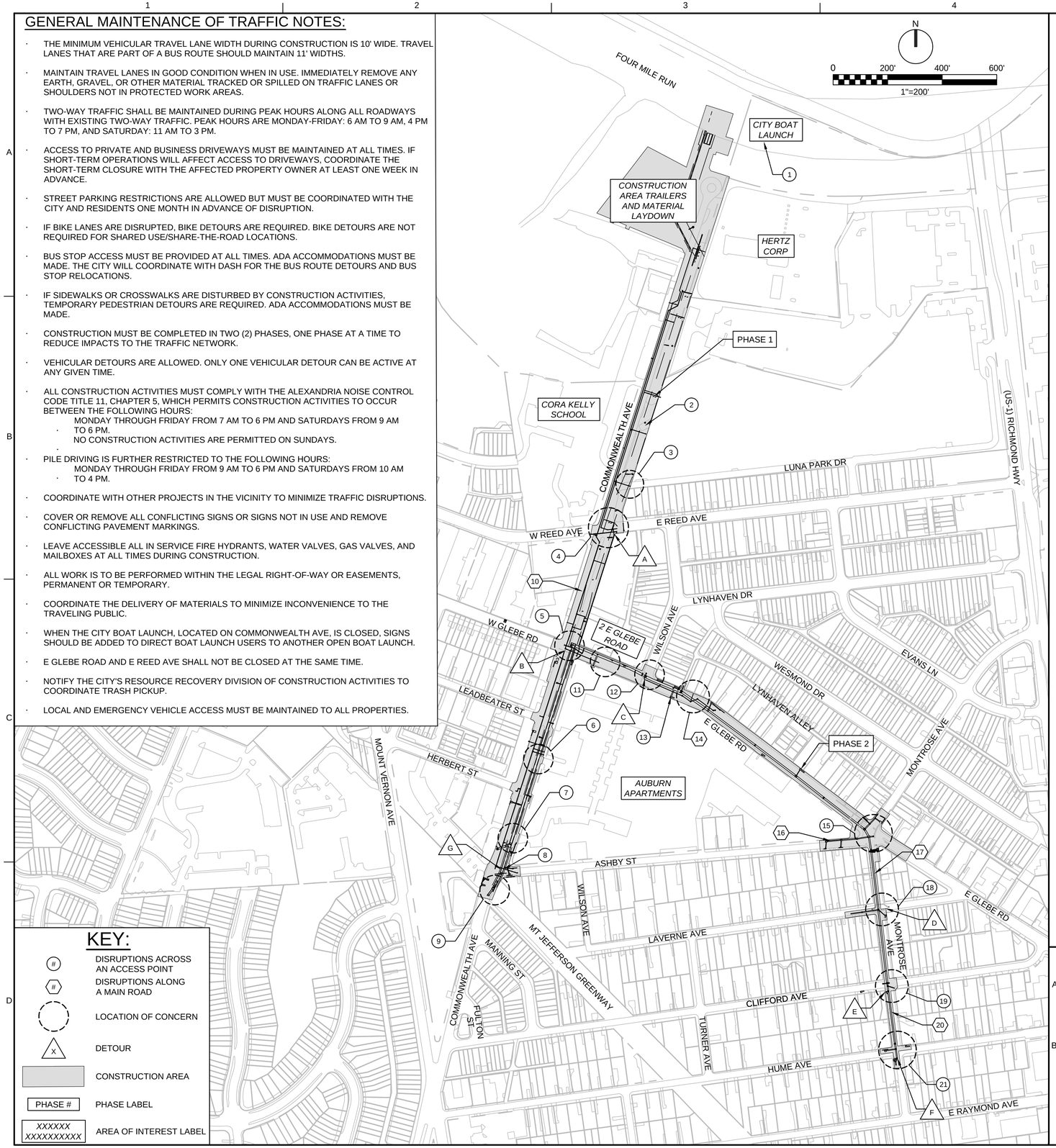
1"=200'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-31
SHEET	31 of 158

FILENAME: G-31.dwg PLOT DATE: 8/22/2024 PLOT TIME: 11:21 AM

GENERAL MAINTENANCE OF TRAFFIC NOTES:

- THE MINIMUM VEHICULAR TRAVEL LANE WIDTH DURING CONSTRUCTION IS 10' WIDE. TRAVEL LANES THAT ARE PART OF A BUS ROUTE SHOULD MAINTAIN 11' WIDTHS.
- MAINTAIN TRAVEL LANES IN GOOD CONDITION WHEN IN USE. IMMEDIATELY REMOVE ANY EARTH, GRAVEL, OR OTHER MATERIAL TRACKED OR SPILLED ON TRAFFIC LANES OR SHOULDERS NOT IN PROTECTED WORK AREAS.
- TWO-WAY TRAFFIC SHALL BE MAINTAINED DURING PEAK HOURS ALONG ALL ROADWAYS WITH EXISTING TWO-WAY TRAFFIC. PEAK HOURS ARE MONDAY-FRIDAY: 6 AM TO 9 AM, 4 PM TO 7 PM, AND SATURDAY: 11 AM TO 3 PM.
- ACCESS TO PRIVATE AND BUSINESS DRIVEWAYS MUST BE MAINTAINED AT ALL TIMES. IF SHORT-TERM OPERATIONS WILL AFFECT ACCESS TO DRIVEWAYS, COORDINATE THE SHORT-TERM CLOSURE WITH THE AFFECTED PROPERTY OWNER AT LEAST ONE WEEK IN ADVANCE.
- STREET PARKING RESTRICTIONS ARE ALLOWED BUT MUST BE COORDINATED WITH THE CITY AND RESIDENTS ONE MONTH IN ADVANCE OF DISRUPTION.
- IF BIKE LANES ARE DISRUPTED, BIKE DETOURS ARE REQUIRED. BIKE DETOURS ARE NOT REQUIRED FOR SHARED USE/SHARE-THE-ROAD LOCATIONS.
- BUS STOP ACCESS MUST BE PROVIDED AT ALL TIMES. ADA ACCOMMODATIONS MUST BE MADE. THE CITY WILL COORDINATE WITH DASH FOR THE BUS ROUTE DETOURS AND BUS STOP RELOCATIONS.
- IF SIDEWALKS OR CROSSWALKS ARE DISTURBED BY CONSTRUCTION ACTIVITIES, TEMPORARY PEDESTRIAN DETOURS ARE REQUIRED. ADA ACCOMMODATIONS MUST BE MADE.
- CONSTRUCTION MUST BE COMPLETED IN TWO (2) PHASES, ONE PHASE AT A TIME TO REDUCE IMPACTS TO THE TRAFFIC NETWORK.
- VEHICULAR DETOURS ARE ALLOWED. ONLY ONE VEHICULAR DETOUR CAN BE ACTIVE AT ANY GIVEN TIME.
- ALL CONSTRUCTION ACTIVITIES MUST COMPLY WITH THE ALEXANDRIA NOISE CONTROL CODE TITLE 11, CHAPTER 5, WHICH PERMITS CONSTRUCTION ACTIVITIES TO OCCUR BETWEEN THE FOLLOWING HOURS:
  - MONDAY THROUGH FRIDAY FROM 7 AM TO 6 PM AND SATURDAYS FROM 9 AM TO 6 PM.
  - NO CONSTRUCTION ACTIVITIES ARE PERMITTED ON SUNDAYS.
- PILE DRIVING IS FURTHER RESTRICTED TO THE FOLLOWING HOURS:
  - MONDAY THROUGH FRIDAY FROM 9 AM TO 6 PM AND SATURDAYS FROM 10 AM TO 4 PM.
- COORDINATE WITH OTHER PROJECTS IN THE VICINITY TO MINIMIZE TRAFFIC DISRUPTIONS.
- COVER OR REMOVE ALL CONFLICTING SIGNS OR SIGNS NOT IN USE AND REMOVE CONFLICTING PAVEMENT MARKINGS.
- LEAVE ACCESSIBLE ALL IN SERVICE FIRE HYDRANTS, WATER VALVES, GAS VALVES, AND MAILBOXES AT ALL TIMES DURING CONSTRUCTION.
- ALL WORK IS TO BE PERFORMED WITHIN THE LEGAL RIGHT-OF-WAY OR EASEMENTS, PERMANENT OR TEMPORARY.
- COORDINATE THE DELIVERY OF MATERIALS TO MINIMIZE INCONVENIENCE TO THE TRAVELING PUBLIC.
- WHEN THE CITY BOAT LAUNCH, LOCATED ON COMMONWEALTH AVE, IS CLOSED, SIGNS SHOULD BE ADDED TO DIRECT BOAT LAUNCH USERS TO ANOTHER OPEN BOAT LAUNCH.
- E GLEBE ROAD AND E REED AVE SHALL NOT BE CLOSED AT THE SAME TIME.
- NOTIFY THE CITY'S RESOURCE RECOVERY DIVISION OF CONSTRUCTION ACTIVITIES TO COORDINATE TRASH PICKUP.
- LOCAL AND EMERGENCY VEHICLE ACCESS MUST BE MAINTAINED TO ALL PROPERTIES.



KEY:

- (#) DISRUPTIONS ACROSS AN ACCESS POINT
- (#) DISRUPTIONS ALONG A MAIN ROAD
- LOCATION OF CONCERN
- (X) DETOUR
- CONSTRUCTION AREA
- PHASE # — PHASE LABEL
- XXXXXX / XXXXXXXXXX — AREA OF INTEREST LABEL

MAINTENANCE OF TRAFFIC NOTES BY CONSTRUCTION PHASE:

PHASE 1
SEGMENT: COMMONWEALTH AVE FROM THE OUTFALL TO GLEBE ROAD

1. ACCESS TO THE BOAT LAUNCH WILL BE MAINTAINED DURING CONSTRUCTION ALONG FOUR MILE RUN TRAIL FOR FOOT TRAFFIC ONLY. BOAT LAUNCH USERS CAN USE THE FOUR MILE RUN PARK PARKING LOT AND TRAIL, LOCATED ON THE WESTERN SIDE OF THE BALLFIELD, TO ACCESS THE LAUNCH.
2. THE SMALL CORA KELLY SCHOOL FACULTY PARKING LOTS WILL BE DISRUPTED.
   a. MITIGATE THE LOSS OF PARKING HERE BY ALLOWING FACULTY TO PARK AT THE FOUR MILE RUN PARK PARKING LOT.
3. THIS ACCESS TO LUNA PARK DRIVE TO COMMONWEALTH AVE APPEARS TO BE ONLY FOR EMERGENCY ACCESS. THE GATE IS CURRENTLY LOCKED WITH A CHAIN. NO SPECIAL PROVISIONS NEED TO BE TAKEN TO KEEP THIS ACCESS OPEN DURING CONSTRUCTION.
4. CONSTRUCTION ACROSS THE INTERSECTION OF COMMONWEALTH AVE AND REED AVE:
   a. FULL DETOUR OF E REED AVE FOR THE DURATION OF CONSTRUCTION IN THIS AREA, APPROXIMATELY 90 DAYS. IDEALLY, THIS CLOSURE WOULD OCCUR DURING THE SUMMER MONTHS. DETOUR ONLY E. REED AVE; W. REED AVE TO REMAIN OPEN. NO CLOSURE OF E GLEBE RD DURING THIS TIME.
5. CONSTRUCTION ACROSS THE INTERSECTION OF COMMONWEALTH AVE AND GLEBE RD:
   a. TWO-WAY TRAFFIC MUST BE MAINTAINED FOR THE DURATION OF CONSTRUCTION IN THIS AREA, APPROXIMATELY 90 DAYS. NO CLOSURE OF E REED AVE DURING THIS TIME.

SEGMENT: COMMONWEALTH AVE FROM GLEBE ROAD TO ASHBY STREET

6. CONSTRUCTION ACROSS THE AUBURN APARTMENTS NORTHERN DRIVEWAY:
   a. CONTRACTOR TO COORDINATE WORK WITH PROPERTY OWNER AND MAINTAIN ACCESS FOR RESIDENTS DURING DAYTIME HOURS.
7. CONSTRUCTION ACROSS THE AUBURN APARTMENTS SOUTHERN DRIVEWAY:
   a. CLOSE ONE HALF OF THE EXISTING DRIVEWAY AT A TIME. ALLOW TWO-WAY TRAFFIC AT ALL TIMES THROUGH THE USE OF A FLAGGER.
8. CONSTRUCTION ACROSS THE INTERSECTION OF COMMONWEALTH AVE AND ASHBY ST:
   a. CLOSE ASHBY ST JUST WEST OF THE WESTERN-MOST DRIVEWAY AND DETOUR TRAFFIC. ALLOW TEMPORARY TWO-WAY TRAFFIC ON ASHBY ST BETWEEN WILSON AVE AND COMMONWEALTH AVE FOR THOSE RESIDENTS.
9. CONSTRUCTION ACROSS MT JEFFERSON GREENWAY:
   a. CLOSE THE TRAIL ACCESS AND PROVIDE A TEMPORARY DETOUR USING WILSON AVE/LAVERNE AVE AND ASHBY ST. PROVIDE SIGNAGE FOR THE PARK/PEDESTRIAN DETOUR AND/OR PROVIDE ALTERNATE PARK ACCESS, AS APPROVED BY RPCA.
   b. VEHICULAR ACCESS TO MT JEFFERSON GREENWAY MUST BE MAINTAINED AT LAVERNE AVE WHILE CONSTRUCTION BLOCKS VEHICULAR ACCESS AT COMMONWEALTH AVE.
10. CONSTRUCTION ON THE WEST SIDE OF COMMONWEALTH AVE FROM GLEBE RD TO REED AVE WILL OCCUR AFTER CONSTRUCTION ON THE EAST SIDE OF COMMONWEALTH AVE IS COMPLETE. TWO-WAY TRAFFIC WILL BE MAINTAINED ON THE EAST SIDE OF COMMONWEALTH AVE FOR THE DURATION OF CONSTRUCTION, WHICH IS EXPECTED TO TAKE APPROXIMATELY 4 MONTHS.

SEGMENT: E GLEBE ROAD FROM COMMONWEALTH AVE TO WILSON AVE

11. CONSTRUCTION ACROSS 2 E GLEBE RD PARKING LOT:
   a. TWO LANES OF TRAFFIC WILL BE MAINTAINED ON THE SOUTH SIDE OF E GLEBE RD DURING CONSTRUCTION OF THE JUNCTION BOX AND 7'X7' BOX CULVERT FROM COMMONWEALTH AVE TO WILSON AVE.
   b. THREE DRIVEWAYS ACCESS THE PARKING LOT. STAGE CONSTRUCTION SUCH THAT ONE OF THE TWO EASTERN DRIVEWAYS IS OPEN TO TRAFFIC AT ALL TIMES.
12. CONSTRUCTION ALONG E GLEBE RD ACROSS WILSON AVE:
   a. CLOSE WILSON AVE FOR THE DURATION OF CONSTRUCTION AT THE INTERSECTION AND DETOUR TRAFFIC.
13. CONSTRUCTION ALONG E GLEBE RD ACROSS LYNHAVEN ALLEY:
   a. SINGLE-LANE TRAFFIC WILL BE MAINTAINED ON THE SOUTH SIDE OF E GLEBE RD DURING CONSTRUCTION OF THE JUNCTION BOX AND 7'X7' BOX CULVERT FROM WILSON AVE TO LYNHAVEN ALLEY. TWO-WAY TRAFFIC WILL REQUIRE A FLAGGER.
   b. CLOSE ACCESS TO ALLEY AND USE OTHER EXISTING ACCESSES DURING CONSTRUCTION (WESMOND DR AND MONTROSE AVE).

PHASE 2
SEGMENT: E GLEBE ROAD FROM WILSON AVE TO MONTROSE AVE, AND ASHBY ST

14. CONSTRUCTION ACROSS E GLEBE RD:
   a. FULL DETOUR OF E GLEBE RD FOR THE DURATION OF CONSTRUCTION IN THIS AREA, APPROXIMATELY 1 MONTH. RECOMMEND ADDING A TEMPORARY TRAFFIC SIGNAL AT THE INTERSECTION OF COMMONWEALTH AVE AND REED AVE. ALSO, RECOMMEND EXTENDING THE NORTHBOUND LEFT TURN LANE AT THE INTERSECTION OF US-1 AND E. REED AVE (VDOT). ACCESS TO DRIVEWAYS WILL BE MAINTAINED AND LYNHAVEN ALLEY ACCESS WILL REMAIN OPEN.
   b. SINGLE-LANE TRAFFIC WILL BE MAINTAINED ON THE NORTH SIDE OF E GLEBE RD DURING CONSTRUCTION FROM LYNHAVEN ALLEY TO THE MONTROSE AVE INTERSECTION. TWO-WAY TRAFFIC WILL REQUIRE A FLAGGER.
15. CONSTRUCTION ACROSS THE INTERSECTION OF E GLEBE RD AND MONTROSE AVE:
   a. FULL DETOUR OF MONTROSE AVE FOR THE DURATION OF CONSTRUCTION IN THIS AREA.
16. ASHBY STREET IS ONE-WAY EASTBOUND; THEREFORE A DETOUR IS NOT FEASIBLE. MAINTAIN ONE 10' LANE AT ALL TIMES.

SEGMENT: MONTROSE AVE

17. CONSTRUCTION ALONG MONTROSE AVE:
   a. WORK ALONG MONTROSE AVE MUST BE COMPLETED BLOCK-BY-BLOCK.
18. CONSTRUCTION ACROSS THE INTERSECTION OF MONTROSE AVE AND LAVERNE AVE:
   a. FULL DETOUR OF LAVERNE AVE FOR THE DURATION OF CONSTRUCTION IN THIS AREA.
19. CONSTRUCTION ACROSS THE INTERSECTION OF MONTROSE AVE AND CLIFFORD AVE:
   a. FULL DETOUR OF CLIFFORD AVE FOR THE DURATION OF CONSTRUCTION IN THIS AREA.
20. PIPE INSTALLATION ON MONTROSE AVE REQUIRES CLOSING AND CROSSING DRIVEWAYS ON THE WEST SIDE OF THE ROAD. COORDINATE WITH THE HOMEOWNERS TO LET THEM KNOW THAT DRIVEWAY ACCESS MAY BE TEMPORARILY LIMITED.
21. CONSTRUCTION ACROSS THE INTERSECTION OF MONTROSE AVE AND HUME AVE:
   a. FULL DETOUR OF HUME AVE FOR THE DURATION OF CONSTRUCTION IN THIS AREA.

SUGGESTED DETOUR ROUTES:

A. E REED AVE CLOSURE
- COMMONWEALTH AVE
- E GLEBE RD
- US-1

B. E GLEBE RD CLOSURE
- COMMONWEALTH AVE
- E REED AVE
- US-1

C. WILSON AVE CLOSURE
- E GLEBE RD
- COMMONWEALTH AVE
- E REED AVE

D. LAVERNE AVE CLOSURE
- TURNER AVE
- CLIFFORD AVE
- MONTROSE AVE

E. CLIFFORD AVE CLOSURE
- TURNER AVE
- HUME AVE
- MONTROSE AVE

F. HUME AVE CLOSURE
- TURNER AVE
- CLIFFORD AVE
- MONTROSE AVE

G. ASHBY ST (WESTERN) CLOSURE
- COMMONWEALTH AVE
- E GLEBE RD
- MONTROSE AVE
- LAVERNE AVE
- WILSON AVE

NOTE: DETOUR ROUTES ARE SUGGESTIONS. CONTRACTOR MUST PROVIDE DETOURS IN ACCORDANCE WITH NOTES ON THIS PLAN AND WITH APPROVAL FROM THE CITY OF ALEXANDRIA AND VDOT.

NO.	DATE	REVISION	BY	CHK
	10/2025	100% SUBMITTAL	APVD	H LUSK
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GENERAL
CONSTRUCTION TRAFFIC MANAGEMENT

1"=200'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-32
SHEET	32 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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FILENAME: G-32.dwg PLOT DATE: 8/13/2025 PLOT TIME: 11:21 AM

SHEET KEYNOTES

1. TEMPORARY STRUCTURES MAY BE PERMITTED IN THE SFHA BUT WILL BE ELEVATED TO 1-FT ABOVE THE BFE AND HAVE THE HVAC ELEVATED, AND THEY WOULD NEED TO BE ANCHORED TO PREVENT FLOATING AWAY. BFE AT THIS LOCATION IS 13.4

SHEET NOTES

1. THE STAGING/STORAGE AND TRAILER SITE IS IN THE SFHA. THESE TEMPORARY STRUCTURES MAY BE PERMITTED IN THE SFHA BUT MUST BE ELEVATED TO 1-FT ABOVE THE BFE AND HAVE THE HVAC ELEVATED AND THEY WOULD NEED TO BE ANCHORED TO COUNTER BUOYANCY FORCES DURING A FLOOD. THE BFE IS APPROXIMATELY 13.4' ELEVATION (NAVD88). CONTRACTORS SHALL BE NOTIFIED OF THESE SITE CONDITIONS AND SHOULD BE REQUIRED TO PROVIDE DEPLOYABLE FLOOD BARRIERS TO SURROUND STOCKPILES AND TRAILERS DURING A POTENTIAL OR IMPENDING FLOOD EVENT.
2. CONTRACTOR CAN ACCESS THE BALLFIELD STARTING IN AUGUST 2026.
3. BALLFIELD MUST BE RESTORED TO EXISTING CONDITIONS CONSISTENT WITH THE CITY OF ALEXANDRIA PARK FACILITY STANDARDS MANUAL BEFORE CONTRACTOR LEAVES THE SITE.

BOAT LAUNCH WILL REMAIN OPEN AND BOAT LAUNCH USERS WILL BE DIRECTED TO PARK AT THE FOUR MILE RUN PARKING LOT AND TRAIL AND CARRY THEIR BOATS TO THE LAUNCH.

CONTRACTORS LAYDOWN AREA 2; SAFETY FENCE TO BE ANCHORED ABOVE GRADE OVER PROPOSED CULVERT.

COMMONWEALTH AVE

EXISTING POWER POLE TO BE PROTECTED

EXISTING FENCE

TEMPORARY CONTRACTOR AREA 1
140' X 220'
30,800 SF (AAPROX)

ENGINEER TRAILER
20'X40'

TEMPORARY CONSTRUCTION ENTRANCE, 40' WIDTH OFFSET CL 30' FROM EXST POWER POLE

EXISTING FENCE

TEMPORARY CONSTRUCTION ACCESS ROADWAY, 24' WIDTH

PROVIDE SECURITY GATE

TEMPORARY CONSTRUCTION MATERIAL STOCKPILE & LAYDOWN AREA
100' X 150'

ENGINEER PARKING AREA

CONTRACTOR PARKING AREA

CONTRACTOR TRAILER
20'X40'

CONTRACTOR TO PROVIDE SECURITY GATE

EXISTING FENCE

0 30' 60' 90'
1" = 30'

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DSGN A CARLSON DR V TAYLOR CHK H LUSK APVD J KELLY

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GENERAL

CONTRACTOR LAYDOWN AREA

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	G-33
SHEET	33 of 158

FILENAME: G-33.dwg PLOT DATE: 10/8/2025 PLOT TIME: 8:25 PM

BOAT LAUNCH WILL REMAIN OPEN AND BOAT LAUNCH USERS WILL BE DIRECTED TO PARK AT THE FOUR MILE RUN PARKING LOT AND TRAIL AND CARRY THEIR BOATS TO THE LAUNCH.

CONTRACTORS LAYDOWN AREA 2; SAFETY FENCE TO BE ANCHORED ABOVE GRADE OVER PROPOSED CULVERT.

SEE ENLARGED PLAN ON SHEET EC-09

TURBIDITY CURTAIN

COFFER DAM

BEGIN PHASE 1

LIMITS OF DISTURBANCE (TYP)

SEE SHEET G-33 FOR CONTRACTORS STAGING AREA

EXST STR 9

DROP INLET PROTECTION

ST C-04

ST C-05 OFFSET STRUCTURE

ST C-01

ST C-02

SS C-01

SS C-02

SS C-03

CURB INLET PROTECTION

COMMONWEALTH AVE

TEMPORARY STOCKPILE AREA (140' x 70')

CONCRETE WASHOUT (20'x20')

APPROXIMATE LIMITS OF RPA, NOT DELINEATED

SEE NOTE 13

PERIMETER PROTECTION REQUIRED FOR STOCKPILE. SILT FENCE TO BE ADJUSTED AND REPLACED AS NEEDED FOR ACCESS.

NOTE: NO STOCKPILING OF MATERIAL SHALL OCCUR WITHIN RPA BUFFER.

Ex. Asphalt (Four Mile Run Park Trail)

Map #: 008.03-01-04
The City of Alexandria
Instrument #060000119

Map #: 008.03-01-02
Hertz Realty Group
Deed Book 1015 Page 691

Map #: 007.04-09-13
City Of Alexandria Sanitation Authority
Account: 50688040

EROSION & SEDIMENT CONTROL LEGEND

CDC	C-SCM-05 - CULVERT INLET PROTECTION
CFS	C-SCM-04 - INLET PROTECTION
DW	C-ENV-05 - COFFERDAM CROSSING
RR	C-PCM-05 - COMPOST FILTER SOCK
SAF	C-SCM-13 - CONCRETE WASHOUT PIT
SF	C-ECM-13 - RIPRAP
TC	C-PCM-01 - SAFETY FENCE
TP	C-PCM-04 - SILT FENCE
TS PS	C-SCM-09 - TURBIDITY CURTAIN
	C-SSM-01 - TREE PRESERVATION & PROTECTION
	C-SSM-09/10 - TEMPORARY & PERMANENT SEEDING
	C-SCM-03 - TEMPORARY STONE CONSTRUCTION ENTRANCE

E&S MEASURES	QTY *	UNIT
SILT FENCE	1851	LF
TREE PROTECTION	7787	LF
COMPOST FILTER SOCK	1839	LF
SAFETY FENCE	2098	LF
TURBIDITY CURTAIN	254	LF
CURB INLET PROTECTION	81	EA
DROP INLET PROTECTION	14	EA
CULVERT INLET PROTECTION	2	EA
CONSTRUCTION ENTRANCE	3	EA
CONCRETE WASH OUT PIT	1	EA
RIPRAP	591.25	SQ YD

*QUANTITIES LISTED ARE INCLUSIVE OF ALL E&S MEASURES ON ALL EC SHEETS, NOT JUST THIS SHEET

NOTES:
1. ESTABLISH ALL PERIMETER CONTROLS AND INLET PROTECTION DOWNSTREAM OF THE WORK AREA PRIOR TO GRADING AND EXCAVATION.
2. MAINTAIN POSITIVE DRAINAGE AROUND THE WORK SITE AT ALL TIMES.
3. PROVIDE EXCAVATION DEWATERING AND TURBIDITY CONTROL IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE.
4. ALL GRASSED AREAS WITHIN LIMITS OF DISTURBANCE TO RECEIVE TEMPORARY AND PERMANENT SEEDING FOR STABILIZATION.
5. THE CITY INSPECTOR MAY REQUIRE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
6. WASHING OF WHEELS ONLY REQUIRED WHEN TRACKOUT OUTSIDE OF THE LOD IS LIKELY, AS DETERMINED BY VISUAL INSPECTION.
7. THE CONTRACTOR IS TO SWEEP ALL ROADS WITHIN THE WORK ZONE AT THE END OF EACH WORK DAY.
8. THE TEMPORARY SOIL STOCKPILE, CONCRETE WASHOUT, AND STORAGE OF ALL MATERIALS IS TO BE LOCATED OUTSIDE OF THE RPA.
9. THE CONTRACTOR MAY INTERCHANGE SILT FENCE AND COMPOST FILTER SOCK.
10. REFER TO THE TREE PROTECTION PLAN AND SPECIFICATION 01 14 00 TEMPORARY TREE AND PLANT PROTECTION FOR ADDITIONAL REQUIREMENTS.
11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.
12. THE CONTRACTOR IS TO ENSURE THAT THE LAYDOWN AREA REMAINS STABILIZED AND FREE FROM RUTTING, PONDING, AND TRACKOUT AT ALL TIMES. THE CONTRACTOR MAY UTILIZE HDPE OR TIMBER MATTING OR 6-INCH AASHTO NO. 57 STONE FOR THIS TASK, IF STONE IS UTILIZED, THE CONTRACTOR IS TO ENSURE THAT 6-INCH DEPTH OF STONE IS MAINTAINED AND REFRESHED AS NECESSARY.
13. WORK WITHIN THE AREA OUTSIDE OF THE LOD AND WITHIN LOW IS LIMITED TO INSTALLATION OF THE IRRIGATION SYSTEM ONLY.

PHASE 1 FROM STATION 99+00 TO 119+70

THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN A.CARLSON | DR V.TAYLOR | CHK H.LUSK | APVD J.KELLY

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ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

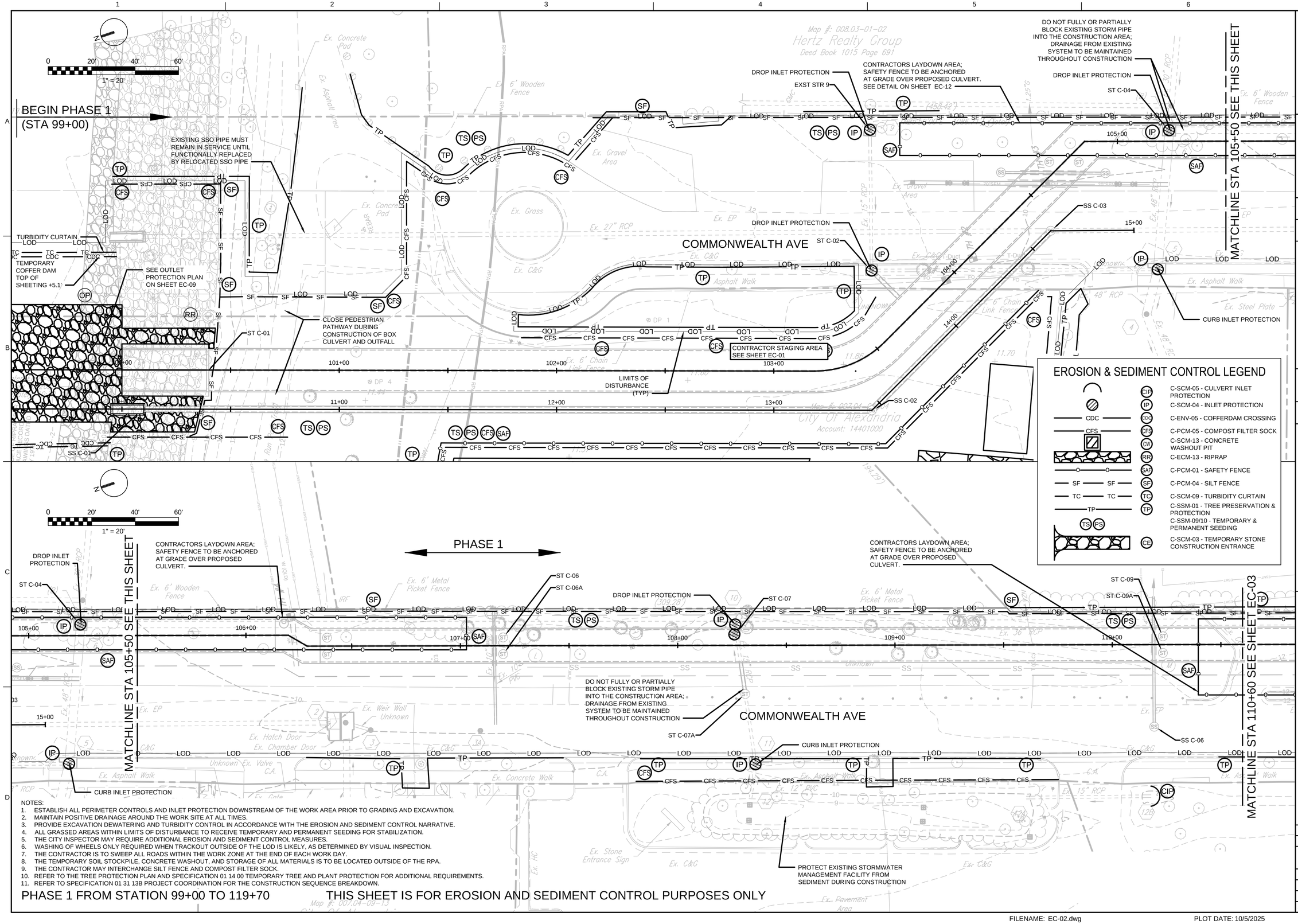
EROSION CONTROL AND STAGING AREA

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-01
SHEET	34 of 158

FILENAME: EC-01.dwg PLOT DATE: 10/8/2025 PLOT TIME: 6:12 PM



NOTES:

1. ESTABLISH ALL PERIMETER CONTROLS AND INLET PROTECTION DOWNSTREAM OF THE WORK AREA PRIOR TO GRADING AND EXCAVATION.
2. MAINTAIN POSITIVE DRAINAGE AROUND THE WORK SITE AT ALL TIMES.
3. PROVIDE EXCAVATION DEWATERING AND TURBIDITY CONTROL IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE.
4. ALL GRASSED AREAS WITHIN LIMITS OF DISTURBANCE TO RECEIVE TEMPORARY AND PERMANENT SEEDING FOR STABILIZATION.
5. THE CITY INSPECTOR MAY REQUIRE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES.
6. WASHING OF WHEELS ONLY REQUIRED WHEN TRACKOUT OUTSIDE OF THE LOD IS LIKELY, AS DETERMINED BY VISUAL INSPECTION.
7. THE CONTRACTOR IS TO SWEEP ALL ROADS WITHIN THE WORK ZONE AT THE END OF EACH WORK DAY.
8. THE TEMPORARY SOIL STOCKPILE, CONCRETE WASHOUT, AND STORAGE OF ALL MATERIALS IS TO BE LOCATED OUTSIDE OF THE RPA.
9. THE CONTRACTOR MAY INTERCHANGE SILT FENCE AND COMPOST FILTER SOCK.
10. REFER TO THE TREE PROTECTION PLAN AND SPECIFICATION 01 14 00 TEMPORARY TREE AND PLANT PROTECTION FOR ADDITIONAL REQUIREMENTS.
11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.

PHASE 1 FROM STATION 99+00 TO 119+70

THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

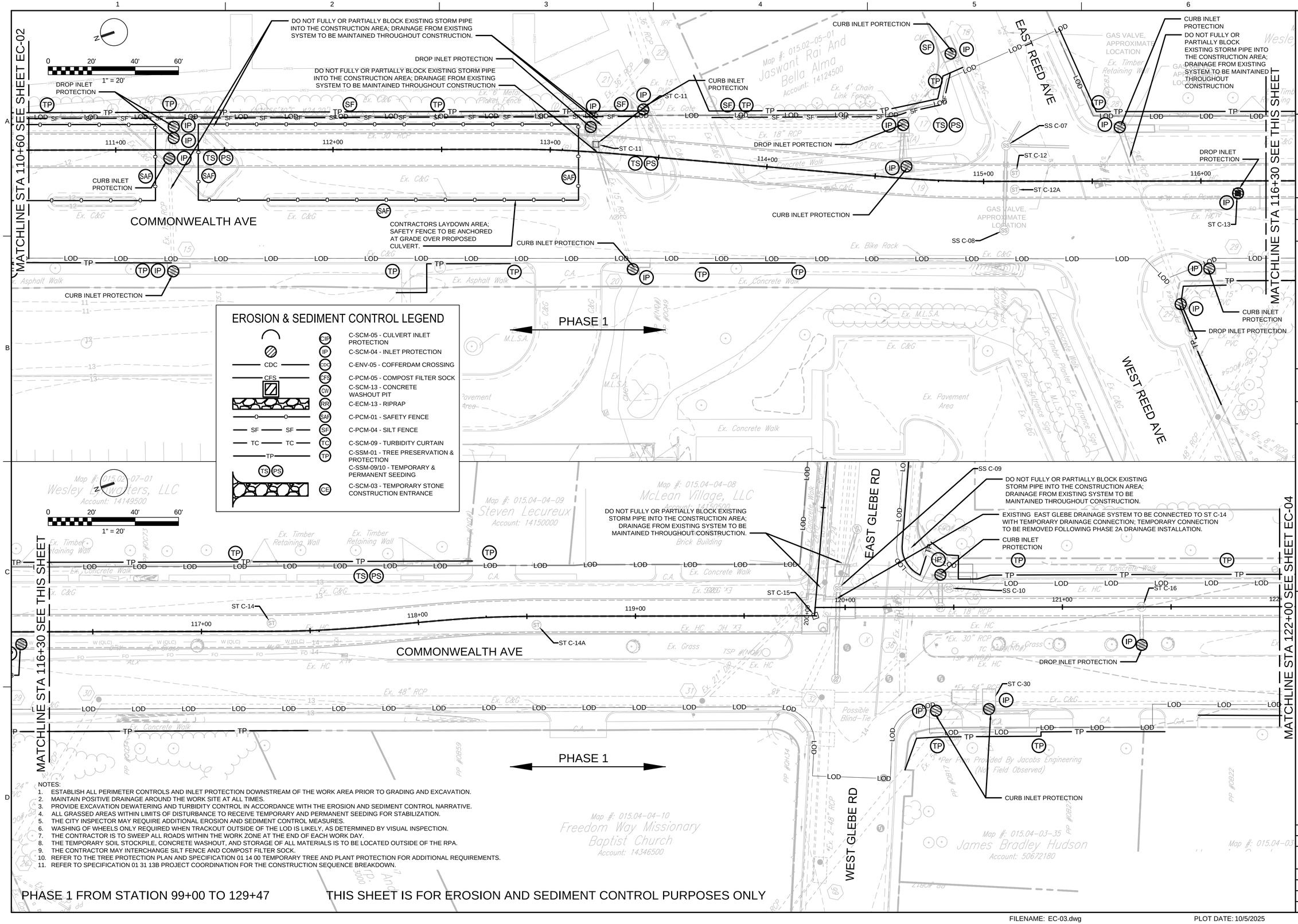
EROSION CONTROL PLAN COMMONWEALTH AVENUE (SHEET 1 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-02
SHEET	35 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-02.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:53 PM



EROSION & SEDIMENT CONTROL LEGEND

SIP	C-SCM-05 - CULVERT INLET PROTECTION	
IP	C-SCM-04 - INLET PROTECTION	
CDC	C-ENV-05 - COFFERDAM CROSSING	
CFS	C-PCM-05 - COMPOST FILTER SOCK	
CW	C-SCM-13 - CONCRETE WASHOUT PIT	
RR	C-ECM-13 - RIPRAP	
SAF	C-PCM-01 - SAFETY FENCE	
SF	C-PCM-04 - SILT FENCE	
TC	C-SCM-09 - TURBIDITY CURTAIN	
TP	C-SSM-01 - TREE PRESERVATION & PROTECTION	
TS PS	C-SSM-09/10 - TEMPORARY & PERMANENT SEEDING	
CE	C-SCM-03 - TEMPORARY STONE CONSTRUCTION ENTRANCE	

NOTES:
1. ESTABLISH ALL PERIMETER CONTROLS AND INLET PROTECTION DOWNSTREAM OF THE WORK AREA PRIOR TO GRADING AND EXCAVATION.
2. MAINTAIN POSITIVE DRAINAGE AROUND THE WORK SITE AT ALL TIMES.
3. PROVIDE EXCAVATION DEWATERING AND TURBIDITY CONTROL IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL NARRATIVE.
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11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.

PHASE 1 FROM STATION 99+00 TO 129+47

THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	A.CARLSON	V.TAYLOR	H.LUSK	J.KELLY
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

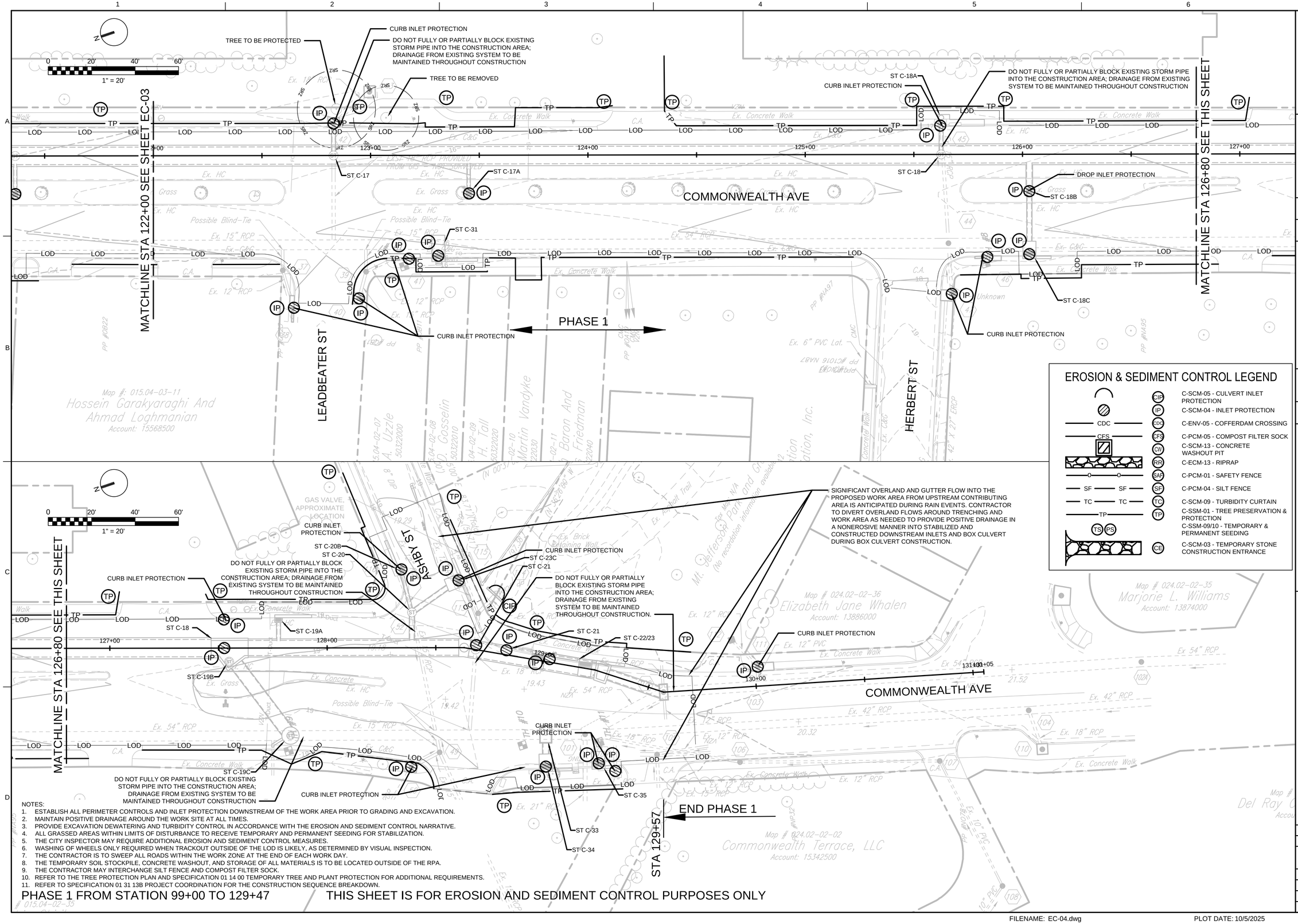
EROSION CONTROL PLAN
COMMONWEALTH AVENUE
(SHEET 2 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-03
SHEET	36 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-03.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:53 PM



EROSION & SEDIMENT CONTROL LEGEND

- C-SCM-05 - CULVERT INLET PROTECTION
- C-SCM-04 - INLET PROTECTION
- C-ENV-05 - COFFERDAM CROSSING
- C-PCM-05 - COMPOST FILTER SOCK
- C-SCM-13 - CONCRETE WASHOUT PIT
- C-ECM-13 - RIPRAP
- C-PCM-01 - SAFETY FENCE
- C-PCM-04 - SILT FENCE
- C-SCM-09 - TURBIDITY CURTAIN
- C-SSM-01 - TREE PRESERVATION & PROTECTION
- C-SSM-09/10 - TEMPORARY & PERMANENT SEEDING
- C-SCM-03 - TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:
1. ESTABLISH ALL PERIMETER CONTROLS AND INLET PROTECTION DOWNSTREAM OF THE WORK AREA PRIOR TO GRADING AND EXCAVATION.
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11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN A CARLSON | DR V TAYLOR | CHK H LUSK | APVD J KELLY

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ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

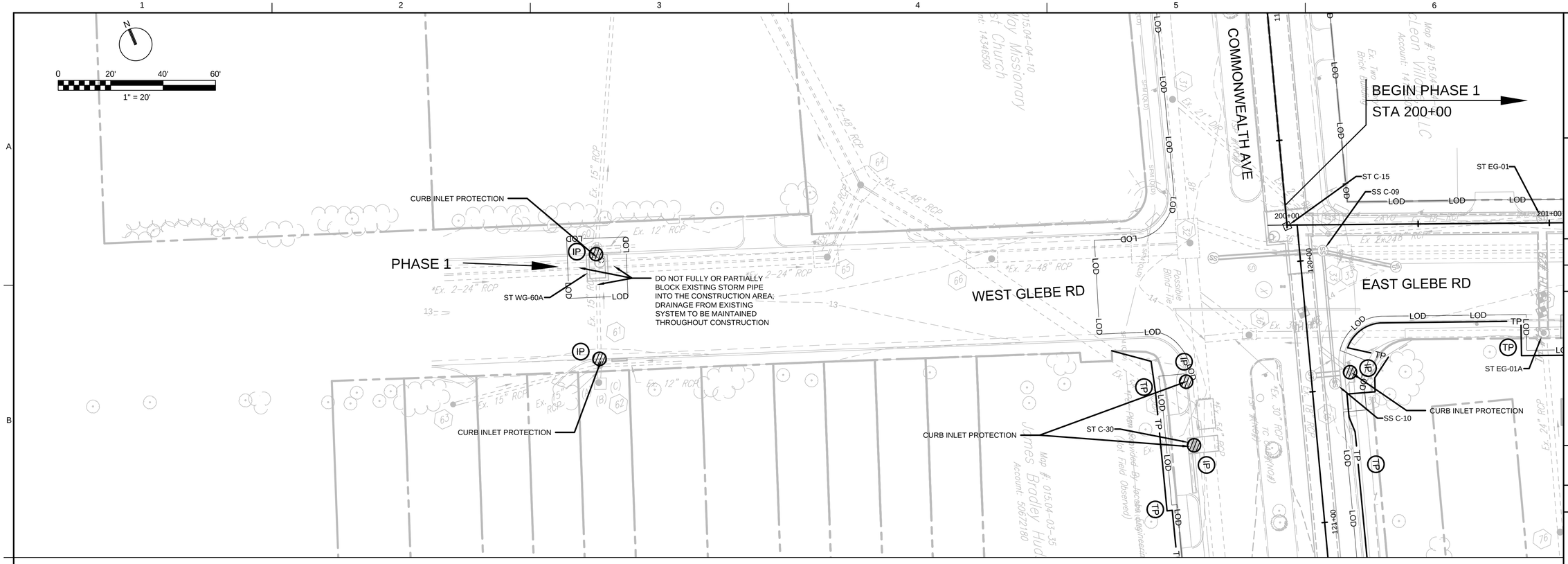
EROSION CONTROL PLAN COMMONWEALTH AVENUE (SHEET 3 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-04
SHEET	37 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-04.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:54 PM



EROSION & SEDIMENT CONTROL LEGEND

- CIP — C-SCM-05 - CULVERT INLET PROTECTION
- IP — C-SCM-04 - INLET PROTECTION
- CDC — C-ENV-05 - COFFERDAM CROSSING
- CFS — C-PCM-05 - COMPOST FILTER SOCK
- CW — C-SCM-13 - CONCRETE WASHOUT PIT
- RR — C-ECM-13 - RIPRAP
- SAF — C-PCM-01 - SAFETY FENCE
- SF — C-PCM-04 - SILT FENCE
- TC — C-SCM-09 - TURBIDITY CURTAIN
- TP — C-SSM-01 - TREE PRESERVATION & PROTECTION
- TS, PS — C-SSM-09/10 - TEMPORARY & PERMANENT SEEDING
- CE — C-SCM-03 - TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:
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PHASE 1 FROM STATION 99+700 TO 129+47

PHASE 1 FROM STATION 200+00 TO 204+45

THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	CHK
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN A.CARLSON | DR V.TAYLOR | CHK H.LUSK | APVD J.KELLY

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

EROSION CONTROL PLAN
WEST GLEBE ROAD

1"=20'

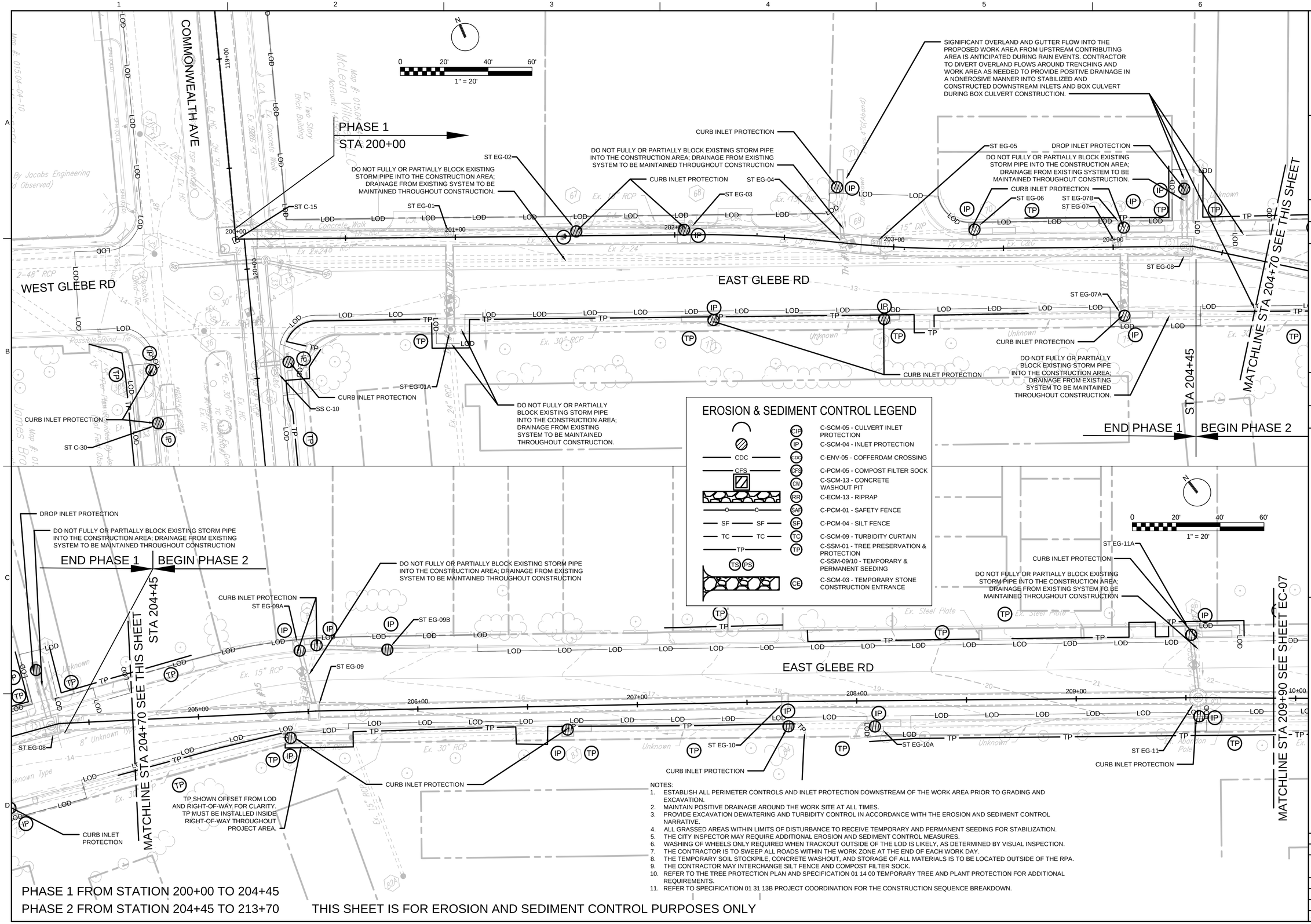
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-05
SHEET	38 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-05.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:54 PM



NOTES:
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11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.

PHASE 1 FROM STATION 200+00 TO 204+45
PHASE 2 FROM STATION 204+45 TO 213+70
THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	CHK	DR
	10/2025	100% SUBMITTAL	APVD	H LUSK	J KELLY
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			
DSGN	A CARLSON	V TAYLOR	APVD	H LUSK	J KELLY

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

EROSION CONTROL PLAN EAST GLEBE ROAD (SHEET 1 OF 2)

1"=20'

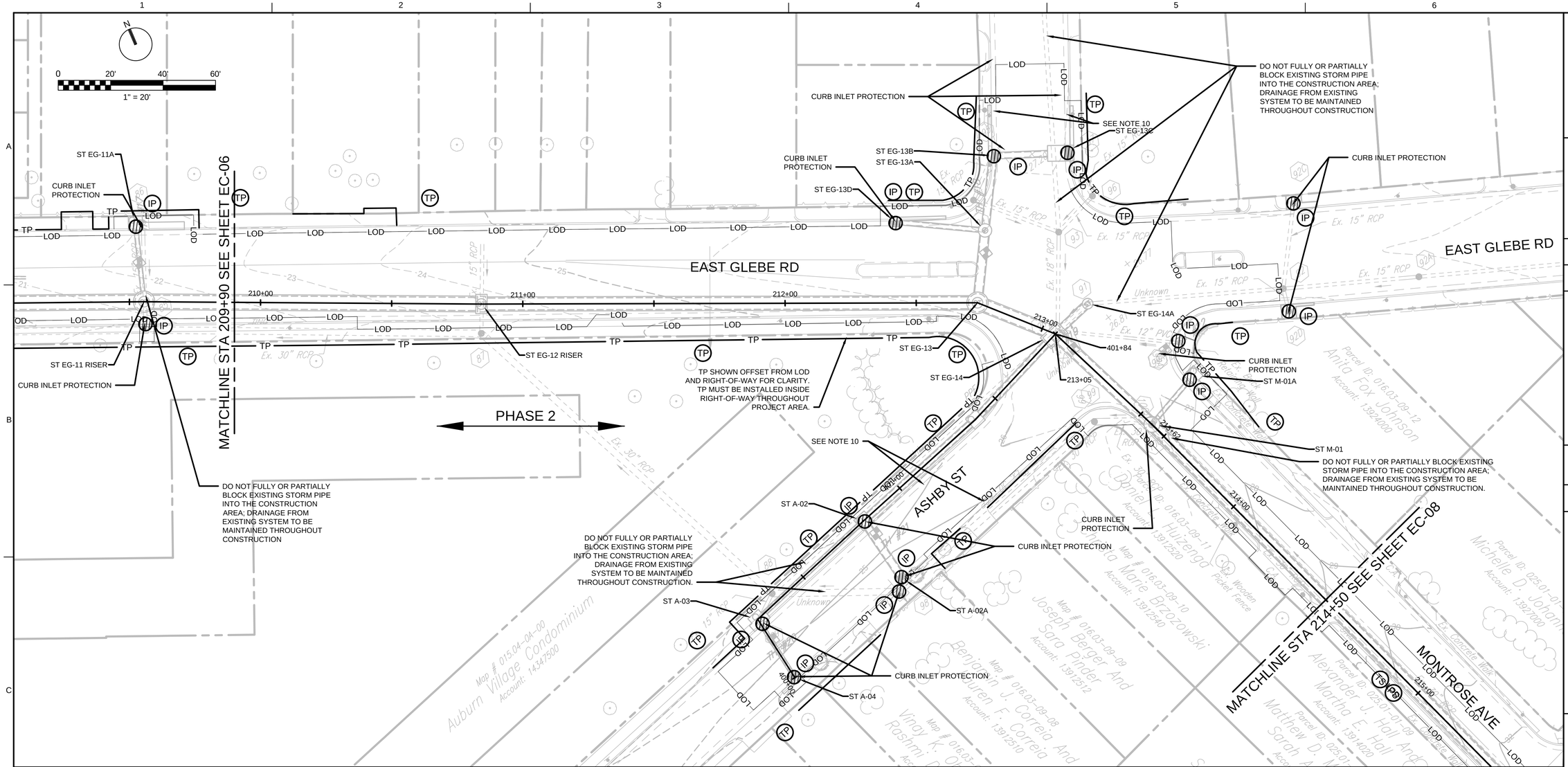
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-06
SHEET	39 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-06.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:55 PM



EROSION & SEDIMENT CONTROL LEGEND

- CIP — C-SCM-05 - CULVERT INLET PROTECTION
- IP — C-SCM-04 - INLET PROTECTION
- CDC — CDC — C-ENV-05 - COFFERDAM CROSSING
- CFS — CFS — C-PCM-05 - COMPOST FILTER SOCK
- CW — C-SCM-13 - CONCRETE WASHOUT PIT
- RIP — C-ECM-13 - RIPRAP
- SAF — o — o — C-PCM-01 - SAFETY FENCE
- SF — SF — SF — C-PCM-04 - SILT FENCE
- TC — TC — TC — C-SCM-09 - TURBIDITY CURTAIN
- TP — TP — C-SSM-01 - TREE PRESERVATION & PROTECTION
- TS PS — C-SSM-09/10 - TEMPORARY & PERMANENT SEEDING
- CE — C-SCM-03 - TEMPORARY STONE CONSTRUCTION ENTRANCE

NOTES:
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11. REFER TO SPECIFICATION 01 31 13B PROJECT COORDINATION FOR THE CONSTRUCTION SEQUENCE BREAKDOWN.
12. SIGNIFICANT OVERLAND AND GUTTER FLOW INTO THE PROPOSED WORK AREA FROM UPSTREAM CONTRIBUTING AREA IS ANTICIPATED DURING RAIN EVENTS. CONTRACTOR TO DIVERT OVERLAND FLOWS AROUND TRENCHING AND WORK AREA AS NEEDED TO PROVIDE POSITIVE DRAINAGE IN A NONEROSIVE MANNER INTO STABILIZED AND DOWNSTREAM INLETS AND STORM SYSTEM DURING PIPE AND INLET CONSTRUCTION.

PHASE 2 FROM STATION 204+45 TO 221+24

THIS SHEET IS FOR EROSION AND SEDIMENT CONTROL PURPOSES ONLY

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	CHK	DR	DSGN
	10/2025	100% SUBMITTAL	APVD	J KELLY	V TAYLOR	A CARLSON
	04/2025	90% SUBMITTAL	APVD	H LUSK		
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

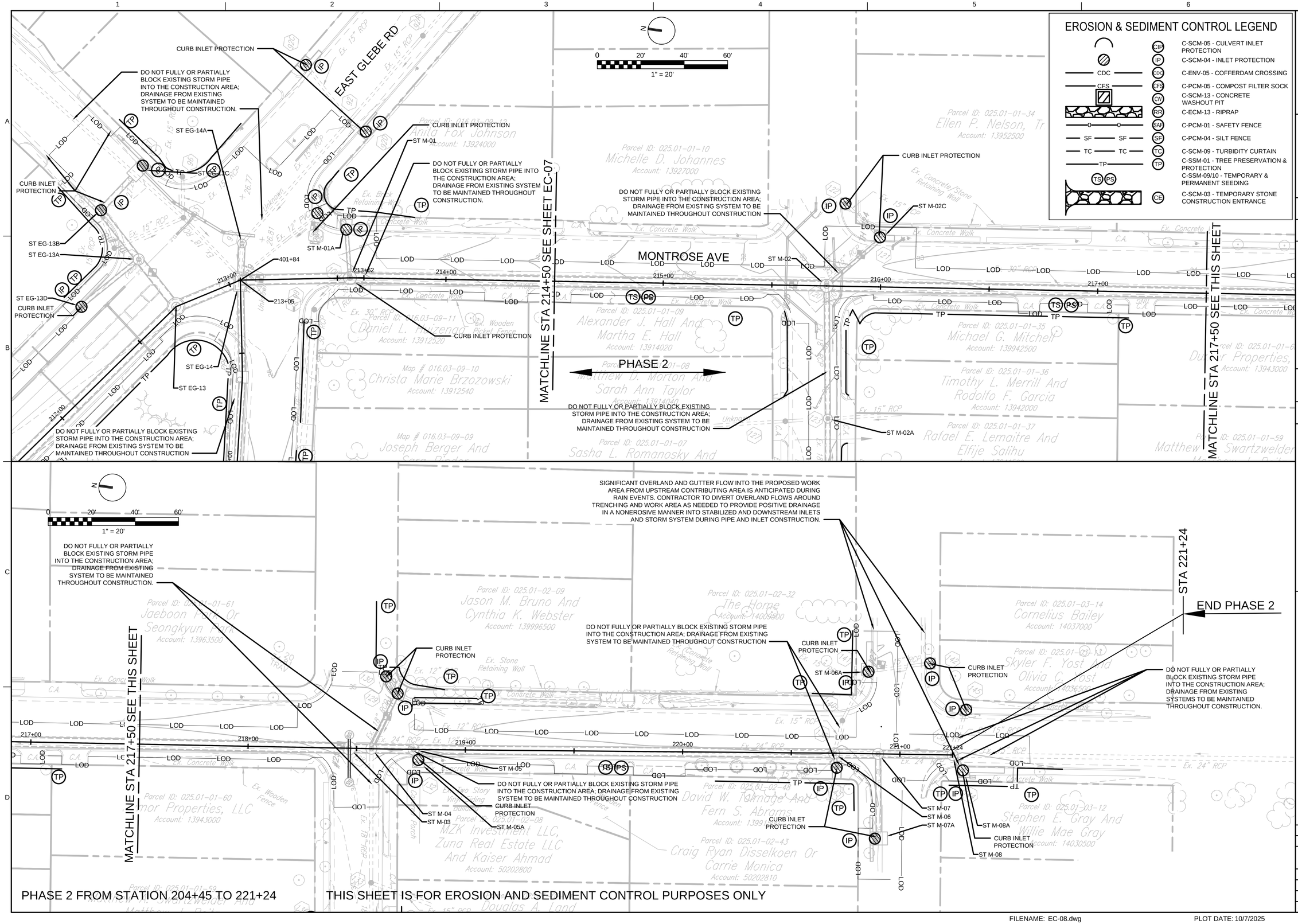
EROSION CONTROL PLAN
EAST GLEBE ROAD
(SHEET 2 OF 2)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-07
SHEET	40 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-07.dwg PLOT DATE: 10/5/2025 PLOT TIME: 9:55 PM



CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN A.CARLSON | DR V.TAYLOR | CHK H.LUSK | APVD J.KELLY

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

EROSION CONTROL PLAN
MONTROSE AVENUE

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-08
SHEET	41 of 158

FILENAME: EC-08.dwg PLOT DATE: 10/7/2025 PLOT TIME: 10:40 AM

LEGEND

- CDC — COFFER DAM CROSSING
- TC TC — TURBIDITY CURTAIN
- LOD — LIMITS OF DISTURBANCE
- VDOT CLASS III RIPRAP

0 10' 20' 30"
1" = 10'

TEMPORARY COFFER DAM
TOP OF SHEETING +5.1'
(FMR 2-YR WSEL +1 FT FREEBOARD)

LIMITS OF DISTURBANCE
TURBIDITY CURTAIN
COFFER DAM CROSSING
RIPRAP OUTLET PROTECTION APRON

80 LF
60 LF
54 LF
53 LF

9+00
9+20
10+00
100+00
101+00
11+00

OP
RR
TP
CFS
SF
TS
PS

OF-01

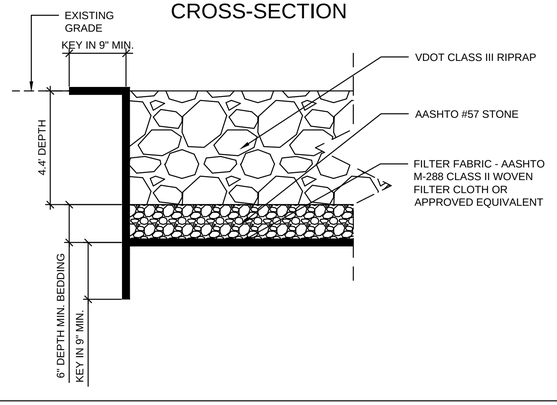
NOTE: REFER TO THE TREE PROTECTION PLAN AND SPECIFICATION 01 14 00 TEMPORARY TREE AND PLANT PROTECTION FOR ADDITIONAL REQUIREMENTS.

OUTLET PROTECTION GRADE TO BE ELEVATION -2.4 WITHIN LIMITS SHOWN; BEYOND LIMITS, GRADE TO MATCH EXISTING UNLESS OTHERWISE INDICATED.

THE PROPOSED STORM SEWER SYSTEM OUTFALL IS DESIGNED TO DISCHARGE IN A NON-EROSIVE MANNER USING RIPRAP OUTLET PROTECTION SIZED FOR THE 10-YEAR DESIGN STORM DISCHARGE. FOUR MILE RUN IS AN ADEQUATE RECEIVING CHANNEL FOR THE PROPOSED STORM SEWER SYSTEM DISCHARGE.

EDGE OF RIPRAP PER USACE AS-RECORD DRAWINGS DATED MAY 1976

RIPRAP APRON, TYPICAL CROSS-SECTION



CITY OF ALEXANDRIA
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DSGN	A.CARLSON		V.TAYLOR		H.LUSK	J.KELLY

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ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

EROSION CONTROL ENLARGED PLAN

1"=10'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-09
SHEET	42 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: EC-09.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:07 PM

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION
THIS IS THE SITE PLAN FOR STORM SEWER CAPACITY AND INLET IMPROVEMENTS WITHIN THE FOUR MILE RUN (FMR) WATERSHED TO ALLEVIATE LOCALIZED FLOODING WITHIN THE PROJECT AREA. IMPROVEMENTS ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY (ROW) ON THE FOLLOWING STREETS: ASHBY STREET, COMMONWEALTH AVENUE, EAST GLEBE ROAD, AND MONTROSE AVENUE. ANCILLARY IMPROVEMENTS TO SEVERAL ADDITIONAL CROSS STREETS ARE PROPOSED AS A COMPONENT OF THE LARGER INFRASTRUCTURE WORK. THE CONTRACTOR LAYDOWN AREA IS LOCATED AT FOUR MILE RUN SOFTBALL FIELD. THE PROJECT WILL CONSIST OF STORM SYSTEM AND UTILITY INSTALLATIONS, SOIL EXCAVATION, PAVING, EROSION AND SEDIMENT CONTROL PRACTICES, AND A SUPPORTING CONTRACTOR LAYDOWN SITE.

EXISTING SITE CONDITIONS: THE FMR WATERSHED WITHIN THE PROJECT AREA IS AN APPROXIMATE 300-ACRE AREA COMPRISED ALMOST ENTIRELY OF URBAN LAND THAT DRAINS PRIMARILY FROM THE SOUTHEAST NORTHWARD TO SEVERAL STORM OUTFALLS INTO FMR. THE DRAINAGE AREA CONSISTS MAINLY OF RESIDENTIAL AND COMMERCIAL LAND USES AND PUBLIC ROW. THE LOCATION OF THE OUTFALL ON COMMONWEALTH AVENUE CONTAINS BOTH WETLANDS AND WATERS OF THE US ALONG THE SHORELINE OF FOUR MILE RUN ALONG WITH BEING LOCATED WITHIN A RESOURCE PROTECTION AREA (RPA) BUFFER.

ADJACENT AREAS: THE CITY OF ALEXANDRIA, VA IS A DENSELY POPULATED AREA. THE SURROUNDING AREAS OF THE PROJECT LIMITS OF DISTURBANCE (LOD) CONSISTS OF THE BOTH RESIDENTIAL, INDUSTRIAL, AND COMMERCIAL LAND. THE SITE IS PRIMARILY SURROUNDED BY RESIDENTIAL NEIGHBORHOODS TO THE WEST, SOUTH, AND NORTH, WITH COMMERCIAL LAND TO THE EAST.

OFF-SITE AREAS: THERE IS NO OFF-SITE AREA ANTICIPATED FOR USE AS PART OF THIS PROJECT. CONTRACTOR STAGING, MATERIAL LAYDOWN, STOCKPILING, CONTRACTOR PARKING, CONTRACTOR TRAILER, CONCRETE WASHOUT AREA, AND OTHER CONTRACTOR SUPPORT ACTIVITIES WILL TAKE PLACE WITHIN THE DESIGNATED LAYDOWN AREAS AS SHOWN ON THE PLANS.

SOILS: A SOIL REPORT FROM THE UNITED STATES DEPARTMENT OF AGRICULTURE (USDA) WAS REFERENCED DURING PLAN DEVELOPMENT. THE SOILS WITHIN THE LOD ARE DESCRIBED BELOW AND ARE GENERALLY CONSIDERED URBAN LAND WITH FILL PLACED FROM PERVIOUS DEVELOPMENT. REFER TO
95 (URBAN LAND, SLOPE NOT IDENTIFIED, NO HSG, NO K-FACTOR)
98 (URBAN LAND - GRIST MILL, SLOPE: 0% TO 25%, HSG - C, NO K-FACTOR)
REFER TO THE SITE SPECIFIC GEOTECHNICAL REPORT AND TEST BORINGS FOR SOIL AND GROUNDWATER CONDITIONS WITHIN THE PROJECT AREA.

LIMITS OF DISTURBANCE: THE LIMITS OF DISTURBANCE SHOWN ON THESE PLANS ARE THE ULTIMATE LIMITS FOR THE PROJECT. THE TOTAL AREA THAT WILL BE DISTURBED IS APPROXIMATELY 8.98 ACRES. THE CONTRACTOR MUST APPLY SEPARATELY TO THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES) FOR ANY WORK TO BE PERFORMED WITHIN THE PUBLIC ROW. WORK AND ASSOCIATED CLOSURES WITHIN THE PUBLIC ROW WILL BE PERMITTED BY T&ES.

CRITICAL AREAS: THE CRITICAL EROSION AND SEDIMENT FACTORS INCLUDED THE PREVENTION OF SEDIMENT FROM ENTERING FOUR MILE RUN. THE PROPOSED STORM SYSTEM OUTFALL TO FMR INCLUDES CONSTRUCTION WITHIN THE CITY OF ALEXANDRIA RPA. THE LOCATION OF THE RPA BOUNDARY SHOWN ON THESE PLANS IS BASED ON FIELD DELINEATED WETLANDS/LIVE WATER COURSE. ALL WORK WITHIN THE WETLANDS, THE LIVE WATERCOURSE, AND THE RPA MUST BE DONE IN ACCORDANCE WITH CITY OF ALEXANDRIA OFFICE OF ENVIRONMENTAL QUALITY AND ALL OTHER STATE AND FEDERAL PERMITTING REQUIREMENTS.

EXCAVATED MATERIAL HANDLING: SOIL STOCKPILES ARE NOT PERMITTED WITHIN THE RPA. CONFINED CONTAINERS SHALL BE USED TO HOLD SPOILS FROM EXCAVATION PRIOR TO OFFSITE DISPOSAL WITHIN THE RPA.

EXCAVATION DEWATERING: WATER PUMPED FROM EXCAVATIONS WILL BE PRE-TREATED BY MOBILE ACTIVE TREATMENT PRACTICES. AFTER PRE-TREATMENT TO TURBIDITY LESS THAN 50 NTU/FTUS CONSTRUCTION DEWATERING DISCHARGE CAN BE CONVEYED TO DOWNSTREAM STORM SYSTEM OR FOUR MILE RUN. DOCUMENTATION OF PRETREATMENT EFFLUENT TEST RESULTS WILL BE INCLUDED IN THE CLD'S DOCUMENTATION FOR REVIEW BY INSPECTORS.

EROSION AND SEDIMENT CONTROL MEASURES

COMPOST FILTER SOCK (C-PCM-05): COMPOST FILTER SOCK (CFS) WILL BE UTILIZED IN ALL LOCATIONS OF IMPERVIOUS SURFACES SUCH AS ASPHALT AND CONCRETE IN THE REPLACEMENT FOR A PERIMETER CONTROL SUCH AS SILT FENCE. WHERE THE DOWNSTREAM SIDE OF THE TRENCH IS LOCATED AND THERE IS A RISK FOR SEDIMENT LADEN WATER TO TRAVEL FROM THE SITE INTO THE STORM DRAIN SYSTEM, CFS WILL BE APPLIED. THE CFS MUST COMPLY WITH DETAILS INCLUDED ON SHEET EC-13 REGARDING SIZING AS WELL AS MATERIAL AND MAINTENANCE.

CONCRETE WASHOUT PIT (C-SCM-13): CONCRETE WASHOUT PIT (CWP) OR OTHERWISE ABOVE GROUND STRUCTURE SHALL BE UTILIZED DURING THE ENTIRETY OF THE CONSTRUCTION PHASES WHILE CONCRETE IS POURED ONSITE TO MAKE CAST-IN-PLACE DRAINAGE STRUCTURES. THE CONSTRUCTION TRUCKS AND THE CWP SHALL COMPLY WITH VDEQ STANDARDS IN TERMS OF INSTALLATION AND MAINTENANCE. THE PLACEMENT OF THE CWP SHALL NOT BE LOCATED NEAR ANY STORM DRAINS, DITCHES, OR WITHIN THE RPA.

STONE CONSTRUCTION ENTRANCE (C-SCM-03): A STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED AT THE CONTRACTOR LAYDOWN. THE STABILIZED CONSTRUCTION ENTRANCE WILL MINIMIZE THE POTENTIAL FOR TRACKING SEDIMENTS ONTO OFF-SITE AREAS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT VEHICLES AND EQUIPMENT AND CONFIRM SOIL MATERIALS ARE NOT TRACKED ONTO ANY OFF-SITE AREAS.

CONSTRUCTION ROAD STABILIZATION (C-SCM-02): TEMPORARY TIMBER DECK MATTING OR OTHER SUITABLE STABILIZATION MATTING SHALL BE USED IN ACCORDANCE WITH VDEQ SPECIFICATIONS FOR LOCATIONS WHERE EXISTING SOIL CONDITIONS ARE NOT ADEQUATE FOR CONSTRUCTION VEHICLES AND OPERATE WITHIN THE LOD OF THE PROJECT. MATTING IS USED TO PROVIDE A STURDY AND SAFE ENVIRONMENT FOR ALL CONSTRUCTION VEHICLES TO ENTER AND EXIT SPECIFIC AREAS WITHIN THE LOD. MATTING SHALL BE USED WITHIN CONTRACTOR LAYDOWN AREA TO MINIMIZE IMPACTS TO THE SITE THROUGHOUT THE DURATION OF THE PROJECT.

SILT FENCE (C-PCM-04): SILT FENCE SHALL BE USED TO REDUCE THE POTENTIAL MIGRATION OF SUSPENDED SEDIMENTS FROM WORK AREAS TO DOWNGRADIENT OFF-SITE AREAS. SILT FENCE WILL BE INSTALLED ALONG THE PERIMETER OF THE WORK AREA AND LAYDOWN AREAS AS SHOWN ON THESE DRAWINGS.

INLET PROTECTION (C-SCM-04): ALL EXISTING AND PROPOSED CURB, GRATE, AND YARD, INLETS THAT ARE DOWNSTREAM OR WITHIN ANY LAND DISTURBING ACTIVITIES SHALL BE PROTECTED THROUGHOUT THE DURATION OF CONSTRUCTION.

CULVERT INLET PROTECTION (C-SCM-05): ALL EXISTING CULVERT INLETS THAT ARE DOWNSTREAM OR WITHIN ANY LAND DISTURBING ACTIVITIES SHALL BE PROTECTED THROUGHOUT THE DURATION OF CONSTRUCTION.

OUTLET PROTECTION (C-ECM-15): RIP RAP OUTLET PROTECTION IS PROPOSED TO BE INSTALLED AT PROPOSED STORM SYSTEM OUTFALLS TO FOUR MILE RUN TO PREVENT SCOUR AT THE STORM OUTFALLS.

RIPRAP (C-ECM-13): RIPRAP BANK STABILIZATION IS PROPOSED TO REPLACE THE EXISTING STONE BANK PROTECTION LOCATED AT THE OUTFALL LOCATION TO FOUR MILE RUN.

DEWATERING STRUCTURE (C-SCM-11): ALL DEWATERED GROUNDWATER SHALL BE FILTERED WITH FILTER BAGS, SEDIMENT TANKS, OR SEDIMENT BOXES AS APPLICABLE THROUGHOUT THE DURATION OF CONSTRUCTION. REFER TO THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK v1.1, CHAPTER 7.4, SECTION C-SCM-11 FOR MORE INFORMATION ON DEWATERING.

TURBIDITY CURTAIN (C-SCM-09): A TURBIDITY CURTAIN IS TO BE INSTALLED OUTWARD OF ANY COFFERDAM LOCATED AT THE PROPOSED STORM OUTFALL INSTALLATION INTO FOUR MILE RUN TO PROVIDE SEDIMENTATION PROTECTION FOR THE WATERCOURSE. THIS WATERCOURSE IS SUBJECT TO TIDAL FLUCTUATIONS AND THUS A TYPE III CURTAIN INSTALLATION IS REQUIRED. REFER TO THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK (LATEST VERSION), CHAPTER 7.4, SECTION C-SCM-09 FOR REQUIREMENTS.

TEMPORARY SEEDING (C-SSM-09): TEMPORARY SEEDING SHALL ONLY OCCUR WITHIN AREAS OF LAND DISTURBANCE THAT WILL NOT BE BROUGHT TO FINAL GRADING FOR A PERIOD OF LONGER THAN 7 DAYS. TEMPORARY SEEDING SHALL BE DONE TO PROTECT DISTURBED AND EXPOSED GROUND TO THE STORMWATER RUNOFF WITH SEDIMENT LADEN WATER. THIS EFFORT SHOULD CONTINUE UNTIL PERMANENT STABILIZATION IS ABLE TO OCCUR.

TREE PROTECTION (C-SSM-01): ALL TREES WITHIN THE PUBLIC ROW AND WITHIN THE LOD OF THE PROJECT SITE AREA THAT ARE CALLED OUT TO BE PROTECTED DURING CONSTRUCTION SHALL BE DONE SO IN THE INITIAL PHASES OF CONSTRUCTION AT THE SAME TIME AS THE INSTALLATION OF THE PERIMETER CONTROLS. REFER TO THE TREE PRESERVATION PLAN FOR APPLICABLE TREE PROTECTION MEASURES AND SPECIFICATIONS. TREES WITHIN THE LOD CALLED OUT TO BE REMOVED DURING CONSTRUCTION SHALL BE COMPLETED AFTER THE STAKEOUT OF THE LOD AND PRIOR TO OTHER LAND DISTURBING ACTIVITIES. REFER TO THE TREE PRESERVATION PLAN FOR SPECIFICATIONS ON WHAT TREES ARE TO BE PROTECTED OR REMOVED.

DUST CONTROLS (C-SCM-01): DUST CONTROLS MAY INCLUDE APPLYING WATER TO EXPOSED SOILS FROM A WATER TRUCK, AN ON-SITE WATER TANK, OR OTHER APPROVED WATER SOURCE, SWEEPING PAVED ROADWAYS, AND MULCHING BARE SOIL AREAS. THESE ACTIVITIES WILL BE IMPLEMENTED ON AN AS-NEEDED BASIS BASED ON OBSERVED CONDITIONS OR AS-DIRECTED BY CITY OF ALEXANDRIA'S ON-SITE REPRESENTATIVE AND/OR ENGINEER DURING CONSTRUCTION, TO REDUCE THE POTENTIAL FOR DUST GENERATION. WATER FOR DUST SUPPRESSION SHALL BE APPLIED SUCH THAT RUNOFF OR EXCESSIVE SOIL SATURATION DOES NOT RESULT IN SOIL EROSION.

PERMANENT STABILIZATION

ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE PERMANENTLY STABILIZED AT THE POINT OF FINAL GRADING OF THE SITE. ALL PERVIOUS DISTURBED AREAS ON SITE SHALL BE PERMANENT SEEDED AND MULCHED ACCORDING TO C-SSM-09 AND THE CONTRACT DOCUMENTS. REFER TO EROSION AND SEDIMENT CONTROL PLANS FOR SPECIFIC LOCATION OF PERMANENT SEEDING. SEEDED AREAS WHICH DO NOT GERMINATE OR WHICH DIE SHALL BE RESEEDED AFTER DETERMINING THE CAUSE OF THE PROBLEM AND TAKING THE NECESSARY CORRECTIVE ACTION. AFTER ADEQUATE STABILIZATION HAS BEEN ACHIEVED, ALL TEMPORARY ESC MEASURES SHALL BE REMOVED.

MAINTENANCE

THE RESPONSIBLE LAND DISTURBER SHALL BE RESPONSIBLE FOR THE MAINTENANCE AND REPAIR OF ALL EROSION AND SEDIMENT CONTROL MEASURES. IN GENERAL, ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSPECTED AT LEAST ONCE EVERY 4 BUSINESS DAYS, OR AT LEAST ONCE EVERY 5 BUSINESS DAYS AND NO LATER THAN 24 HOURS FOLLOWING A MEASURABLE STORM EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE MADE IMMEDIATELY. THE FOLLOWING ITEMS IN PARTICULAR SHALL BE INSPECTED.

1. **SILT FENCE AND COMPOST FILTER SOCKS**: REQUIRED REPAIRS MUST BE MADE IMMEDIATELY. SPECIAL ATTENTION SHALL BE GIVEN TO UNDERMINING, "END RUNS", AND THE INTEGRITY OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES HALFWAY TO THE TOP OF THE BARRIER.
2. **INLET PROTECTIONS** (CURB, GRATE, AND YARD): REPLACE CLOGGED AGGREGATES OR FILTER FABRIC IMMEDIATELY AFTER DEFICIENCIES ARE FOUND. INSPECT FOR DAMAGES TO THE PROTECTION MEASURES THAT MAY BE CAUSED BY LARGE FLOWS.
3. **OUTLET PROTECTION** INCLUDING RIPRAP OUTLET STRUCTURES SHALL BE INSPECTED TO IDENTIFY ANY EROSION AROUND OR BELOW THE RIPRAP OR IF STONES HAVE BEEN DISLODGED. IMMEDIATELY DO ALL NEEDED REPAIRS TO PREVENT FURTHER DAMAGE. ACCUMULATED SEDIMENT AND DEBRIS MUST BE REMOVED.
4. **TURBIDITY CURTAIN:** REPAIRS TO THE GEOTEXTILE FABRIC SHALL BE MADE AS NECESSARY USING REPAIR KITS AVAILABLE FROM THE MANUFACTURER. FOLLOW THE MANUFACTURER'S INSTRUCTIONS TO ENSURE THE ADEQUACY OF THE REPAIR.
5. **DEWATERING STRUCTURE** INCLUDING PUMPS AND SEDIMENT FILTERING DEVICES: SHALL BE CHECKED FOR AND TO ENSURE NO SEDIMENT LADEN WATER IS DISCHARGED FROM THE SITE. REMOVE THE ACCUMULATED SEDIMENT FROM THE DEWATERING DEVICE AND STABILIZE OR DISPOSE OF AT AN APPROVED DISPOSAL SITE AS PER APPROVED PLAN.
6. **CONSTRUCTION ROAD** STABILIZATION INCLUDING ROADWAYS AND PARKING AREAS: REPAIRS TO THE MEASURES SHALL BE MADE IMMEDIATELY AFTER INSPECTIONS.
7. **STONE CONSTRUCTION ENTRANCES:** MAINTENANCE OF THE ENTRANCE SHALL BE KEPT UP TO STANDARDS TO PREVENT TRACKING OR FLOW OF DIRT, MUD, OR SEDIMENT ONTO PUBLIC ROW, REPAIRS SHALL BE MADE IMMEDIATELY AFTER INSPECTIONS.
8. **CONCRETE WASHOUT PIT**: DEACTIVATE AND REPAIR OR REPLACE DAMAGED OR LEAKING FACILITIES IMMEDIATELY. EXCESS RAINWATER THAT HAS ACCUMULATED OVER HARDENED CONCRETE SHALL BE PUMPED AS NECESSARY TO A STABILIZED AREA. REMOVE ACCUMULATED HARDENED MATERIAL WHEN THREE FOURTHS OF THE STORAGE CAPACITY OF THE STRUCTURE IS FILLED.
9. CHECK **SEEDED AND PLANTED AREAS** TO ENSURE THAT A GOOD STAND IS MAINTAINED. WATER PLANTINGS DURING DRY PERIODS. RESEED OR REPLANT AND FERTILIZE AS NEEDED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. 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.
2. 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 REFERENCE MANUAL: VIRGINIA STORMWATER MANAGEMENT HANDBOOK (LATEST VERSION), VIRGINIA REGULATIONS §9VAC25-875 EROSION AND SEDIMENT CONTROL.
3. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE PARTIAL RELEASE OF SITE PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
4. A "RESPONSIBLE LAND DISTURBER" (RLD) 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 RLD 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.
5. 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 CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.
6. 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.
7. 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.
8. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF PHASE 1 EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
10. 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.
11. THE DEVELOPER AND CONTRACTORS ARE 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.
12. 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.
13. 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.
14. 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.
15. 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.
16. 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.
17. 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.
18. ALL VEHICLES SHALL PASS THROUGH A WHEEL WASH BEFORE ENTERING ONTO THE PUBLIC RIGHT-OF-WAY.
19. THE WASH WATER FROM THE WHEEL WASH SHALL BE FILTERED TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO ENTER THE STORM SYSTEM, THE STREAM OR RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT OF WAY.
20. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
21. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.

RESOURCE PROTECTION AREA NOTES

1. MINIMAL IMPACTS TO THE CITY OF ALEXANDRIA RESOURCE PROTECTION AREA (RPA) AT THE PROPOSED STORM SYSTEM OUTFALL TO FOUR MILE RUN AT THE NORTHERN EXTENTS OF COMMONWEALTH AVE, AS SHOWN ON THIS PLAN. SEE NOTES ON SHEET G-33.
2. VEGETATION IN THE RPA WILL BE REMOVED BY THIS PERMIT IN ACCORDANCE WITH CITY APPROVALS.
3. TEMPORARY SOIL STOCKPILES ARE PROHIBITED WITHIN THE RPA.
4. USACE AND VMRC PERMITS WILL BE REQUIRED FOR WORK IN FOUR MILE RUN.

FLOODPLAIN NOTES:

1. PORTIONS OF THE SITE IS LOCATED WITHIN THE FEMA DESIGNATED 100-YEAR FLOODPLAIN OF FOUR MILE RUN.

CGP PERMIT:

A COPY OF THE CONSTRUCTION GENERAL PERMIT SHALL BE KEPT ON-SITE AS PART OF THE SWPPP DOCUMENTATION.

CERTIFIED LAND DISTURBER (CLD) AND SWPPP DOCUMENTATION REQUIREMENTS:

1. THE CONTRACTOR MUST OBTAIN AND MAINTAIN RESPONSIBLE LAND DISTURBER CERTIFICATION FROM THE VIRGINIA DEQ THROUGHOUT THE DURATION OF THE PROJECT. CERTIFICATION TRAINING MATERIALS AND TEST ARE AVAILABLE ONLINE. THE CLD NAME, CERTIFICATION NUMBER, EXPIRATION DATE, AND MOBILE PHONE NUMBER MUST BE NAMED IN A LETTER TO THE COA DIVISION CHIEF OF CONSTRUCTION & INSPECTION PRIOR TO ANY LAND DISTURBANCE. IF THE CLD CHANGES DURING THE PROJECT, THE DIVISION CHIEF MUST BE NOTIFIED IN WRITING.
2. SWPPP INSPECTION RECORDS SHALL BE PREPARED AT THE INTERVAL REQUIRED BY CGP PERMIT. CERTIFIED LAND DISTURBER MUST SIGN AND DATE INSPECTION RECORDS.
3. SWPPP INSPECTION REPORTS SHALL DOCUMENT WHETHER EROSION AND SEDIMENT CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SEDIMENT AND CONSTRUCTION / DEMOLITION CHEMICALS / MATERIALS FROM ENTERING THE STORM SYSTEM.
4. BASED ON INSPECTION RESULTS: LOCATION, ACTIVITY DESCRIPTION, AND POLLUTION PREVENTION MEASURES ARE MODIFIED AS APPROPRIATE WITHIN 5 BUSINESS DAYS FOLLOWING THE INSPECTION. CORRECTIVE ACTIONS ARE DOCUMENTED IN THE SWPPP RECORDS.

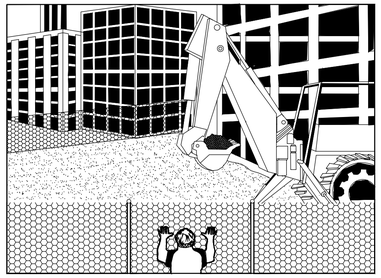
THE SITE WILL BE SUBJECT TO INSPECTION BY CITY OF ALEXANDRIA. INSPECTORS FROM THE VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY(DEQ), AND FEDERAL EPA ALSO MAY INSPECT FOR COMPLIANCE WITH THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), WHICH INCLUDES THE EROSION CONTROL PLAN APPROVED BY THE CITY OF ALEXANDRIA. THE SWPPP ALSO REQUIRES INSPECTION REPORTS AND MAINTENANCE REPORTS SIGNED AND DATED BY THE CERTIFIED LAND DISTURBER. CITY, STATE, AND FEDERAL INSPECTORS HAVE THE AUTHORITY TO REQUIRE MODIFICATION TO THE EROSION CONTROL PLAN IMPLEMENTATION. ALL EROSION CONTROL PLANS REQUIRE ONGOING ADAPTATION TO FIELD CONDITIONS AS CONSTRUCTION PROGRESSES. CHANGES TO THE PLAN SHALL BE DOCUMENTED AND APPROVED BY THE CITY EROSION CONTROL INSPECTOR. IF ADDITIONAL AREAS ARE DISTURBED, FOR EXAMPLE AS AN EXPANSION OF THE CONSTRUCTION ZONE, THEN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK (LATEST VERSION) ARE REQUIRED. APPROVAL FROM THE CITY EROSION CONTROL INSPECTOR IS REQUIRED PRIOR TO DISTURBANCE OF ADDITIONAL AREAS.

ESC CONSTRUCTION SEQUENCE

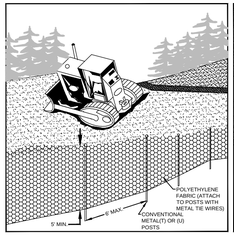
1. THE SEQUENCE OF CONSTRUCTION SERVES AS A GUIDE TO THE CONTRACTOR. THE PERSON DESIGNATED AS THE RESPONSIBLE LAND DISTURBER HAS THE LEGAL RESPONSIBILITY FOR IMPLEMENTATION OF ALL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE. NOTHING IN THIS SEQUENCE OF CONSTRUCTION SHALL PRECLUDE THE RESPONSIBLE LAND DISTURBER FROM THE RIGHT TO MAKE ANY NECESSARY MODIFICATION TO THE PLANS INCLUDING SPECIFIC SEQUENCE, PHASING, AND ADDITIONAL MEASURES SO LONG AS THOSE MODIFICATIONS ARE IN ACCORDANCE WITH THE VESCH AND HAVE BEEN APPROVED BY CITY AUTHORITY.
2. PRIOR TO THE START OF CONSTRUCTION, CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS FOR THE WORK.
3. 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.
4. A PRE-CONSTRUCTION WALK/SURVEY OF THE SITE SHALL OCCUR WITH CITY TRANSPORTATION AND ENVIRONMENTAL SERVICES CONSTRUCTION AND INSPECTION STAFF TO DOCUMENT EXISTING SITE CONDITIONS PRIOR TO ANY LAND DISTURBING ACTIVITY.
5. COMPLETE PRE-CONSTRUCTION SURVEY AND STAKEOUT.

PHASE 1 (STA 99+00 - STA 119+72)

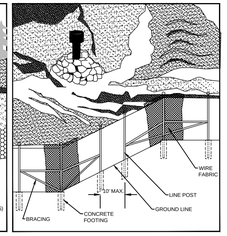
6. ESTABLISH CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS FOR LAYDOWN AREA 1.
7. TREES WITHIN THE LOD CALLED OUT TO BE REMOVED SHALL BE COMPLETED AFTER THE STAKEOUT OF THE LOD AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITIES.
8. CONSTRUCT LAYDOWN AREA 1 .
9. PERFORM SITE PREP, INCIDENTAL DEMOLITION, AND RESETS (SIGNS, MAILBOXES, ETC.).
10. CLEAR FOR ACCESS FOR STRUCTURE PLACEMENT. RIP RAP THAT IS REMOVED MAY BE STORED AND REUSED.
11. INSTALL TURBIDITY CURTAIN IN FOUR MILE RUN .
12. CONSTRUCT TEMPORARY COFFERDAM.
13. CONSTRUCT ST C-1 OUTLET STRUCTURE STA 100+40.
14. CONSTRUCT OUTFALL PROTECTION.
15. CONSTRUCT CSO OVERFLOW REROUTE FROM SS C-01 TO SS C-03.
16. REMOVE OUTFALL, CUT, PLUG AND ABANDON EXISTING 27" PIPE.
17. RELOCATE EXISTING 20" SFM FROM STA 102+04.28 TO STA 103+10.45.
18. EROSION AND SEDIMENT CONTROL MEASURES TO BE INSTALLED AS THE NEW STORM SEWER AND INLETS ARE INSTALLED.
19. INSTALL BOX CULVERT FROM STA 100+40 TO 107+00, ALL EXISTING CROSS PIPES TO BE CUT, PLUGGED, AND ABANDONED AS SHOWN ON THE PLANS.
20. REPLACE ACCESS PATH TO EXISTING BOAT RAMP – MAINTAINING 12 FT WIDTH AT ALL TIMES ONCE BOX CULVERT CONSTRUCTION PASSES STA 103+00.
21. CONSTRUCTION OF LAYDOWN AREA 2 MAY BEGIN ONCE BOX CULVERT CONSTRUCTION PASSES STA 103+00. ADDITIONAL LAYDOWN AREA ALONG THE EASTERN SIDE OF COMMONWEALTH AVENUE MAY BE CONSTRUCTED AS BOX CULVERT PROGRESSES SOUTHWARD
22. REPLACE EXISTING 10" SANITARY SEWER WITH 12" PVC AND 18" CASING AT STA 107+10.98.
23. CONTINUE BOX CULVERT INSTALLATION TO STA 110+00.
24. REPLACE EXISTING 10" SANITARY SEWER WITH 12" PVC AND 18" CASING AT STA 110+14.63.
25. CONTINUE BOX CULVERT CONSTRUCTION TO STA 114+95.
26. INSTALL SS C-08 & -09.
27. INSTALL 12" SANITARY SEWER WITH 18" CASING, ABANDON EXISTING SANITARY SEWER IN ACCORDANCE WITH THE PLANS.
28. CONTINUE BOX CULVERT CONSTRUCTION TO STA 119+70.
29. INSTALL BIORETENTION WITHIN MEDIANS AND PROTECT FROM SEDIMENTATION AND DAMAGE DURING CONSTRUCTION.
30. INSTALL ST C-14 AT STA 119+80 WITH 24" CASING PIPE FOR 16" SANITARY SEWER CROSSING; CONTRACTOR SHOULD VERIFY NO MEASURABLE PRECIPITATION IS FORECAST FOR THE NEXT 96 HOURS.



PERSPECTIVE VIEW



PERSPECTIVE VIEW
PLASTIC FENCE



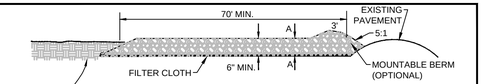
PERSPECTIVE VIEW
METAL FENCE

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

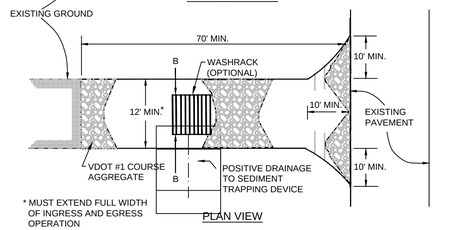
SAFETY FENCE

v1.1 SOURCE: VDOT STDS., VA DSWC, CONWED PLASTICS C-PCM-01-1

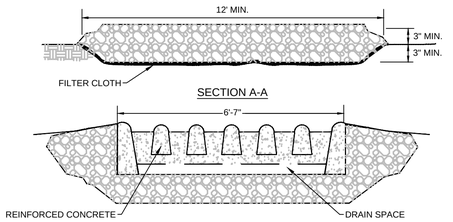
SAF SAFETY FENCE
NOT TO SCALE



SIDE ELEVATION



PLAN VIEW



SECTION A-A

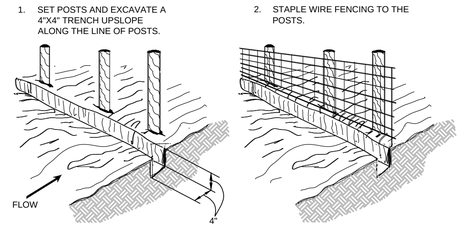
SECTION B-B

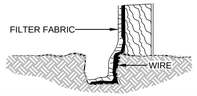
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STONE CONSTRUCTION ENTRANCE

v1.1 SOURCE: VA. DSWC, MD ESC STDS C-SCM-03-1

CE CONSTRUCTION ENTRANCE
NOT TO SCALE

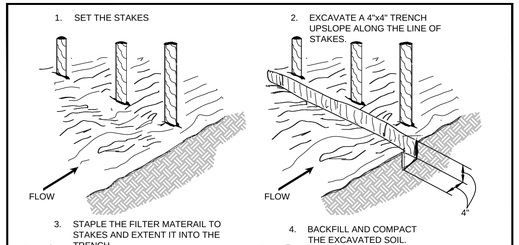




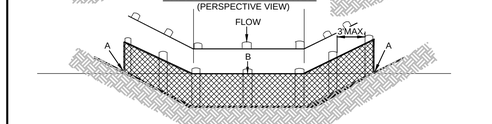
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

CONSTRUCTION OF SILT FENCE WITH WIRE SUPPORT INSTALLATION

v1.1 SOURCE: ADAPTED FROM STRAW & FAB. BARRIERS, SHERWOOD & WYANT C-PCM-04-2



SHEET FLOW INSTALLATION
(PERSPECTIVE VIEW)



POINTS A SHOULD BE HIGHER THAN POINT B.

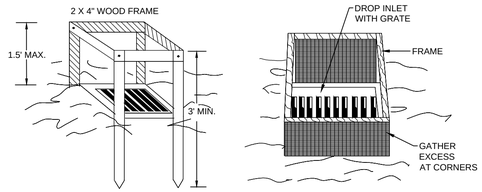
DRAINAGEWAY INSTALLATION
(FRONT ELEVATION)

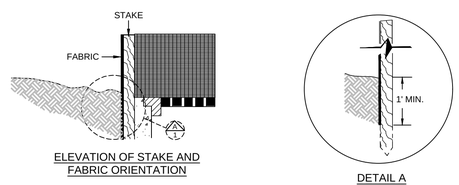
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

CONSTRUCTION OF SILT FENCE WITHOUT WIRE SUPPORT

v1.1 SOURCE: ADAPTED FROM STRAW & FAB. BARRIERS, SHERWOOD & WYANT C-PCM-04-2B

SF SILT FENCE
NOT TO SCALE





ELEVATION OF STAKE AND FABRIC ORIENTATION

DETAIL A

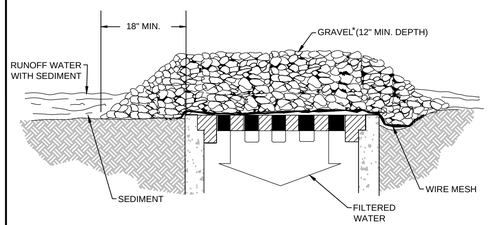
SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE THE INLET DRAINS A RELATIVELY FLAT AREA (SLOPE NO GREATER THAN 5%) WHERE THE INLET SHEET OR OVERLAND FLOWS (NOT EXCEEDING 1 C.F.S.) ARE TYPICAL. THE METHOD SHALL NOT APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS APPLY TO INLETS RECEIVING CONCENTRATED FLOWS, SUCH AS IN STREET OR HIGHWAY MEDIANS.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

SILT FENCE DROP INLET PROTECTION

v1.1 SOURCE: NC ESC DESIGN MAN. C-SCM-04-1



SPECIFIC APPLICATION

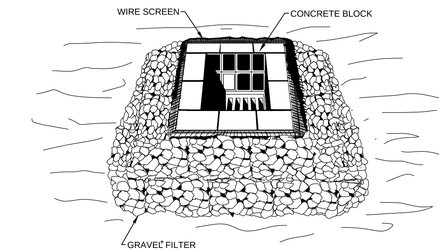
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY CONCENTRATED FLOWS ARE EXPECTED BUT NOT WHERE PONDING AROUND THE STRUCTURE MIGHT CAUSE EXCESSIVE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

GRAVEL AND WIRE MESH DROP INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-2



SPECIFIC APPLICATION

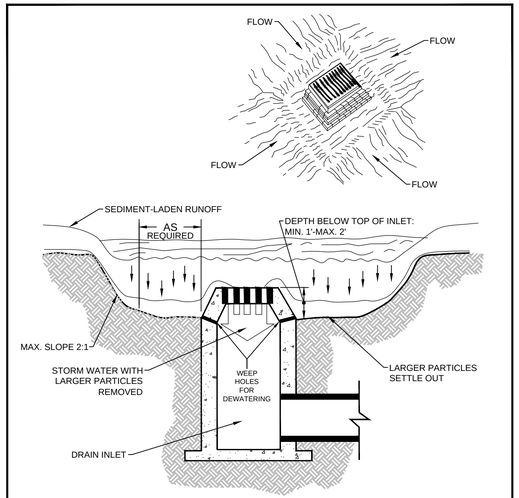
THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPACITY IS NECESSARY TO PREVENT EXCESSIVE PONDING AROUND THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

BLOCK AND GRAVEL DROP INLET SEDIMENT FILTER

v1.1 SOURCE: VA. DSWC C-SCM-04-3



SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE WHERE HEAVY FLOWS ARE EXPECTED AND WHERE AN OVERFLOW CAPABILITY AND EASE OF MAINTENANCE ARE DESIRABLE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

EXCAVATED DROP INLET SEDIMENT TRAP

v1.1 SOURCE: PETERSON ET AL., 1975 C-SCM-04-4

IP DROP INLET PROTECTION
NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN	A CARLSON	V TAYLOR			H LUSK	APVD
						APVD
						J KELLY

REUSE OF DOCUMENTS: THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF JACOBS AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF JACOBS. ©JACOBS 2020. ALL RIGHTS RESERVED.

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

EROSION CONTROL DETAILS (SHEET 1 OF 4)

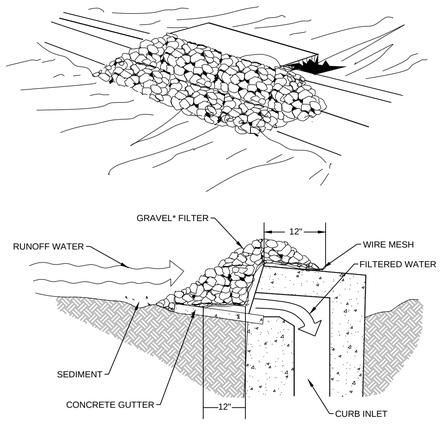
FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-11
SHEET	44 of 158

FILENAME: EC-11.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:08 PM

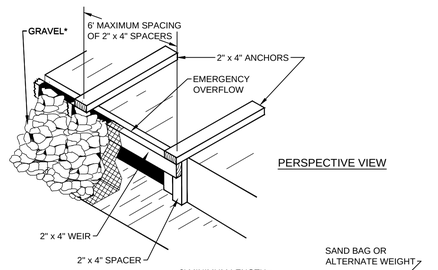


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE PONDING IN FRONT OF THE STRUCTURE IS NOT LIKELY TO CAUSE INCONVENIENCE OR DAMAGE TO ADJACENT STRUCTURES AND UNPROTECTED AREAS.

* GRAVEL SHALL BE VDOT #3, #357 OR 5 COARSE AGGREGATE.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | v1.1 | SOURCE: VA. DSWC | GRAVEL CURB INLET SEDIMENT FILTER | C-SCM-04-5

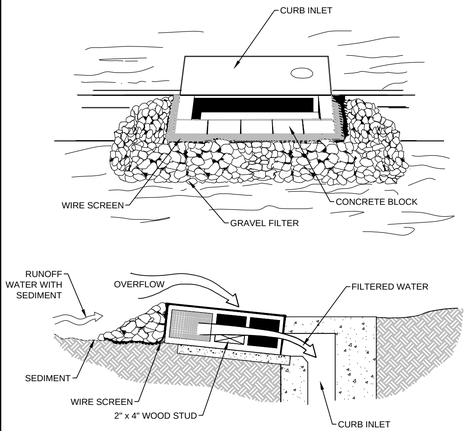


SPECIFIC APPLICATION

THIS METHOD OF INLET PROTECTION IS APPLICABLE T0 CURB INLETS WHERE A STURDY, COMPACT INSTALLATION IS DESIRED. EMERGENCY OVERFLOW CAPABILITIES ARE MINIMAL, SO EXPECT SIGNIFICANT PONDING WITH THIS MEASURE.

*GRAVEL SHALL BE VDOT COARSE AGGREGATE #3, #357 OR #5

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | v1.1 | SOURCE: USDA NRCS | CURB INLET PROTECTION WITH 2-INCH X 4-INCH WOODEN WEIR | C-SCM-04-6



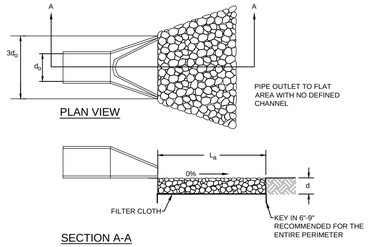
SPECIAL APPLICATION

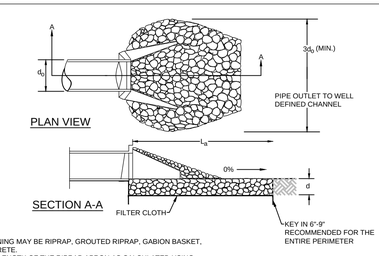
THIS METHOD OF INLET PROTECTION IS APPLICABLE AT CURB INLETS WHERE AN OVERFLOW CAPABILITY IS NECESSARY TO PREVENT EXCESSIVE PONDING IN FRONT OF THE STRUCTURE.

* GRAVEL SHALL BE VDOT #3, #357 OR #5 COARSE AGGREGATE

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | v1.1 | SOURCE: VA. DSWC | BLOCK AND GRAVEL CURB INLET SEDIMENT FILTER | C-SCM-04-7

IP CURB INLET PROTECTION
NOT TO SCALE





NOTES
1. APRON LINING MAY BE RIPRAP, GROUTED RIPRAP, GABION BASKET, OR CONCRETE.
2. La IS THE LENGTH OF THE RIPRAP APRON AS CALCULATED USING FIGURE C-ECM-15-3 AND FIGURE C-ECM-15-4
3. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER, BUT NO LESS THAN 6 INCHES.

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY | v1.1 | SOURCE: VA DSWC | PIPE OUTLET CONDITIONS | C-ECM-15-1

OP RIPRAP OUTLET PROTECTION
NOT TO SCALE

Table C-SSM-09-3 Plant Material for Temporary Seeding

Acceptable Temporary Seeding Plant Materials "Quick Reference for all Regions"

Planting Dates	Species	Rate (pounds per acre)
Sept. 1 – Feb. 15	50/50 Mix of annual ryegrass (*Lolium multi-florum*) & cereal (winter) rye (*Secale cereale*)	50 – 100
Feb. 16 – Apr. 30*	Annual ryegrass (*Lolium multi-florum*)	60 – 100
May 1* – Aug. 31	German millet (*Setaria italica*)	50

* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

Table C-SSM-09-4 Temporary Seeding Applications

Temporary Seeding Plant Materials, Seeding Rates, and Dates

Species	Seeding Rate	North[a]			South[b]			Plant Characteristics
	lbs./ acre	lbs./ 1,000 ft²	3/1 - 4/30	5/1 - 8/15	8/15 - 11/1	2/15 - 4/30	5/1 - 9/1	9/1 - 11/15	
Oats (*Avena sativa*)	50 – 100	2.0	X	-	--	X	-	-	Use spring varieties (e.g., Noble).
Rye[d] (*Secale cereale*)	50 – 110	2.5	X	-	X	X	-	X	Use for late fall seedings, winter cover. Tolerates cold and low moisture.
German millet (*Setaria italica*)	50	1.0	-	X*	-	-	X*	-	Warm-season annual. Dies at first frost. May be added to summer mixes.
Annual ryegrass[c] (*Lolium multi-florum*)	60	1.5	X*	-	X	X*	-	X	May be added in mixes. Will mow out of most stands.
Korean Lespedeza[c] (*Lespedeza stipulacea*)	25	1.5	X	X	-	X	X	-	Warm-season annual legume. Tolerates acid soils. May only be used in a mix with another grass (e.g., annual or cereal rye); it is not suitable as a pure seeding for this purpose.

a. Northern Piedmont and Mountain regions. See Figure C-ENV-01-1 and Figure C-ENV-01-2.
b. Southern Piedmont and Coastal Plain.
c. May be used as a cover crop with spring seeding.
d. May be used as a cover crop with fall seeding.
Xe.May not be planted between these dates.
-f May be planted between these dates.

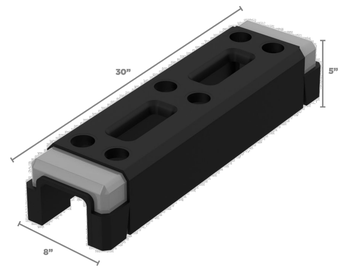
* The shift date for annual rye to German millet should be April 15 for the Piedmont and Coastal Plain, rather than May 1.

TS TEMPORARY SEEDING
NOT TO SCALE

WORK ZONE SAFETY SERIES

ANCHOR BLOCK FENCE BASE

Crafted from recycled PVC, this fence base serves as both a stand and base weight, offering a great alternative to traditional concrete blocks.



Neat Storage — Stack multiple Anchor Blocks when storing or transporting.
Super Strong — Equivalent to the use of 20 concrete blocks.
High Visibility — UV-resistant colors making it hi-vis for longer.
Easy to Carry — Built-in internal handles making assembly easier.

FENCE TYPES

The Anchor Block is compatible with these fence types:

Chain-link Temporary Fence
Welded Wire Temporary Fence
Temporary Fence Panel Extender — If your panel lacks an extension, you have the option to buy an extender.

SPECIFICATIONS

SKU	0253
Weight (lbs)	41 Lbs
Length	30 In
Height	5 In
Width	8 In
Color	Black and Orange
Material	Thermoplastic Compound

888-766-2615
sales@soncostore.com
www.soncostore.com

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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN | APVD

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EROSION CONTROL DETAILS (SHEET 2 OF 4)

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0 1"

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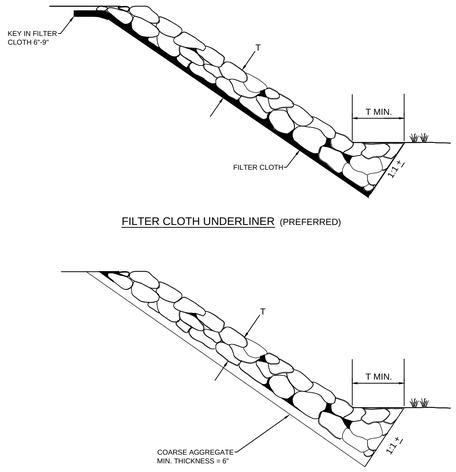
PROJ	E5X81200
DWG	EC-12
SHEET	45 of 158

FILENAME: EC-12.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:09 PM



FILTER CLOTH UNDERLINER (PREFERRED)

GRANULAR FILTER

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TOE REQUIREMENTS FOR RIP-RAP BANK STABILIZATION

v1.1 | SOURCE: VDOT 2017 | C-ECM-13-1

RIPRAP BANK STABILIZATION

RR

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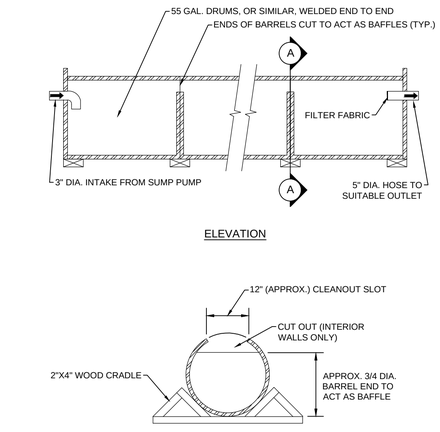


ELEVATION

CROSS-SECTION A-A

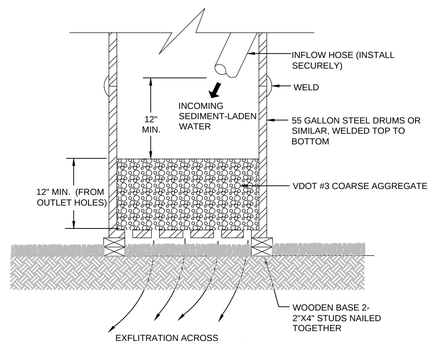
DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

PORTABLE SEDIMENT TANK

v1.1 | SOURCE: USDA - NRCS | C-SCM-10-1

DEWATERING STATION

NOT TO SCALE

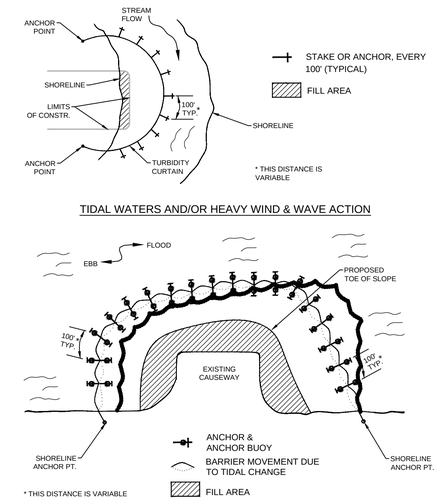


ELEVATION VIEW

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

FILTER BOX

v1.1 | SOURCE: VA. DSWC | C-SCM-10-2



DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

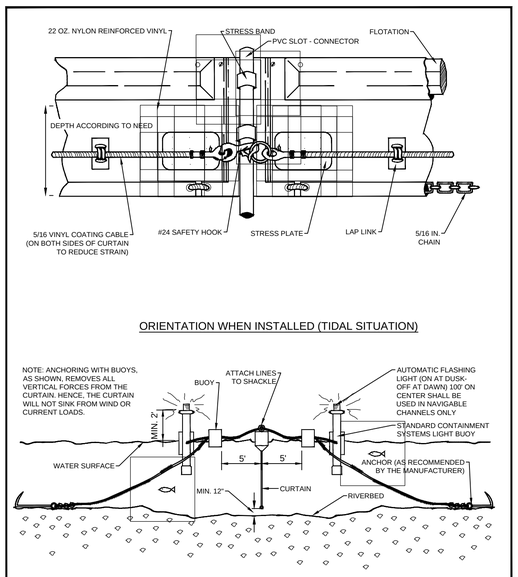
TURBIDITY CURTAIN TYPICAL LAYOUTS

v1.1 | SOURCE: ADAPTED FL DOT STDS | C-SCM-09-3

TURBIDITY CURTAIN

TC

NOT TO SCALE



ORIENTATION WHEN INSTALLED (TIDAL SITUATION)

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

TURBIDITY CURTAIN TYPE III
SOURCE: AMER. BOOM AND BARRIER CORP.

v1.1 | ALT. SOURCE: VDOT STANDARDS | C-SCM-09-2

TURBIDITY CURTAIN

TC

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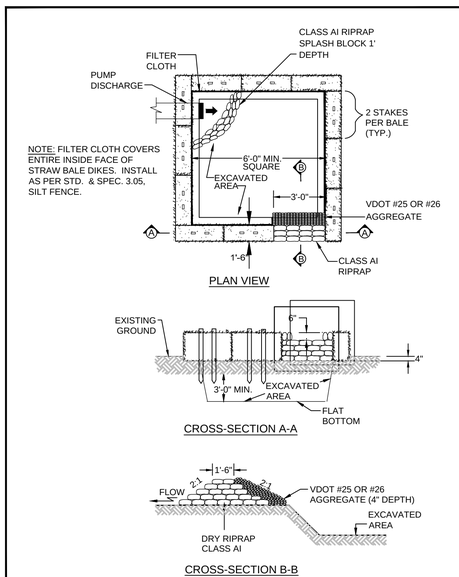

DEQ VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

STRAW BALE/SILT FENCE PIT

v1.1 | SOURCE: VA. DSWC | C-SCM-10-3

DEWATERING STATION

NOT TO SCALE

Table C-SSM-10-7 Site-Specific Seeding Mixtures for Piedmont Area

Site Condition	Seed Mix		Application Rate (pounds per acre)
Minimum-Care Lawn Commercial or Residential	Turf-Type Tall Fescue	95-100%	150 – 200
	Improved Perennial Ryegrass	0-5%	
	Kentucky Bluegrass	0-5%	
High-Maintenance Lawn	Improved (VCIA) Turf-Type Tall Fescue	100%	150 – 200
General Slope (3H:1V or less)	Tall Fescue***		50 – 75
	Red Top or Red/Hard Fescue		10 – 20
	White Clover and/or Birdsfoot Trefoil**		10 – 20
	Seasonal Nurse Crop*		30 – 40
Low-Maintenance Slope (> 3:1) or Inaccessible Area***	Tall Fescue		50 – 75
	Red Top and/or Hard Fescue		5 – 10
	White Clover and/or Birdsfoot Trefoil**		15 – 20
	Annual Lespedeza**		10 – 15
	Seasonal Nurse/Cover Crop		20-30

* Use seasonal nurse crop in accordance with seeding dates as stated below: February 16 through April annual rye

February 16 through April – annual/cereal rye

May 1 through August 15 – foxtail/German millet

August 16 through February 15 – annual/cereal rye

** Use legume seed that is properly inoculated with specified Rhizobia. Legumes recommended unless periodic N fertilization is intended. Weeping lovegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10 to 20 lbs/acre in mixes.

*** Increase seeding rate if KY-31 is used rather than VCIA/VDOT improved varieties.

Bermudagrass can be added to substitute for Tall or Hard Fescue in the Low Maintenance mixes for the Southern Piedmont, particularly on sandy soils or hot (S and W) facing slopes. May through October, use hulled seed. All other seeding periods, use un-hulled seed.

Note: Seed mixes are suggested and subject to modification based on site-specific conditions by an agronomist or other qualified revegetation professionals. All seed rates expressed as PLS (Pure Live Seed; see Table C-SSM-10-9).

PERMANENT SEED

PS

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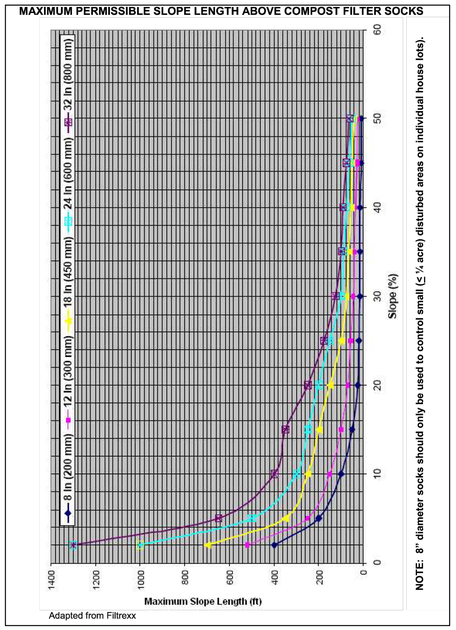
FILENAME: EC-13.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:09 PM



Adapted from Filtrexx

DS DEWATERING FILTER BAG

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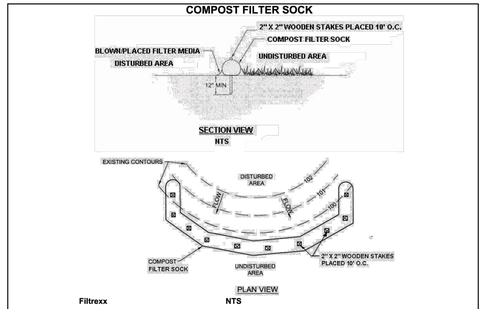

Sock fabric shall meet standards of Table 4.1. Compost shall meet the standards of Table 4.2.

Compost filter sock shall be placed at existing level grade. Both ends of the sock shall be extended at least 8 feet up slope at 45 degrees to the main sock alignment (Figure 4.1). Maximum slope length above any sock shall not exceed that shown on Figure 4.2. Stakes may be installed immediately downslope of the sock if so specified by the manufacturer.

Traffic shall not be permitted to cross filter socks.

Accumulated sediment shall be removed when it reaches half the aboveground height of the sock and disposed in the manner described elsewhere in the plan.

Socks shall be inspected weekly and after each runoff event. Damaged socks shall be repaired according to manufacturer's specifications or replaced within 24 hours of inspection.

Biodegradable filter socks shall be replaced after 6 months; photodegradable socks after 1 year. Polypropylene socks shall be replaced according to manufacturer's recommendations.

Upon stabilization of the area tributary to the sock, stakes shall be removed. The sock may be left in place and vegetated or removed. In the latter case, the mesh shall be cut open and the mulch spread as a soil supplement.

CFS COMPOST FILTER SOCK (C-PCM-05)

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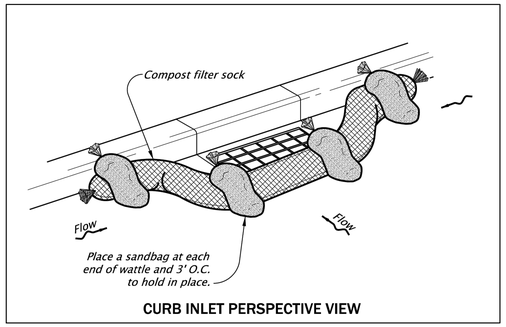

CIP CURB INLET PROTECTION (C-SCM-05)

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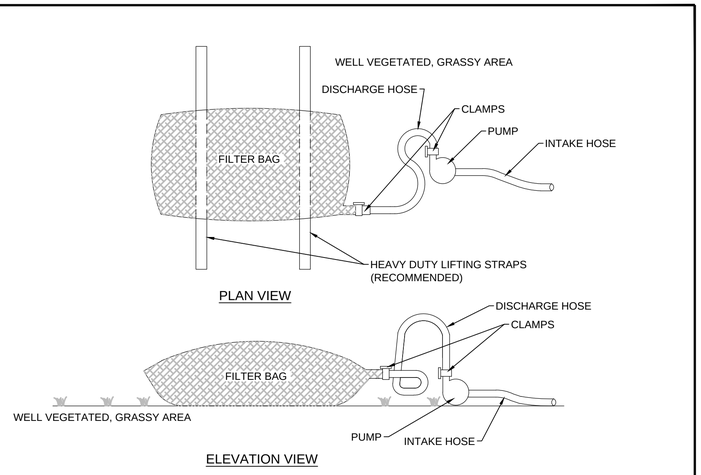
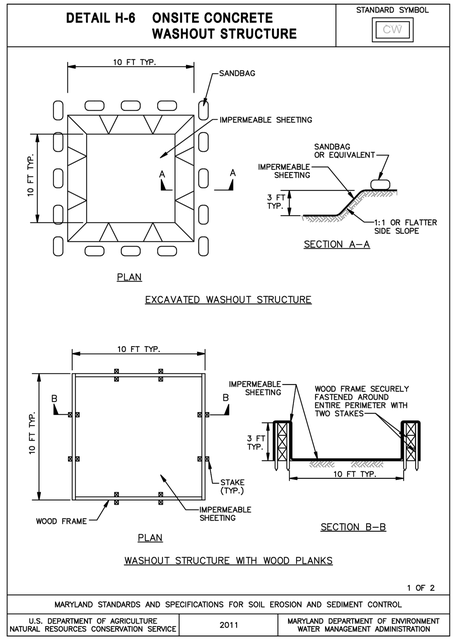
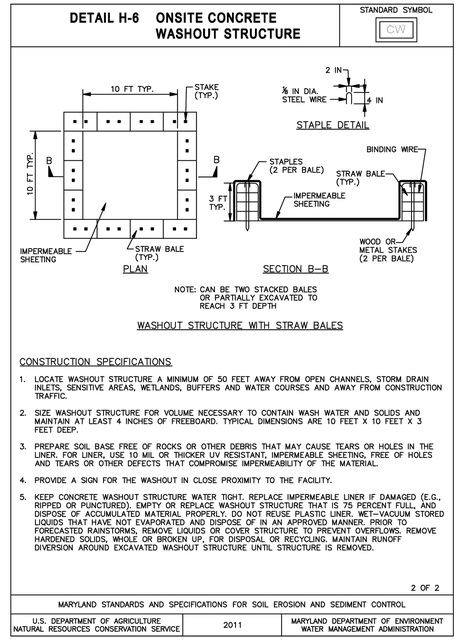


VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY

FILTER BAG

v1.1 SOURCE: PADEP 2012 C-SCM-10-4





CW CONCRETE WASHOUT STRUCTURE (C-CSM-13)

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						J KELLY

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EROSION CONTROL DETAILS (SHEET 4 OF 4)

VERIFY SCALE

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DATE	OCTOBER 2025
PROJ	E5X81200
DWG	EC-14
SHEET	47 of 158

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FILENAME: EC-14.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:26 PM

CONTRACTOR TO MAINTAIN PUBLIC ACCESS TO KAYAK LAUNCH DURING CONSTRUCTION

EXISTING LANDSCAPE BOULDERS TO BE REMOVED , STORED, AND RESET FOLLOWING CONSTRUCTION (NOT SHOWN IN SURVEY) (TYP OF 7)

MANAGEMENT OF TREES WITH TRUNKS BEYOND THE PROPERTY LINE AND CRITICAL ROOTS LIKELY TO BE AFFECTED BY THE EXCAVATION TO BE OVERSEEN BY OWNER.

DEMOLISH PORTION OF SFM AFTER RELOCATION IS ACTIVE

ADD PLUG SEE NOTE 4

TELECOM VAULT TO BE PROTECTED.

REMOVE 27" SS AS NECESSARY, CUT, PLUG, AND ABANDON REMAINING EX 27" PIPE

DEMOLISH AND REPLACE ISLAND

COMMONWEALTH AVE

MATCHLINE SEE THIS SHEET

MATCHLINE SEE SHEET D-02

LEGEND

UTILITIES TO BE ABANDONED	
UTILITIES TO BE DEMOLISHED	
TREES TO BE REMOVED	

NOTE: FEATURES IN BOLD WITHIN LOD ON DEMOLITION SHEETS ARE TO BE DEMOLISHED. VERIFY SEQUENCING OF WHEN EACH FEATURE IS DEMOLISHED.

MANAGEMENT OF TREES WITH TRUNKS BEYOND THE PROPERTY LINE AND CRITICAL ROOTS LIKELY TO BE AFFECTED BY THE EXCAVATION TO BE OVERSEEN BY OWNER.

ALL PAVING WITHIN LIMITS OF DISTURBANCE IS TO BE REPLACED. SEE PV SERIES SHEETS FOR AREAS OF MILL AND OVERLAY AND FULL DEPTH REPLACEMENT.

NOTES:
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3. REFER TO THE TREE PROTECTION PLAN AND SPECIFICATION 01 14 00 TEMPORARY TREE AND PLANT PROTECTION FOR ADDITIONAL REQUIREMENTS.
4. INSTALL PLUG AT THE TRANSITION FROM ABANDONMENT TO REMOVAL.
5. UTILITIES OTHER THAN STORM AND SANITARY TO BE REMOVED BY OTHERS. CONTRACTOR TO COORDINATE WITH UTILITY OWNERS PER SPECIFICATION 01 21 13B PROJECT COORDINATION.

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DEMOLITION PLAN COMMONWEALTH AVENUE (SHEET 1 OF 3)

1"=20'
VERIFY SCALE
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PROJ	E5X81200
DWG	D-01
SHEET	48 of 158

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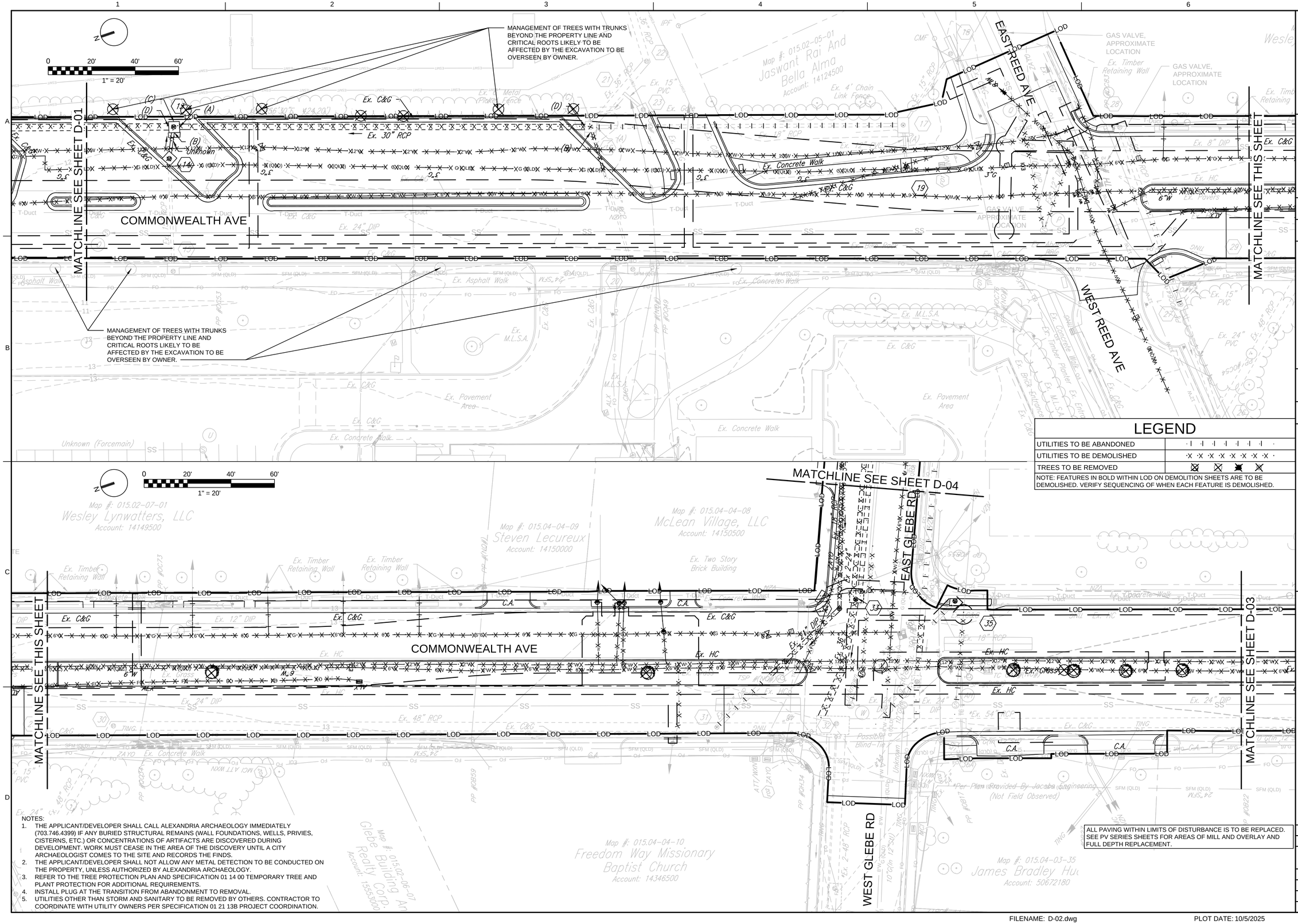

LEGEND

UTILITIES TO BE ABANDONED	
UTILITIES TO BE DEMOLISHED	
TREES TO BE REMOVED	

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DEMOLITION PLAN COMMONWEALTH AVENUE (SHEET 2 OF 3)

1"=20'
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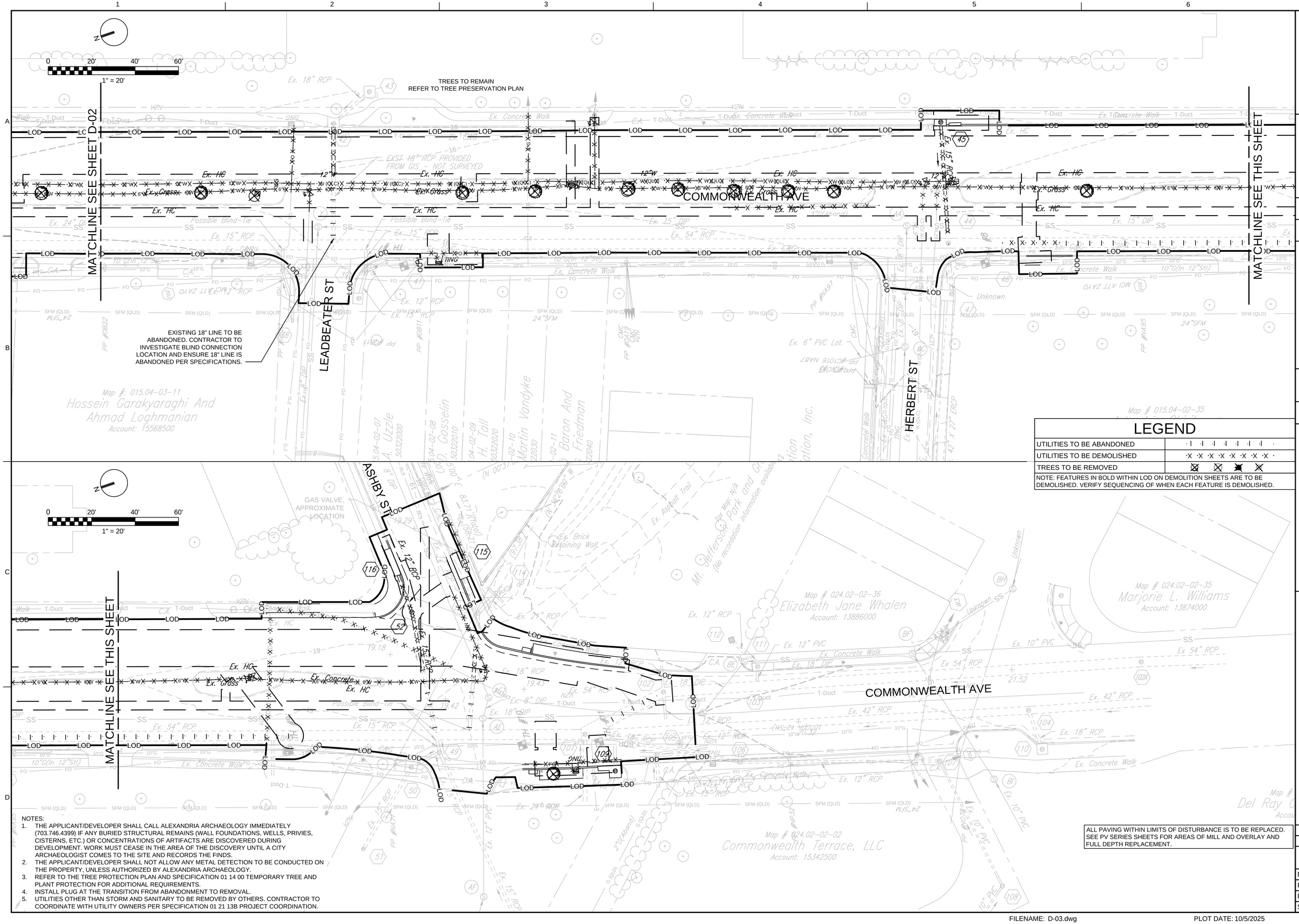

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LEGEND

UTILITIES TO BE ABANDONED	
UTILITIES TO BE DEMOLISHED	
TREES TO BE REMOVED	

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DEMOLITION PLAN COMMONWEALTH AVENUE (SHEET 3 OF 3)

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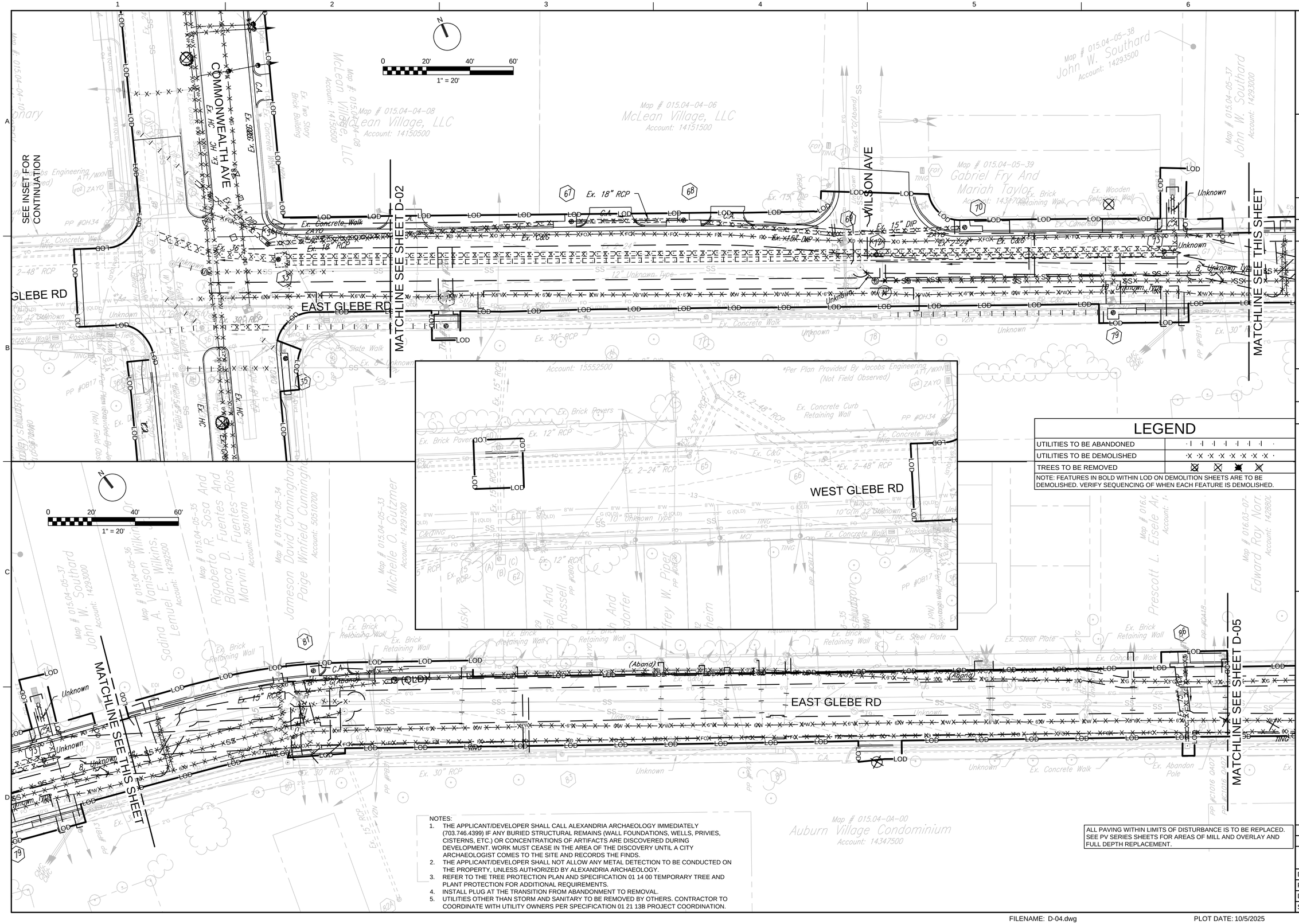
FILENAME: D-03.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:42 PM



LEGEND

UTILITIES TO BE ABANDONED	
UTILITIES TO BE DEMOLISHED	
TREES TO BE REMOVED	

NOTE: FEATURES IN BOLD WITHIN LOD ON DEMOLITION SHEETS ARE TO BE DEMOLISHED. VERIFY SEQUENCING OF WHEN EACH FEATURE IS DEMOLISHED.

NOTES:

1. 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.
2. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.
3. REFER TO THE TREE PROTECTION PLAN AND SPECIFICATION 01 14 00 TEMPORARY TREE AND PLANT PROTECTION FOR ADDITIONAL REQUIREMENTS.
4. INSTALL PLUG AT THE TRANSITION FROM ABANDONMENT TO REMOVAL.
5. UTILITIES OTHER THAN STORM AND SANITARY TO BE REMOVED BY OTHERS. CONTRACTOR TO COORDINATE WITH UTILITY OWNERS PER SPECIFICATION 01 21 13B PROJECT COORDINATION.

ALL PAVING WITHIN LIMITS OF DISTURBANCE IS TO BE REPLACED. SEE PV SERIES SHEETS FOR AREAS OF MILL AND OVERLAY AND FULL DEPTH REPLACEMENT.

CITY OF ALEXANDRIA
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301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

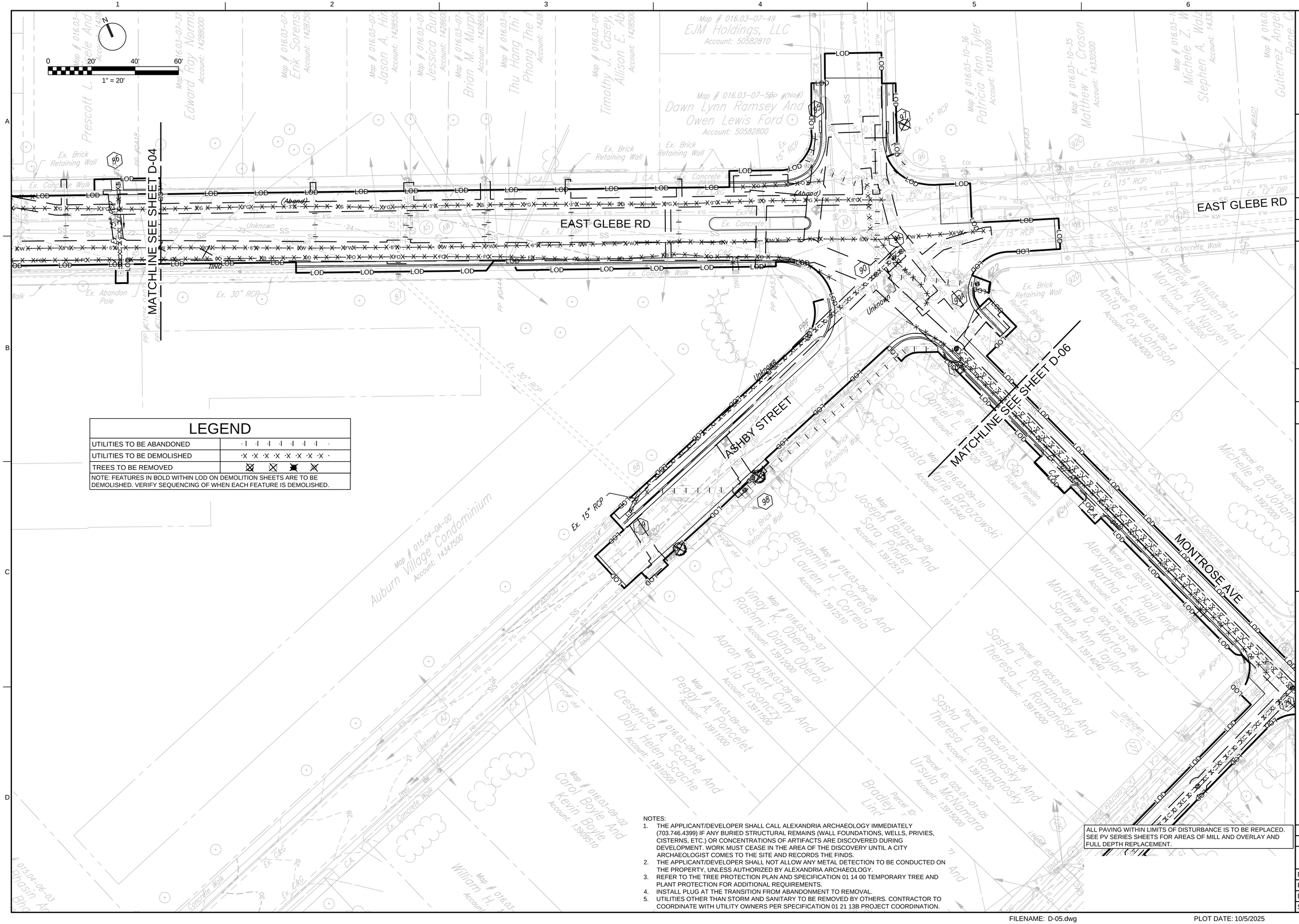
DEMOLITION PLAN GLEBE ROAD (SHEET 1 OF 2)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	D-04
SHEET	51 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: D-04.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:46 PM



LEGEND

UTILITIES TO BE ABANDONED	
UTILITIES TO BE DEMOLISHED	
TREES TO BE REMOVED	

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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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CITY OF ALEXANDRIA, VA
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Jacobs

CIVIL

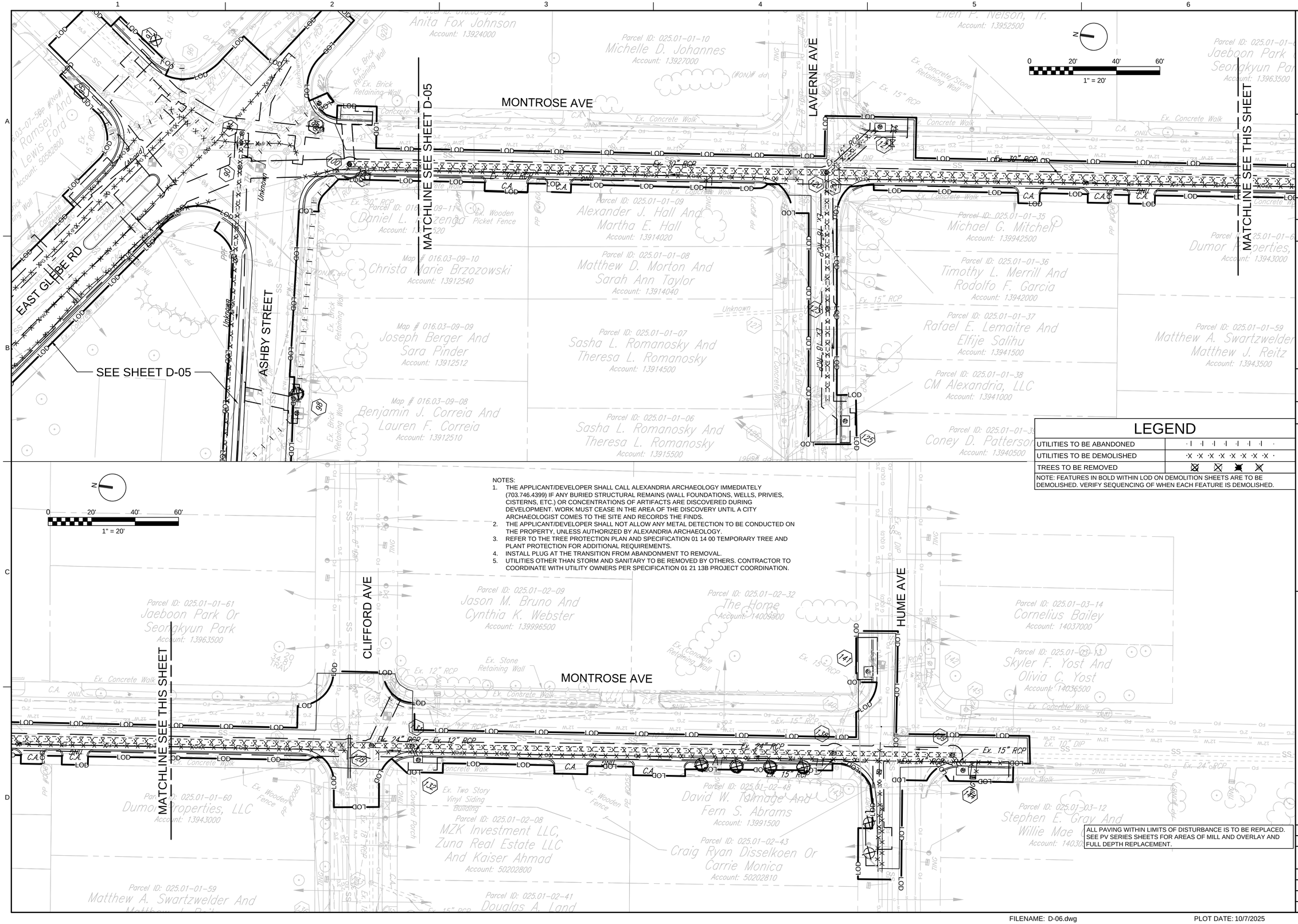
DEMOLITION PLAN GLEBE ROAD (SHEET 2 OF 2)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	D-05
SHEET	52 of 158

FILENAME: D-05.dwg PLOT DATE: 10/5/2025 PLOT TIME: 10:54 PM



NOTES:

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LEGEND

UTILITIES TO BE ABANDONED	·I ·I ·I ·I ·I ·I ·I ·
UTILITIES TO BE DEMOLISHED	·X ·X ·X ·X ·X ·X ·X ·
TREES TO BE REMOVED	⊠ ⊠ ✱ ⊠

NOTE: FEATURES IN BOLD WITHIN LOD ON DEMOLITION SHEETS ARE TO BE DEMOLISHED. VERIFY SEQUENCING OF WHEN EACH FEATURE IS DEMOLISHED.

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	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	06/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

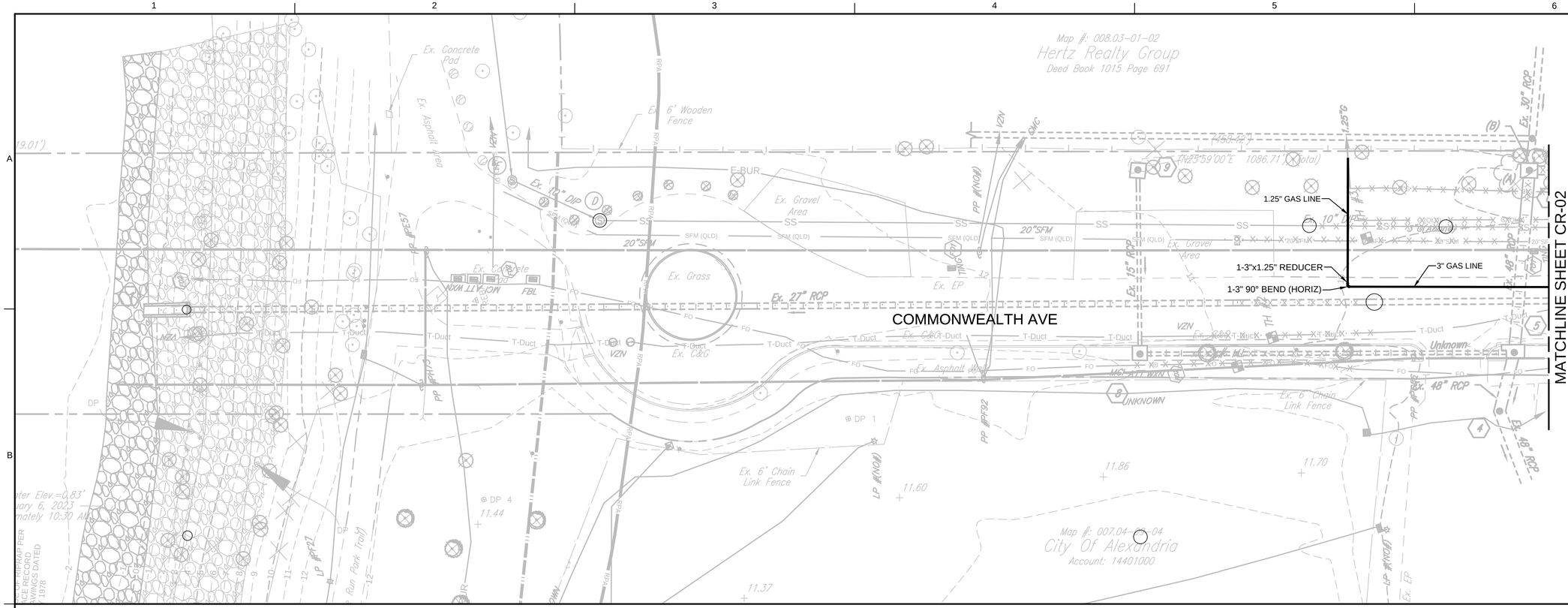
DEMOLITION PLAN MONTROSE AVENUE

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	D-06
SHEET	53 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: D-06.dwg PLOT DATE: 10/7/2025 PLOT TIME: 4:01 PM



NOTES:

1. WATER LINE RELOCATIONS TO BE COMPLETED BY VAWC CONTRACTOR BEFORE START OF WORK ON STORMWATER SYSTEM.
2. CONTRACTOR SHALL CONTACT VAWC BEFORE CONSTRUCTION AND/OR ORDER ANY WATER FACILITY MATERIALS, AND REFERS TO WATER FACILITY CONSTRUCTION SPECS AND DETAILS LINK HERE: HTTPS://WWW.AMWATER.COM/VAAW/ABOUT-US/DOING-BUSINESS-WITH-US/DEVELOPERS/DEVELOPER-DOCUMENTS
3. THE WATER LINE WORK IS TO BE DONE IN ACCORDANCE WITH ALL VAWC AND VDH REQUIREMENTS.
4. GAS LINE DESIGN AND RELOCATION TO BE COMPLETED BY OTHERS, GAS LINE ROUTE SHOWN IS APPROXIMATE AND ALL ELBOWS SHOWN MAY HAVE BEEN INSTALLED AS A BEND IN MDPE PIPE. CONTRACTOR TO FIELD VERIFY OR OTHERWISE CONFIRM WITH WASHINGTON GAS.
5. WATER LINES SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER THE SPECIFICATIONS ON SHEET CR-10 UNLESS OTHERWISE NOTED.
6. ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED. CONCRETE THRUST BLOCKS SHALL ONLY BE USED AT CONNECTIONS TO EXISTING PIPE WHERE SHOWN.
7. PE SEAL IS FOR WATER LINE DESIGN ONLY; GAS LINES SHOWN ARE APPROXIMATE FOR COORDINATION. DESIGN AND CONSTRUCTION OF THE GAS LINES TO BE COMPLETED BY OTHERS.
8. 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.
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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CIVIL

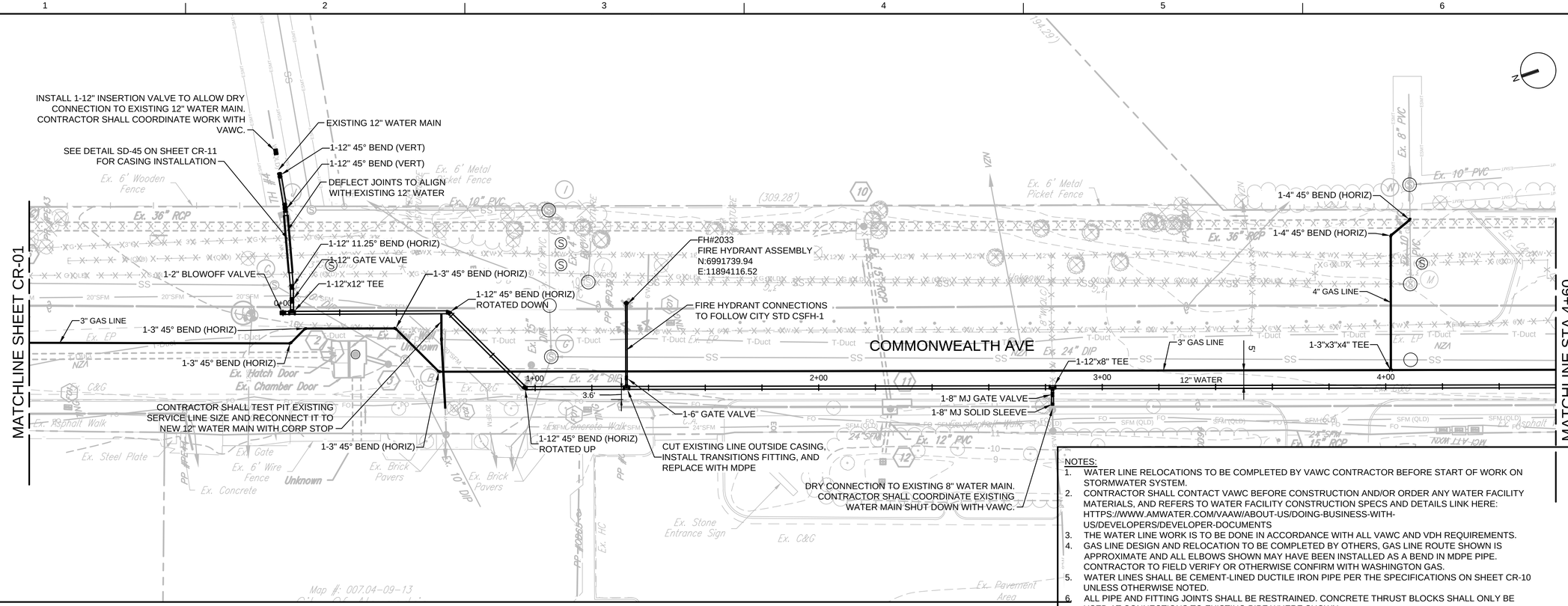
WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 1 OF 6)

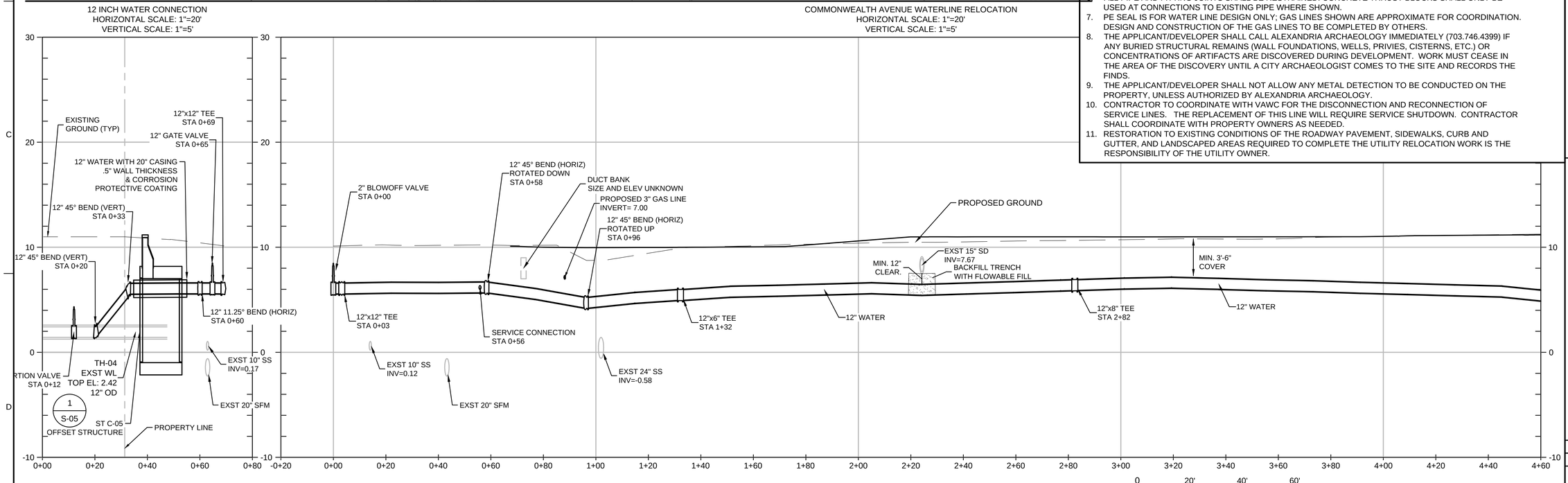
1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-01
SHEET	54 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-01.dwg PLOT DATE: 10/6/2025 PLOT TIME: 12:49 PM





NOTES:

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5. WATER LINES SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER THE SPECIFICATIONS ON SHEET CR-10 UNLESS OTHERWISE NOTED.
6. ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED. CONCRETE THRUST BLOCKS SHALL ONLY BE USED AT CONNECTIONS TO EXISTING PIPE WHERE SHOWN.
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HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN	S.ARLEDGE		T.WEINSTEIN	M.STICKLEY	M.STICKLEY	M.STICKLEY
	10/2025	100% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
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CIVIL

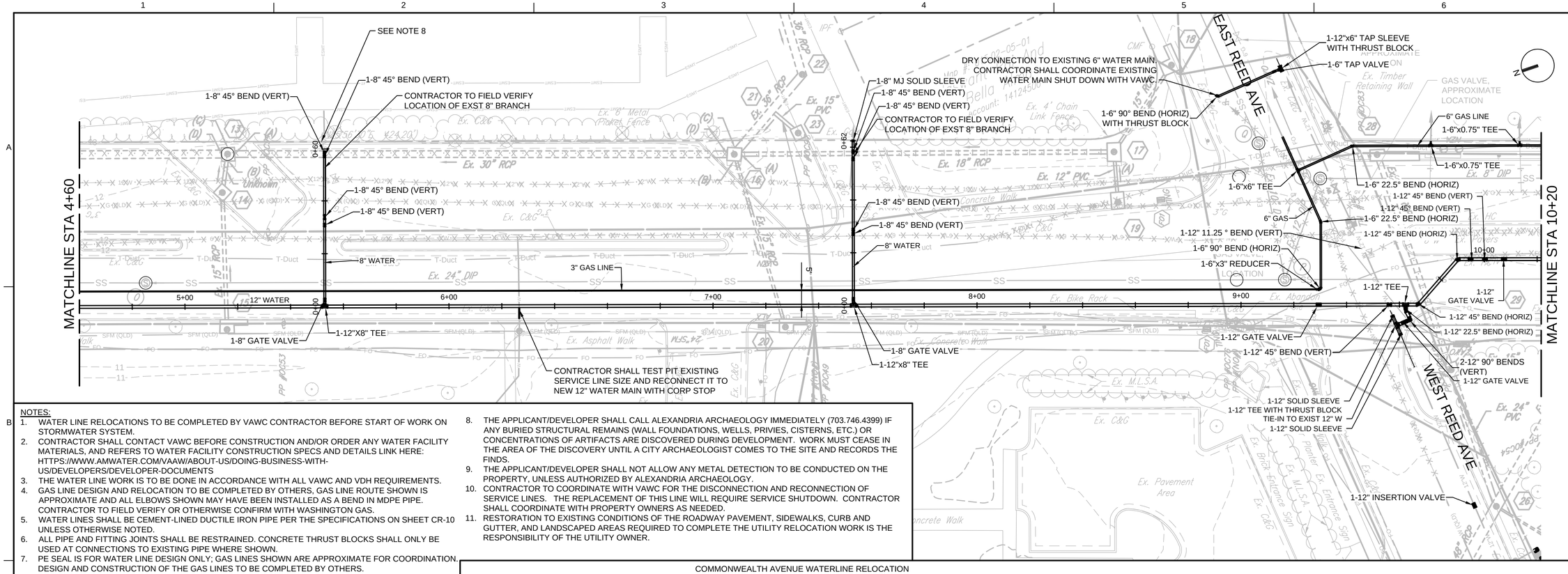
WATER AND GAS MAIN RELOCATIONS
PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 2 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-02
SHEET	55 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-02.dwg PLOT DATE: 10/6/2025 PLOT TIME: 10:19 AM



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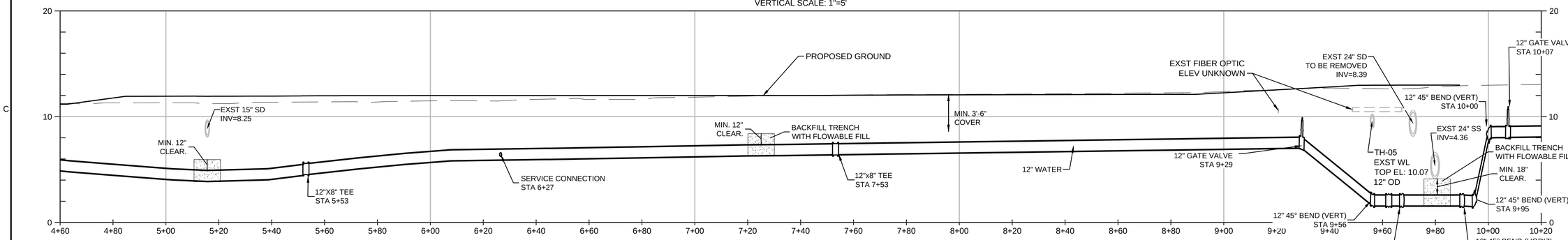
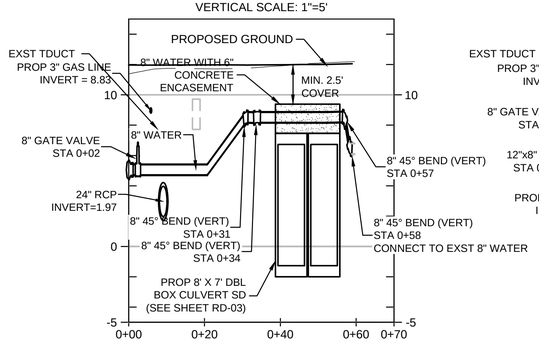
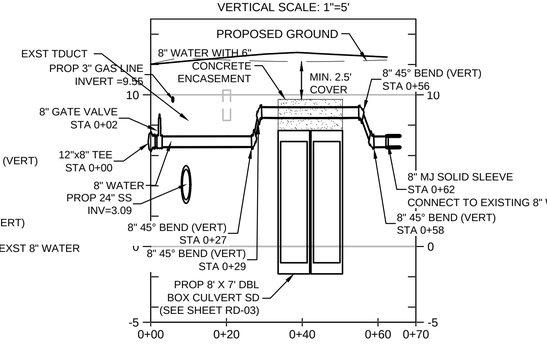
COMMONWEALTH AVENUE WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



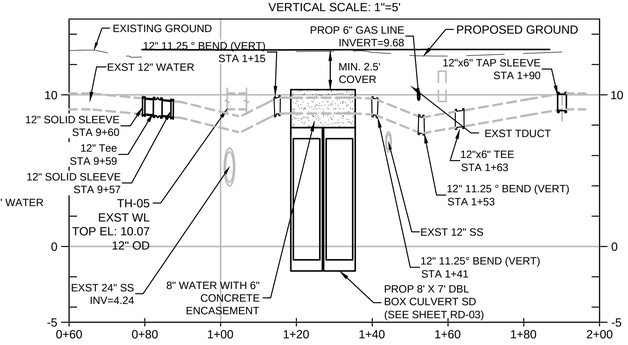
8 INCH WATER BRANCH STA 5+53
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



8 INCH WATER BRANCH STA 7+63
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



REED AVENUE EXISTING WATERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-03
SHEET	56 of 158

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN S. ARLEDGE | DR T. WEINSTEIN | CHK M. STICKLEY | APVD M. STICKLEY

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ALEXANDRIA, VA 22314

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CIVIL

WATER AND GAS MAIN RELOCATIONS
PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 3 OF 6)

FINAL DESIGN (NOT FOR CONSTRUCTION)

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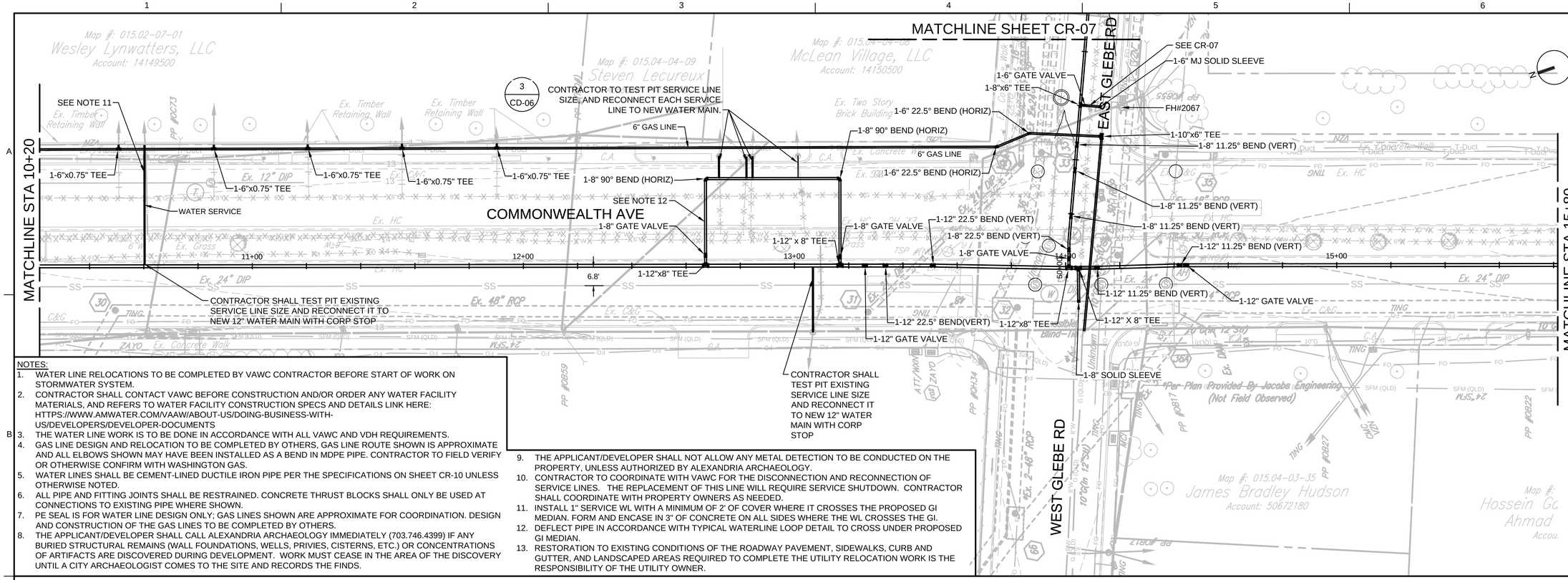

NOTES:

1. WATER LINE RELOCATIONS TO BE COMPLETED BY VAWC CONTRACTOR BEFORE START OF WORK ON STORMWATER SYSTEM.
2. CONTRACTOR SHALL CONTACT VAWC BEFORE CONSTRUCTION AND/OR ORDER ANY WATER FACILITY MATERIALS, AND REFERS TO WATER FACILITY CONSTRUCTION SPECS AND DETAILS LINK HERE: HTTPS://WWW.AMWATER.COM/VAAW/ABOUT-US/DOING-BUSINESS-WITH-US/DEVELOPERS/DEVELOPER-DOCUMENTS
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5. WATER LINES SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER THE SPECIFICATIONS ON SHEET CR-10 UNLESS OTHERWISE NOTED.
6. ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED. CONCRETE THRUST BLOCKS SHALL ONLY BE USED AT CONNECTIONS TO EXISTING PIPE WHERE SHOWN.
7. PE SEAL IS FOR WATER LINE DESIGN ONLY; GAS LINES SHOWN ARE APPROXIMATE FOR COORDINATION. DESIGN AND CONSTRUCTION OF THE GAS LINES TO BE COMPLETED BY OTHERS.
8. 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.
9. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.
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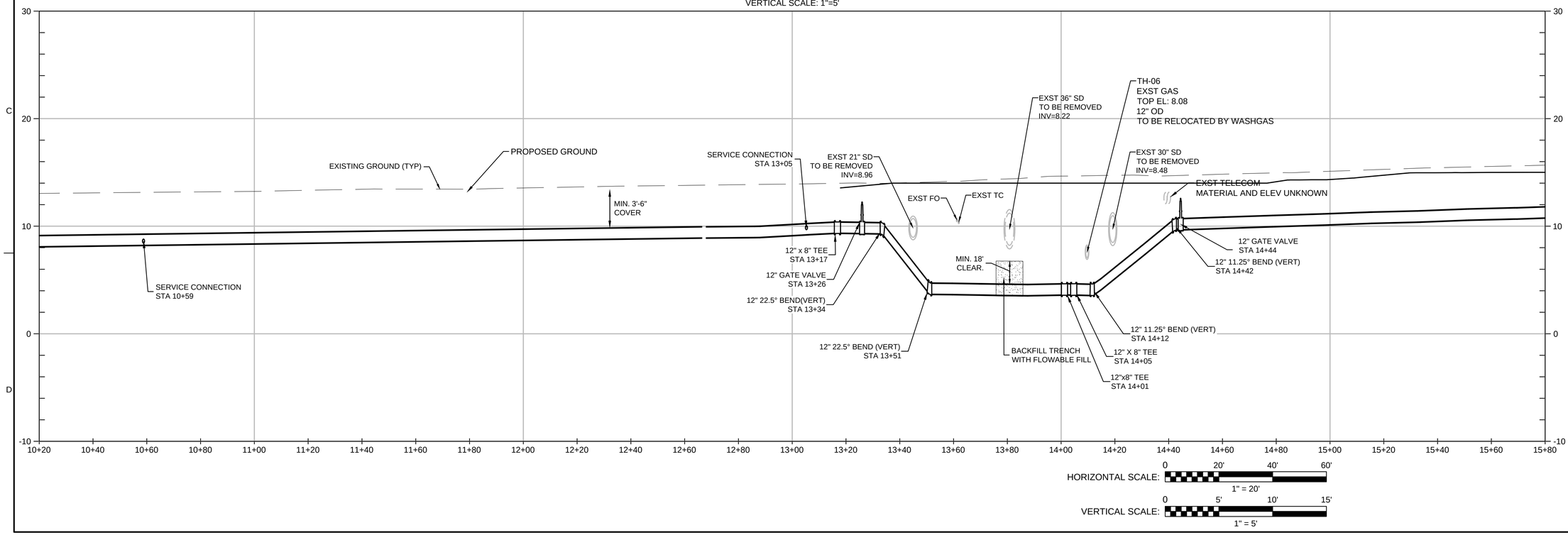
11. INSTALL 1" SERVICE WL WITH A MINIMUM OF 2' OF COVER WHERE IT CROSSES THE PROPOSED GI MEDIAN. FORM AND ENCASE IN 3" OF CONCRETE ON ALL SIDES WHERE THE WL CROSSES THE GI.
12. DEFLECT PIPE IN ACCORDANCE WITH TYPICAL WATERLINE LOOP DETAIL TO CROSS UNDER PROPOSED GI MEDIAN.
13. RESTORATION TO EXISTING CONDITIONS OF THE ROADWAY PAVEMENT, SIDEWALKS, CURB AND GUTTER, AND LANDSCAPED AREAS REQUIRED TO COMPLETE THE UTILITY RELOCATION WORK IS THE RESPONSIBILITY OF THE UTILITY OWNER.

COMMONWEALTH AVENUE WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'

COMMONWEALTH AVENUE WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	CHK	APVD
	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			
DSGN	S.ARLEDGE	DR	T.WEINSTEIN	M.STICKLEY	M.STICKLEY

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

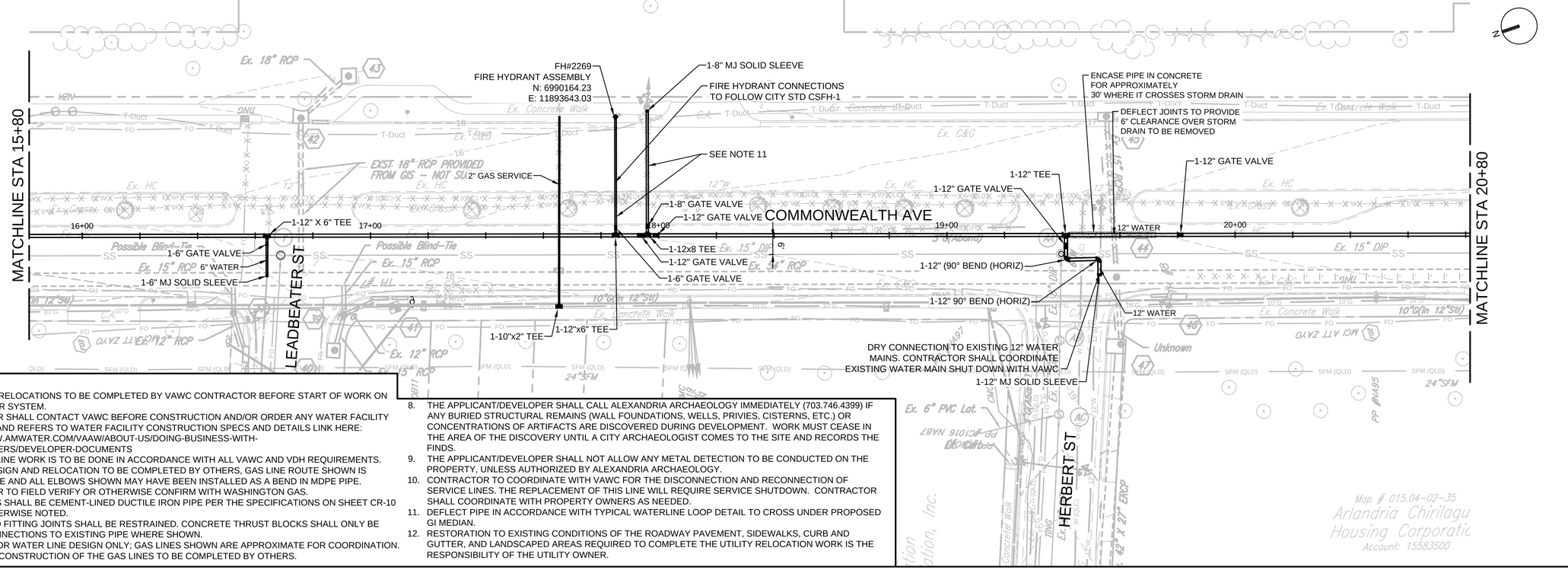
CIVIL

WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 4 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-04
SHEET	57 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)



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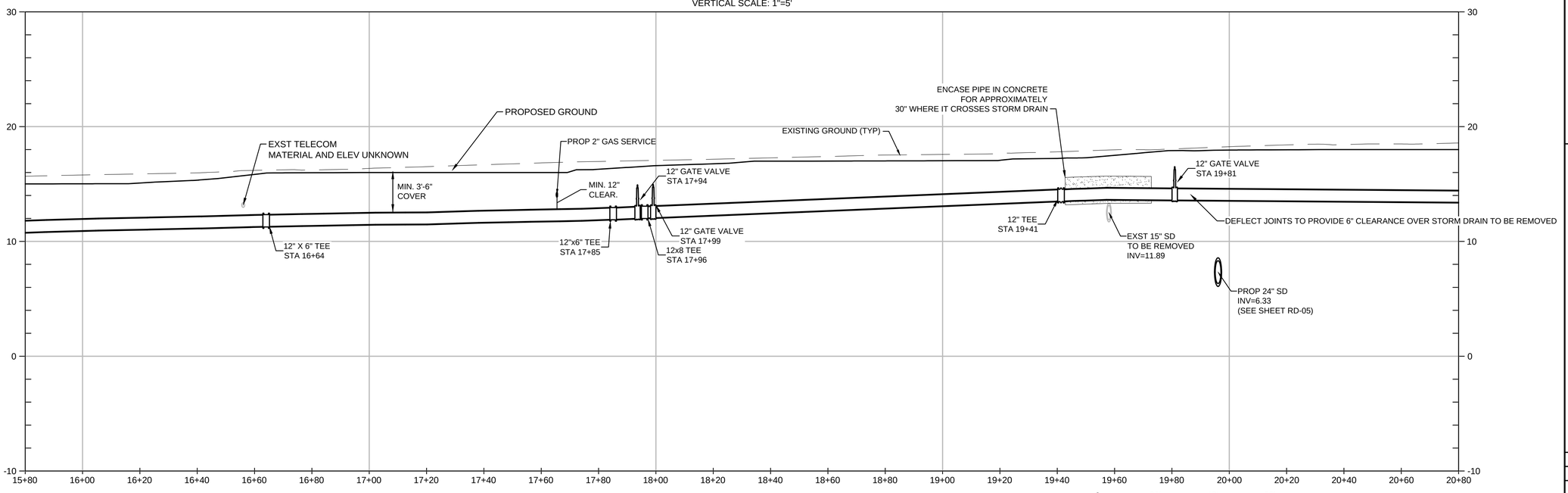
COMMONWEALTH AVENUE WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

CITY OF ALEXANDRIA
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	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN S ARLEDGE | DR T WEINSTEIN | CHK M STICKLEY | APVD M STICKLEY

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 5 OF 6)

1"=20' HORZ / 1"=5' VERT

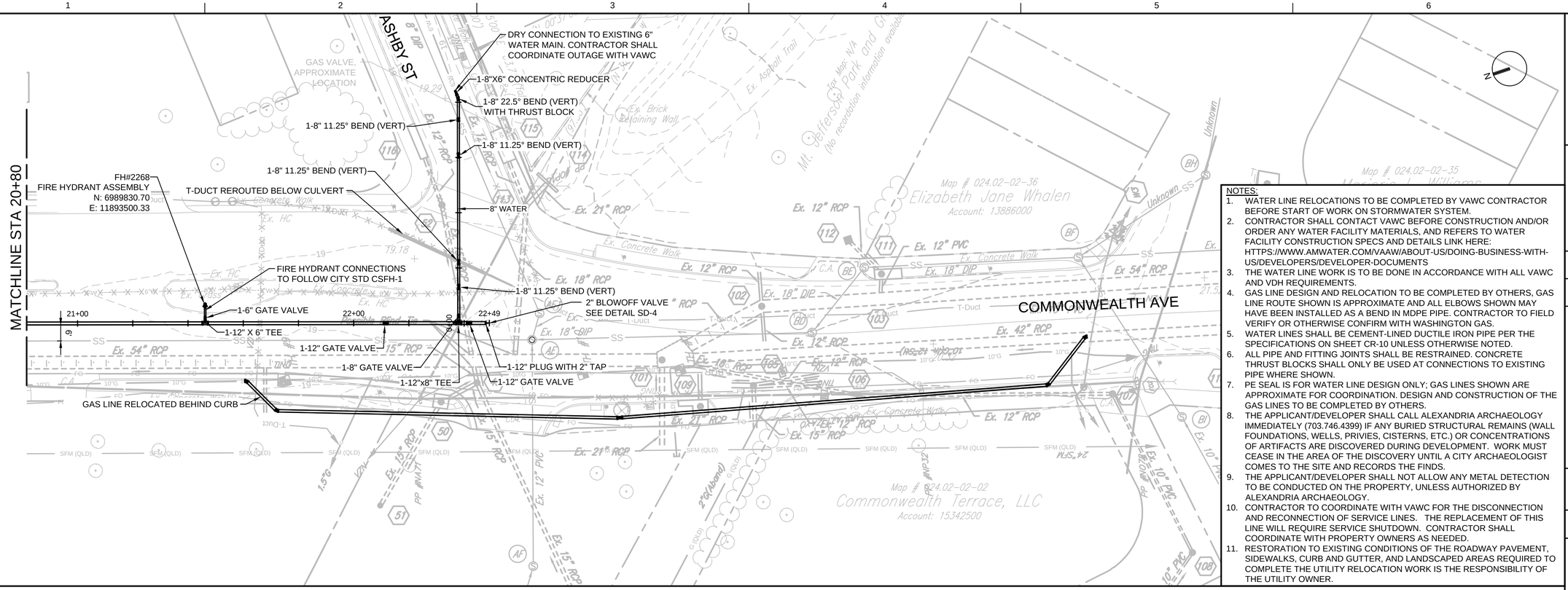
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-05
SHEET	58 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-05.dwg PLOT DATE: 10/5/2025 PLOT TIME: 11:25 AM



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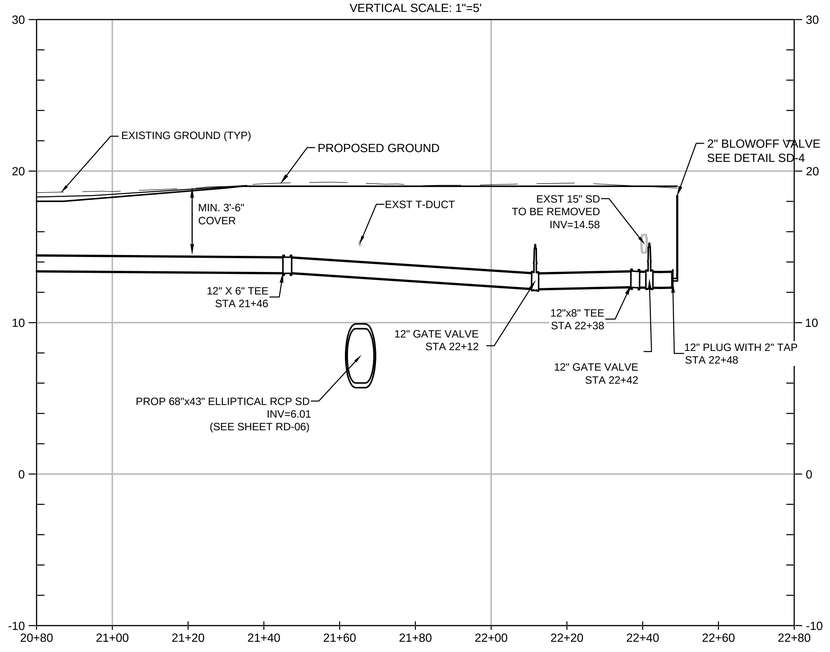
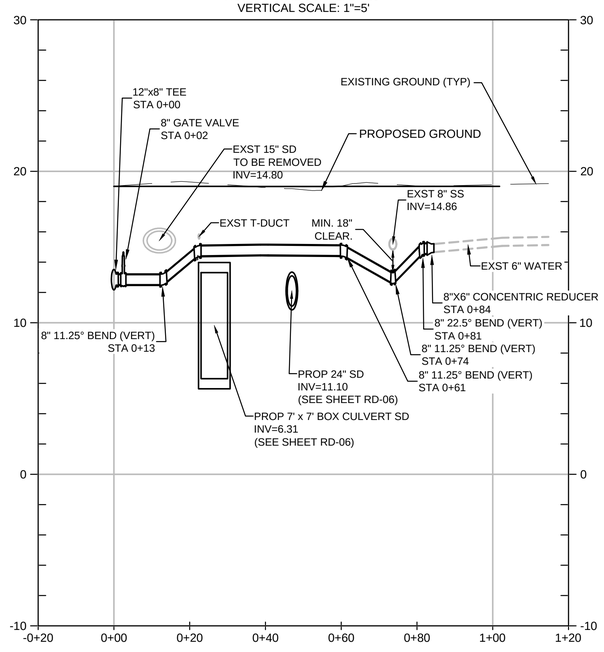
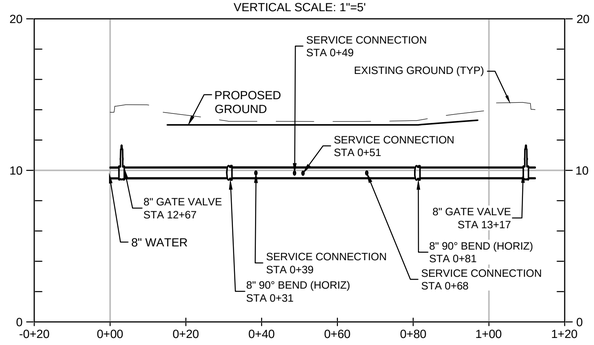
COMMONWEALTH AVENUE WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



ASHBY STREET WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EX SERVICE LATERAL
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



3 PROFILE
CD-04

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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DSGN S.ARLEDGE | DR T.WEINSTEIN | CHK M.STICKLEY | APVD M.STICKLEY

CITY OF ALEXANDRIA
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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 6 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-06
SHEET	59 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-06.dwg PLOT DATE: 10/7/2025 PLOT TIME: 8:48 PM

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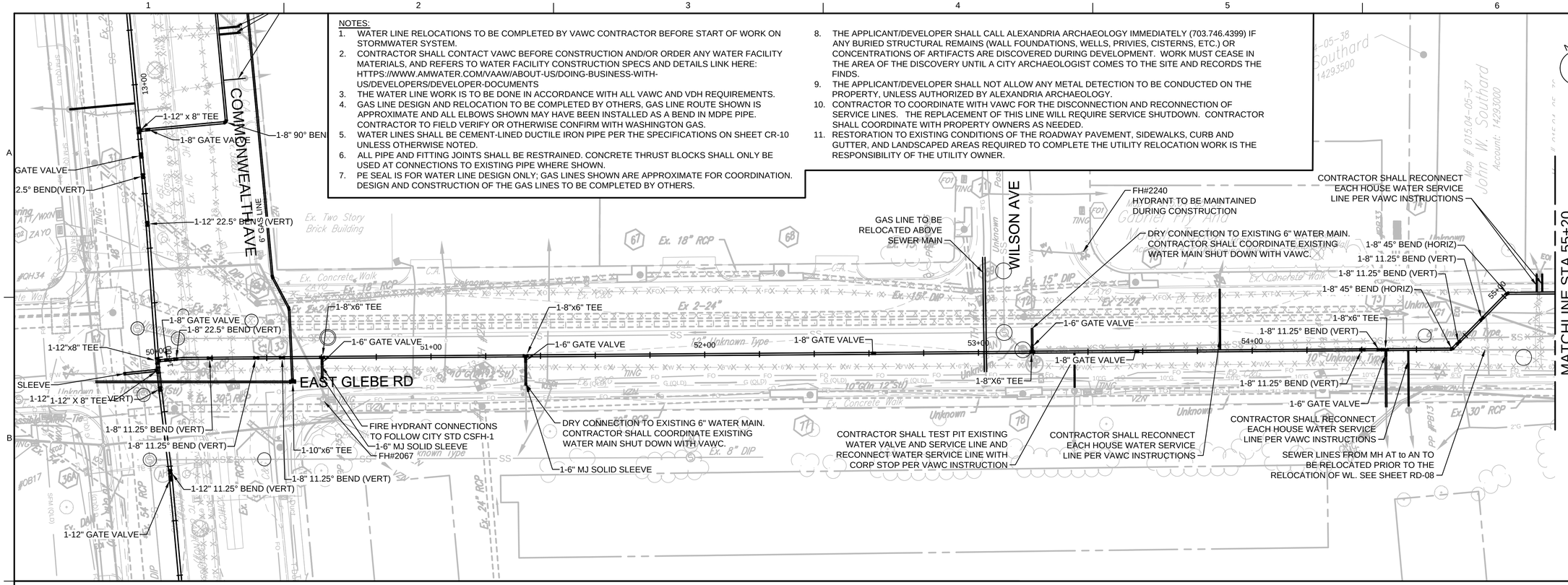
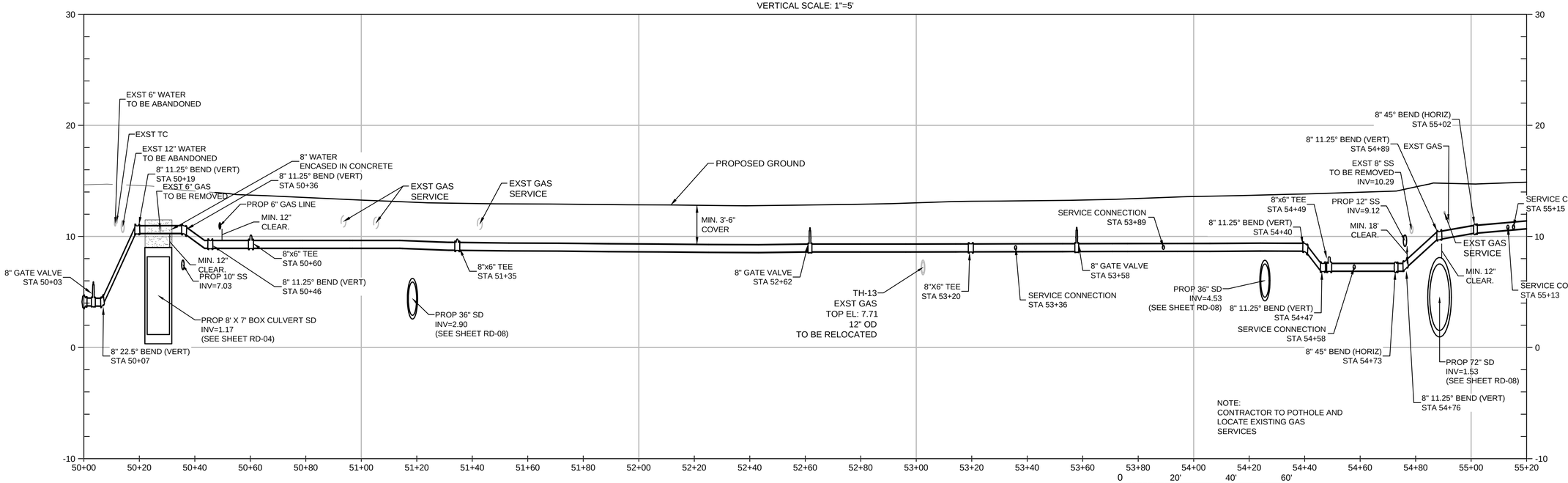


GLEBE ROAD WATERLINE RELOCATION
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



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APVD: M.STICKLEY (APVD) M.STICKLEY (APVD)

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
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ALEXANDRIA, VA 22314

Jacobs

CIVIL

WATER AND GAS MAIN RELOCATIONS
PLAN AND PROFILE EAST GLEBE ROAD (SHEET 1 OF 3)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-07
SHEET	60 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-07.dwg PLOT DATE: 10/7/2025 PLOT TIME: 8:27 PM

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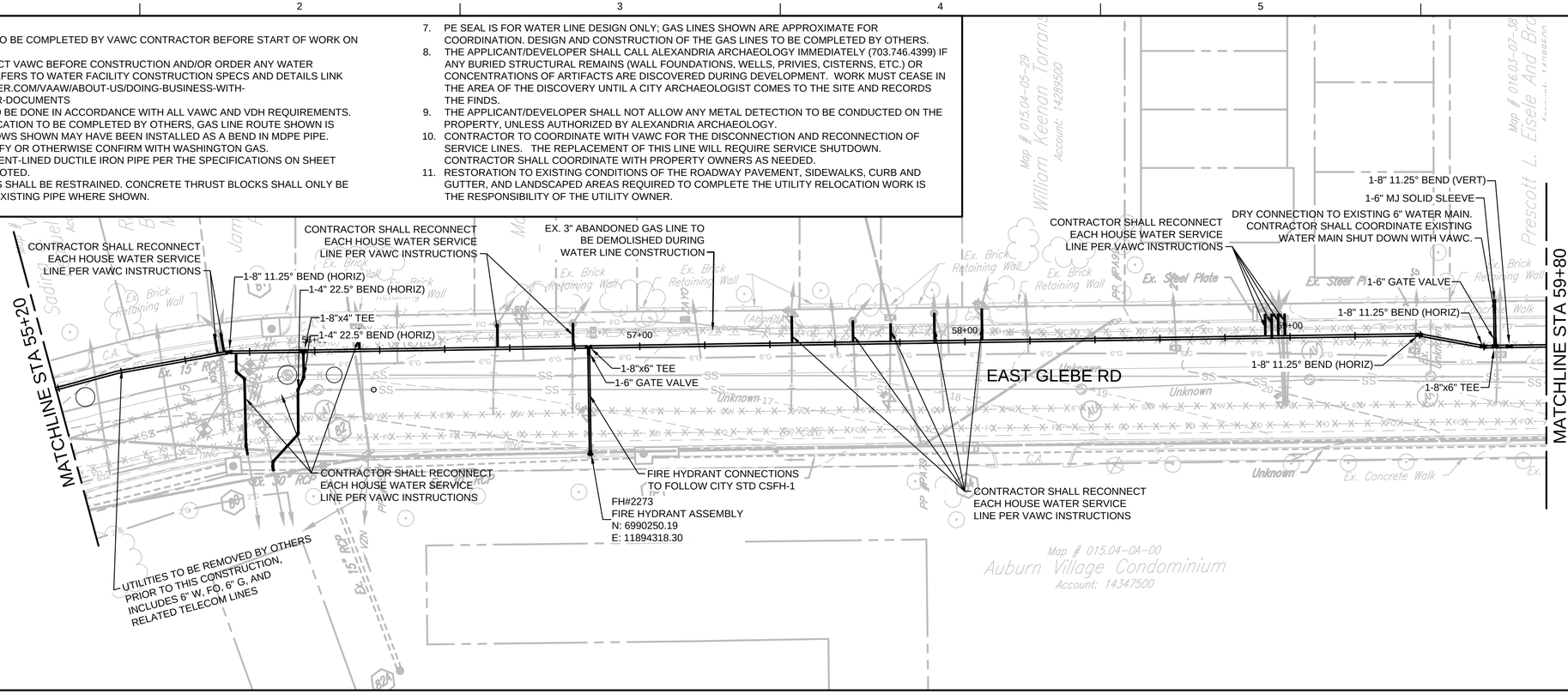

GLEBE ROAD WATERLINE RELOCATION
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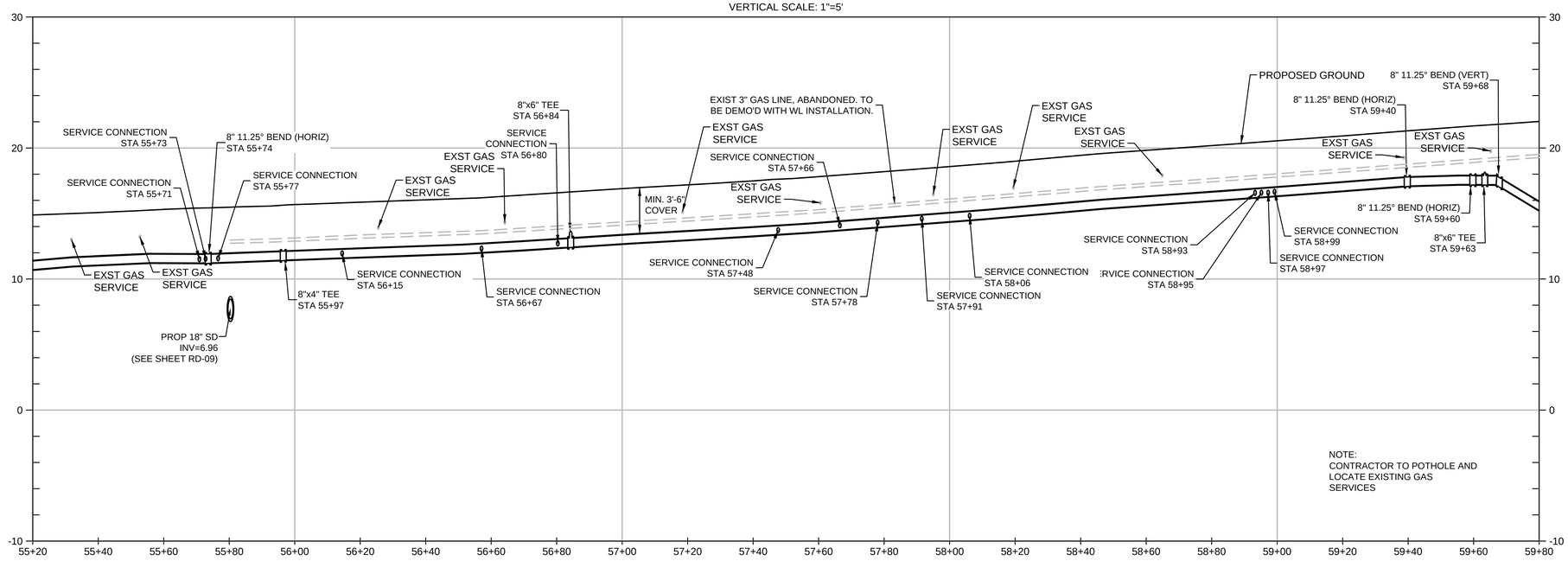
VERTICAL SCALE: 1"=5'



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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN S ARLEDGE

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE EAST GLEBE ROAD (SHEET 2 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

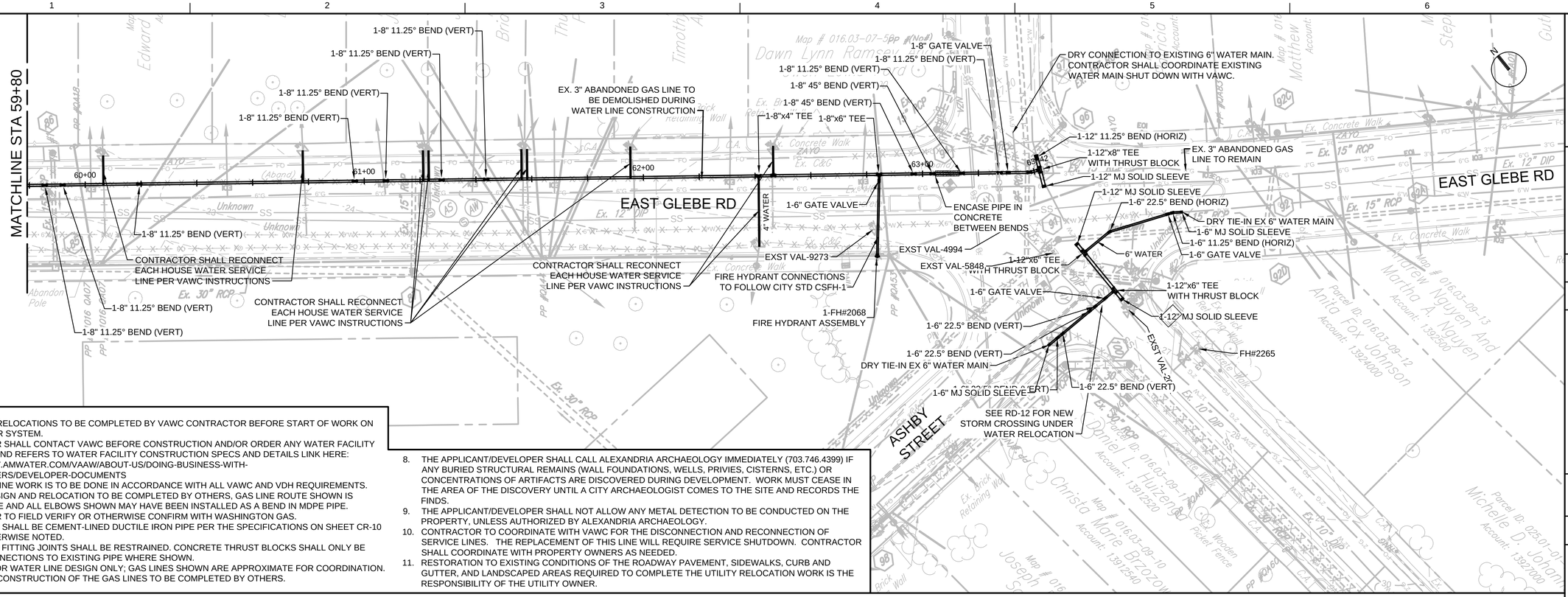
1"=20' HORZ / 1"=5' VERT

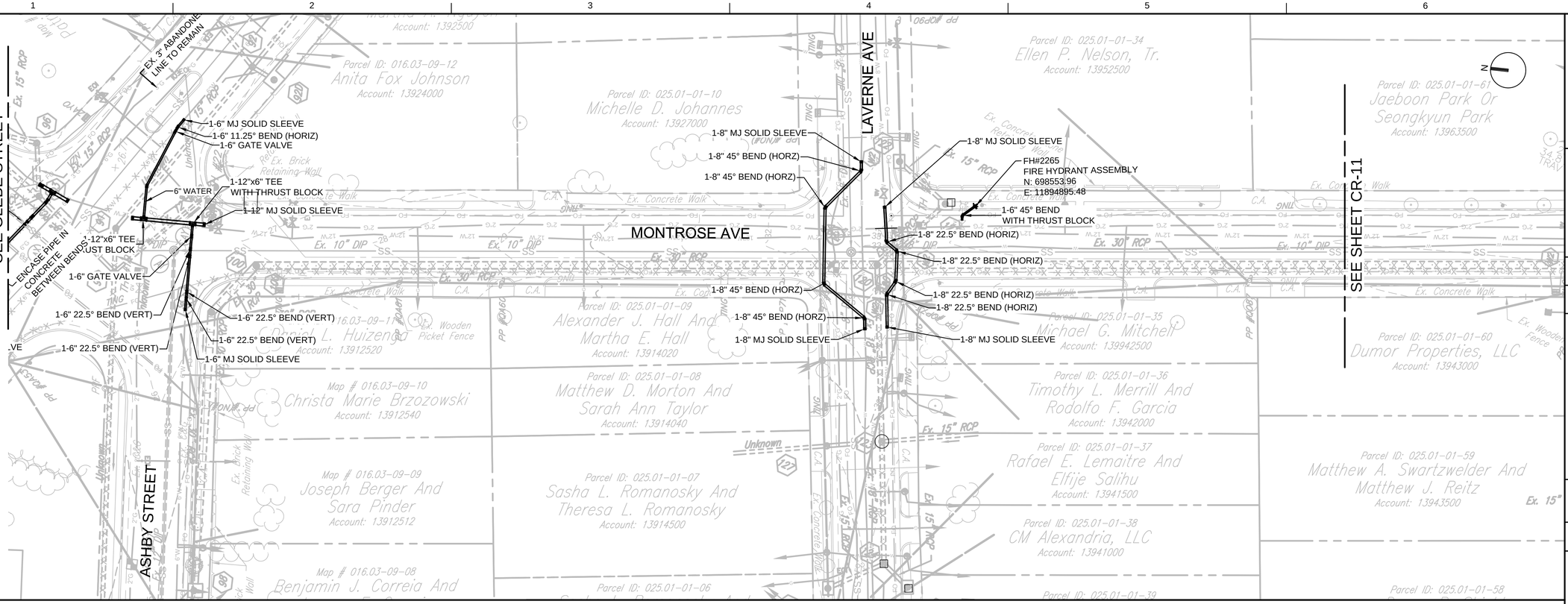
VERIFY SCALE

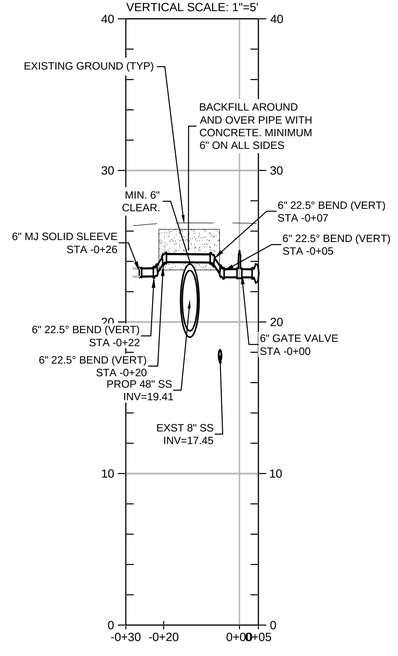
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

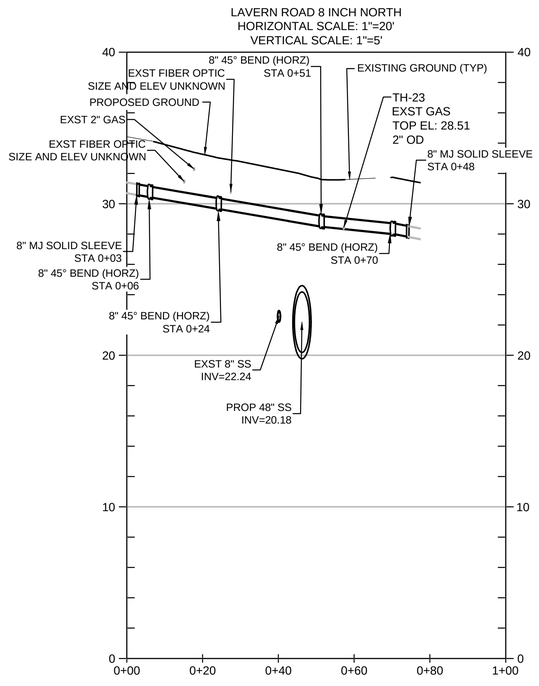
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-08
SHEET	61 of 158

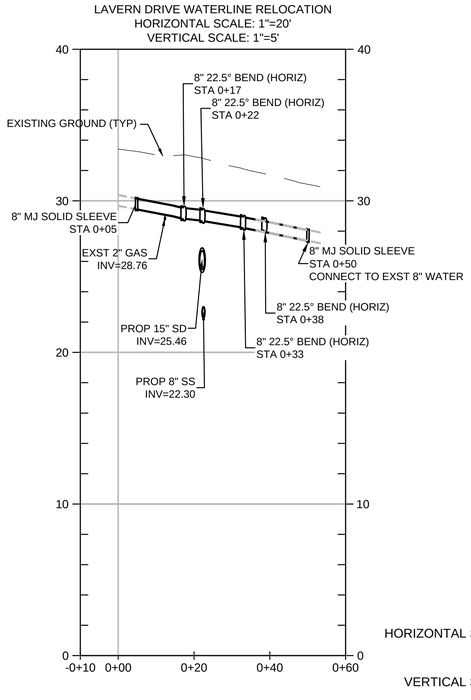
FILENAME: CR-08.dwg PLOT DATE: 10/7/2025 PLOT TIME: 6:26 PM


MATCHLINE STA 59+80
60+00
61+00
62+00
63+00
63+42
EAST GLEBE RD
ASHBY STREET
1-8" 11.25° BEND (VERT)
1-8" 45° BEND (VERT)
1-8"x4" TEE
1-8"x6" TEE
1-8" GATE VALVE
DRY CONNECTION TO EXISTING 6" WATER MAIN. CONTRACTOR SHALL COORDINATE EXISTING WATER MAIN SHUT DOWN WITH VAWC.
EX. 3" ABANDONED GAS LINE TO BE DEMOLISHED DURING WATER LINE CONSTRUCTION
EX. 3" ABANDONED GAS LINE TO REMAIN
1-12" 11.25° BEND (HORIZ)
1-12"x8" TEE WITH THRUST BLOCK
1-12" MJ SOLID SLEEVE
1-6" GATE VALVE
ENCASE PIPE IN CONCRETE BETWEEN BENDS
CONTRACTOR SHALL RECONNECT EACH HOUSE WATER SERVICE LINE PER VAWC INSTRUCTIONS
4" WATER
EXST VAL-9273
EXST VAL-4994
EXST VAL-5848
1-12"x6" TEE WITH THRUST BLOCK
1-6" 22.5° BEND (HORIZ)
DRY TIE-IN EX 6" WATER MAIN
1-6" MJ SOLID SLEEVE
1-6" 11.25° BEND (HORIZ)
6" WATER
1-6" 22.5° BEND (VERT)
1-12"x6" TEE WITH THRUST BLOCK
1-12" MJ SOLID SLEEVE
FH#2265
1-FH#2068 FIRE HYDRANT ASSEMBLY
FIRE HYDRANT CONNECTIONS TO FOLLOW CITY STD CSFH-1
SEE RD-12 FOR NEW STORM CROSSING UNDER WATER RELOCATION
Ex. 15" RCP
Ex. 12" DIP
Ex. 30" RCP
Ex. 10" DIP
Ex. Concrete Walk
Ex. Brick Retaining Wall
Ex. Wooden Picket Fence
Ex. Chain Link Fence
Ex. Gas
Ex. Water
Ex. Sanitary
Ex. Storm
Ex. Overhead Wires
Ex. Fiber Optic
Ex. Underground Electric
Ex. Underground Telephone
Ex. Underground Cable
Ex. Underground Gas
Ex. Underground Water
Ex. Underground Sanitary
Ex. Underground Storm
Ex. Underground Overhead Wires
Ex. Underground









NOTES:

1. WATER LINE RELOCATIONS TO BE COMPLETED BY VAWC CONTRACTOR BEFORE START OF WORK ON STORMWATER SYSTEM.
2. CONTRACTOR SHALL CONTACT VAWC BEFORE CONSTRUCTION AND/OR ORDER ANY WATER FACILITY MATERIALS, AND REFERS TO WATER FACILITY CONSTRUCTION SPECS AND DETAILS LINK HERE: HTTPS://WWW.AMWATER.COM/VAAW/ABOUT-US/DOING-BUSINESS-WITH-US/DEVELOPERS/DEVELOPER-DOCUMENTS
3. THE WATER LINE WORK IS TO BE DONE IN ACCORDANCE WITH ALL VAWC AND VDH REQUIREMENTS.
4. GAS LINE DESIGN AND RELOCATION TO BE COMPLETED BY OTHERS, GAS LINE ROUTE SHOWN IS APPROXIMATE AND ALL ELBOWS SHOWN MAY HAVE BEEN INSTALLED AS A BEND IN MDPE PIPE. CONTRACTOR TO FIELD VERIFY OR OTHERWISE CONFIRM WITH WASHINGTON GAS.
5. WATER LINES SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER THE SPECIFICATIONS ON SHEET CR-10 UNLESS OTHERWISE NOTED.
6. ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED. CONCRETE THRUST BLOCKS SHALL ONLY BE USED AT CONNECTIONS TO EXISTING PIPE WHERE SHOWN.
7. PE SEAL IS FOR WATER LINE DESIGN ONLY; GAS LINES SHOWN ARE APPROXIMATE FOR COORDINATION. DESIGN AND CONSTRUCTION OF THE GAS LINES TO BE COMPLETED BY OTHERS.
8. 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.
9. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.
10. CONTRACTOR TO COORDINATE WITH VAWC FOR THE DISCONNECTION AND RECONNECTION OF SERVICE LINES. THE REPLACEMENT OF THIS LINE WILL REQUIRE SERVICE SHUTDOWN. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNERS AS NEEDED.
11. RESTORATION TO EXISTING CONDITIONS OF THE ROADWAY PAVEMENT, SIDEWALKS, CURB AND GUTTER, AND LANDSCAPED AREAS REQUIRED TO COMPLETE THE UTILITY RELOCATION WORK IS THE RESPONSIBILITY OF THE UTILITY OWNER.

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	M STICKLEY	M STICKLEY	M STICKLEY
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN S ARLEDGE

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE MONTROSE AVENUE (SHEET 1 OF 2)

1"=20' HORZ / 1"=5' VERT

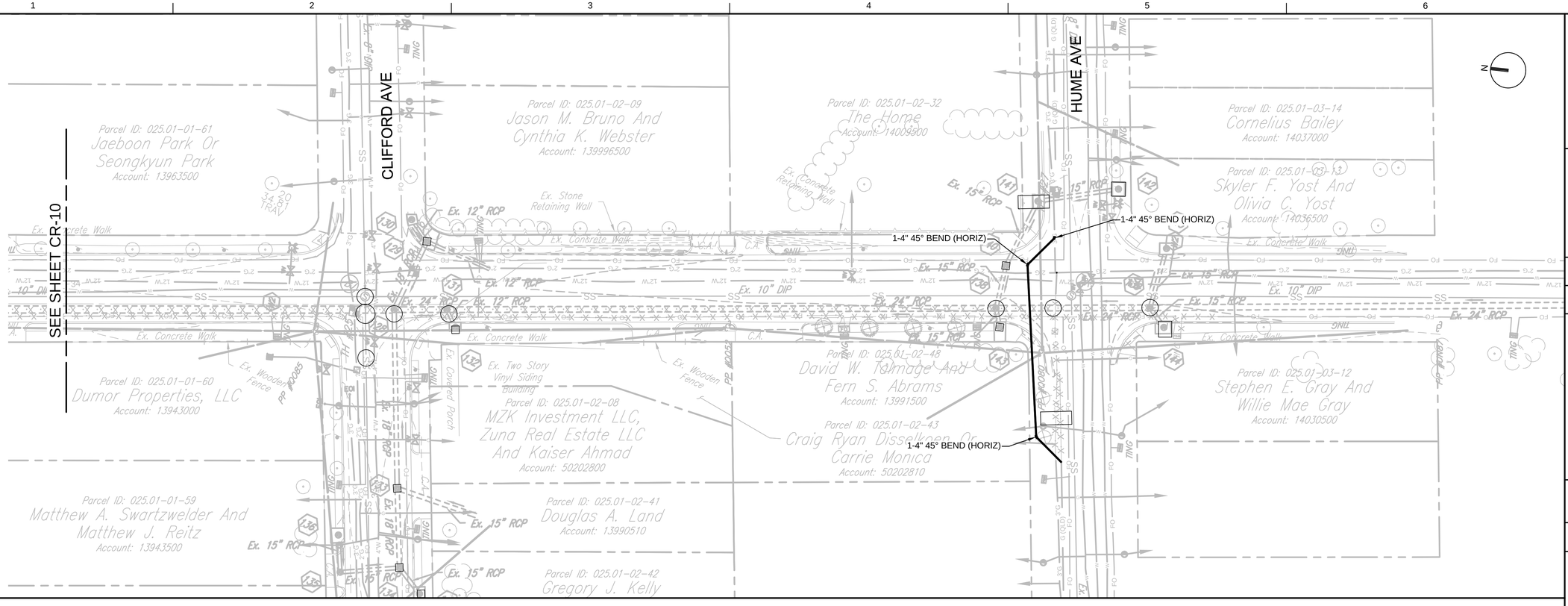
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-10
SHEET	63 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-10.dwg PLOT DATE: 10/7/2025 PLOT TIME: 6:26 PM



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2. CONTRACTOR SHALL CONTACT VAWC BEFORE CONSTRUCTION AND/OR ORDER ANY WATER FACILITY MATERIALS, AND REFERS TO WATER FACILITY CONSTRUCTION SPECS AND DETAILS LINK HERE: HTTPS://WWW.AMWATER.COM/VAAW/ABOUT-US/DOING-BUSINESS-WITH-US/DEVELOPERS/DEVELOPER-DOCUMENTS
3. THE WATER LINE WORK IS TO BE DONE IN ACCORDANCE WITH ALL VAWC AND VDH REQUIREMENTS.
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5. WATER LINES SHALL BE CEMENT-LINED DUCTILE IRON PIPE PER THE SPECIFICATIONS ON SHEET CR-10 UNLESS OTHERWISE NOTED.
6. ALL PIPE AND FITTING JOINTS SHALL BE RESTRAINED. CONCRETE THRUST BLOCKS SHALL ONLY BE USED AT CONNECTIONS TO EXISTING PIPE WHERE SHOWN.
7. PE SEAL IS FOR WATER LINE DESIGN ONLY; GAS LINES SHOWN ARE APPROXIMATE FOR COORDINATION. DESIGN AND CONSTRUCTION OF THE GAS LINES TO BE COMPLETED BY OTHERS.
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HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
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	09/2023	30% SUBMITTAL		

DSGN S ARLEDGE | DR | CHK T WEINSTEIN | M STICKLEY | APVD M STICKLEY

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

FINAL DESIGN (NOT FOR CONSTRUCTION)

Jacobs

CIVIL

WATER AND GAS MAIN RELOCATIONS PLAN AND PROFILE MONTROSE AVENUE (SHEET 2 OF 2)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-11
SHEET	64 of 158

FILENAME: CR-11.dwg PLOT DATE: 10/7/2025 PLOT TIME: 6:27 PM

VIRGINIA- AMERICAN WATER COMPANY MATERIAL SPECIFICATIONS	Date: February 22, 2023
Item	Authorized Manufacturer
DUCTILE IRON PIPE (AWWA C151/A21.51) •Double coated cement lining with paint seal coat •Tar coated on outside •Press-on joint (NO MJ PIPE) •Thickness Class 52 for 4"- 16" under normal laying conditions •All buried ductile iron pipe & fittings shall be polywrap encased. PolyWrap encasement (AWWA-C105), blue color, seamless 12mil thick high density cross laminated	•United States Pipe and Foundry •Griffin Pipe Products, Inc. •American (ACI PCO) •McWane, Inc.
DUCTILE IRON FITTINGS •Compact Ductile Iron Fittings AWWA C153/A21.53 •Double thickness cement lining with paint seal coat •Tar coated on outside •350 PSI working pressure •Mechanical joint (ALL MJ)	•United States Pipe and Foundry •American (ACIPCO) •McWane, Inc.
GATE VALVES 2"- 12" AWWA C509 •Resilient-seated •Iron body suitable for buried service, Epoxy coated AWWA C550 •2" square operating nut •Open left (Alex & PrinceWilliam District). *contact local engineer for other districts. •Non-rising stem with double O-Ring stem seal •200 PSI working pressure and 400 PSI test pressure •4"-12" valves: Mechanical joint •2" valve: Screw Joint	•Mueller Co. MJ Gave Valve: Muller #A2360 MJ Tapping Sleeve: Muller #H615 MJ Tapping Valve: Muller #T2360-16-LN •American Flow Control MJ Tapping Sleeve: Series 2800-C
BUTTERFLY VALVES 16"- 24" AWWA C504 •Rubber seated •Iron body suitable for buried service •Manual operator with 2" square operating nut •Class 150 •Mechanical joint	•Henry Pratt Co. •Dezurik
FTRE HYDRANTS AWWA C502 •Mueller Super Centurion 250 •5 ¼" valve with 6" mechanical joint inlet •4 ½ feet bury •Two 2 ½" nozzles with 7 ½ threads per inch •Prince William County: One 4 ½" pumper nozzle with National Standard threads •Alexandria City: One 4" pumper nozzle with National Standard threads •1 ½" pentagon operating nut, open left	•Mueller Co. Dale City: Mueller #A423-500-087 Alexandria City: Mueller #A423-500-100 Other district: contact local engineer
VALVE BOXES •Cast iron, slide type adjustment, with "WATER" on the lid •5 ¼" x 60" two piece with flared base	Bingham & Taylor; Mueller Handley Ind; A.Y.McDo nald Quality Water Products; Clay & Bailey
WATER FACILITY MISCELLANEOUS MATERIALS •Pennatex: food grade adhesive, either FORM-A-GASKET No.2 Sealant or Clear RTV Silicone Adhesive •Pipe Soap: Nontoxic vegetable soap, such as Tyton Joint Lubricant or Super Bell-Tite Lubricant •Chlorine tablets: Olin Pulsar CCH Tablets, 5G size, available chlorine - 65% (Calcium Hypochlorite) •Pipe Joint Compound: Nontoxic for water, Harvey's TFE Paste w/ Teflon or Rectorseal T Plus 2 •Asphalt Coating: Koppers #50 Coal Tar or Orion HS-2 by Triple G Coatings Inc. •Concrete: 3000 PSI @ 28 days ASTM C-94, Slump 3"- 5" •All copper tube shall be Type K. All copper and brass fittings shall be lead fee.	

NOTES:

1. WATER LINE RELOCATION WORK SHALL BE COORDINATED WITH VAWC AND COMPLETED IN ACCORDANCE WITH VAWC SPECIFICATIONS AND DETAILS.

2. DRY CONNECTIONS CONSIST OF SHUTTING DOWN A SECTION OF EXISTING WATER MAIN AND INSTALLING PROPOSED CONNECTION TO EXISTING WATER MAIN.

STANDARD SPECIFICATIONS AND DETAILS OF VIRGINIA AMERICAN WATER GENERAL DISTRIBUTION

General Notes:

1. Contractor shall submit material shop drawing (e.g. product specification sheet) to VAW and obtains approval, before order any materials.

2. Contractor shall install thrust block at all tapping sleeve, BEND, TEE, CROSS, reducer, hydrant, dead-end, blowoff, in accordance with standard details.

3. All buried ductile iron pipe shall be Thickness Class 52 (minimum), and shall apply 12mil blue color polywrap encasement. All buried ductile iron pipe fittings shall be mechanical joint.

4. All copper tube shall be Type "K". Copper tube and brass fittings shall be lead free. Connections shall be compression or flare, and determined by local district engineer.

Alexandria City and Dale City: use flare connection

Hopewell City and Fort LEE district: use compression connection

Maryland Bel Air district: use compression connection

VIRGINIA AMERICAN WATER

3. Restrained Joint Pipe
Restrained joints for pipes shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA C111. Restrained system shall be suitable for the following minimum working pressures:

Size (Inch)	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	200

F. Suppliers acceptable to American Water are:

1. United States Pipe & Foundry Co.
1101 East Pearl Street
Burlington, NJ 08016

2. Griffin Pipe Products Company
1100 West Front Street
Florence, NJ 08518

3. McWane Cast Iron Pipe Co.
P. O. Box 607
Birmingham, AL 35201

4. American Cast Iron Pipe Company
2916 16h Street North
Birmingham, AL 35207

2.02 FITTINGS

A. Ductile Iron Fittings

Standard fittings shall be ductile iron conforming to AWWA C110. Compact ductile iron fittings shall meet the requirements of AWWA C153.

1. Working Pressures
Fittings shall be suitable for the following working pressures unless otherwise noted in AWWA C110 or C153:

	Pressure (psi)	
	Compact Fittings	Standard Fittings
Size	Ductile Iron	Ductile Iron
3" - 24"	350	250, 350 (with special gaskets)
30" - 48"	250	250
54" - 64"	150	N/A

The use of standard ductile iron fittings having a 250-psi pressure rating with ductile iron pipe (having a rating of 350 psi) is not permitted except by the expressed written approval by the Engineer.

2. Coating and Lining
The fittings shall be coated on the outside with a petroleum asphaltic coating in accordance with AWWA C110 or fusion coated epoxy in accordance with AWWA C116 and lined inside with cement-mortar and seal coated in accordance with AWWA C104 or fusion coated epoxy in accordance with AWWA C116.

B. Suppliers acceptable to American Water are:

1. (Sigma through) United States Pipe & Foundry Co.
1101 East Pearl Street
Burlington, NJ 08016

2. (Tyler Union –domestic only)
McWane Cast Iron Pipe Co.
P. O. Box 607
Birmingham, AL 35201

3. American Cast Iron Pipe Company
2916 16h Street North
Birmingham, AL 35207

C. Joints

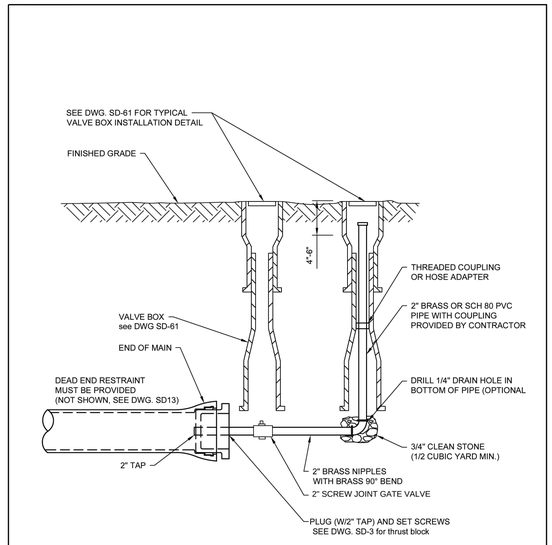
1. Mechanical and Push-On
Mechanical and push-on joints including accessories shall conform to AWWA C111. Anti-Rotation I T-Bolts shall be used on mechanical joints shall be of domestic origin, high strength, low alloy steel bolts only, meeting the current provisions of American National Standard ANSI/AWWA C111/A21.1-90 for rubber gasket joints for cast iron or ductile iron pipe and fittings. Bolt manufacturer's certification of compliance must accompany each shipment. T-bolts shall be Xylan or FluoroKote #1, (corrosion resistant) to handle corrosive conditions on any buried bolts.

2. Flanged
Flanged joints shall meet the requirements of AWWA C115 or ANSI B16.1. Do not use flanged joints in underground installations except within structures. Furnish all flanged joints with a minimum 1/8-inch, thick red rubber or styrene butadiene rubber gasket. The bolts shall have American Standard heavy unfinished hexagonal head and nut dimensions all as specified in ANSI B18.2. Xylan or FluoroKote #1 Hex Bolts (corrosion resistant) to handle corrosive conditions shall be used on any buried flanged bolts. Flange gaskets shall be rubber in composition; paper gaskets are not permitted.
Bolts and nuts shall be threaded in accordance with ASME/ANSI B1.1, Unified Inch Screw Threads (UN and UNR Thread Form) class 2A external and class 2B internal. For bolts of 1-3/4-inches in diameter and larger, bolt studs with a nut on each end are recommended. Material for bolts and nuts shall conform to ASTM A307. 60,000 PSI Tensile Strength, Grade B, unless otherwise specified. Bolt manufacturer's certification of compliance must accompany each shipment.

3. Restrained
Restrained joints for valves and fittings shall be of the boltless push-on type which provides joint restraint independent of the joint seal. Field Lok gaskets are not permitted on valves or fittings. Restrained push-on joints allowed for pipe only shall have accessories conforming to AWWA C111. Restrained system shall be suitable for the following minimum working pressures:

Size	Pressure (psi)
Less than 20"	350
20"	300
24"	250
30" - 64"	250

Where adjacent fittings are to be placed (as in a mechanical joint hydrant tee and a mechanical joint hydrant valve), the use of a suitably sized Foster adaptor is permitted to facilitate restraint between the fittings.



AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102 AMERICAN WATER	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM 2" BLOWOFF AT END OF MAIN DETAIL	
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: NTS
PIPELINE DETAILS	APPROVED	SD- 4

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	M STICKLEY	M STICKLEY	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN	DR					

S. ARLEDGE

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

VIRGINIA AMERICAN WATER COMPANY
STANDARD DETAILS
(SHEET 1 OF 3)

NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

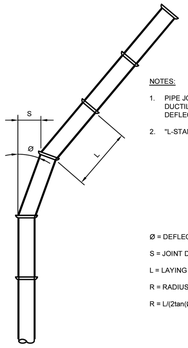
DATE OCTOBER 2025
PROJ E5X81200
DWG CR-12
SHEET 65 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

MAXIMUM JOINT DEFLECTION

MAXIMUM JOINT DEFLECTION DUCTILE IRON PUSH ON PIPE						
NOMINAL PIPE SIZE INCHES	DEFLECTION ANGLE DEGREES	MAX OFFSET -S INCHES		APPROX RADIUS OF CURVE - R PRODUCED BY SUCCESSION OF JOINTS INCHES		CURRENT AW DEFLECTION ANGLE DEGREES
		L=18 FT	L=20 FT	L=18 FT	L=20 FT	
3	4	15	17	256	285	
4	4	15	17	256	285	
6	4	15	17	256	285	4
8	4	15	17	256	285	4
10	4	15	17	256	285	
12	4	15	17	256	285	4
14	4	9	10	256	285	
16	2.5	9	10	429	476	2.5
18	2.5	9	10	429	476	
20	2.5	9	10	429	476	2
24	2.5	9	10	429	476	1.5

MAXIMUM JOINT DEFLECTION DUCTILE IRON MJ PIPE						
NOMINAL PIPE SIZE INCHES	DEFLECTION ANGLE DEGREES	MAX OFFSET -S INCHES		APPROX RADIUS OF CURVE - R PRODUCED BY SUCCESSION OF JOINTS INCHES		CURRENT AW DEFLECTION ANGLE DEGREES
		L=18 FT	L=20 FT	L=18 FT	L=20 FT	
3	6.5	25	28	158	176	
4	6.5	25	28	158	176	
6	5.5	22	24	182	202	
8	4	16	18	256	285	
10	4	16	18	256	285	
12	4	16	18	256	285	
14	3	11	12	367	408	
16	3	11	12	367	408	
18	2.5	11	10	429	476	
20	2.5	9	10	429	476	
24	1.5	9	8	644	715	



NOTES:

1. PIPE JOINT DEFLECTION ALLOWED ON DUCTILE IRON PIPE ONLY. PIPE JOINT DEFLECTION NOT ALLOWED ON PVC PIPE.
2. "L-STANDARD LENGTH OF PIPE SECTION.

Ø = DEFLECTION ANGLE

S = JOINT DEFLECTION OFFSET

L = LAYING LENGTH

R = RADIUS OF CURVE

R = L/(2tan(Ø/2))

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

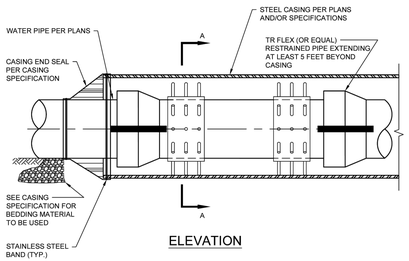
AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
PIPE CURVE GEOMETRY DETAIL

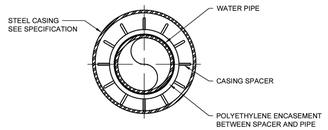
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 32

NOTES:

1. RESTRAINT OR EQUALS DEFINED AS REQUIRING NO SPECIAL TOOLS OR SHIMS TO REMOVE PIPE FROM CASING IN THE FUTURE
2. THIS STANDARD APPLICABLE TO 4" DIA. AND LARGER PIPE.



ELEVATION



SECTION A-A

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

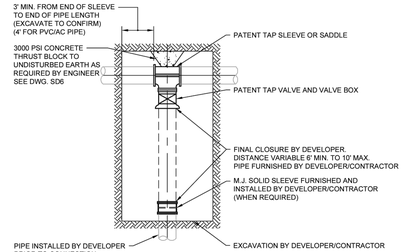
AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
CASING INSTALLATION DETAIL

DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 45

NOTES:

1. TAP CONNECTIONS TO AC (TRANSITE PIPE) 4" AND LARGER REQUIRE AN EXCAVATION 5 FT. IN WIDTH. (MAIN SIZE IS VARIABLE).
2. ALL EXCAVATIONS SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS FOR PROTECTION OF WORKERS.
3. IF PIPE BELL IS EXPOSED IN TAP HOLE OR OTHER OBSTACLES ENCOUNTERED, CONTACT LOCAL WATER COMPANY DISTRICT PERSONNEL FOR FIELD REVIEW BEFORE COMPLETING EXCAVATION.
4. TAP HOLE SHALL BE FREE OF WATER AND MUD TO ALLOW SAFE HANDLING OF HEAVY SLEEVES AND TAPPING MACHINE.
5. CONCRETE BLOCKING BEHIND TAP TO BE PER REQUIREMENTS ON DRAWING SD6.
6. BOTTOM OF EXCAVATION TO BE 12" BELOW BOTTOM OF PIPE AND REASONABLY LEVEL.

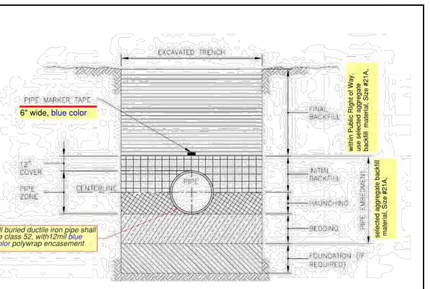


AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
PATENT TAP CONNECTION DETAIL

DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 52



TRENCH TERMINOLOGY:

FOUNDATION: A FOUNDATION IS NECESSARY ONLY WHEN NATIVE SOILS ARE UNSTABLE. FOR SUCH CONDITIONS, THE TRENCH IS OVER-EXCAVATED AND A LAYER OF SUPPORTIVE MATERIAL IS PLACED AND COMPACTED TO PROVIDE A FIRM FOUNDATION FOR THE SUBSEQUENT PIPE EMBEDMENT MATERIALS.

EMBEDMENT: THIS ZONE IS THE MOST IMPORTANT IN TERMS OF PIPE PERFORMANCE. IT IS DIVIDED INTO THE FOLLOWING SUB ZONES:

- BEDDING: TYPICALLY SIX INCHES OF SUPPORTIVE, COMPACTED MATERIAL. THIS ZONE PROVIDES EVEN SUPPORT FOR THE PIPE AND BRINGS IT TO GRADE.
- HAUNCHING: EXTENDS FROM THE BOTTOM OF THE PIPE TO THE CENTERLINE OF THE PIPE. IT PROVIDES THE MOST RESISTANCE TO PIPE DEFLECTION. SPECIFYING PROPER MATERIALS AND COMPACTION ARE MOST IMPORTANT FOR THIS ZONE.
- INITIAL BACKFILL: EXTENDS FROM THE SPRINGLINE TO A POINT ABOVE THE TOP OF THE PIPE. THIS ZONE PROVIDES SOME PIPE SUPPORT AND HELPS TO PREVENT DAMAGE TO THE PIPE DURING PLACEMENT OF THE FINAL BACKFILL. THE COVER EXTENDS FROM THE TOP OF THE PIPE TO THE TOP OF THE INITIAL BACKFILL. THE DEPTH OF COVER SHOULD BE AS MUCH AS NECESSARY TO PROTECT THE PIPE DURING PLACEMENT OF THE FINAL BACKFILL. TWELVE INCHES IS A COMMON DEPTH OF COVER.

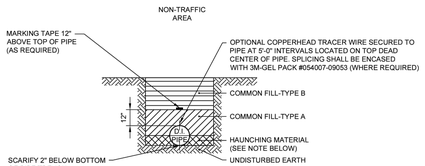
FINAL BACKFILL: THIS ZONE EXTENDS FROM THE TOP OF THE INITIAL BACKFILL TO THE TOP OF THE TRENCH. THIS ZONE HAS LITTLE INFLUENCE ON PIPE PERFORMANCE, BUT CAN BE IMPORTANT TO THE INTEGRITY OF ROADS AND STRUCTURES.

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

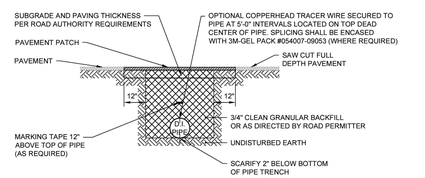
AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
PIPE TRENCH TERMINOLOGY DETAIL

DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 53



DETAIL "A"

D.I. - SOIL
(FOR AREAS NOT TO BE PAVED)



DETAIL "B"

D.I. - SOIL
(FOR PAVED AREAS OR AREAS TO BE PAVED OR WITHIN 18" OF PAVING)

NOTES:

1. CAUTION MUST BE EXERCISED TO ENSURE PROPER PLACEMENT OF EMBEDMENT MATERIAL UNDER THE HAUNCHES OF THE PIPE.
2. POLYETHYLENE ENCASING ON ALL D.I. PIPE, FITTINGS, VALVES & APPURTENANCES.
3. SEE SPECIFICATION SECTION ~~312333~~ #02210 FOR DESCRIPTION OF BACKFILL AND BEDDING MATERIAL.

AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

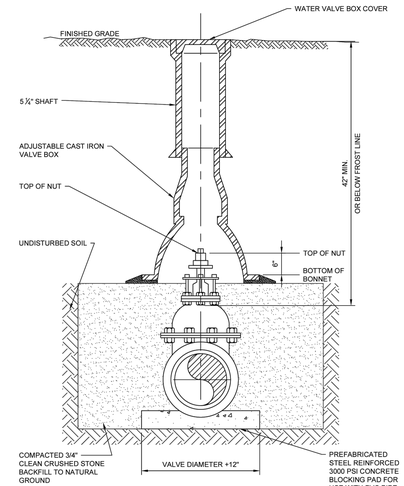
AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
TRENCH - D.I. PIPE IN SOIL DETAIL

DATE: 23-OCT-2020	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 55

NOTE:

1. 6"x6" WOOD BLOCK MAY BE USED AS VALVE PAD WHERE APPROVED BY ENGINEER.



AMERICAN WATER ENGINEERING
1 WATER STREET
CAMDEN, NJ 08102

AMERICAN WATER

AMERICAN WATER STANDARD
CIVIL
WATER DISTRIBUTION SYSTEM
VALVE BOX INSTALLATION FROST AREAS DETAIL

DATE: 23-OCT-2020	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 59

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
0	10/2025	100% SUBMITTAL	S ARLEDGE	T WEINSTEIN	M STICKLEY	M STICKLEY
1	04/2025	90% SUBMITTAL				
2	11/2024	65% SUBMITTAL				
3	05/2024	60% SUBMITTAL				
4	09/2023	30% SUBMITTAL				

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

VIRGINIA AMERICAN WATER COMPANY
STANDARD DETAILS
(SHEET 2 OF 3)

NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-13
SHEET	66 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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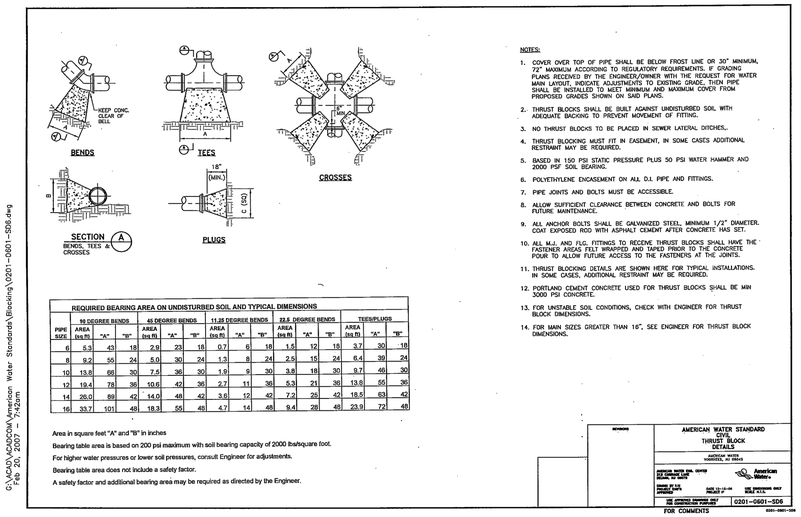


NOTES:

1. COVER OVER TOP OF PIPE SHALL BE BELOW FROST LINE OR 30" MINIMUM, 72" MAXIMUM ACCORDING TO REGULATORY REQUIREMENTS. IF GRADING PLANS RECEIVED BY THE ENGINEER/OWNER WITH THE REQUEST FOR WATER MAIN LAYOUT, INDICATE ADJUSTMENTS TO EXISTING GRADE, THEN PIPE SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON SAID PLANS.
2. THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
3. NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES,.
4. THRUST BLOCKING MUST FIT IN EASEMENT, IN SOME CASES ADDITIONAL RESTRAINT MAY BE REQUIRED.
5. BASED IN 150 PSI STATIC PRESSURE PLUS 50 PSI WATER HAMMER AND 2000 PSF SOIL BEARING.
6. POLYETHYLENE ENCASEMENT ON ALL D.I. PIPE AND FITTINGS.
7. PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
8. ALLOW SUFFICIENT CLEARANCE BETWEEN CONCRETE AND BOLTS FOR FUTURE MAINTENANCE.
9. ALL ANCHOR BOLTS SHALL BE GALVANIZED STEEL, MINIMUM 1/2" DIAMETER. COAT EXPOSED ROD WITH ASPHALT CEMENT AFTER CONCRETE HAS SET.
10. ALL M.J. AND FLG. FITTINGS TO RECEIVE THRUST BLOCKS SHALL HAVE THE FASTENER AREAS FELT WRAPPED AND TAPED PRIOR TO THE CONCRETE POUR TO ALLOW FUTURE ACCESS TO THE FASTENERS AT THE JOINTS.
11. THRUST BLOCKING DETAILS ARE SHOWN HERE FOR TYPICAL INSTALLATIONS. IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
12. PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN 3000 PSI CONCRETE.
13. FOR UNSTABLE SOIL CONDITIONS, CHECK WITH ENGINEER FOR THRUST BLOCK DIMENSIONS.
14. FOR MAIN SIZES GREATER THAN 16", SEE ENGINEER FOR THRUST BLOCK DIMENSIONS.

REQUIRED BEARING AREA ON UNDISTURBED SOIL AND TYPICAL DIMENSIONS

PIPE SIZE	90 DEGREE BENDS AREA (sq ft)	"A"	"B"	45 DEGREE BENDS AREA (sq ft)	"A"	"B"	11.25 DEGREE BENDS AREA (sq ft)	"A"	"B"	22.5 DEGREE BENDS AREA (sq ft)	"A"	"B"	TEES/PLUGS AREA (sq ft)	"A"	"B"
6	5.3	43	18	2.9	23	18	0.7	6	18	1.5	12	18	3.7	30	18
8	9.2	55	24	5.0	30	24	1.3	8	24	2.5	15	24	6.4	39	24
10	13.8	66	30	7.5	36	30	1.9	9	30	3.8	18	30	9.7	46	30
12	19.4	78	36	10.6	42	36	2.7	11	36	5.3	21	36	13.6	55	36
14	26.0	89	42	14.0	48	42	3.6	12	42	7.2	25	42	18.5	63	42
16	33.7	101	48	18.3	55	48	4.7	14	48	9.4	28	48	23.9	72	48

Area in square feet "A" and "B" in inches

Bearing table area is based on 200 psi maximum with soil bearing capacity of 2000 lbs/square foot.

For higher water pressures or lower soil pressures, consult Engineer for adjustments.

Bearing table area does not include a safety factor.

A safety factor and additional bearing area may be required as directed by the Engineer.

REVISIONS

AMERICAN WATER STANDARD
CIVIL
THRUST BLOCK
DETAILS

ANYCITY, WATER
YOURSTATE, YR 00000

AMERICAN WATER ENG. SERVICES
630 EGG HARBOR ROAD
SUITE 200
SEWELL, NJ 08080

American Water

DRAWN BY CJS
DESIGNED BY MAS
CHECKED BY
PROJECT #

CAD: 12-12-06
DWG: W-D

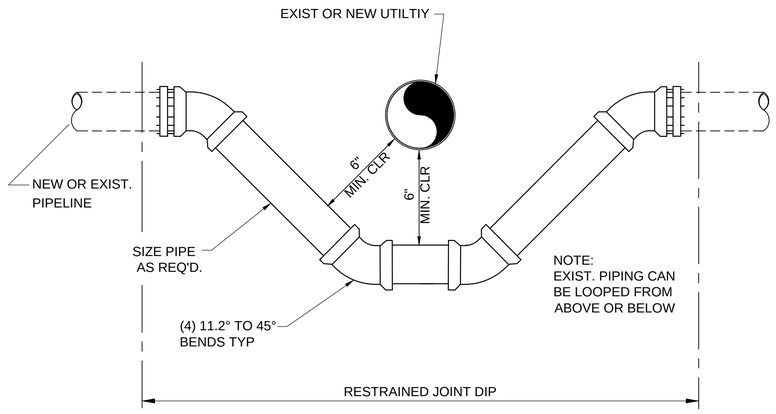
USE APPROVED DRAWINGS ONLY
SEE CONSTRUCTION PURPOSES

0201-0601-SD6

FOR COMMENTS

0201-0601-SD6

G:\ACAD\ACADCOM\American Water Standards\Blocking\0201-0601-SD6.dwg
Feb 20, 2007 - 7:42am



PROFILE

NOTES:

1. UTILITY LOOPS SHALL BE RESTRAINED JOINT, AND COMPLY WITH OWNERS STANDARDS AND SPECIFICATIONS.
2. DIP & FITTINGS PRESSURE CLASS SHALL COMPLY WITH VAWC REQUIREMENTS.
3. ON NEW DI PIPE, RESTRAIN ALL JOINTS AND OMIT ALL THRUST BLOCKS, UNLESS REQUIRED BY THE UTILITY OWNERS STANDARDS AND SPECIFICATIONS.
4. ONLY LOOP UNDER WATERLINES. SANITARY SEWER CROSSINGS SHOULD LOOP OVER.
5. WHEN CROSSING UNDER GI MEDIAN, INSTALL WL A MINIMUM OF 12" BELOW INVERT OF GI GEOTEXTILE. BACKFILL TO PROPOSED INVERT OF GEOTEXTILE WITH 57 STONE.

1 TYPICAL WATERLINE LOOP
NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	M STICKLEY	M STICKLEY	M STICKLEY
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN S.ARLEDGE

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

VIRGINIA AMERICAN WATER COMPANY
STANDARD DETAILS
(SHEET 3 OF 3)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

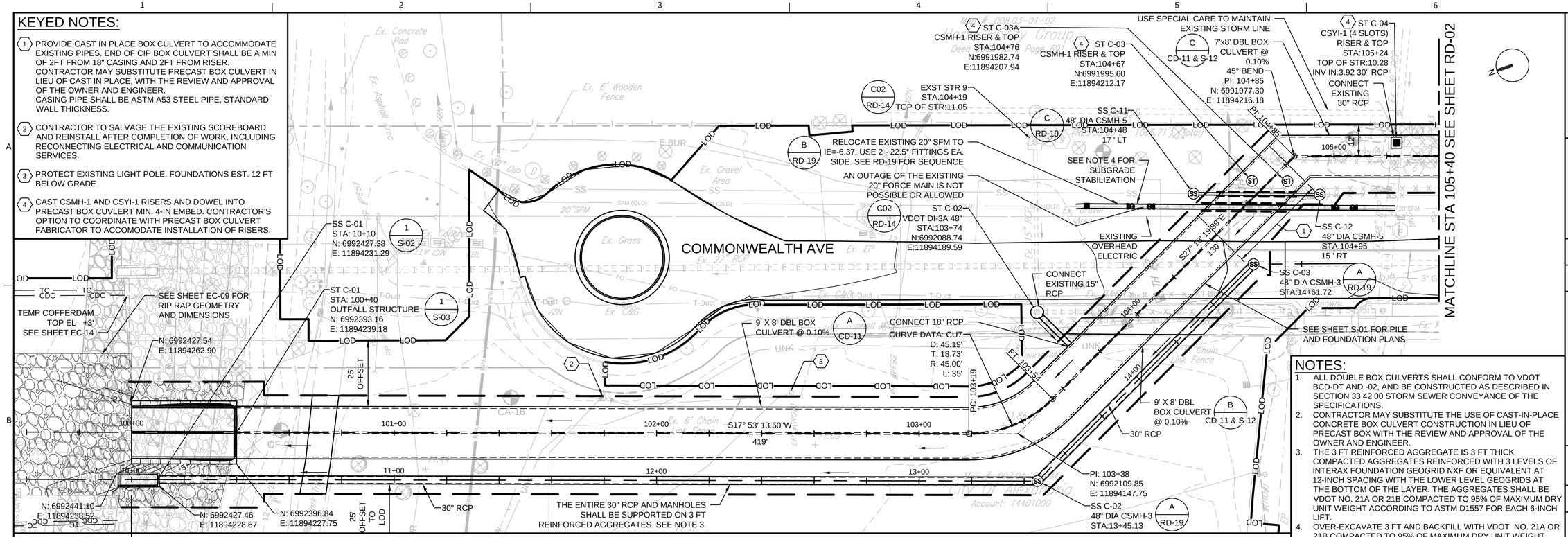
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CR-14
SHEET	67 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: CR-14.dwg PLOT DATE: 10/8/2025 PLOT TIME: 11:07 PM

KEYED NOTES:

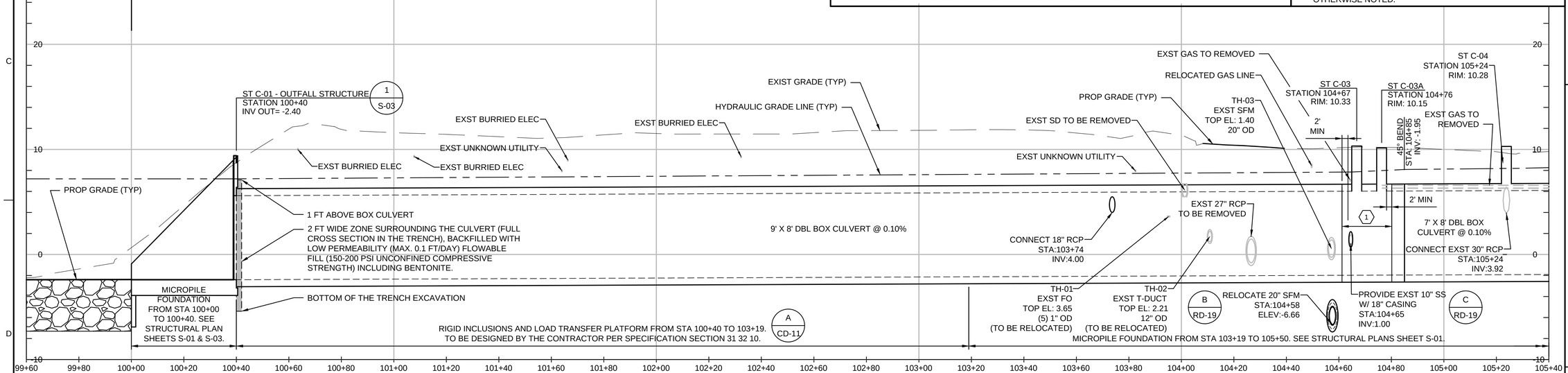
1. PROVIDE CAST IN PLACE BOX CULVERT TO ACCOMMODATE EXISTING PIPES. END OF CIP BOX CULVERT SHALL BE A MIN OF 2FT FROM 18" CASING AND 2FT FROM RISER. CONTRACTOR MAY SUBSTITUTE PRECAST BOX CULVERT IN LIEU OF CAST IN PLACE, WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER. CASING PIPE SHALL BE ASTM A53 STEEL PIPE, STANDARD WALL THICKNESS.
2. CONTRACTOR TO SALVAGE THE EXISTING SCOREBOARD AND REINSTALL AFTER COMPLETION OF WORK, INCLUDING RECONNECTING ELECTRICAL AND COMMUNICATION SERVICES.
3. PROTECT EXISTING LIGHT POLE. FOUNDATIONS EST. 12 FT BELOW GRADE
4. CAST CSMH-1 AND CSYI-1 RISERS AND DOWEL INTO PRECAST BOX CUVLERT MIN. 4-IN EMBED. CONTRACTOR'S OPTION TO COORDINATE WITH PRECAST BOX CULVERT FABRICATOR TO ACCOMODATE INSTALLATION OF RISERS.



COMMONWEALTH STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:

1. ALL DOUBLE BOX CULVERTS SHALL CONFORM TO VDOT BCD-DT AND -02, AND BE CONSTRUCTED AS DESCRIBED IN SECTION 33 42 00 STORM SEWER CONVEYANCE OF THE SPECIFICATIONS.
2. CONTRACTOR MAY SUBSTITUTE THE USE OF CAST-IN-PLACE CONCRETE BOX CULVERT CONSTRUCTION IN LIEU OF PRECAST BOX WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER.
3. THE 3 FT REINFORCED AGGREGATE IS 3 FT THICK COMPACTED AGGREGATES REINFORCED WITH 3 LEVELS OF INTERAX FOUNDATION GEOGRID NXF OR EQUIVALENT AT 12-INCH SPACING WITH THE LOWER LEVEL GEOGRIDS AT THE BOTTOM OF THE LAYER. THE AGGREGATES SHALL BE VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
4. OVER-EXCAVATE 3 FT AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
5. THE TEMPORARY SUPPORT OF EXCAVATION DESIGNED BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
6. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.
7. BOTTOM OF RISERS WILL BE THE TOP OF THE TRUNK SEWER.
8. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.
9. 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.
10. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.



PHASE 1 FROM STATION 100+00 TO 129+50

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN H LUSK DR T WEINSTEIN CHK P FESER APVD H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

ROADWAY DRAINAGE PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 1 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-01
SHEET	68 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-01.dwg PLOT DATE: 10/4/2025 PLOT TIME: 9:24 AM

MATCHLINE STA 105+40 SEE SHEET RD-01

MATCHLINE STA 110+60 SEE SHEET RD-03

7' X 8' DBL BOX CULVERT @ 0.10%

CONNECT EXISTING 12" WL

23 LF OF RELOCATED 12" WL WITH 22" STEEL CASING @ 0.00%

PI: 106+19
N: 6991849.09
E: 11894175.31

S47° 41' 40.11"W
10'

PROTECT OR REPLACE EX SAN MH J & I

ST C-05
OFFSET STRUCTURE
N: 6991852.37
E: 11894184.75

7' X 8' DBL BOX CULVERT @ 0.10%

REPLACE EXST 10" SS W/ 12" PVC AND 18" CASING

ST C-06
CSMH-1 RISER & TOP
STA:107+20
N:6991755.25
E:11894144.14

ST C-07
CSYI-1 (4 SLOTS)
RISER & TOP
STA:108+26
TOP OF STR:11.34

7' X 8' DBL BOX CULVERT @ 0.10%

ST C-09
CSMH-1 RISER & TOP
STA:110+23
N:6991465.97
E:11894051.85

REPLACE EXST 10" SS W/ 12" PVC AND 18" CASING

S17° 40' 59.20"W
135'

S17° 41' 39.08"W
654'

PI: 106+29
N: 6991842.36
E: 11894167.91

N: 6991839.07
E: 11894158.46

ST C-05A
CSMH-1 RISER & TOP
STA:106+39
N:6991834.77
E:11894161.47

ST C-05
CSMH-1 RISER & TOP
STA:106+39
N:6991832.44
E:11894168.77

ST C-06A
CSMH-1 RISER & TOP
STA:107+20
N:6991757.58
E:11894136.84

COMMONWEALTH AVE

ST C-07A
CSMH-1
STA:108+31
N:6991657.07
E:11894085.28

MAINTAIN 2-WAY TRAFFIC AT ALL TIMES

ST C-09A
CSMH-1 RISER & TOP
STA:110+23
N:6991468.30
E:11894044.55

EXST STR G
EXST SSMH
STA:107+16
36 ' RT

SS C-06
48" DIA CSMH-5
STA:110+19
38 ' RT

RELOCATED WATERLINE

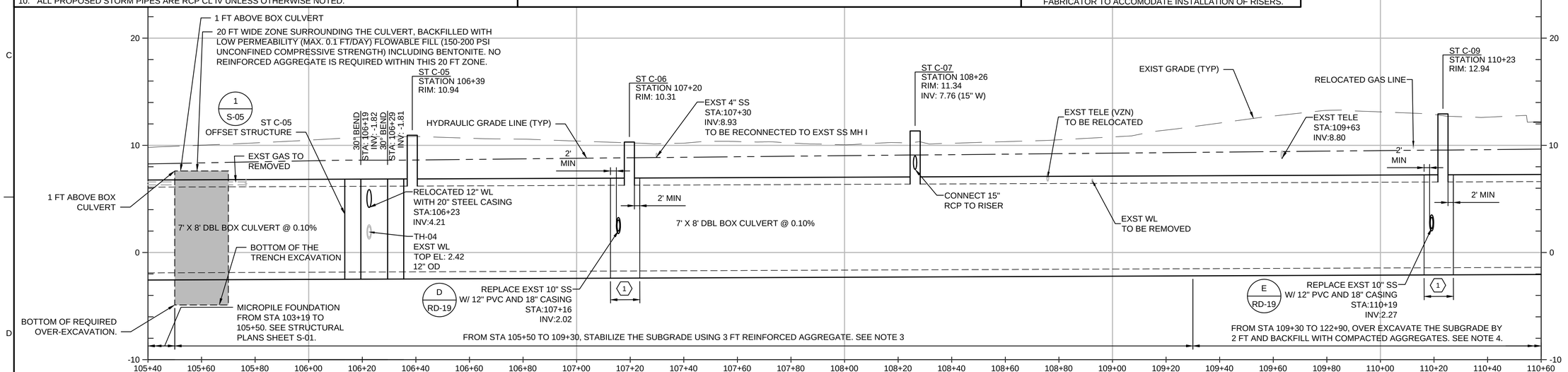
RELOCATED GAS LINE

NOTES:

1. ALL DOUBLE BOX CULVERTS SHALL CONFORM TO VDOT BCD-DT AND -02, AND BE CONSTRUCTED AS DESCRIBED IN SECTION 33 42 00 STORM SEWER CONVEYANCE OF THE SPECIFICATIONS.
2. CONTRACTOR MAY SUBSTITUTE THE USE OF CAST-IN-PLACE CONCRETE BOX CULVERT CONSTRUCTION IN LIEU OF PRECAST BOX WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER.
3. THE 3 FT REINFORCED AGGREGATE IS 3 FT THICK COMPACTED AGGREGATES REINFORCED WITH 3 LEVELS OF INTERAX FOUNDATION GEOGRID NXF OR EQUIVALENT AT 12-INCH SPACING WITH THE LOWER LEVEL GEOGRIDS AT THE BOTTOM OF THE LAYER. THE AGGREGATES SHALL BE VDOT 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
4. OVER-EXCAVATE 2 FT AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
5. THE ALLOWABLE BEARING PRESSURE FOR NON-PILE/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
6. THE TEMPORARY SUPPORT OF EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
7. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.
8. THE CONTRACTOR SHALL RECONNECT SANITARY SERVICE LATERALS UNCOVERED DURING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR SERVICE LATERALS AND RESOLVE CONFLICTS WITH NEW CONSTRUCTION AS NEEDED.
9. BOTTOM OF RISERS WILL BE THE TOP OF THE TRUNK SEWER.
10. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.
11. 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.
12. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.

KEYED NOTES:

1. PROVIDE CAST IN PLACE BOX CULVERT TO ACCOMMODATE EXISTING PIPES. END OF CIP BOX CULVERT SHALL BE A MIN OF 2FT FROM 18" CASING AND 2FT FROM RISER. CONTRACTOR MAY SUBSTITUTE PRECAST BOX CULVERT IN LIEU OF CAST IN PLACE, WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER. CASING PIPE SHALL BE ASTM A53 STEEL PIPE, STANDARD WALL THICKNESS.
2. CAST CSMH-1 AND CSYI-1 RISERS AND DOWEL INTO PRECAST BOX CULVERT MIN. 4-IN EMBED. CONTRACTOR'S OPTION TO COORDINATE WITH PRECAST BOX CULVERT FABRICATOR TO ACCOMODATE INSTALLATION OF RISERS.



HORIZONTAL SCALE: 0 20' 40' 60'
1" = 20'

VERTICAL SCALE: 0 5' 10' 15'
1" = 5'

PHASE 1 FROM STATION 100+00 TO 129+50

FILENAME: RD-02.dwg PLOT DATE: 10/4/2025 PLOT TIME: 9:58 AM

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
1	10/2025	100% SUBMITTAL	H LUSK	P FESER
2	04/2025	90% SUBMITTAL		
3	11/2024	65% SUBMITTAL		
4	05/2024	60% SUBMITTAL		
5	09/2023	30% SUBMITTAL		

DSGN H LUSK DR T WEINSTEIN CHK APVD H LUSK APVD

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

ROADWAY DRAINAGE PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 2 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-02
SHEET	69 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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MATCHLINE STA 110+60 SEE SHEET RD-02

MATCHLINE STA 116+20 SEE SHEET RD-04

REMOVE EX INLET, CUT, PLUG, & ABANDON PIPE

7' X 8' DBL BOX CULVERT @ 0.10%

(2) ST C-10 CSDI-1 RISER & TOP STA:111+25 TOP OF STR:11.41

(E) CD-11

CUT, PLUG, & ABANDON EX 36" RCP

PI: 113+06 N: 6991198.16 E: 11893962.39 CURVE DATA: CU2 D: 5.00' T: 21.83' R: 500.00' L: 44'

PC: 112+84

ST C-10A CSVI-1 (4 SLOTS) STA:113+18 N:6991182.69 E:11893968.14

(2) ST C-11 CSMH-1 RISER & TOP STA:113+21 N:6991182.88 E:11893959.85

RECONNECT EXISTING STORM STRUCTURE 17 TO BOX CULVERT

(F) RD-20

ST C-11A CSDI-1A L=6' STA:114+61 N:6991052.13 E:11893908.14

48" DIA CSMH-3 STA:115+10 16 ' LT

CURVE DATA: CU3 D: 5.00' T: 21.83' R: 500.00' L: 44'

PC: 114+57

10" SS

SS C-07 48" DIA CSMH-3 STA:115+10 16 ' LT

SS C-07A SSMH STA:115+18 29 ' LT

EAST REED AVE

GAS VALVE, APPROXIMATE LOCATION

MAINTAIN SIDEWALK PEDESTRIAN ACCESS AT ALL TIMES

INV: 8.93(W)

CONNECT 24" RCP

12" SS

PC: 115+01

111+00 112+00 113+00 114+00 115+00 116+00

PT: 113+27

S22° 41' 39.08"W 130'

CONNECT EXISTING 15" RCP

CONNECT EXISTING 15" RCP

COMMONWEALTH AVE

MAINTAIN 2-WAY TRAFFIC AT ALL TIMES

12" PVC W/ 18" CASING

PI: 114+79 N: 6991037.97 E: 11893895.41

ST C-12 CSMH-1 RISER & TOP STA:115+14 N:6991003.30 E:11893888.36

ABANDON EXIST SS

ST C-12A CSMH-1 RISER & TOP STA:115+14 N:6991005.63 E:11893881.06

RELOCATED GAS LINE

RELOCATED WATERLINE

SS C-08 48" DIA CSMH-5 STA:115+09 23 ' RT

ST C-13 CSDI-2 STA:116+17.02 TOP OF STR:11.75

WEST REED AVE

NOTES:

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3. OVER-EXCAVATE 2 FT AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
4. THE ALLOWABLE BEARING PRESSURE FOR NON-PILE/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
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8. BOTTOM OF RISERS WILL BE THE TOP OF THE TRUNK SEWER.
9. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.
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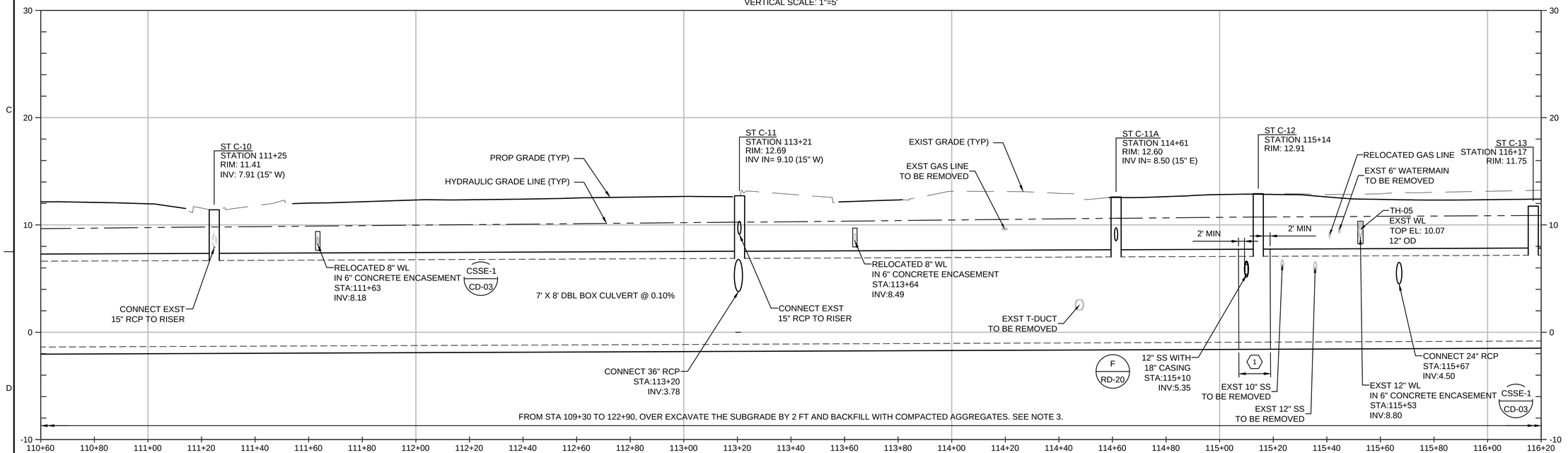
KEYED NOTES:

(1) PROVIDE CAST IN PLACE BOX CULVERT TO ACCOMMODATE EXISTING PIPES. END OF CIP BOX CULVERT SHALL BE A MIN OF 2FT FROM 18" CASING AND 2FT FROM RISER. CONTRACTOR MAY SUBSTITUTE PRECAST BOX CULVERT IN LIEU OF CAST IN PLACE, WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER. CASING PIPE SHALL BE ASTM A53 STEEL PIPE, STANDARD WALL THICKNESS.

(2) CAST CSMH-1 AND CSDI-1 RISERS AND DOWEL INTO PRECAST BOX CULVERT MIN. 4-IN EMBED. CONTRACTOR'S OPTION TO COORDINATE WITH PRECAST BOX CULVERT FABRICATOR TO ACCOMMODATE INSTALLATION OF RISERS.

(3) FILL ABANDONED PENETRATIONS AT MH TO REMAIN WITH NON-SHRINK GROUT. SEE SPEC 33 05 00.

COMMONWEALTH STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

PHASE 1 FROM STATION 100+00 TO 129+50

FILENAME: RD-03.dwg PLOT DATE: 10/7/2025 PLOT TIME: 3:53 PM

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN H LUSK DR T WEINSTEIN CHK P FESER APVD H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

ROADWAY DRAINAGE PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 3 OF 6)

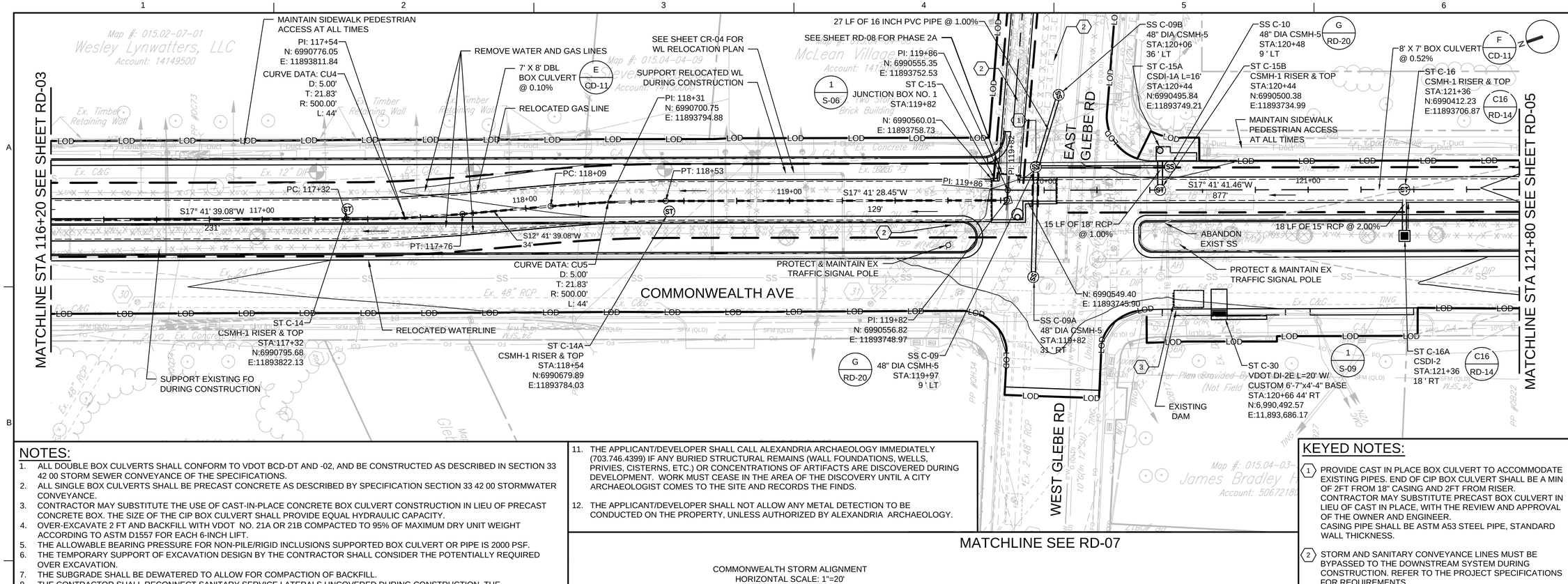
1"=20' HORZ / 1"=5' VERT

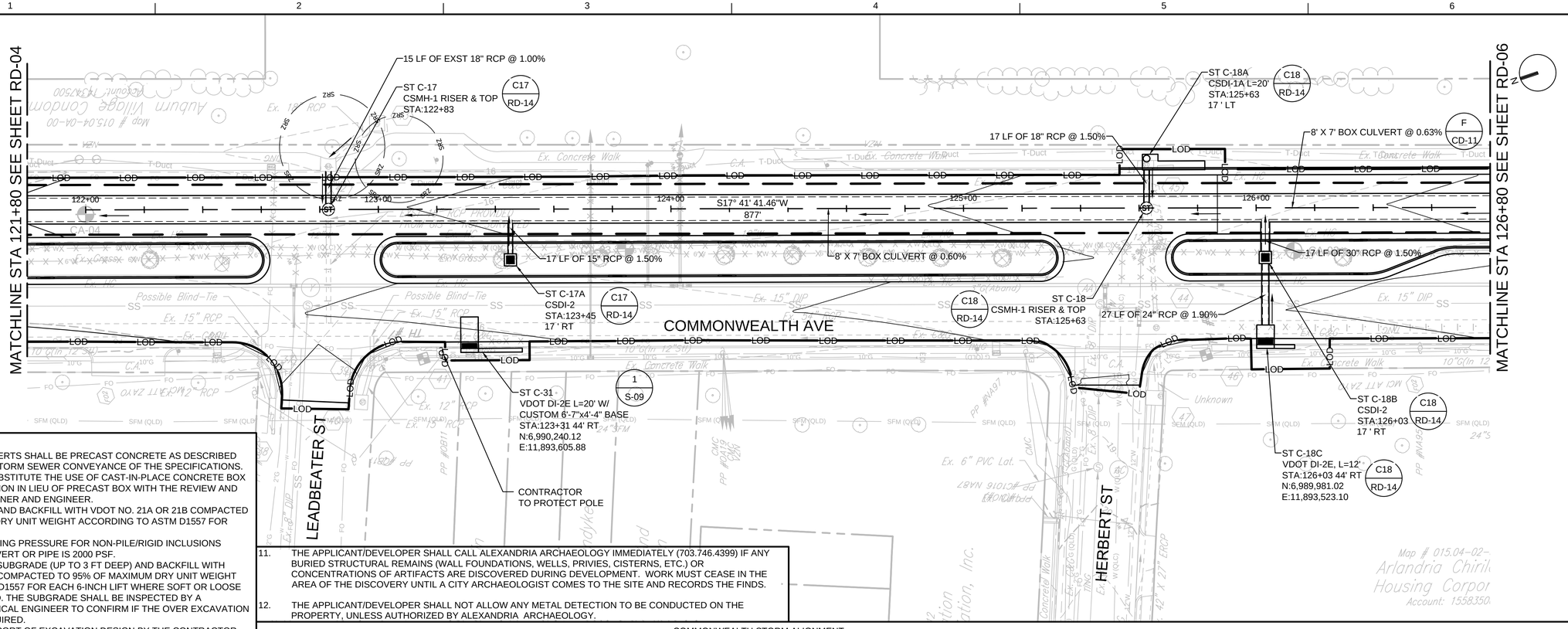
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-03
SHEET	70 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)


MATCHLINE STA 116+20 SEE SHEET RD-03
MATCHLINE STA 121+80 SEE SHEET RD-05
MAINTAIN SIDEWALK PEDESTRIAN ACCESS AT ALL TIMES
PI: 117+54
N: 6990776.05
E: 11893811.84
CURVE DATA: CU4
D: 5.00'
T: 21.83'
R: 500.00'
L: 44'
REMOVE WATER AND GAS LINES
7' X 8' DBL BOX CULVERT @ 0.10%
E
CD-11
RELOCATED GAS LINE
SEE SHEET CR-04 FOR WL RELOCATION PLAN
SUPPORT RELOCATED WL DURING CONSTRUCTION
PI: 118+31
N: 6990700.75
E: 11893794.88
27 LF OF 16 INCH PVC PIPE @ 1.00%
SEE SHEET RD-08 FOR PHASE 2A
PI: 119+86
N: 6990555.35
E: 11893752.53
1
S-06
ST C-15
JUNCTION BOX NO. 1
STA:119+82
N: 6990560.01
E: 11893758.73
SS C-09B
48" DIA CSMH-5
STA:120+06
36 ' LT
SS C-10
48" DIA CSMH-5
STA:120+48
9 ' LT
G
RD-20
ST C-15A
CSDI-1A L=16'
STA:120+44
N:6990495.84
E:11893749.21
ST C-15B
CSMH-1 RISER & TOP
STA:120+44
N:6990500.38
E:11893734.99
MAINTAIN SIDEWALK PEDESTRIAN ACCESS AT ALL TIMES
8' X 7' BOX CULVERT @ 0.52%
F
CD-11
ST C-16
CSMH-1 RISER & TOP
STA:121+36
N:6990412.23
E:11893706.87
C16
RD-14
EAST GLEBE RD
WEST GLEBE RD
COMMONWEALTH AVE
PC: 117+32
PT: 117+76
S17° 41' 39.08"W
231'
PC: 118+09
PT: 118+53
S12° 41' 39.08"W
34'
PI: 119+86
S17° 41' 28.45"W
129'
CURVE DATA: CU5
D: 5.00'
T: 21.83'
R: 500.00'
L: 44'
PROTECT & MAINTAIN EX TRAFFIC SIGNAL POLE
PI: 119+82
N: 6990556.82
E: 11893748.97
S17° 41' 41.46"W
877'
15 LF OF 18" RCP @ 1.00%
18 LF OF 15" RCP @ 2.00%
ABANDON EXIST SS
N: 6990549.40
E: 11893745.90
SS C-09A
48" DIA CSMH-5
STA:118+82
31 ' RT
ST C-14
CSMH-1 RISER & TOP
STA:117+32
N:6990795.68
E:11893822.13
RELOCATED WATERLINE
SUPPORT EXISTING FO DURING CONSTRUCTION
ST C-14A
CSMH-1 RISER & TOP
STA:118+54
N:6990679.89
E:11893784.03
SS C-09
48" DIA CSMH-5
STA:119+97
9 ' LT
ST C-30
VDOT DI-2E L=20' W/
CUSTOM 6'-7"x4'-4" BASE
STA:120+66 44' RT
N:6,990,492.57
E:11,893,686.17
EXISTING DAM
ST C-16A
CSDI-2
STA:121+36
18 ' RT
C16
RD-14
1
S-09
Per Plan (Provided (Not Field
Map #: 015.02-07-01
Wesley Lynwatters, LLC
Account: 14149500
Map #: 015.04-04-09
McLean Village
Account: 14
Map #: 015.04-03-
James Bradley
Account: 50672
PP #0473
PP #0322
Ex. Timber Retaining Wall
Ex. 24" DIP
Ex. 48" RCP
Ex. 12" DIP
Ex. C&G
Ex. Concrete Walk
Ex. Two Story Brick Building
Ex. Three Story Brick Building
Ex. Fence
Ex. Overhead Wires
Ex. Utility Pole
Ex. Light Pole
Ex. Sign
Ex. Tree
Ex. Bollard
Ex. Hydrant
Ex. Gas Valve
Ex. Gas Meter
Ex. Gas Line
Ex. Water Line
Ex. Water Valve
Ex. Water Meter
Ex. Fire Department Connection
Ex. Electric Box
Ex. Electric Manhole
Ex. Electric Vault
Ex. Telephone Manhole
Ex. Telephone Pedestal
Ex. Telephone Vault
Ex. Cable TV Box
Ex. Cable TV Pedestal
Ex. Cable TV Vault
Ex. Fiber Optic Manhole
Ex. Fiber Optic Vault
Ex. Fiber Optic Pedestal
Ex. Fiber Optic Box
Ex. Fiber Optic Line
Ex. Fiber Optic Marker
Ex. Fiber Optic Cable
Ex. Fiber Optic Conduit
Ex. Fiber Optic Duct
Ex. Fiber Optic Splice Box
Ex. Fiber Optic Splice Vault
Ex. Fiber Optic Splice Manhole
Ex. Fiber Optic Splice Pedestal



NOTES:

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2. CONTRACTOR MAY SUBSTITUTE THE USE OF CAST-IN-PLACE CONCRETE BOX CULVERT CONSTRUCTION IN LIEU OF PRECAST BOX WITH THE REVIEW AND APPROVAL OF THE OWNER AND ENGINEER.
3. OVER-EXCAVATE 2 FT AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT.
4. THE ALLOWABLE BEARING PRESSURE FOR NON-PILE/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
5. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
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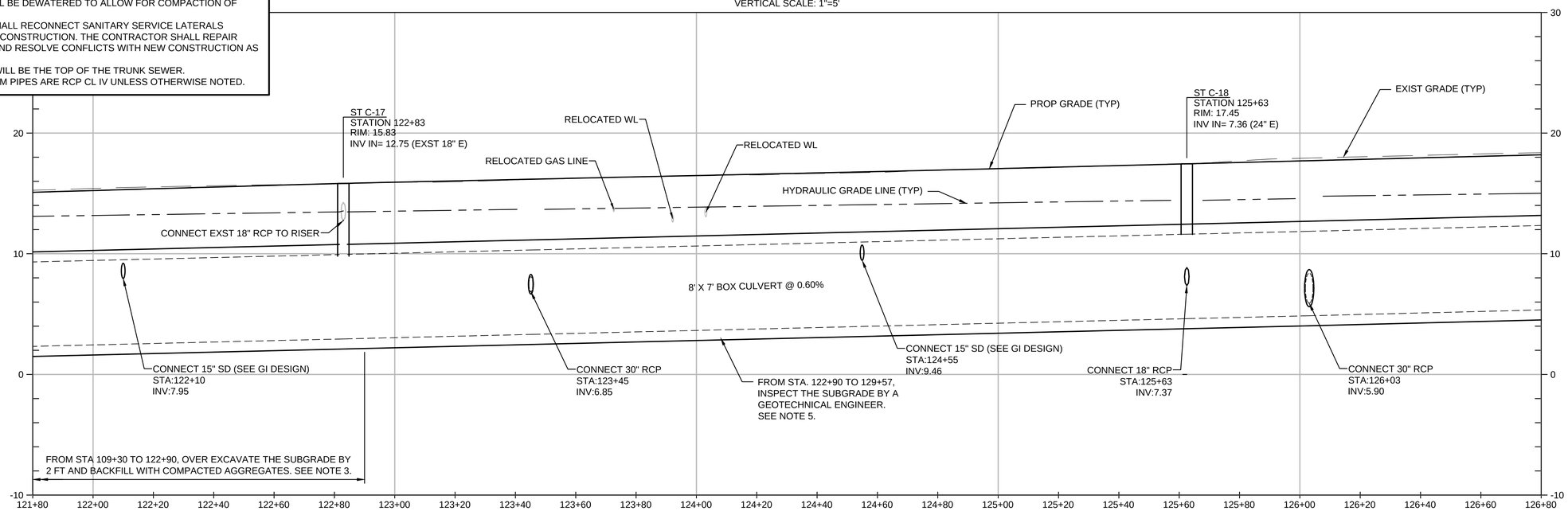
12. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.

COMMONWEALTH STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

PHASE 1 FROM STATION 100+00 TO 129+50

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN		P FESER
	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN H LUSK APVD H LUSK

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

ROADWAY DRAINAGE PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 5 OF 6)

1"=20' HORZ / 1"=5' VERT

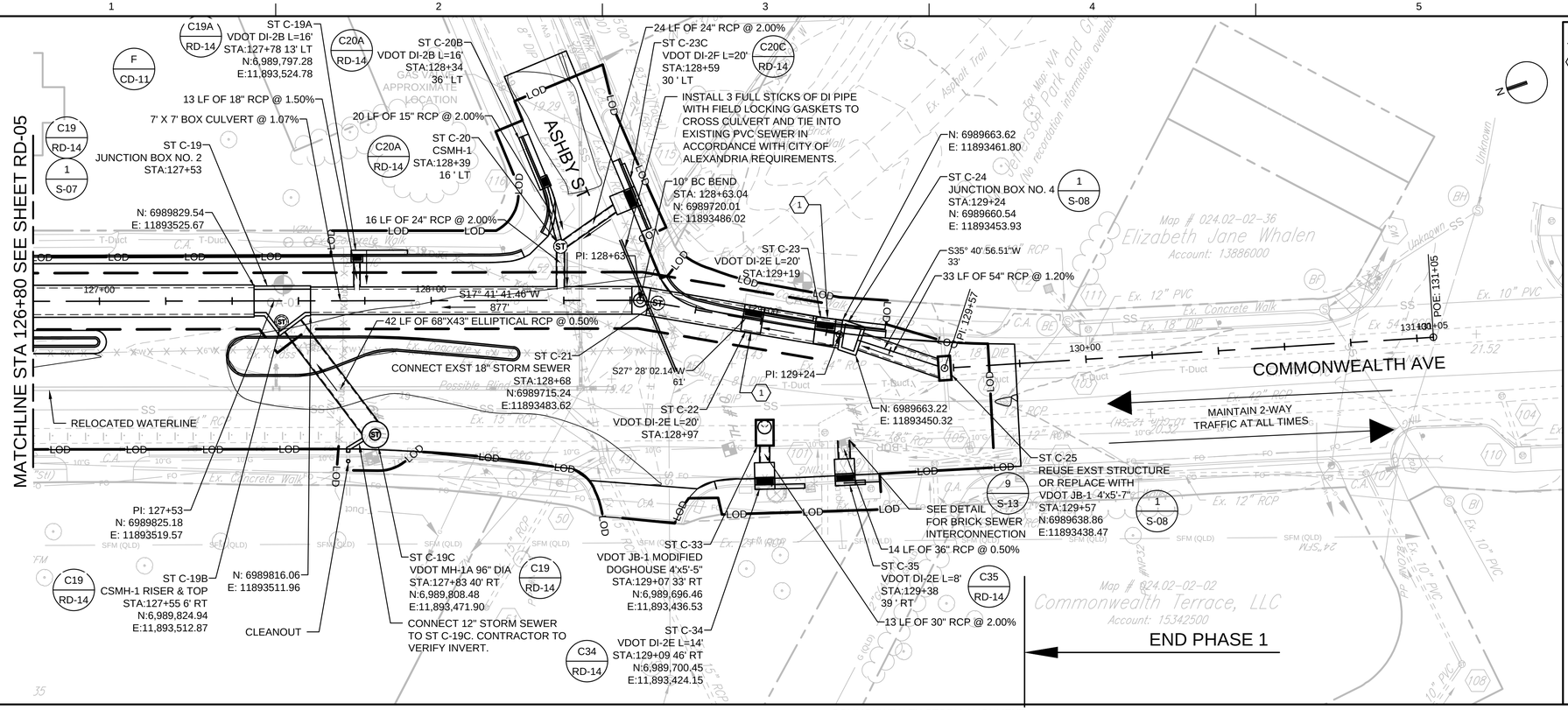
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-05
SHEET	72 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-05.dwg PLOT DATE: 10/6/2025 PLOT TIME: 5:18 AM



PHASE 1 FROM STATION 100+00 TO 129+50

KEYED NOTES:

1. CONTRACTOR TO CAST VDOT DI-2E TOP AND DOWEL INTO PRECAST BOX CUVLERT MIN. 4-IN EMBED. CONTRACTOR'S OPTION TO COORDINATE WITH PRECAST BOX CULVERT FABRICATOR TO ACCOMODATE INSTALLATION OF VDOT DI-2E INLET.

NOTES:

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CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
1	10/2025	100% SUBMITTAL	T WEINSTEIN	P FESER		APVD
	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN		H LUSK				H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

ROADWAY DRAINAGE PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 6 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

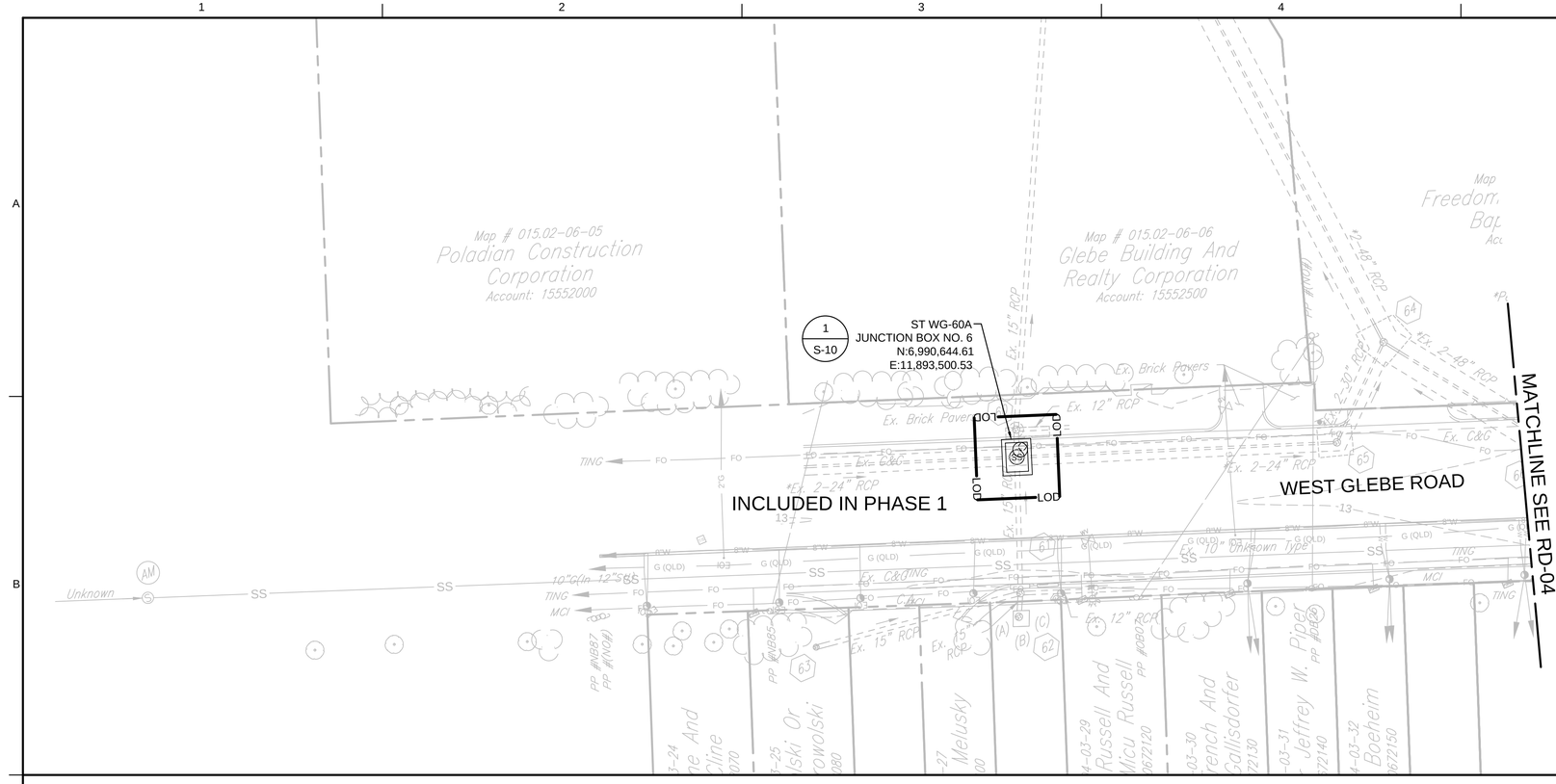
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-06
SHEET	73 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-06.dwg PLOT DATE: 10/6/2025 PLOT TIME: 7:31 AM

GENERAL NOTES

1. CONNECT THE 15 IN FROM THE SOUTH SIDE OF W GLEBE ROAD TO THE EXISTING DOUBLE 24 IN PIPES AT THIS LOCATION.
2. CONFIRM PIPE SIZE AND DEPTH IN THE FIELD.



HORIZONTAL SCALE: 0 20' 40' 60'
1" = 20'

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
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ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL	V TAYLOR		M DEVUONE	
DSGN	A.CARLSON					APVD J KELLY

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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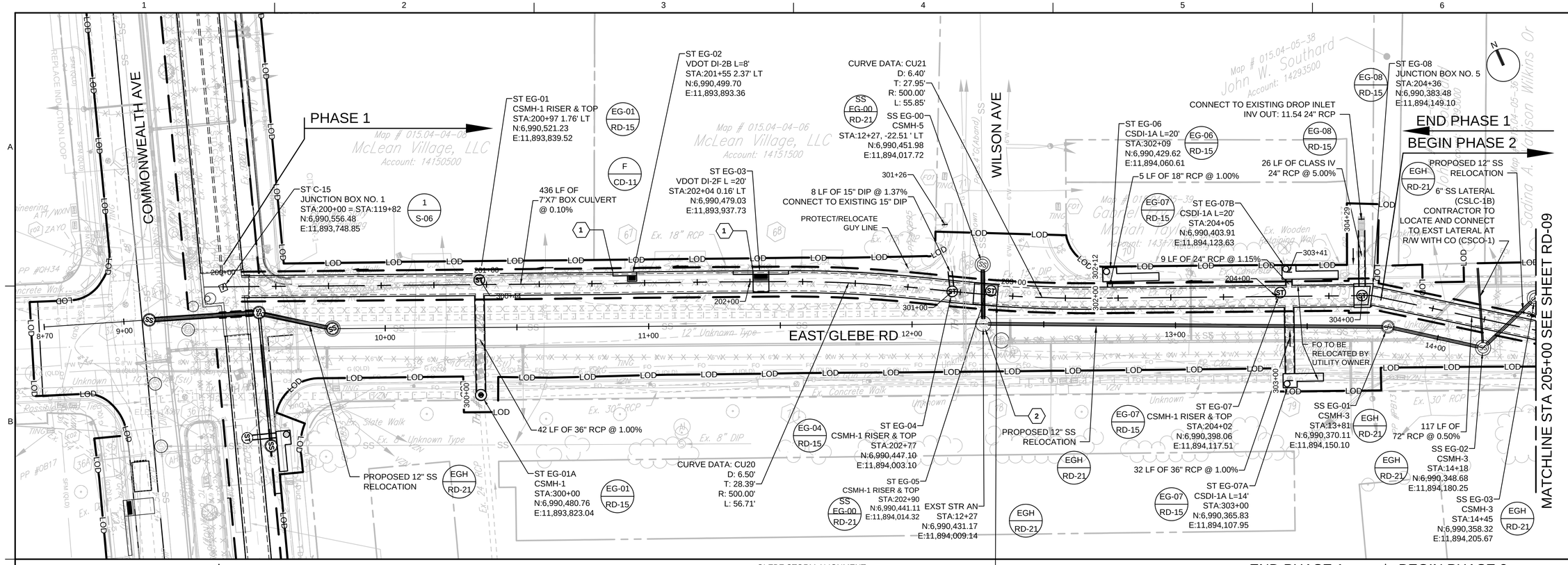
ROADWAY DRAINAGE PLAN AND PROFILE WEST GLEBE ROAD

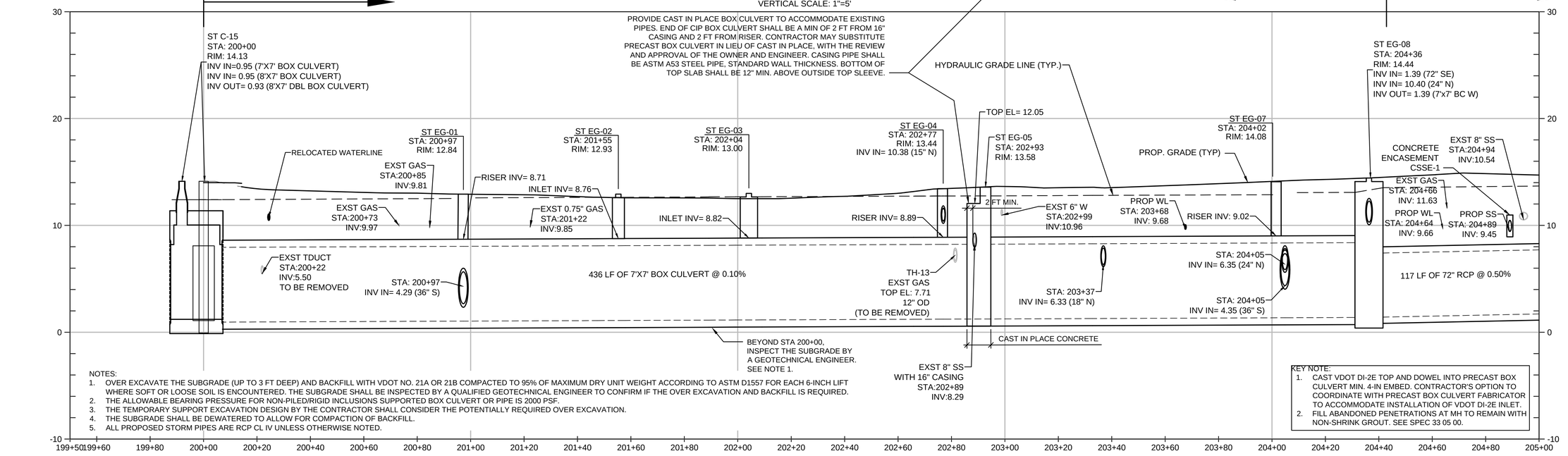
1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-07
SHEET	74 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-07.dwg PLOT DATE: 10/2/2025 PLOT TIME: 11:47 PM





PHASE 1 FROM STATION 200+00 TO 204+45

PHASE 2 FROM STATION 204+45 TO 221+24

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN A.CARLSON | DR V.TAYLOR | CHK M.DEVUONE | APVD J.KELLY

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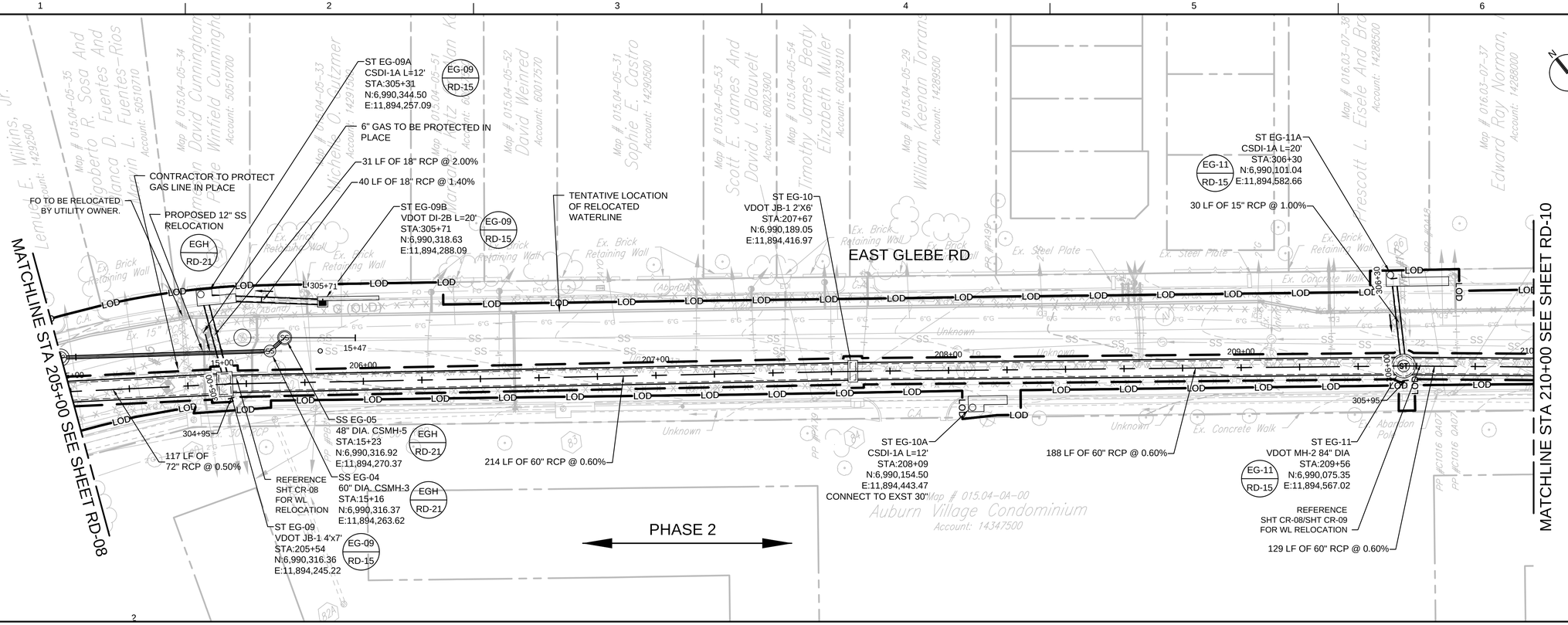
ROADWAY DRAINAGE PLAN AND PROFILE EAST GLEBE ROAD (SHEET 1 OF 3)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

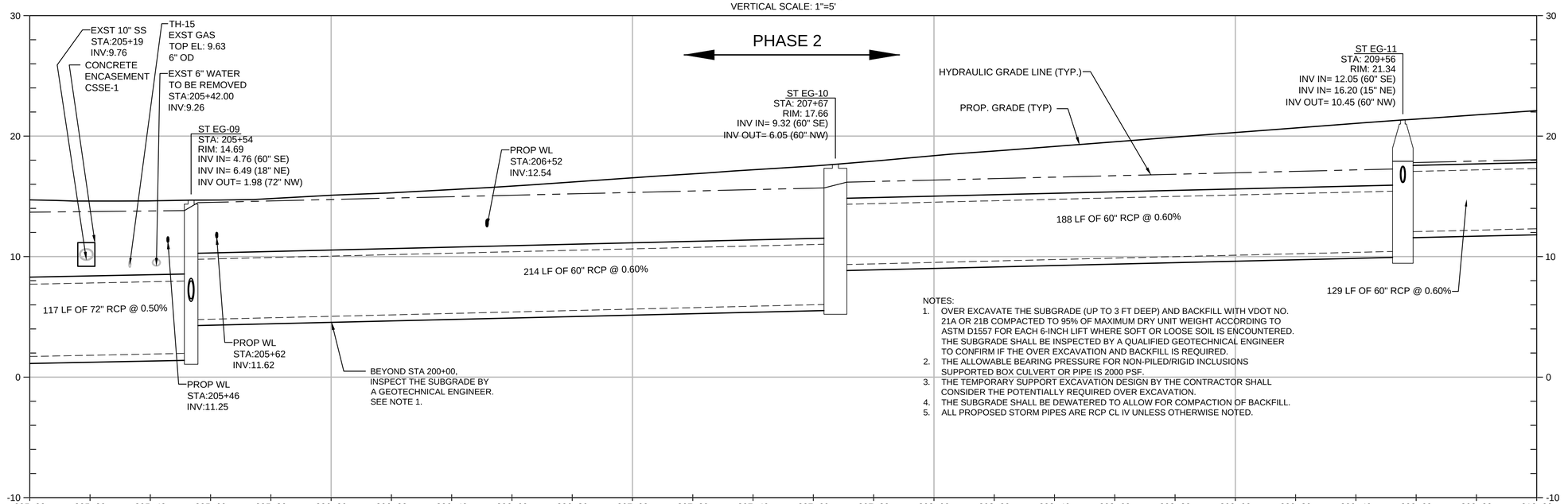
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-08
SHEET	75 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-08.dwg PLOT DATE: 10/6/2025 PLOT TIME: 2:09 PM



GLEBE STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



NOTES:
1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
2. THE ALLOWABLE BEARING PRESSURE FOR NON-PILED/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
3. THE TEMPORARY SUPPORT EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
4. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.
5. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

PHASE 2 FROM STATION 204+45 TO 221+24

NO.	DATE	REVISION	DR	CHK	BY
	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	85% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN A.CARLSON | APVD J KELLY

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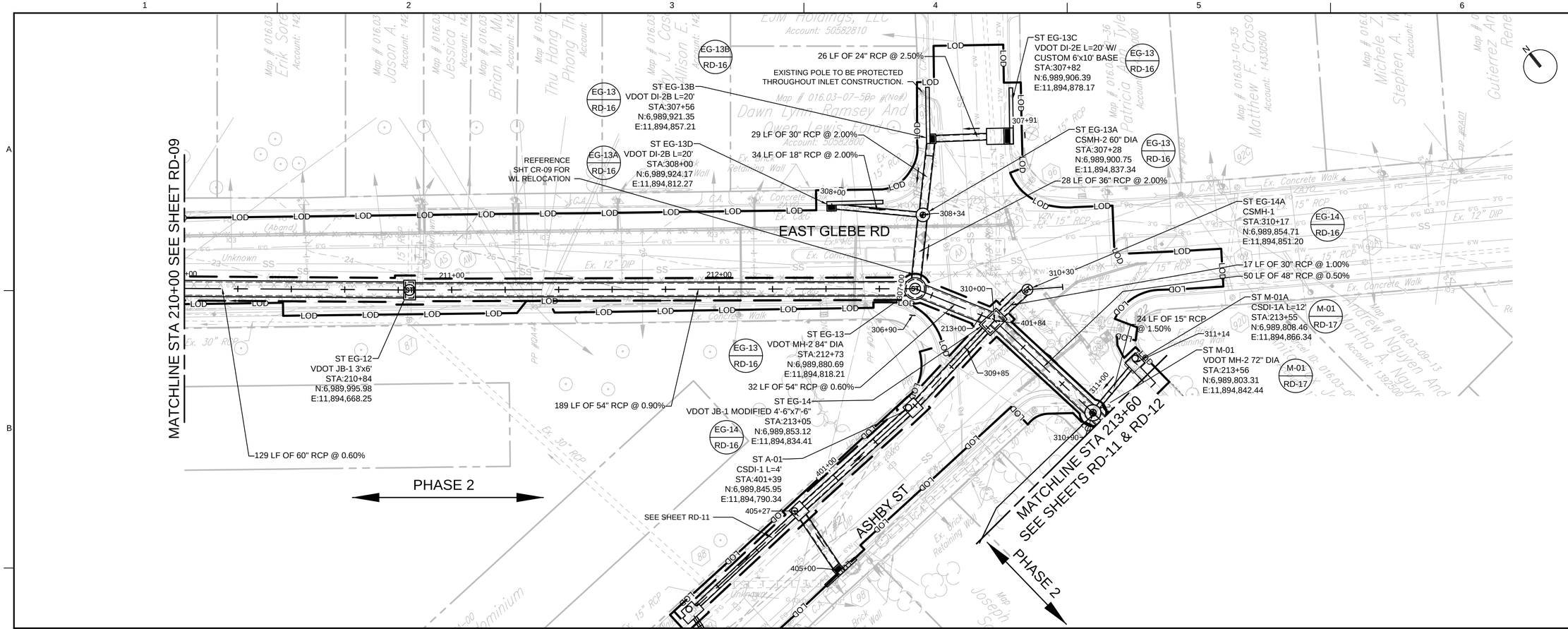
ROADWAY DRAINAGE PLAN AND PROFILE EAST GLEBE ROAD (SHEET 2 OF 3)

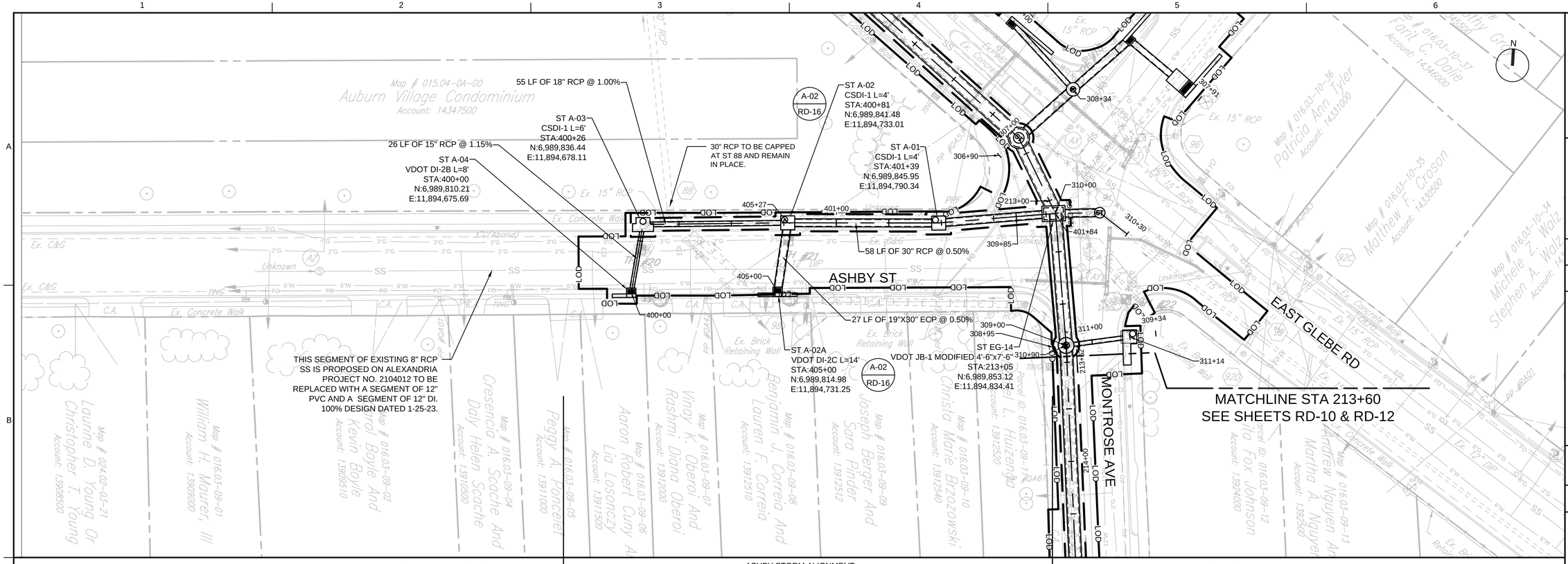
1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-09
SHEET	76 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-09.dwg PLOT DATE: 10/3/2025 PLOT TIME: 2:17 PM

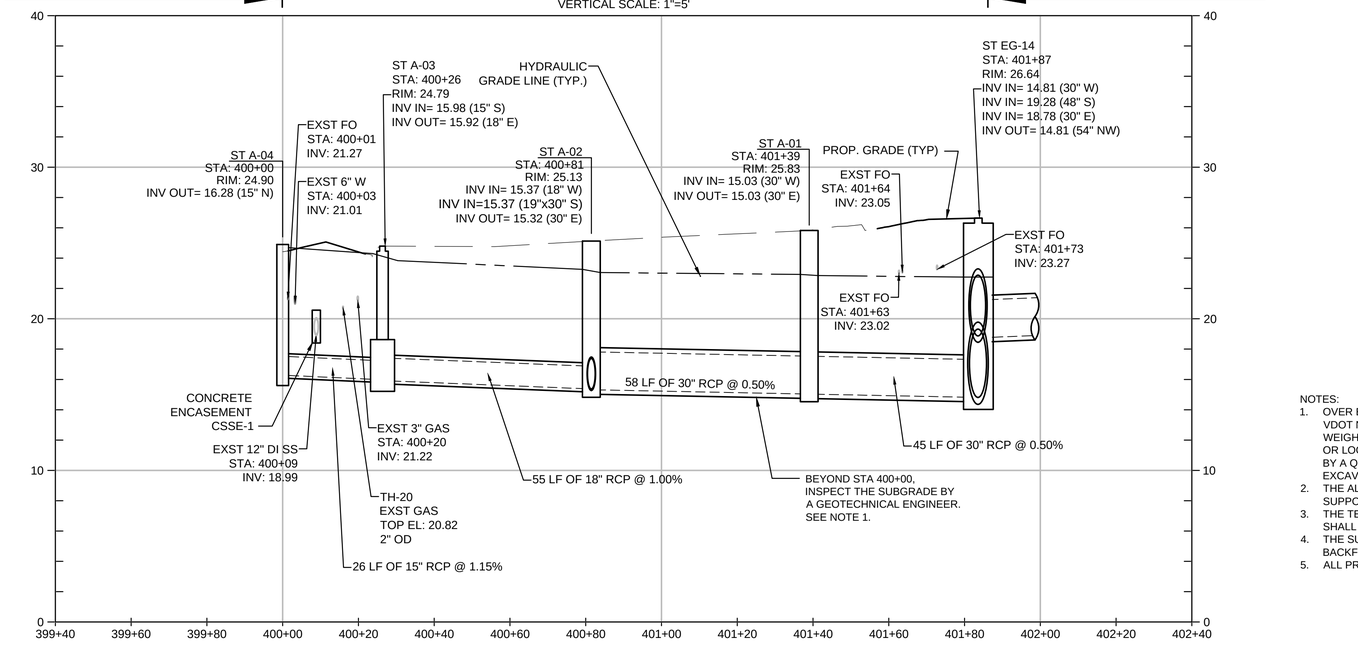

MATCHLINE STA 210+00 SEE SHEET RD-09
EAST GLEBE RD
ST EG-12
VDOT JB-1 3'x6'
STA:210+84
N:6,989,995.98
E:11,894,668.25
129 LF OF 60" RCP @ 0.60%
189 LF OF 54" RCP @ 0.90%
ST EG-13
VDOT MH-2 84" DIA
STA:212+73
N:6,989,880.69
E:11,894,818.21
32 LF OF 54" RCP @ 0.60%
ST EG-14
VDOT JB-1 MODIFIED 4'-6"X7'-6"
STA:213+05
N:6,989,853.12
E:11,894,834.41
ST A-01
CSDI-1 L=4'
STA:401+39
N:6,989,845.95
E:11,894,790.34
SEE SHEET RD-11
ASHBY ST
MATCHLINE STA 213+60
SEE SHEETS RD-11 & RD-12
PHASE 2
ST EG-13B
VDOT DI-2B L=20'
STA:307+56
N:6,989,921.35
E:11,894,857.21
ST EG-13C
VDOT DI-2E L=20' W/
CUSTOM 6'x10' BASE
STA:307+82
N:6,989,906.39
E:11,894,878.17
26 LF OF 24" RCP @ 2.50%
EXISTING POLE TO BE PROTECTED
THROUGHOUT INLET CONSTRUCTION.
29 LF OF 30" RCP @ 2.00%
ST EG-13D
VDOT DI-2B L=20'
STA:308+00
N:6,989,924.17
E:11,894,812.27
34 LF OF 18" RCP @ 2.00%
REFERENCE
SHT CR-09 FOR
WL RELOCATION
ST EG-13A
CSMH-2 60" DIA
STA:307+28
N:6,989,900.75
E:11,894,837.34
28 LF OF 36" RCP @ 2.00%
ST EG-14A
CSMH-1
STA:310+17
N:6,989,854.71
E:11,894,851.20
17 LF OF 30" RCP @ 1.00%
50 LF OF 48" RCP @ 0.50%
ST M-01A
CSDI-1A L=12'
STA:213+55
N:6,989,808.46
E:11,894,866.34
24 LF OF 15" RCP
@ 1.50%
ST M-01
VDOT MH-2 72" DIA
STA:213+56
N:6,989,803.31
E:11,894,842.44
Map # 016.03-07-5BP #(No#)
Dawn Lynn Ramsey And
Owen Lewis Ramsey
Account: 50582800
EDW Holdings, LLC
Account: 50582810
Ex. Concrete Walk
Ex. Brick Retaining Wall
Ex. 12" DIP
Ex. 30" RCP
Ex. 15" RCP
Ex. 6" WL
Ex. 8" WL
Ex. 12" WL
Ex. 16" WL
Ex. 24" WL
Ex. 36" WL
Ex. 12" DI SS
Ex. 15" DIP
Ex. 18" DIP
Ex. 24" DIP
Ex. 36" DIP
Ex. 42" DIP
Ex. 48" DIP
Ex. 54" DIP
Ex. 60" DIP
Ex. 72" DIP
Ex. 84" DIP
Ex. 96" DIP
Ex. 108" DIP
Ex. 120" DIP
Ex. 132" DIP
Ex. 144" DIP
Ex. 156" DIP
Ex. 168" DIP
Ex. 180" DIP
Ex. 192" DIP
Ex. 204" DIP
Ex.



BEGIN PHASE 2

END PHASE 2

ASHBY STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NOTES:
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PHASE 2 FROM STATION 400+00 TO 401+57

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	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		
DSGN	A.CARLSON	DR	V.TAYLOR	CHK	M.DEVUONE	APVD	J.KELLY

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CITY OF ALEXANDRIA, VA
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ROADWAY DRAINAGE PLAN AND PROFILE ASHBY STREET

1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-11
SHEET	78 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-11.dwg PLOT DATE: 10/3/2025 PLOT TIME: 2:32 PM

MATCHLINE STA 213+60
SEE SHEETS RD-10 & RD-11

ST M-01A
CSDI-1A L=12"
STA:213+55
N:6,989,808.46
E:11,894,866.34
M-01 RD-17

24 LF OF 15" RCP @ 1.50%

PHASE 2

MONTROSE AVE

LAVERNE AVE

ST M-02
VDOT MH-2 72" DIA
STA:215+75
N:6,989,585.53
E:11,894,869.28
M-02 RD-17

35 LF OF 15" RCP @ 4.00%

ST M-02C
CSDI-1A L=8'
STA:311+57
N:6,989,562.40
E:11,894,895.79
M-02 RD-17

EXISTING HYDRANT TO BE RELOCATED

MATCHLINE STA 218+00 SEE SHEET RD-13

271 LF OF 48" RCP @ 0.50%

ST GLEBE RD

ASHBY ST

SEE SHEET RD-11

ST M-01
VDOT MH-2 72" DIA
STA:213+56
N:6,989,803.31
E:11,894,842.44
M-01 RD-17

50 LF OF 48" RCP @ 0.50%

ST EG-14
VDOT JB-1 MODIFIED 4'-6"x7'-6"
STA: 213+05
N: 6,989,853.12
E:11,894,834.41

219 LF OF 48" RCP @ 0.30%

61 LF OF 24" RCP @ 2.00%

ST M-02A
CSMH-1 48" DIA
STA:310+61
N:6,989,576.53
E:11,894,808.87
M-02 RD-17

43 LF OF 24" RCP @ 2.00%

CONNECT TO EXISTING MANHOLE

ST M-02B
CSDI-1 L=14'
STA:310+05
N:6,989,560.94
E:11,894,758.40
M-02 RD-17

COORDINATE WITH VIRGINIA AMERICAN WATER FOR RELOCATION OF EXISTING WATER METER PRIOR TO INSTALLATION OF REPLACEMENT STORM INLET.

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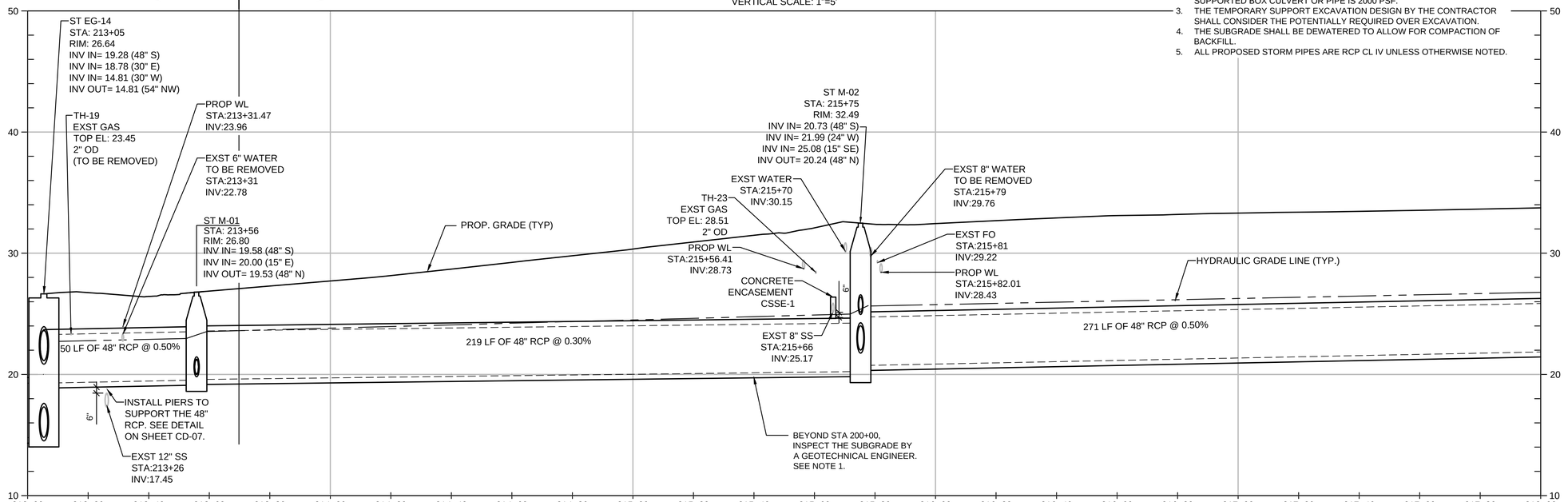
PHASE 2

MONTROSE STORM ALIGNMENT
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60'
1" = 20'

VERTICAL SCALE: 0 5' 10' 15'
1" = 5'

PHASE 2 FROM STATION 204+45 TO 213+70

PHASE 2 FROM STATION 213+70 TO 221+24

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

FINAL DESIGN (NOT FOR CONSTRUCTION)

Jacobs

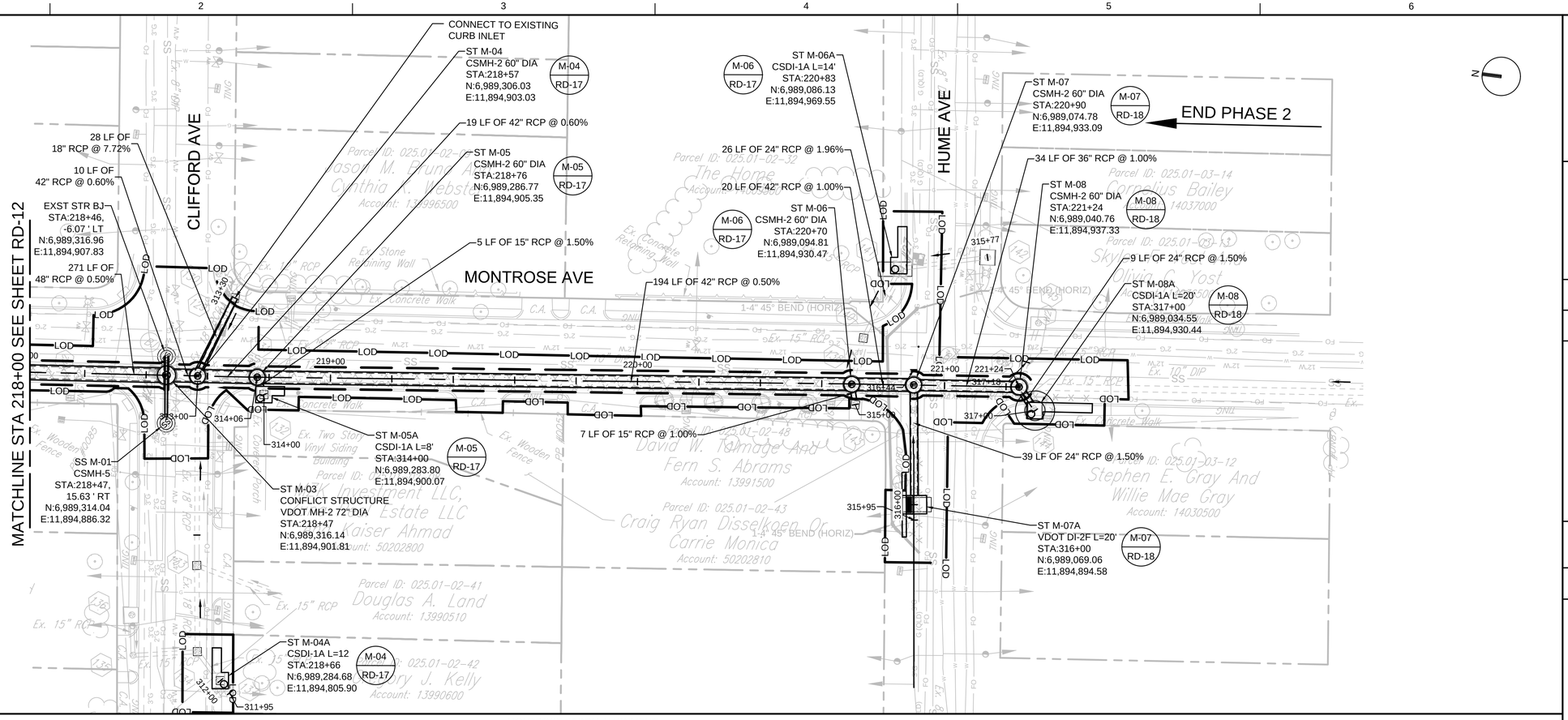
CIVIL

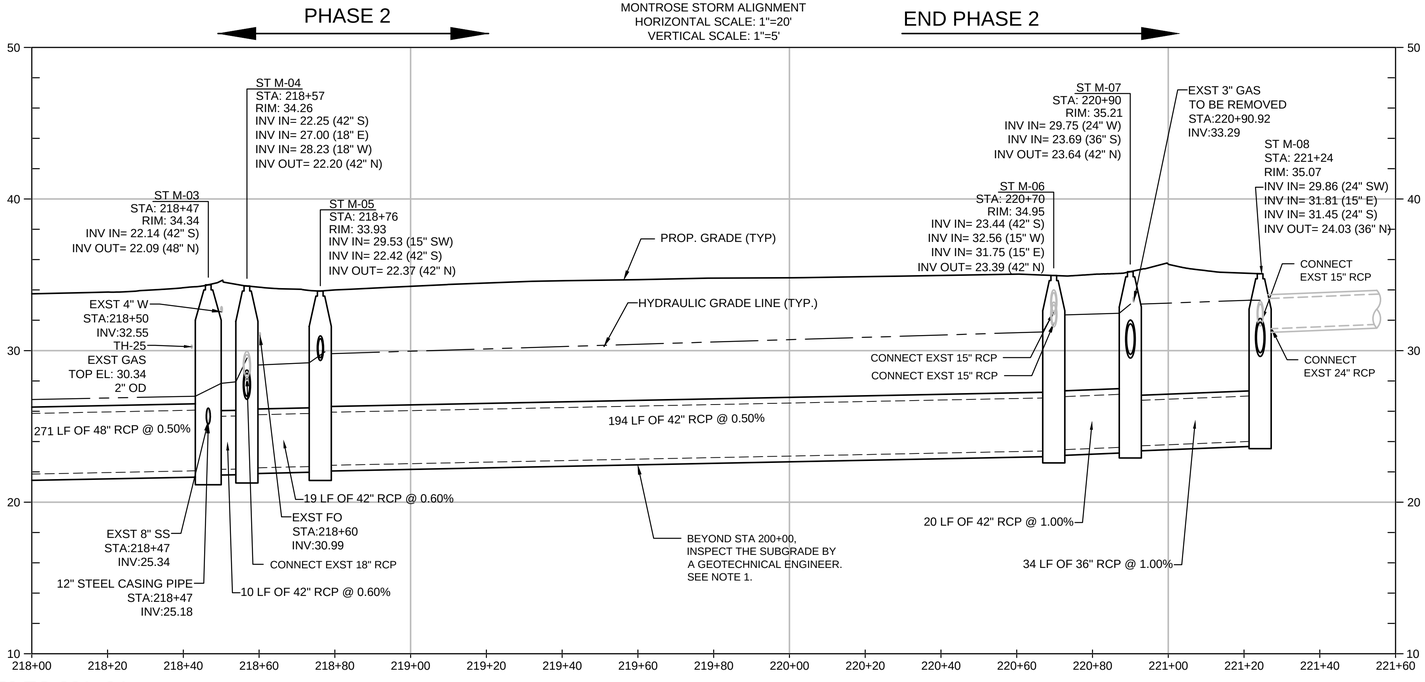
ROADWAY DRAINAGE PLAN AND PROFILE MONTROSE AVENUE (SHEET 1 OF 2)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-12
SHEET	79 of 158

FILENAME: RD-12.dwg PLOT DATE: 10/8/2025 PLOT TIME: 8:14 PM





NOTES:
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5. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.

HORIZONTAL SCALE: 0 20' 40' 60" — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

PHASE 2 FROM STATION 213+70 TO 221+24

CITY OF ALEXANDRIA
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301 KING STREET
ALEXANDRIA, VA 22314
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	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
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DSGN A.CARLSON | DR | CHK V TAYLOR | APVD M DEVUONE | APVD J KELLY

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DEPARTMENT OF PROJECT IMPLEMENTATION
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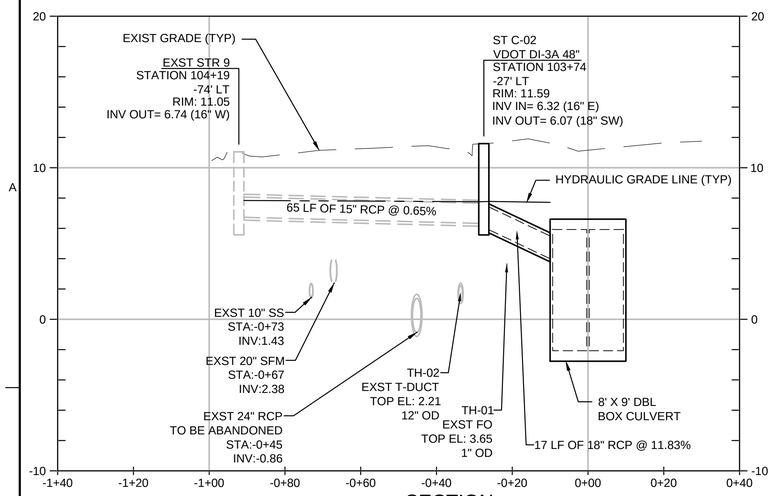
ROADWAY DRAINAGE PLAN AND PROFILE MONTROSE AVENUE (SHEET 2 OF 2)

FINAL DESIGN (NOT FOR CONSTRUCTION)

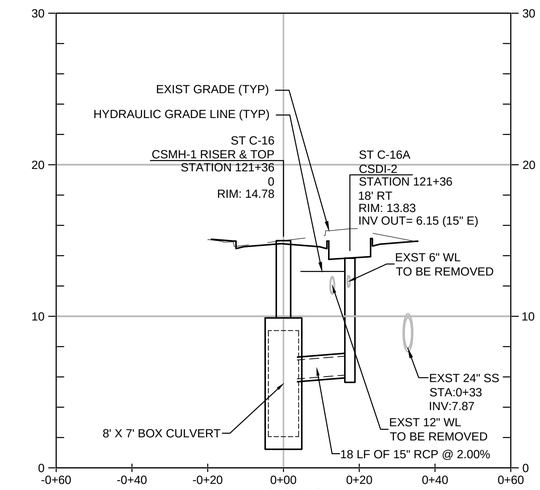
1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-13
SHEET	80 of 158

FILENAME: RD-13.dwg PLOT DATE: 10/3/2025 PLOT TIME: 3:00 PM



C02 SECTION
RD-01 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



C16 SECTION
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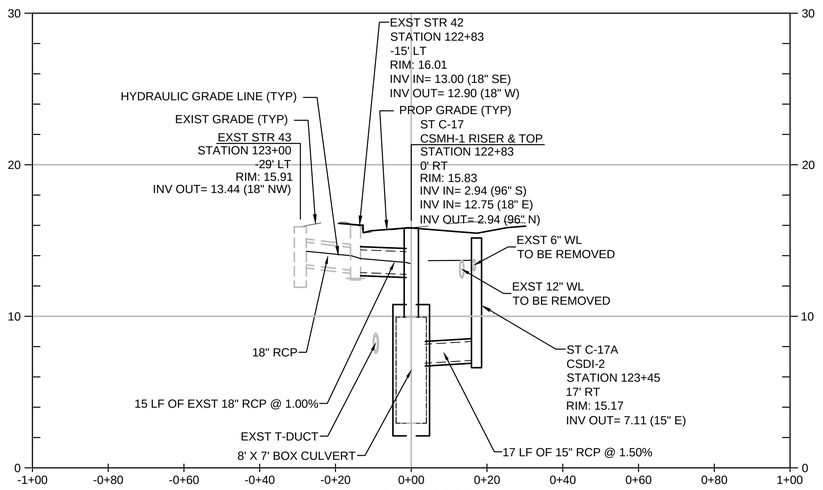
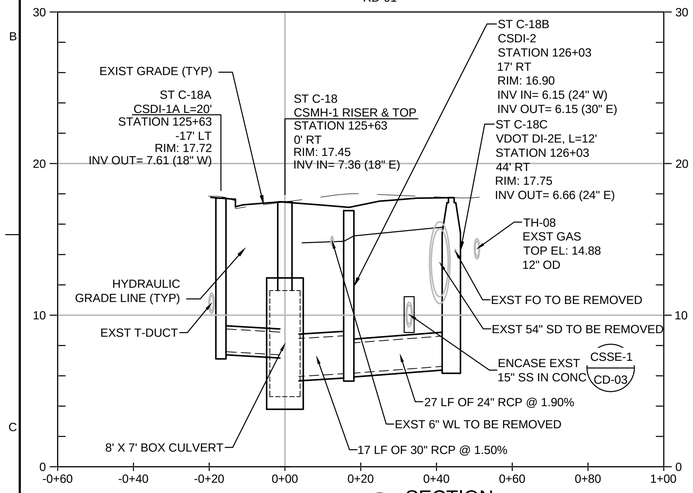
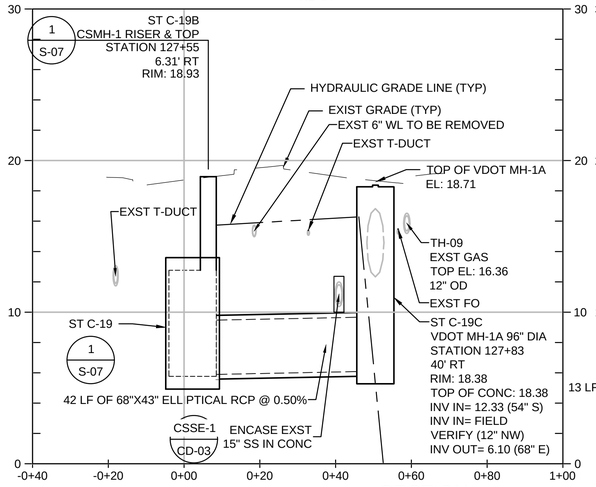
VERTICAL SCALE: 1"=5'



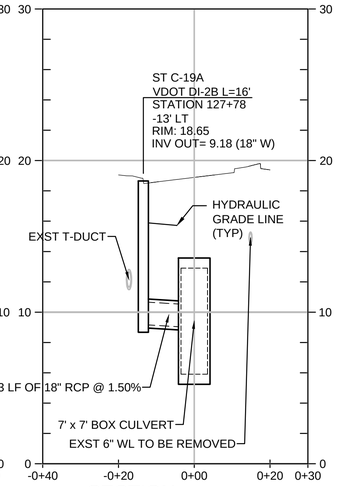
C17 SECTION
RD-05 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



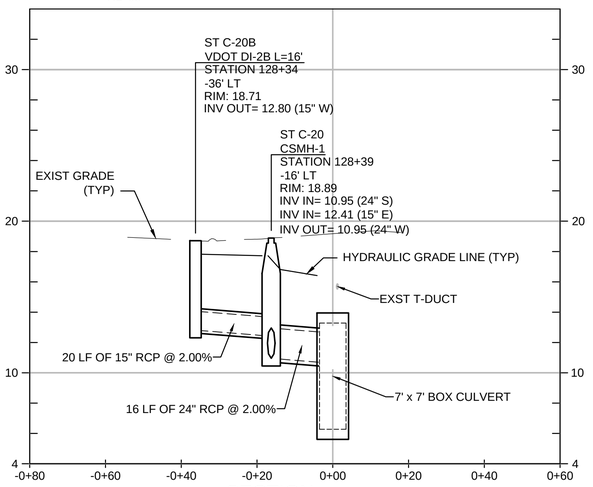
C18 SECTION
RD-05 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



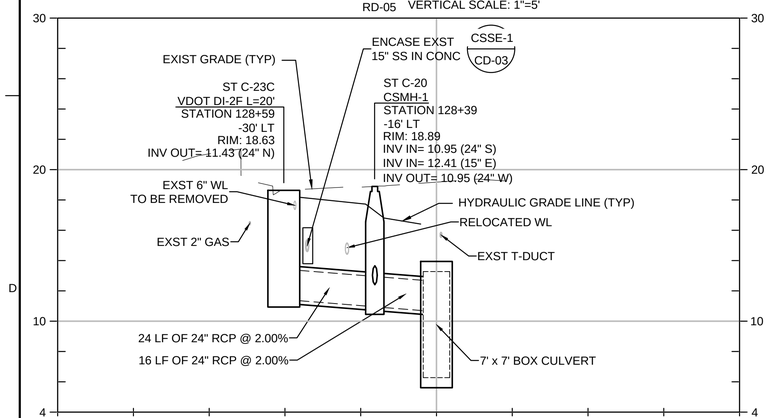
C19 SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



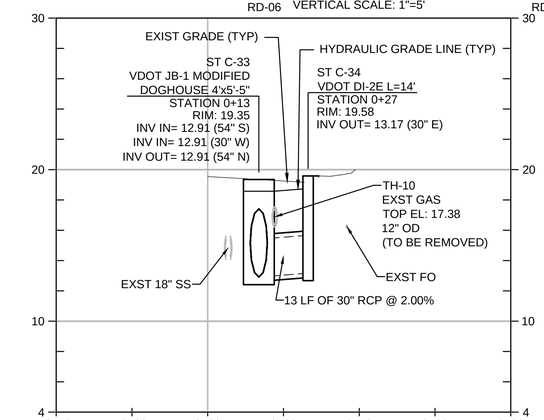
ST 19A SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



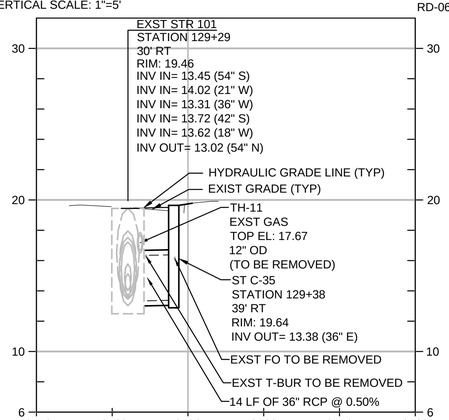
C20A SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



C20C SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



C34 SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



C35 SECTION
RD-06 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:

1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
2. THE ALLOWABLE BEARING PRESSURE FOR NON-PILE/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
3. THE TEMPORARY SUPPORT OF EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
4. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.
5. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.

0 20' 40' 60'
1" = 20' (HORIZ.)

0 5' 10' 20'
1" = 5' (VERT.)

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN						H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs
CIVIL

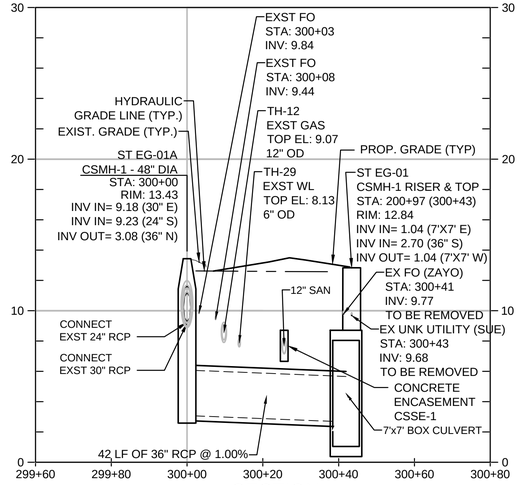
ROADWAY DRAINAGE BRANCH PROFILES COMMONWEALTH AVENUE

FINAL DESIGN (NOT FOR CONSTRUCTION)

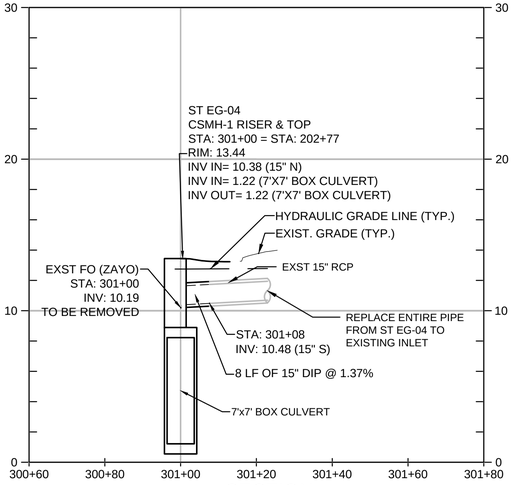
1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-14
SHEET	81 of 158

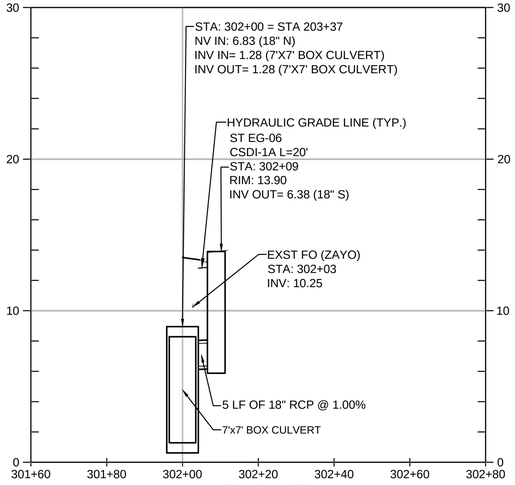
FILENAME: RD-14.dwg PLOT DATE: 10/6/2025 PLOT TIME: 4:07 PM



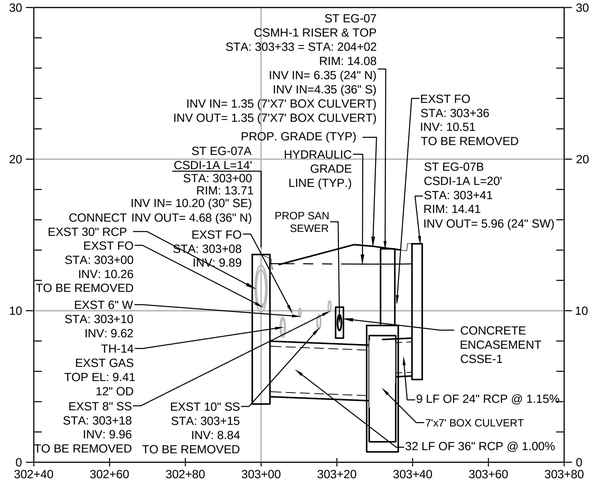
EG-01 SECTION
RD-08 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



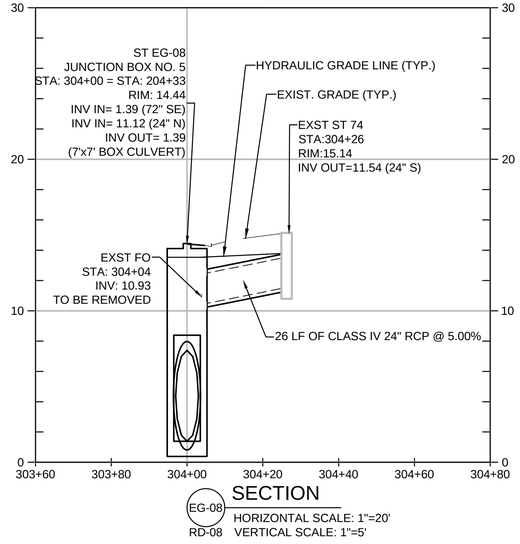
EG-04 SECTION
RD-08 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



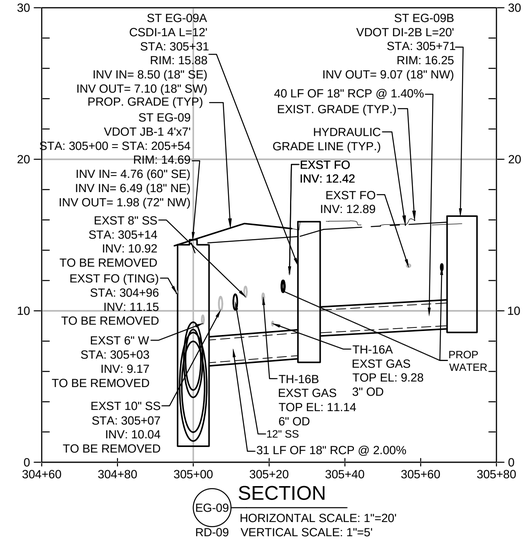
EG-06 SECTION
RD-08 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



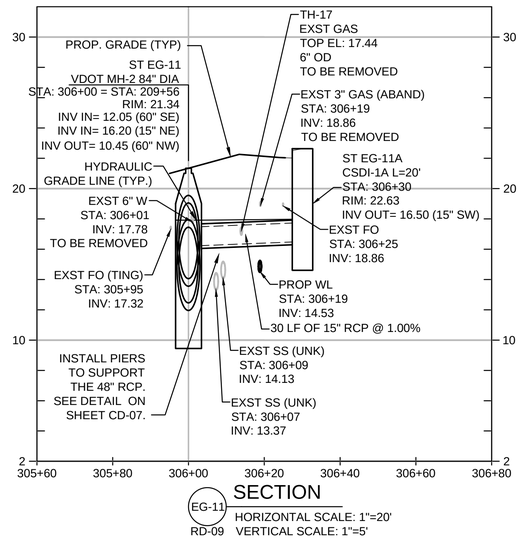
EG-07 SECTION
RD-08 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EG-08 SECTION
RD-08 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EG-09 SECTION
RD-09 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EG-11 SECTION
RD-09 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:
1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
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1" = 5' (VERT.)

CITY OF ALEXANDRIA
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NO.	DATE	REVISION	DR	CHK	BY	APVD
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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL	V TAYLOR		M DEVUONO	APVD
DSGN	A.CARLSON					J KELLY

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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Jacobs

CIVIL

ROADWAY DRAINAGE BRANCH
PROFILES EAST GLEBE ROAD
(SHEET 1 OF 2)

1"=20' HORZ / 1"=5' VERT

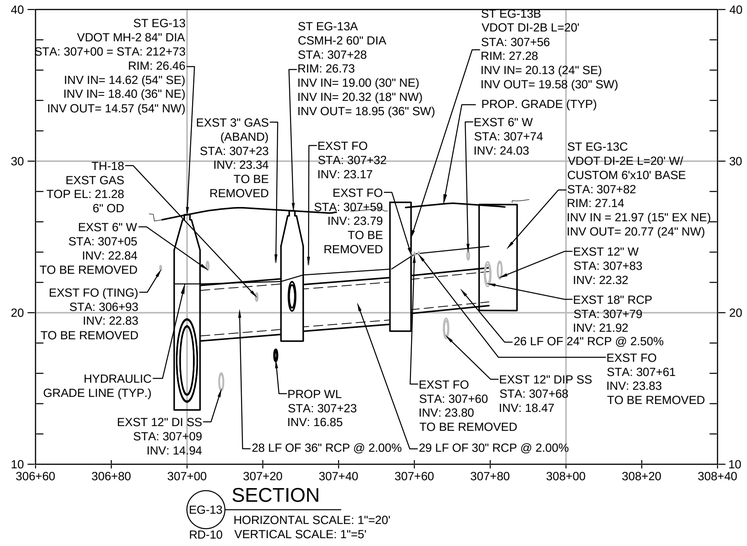
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

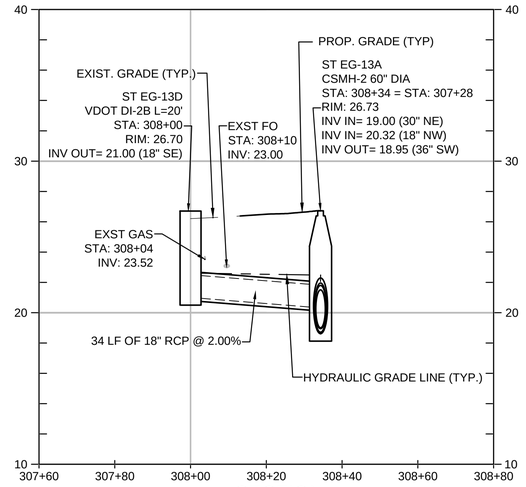
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-15
SHEET	82 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

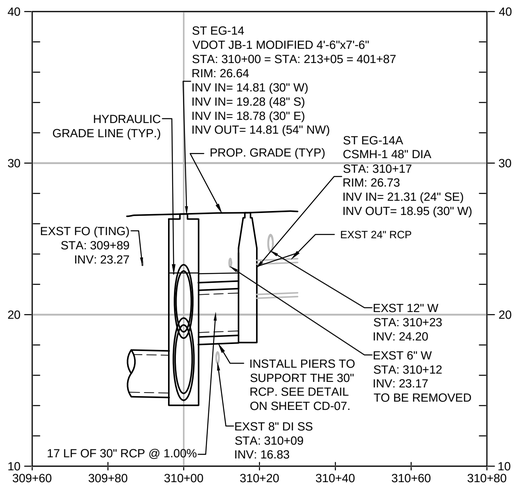
FILENAME: RD-15.dwg PLOT DATE: 10/3/2025 PLOT TIME: 3:38 PM



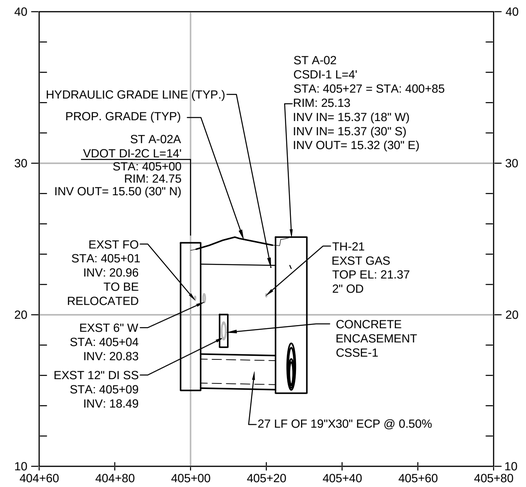
EG-13 SECTION
RD-10
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EG-13A SECTION
RD-10
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



EG-14 SECTION
RD-10
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



A-02 SECTION
RD-11
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:
1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
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1" = 5' (VERT.)

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301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	APVD
	10/2025	100% SUBMITTAL	V TAYLOR	M DEVUONO	J KELLY
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN A.CARLSON

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

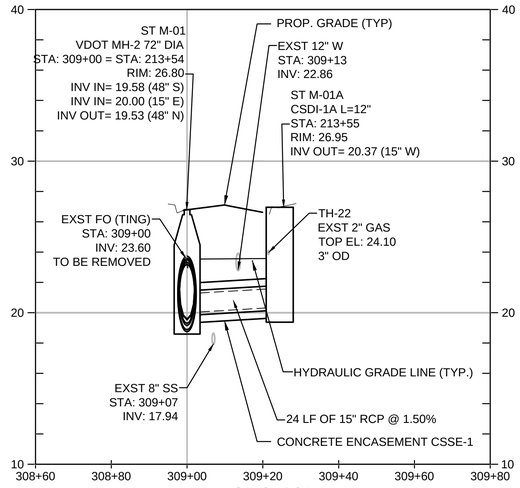
ROADWAY DRAINAGE BRANCH PROFILES EAST GLEBE ROAD (SHEET 2 OF 2)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

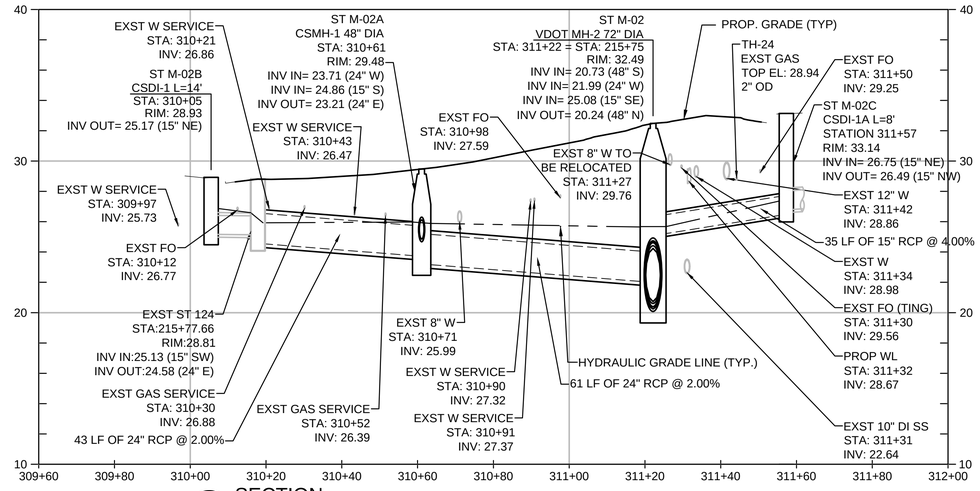
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-16
SHEET	83 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-16.dwg PLOT DATE: 10/3/2025 PLOT TIME: 3:45 PM



M-01 SECTION
RD-12 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



M-02 SECTION
RD-12 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:
1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
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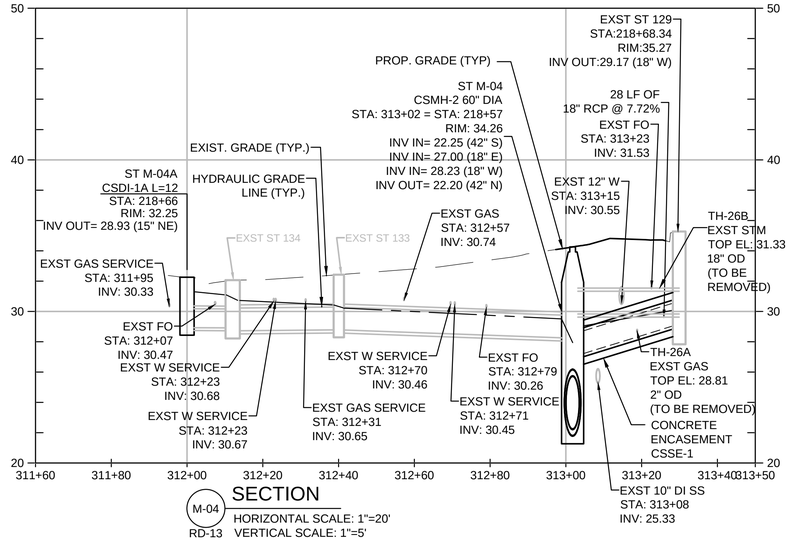
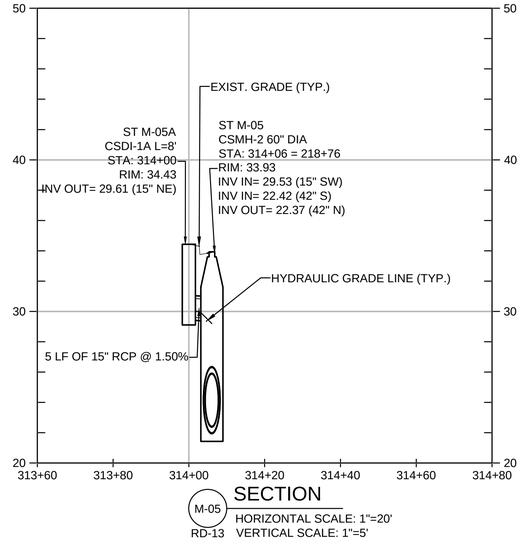
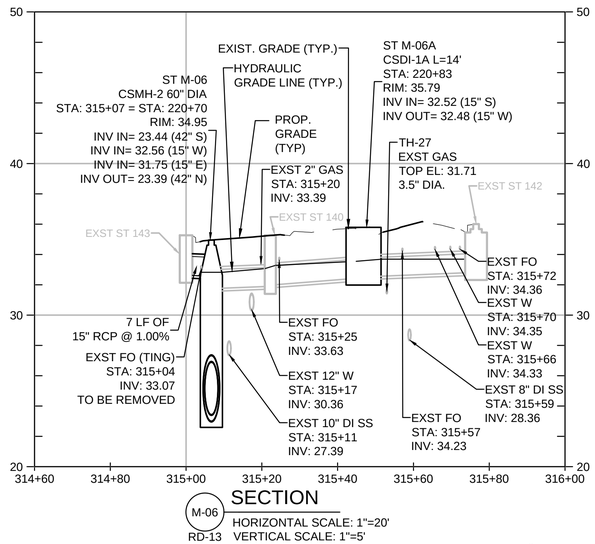


M-04 SECTION
RD-13 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



M-05 SECTION
RD-13 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



M-06 SECTION
RD-13 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

0 20' 40' 60'
1" = 20' (HORIZ.)

0 5' 10' 20'
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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN A.CARLSON

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

ROADWAY DRAINAGE BRANCH
PROFILES MONTROSE AVENUE
(SHEET 1 OF 2)

1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-17
SHEET	84 of 158

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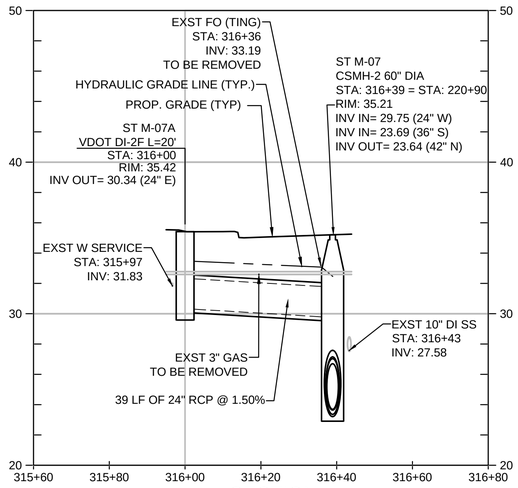
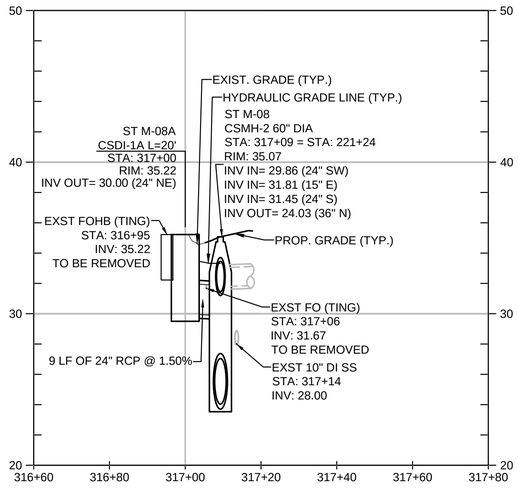
FINAL DESIGN (NOT FOR CONSTRUCTION)



M-07 SECTION
RD-13 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



M-08 SECTION
RD-13 HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:
1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE` SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
2. THE ALLOWABLE BEARING PRESSURE FOR NON-PILED/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
3. THE TEMPORARY SUPPORT EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
4. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.
5. ALL PROPOSED STORM PIPES ARE RCP CL IV UNLESS OTHERWISE NOTED.

0 20' 40' 60'
1" = 20' (HORIZ.)

0 5' 10' 20'
1" = 5' (VERT.)

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	V TAYLOR	M DEVUONO		J KELLY
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN A.CARLSON

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

ROADWAY DRAINAGE BRANCH PROFILES MONTROSE AVENUE (SHEET 2 OF 2)

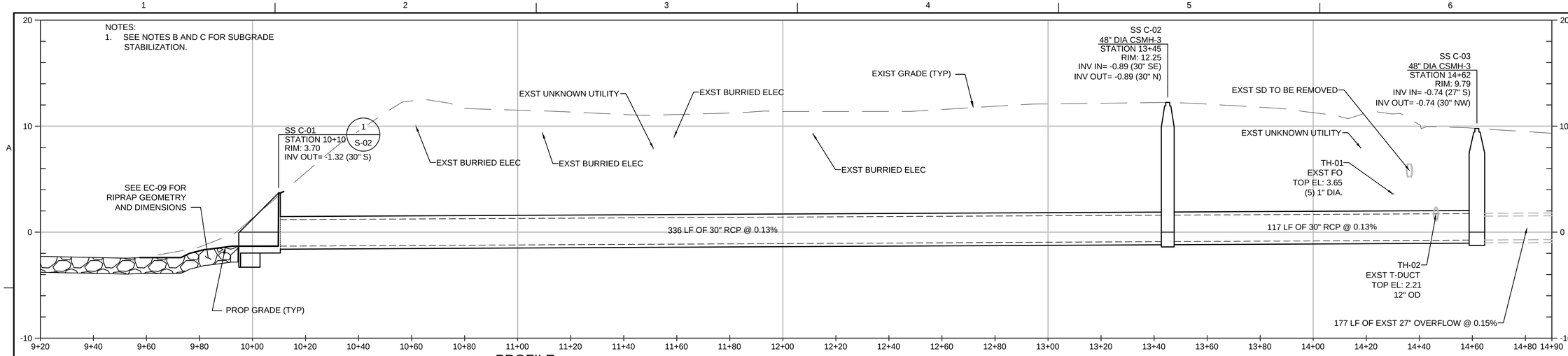
1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-18
SHEET	85 of 158

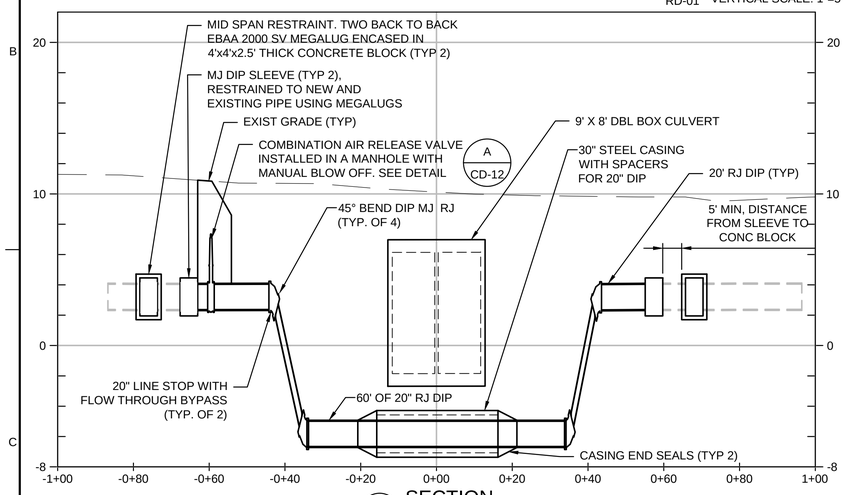
FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-18.dwg PLOT DATE: 10/3/2025 PLOT TIME: 3:47 PM

NOTES:
1. SEE NOTES B AND C FOR SUBGRADE STABILIZATION.



A RD-01 **PROFILE**
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

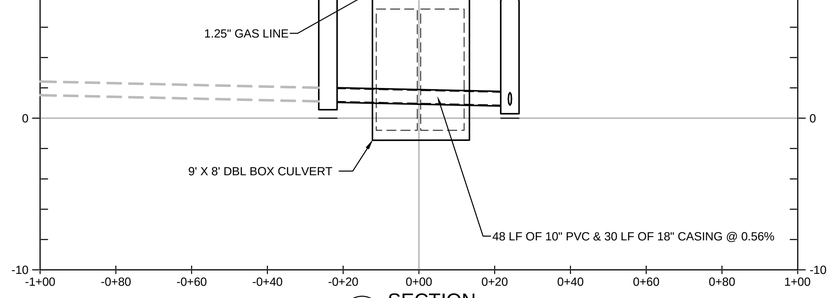


B RD-01 **SECTION**
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

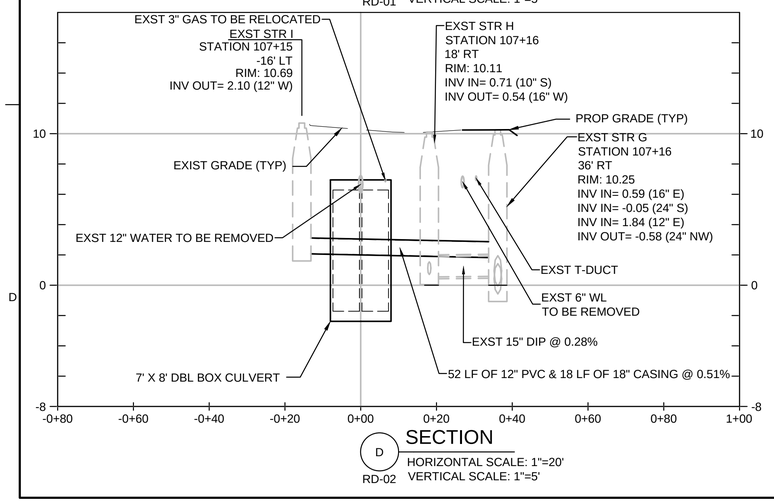
NOTES RELATED TO REALIGNMENT OF 20-INCH FORCE MAIN (SECTION B):
1. THE 20-INCH MAIN IS USED INTERMITTENTLY DURING WE WEATHER. SEE SECTION 01 57 28, TEMPORARY FLOW CONTROL FOR REQUIREMENTS RELATED TO COORDINATION, CONSTRUCTION REQUIREMENTS AND ALLOWED DURATION FOR REMOVAL OF THIS LINE FROM SERVICE. GENERAL SEQUENCE OF WORK IS AS FOLLOWS:
   i. INSTALL TWO MID SPAN RESTRAINTS ALONG FORCE MAIN TO RESTRAIN AND PROTECT THE EXISTING PIPE FROM MOVEMENT. THERE SHALL BE NO PIPE JOINTS BETWEEN THE MJ SLEEVE AND THE RESTRAINT. MODIFY THE LENGTH(S) OF THE NEW 20-INCH DIP AS REQUIRED TO ELIMINATE INTERMEDIATE JOINTS.
   ii. PROVIDE TEMPORARY SUPPORTS AND PROTECT THE EXISTING 20-INCH PIPE DURING INSTALLATION OF THE NEW SEGMENTS OF 20-INCH DIP.
   iii. INSTALL THE 20-INCH DIP, STEEL CASING, BENDS, COMBINATION AIR RELEASE VALVE, ETC. TO ROUTE THE MAIN BELOW THE 8'x9' BOX CULVERT. PRESSURE TEST THIS PIPE PRIOR TO COMPLETION OF THE INTERCONNECTION WITH THE EXISTING MAIN.
   iv. SEE SECTION 01 31 13B PROJECT COORDINATION FOR ADDITIONAL CONSTRAINTS AND SEQUENCING.
   v. SEE NOTES B AND C FOR SUBGRADE STABILIZATION REQUIREMENTS. BACKFILL AROUND STEEL CASING TO INVERT OF THE BOX CULVERT WITH FLOWABLE FILL.
   vii. AS PART OF A SINGLE OUTAGE COMPLETE THE TWO TIE INS TO THE EXISTING 20-INCH MAIN WITH THE TWO MJ SLEEVES.

NOTES:

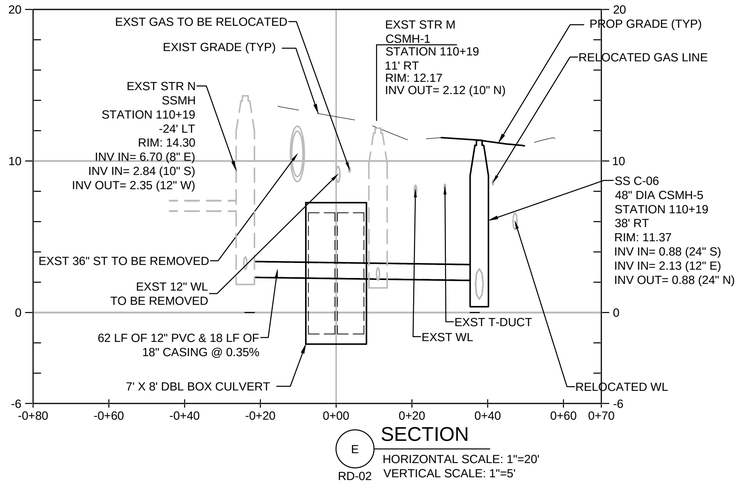
SEE NOTES B AND C FOR SUBGRADE STABILIZATION.



C RD-01 **SECTION**
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



D RD-02 **SECTION**
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



E RD-02 **SECTION**
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES RELATED TO ALL WORK SHOWN ON THIS SHEET:

A. THE CONTRACTOR SHALL IMPLEMENT DEWATERING FOR THE WORK BELOW GROUNDWATER TABLE. THE CONTRACTOR MAY ELECT TO USE GROUND IMPROVEMENT (SUCH AS PERMEATION GROUTING) TO LOWER THE GROUNDWATER INFLOW QUANTITY INTO EXCAVATION.

B. OVER-EXCAVATE 3 FT AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTMD1557 FOR EACH 6-INCH LIFT.

C. THE TEMPORARY SUPPORT OF EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.

D. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.

0 20' 40' 60'
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1" = 5' (VERT.)

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	BY	CHK	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	P FESER	J CAMMARATA	H LUSK
	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

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FOUR MILE RUN STORM SEWER UPGRADES
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DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

PROPOSED SANITARY SEWER RELOCATIONS COMMONWEALTH AVENUE (SHEET 1 OF 2)

FINAL DESIGN (NOT FOR CONSTRUCTION)

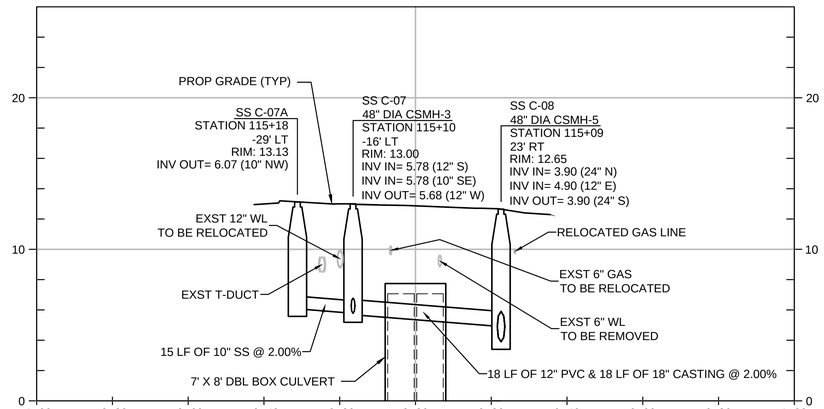
1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-19
SHEET	86 of 158

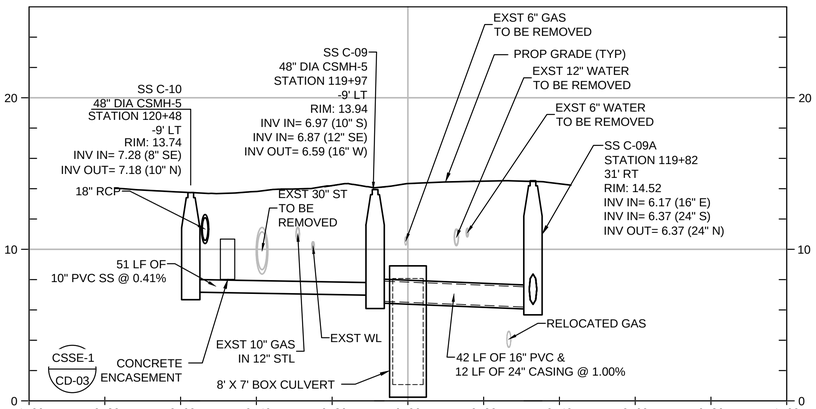
FILENAME: RD-19.dwg PLOT DATE: 10/7/2025 PLOT TIME: 7:59 PM



F
RD-03

SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



G
RD-04

SECTION

HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:
1. THE CONTRACTOR SHALL IMPLEMENT DEWATERING FOR THE WORK BELOW GROUNDWATER TABLE. THE CONTRACTOR MAY ELECT TO USE GROUND IMPROVEMENT (SUCH AS PERMEATION GROUTING) TO LOWER THE GROUNDWATER INFLOW QUANTITY INTO EXCAVATION.

0 20' 40' 60'
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1" = 5' (VERT.)

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	P FESER		H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN J CAMMARATA

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

PROPOSED SANITARY SEWER RELOCATIONS COMMONWEALTH AVENUE (SHEET 2 OF 2)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-20
SHEET	87 of 158

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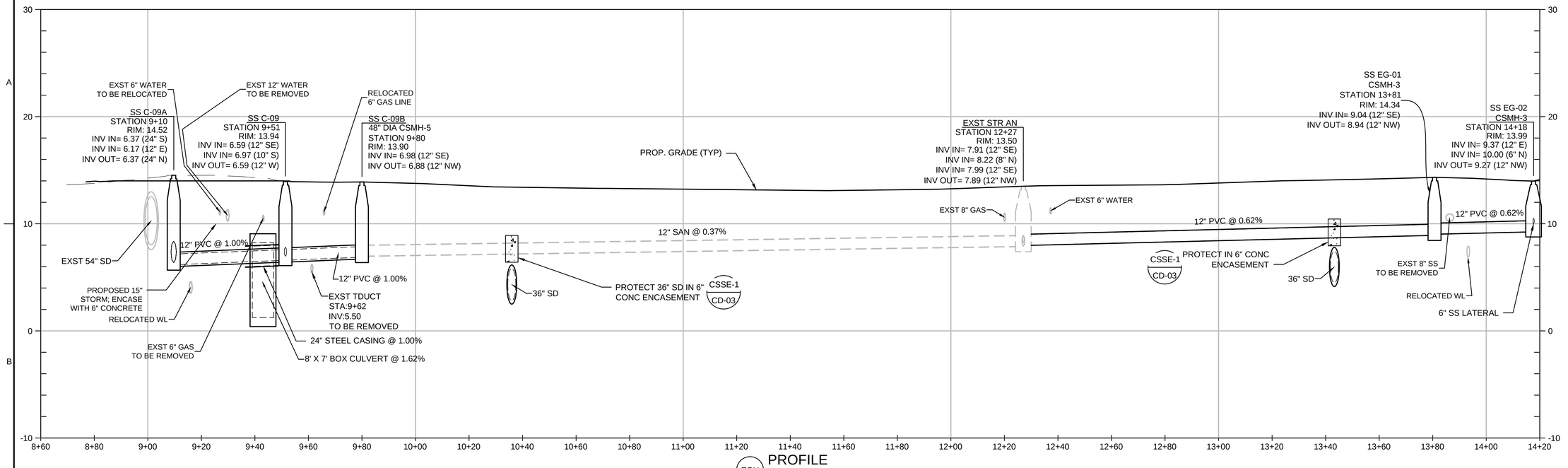
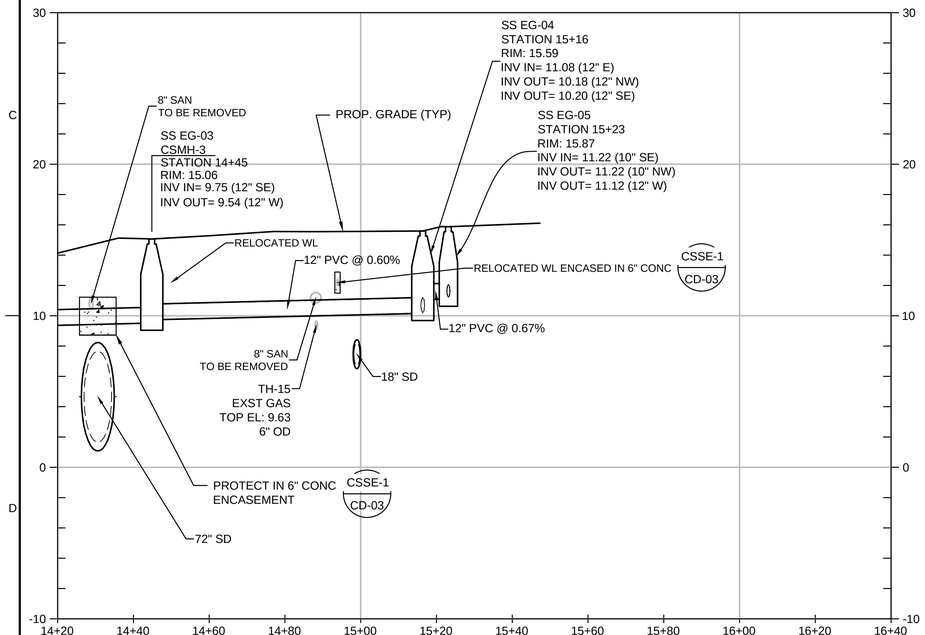
FINAL DESIGN (NOT FOR CONSTRUCTION)



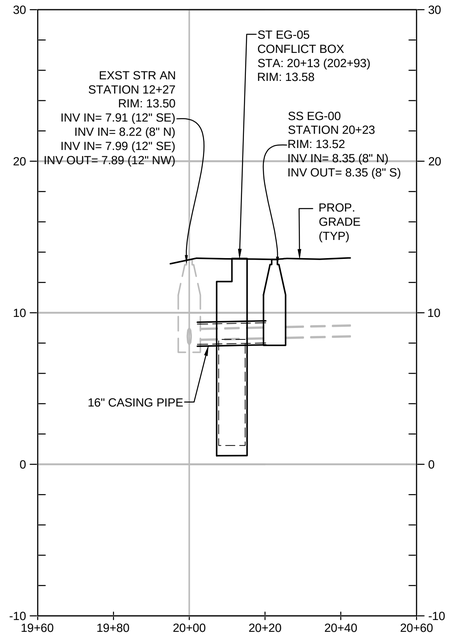
EGH PROFILE
RD-08 & RD-09
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

A. 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.

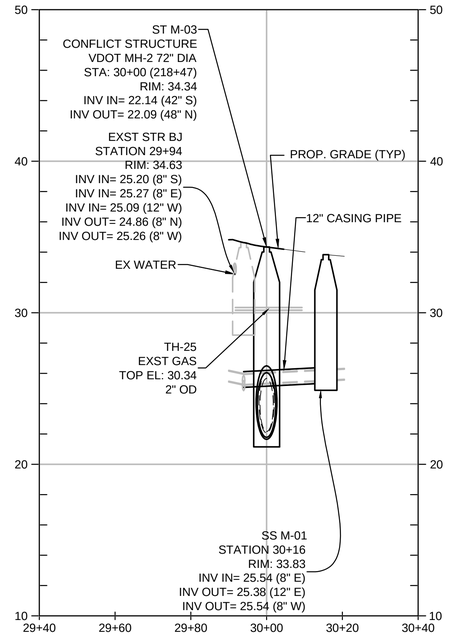
B. THE APPLICANT/DEVELOPER SHALL NOT ALLOW ANY METAL DETECTION TO BE CONDUCTED ON THE PROPERTY, UNLESS AUTHORIZED BY ALEXANDRIA ARCHAEOLOGY.



EGH PROFILE
RD-08 & RD-09
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



SS EG-00
RD-08
PROFILE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



SS M-01
RD-14
PROFILE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'

NOTES:

1. OVER EXCAVATE THE SUBGRADE (UP TO 3 FT DEEP) AND BACKFILL WITH VDOT NO. 21A OR 21B COMPACTED TO 95% OF MAXIMUM DRY UNIT WEIGHT ACCORDING TO ASTM D1557 FOR EACH 6-INCH LIFT WHERE SOFT OR LOOSE SOIL IS ENCOUNTERED. THE SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO CONFIRM IF THE OVER EXCAVATION AND BACKFILL IS REQUIRED.
2. THE ALLOWABLE BEARING PRESSURE FOR NON-PILE/RIGID INCLUSIONS SUPPORTED BOX CULVERT OR PIPE IS 2000 PSF.
3. THE TEMPORARY SUPPORT OF EXCAVATION DESIGN BY THE CONTRACTOR SHALL CONSIDER THE POTENTIALLY REQUIRED OVER EXCAVATION.
4. THE SUBGRADE SHALL BE DEWATERED TO ALLOW FOR COMPACTION OF BACKFILL.

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1" = 20' (HORIZ.)

0 5' 10' 20'
1" = 5' (VERT.)

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ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	DR	REVISION	BY	CHK
	10/2025	A.CARLSON	100% SUBMITTAL	APVD	J.KELLY
	04/2025		90% SUBMITTAL	APVD	M.DEVUONO
	11/2024		65% SUBMITTAL		
	05/2024		60% SUBMITTAL		
	09/2023		30% SUBMITTAL		

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

PROPOSED SANITARY SEWER RELOCATIONS EAST GLEBE ROAD

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-21
SHEET	88 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

STORM SEWER STRUCTURE TABLE

STRUCTURE NAME	SHEET	DESCRIPTION	RIM	IN	OUT	DETAILS
ST A-01	RD-11	CSDI-1 L=4'	RIM = 25.83	INV= 15.03 (30" W)	INV= 15.03 (30" E)	
ST A-02	RD-11	CSDI-1 L=4'	RIM = 25.13	INV= 15.37 (18" W) INV= 15.37 (30" S)	INV= 15.32 (30" E)	
ST A-02A	RD-11	VDOT DI-2C L=14'	RIM = 24.75		INV= 15.50 (30" N)	
ST A-03	RD-11	CSDI-1 L=6'	RIM = 24.79	INV= 15.98 (15" S)	INV= 15.92 (18" E)	
ST A-04	RD-11	VDOT DI-2B L=8'	RIM = 24.90		INV= 16.28 (15" N)	
ST C-01	RD-01	OUTFALL STRUCTURE	RIM = 9.79			
ST C-02	RD-01	VDOT DI-3A 48"	RIM = 11.59	INV= 6.32 (16" E)	INV= 6.07 (18" SW)	VDOT DI-3A TOP, 48" MH BOTTOM
ST C-03	RD-01	CSMH-1 RISER & TOP	RIM = 10.33			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-03A	RD-01	CSMH-1 RISER & TOP	RIM = 10.15			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-04	RD-01	CSYI-1 (4 SLOTS) RISER & TOP	RIM = 10.28	INV= 3.92 (30" SE)		CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-05	RD-02	CSMH-1 RISER & TOP	RIM = 10.94			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-05A	RD-02	CSMH-1 RISER & TOP	RIM = 10.71			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-06	RD-02	CSMH-1 RISER & TOP	RIM = 10.31			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-06A	RD-02	CSMH-1 RISER & TOP	RIM = 10.16			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-07	RD-02	CSYI-1 (4 SLOTS) RISER & TOP	RIM = 11.34			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-07A	RD-02	CSMH-1	RIM = 10.65	INV= 7.39 (15" W)	INV= 4.20 (15" E)	
ST C-09	RD-03	CSMH-1 RISER & TOP	RIM = 12.94			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-09A	RD-03	CSMH-1 RISER & TOP	RIM = 12.66			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-10	RD-03	CSDI-1 RISER & TOP	RIM = 11.41			
ST C-10A	RD-03	CSYI-1 (4 SLOTS)	RIM = 11.97		INV= 3.85 (36" W)	
ST C-11	RD-03	CSMH-1 RISER & TOP	RIM = 12.69	INV= 9.10 (15" W)		CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-11A	RD-03	CSDI-1A L=6'	RIM = 12.60	INV= 8.50 (15" E)		
ST C-12	RD-03	CSMH-1 RISER & TOP	RIM = 12.91			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-12A	RD-03	CSMH-1 RISER & TOP	RIM = 12.85			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-13	RD-03 & GI-01	CSDI-2	RIM = 11.75			
ST C-14	RD-04	CSMH-1 RISER & TOP	RIM = 12.81			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-14A	RD-04	CSMH-1 RISER & TOP	RIM = 13.08			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-15	RD-04	JUNCTION BOX NO. 1	RIM = 14.13	INV= 1.09 (96" S)		
ST C-16	RD-05	CSMH-1 RISER & TOP	RIM = 14.78			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-16A	RD-05 & GI-02	CSDI-2	RIM = 13.83		INV= 6.15 (15" E)	
ST C-17	RD-05	CSMH-1 RISER & TOP	RIM = 15.83	INV= 2.94 (96" S) INV= 12.75 (18" E)	INV= 2.94 (96" N)	CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-17A	RD-05 & GI-03	CSDI-2	RIM = 15.17		INV= 7.11 (15" E)	
ST C-18	RD-05	CSMH-1 RISER & TOP	RIM = 17.45	INV= 7.36 (18" E)		CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST C-18A	RD-05	CSDI-1A L=20'	RIM = 17.72		INV= 7.61 (18" W)	
ST C-18B	RD-05 & GI-03	CSDI-2	RIM = 16.90	INV= 6.15 (24" W)	INV= 6.15 (30" E)	
ST C-18C	RD-05	VDOT DI-2E, L=12'	RIM = 17.75		INV= 6.66 (24" E)	
ST C-19	RD-06	JUNCTION BOX NO. 2	RIM = 16.72	INV= 5.89 (68" W)		
ST C-19A	RD-06	VDOT DI-2B L=16'	RIM = 18.65		INV= 9.18 (18" W)	
ST C-19B	RD-06	CSMH-1 RISER & TOP	RIM = 18.93			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT

STORM SEWER STRUCTURE TABLE

STRUCTURE NAME	SHEET	DESCRIPTION	RIM	IN	OUT	DETAILS
ST C-19C	RD-06	VDOT MH-1A 96" DIA	RIM = 18.38	INV= 12.33 (54" S)	INV= 6.10 (68" E)	FLAT TOP SLAB AT EL 18.38; VDOT MH-1A FRAME AND COVER AT EL 18.71
ST C-20	RD-06	CSMH-1	RIM = 18.89	INV= 10.95 (24" S) INV= 12.41 (15" E)	INV= 10.95 (24" W)	
ST C-20B	RD-06	VDOT DI-2B L=16'	RIM = 18.71		INV= 12.80 (15" W)	
ST C-21	RD-06	CONNECT EXST 18" STORM SEWER	RIM = 19.16	INV= 15.52 (18" E)		
ST C-22	RD-06	VDOT DI-2E L=20'	RIM = 19.21			
ST C-23	RD-06	VDOT DI-2E L=20'	RIM = 19.30			
ST C-23C	RD-06	VDOT DI-2F L=20'	RIM = 18.63		INV= 11.43 (24" N)	
ST C-24	RD-06	JUNCTION BOX NO. 4	RIM = 16.03	INV= 10.64 (54" SW)	INV= 6.74 (84" NE)	
ST C-25	RD-06	REUSE EXST STRUCTURE OR REPLACE WITH VDOT JB-1	RIM = 19.70	INV= 11.09 (54" S) INV= 12.13 (12" E) INV= 12.29 (12" W)	INV= 10.95 (54" N) INV= 11.04 (54" NE)	
ST C-30	RD-04	VDOT DI-2E L=20' W/ CUSTOM 6'-7"X4'-4" BASE	RIM = 13.93	INV= APPROX. 8.43 (54" S)	INV= APPROX. 8.43 (54" N)	CUSTOM BASE TO ACCOMMODATE SHALLOW 54" PIPE
ST C-31	RD-05	VDOT DI-2E L=20' W/ CUSTOM 6'-7"X4'-4" BASE	RIM = 15.82	INV= APPROX. 9.94 (54" S)	INV= APPROX. 9.94 (54" N)	CUSTOM BASE TO ACCOMMODATE SHALLOW 54" PIPE
ST C-33	RD-06	VDOT JB-1 MODIFIED DOGHOUSE 4'X5'-5"	RIM = 19.35	INV= 12.91 (54" S) INV= 12.91 (30" W)	INV= 12.91 (54" N)	
ST C-34	RD-06	VDOT DI-2E L=14'	RIM = 19.58		INV= 13.17 (30" E)	
ST C-35	RD-06	VDOT DI-2E L=8'	RIM = 19.64		INV= 13.38 (36" E)	
ST EG-01	RD-08	CSMH-1 RISER & TOP	RIM = 12.84			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-01A	RD-08	CSMH-1 - 48" DIA	RIM = 13.43	INV= 9.18 (30" E) INV= 9.23 (24" S)	INV= 3.08 (36" N)	
ST EG-02	RD-08	VDOT DI-2B L=8'	RIM = 12.93			
ST EG-03	RD-08	VDOT DI-2F L =20'	RIM = 13.00			
ST EG-04	RD-08	CSMH-1 RISER & TOP	RIM = 13.44	INV= 10.38 (15" N)		CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-05	RD-08	CSMH-1 RISER & TOP	RIM = 13.60			CUSTOM DUE TO LARGE SANITARY SEWER CONFLICT NEAR THE TOP OF THE STRUCTURE
ST EG-06	RD-08	CSDI-1A L=20'	RIM = 13.90		INV= 6.38 (18" S)	
ST EG-07	RD-08	CSMH-1 RISER & TOP	RIM = 14.08			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-07A	RD-08	CSDI-1A L=14'	RIM = 13.71	INV= 10.20 (30" SE)	INV= 4.68 (36" N)	
ST EG-07B	RD-08	CSDI-1A L=20'	RIM = 14.41		INV= 5.96 (24" SW)	
ST EG-08	RD-08	JUNCTION BOX NO. 5	RIM = 14.44	INV= 1.39 (72" SE)	INV= 1.39 (84" W)	CUSTOM DUE TO OUTLET PIPE SIZE (7'x7' BOX) EXCEEDING STANDARD SIZE REQUIREMENTS FOR OTHER ALTERNATIVES
ST EG-08 RISER	RD-08	CSMH-1 RISER & TOP	RIM = 14.44			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-09	RD-09	VDOT JB-1 4'X7'	RIM = 14.69	INV= 4.76 (60" SE) INV= 6.49 (18" NE)	INV= 1.98 (72" NW)	REVIEW REINFORCEMENT REQUIREMENTS NOT SPECIFIED IN VDOT DETAILS DUE TO PIPE CONNECTION IN SIDE WALL.
ST EG-09 RISER	RD-09	CSMH-1 RISER & TOP	RIM = 14.69			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-09A	RD-09	CSDI-1A L=12'	RIM = 15.88	INV= 8.50 (18" SE)	INV= 7.10 (18" SW)	
ST EG-09B	RD-09	VDOT DI-2B L=20'	RIM = 16.25		INV= 9.07 (18" NW)	
ST EG-10	RD-09	VDOT JB-1 2'X6'	RIM = 17.66	INV= 9.32 (60" SE)	INV= 6.05 (60" NW)	
ST EG-10 RISER	RD-09	CSMH-1 RISER & TOP	RIM = 13.84			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-10A	RD-09	CSDI-1A L=12'	RIM = 18.54			
ST EG-11	RD-09	VDOT MH-2 84" DIA	RIM = 21.34	INV= 12.05 (60" SE) INV= 16.20 (15" NE)	INV= 10.45 (60" NW)	
ST EG-11 RISER	RD-09	CSMH-1 RISER & TOP	RIM = 21.34			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-11A	RD-09	CSDI-1A L=20'	RIM = 22.63		INV= 16.50 (15" SW)	
ST EG-12	RD-10	VDOT JB-1 3'X6'	RIM = 23.62	INV= 12.87 (54" SE) INV= 18.16 (15" NE)	INV= 12.82 (60" NW)	*REVIEW REINFORCEMENT REQUIREMENTS NOT SPECIFIED IN VDOT DETAILS DUE TO PIPE CONNECTION IN SIDE WALL.
ST EG-12 RISER	RD-10	CSMH-1 RISER & TOP	RIM = 23.62			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-13	RD-10	VDOT MH-2 84" DIA	RIM = 26.46	INV= 14.62 (54" SE) INV= 18.40 (36" NE)	INV= 14.57 (54" NW)	

STORM SEWER STRUCTURE TABLE

STRUCTURE NAME	SHEET	DESCRIPTION	RIM	IN	OUT	DETAILS
ST EG-13 RISER	RD-10	CSMH-1 RISER & TOP	RIM = 26.46			CONNECTS TO OPENING IN TOP SLAB OF BOX CULVERT
ST EG-13A	RD-10	CSMH-2 60" DIA	RIM = 26.73	INV= 19.00 (30" NE) INV= 20.32 (18" NW)	INV= 18.95 (36" SW)	
ST EG-13B	RD-10	VDOT DI-2B L=20'	RIM = 27.28	INV= 20.13 (24" SE)	INV= 19.58 (30" SW)	
ST EG-13C	RD-10	VDOT DI-2E L=20' W/ CUSTOM 6'X10' BASE	RIM = 27.14		INV= 20.77 (24" NW)	BASE TO BE EXTENDED TO ACCOMMODATE INTERCEPTION OF EXISTING 15" RCP.
ST EG-13D	RD-10	VDOT DI-2B L=20'	RIM = 26.70		INV= 21.00 (18" SE)	OUTLET PIPE TO THE NORTHWEST AND THE INLET PIPE TO THE WEST HAVE VERY CLOSE CONNECTION WITH THE STRUCTURE DUE TO THE TIGHT ANGLE OF THE PIPES, REQUIRING NON-STANDARD SIZING.
ST EG-14	RD-10	VDOT JB-1 MODIFIED 4'-6"X7'-6"	RIM = 26.64	INV= 14.81 (30" W) INV= 19.28 (48" S) INV= 18.78 (30" E)	INV= 14.81 (54" NW)	
ST EG-14A	RD-10	CSMH-1 48" DIA	RIM = 26.73	INV= 21.31 (24" SE)	INV= 18.95 (30" W)	
ST M-01	RD-12	VDOT MH-2 72" DIA	RIM = 26.80	INV= 19.58 (48" S) INV= 20.00 (15" E)	INV= 19.53 (48" N)	
ST M-01A	RD-12	CSDI-1A L=12"	RIM = 26.95		INV= 20.37 (15" W)	
ST M-02	RD-12	VDOT MH-2 72" DIA	RIM = 32.49	INV= 20.73 (48" S) INV= 21.99 (24" W) INV= 25.08 (15" SE)	INV= 20.24 (48" N)	
ST M-02A	RD-12	CSMH-1 48" DIA	RIM = 29.48	INV= 23.71 (24" W) INV= 24.86 (15" S)	INV= 23.21 (24" E)	
ST M-02B	RD-12	CSDI-1 L=14'	RIM = 28.93		INV= 25.17 (15" NE)	
ST M-02C	RD-12	CSDI-1A L=8'	RIM = 33.14	INV= 26.75 (15" NE)	INV= 26.49 (15" NW)	
ST M-03	RD-13	CONFLICT STRUCTURE VDOT MH-2 72" DIA	RIM = 34.34	INV= 22.14 (42" S)	INV= 22.09 (48" N)	
ST M-04	RD-13	CSMH-2 60" DIA	RIM = 34.26	INV= 22.25 (42" S) INV= 27.00 (18" E) INV= 28.23 (18" W)	INV= 22.20 (42" N)	
ST M-04A	RD-13	CSDI-1A L=12	RIM = 32.25		INV= 28.93 (15" NE)	
ST M-05	RD-13	CSMH-2 60" DIA	RIM = 33.93	INV= 29.53 (15" SW) INV= 22.42 (42" S)	INV= 22.37 (42" N)	
ST M-05A	RD-13	CSDI-1A L=8'	RIM = 34.43		INV= 29.61 (15" NE)	
ST M-06	RD-13	CSMH-2 60" DIA	RIM = 34.95	INV= 23.44 (42" S) INV= 32.56 (15" W) INV= 31.75 (15" E)	INV= 23.39 (42" N)	
ST M-06A	RD-13	CSDI-1A L=14'	RIM = 35.79	INV= 32.52 (15" S)	INV= 32.48 (15" W)	
ST M-07	RD-13	CSMH-2 60" DIA	RIM = 35.21	INV= 29.75 (24" W) INV= 23.69 (36" S)	INV= 23.64 (42" N)	
ST M-07A	RD-13	VDOT DI-2F L=20'	RIM = 35.42		INV= 30.34 (24" E)	
ST M-08	RD-13	CSMH-2 60" DIA	RIM = 35.07	INV= 29.86 (24" SW) INV= 31.81 (15" E) INV= 31.45 (24" S)	INV= 24.03 (36" N)	
ST M-08A	RD-13	CSDI-1A L=20'	RIM = 35.22		INV= 30.00 (24" NE)	
ST WG-60A	RD-07	JUNCTION BOX NO. 6	RIM = 12.26			
ST C-15A	RD-04	CSDI-1A L=16'	RIM = 13.94		INV= 10.65 (18" W)	
ST C-15B	RD-04	CSMH-1 RISER & TOP	RIM = 14.26	INV= 10.50 (18" E)	INV= 1.49 (96" N)	

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	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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PROPOSED STORM SEWER STRUCTURE TABLES

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0 1"

DATE OCTOBER 2025
PROJ E5X81200
DWG RD-22
SHEET 89 of 158

SANITARY SEWER STRUCTURE TABLE

STRUCTURE NAME	SHEET	DESCRIPTION	RIM	IN	OUT	DETAILS
SS C-01	RD-01	OUTFALL	RIM = 3.70	INV= -1.32 (30" S)		
SS C-02	RD-01	48" DIA CSMH-3	RIM = 12.25	INV= -0.89 (30" SE)	INV= -0.89 (30" N)	
SS C-03	RD-01	48" DIA CSMH-3	RIM = 9.79	INV= -0.74 (27" S)	INV= -0.74 (30" NW)	
SS C-06	RD-02	48" DIA CSMH-5	RIM = 11.37	INV= 0.88 (24" S) INV= 2.13 (12" E)	INV= 0.88 (24" N)	
SS C-07	RD-03	48" DIA CSMH-3	RIM = 13.00	INV= 5.78 (12" S) INV= 5.78 (10" SE)	INV= 5.68 (12" W)	
SS C-07A	RD-03	SSMH	RIM = 13.13		INV= 6.07 (10" NW)	
SS C-08	RD-03	48" DIA CSMH-5	RIM = 12.65	INV= 3.90 (24" N) INV= 4.90 (12" E)	INV= 3.90 (24" S)	
SS C-09	RD-04	48" DIA CSMH-5	RIM = 13.94	INV= 6.97 (10" S) INV= 6.87 (12" SE)	INV= 6.59 (16" W)	
SS C-09	RD-04	48" DIA CSMH-5	RIM = 13.94	INV= 6.59 (12" SE) INV= 6.97 (10" S)	INV= 6.59 (12" W)	
SS C-09A	RD-04	48" DIA CSMH-5	RIM = 14.52	INV= 6.17 (16" E) INV= 6.37 (24" S)	INV= 6.37 (24" N)	
SS C-09B	RD-04	48" DIA CSMH-5	RIM = 13.90	INV= 6.98 (12" SE)	INV= 6.88 (12" NW)	
SS C-10	RD-04	48" DIA CSMH-5	RIM = 13.74	INV= 7.28 (8" SE)	INV= 7.18 (10" N)	
SS C-11	RD-01	48" DIA CSMH-5	RIM = 10.53	INV= 1.13 (10" N)	INV= 1.13 (10" S)	
SS C-12	RD-01	48" DIA CSMH-5	RIM = 10.04	INV= 0.86 (10" N)	INV= 0.86 (10" S)	
SS EG-00	RD-08	CSMH-5	RIM = 13.52	INV= 8.35 (8" N)	INV= 8.35 (8" S)	
SS EG-01	RD-08	CSMH-3	RIM = 14.34	INV= 9.04 (12" SE)	INV= 8.94 (12" NW)	
SS EG-02	RD-08	CSMH-3	RIM = 13.99	INV= 9.37 (12" E) INV= 10.00 (6" N)	INV= 9.27 (12" NW)	
SS EG-03	RD-08	CSMH-3	RIM = 15.06	INV= 9.75 (12" SE)	INV= 9.54 (12" W)	
SS EG-04	RD-09	CSMH-3 (60" DIA)	RIM = 15.59	INV= 11.08 (12" E)	INV= 10.18 (12" NW) INV= 10.20 (12" SE)	
SS EG-05	RD-09	CSMH-5	RIM = 15.87	INV= 11.22 (10" SE)	INV= 11.22 (10" NW) INV= 11.12 (12" W)	
SS M-01	RD-13	CSMH-5	RIM = 33.83	INV= 25.54 (8" E)	INV= 25.38 (12" E) INV= 25.54 (8" W)	

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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	H LUSK
	04/2025	90% SUBMITTAL				
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	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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PROPOSED SANITARY SEWER STRUCTURE TABLES

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BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-23
SHEET	90 of 158

FILENAME: RD-23.dwg PLOT DATE: 10/7/2025 PLOT TIME: 11:55 AM

STORM SEWER PIPE TABLE

PIPE LABEL	SHEET	DESCRIPTION	INV START	INV STOP	LENGTH	SLOPE
CU1 – C–01	RD–01	Dual 9'x8' Box Culvert	–2.1	–2.4	296.65	0.001
C–02/C–02A – CU7	RD–01	Dual 9'x8' Box Culvert	–2.07	–2.1	36.84	0.001
45 BEND – C–02A	RD–01	Dual 9'x8' Box Culvert	–1.95	–2.07	111.3	0.001
C–04 – 45 BEND	RD–01	Dual 7'x8' Box Culvert	–1.91	–1.95	38.89	0.001
C–05 – C–04	RD–02	Dual 7'x8' Box Culvert	–1.81	–1.91	100.34	0.001
C–06/C–06A – C–05	RD–02	Dual 7'x8' Box Culvert	–1.72	–1.81	93.68	0.001
C–07 – C–06/C–06A	RD–02	Dual 7'x8' Box Culvert	–1.61	–1.72	108.1	0.001
C–09/C–09A – C–07	RD–02	Dual 7'x8' Box Culvert	–1.41	–1.61	195.62	0.001
C–10 – C–09/C–09A	RD–03	Dual 7'x8' Box Culvert	–1.31	–1.41	103.46	0.001
CU2 – C–10	RD–03	Dual 7'x8' Box Culvert	–1.13	–1.31	179.09	0.001
C–11 – CU2	RD–03	Dual 7'x8' Box Culvert	–1.12	–1.13	13.75	0.001
C–10A – C–11	RD–03	36" RCP	3.85	3.78	11.07	0.006
C–11A – C–11	RD–03	Dual 7'x8' Box Culvert	–0.97	–1.12	145.78	0.001
C–12/C–12A – C–11A	RD–03	Dual 7'x8' Box Culvert	–0.92	–0.97	50.2	0.001
C–13 – C–12/C–12A	RD–03	Dual 7'x8' Box Culvert	–0.85	–0.92	57.71	0.001
SLOPE TRANSITON – C–13	RD–04	Dual 7'x8' Box Culvert	–0.74	–0.85	128.6	0.001
C–14 – SLOPE TRANSITION	RD–04	Dual 7'x8' Box Culvert	–0.47	–0.74	44.57	0.006
C–14A – C–14	RD–04	Dual 7'x8' Box Culvert	0.14	–0.47	99.9	0.006
C–15 – C–14A	RD–04	Dual 7'x8' Box Culvert	0.93	0.14	137.81	0.006
C–15B – C–15	RD–04	8'x7' Box Culvert	1.39	0.95	49	0.009
C–15A – C–15B	RD–04	18" RCP	10.64	10.5	17.59	0.008
C–16 – C–15B	RD–04	8'x7' Box Culvert	2.06	1.39	107.54	0.006
C–17 – C–16	RD–05	8'x7' Box Culvert	2.94	2.06	146.4	0.006
42 – C–17	RD–05	PROP 18" RCP	13	12.85	14.61	0.01
BLIND TEE C–17A – C–17	RD–05	8'x7' Box Culvert	3.31	2.94	61.88	0.006
C–17A – BLIND TEE C–17A	RD–05	15" RCP	7.11	6.85	16.59	0.016
C–17 – BLIND TEE C–17A	RD–05	8'x7' Box Culvert	4.62	3.31	217.69	0.006
C–17A – C–17	RD–05	18" RCP	7.61	7.36	16.35	0.015
BLIND TEE C–18B – C–17	RD–05	8'x7' Box Culvert	4.86	4.62	40.61	0.006
C–18B – BLIND TEE C–18B	RD–05	30" RCP	6.15	5.9	16.55	0.015
C–18C – C–18B	RD–05	24" RCP	6.66	6.15	30.14	0.017
C–19/C–19B – BLIND TEE C–18B	RD–06	8'x7' Box Culvert	5.76	4.86	149.54	0.006
BLIND TEE C–20 – C–19/C–19B	RD–06	7'x7' Box Culvert	6.28	5.76	86.34	0.006
C–20 – BLIND TEE C–20	RD–06	24" RCP	10.95	10.62	16.51	0.02
C–20B – C–20	RD–06	15" RCP	12.8	12.41	21.14	0.018
C–13C – C–20	RD–06	24" RCP	11.43	10.95	25.02	0.019
C–21 – BLIND TEE C–20	RD–06	7'x7' Box Culvert	6.42	6.28	24.02	0.006
C–22 – C–21	RD–06	7'x7' Box Culvert	6.54	6.42	19.66	0.006
C–23/24 – C–22	RD–06	7'x7' Box Culvert	6.74	6.54	34.41	0.006
C–25 – C–23/C–24	RD–06	54" RCP	11.04	10.64	40.2	0.01
C–19C – C–19/C–19B	RD–06	68"X43" ECP	6.1	5.85	50.76	0.005
C–34 – C–33	RD–06	30" RCP	13.17	12.88	13.23	0.022
C–35 – 101	RD–06	36" RCP	13.38	13.31	14.73	0.005
C–19A – C–19/C–19B	RD–06	18" RCP	9.18	8.98	13.2	0.015
C–16A – C–16	RD–04	15" RCP	6.15	5.75	16.89	0.024
EG–01 – C–15	RD–08	7'x7' Box Culvert	1.04	0.95	97.26	0.001
EG–01A – EG–01	RD–08	36" RCP	3.08	2.66	41.86	0.01
EG–02 – EG–01	RD–08	7'x7' Box Culvert	1.09	1.04	57.9	0.001
EG–03 – EG–02	RD–08	7'x7' Box Culvert	1.14	1.09	48.94	0.001
EG–04 – EG–03	RD–08	7'x7' Box Culvert	1.22	1.14	72.85	0.001
EG–05 – EG–04	RD–08	7'x7' Box Culvert	1.23	1.22	11.54	0.001
BLIND TEE EG–06 – EG–05	RD–08	7'x7' Box Culvert	1.29	1.23	48.26	0.001
EG–06 – BLIND TEE EG–06	RD–08	18" RCP	6.88	6.83	9.58	0.005
EG–07 – BLIND TEE EG–06	RD–08	7'x7' Box Culvert	1.36	1.29	68.2	0.001
EG–07A – EG–07	RD–08	36" RCP	4.68	4.35	31.81	0.01
EG–07B – EG–07	RD–08	24" RCP	5.96	5.85	6.71	0.016
EG–08 – EG–07	RD–08	7'x7' Box Culvert	1.39	1.36	27.71	0.001
EG–09 – EG–08	RD–09	72" RCP	1.98	1.39	120.76	0.005
EG–10 – EG–09	RD–09	60" RCP	6.05	4.76	213.81	0.006
EG–11 – EG–10	RD–09	60" RCP	10.45	9.32	188.26	0.006
EG–12 – EG–11	RD–09	60" RCP	12.82	12.05	128.48	0.006
EG–13 – EG–12	RD–10	54" RCP	14.57	12.87	189.25	0.009
EG–14 – EG–13	RD–10	54" RCP	14.81	14.62	32.06	0.006
EG–14A – EG–14	RD–10	30" RCP	18.95	18.78	16.73	0.01
M–01 – EG–14	RD–12	48" RCP	19.53	19.28	48.72	0.005
M–02 – M–01	RD–12	48" RCP	20.24	19.58	221.07	0.003
M–03 – M–02	RD–12	48" RCP	22.09	20.73	271.47	0.005
M–04 – M–03	RD–13	42" RCP	22.2	22.14	10.19	0.006
M–05 – M–04	RD–13	42" RCP	22.37	22.25	19.33	0.006
M–05A – M–05	RD–13	15" RCP	29.61	29.53	5.6	0.015
M–06 – M–05	RD–13	42" RCP	23.39	22.42	193.75	0.005
M–07 – M–06	RD–13	42" RCP	23.64	23.44	20.17	0.01
M–08 – M–07	RD–13	36" RCP	24.03	23.69	34.15	0.01
M–08A – M–08	RD–13	24" RCP	30	29.87	8.79	0.015
M–07A – M–07	RD–13	24" RCP	30.34	29.75	38.84	0.015
143 – M–06	RD–13	15" RCP	32.63	32.56	6	0.012
129 – M–04	RD–13	18" RCP	29.17	27	29.28	0.074
M–02A – M–02	RD–12	24" RCP	23.21	21.99	61.07	0.02
124 – M–02A	RD–12	24" RCP	24.58	23.86	43.25	0.017
M–02C – M–02	RD–12	15" RCP	26.49	25.13	33.77	0.04
M–01A – M–01	RD–12	15" RCP	20.37	20	21.12	0.018
A–01 – EG–14	RD–11	30" RCP	15.03	14.81	44.74	0.005
A–02 – A–01	RD–11	30" RCP	15.32	15.03	57.56	0.005
A–02A – A–02	RD–11	19"X30" ECP	15.5	15.37	26.66	0.005
A–03 – A–02	RD–11	18" RCP	15.92	15.37	55.1	0.01
A–04 – A–03	RD–11	15" RCP	16.28	15.98	30.16	0.01
EG–13A – EG–13	RD–10	36" RCP	18.95	18.4	27.68	0.02
EG–13B – EG–13A	RD–10	30" RCP	19.58	19	28.59	0.02
EG–13C – EG–13B	RD–10	24" RCP	20.77	20.13	25.32	0.025
EG–13D – EG–13A	RD–10	18" RCP	21	20.32	34.4	0.02
EG–11A – EG–11	RD–09	15" RCP	16.5	16.2	27.49	0.011
EG–09A – EG–09	RD–10	18" RCP	7.1	6.49	31	0.02
EG–09B – EG–09A	RD–10	18" RCP	9.07	8.5	40.64	0.014
74 – EG–08	RD–10	24" RCP	11.54	10.4	27.56	0.041
71 – EG–04	RD–01	15" RCP	10.83	10.38	25.71	0.018
17 – C–11A	RD–03	15" RCP	9.59	8.5	24.49	0.045
11 – C–07	RD–02	15" RCP	7.27	7.27	22.79	0
C–02 – C–02A	RD–01	18" RCP	6.07	4	27.77	0.075

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1	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	H LUSK
2	04/2025	90% SUBMITTAL				
3	11/2024	65% SUBMITTAL				
4	05/2024	60% SUBMITTAL				
5	09/2023	30% SUBMITTAL				

DSGN APVD

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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PROPOSED STORM SEWER PIPE TABLES

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-24
SHEET	91 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

SANITARY SEWER PIPE TABLE

FROM	TO	SHEET	SIZE	LENGTH	SLOPE	MATERIAL
SS EG-05	SS EG-04	RD-04	12"	6.77'	0.67%	
	SS C-09B	RD-04	15"	27.23'	1.00%	
SS C-10	SS C-09	RD-01	10"	50.85'	0.41%	
SS C-09	SS C-09A	RD-01	16"	41.74'	1.00%	
SS C-11	SS C-12	RD-01	10"	48.03'	0.56%	
SS C-03	SS C-02	RD-03	30"	116.59'	0.13%	Reinforced Concrete Pipe
SS C-02	SS C-01	RD-03	30"	335.61'	0.13%	Reinforced Concrete Pipe
SS C-07A	SS C-07	RD-03	10"	14.67'	2.00%	
SS C-07	EXST STR S	RD-02	12"	30.79'	-2.00%	Reinforced Concrete Pipe
SS C-08	SS C-07	RD-02	12"	39.06'	2.00%	Reinforced Concrete Pipe
EXST STR I	EXST STR G	RD-08	12"	51.73'	0.51%	
EXST STR N	SS C-06	RD-09	12"	61.76'	0.35%	
SS EG-02	SS EG-03	RD-08	12"	27.19'	0.62%	
SS EG-03	SS EG-04	RD-08	12"	71.53'	0.60%	
SS EG-01	SS EG-02	RD-09	12"	36.99'	0.62%	
	SS EG-02	RD-04	6"	30.27'	3.30%	

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	10/2025	100% SUBMITTAL	T WEINSTEIN	P FESER		
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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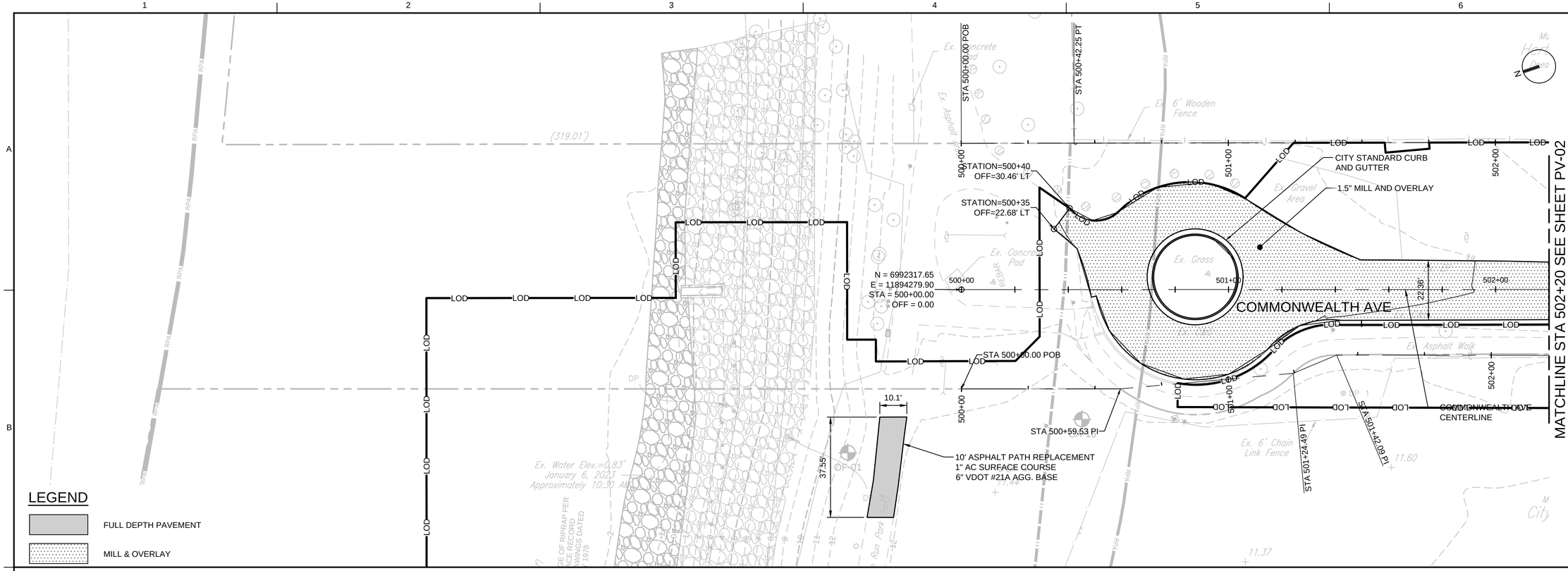
PROPOSED SANITARY SEWER PIPE TABLES

NO SCALE
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

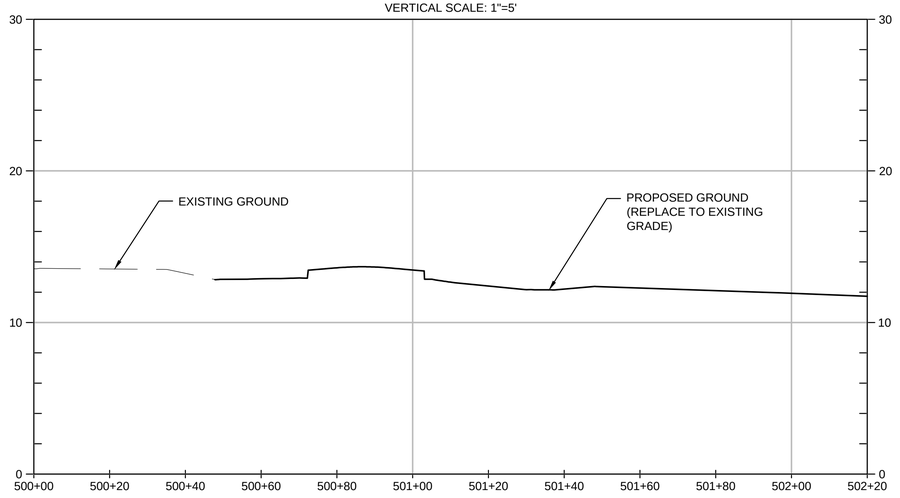
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	RD-25
SHEET	92 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: RD-25.dwg PLOT DATE: 9/28/2025 PLOT TIME: 6:48 PM



COMMONWEALTH AVENUE CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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DSGN	H LUSK	DR	T WEINSTEIN		P FESER	APVD	H LUSK
	10/2025	100% SUBMITTAL					
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	09/2023	30% SUBMITTAL					

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ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 1 OF 6)

1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

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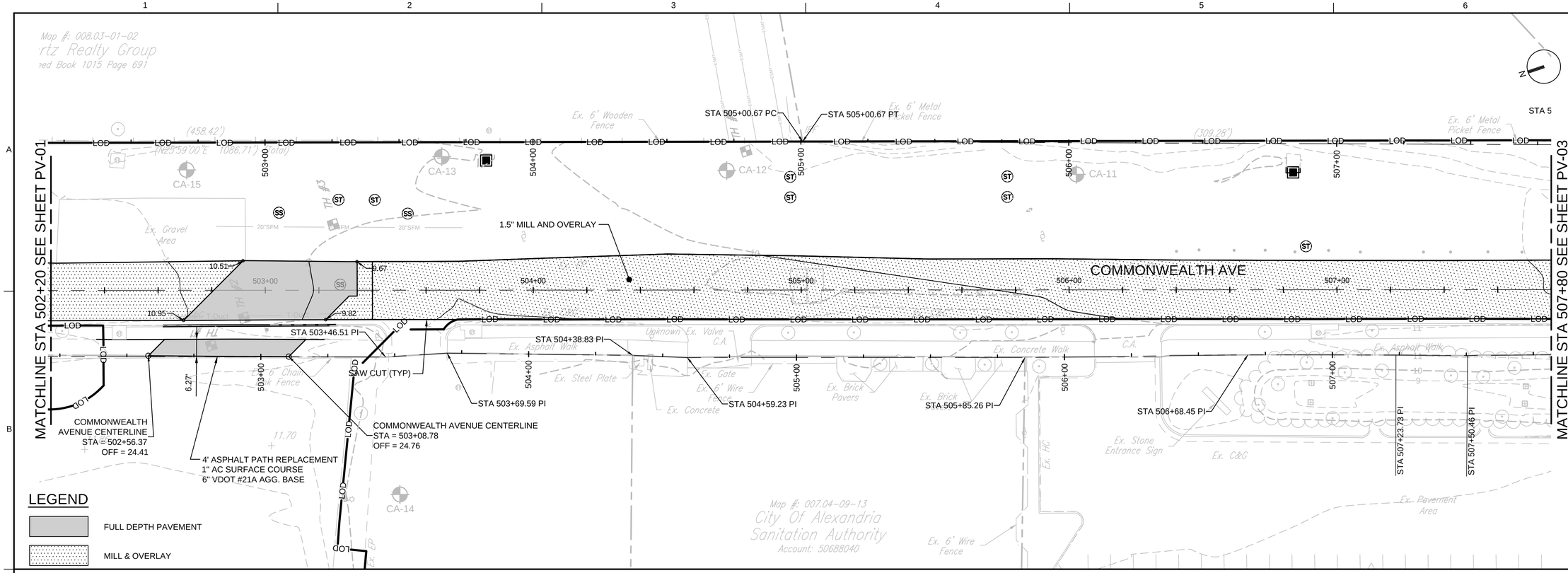
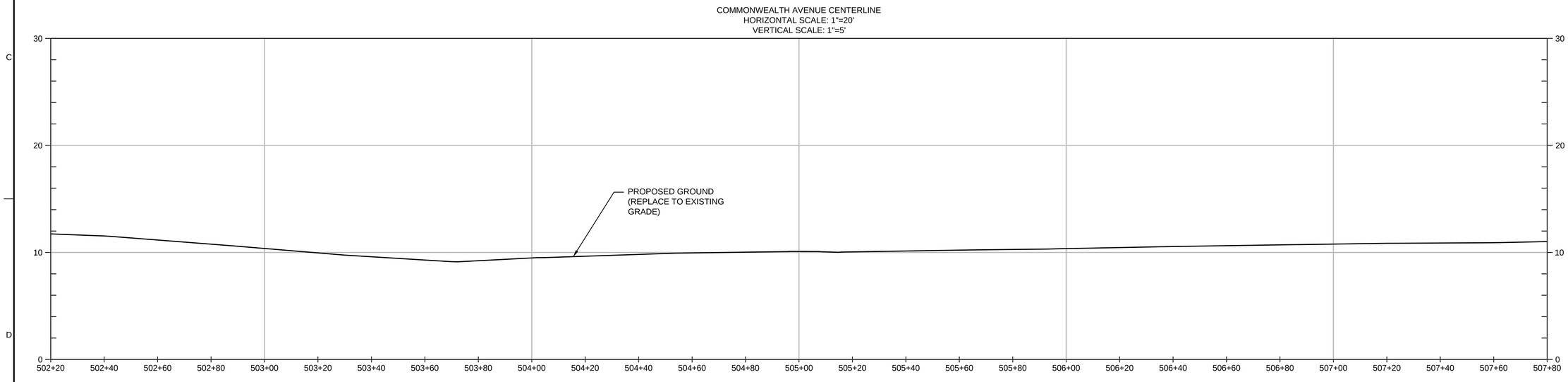
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-01
SHEET	93 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: PV-01.dwg PLOT DATE: 10/7/2025 PLOT TIME: 9:41 PM





HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN	H LUSK	T WEINSTEIN			P FESER	APVD
	10/2025	100% SUBMITTAL				H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 2 OF 6)

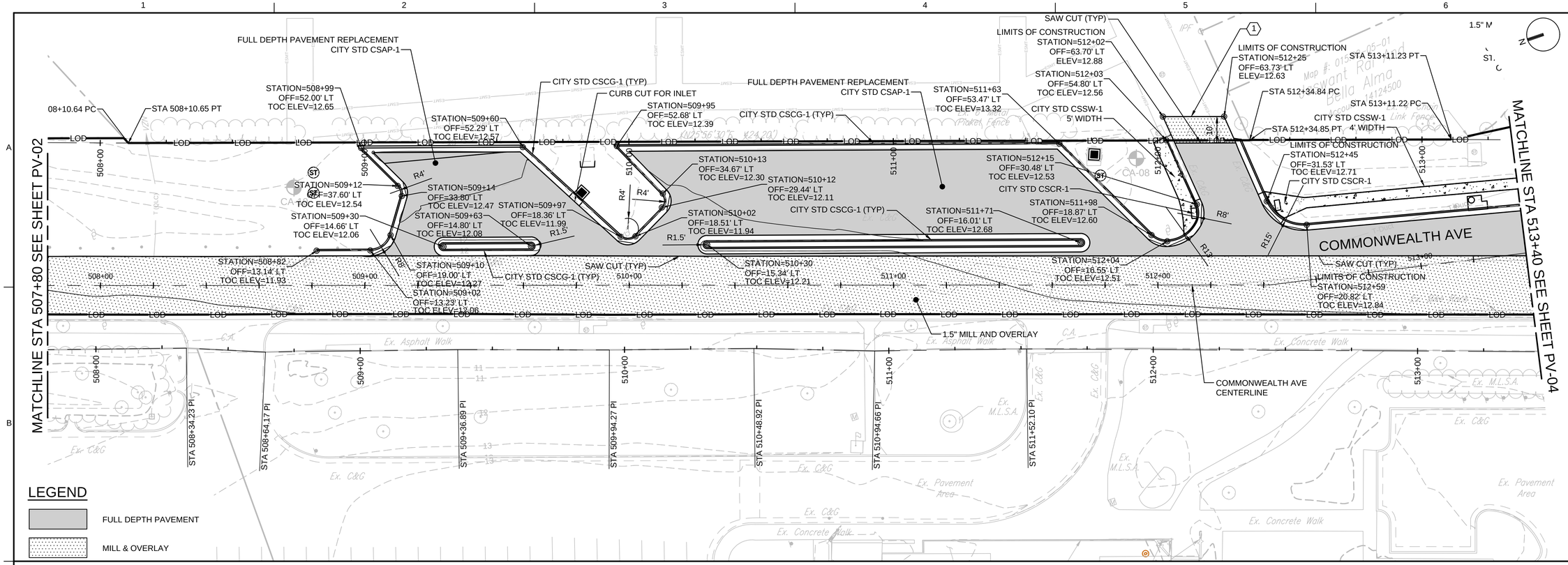
1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-02
SHEET	94 of 158

FILENAME: PV-02.dwg PLOT DATE: 10/7/2025 PLOT TIME: 9:42 PM



LEGEND

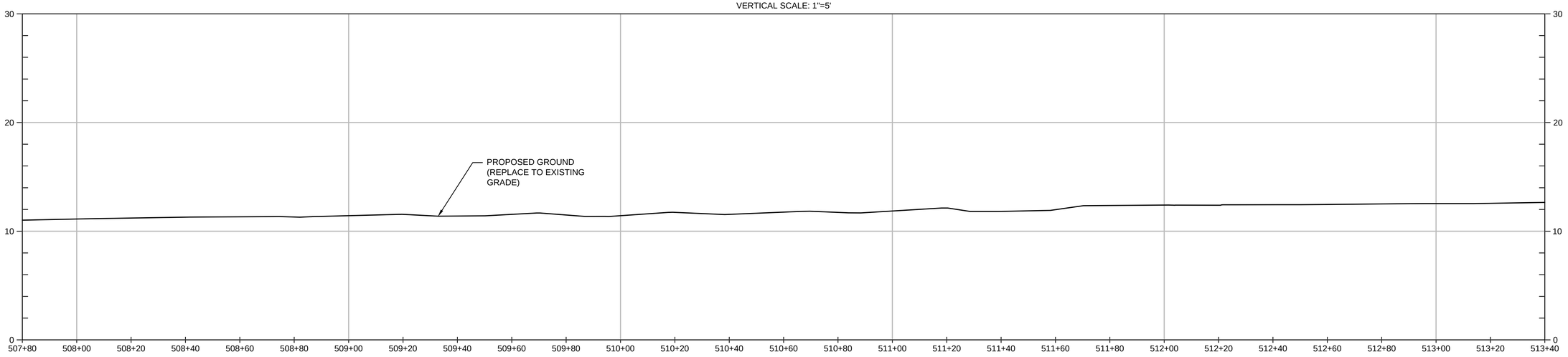
FULL DEPTH PAVEMENT

MILL & OVERLAY

KEY NOTES:

1. FORMAL AGREEMENT MUST BE IN PLACE WITH PROPERTY OWNER BEFORE WORK IS EXECUTED.

COMMONWEALTH AVENUE CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	BY	CHK
DSGN	H LUSK	T WEINSTEIN	DR	APVD
	10/2025	100% SUBMITTAL		P FESER
	04/2025	90% SUBMITTAL		APVD
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 3 OF 6)

1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

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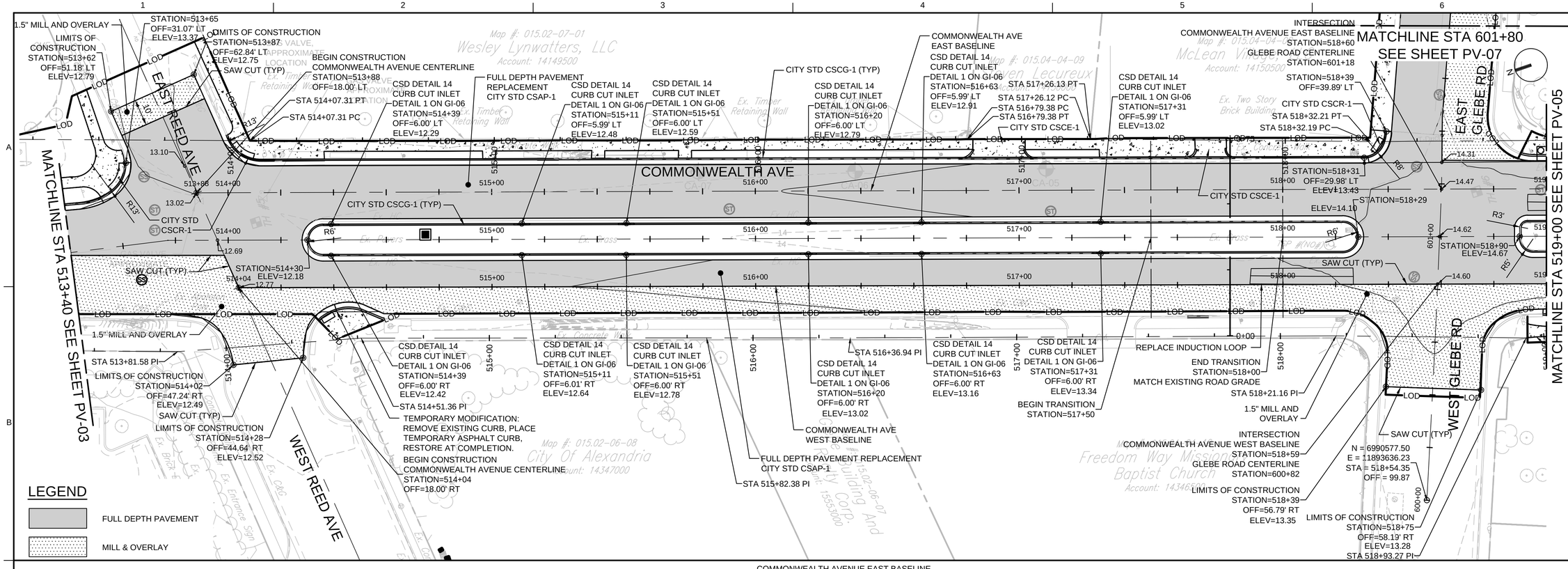
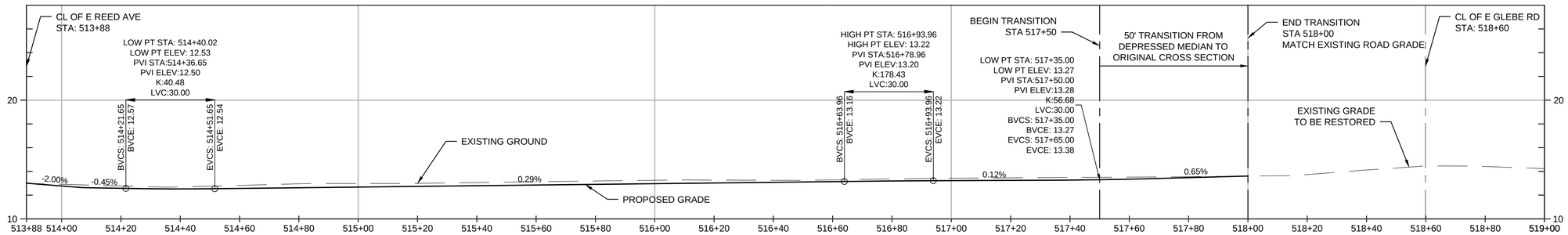
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-03
SHEET	95 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

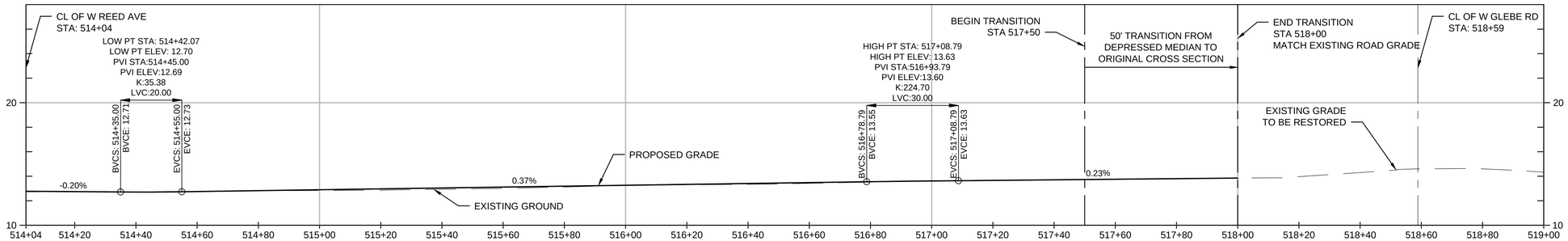
FILENAME: PV-03.dwg PLOT DATE: 10/7/2025 PLOT TIME: 9:43 PM



COMMONWEALTH AVENUE EAST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



COMMONWEALTH AVENUE WEST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	BY	APVD
DSGN	H LUSK	DR T WEINSTEIN	CHK P FESER	APVD H LUSK
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 4 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
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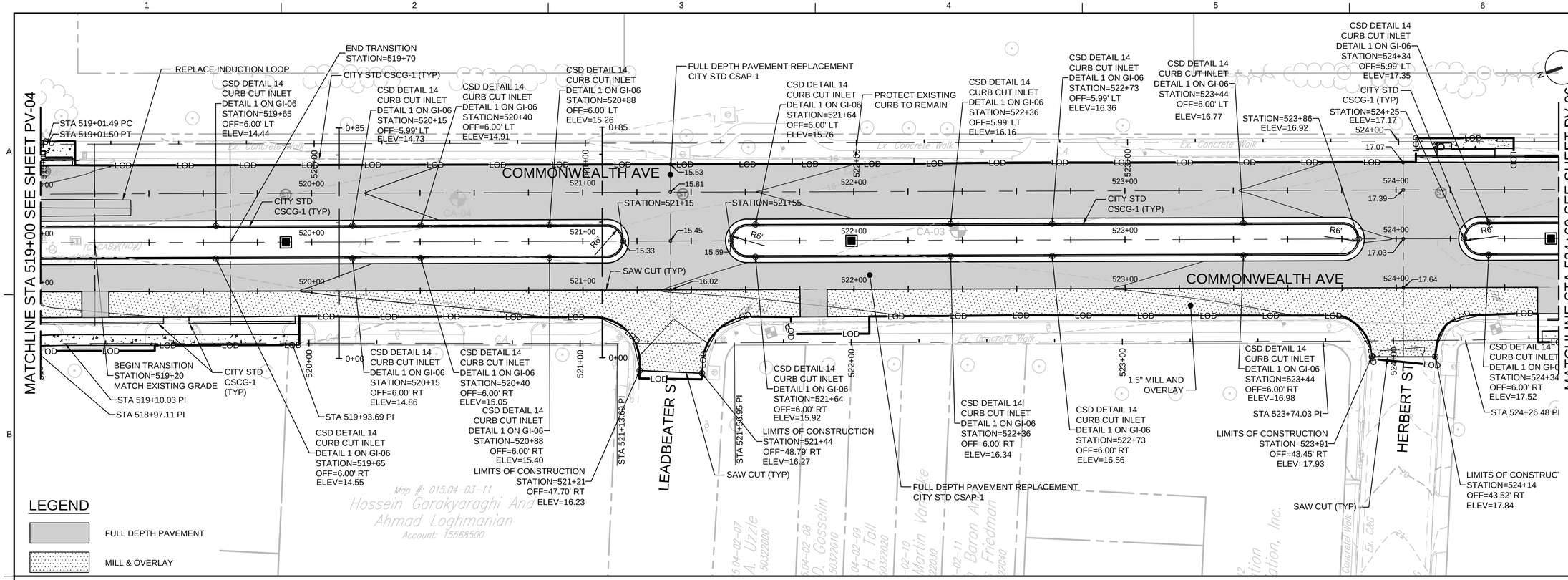
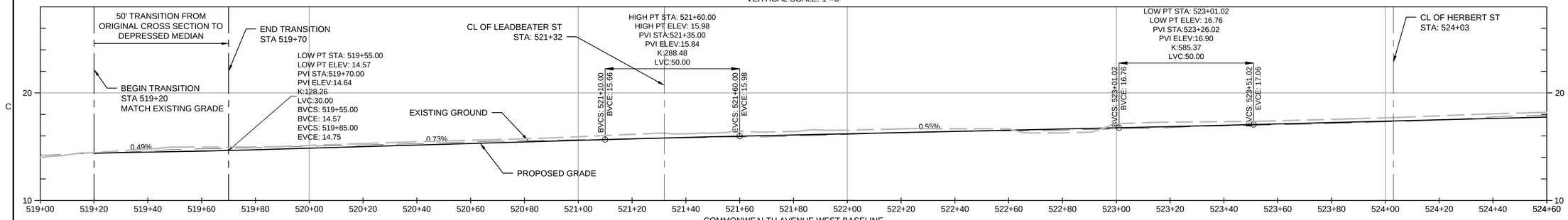
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-04
SHEET	96 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

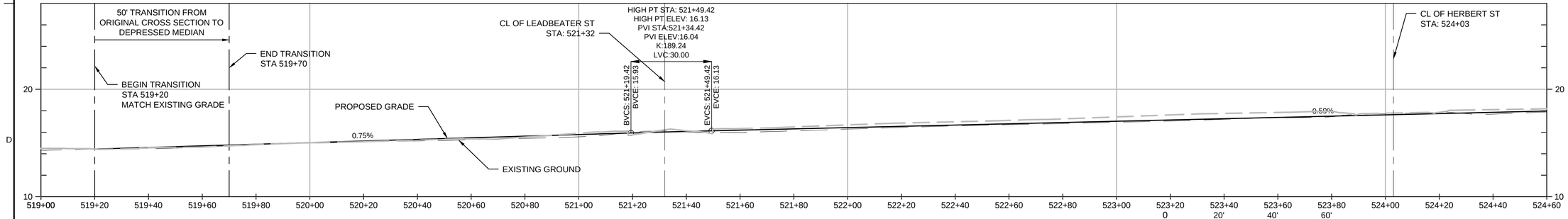
FILENAME: PV-04.dwg PLOT DATE: 10/8/2025 PLOT TIME: 9:04 PM



COMMONWEALTH AVENUE EAST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



COMMONWEALTH AVENUE WEST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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NO.	DATE	REVISION	BY	CHK	APVD
1	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER
2	04/2025	90% SUBMITTAL			
3	11/2024	85% SUBMITTAL			
4	05/2024	60% SUBMITTAL			
5	09/2023	30% SUBMITTAL			

DSGN H LUSK DR T WEINSTEIN CHK P FESER APVD H LUSK

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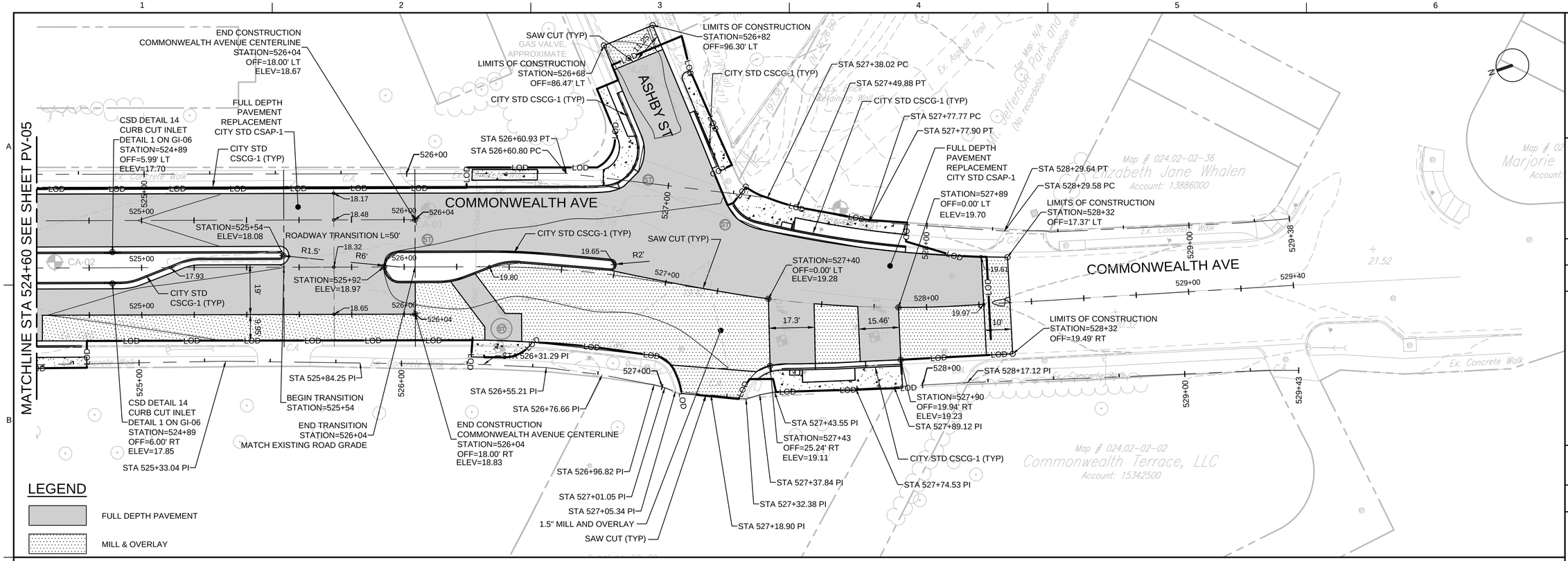
ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 5 OF 6)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

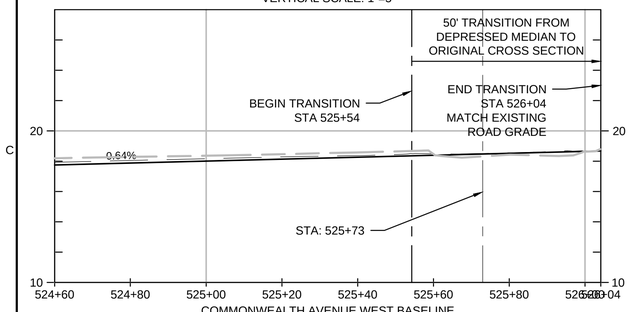
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-05
SHEET	97 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

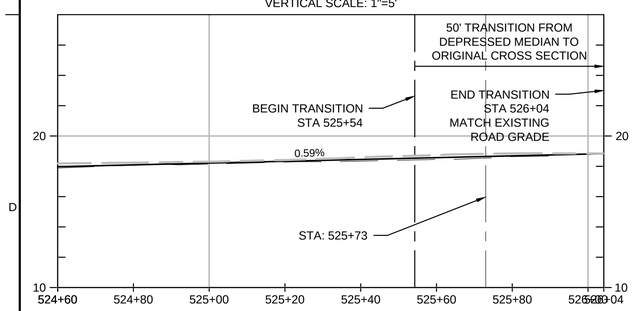
FILENAME: PV-05.dwg PLOT DATE: 10/8/2025 PLOT TIME: 7:00 PM



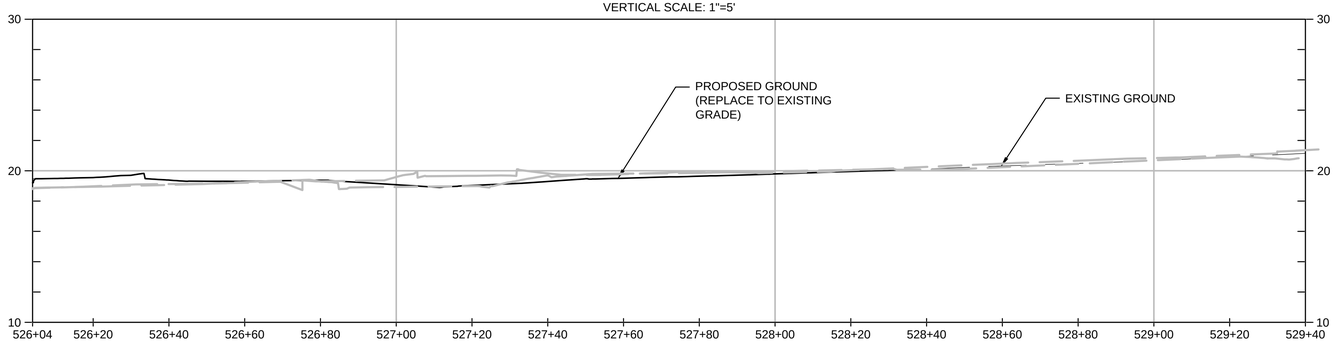
COMMONWEALTH AVENUE EAST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



COMMONWEALTH AVENUE WEST BASELINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



COMMONWEALTH AVENUE CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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DSGN	H LUSK	T WEINSTEIN		P FESER		H LUSK
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ROAD PAVING PLAN AND PROFILE COMMONWEALTH AVENUE (SHEET 6 OF 6)

1"=20' HORZ / 1"=5' VERT

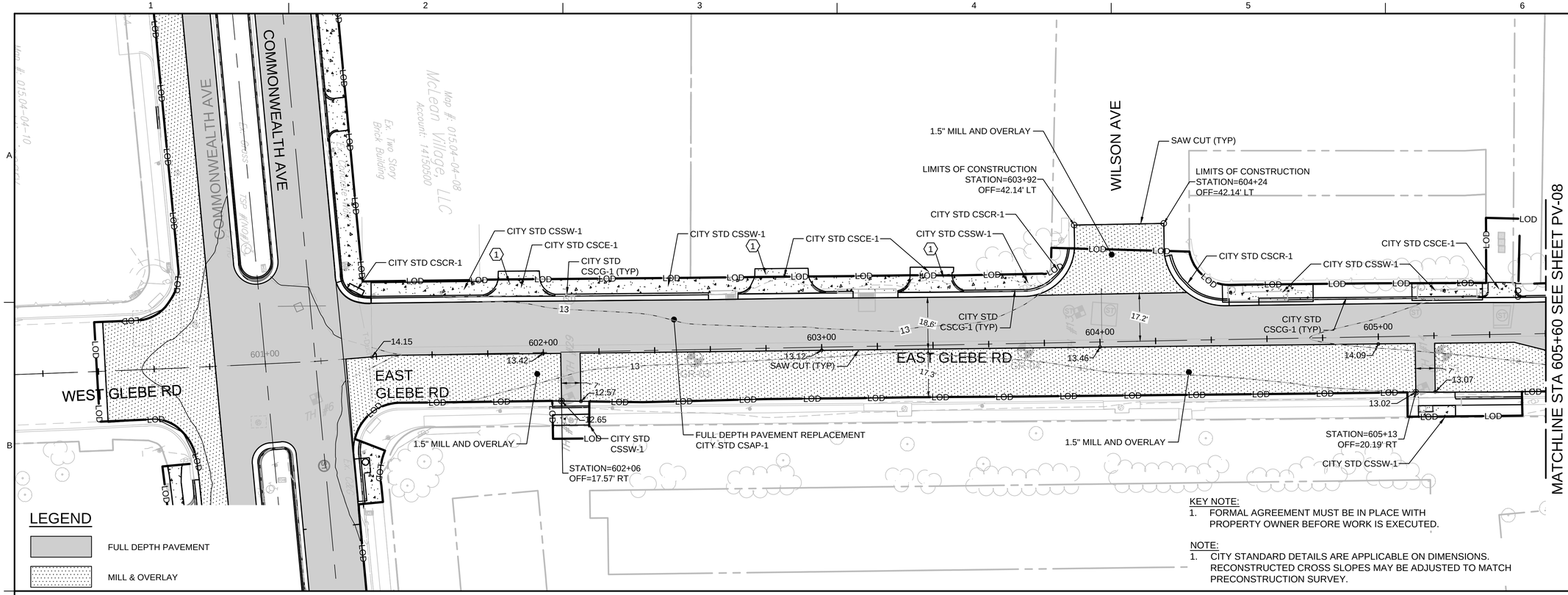
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

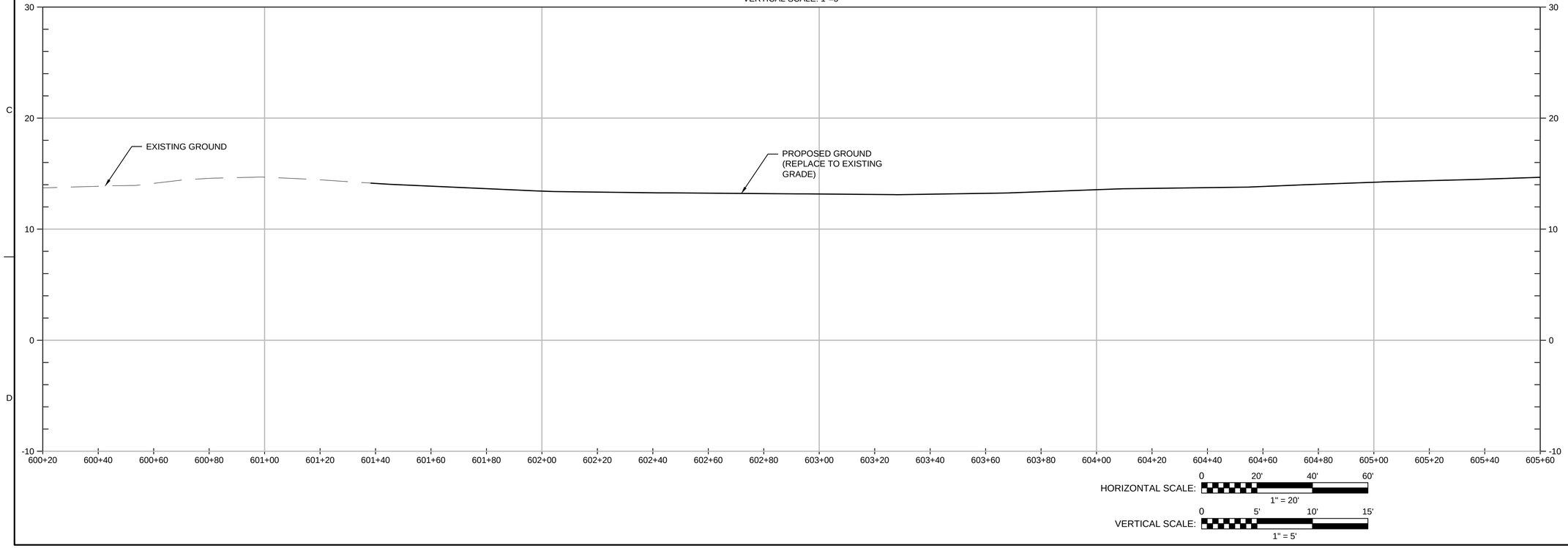
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-06
SHEET	98 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: PV-06.dwg PLOT DATE: 10/7/2025 PLOT TIME: 10:53 PM



GLEBE ROAD CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



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NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN		H LUSK	T WEINSTEIN		P FESER	H LUSK
	10/2025	100% SUBMITTAL				APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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ALEXANDRIA, VA 22314

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CIVIL

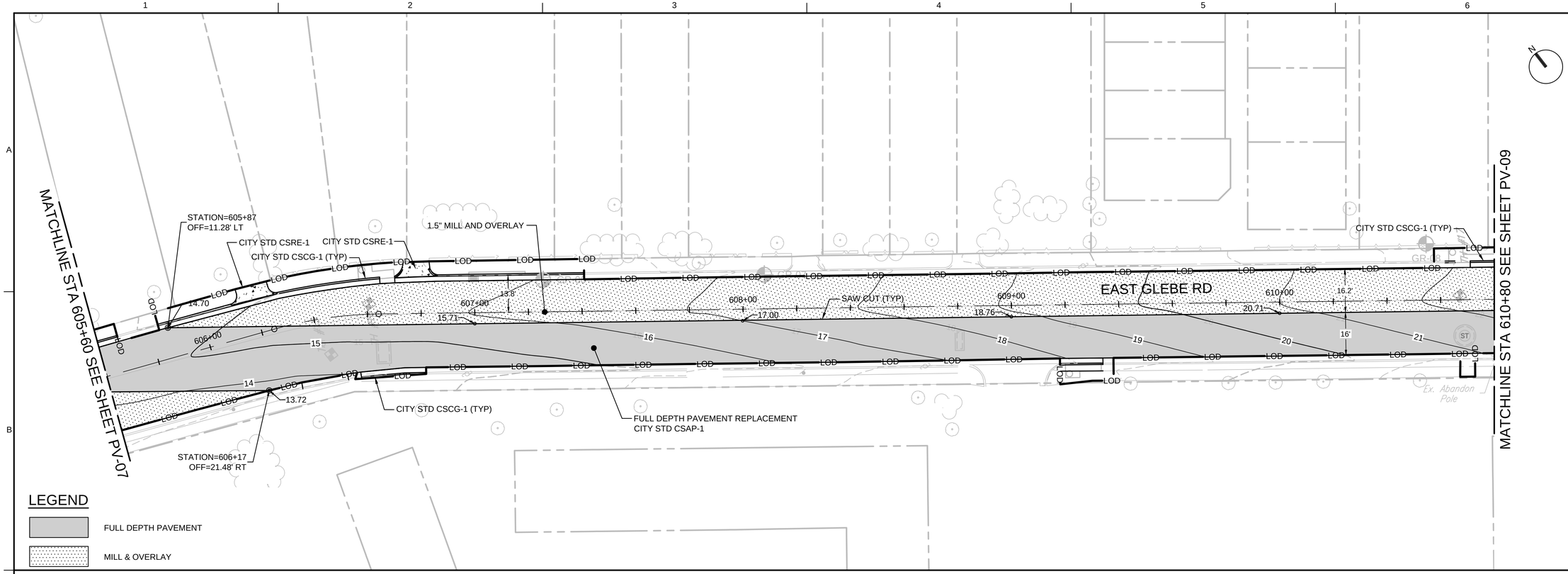
ROAD PAVING PLAN AND PROFILE EAST GLEBE ROAD (SHEET 1 OF 3)

1"=20' HORZ / 1"=5' VERT
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-07
SHEET	99 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

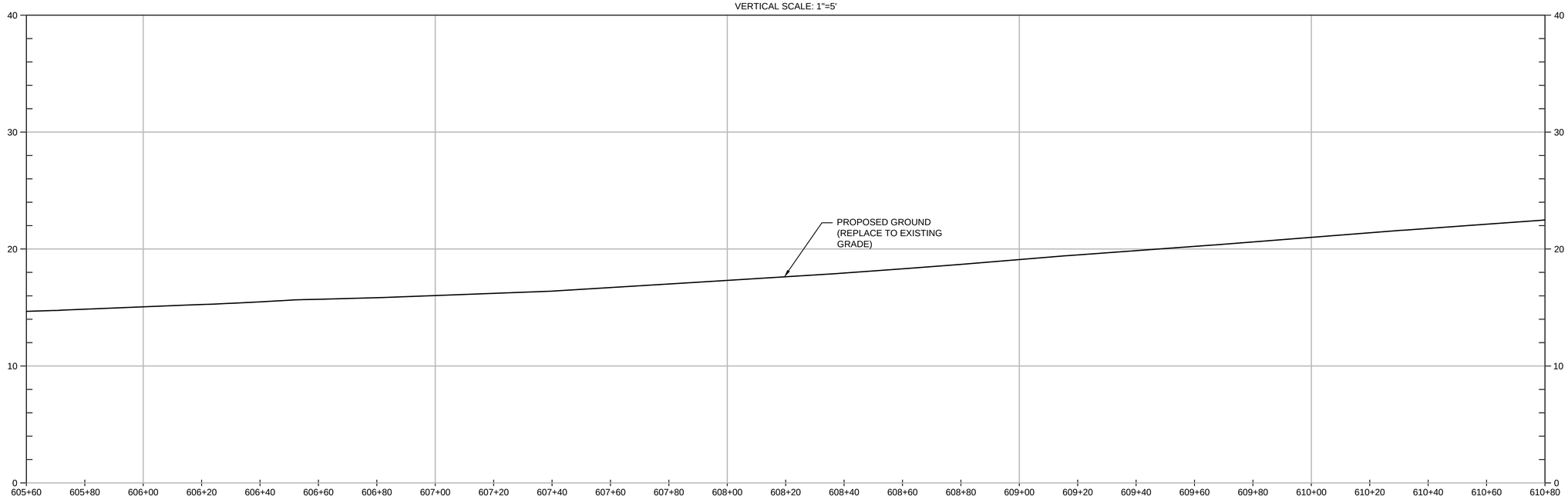
FILENAME: PV-07.dwg PLOT DATE: 10/8/2025 PLOT TIME: 1:01 PM



LEGEND

- FULL DEPTH PAVEMENT
- MILL & OVERLAY

GLEBE ROAD CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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NO.	DATE	REVISION	DR	CHK	BY	APVD
			H LUSK	T WEINSTEIN	P FESER	H LUSK
DSGN						
	09/2023	30% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	10/2025	100% SUBMITTAL				

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ROAD PAVING PLAN AND PROFILE EAST GLEBE ROAD (SHEET 2 OF 3)

1"=20' HORZ / 1"=5' VERT

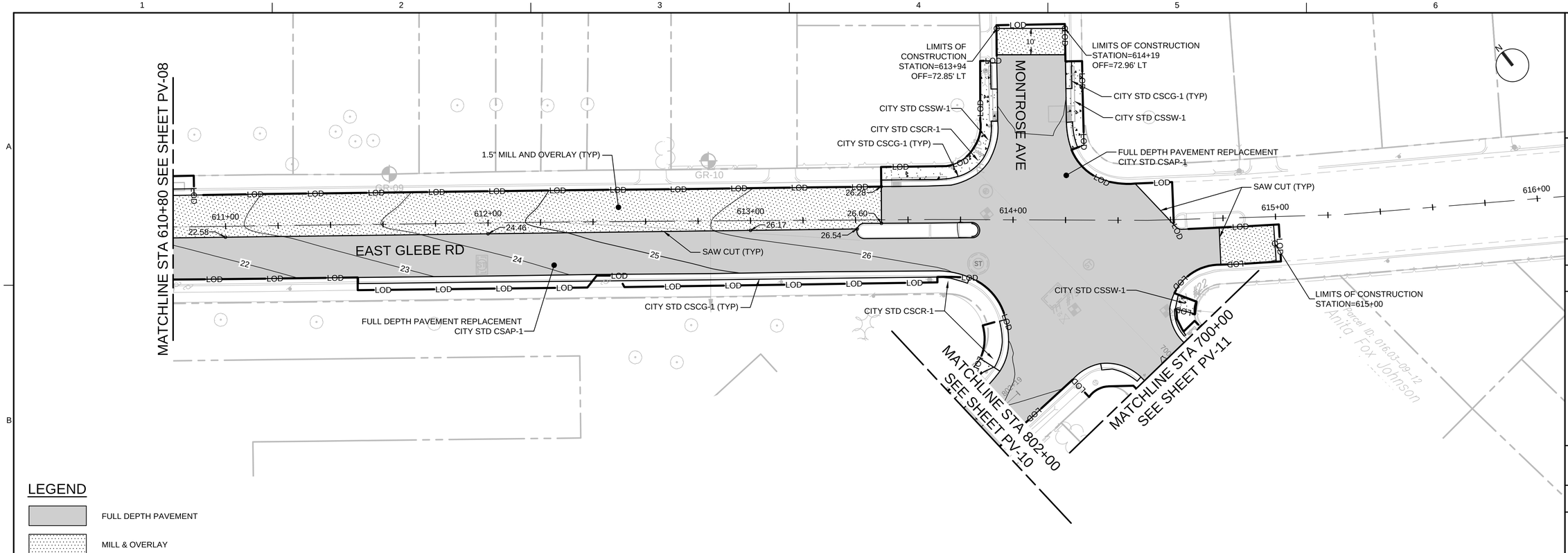
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-08
SHEET	100 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

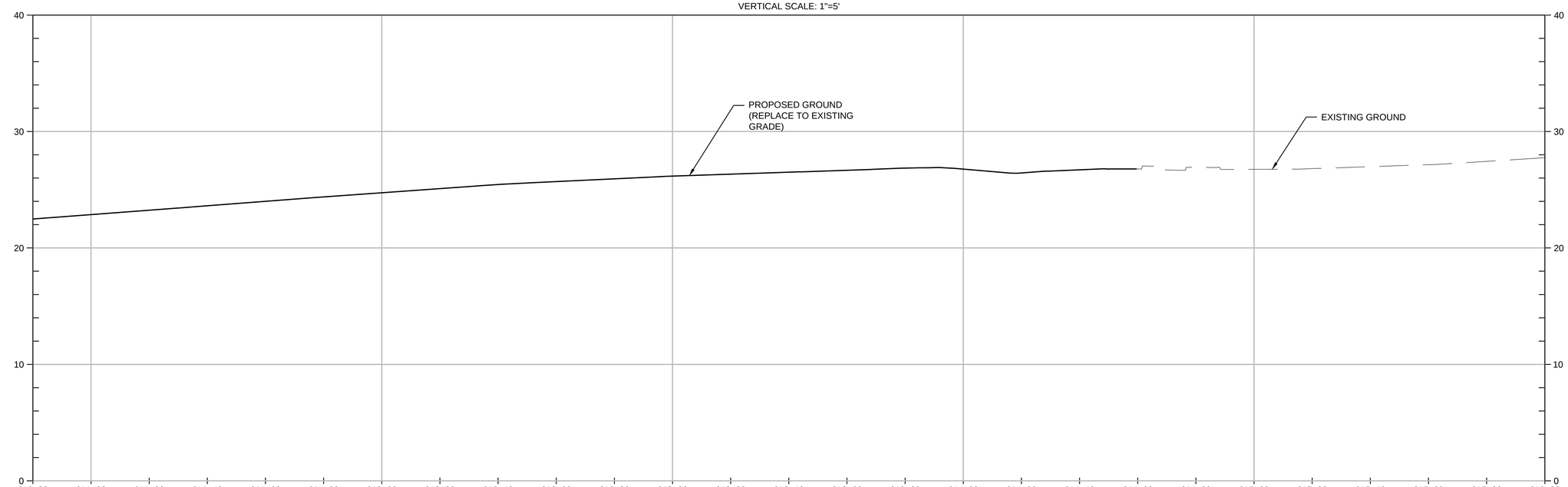
FILENAME: PV-08.dwg PLOT DATE: 10/8/2025 PLOT TIME: 1:06 PM



LEGEND

- FULL DEPTH PAVEMENT
- MILL & OVERLAY

GLEBE ROAD CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
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ROAD PAVING PLAN AND PROFILE EAST GLEBE ROAD (SHEET 3 OF 3)

1"=20' HORZ / 1"=5' VERT

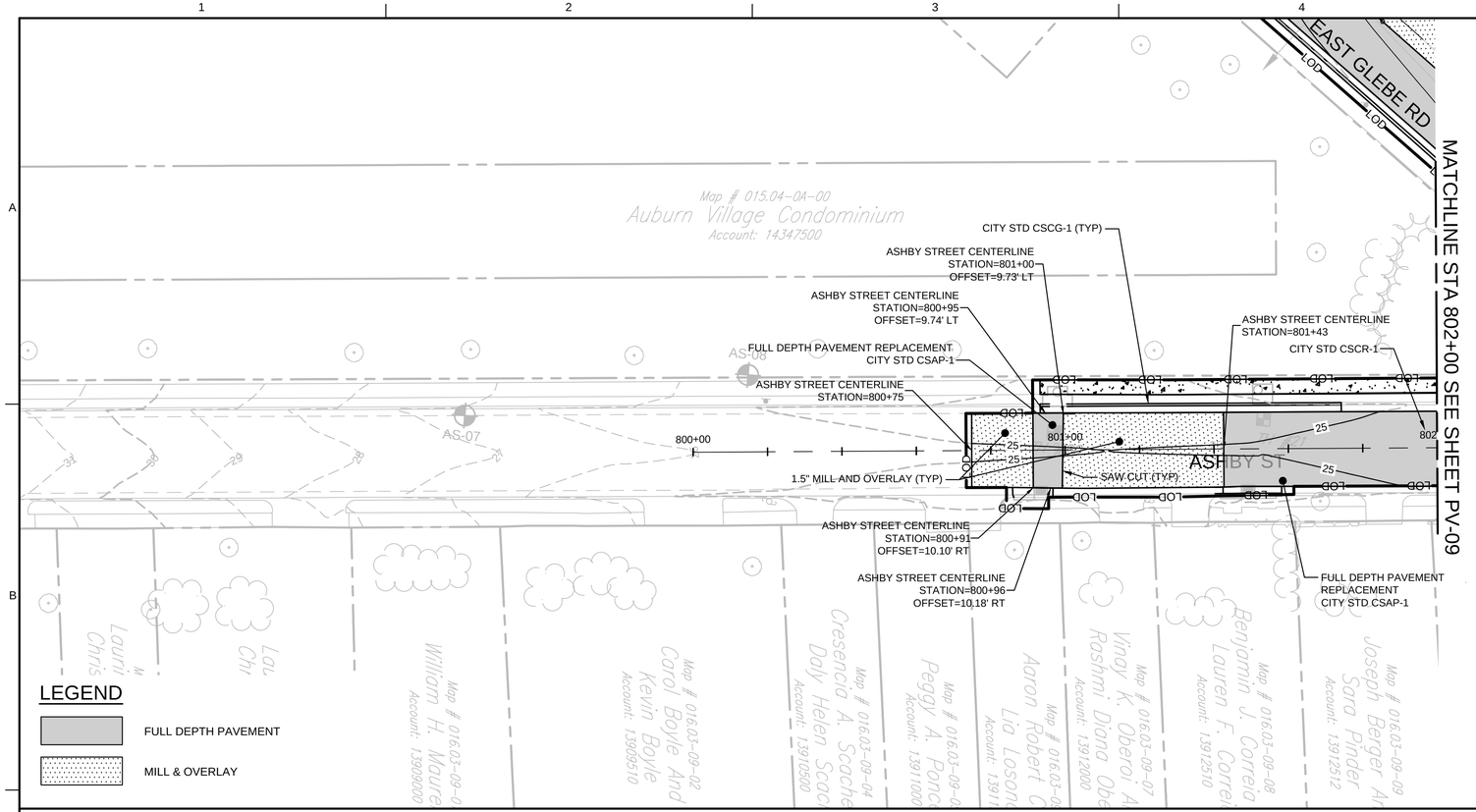
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

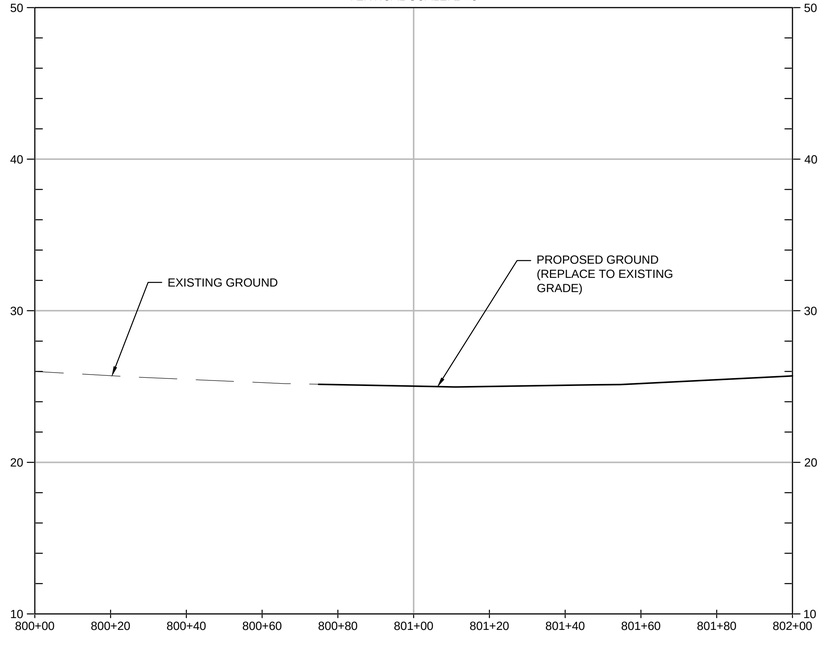
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-09
SHEET	101 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: PV-09.dwg PLOT DATE: 10/9/2025 PLOT TIME: 12:25 AM



ASHBY STREET CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' (1" = 20')

VERTICAL SCALE: 0 5' 10' 15' (1" = 5')

FILENAME: PV-10.dwg

PLOT DATE: 10/8/2025

PLOT TIME: 2:10 PM

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DSGN	H LUSK	DR T WEINSTEIN	CHK	P FESER
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

APVD H LUSK

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ROAD PAVING PLAN AND PROFILE ASHBY STREET

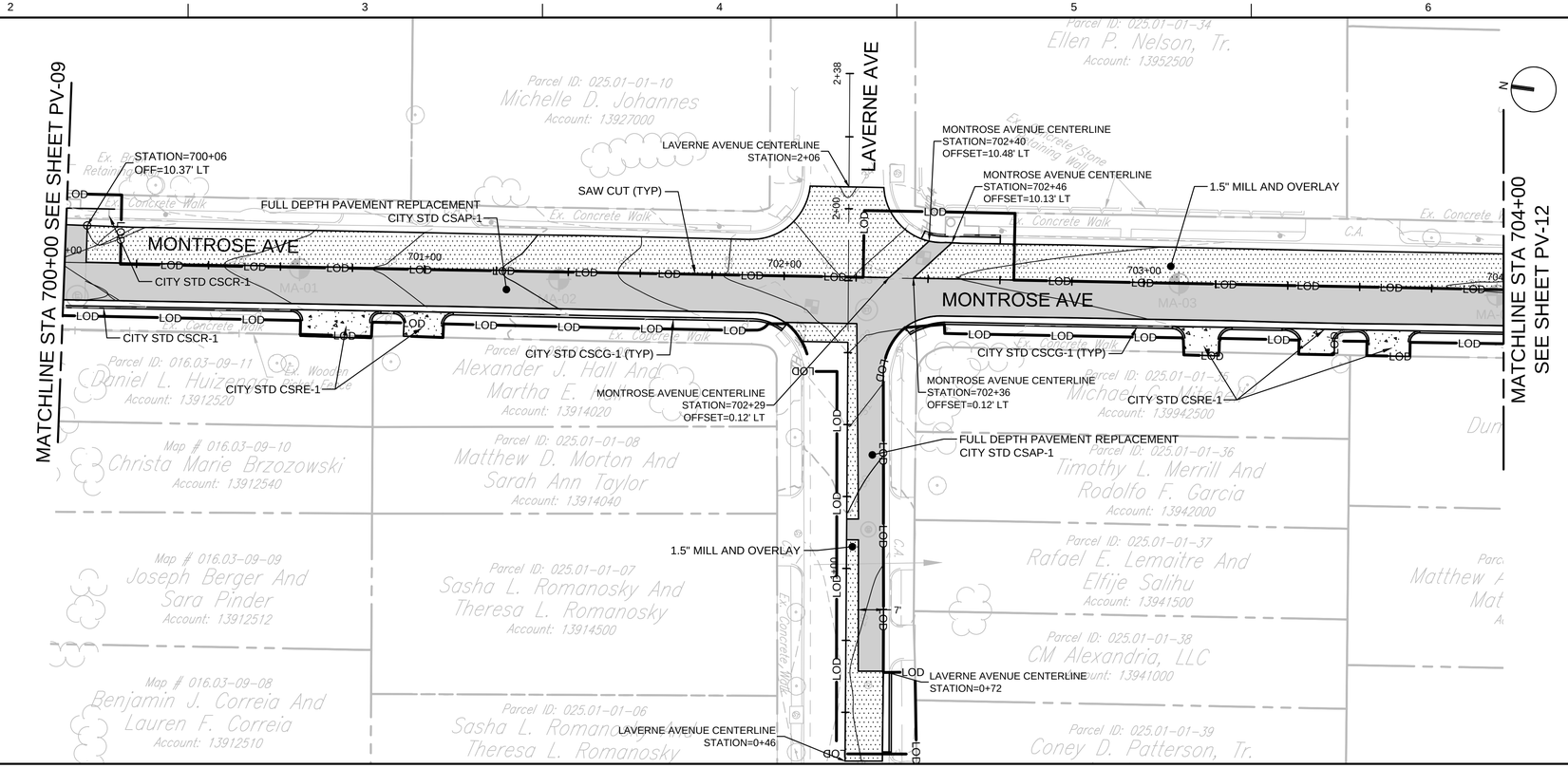
1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-10
SHEET	102 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

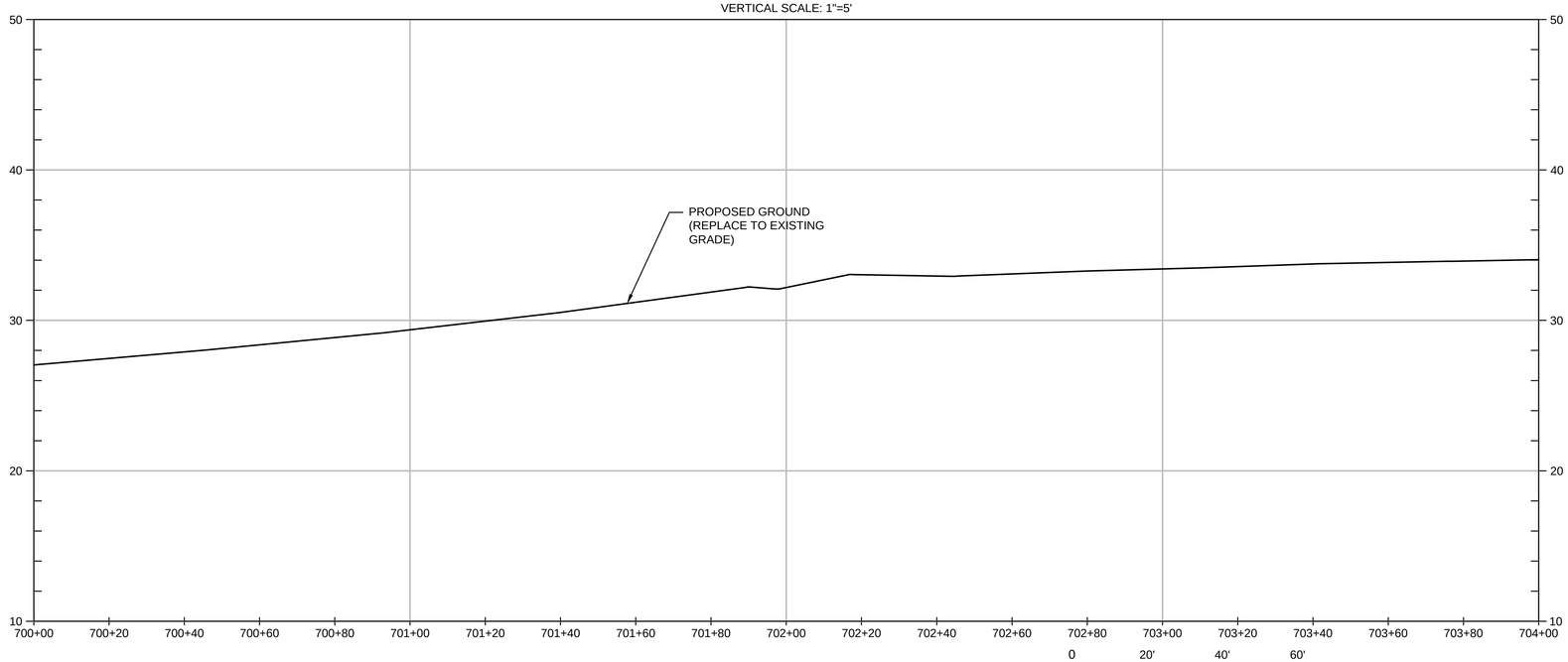


LEGEND

FULL DEPTH PAVEMENT

MILL & OVERLAY

MONTROSE AVENUE CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60'
1" = 20'

VERTICAL SCALE: 0 5' 10' 15'
1" = 5'

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NO.	DATE	REVISION	BY	APVD
DSGN	H LUSK	DR T WEINSTEIN	CHK P FESER	APVD H LUSK
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

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FINAL DESIGN (NOT FOR CONSTRUCTION)

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ROAD PAVING PLAN AND PROFILE MONTROSE AVENUE (SHEET 1 OF 2)

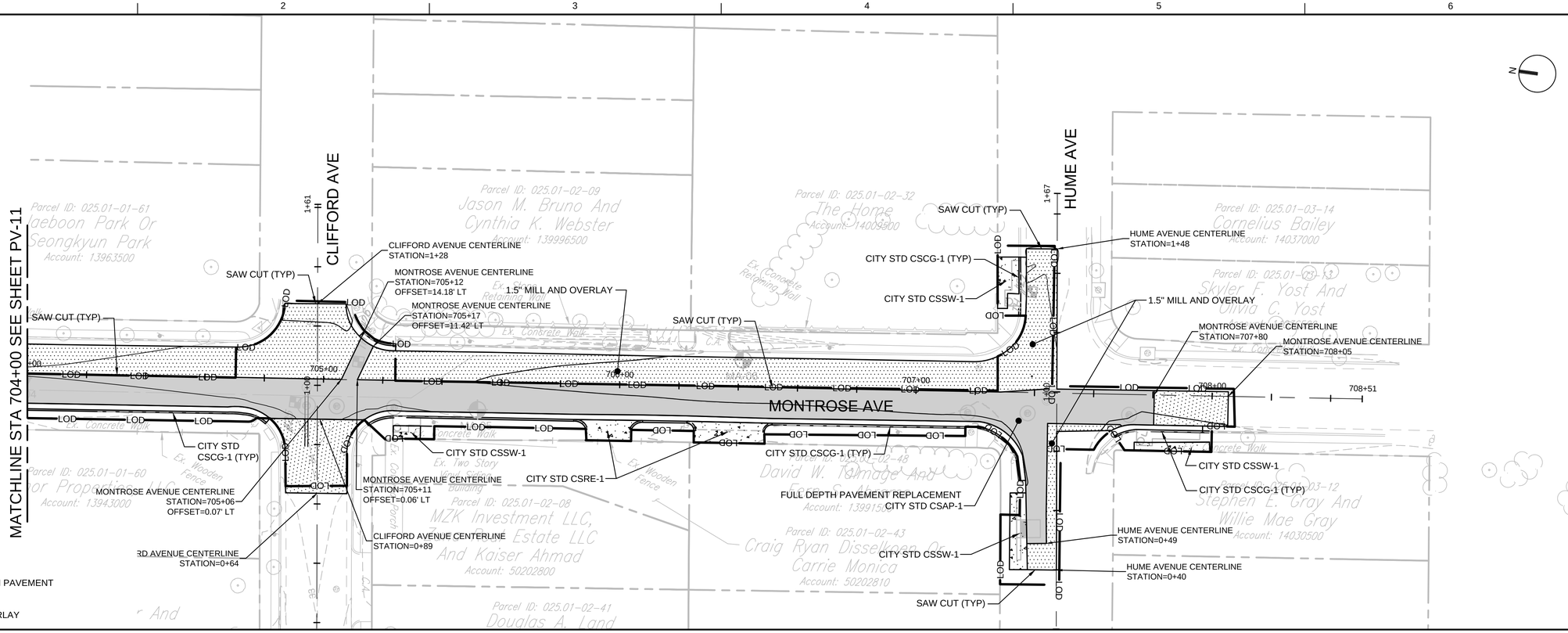
1"=20' HORZ / 1"=5' VERT

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-11
SHEET	103 of 158

FILENAME: PV-11.dwg PLOT DATE: 10/8/2025 PLOT TIME: 2:39 PM

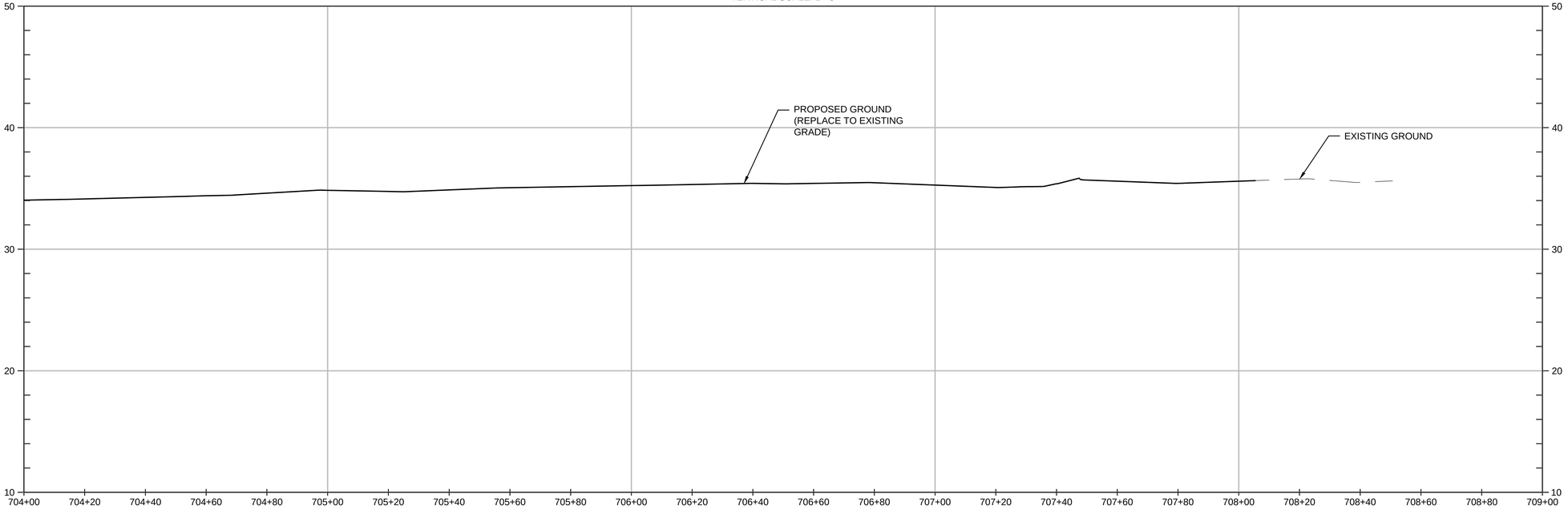


LEGEND

FULL DEPTH PAVEMENT

MILL & OVERLAY

MONTROSE AVENUE CENTERLINE
HORIZONTAL SCALE: 1"=20'
VERTICAL SCALE: 1"=5'



HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN			H LUSK	T WEINSTEIN	P FESER	H LUSK
	10/2025	100% SUBMITTAL				APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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ALEXANDRIA, VA 22314

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ROAD PAVING PLAN AND PROFILE MONTROSE AVENUE (SHEET 2 OF 2)

1"=20' HORZ / 1"=5' VERT

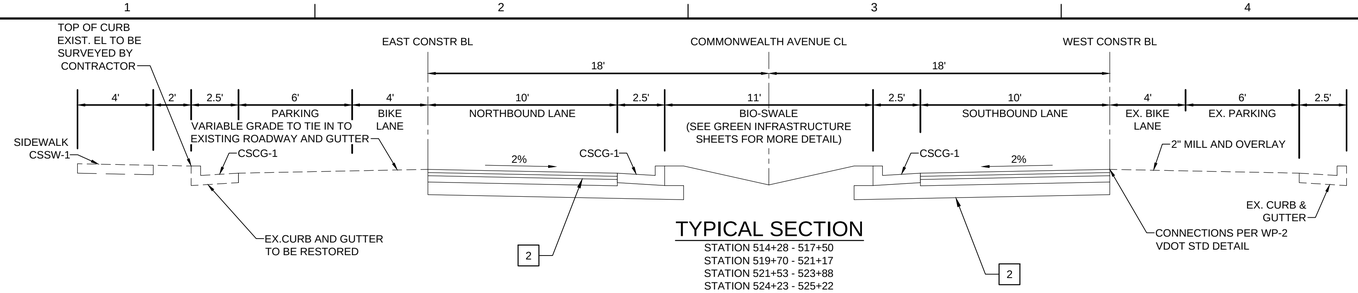
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-12
SHEET	104 of 158

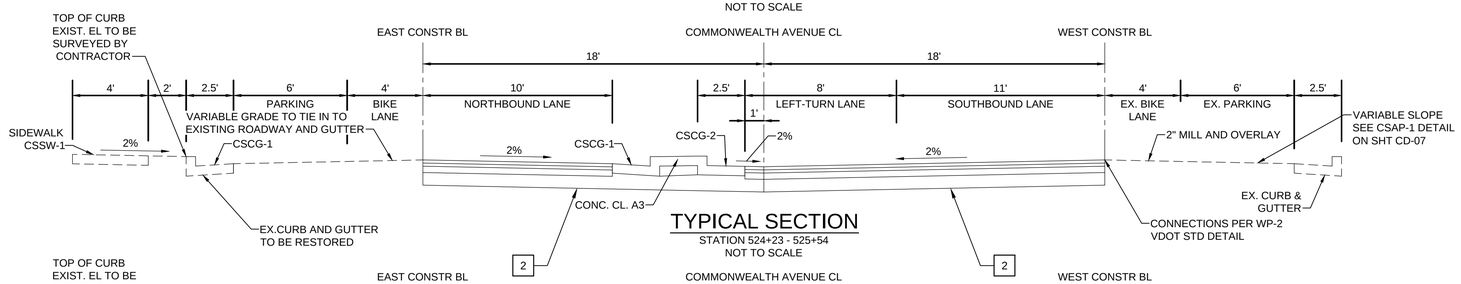
FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: PV-12.dwg PLOT DATE: 10/8/2025 PLOT TIME: 2:53 PM



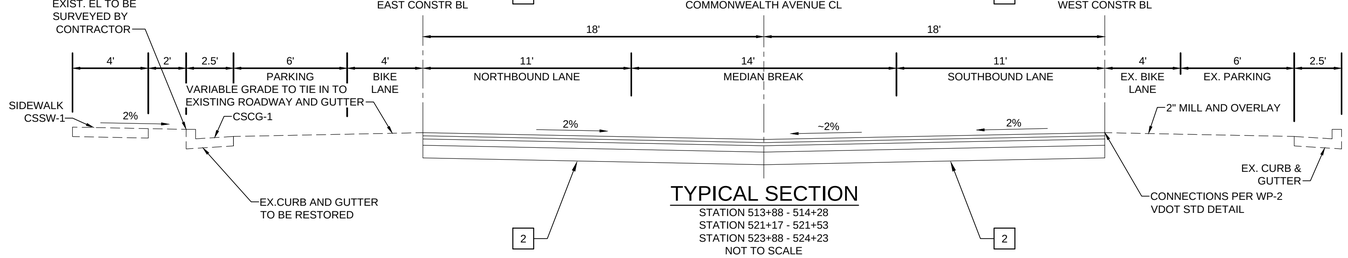
TYPICAL SECTION

STATION 514+28 - 517+50
STATION 519+70 - 521+17
STATION 521+53 - 523+88
STATION 524+23 - 525+22
NOT TO SCALE



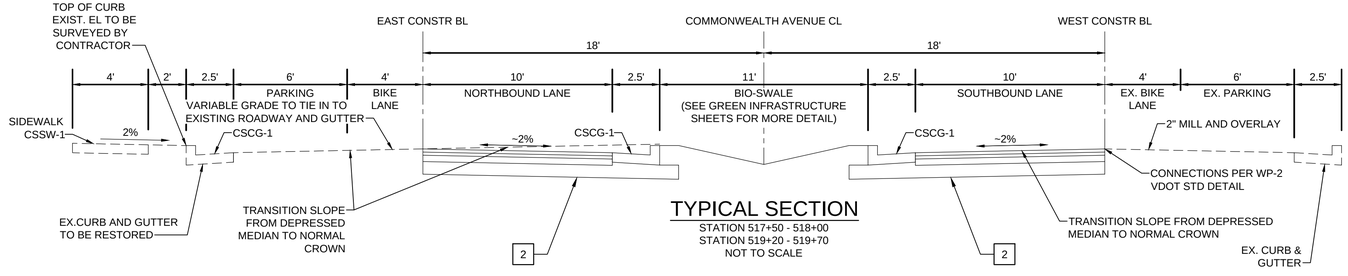
TYPICAL SECTION

STATION 524+23 - 525+54
NOT TO SCALE



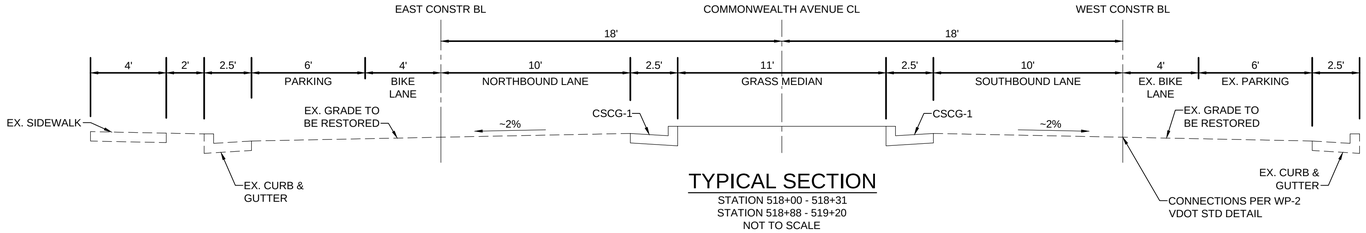
TYPICAL SECTION

STATION 513+88 - 514+28
STATION 521+17 - 521+53
STATION 523+88 - 524+23
NOT TO SCALE



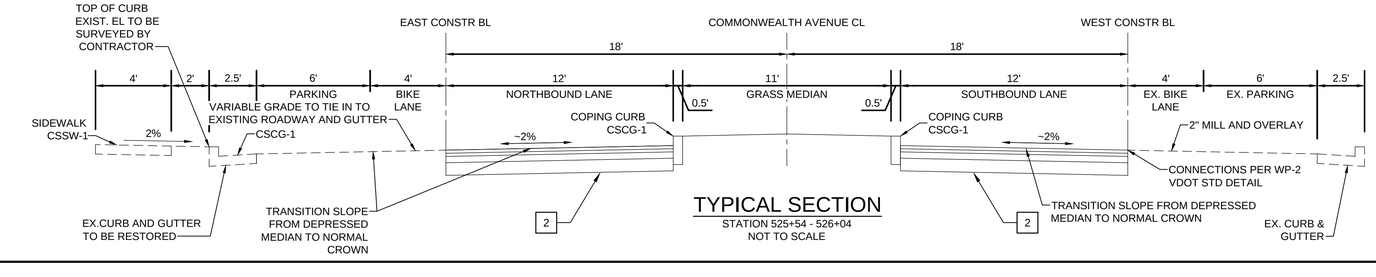
TYPICAL SECTION

STATION 517+50 - 518+00
STATION 519+20 - 519+70
NOT TO SCALE



TYPICAL SECTION

STATION 518+00 - 518+31
STATION 518+88 - 519+20
NOT TO SCALE

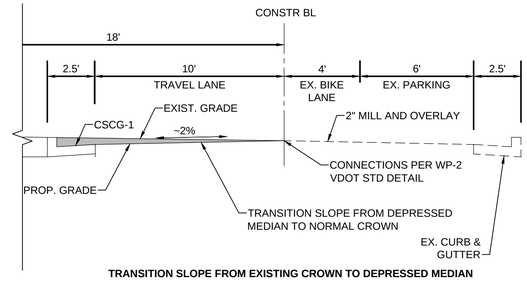


TYPICAL SECTION

STATION 525+54 - 526+04
NOT TO SCALE

SHEET NOTES

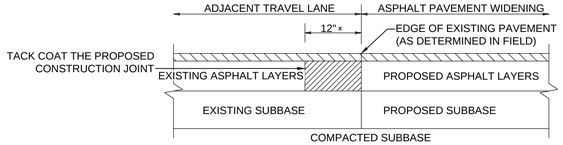
1. WHERE SIDEWALK MUST BE REPLACED, MATCH PRE-CONSTRUCTION ELEVATIONS.
2. SEE CSAP-1 ON SHT CD-07 FOR PAVEMENT SECTION.



TRANSITION SLOPE FROM EXISTING CROWN TO DEPRESSED MEDIAN

NOTES:

1. THE GREEN INFRASTRUCTURE MEDIANS ARE A STORMWATER QUALITY TREATMENT FEATURE.
2. AS PART OF THE CONSTRUCTION OF THE GREEN INFRASTRUCTURE MEDIANS, THE INNER LANES OF PAVEMENT ADJACENT TO THE MEDIANS ARE RECONSTRUCTED TO SLOPE TOWARD THE MEDIAN RATHER THAN THE OUTER CURB OF THE ROADWAY.
3. THE SLOPE OF THE INNER LANES BEGINS AT THE EXISTING GRADE AT THE CONSTRUCTION BASELINE ON EITHER SIDE OF THE MEDIAN. REFER TO THE TYPICAL SECTIONS ON THIS SHEET AND SHEETS PV-04 THROUGH PV-06.



CONSTRUCTION JOINT DETAIL

REMOVE EXISTING ASPHALT LAYERS TO EXISTING SUBBASE AND REPLACE WITH PROPOSED ASPHALT WIDENING LAYERS
PROPOSED MINIMUM 1 ½ INCH THICK ASPHALT SURFACE COURSE (SEE NOTE 5)
x MINIMUM 12 INCHES OR GREATER AS NECESSARY TO ABUT THE FULL THICKNESS OF EXISTING ASPHALT LAYERS AS DETERMINED BY CORES (SEE NOTE 3)

NOTES:

1. ASPHALT PAVEMENT WIDENING SHALL HAVE A PAVEMENT DESIGN IN ACCORDANCE WITH CURRENT VDOT PROCEDURES AND BE APPROVED BY THE ENGINEER
2. THE PAVEMENT DESIGN FOR ASPHALT PAVEMENT WIDENING SHALL MEET OR EXCEED THE DEPTHS AND TYPES OF THE LAYERS OF EXISTING PAVEMENT. SUBSURFACE DRAINAGE OF THE EXISTING AND PROPOSED PAVEMENT SHALL BE ADDRESSED IN THE PAVEMENT DESIGN.
3. A MINIMUM OF THREE CORES SHALL DE TAKEN ALONG THE CENTER OF THE ADJACENT TRAVEL LANE TO DETERMINE THE TYPE AND THICKNESS OF EXISTING PAVEMENT LAYERS. THESE CORES SHALL BE SPACED NO MORE THAN 500 FEET APART.
4. THE ADJACENT TRAVEL LANE SHALL BE MILLED A MINIMUM DEPTH OF 1½ INCHES AND REPLACED WITH AN ASPHALT SURFACE COURSE TO MATCH THE PROPOSED PAVEMENT WIDENING SURFACE COURSE, UNLESS WAIVED BY THE ENGINEER.
5. THE THE ENGINEER MAY REQUIRE THE MILLING DEPTH OF THE EXISTING PAVEMENT TO BE ADJUSTED TO ACHIEVE AN ACCEPTABLE PAVEMENT CROSS-SLOPE AND EFFECTIVE SURFACE DRAINAGE.
6. EXISTING PAVEMENT MARKINGS AND MARKERS WITHIN THE PROJECT LIMITS SHALL BE RESTORED SUBJECT TO THE APPROVAL OF THE ENGINEER.
7. FINAL TRANSVERSE PAVEMENT TIE-IN SHALL CONFORM TO THE REQUIREMENTS OF THE SECTION 315 OF THE SPECIFICATIONS EXCEPT THAT ALL JOINTS AT TIE-IN LOCATIONS SHALL BE TESTED USING A 10 FOOT STRAIGHTEDGE IN ACCORDANCE WITH THE REQUIREMENTS OF THE SECTION 315 OF THE SPECIFICATIONS .

TYPICAL CONSTRUCTION JOINT DETAIL

NOT TO SCALE

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NO.	DATE	REVISION	BY	CHK	APVD
DSGN	H LUSK	T WEINSTEIN	P FESER		APVD
DR	H LUSK				
	10/2025	100% SUBMITTAL			
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	11/2024	65% SUBMITTAL			
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	09/2023	30% SUBMITTAL			

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Jacobs

CIVIL

ROAD PAVING PLAN
TYPICAL SECTION

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

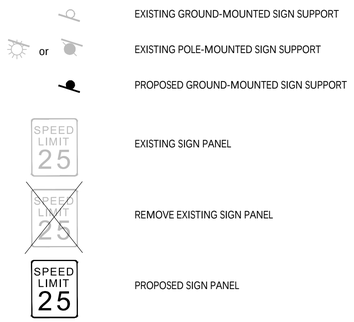
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	PV-13
SHEET	105 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

SIGNING AND STRIPING NOTES

1. ALL UNDERGROUND AND OVERHEAD UTILITIES AND TOPOGRAPHICAL INFORMATION SHOWN ON THIS PLAN ARE SCHEMATIC ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY CURRENT TOPOGRAPHIC AND UTILITY INFORMATION TO THEIR SATISFACTION.
2. ALL EXISTING FEATURES SHOWN ON THE PLAN SHEETS HAVE BEEN TRACED FROM VGIN IMAGERY, MAP N16_89.2021, AND SHOULD ONLY BE USED AS A REFERENCE.
3. APPLY ALL PAVEMENT MARKINGS AT THE WIDTH INDICATED.
4. FIELD CHECK AND LOCATE ALL PAVEMENT MARKINGS PRIOR TO APPLICATION AS REQUIRED TO COMPLETE WORK.
5. LANE WIDTH DIMENSIONS ARE SHOWN FROM THE STRIPING CENTERLINE(S) TO THE EDGE OF TRAVEL LANE.
6. CROSSWALK PARALLEL LINES SHALL BE 6" WIDE. CROSSWALK PERPENDICULAR LINES SHALL BE 24" WIDE, LOCATED 24" APART. CROSSWALKS SHALL BE A MINIMUM OF 10' WIDE.
7. STOP LINES SHALL BE 12" WIDE, LOCATED 6' BEFORE CROSSWALK.
8. BIKE BOXES AT SIGNALIZED INTERSECTIONS SHALL CONSIST OF GREEN THERMOPLASTIC PAINT FILL. THEY SHALL BE 10' LONG AND PLACED IN FRONT OF THE VEHICULAR STOP BAR. EACH BIKE BOX SHALL HAVE THEIR OWN STOP LINE THAT IS 12" WIDE.
9. DOUBLE YELLOW LINES SHALL BE 4" WIDE, LOCATED 4" APART, AND SHALL STOP 6' BEFORE BACK EDGE LINE OF THE CROSSWALK.
10. TRAFFIC GUIDE LINES SHALL BE SINGLE WHITE OR YELLOW DASH LINES 4" WIDE, 2' LONG WITH 4' SPACING.
11. ALL GROUND MOUNTED SIGN POSTS SHALL BE CRASHWORTHY AND SHOULD BE MOUNTED AT A MINIMUM HEIGHT OF 7 FEET VERTICALLY FROM THE BOTTOM OF THE SIGN TO THE TOP OF THE CURB.
12. ALL PROPOSED SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF EACH OF THE FOLLOWING AND ANY REVISION THERETO:
    A: MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
    B: THE VIRGINIA SUPPLEMENT TO THE MUTCD.
    C: THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE SPECIFICATIONS.
    D: THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD AND BRIDGE STANDARDS.
    E: CITY OF ALEXANDRIA COMPLETE STREETS DESIGN GUIDELINES.
13. ALL SIGNS SHALL BE CONSTRUCTED FROM ENCAPSULATED LENS SHEETING.
14. PROPOSED SIGN LOCATIONS ARE APPROXIMATE AND SHALL BE MODIFIED IN THE FIELD TO AVOID CONFLICT WITH UNDERGROUND UTILITIES OR OTHER OBSTRUCTIONS, AND TO COMPLY WITH STANDARDS REFERENCED IN NOTE 12.
15. ANY EXISTING PAVEMENT MARKINGS WHICH WILL CONFLICT WITH PROPOSED PAVEMENT MARKINGS SHALL BE COMPLETELY ERADICATED.
16. LIMITS OF PROPOSED PAVEMENT MARKINGS ARE APPROXIMATE AND SHALL BE MODIFIED UNTIL EXISTING PAVEMENT MARKINGS CAN BE MATCHED.
17. ALL NEW PAVEMENT MARKINGS SHALL BE TYPE B, CLASS I THERMOPLASTIC IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS, SECTION 246.

SIGNING LEGEND



EXISTING GROUND-MOUNTED SIGN SUPPORT

EXISTING POLE-MOUNTED SIGN SUPPORT

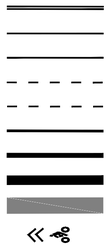
PROPOSED GROUND-MOUNTED SIGN SUPPORT

EXISTING SIGN PANEL

REMOVE EXISTING SIGN PANEL

PROPOSED SIGN PANEL

STANDARD PAVEMENT MARKING LEGEND



Double 4" SY: DOUBLE SOLID YELLOW LINE/WIDTH

4" SW: SOLID WHITE LINE/WIDTH

4" SY: SOLID YELLOW LINE/WIDTH

4" DW: WHITE DASH LINE/WIDTH

4" DY: YELLOW DASH LINE/WIDTH

6" SW: SOLID WHITE LINE/WIDTH

12" SW: SOLID WHITE LINE/WIDTH

24" SW: SOLID WHITE LINE/WIDTH

60" SG: SOLID GREEN

SW PML: SOLID WHITE PAVEMENT MARKING LEGEND

NON-STANDARD PAVEMENT MARKING LEGEND

4" DW/DY

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ALEXANDRIA ENGINEERING
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	J MIZE	G PETERS	S KILIM	J MIZE
	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

SIGNING AND STRIPING PLAN STANDARD NOTES

NTS

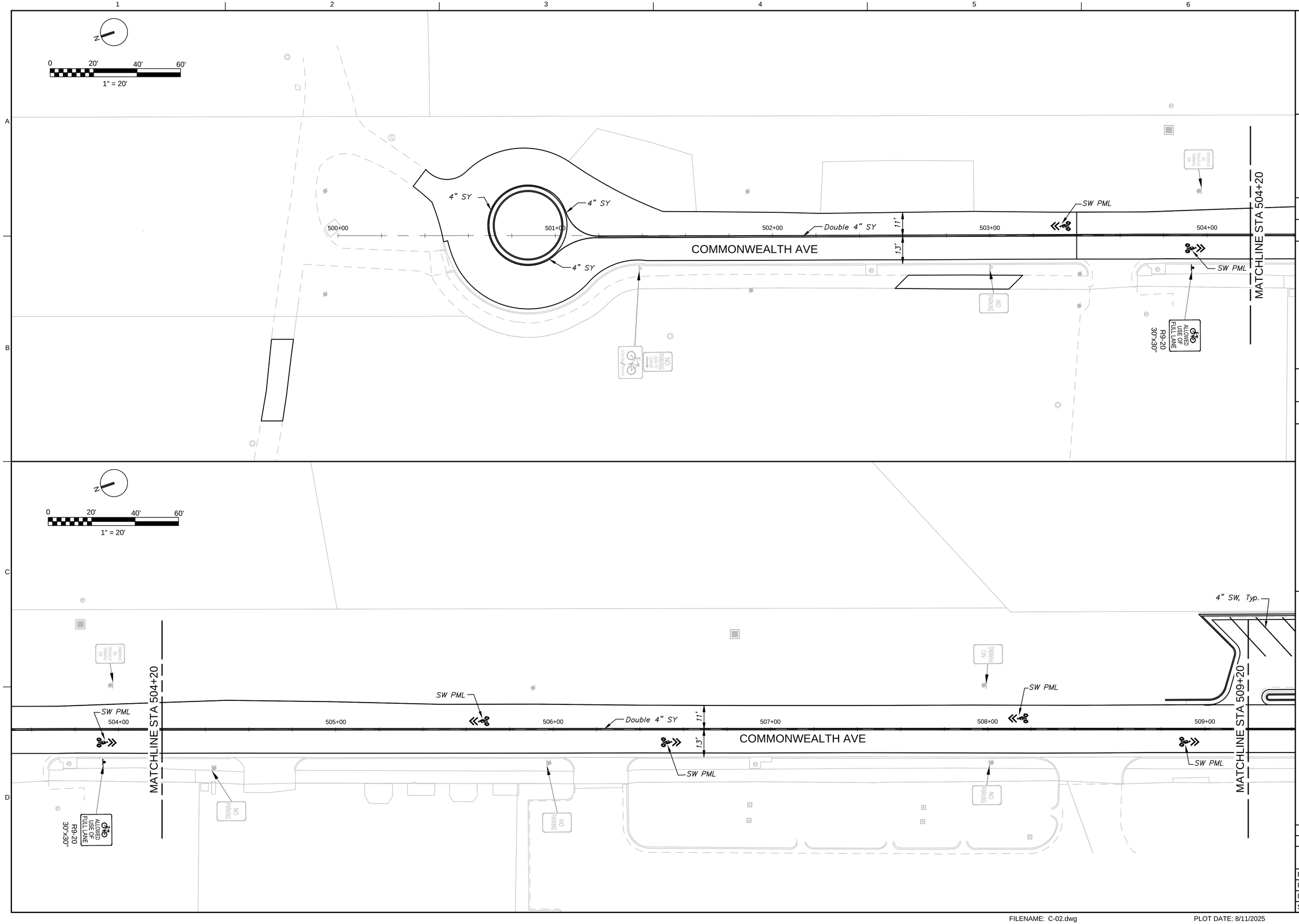
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-01
SHEET	106 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: C-01.dwg PLOT DATE: 4/3/2025 PLOT TIME: 11:56 AM



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9	04/2025	90% SUBMITTAL				
8	11/2024	85% SUBMITTAL				
7	05/2024	60% SUBMITTAL				
6	09/2023	30% SUBMITTAL				

DSGN

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DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

SIGNING AND STRIPING PLAN COMMONWEALTH AVENUE (SHEET 1 OF 3)

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-02
SHEET	107 of 158

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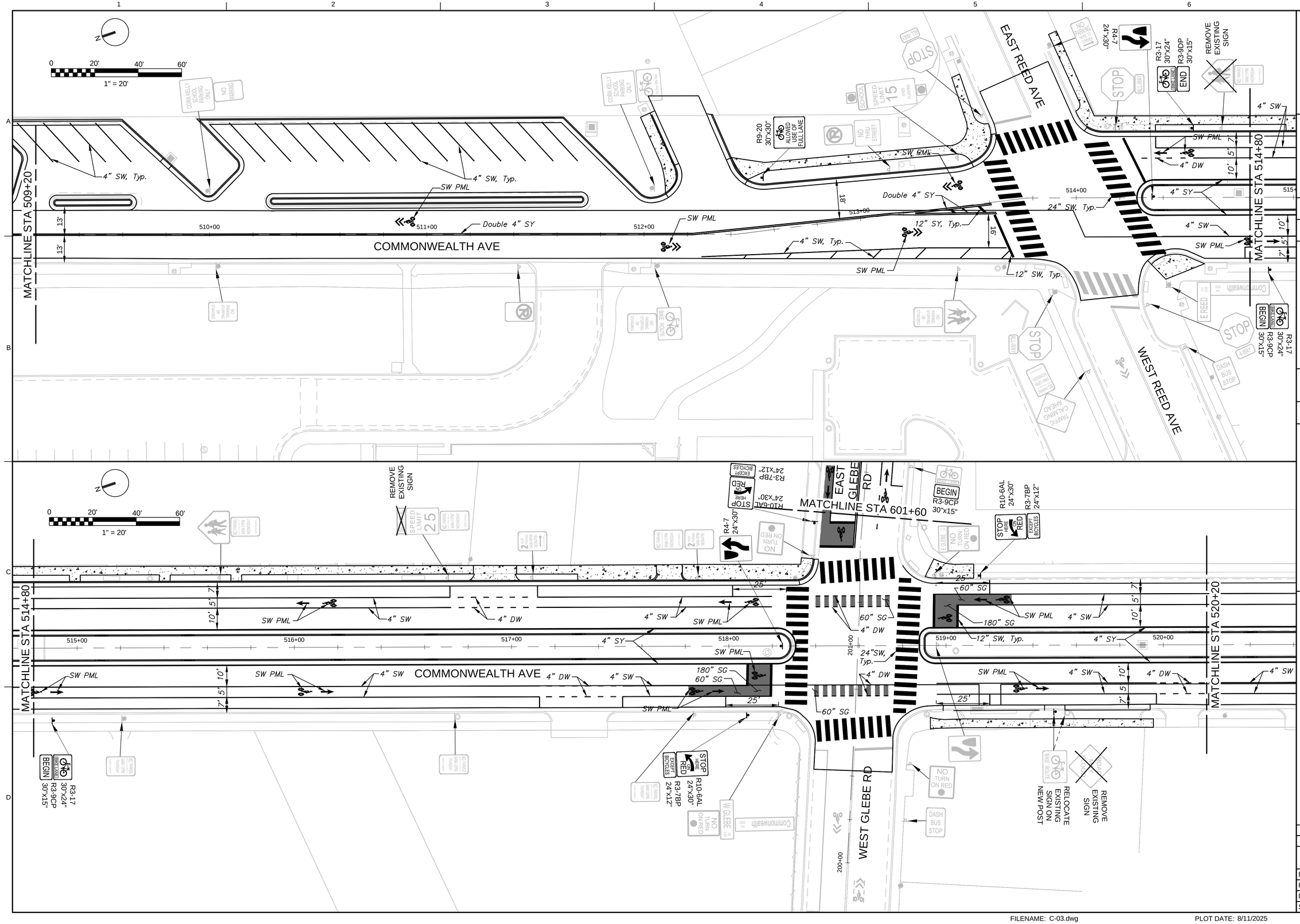

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

SIGNING AND STRIPING PLAN
COMMONWEALTH AVENUE
(SHEET 2 OF 3)

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-03
SHEET	108 of 158

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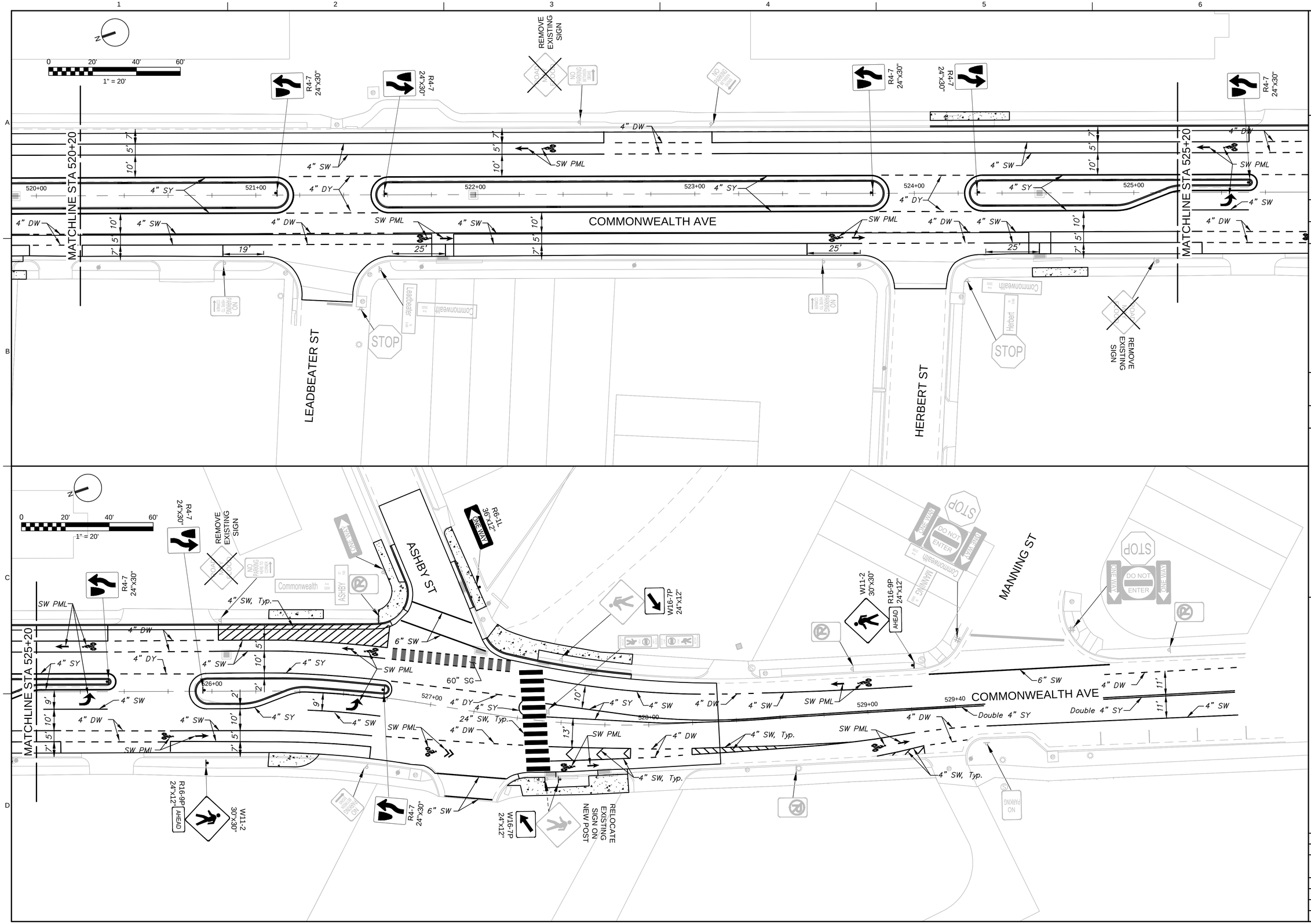

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	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		
		G PETERS	S KILIM	APVD
		J MIZE		J MIZE

FOUR MILE RUN STORM SEWER UPGRADES
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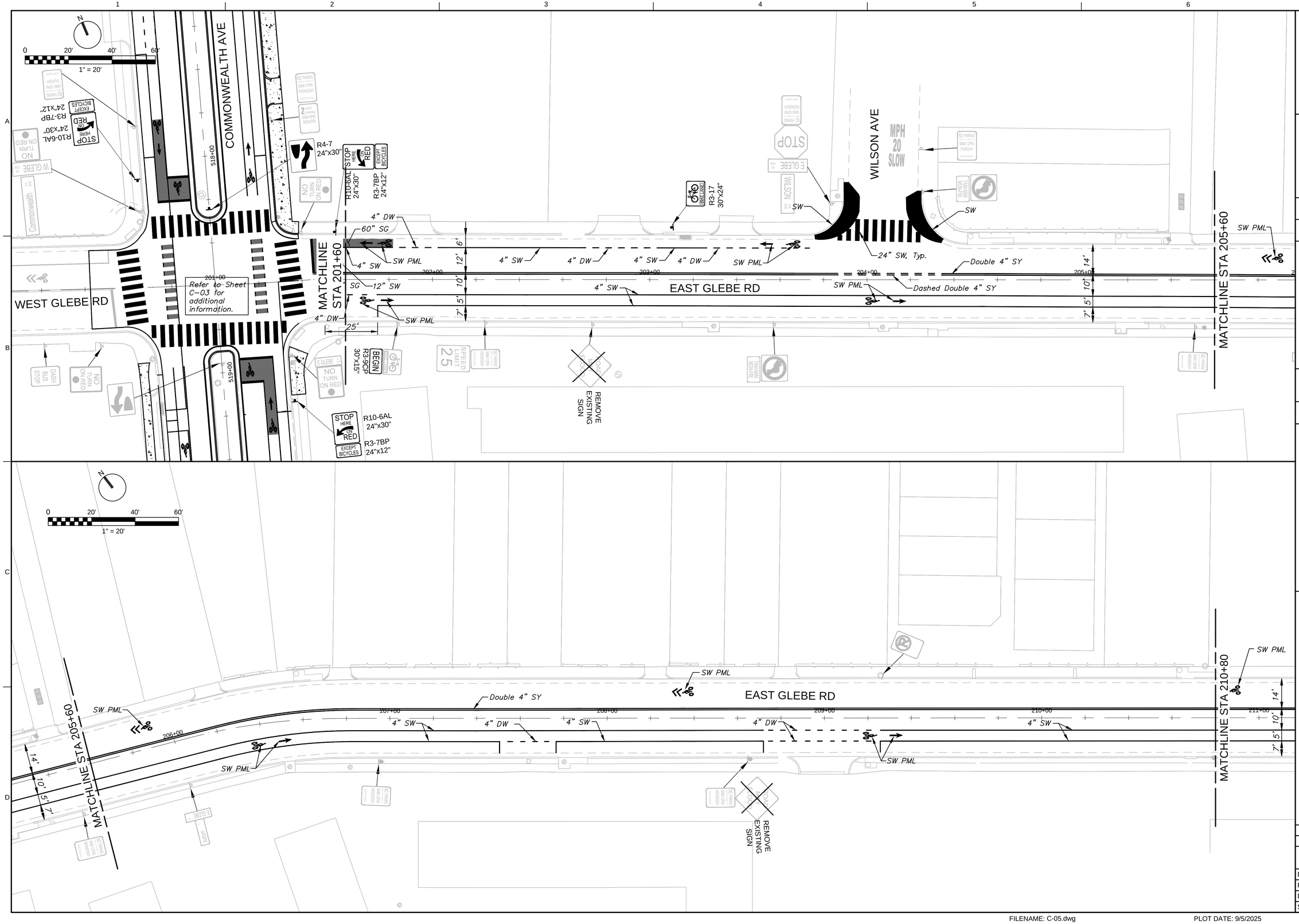
SIGNING AND STRIPING PLAN COMMONWEALTH AVENUE (SHEET 3 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-04
SHEET	109 of 158

FILENAME: C-04.dwg PLOT DATE: 8/13/2025 PLOT TIME: 9:13 AM



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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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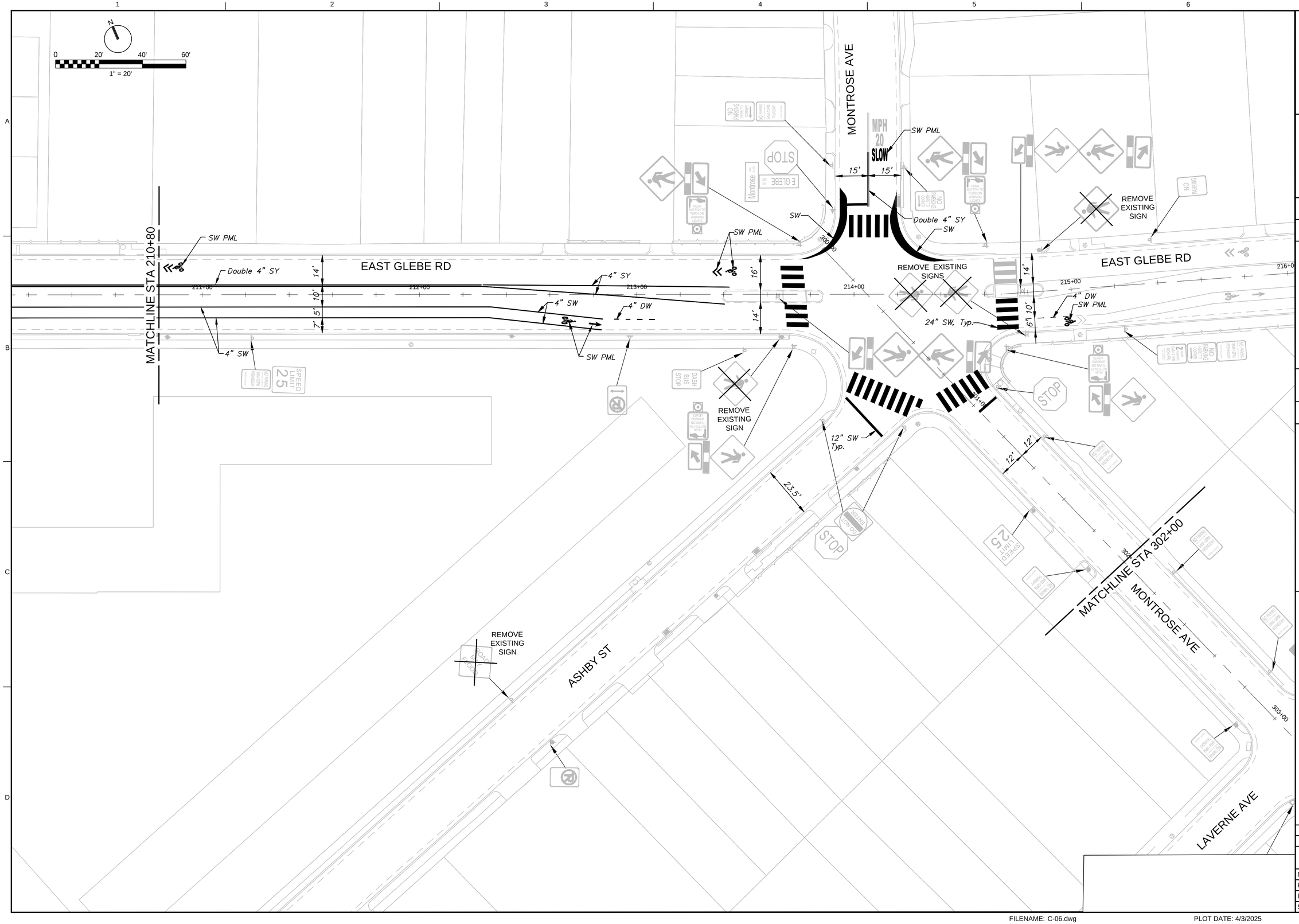
SIGNING AND STRIPING PLAN EAST GLEBE ROAD (SHEET 1 OF 2)

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-05
SHEET	110 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: C-05.dwg PLOT DATE: 9/5/2025 PLOT TIME: 11:23 AM



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09	04/2025	90% SUBMITTAL				
08	11/2024	65% SUBMITTAL				
07	05/2024	60% SUBMITTAL				
06	09/2023	30% SUBMITTAL				

DSGN J MIZE

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
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SIGNING AND STRIPING PLAN EAST GLEBE ROAD (SHEET 2 OF 2)

1" = 20'

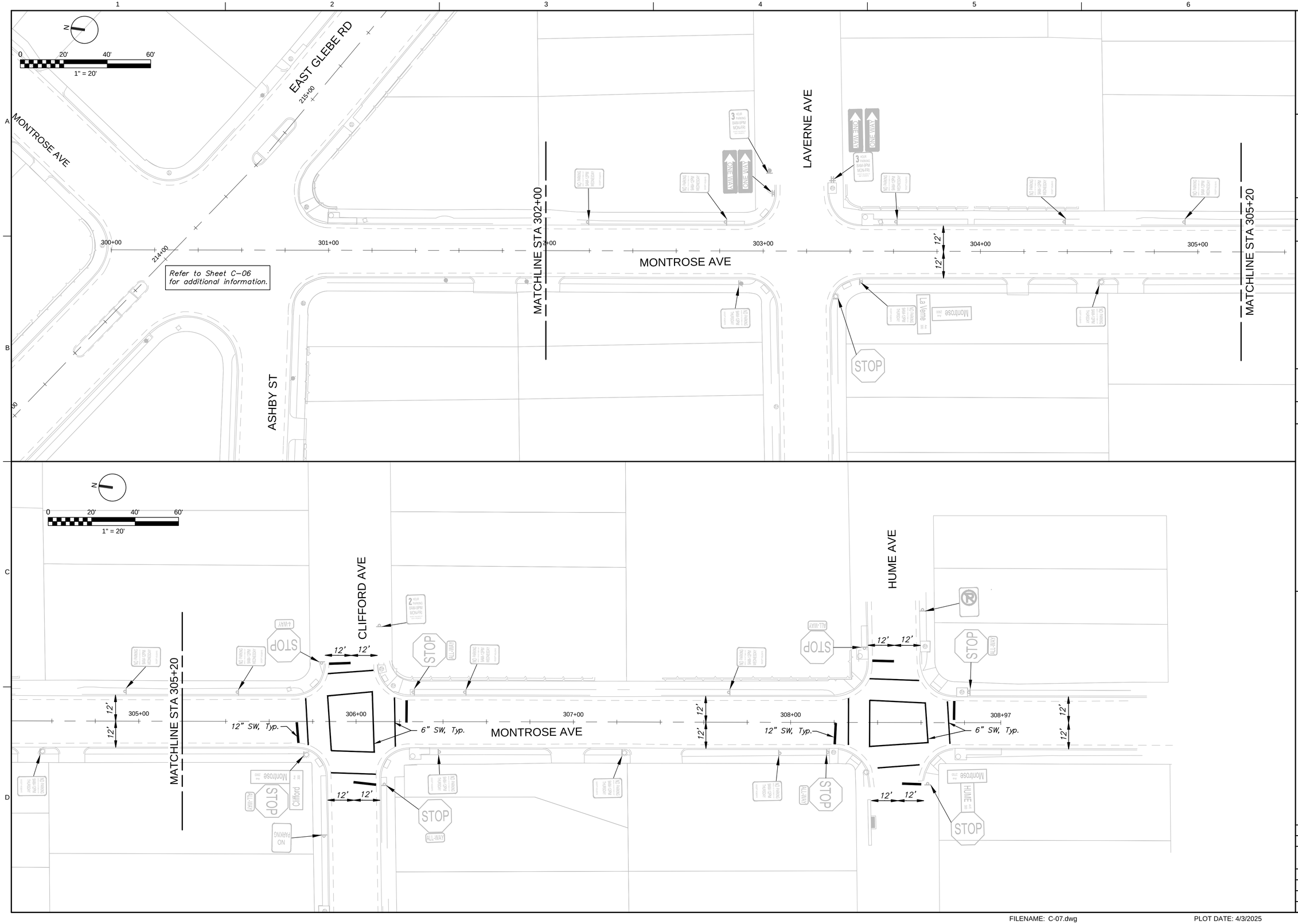
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-06
SHEET	111 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: C-06.dwg PLOT DATE: 4/3/2025 PLOT TIME: 10:26 AM



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	10/2025	100% SUBMITTAL				J MIZE
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

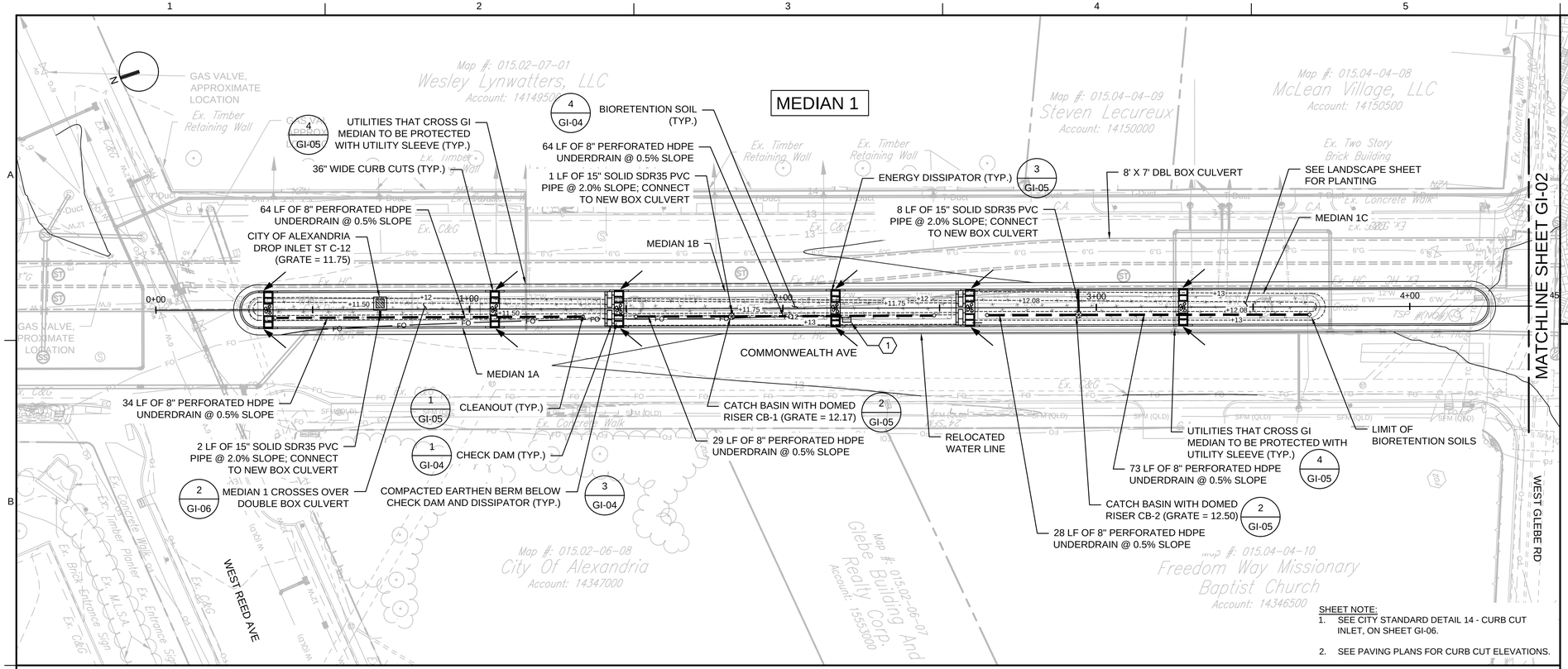
SIGNING AND STRIPING PLAN MONTROSE AVENUE

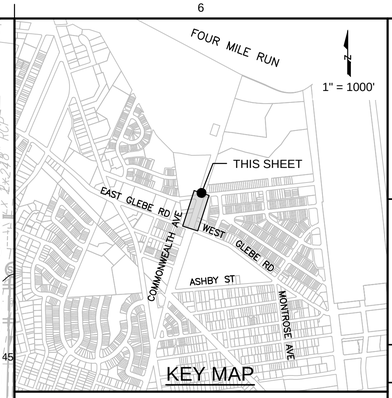
FINAL DESIGN (NOT FOR CONSTRUCTION)

1" = 20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	C-07
SHEET	112 of 158

FILENAME: C-07.dwg PLOT DATE: 4/3/2025 PLOT TIME: 10:22 AM





GI LEGEND

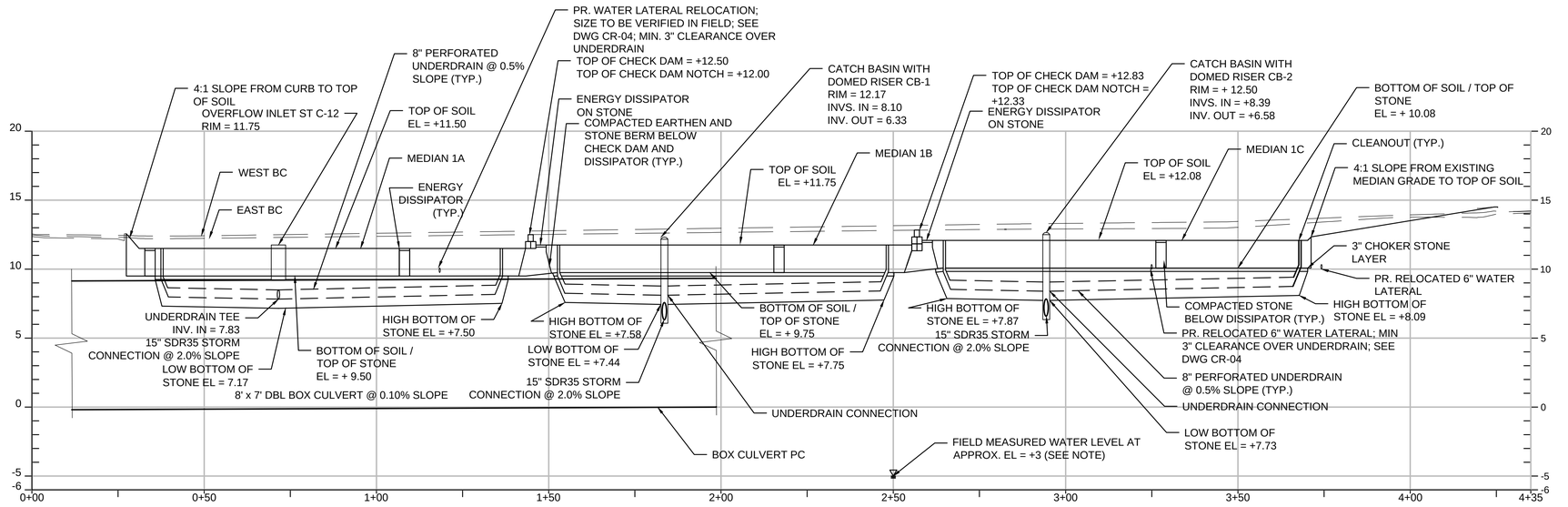
- BIORETENTION SOIL
- CHECK DAM
- ENERGY DISSIPATOR
- CITY OF ALEXANDRIA INLET CSDI-2 OR CSYI-1
- PERFORATED UNDERDRAIN
- SOLID UNDERDRAIN
- CLEANOUT
- DOMED OUTLET RISER STRUCTURE
- --+XX.XX-- PROPOSED CONTOUR WITH ELEVATION LABEL
- FLOW ARROW

KEYED NOTES

(1) FO OWNED BY CITY. CONTRACTOR SHALL COORDINATE WITH CITY INFORMATION TECHNOLOGY SERVICES (ITS) TO TEMPORARILY RELOCATE/PROTECT THE FIBER DURING CONSTRUCTION AND RESET WITH A MIN. 24" COVER. ADJUST/REPLACE EXISTING HANDHOLE TO MATCH FINAL GRADE.

SHEET NOTE:
1. SEE CITY STANDARD DETAIL 14 - CURB CUT INLET, ON SHEET GI-06.
2. SEE PAVING PLANS FOR CURB CUT ELEVATIONS.

NOTE: WATER TABLE BASED ON BORING REPORTED IN JANUARY 2024 BY ECS MID-ATLANTIC



MEDIAN 1 PROFILE

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'
VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	S BECK	N MANNA	D WIBLE	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

GREEN INFRASTRUCTURE
COMMONWEALTH AVENUE
(SHEET 1 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-01
SHEET	113 of 158

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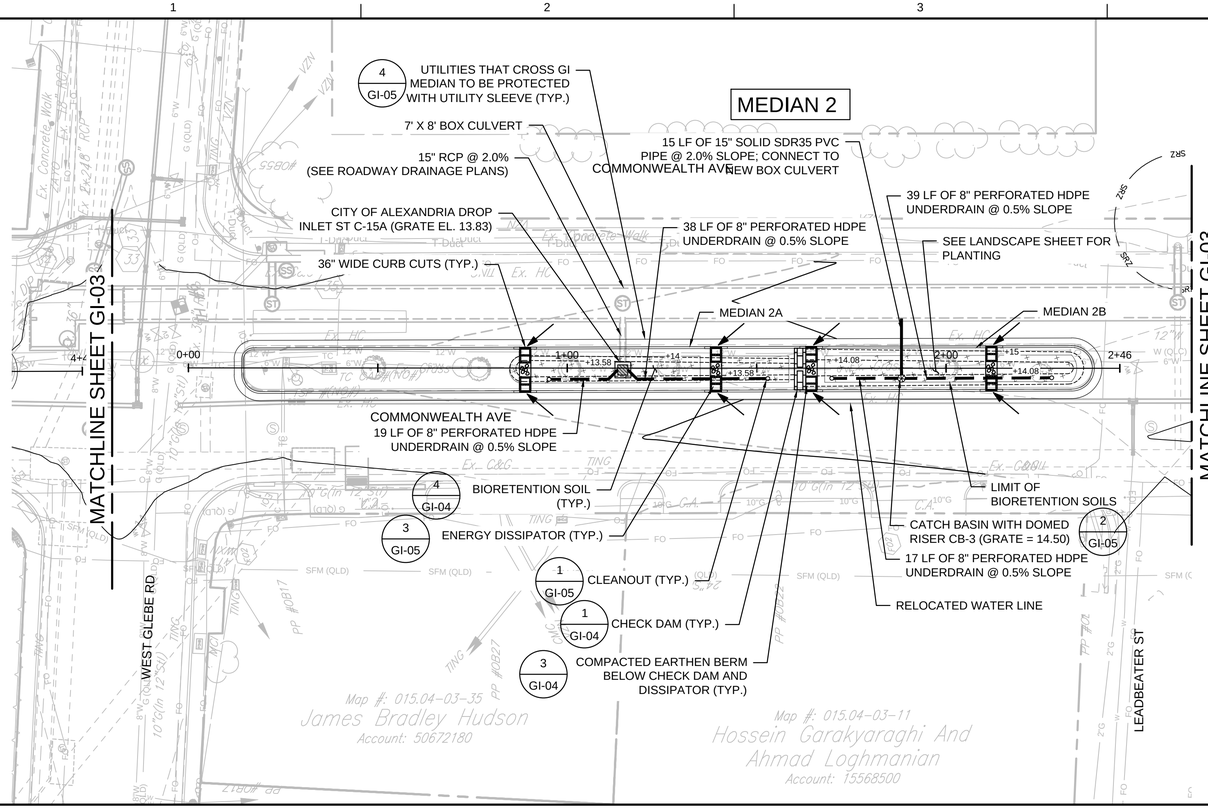
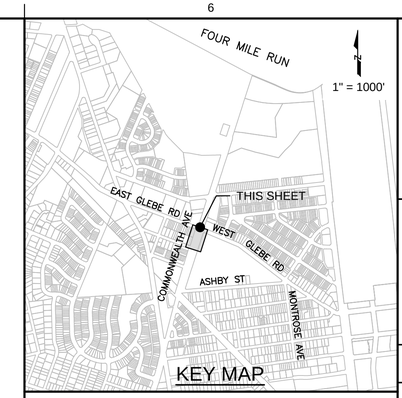
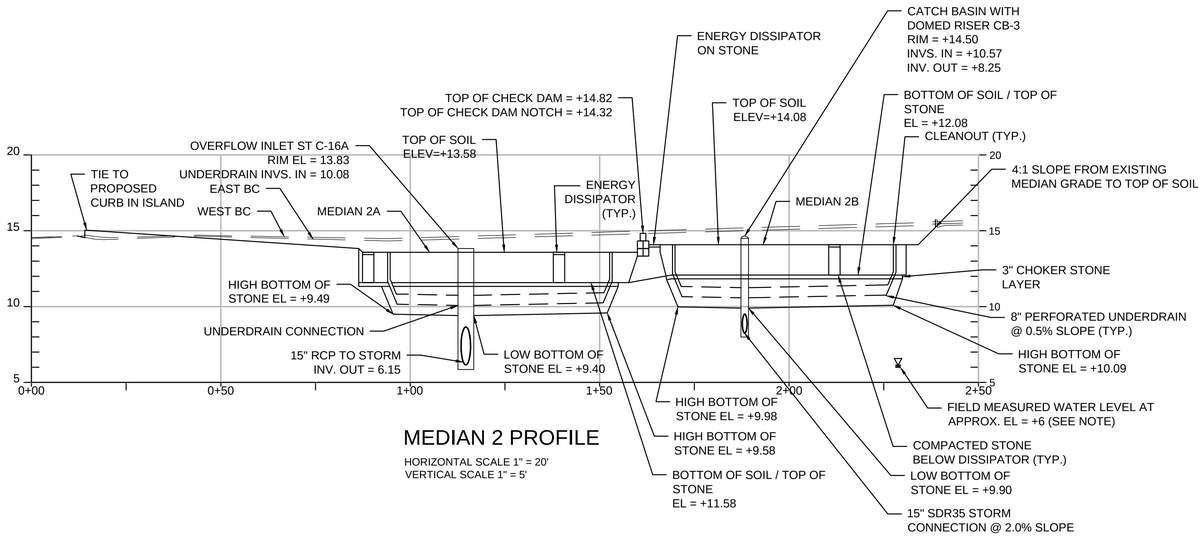


SHEET NOTE:
1. SEE CITY STANDARD DETAIL 14 - CURB CUT INLET, ON SHEET GI-06.
2. SEE PAVING PLANS FOR CURB CUT ELEVATIONS.



GI LEGEND
- BIORETENTION SOIL
- CHECK DAM
- ENERGY DISSIPATOR
- CITY OF ALEXANDRIA INLET CSDI-2 OR CSYI-1
- PERFORATED UNDERDRAIN
- SOLID UNDERDRAIN
- CLEANOUT
- DOMED OUTLET RISER STRUCTURE
- --+XX.XX-- PROPOSED CONTOUR WITH ELEVATION LABEL
- FLOW ARROW



MEDIAN 2 PROFILE

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

NOTE: WATER TABLE BASED ON BORING REPORTED IN JANUARY 2024 BY ECS MID-ATLANTIC

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

FILENAME: GI-02.dwg PLOT DATE: 10/4/2025 PLOT TIME: 2:53 PM

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NO.	DATE	REVISION	DR	CHK	BY
DSGN			S BECK	N MANNA	D WIBLE
	10/2025	100% SUBMITTAL			APVD
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

APVD H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

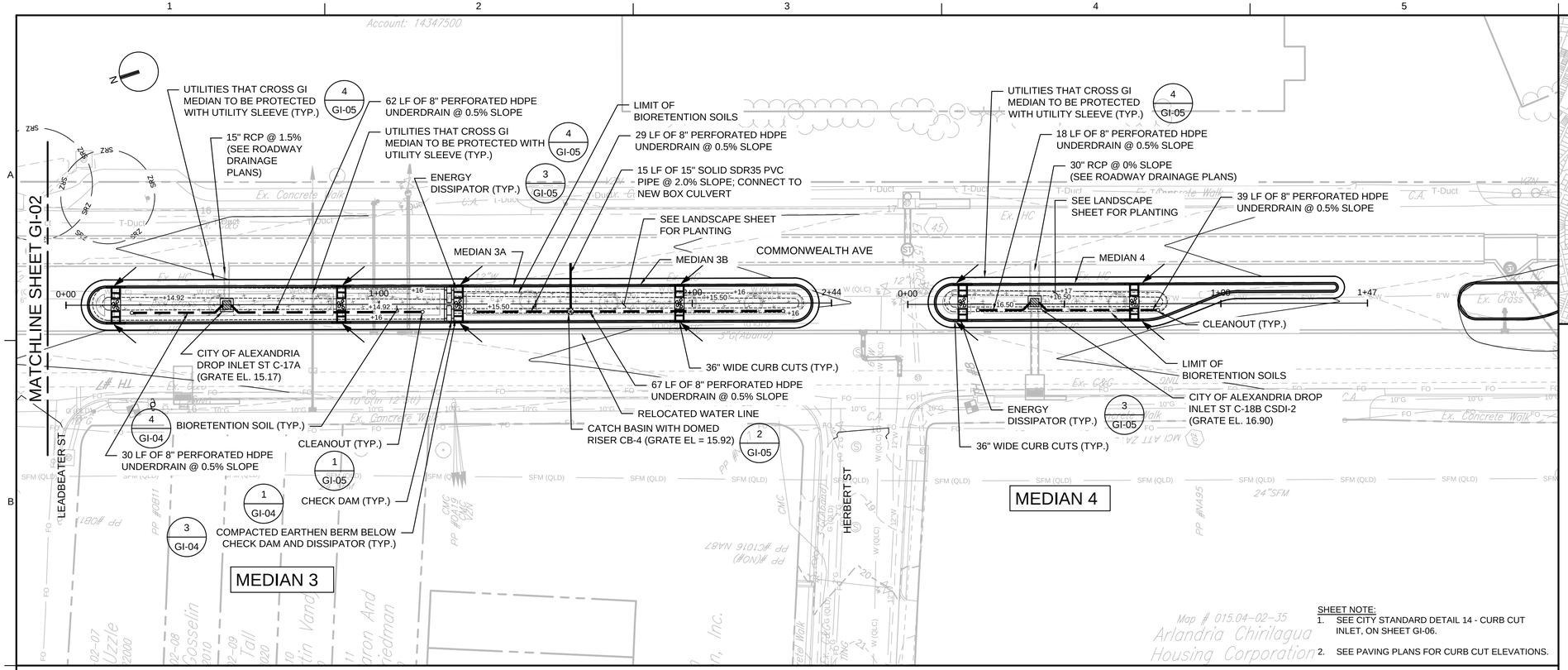
CIVIL

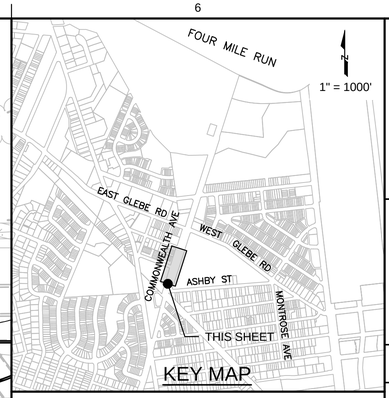
GREEN INFRASTRUCTURE COMMONWEALTH AVENUE (SHEET 2 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-02
SHEET	114 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)





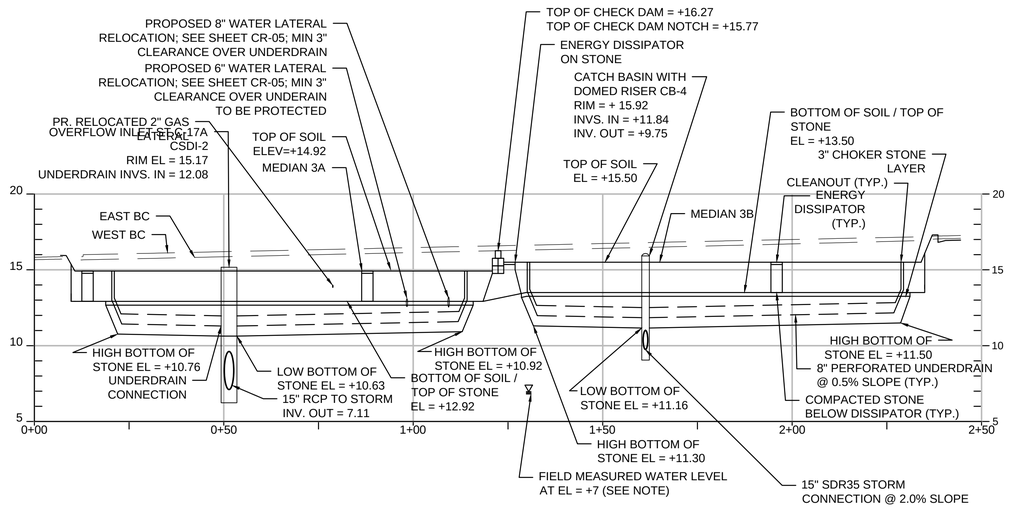
GI LEGEND

- BIORETENTION SOIL
- CHECK DAM
- ENERGY DISSIPATOR
- CITY OF ALEXANDRIA INLET CSDI-2 OR CSYI-1
- PERFORATED UNDERDRAIN
- SOLID UNDERDRAIN
- CLEANOUT
- DOMED OUTLET RISER STRUCTURE
- --+XX.XX-- PROPOSED CONTOUR WITH ELEVATION LABEL
- FLOW ARROW

SHEET NOTE:

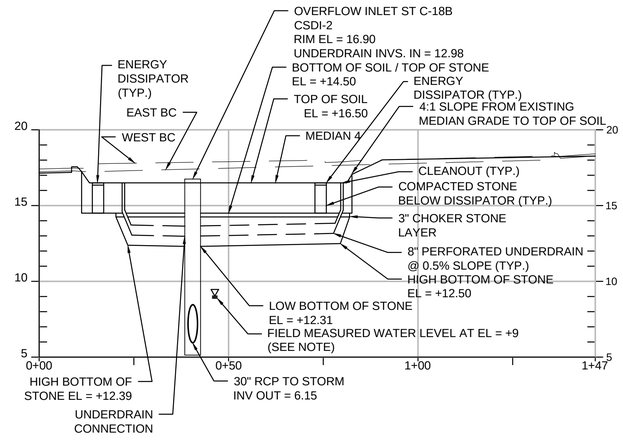
1. SEE CITY STANDARD DETAIL 14 - CURB CUT INLET, ON SHEET GI-06.
2. SEE PAVING PLANS FOR CURB CUT ELEVATIONS.

NOTE: WATER TABLE BASED ON BORING REPORTED IN JANUARY 2024 BY ECS MID-ATLANTIC



MEDIAN 3 PROFILE

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'



MEDIAN 4 PROFILE

HORIZONTAL SCALE 1" = 20'
VERTICAL SCALE 1" = 5'

HORIZONTAL SCALE: 0 20' 40' 60' — 1" = 20'

VERTICAL SCALE: 0 5' 10' 15' — 1" = 5'

NO.	DATE	REVISION	DR	CHK	BY
	10/2025	100% SUBMITTAL	S BECK	N MANNA	D WIBLE
	04/2025	90% SUBMITTAL			APVD
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN H LUSK

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

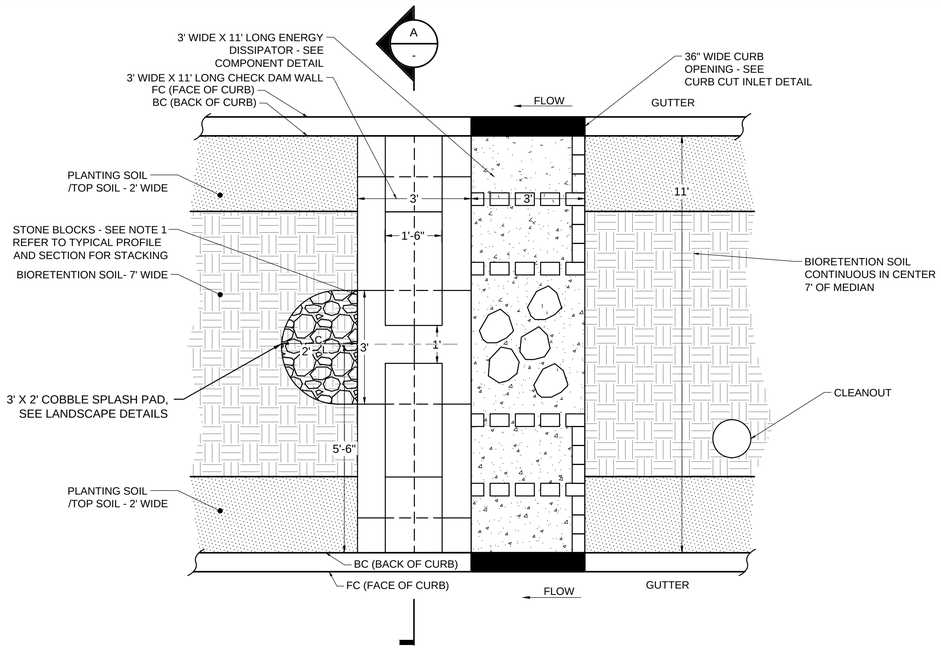
GREEN INFRASTRUCTURE
COMMONWEALTH AVENUE
(SHEET 3 OF 3)

1"=20'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-03
SHEET	115 of 158

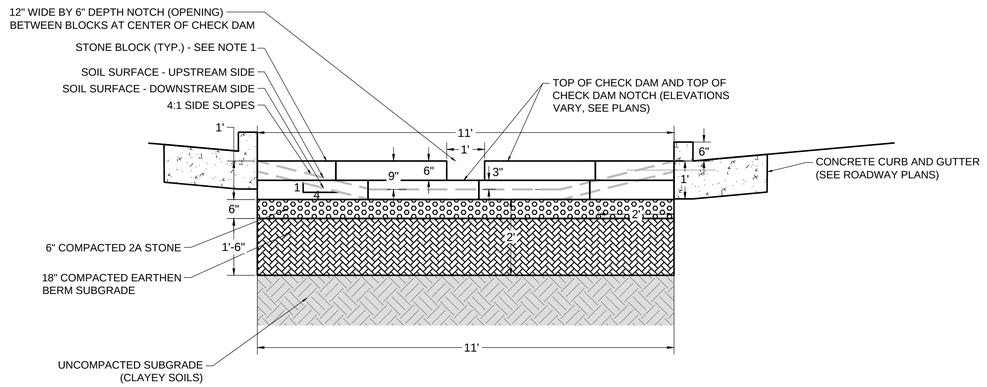
FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: GI-03.dwg PLOT DATE: 10/4/2025 PLOT TIME: 3:35 PM



1 CHECK DAM WITH EARTHEN BERM - PLAN

1/2" = 1'

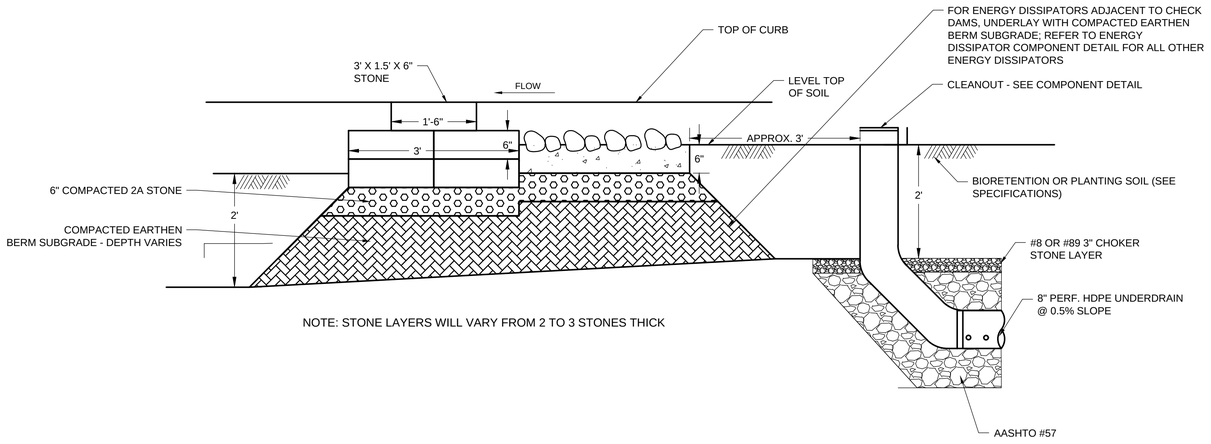


2 CHECK DAM WITH EARTHEN BERM - SECTION A-A

1/2" = 1'

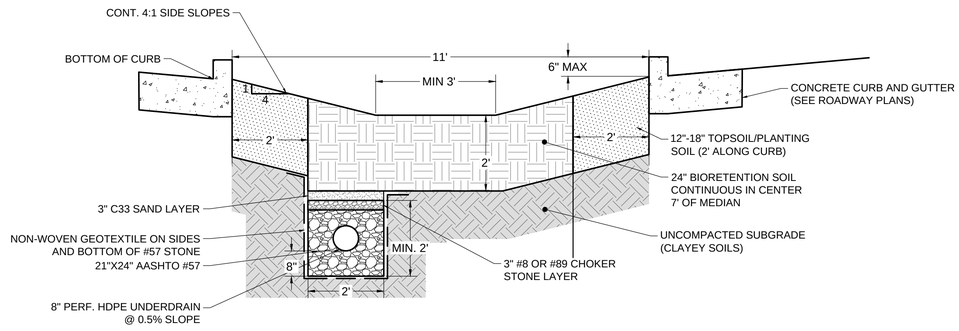
NOTES:

1. LANDSCAPE STONE BLOCK DIMENSIONS TO BE 3' X 1.5' X 6". CUT STONE BLOCKS TO FIT AS NEEDED IN STAGGERED DRY STACK PATTERN AS SHOWN.



3 TYPICAL PROFILE FROM CHECK DAM WITH EARTHEN BERM TO CLEANOUT

3/4" = 1'



4 TYPICAL SECTION OF BIORETENTION MEDIAN

1/2" = 1'

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	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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CIVIL

GREEN INFRASTRUCTURE
SECTIONS AND DETAILS

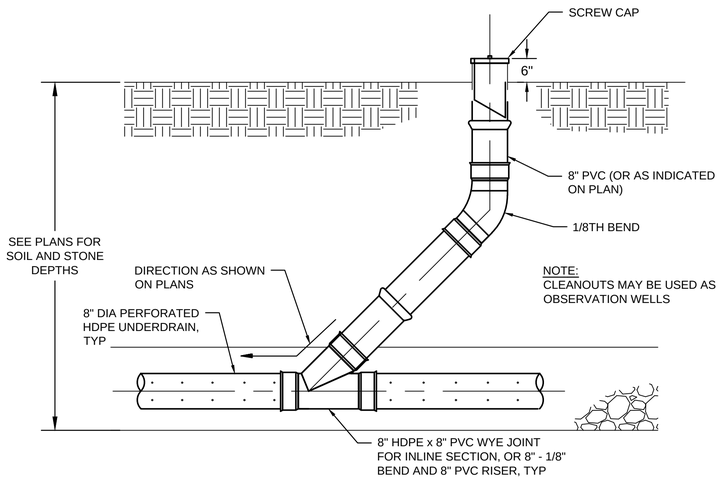
AS SHOWN

VERIFY SCALE

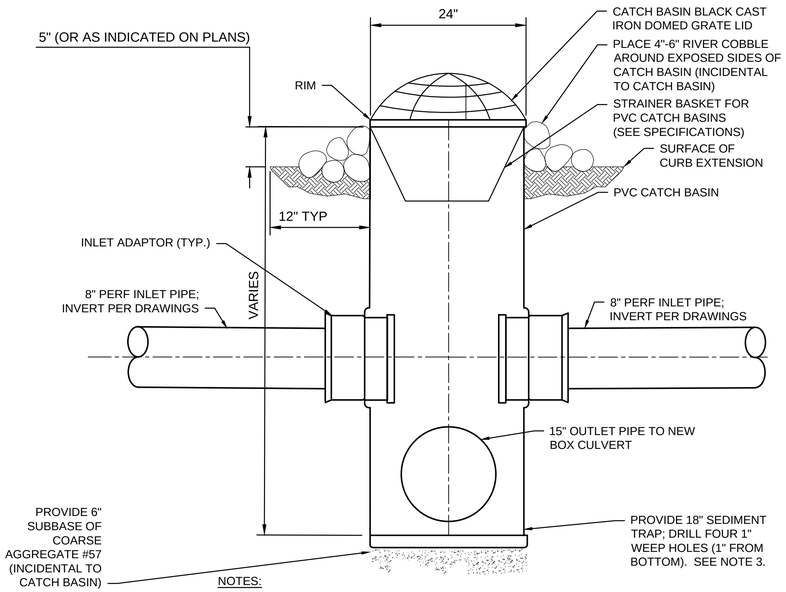
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-04
SHEET	116 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

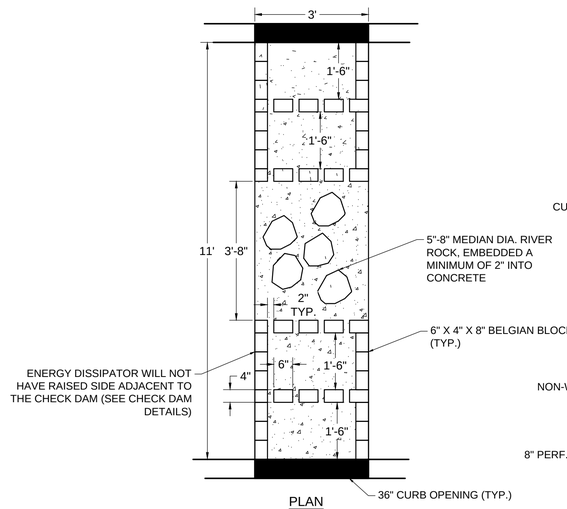


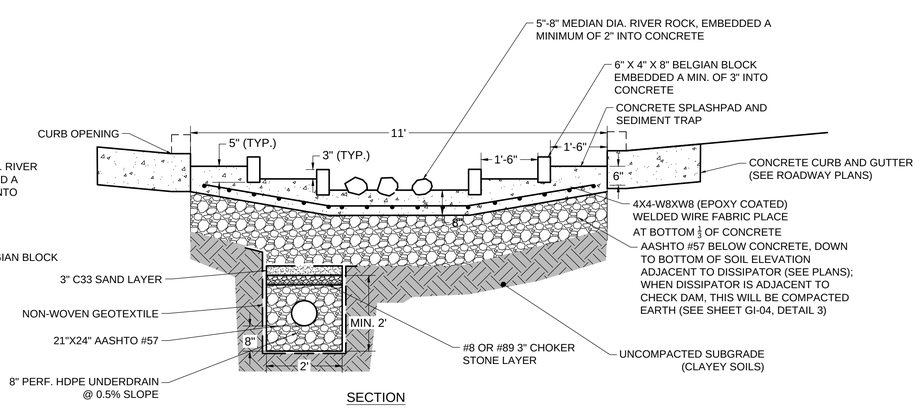
1 CLEANOUT
NTS



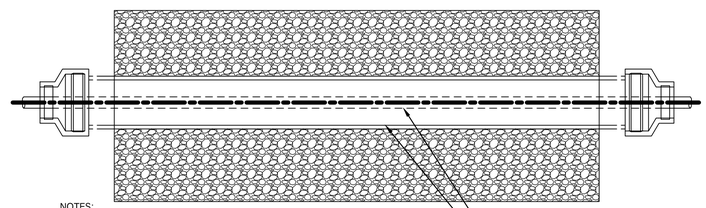
NOTES:
1. BASE AND BACKFILL SHALL BE HAND PLACED AND TAMPED IN 6" LIFTS. PLACE ALL CATCH BASINS ON 6" THICK AGGREGATE LEVELING COURSE ON COMPACTED SUBGRADE.
2. SEE DRAWINGS FOR RIM AND INVERT ELEVATIONS.
3. PROVIDE MIN. 18" SUMP (WHERE ABLE).
4. ALL STEEL/IRON (FRAME & GRATES) SHALL BE DOCUMENTED MADE IN THE USA

2 DOMED OUTLET RISER STRUCTURE W/ FILTER INSERT
NTS





3 ENERGY DISSIPATOR
1/2" = 1"



NOTES:
1. UTILITY SLEEVES ON EXISTING UTILITIES SHALL BE SPLIT PIPE CONDUIT, SIZED PER UTILITY, AS MANUFACTURED BY CONDUIT REPAIR SYSTEMS, OR APPROVED EQUAL.
2. SPLIT PIPE UTILITY SLEEVES SHALL BE WATERTIGHT AND SEALED AT EITHER END WITH NON-SHRINK GROUT OR SEALANT.

4 UTILITY SLEEVE
NTS

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	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GREEN INFRASTRUCTURE DETAILS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-05
SHEET	117 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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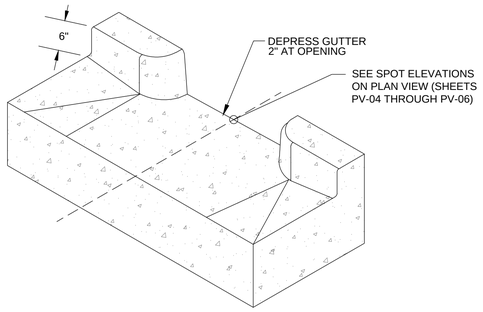
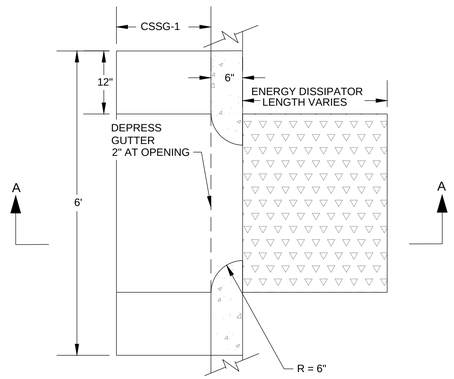
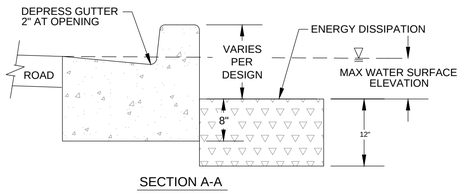


PERSPECTIVE



PLAN



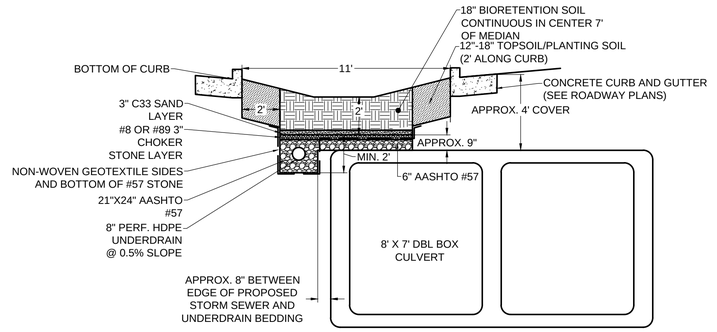
SECTION A-A

CONSTRUCTION INFORMATION

1. CONCRETE INLET SHALL BE 4" THICK CLASS A3 CONCRETE.
2. THE OPEN FLUME SHALL BE 36" LONG (PARALLEL TO THE STREET) AND SHALL BE CONSTRUCTED FROM THE BACK OF THE GUTTER PAN AT A SLOPE OF GENERALLY 25 - 30%.

1 CURB CUT INLET (CITY STANDARD DETAIL 14)

NTS



2 MEDIAN 1 ABOVE STORM SEWER SECTION

NTS

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	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
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	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GREEN INFRASTRUCTURE DETAILS

VERIFY SCALE

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0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GI-06
SHEET	118 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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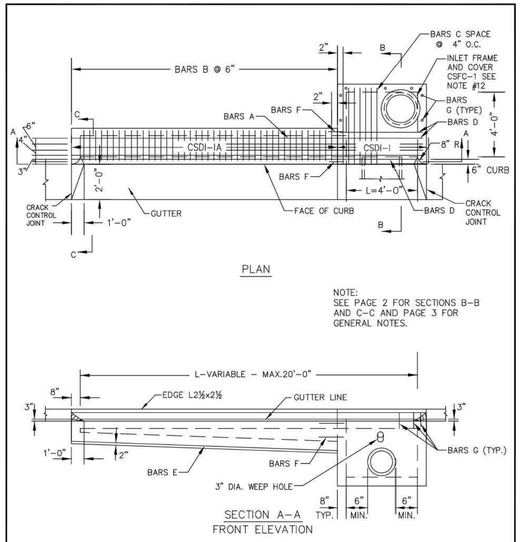


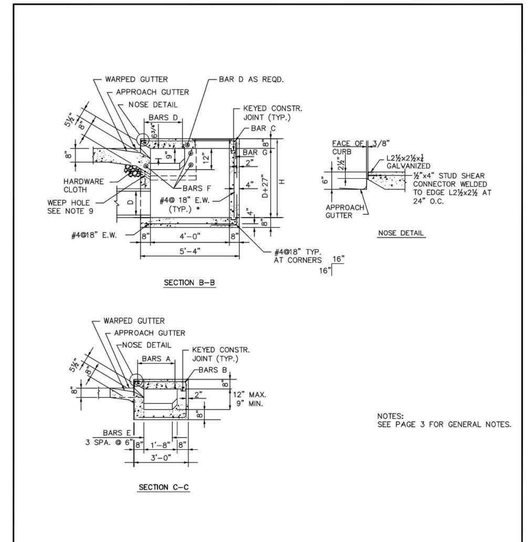
CURB DROP INLET
WITH VARIABLE LENGTH INLET

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSDI-1 & CSDI-1A

PAGE 1



NOTES:
SEE PAGE 3 FOR GENERAL NOTES.

CURB DROP INLET

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-1 & CSDI-1A

PAGE 2

GENERAL NOTES:

1. DEPTH OF INLET (H) SHALL BE SHOWN ON PLANS. MINIMUM DEPTH (H)=4'-0" MAXIMUM DEPTH (H)=8'-0".
2. THE "H" DIMENSION SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF OUTFALL PIPE TO THE TOP OF THE STRUCTURE. PLAN "H" DIMENSIONS ARE APPROXIMATE ONLY FOR ESTIMATING PURPOSES AND THE ACTUAL DIMENSIONS SHALL BE DETERMINED BY THE CONTRACTOR FROM FIELD CONDITIONS.
3. 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.
4. THIS ITEM MAY BE PRECAST OR CAST-IN-PLACE.
5. ALL REINFORCING BARS TO BE #5 OR AS SHOWN ON PLANS.
6. ALL REINFORCING STEEL SHALL HAVE A MINIMUM COVER OF 2" OR AS SHOWN ON PLANS.
7. CAST-IN PLACE CONCRETE IS TO BE CLASS A3 (3000PSI). PRECAST CONCRETE IS TO BE 4000PSI.
8. ALL REINFORCING STEEL TO BE CUT CLEAR OF ALL OPENINGS BY 2".
9. 3" DIAMETER WEEP HOLE TO BE LOCATED TO DRAIN SUBBASE MATERIAL. WEEP HOLE WITH 12"X12" PLASTIC HARDWARE CLOTH ¼" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03", NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
10. LENGTH OF ANGLE IRON AS SHOWN ON PAGE 1 IS TO BE L+16".
11. INLET FRAME AND COVER SHALL MEET REQUIREMENTS FOR HS20 LOADING. (REFER TO FRAME AND COVER DETAIL (CSFC-1.)
12. JOINTS BETWEEN CONCRETE COVER AND GUTTERS (WHEN REQUIRED) ARE TO BE DOWELED, KEYED OR OTHER CITY APPROVED METHODS.
13. FOR RETROFIT PROJECTS:
    A. CHECK WITH CITY INSPECTOR TO CONNECT NEXT CONCRETE C&G SECTION TO REQUIRED SAW CUT, PROPER JOINT MATERIAL ETC.
    B. CURB OPENING SHALL NOT ENCROACH UPON CROSSWALK AREA.
    C. PROVIDE NOTES FOR THE THICKNESS OF BEDDING AND TYPE ON SUBGRADE PRIOR TO INSTALLATION.
14. FOR BACKFILL DETAIL SEE BEDDING DETAIL (CSJT-1).
15. FOR CURB DROP INLET REINFORCEMENT SEE PAGE 4.

CURB DROP INLET
GENERAL NOTES

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-1 & CSDI-1A

PAGE 3

CURB DROP INLET REINFORCEMENT SCHEDULE

L	AREA OF SLOT	BARS A		BARS B		BARS C		BARS D		BARS E		BARS F		BARS G		WEIGHT
Ft.	Sq. Ft.	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	NO. of Bar	Lin. Ft.*	Lbs.
4'	1.83	5	1'-6"	2	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	1'-6"	3	1'-6"	4	1'-0"	64
6'	2.75	5	3'-6"	6	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	3'-6"	3	1'-6"	4	1'-0"	111
8'	3.67	5	5'-6"	10	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	5'-6"	3	1'-6"	4	1'-0"	158
10'	4.58	5	7'-6"	14	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	7'-6"	3	1'-6"	4	1'-0"	204
12'	5.50	5	9'-6"	18	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	9'-6"	3	1'-6"	4	1'-0"	251
14'	6.42	5	11'-6"	22	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	11'-6"	3	1'-6"	4	1'-0"	298
16'	7.33	5	13'-6"	26	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	13'-6"	3	1'-6"	4	1'-0"	345
18'	8.25	5	15'-6"	30	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	15'-6"	3	1'-6"	4	1'-0"	391
20'	9.17	5	17'-6"	34	6'-7" to 6'-10"	3	5'-7"	3	3'-2"	4	17'-6"	3	1'-6"	4	1'-0"	438

* DENOTES LENGTH OF ONE (1) BAR.

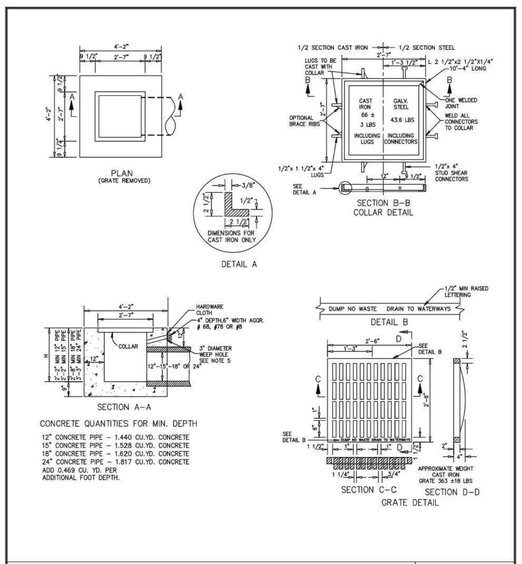
CURB DROP INLET
REINFORCEMENT SCHEDULE

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSDI-1 & CSDI-1A

PAGE 4



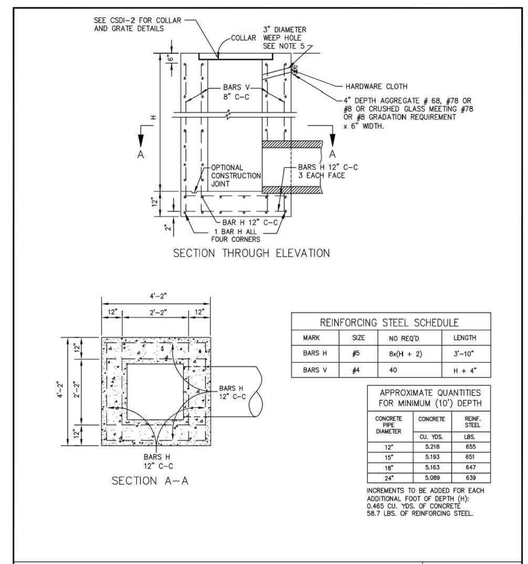
STANDARD DROP INLET
12" - 24" PIPE: MAXIMUM DEPTH (H) = 10'

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-2

PAGE 5



REINFORCING STEEL SCHEDULE			
MARK	SIZE	NO REQ'D	LENGTH
BARS H	#5	8x(H + 2)	3'-10"
BARS V	#4	40	H + 4"

APPROXIMATE QUANTITIES FOR MINIMUM (10") DEPTH		
CONCRETE PIPE DIAMETER	CONCRETE CU. YDS.	REINF. STEEL LBS.
12"	5.218	655
15"	5.193	651
18"	5.163	647
24"	5.089	639

INCREMENTS TO BE ADDED FOR EACH ADDITIONAL FOOT OF DEPTH (H):
0.465 CU. YDS. OF CONCRETE
58.7 LBS. OF REINFORCING STEEL.

STANDARD DROP INLET
12" - 24" PIPE: DEPTH (H) 10' TO 20'

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-2A

PAGE 6

GENERAL NOTES:

1. DEPTH OF INLET (H) TO BE SHOWN ON PLANS. FOR DEPTH GREATER THAN 10' USE STANDARD CSDI-2A
2. 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.
3. THIS ITEM MAY BE PRECAST OR CAST- IN-PLACE.
4. # 4x8" SMOOTH DOWELS AT APPROXIMATELY 12" C-C TO BE PLACED IN ALL AREAS ADJACENT TO ABUTTING CONCRETE DESIGN.
5. 3" DIAMETER WEEP HOLE WITH 12"x12" PLASTIC HARDWARE CLOTH ¼" MESH OR GALVANIZED STEEL WIRE, MINIMUM WIRE DIAMETER 0.03" NUMBER 4 MESH HARDWARE CLOTH ANCHORED FIRMLY TO THE OUTSIDE OF THE STRUCTURE.
6. CAST IN PLACE CONCRETE IS TO BE CLASS A3 (3000PSI). PRECAST CONCRETE IS TO BE 4000PSI. REINFORCING STEEL TO HAVE A MINIMUM 2" COVER.
7. ANY ALTERNATE METHODS OF ANCHORAGE MEETING THE APPROVAL OF THE ENGINEER MAY BE SUBSTITUTED FOR THE CAST IRON LUGS AS SHOWN HEREON.
8. "DUMP NO WASTE DRAINS TO WATERWAY" LETTERING IS REQUIRED ON ALL CSDI-2 GRATES. LOCATION OF LETTERING MAY VARY BY MANUFACTURER.
9. IF DROP INLET IS TO BE INSTALLED ALONG A BIKE PATH THE GRATE OPENINGS SHALL BE ALIGNED PERPENDICULAR TO THE DIRECTION OF TRAVEL.
10. CONCRETE COVER AND GRATE ARE TO BE FURNISHED AS A SINGLE UNIT.
11. FOR DETAILS AND DIMENSIONS, ETC. OF GRATE AND STEEL OR CAST IRON COLLAR SEE STANDARD CSDI-2.
12. FOR RETROFIT PROJECTS:
    A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
    B. 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
    C. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
    D. PROVIDE RAILS (IF REQUIRED)

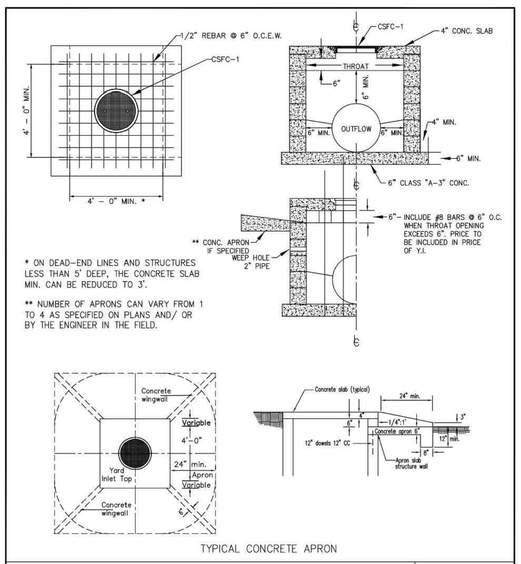
STANDARD DROP INLET
GENERAL NOTES

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA VIRGINIA

CSDI-2 & CSDI-2A

PAGE 7



YARD INLET

REVISION	DATE
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSYI-1

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STANDARD DETAILS
NOT TO SCALE

FILENAME: CD-01.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:07 AM

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	H LUSK
	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	06/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

STORM STANDARD DETAILS
(SHEET 1 OF 10)

NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-01
SHEET	119 of 158

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NOTES:
1. WHEN SPECIFIED, CONCRETE APRONS (1/4" PER FEET MIN) TO BE INCLUDED IN PRICE OF YARD INLET.
2. CONCRETE APRON MAY BE CAST IN PLACE OR PRECAST. REINFORCING MUST BE 6"X6" NO 6 WIRE MESH. ALL CONCRETE MUST BE CLASS A3.
3. 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.
4. 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).
5. WALLS OF POURED OR SOLID BLOCK CONCRETE WILL BE 8" THICK.
6. SPECIAL DESIGN WILL BE REQUIRED FOR PIPE SIZES GREATER THEN 36".
7. FOR RETROFIT PROJECTS:
   A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
   B. 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
A. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
B. PROVIDE RAILS (IF REQUIRED)

YARD INLET
GENERAL NOTES

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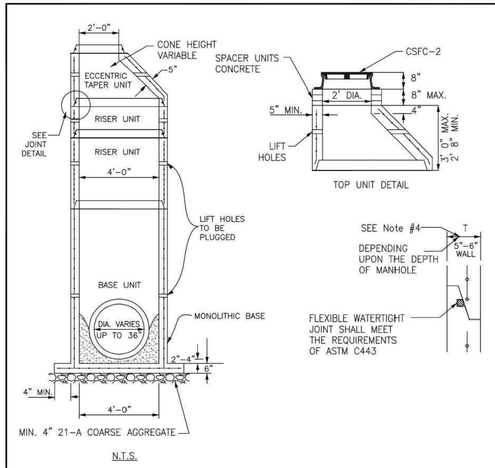
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTE:
FOR REINFORCEMENT SCHEDULE SEE CSMH–2, PAGE 11.

PRECAST MANHOLE
4' INSIDE DIAMETER; FOR PIPES UP TO 36" IN DIAMETER

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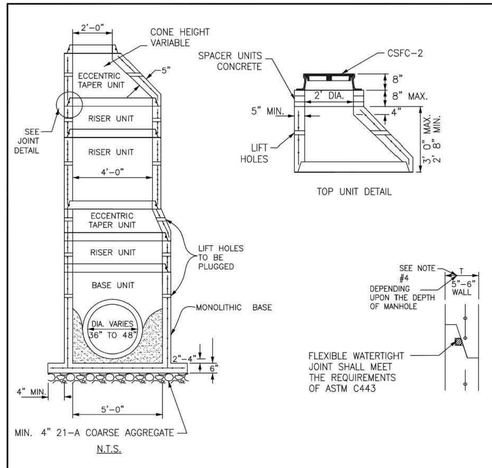
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



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

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

NOTES:
1. THE MANHOLE SHALL BE DESIGNED TO MEET HS–20 LOADING CAPACITY.
2. JOINTS BETWEEN UNITS SHALL BE TONGUE & GROOVE.
3. PIPE MUST BE FLUSH WITH INSIDE WALL OF MANHOLE.
4. WALLS TO DEPTH OF 12' TO BE 5" THICK. WALLS DEEPER THAN 12' TO BE 6".
5. LOSS FOR STRAIGHT RUN MANHOLE SHALL BE 0.05 FEET. IN NO CASE SHALL LOSS LESS THAN 0.05 FEET BE ALLOWED.
6. FOR RETROFIT PROJECTS:
   A. PROVIDE CONCRETE BENCH (FOR TERMINAL USE BRICKS WITH SLOPE TOWARD OUTLET) UP TO CROWN OF PIPE INVERT. (IF REQUIRED)
   B. 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
   C. PROVIDE ARCH BRICK ADJUSTMENT AROUND RCP PIPE
   D. PROVIDE RAILS (IF REQUIRED)
7. 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.

PRECAST MANHOLE
GENERAL NOTES

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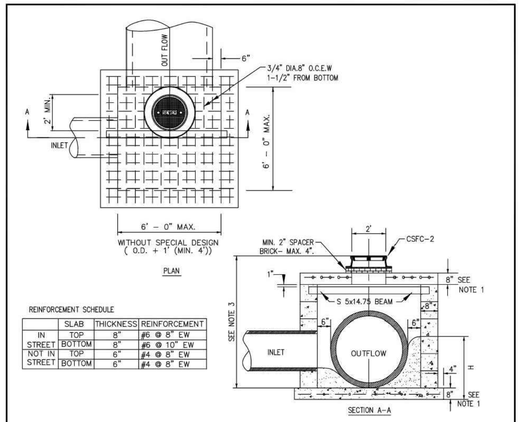
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTES:
1. TOP AND BOTTOM SLABS MAY BE 6" MIN. WHEN NOT CONSTRUCTED IN A STREET.
2. CONSTRUCTION OF CLASS "A3" CONC., CONC. BLOCK, OR BRICK IN MORTAR, PARGED INSIDE (AND OUTSIDE ABOVE FINISHED GRADE) 1/4" MIN.
3. CSJB–1 TO BE USED WHEN THE DISTANCE FROM THE TOP OF CASTING IS LESS THAN 3'–8" OR WHEN THE SIZE OF THE PIPE REQUIRES ITS USE.
4. HEIGHT OF BENCH H TO BE AS SPECIFIED ON THE APPROVED PLAN.
5. MANHOLE COVER AND FRAME ARE TO BE LOCATED ABOVE THE CENTERLINE OF THE OUTFLOW PIPE.
6. THE TOPS OF SMALLER INFLOW WILL BE AT LEAST AS HIGH AS THE TOP OF THE LARGEST INFLOW PIPE.

STORM SEWER JUNCTION BOX

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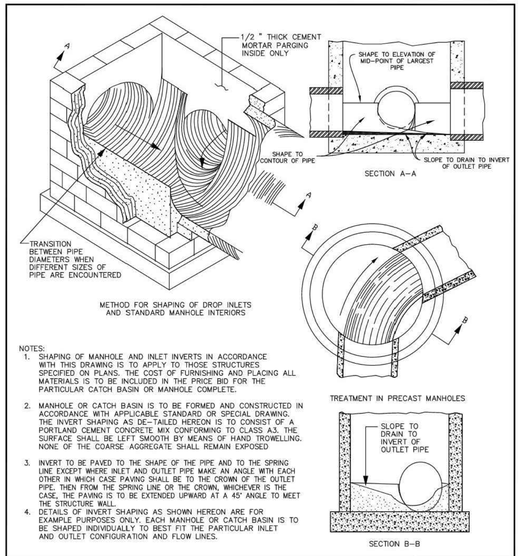
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTES:
1. SHAPING OF MANHOLE AND INLET INVERTS IN ACCORDANCE WITH THIS DRAWING IS TO APPLY TO THOSE STRUCTURES SPECIFIED ON PLANS. THE COST OF FURNISHING AND PLACING ALL MATERIALS IS TO BE INCLUDED IN THE PRICE BID FOR THE PARTICULAR CATCH BASIN OR MANHOLE COMPLETE.
2. MANHOLE OR CATCH BASIN IS TO BE FORMED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STANDARD OR SPECIAL DRAWING. THE INVERT SHAPING AS DE–TAILED HEREON IS TO CONSIST OF A PORTLAND CEMENT CONCRETE MIX CONFORMING TO CLASS A3. THE SURFACE SHALL BE LEFT SMOOTH BY MEANS OF HAND TROWELLING. NONE OF THE COARSE AGGREGATE SHALL REMAIN EXPOSED
3. INVERT TO BE PAVED TO THE SHAPE OF THE PIPE AND TO THE SPRING LINE EXCEPT WHERE INLET AND OUTLET PIPE MAKE AN ANGLE WITH EACH OTHER IN WHICH CASE PAVING SHALL BE TO THE CROWN OF THE OUTLET PIPE, THEN FROM THE SPRING LINE OR THE CROWN, WHICHEVER IS THE CASE, THE PAVING IS TO BE EXTENDED UPWARD AT A 45° ANGLE TO MEET THE STRUCTURE WALL.
4. DETAILS OF INVERT SHAPING AS SHOWN HEREON ARE FOR EXAMPLE PURPOSES ONLY. EACH MANHOLE OR CATCH BASIN IS TO BE SHAPED INDIVIDUALLY TO BEST FIT THE PARTICULAR INLET AND OUTLET CONFIGURATION AND FLOW LINES.

SHAPING MANHOLE AND INLET INVERTS

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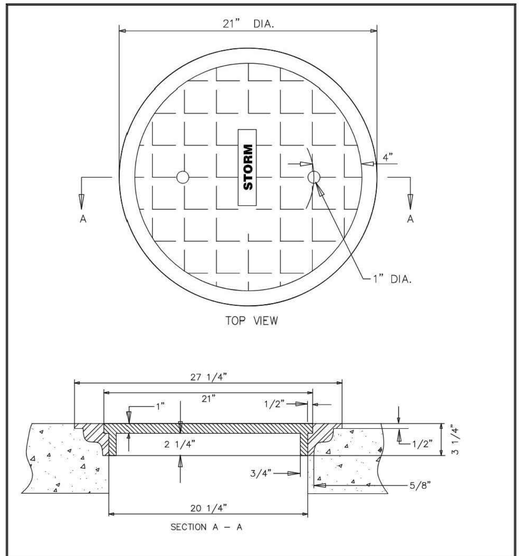
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



YARD & CURB DROP INLET FRAME & COVER

01/16/2021
REVISION DATE
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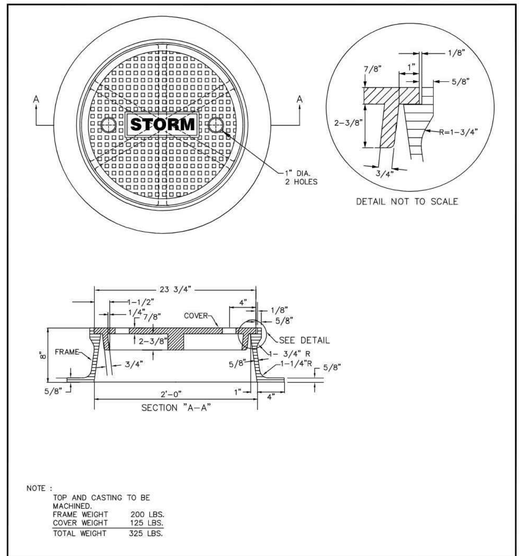
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTE :
TOP AND CASTING TO BE MACHINED.
FRAME WEIGHT 200 LBS.
COVER WEIGHT 125 LBS.
TOTAL WEIGHT 325 LBS.

MANHOLE FRAME & COVER

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REVISION DATE
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

STANDARD DETAILS
NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	APVD H LUSK
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	06/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

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STORM STANDARD DETAILS (SHEET 2 OF 10)

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-02
SHEET	120 of 158

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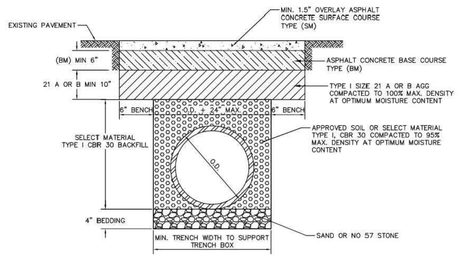

DETAIL NOT TO SCALE

NOTES:
1. BACKFILL MATERIAL SHALL BE COMPACTED AT A MAXIMUM DEPTH OF EVERY SIX INCHES (6") THROUGH THE USE OF MECHANICAL TAMPING THROUGHOUT THE TRENCH TO ENSURE THAT ADEQUATE SUPPORT IS PROVIDED.
2. PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUTS, OR AS DETERMINED BY THE T&ES DIRECTOR.
3. PAVEMENT RESTORATION ALSO INCLUDES THE REPLACEMENT OF ANY TRAFFIC CONTROL DEVICES AND/OR MARKINGS.
4. PAVEMENT THAT HAS BEEN RESURFACED WITHIN THE LAST FIVE (5) YEARS; PAVEMENT RESTORATION SHALL BE AT A MINIMUM WIDTH FROM CURB TO CURB AND LONGITUDINALLY PER NOTE #2. ADDITIONAL PAVING AND RESTORATION MAY BE REQUIRED, AS DETERMINED BY THE T&ES DIRECTOR.

BEDDING FOR PIPE & TRENCH SECTIONS

REVISION	DATE
	01/16/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSJT–1

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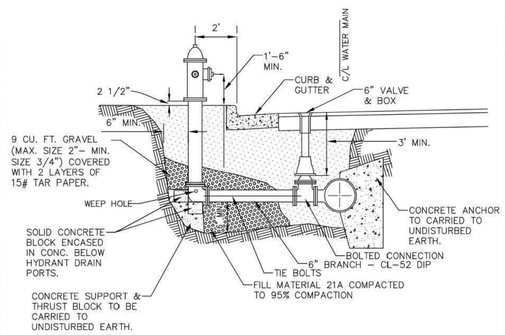

FIRE HYDRANT INSTALLATION

REVISION	DATE
	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSFH–1

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NOTES:
1. FIRE HYDRANT: MUELLER CENTURION – CATALOG # A423 WITH 1 1/2 INCH PENTAGON OPERATING NUT; LEFT TURN TO OPEN TWO 2 1/2" HOSE NOZZLES AND ONE 4" HOSE NOZZLE.
2. VALVE: MUELLER GATE VALVE – CATALOG # A2380–20, WITH 6 INCH MECHANICAL JOINTS. 2 INCH SQUARE NUT, LEFT TURN TO OPEN. VALVES AND FITTINGS SHALL BE WRAPPED IN 10MIL. OR THICKER POLYETHYLENE.
3. ALL FITTINGS SHALL BE DUCTILE IRON. ALL FITTINGS TO BE RESTRAINED.
4. LOCATIONS TO BE AS SHOWN ON PLANS. VARIANCE OF THE 2' MIN. FROM THE FACE OF THE CURB SHALL BE REVIEWED ON AN INDIVIDUAL BASIS BY THE TRANSPORTATION AND ENVIRONMENTAL SERVICES ENGINEER.
5. FIRE HYDRANTS TO BE INSTALLED AND TESTED IN ACCORDANCE WITH CURRENT VERSION OF AWWA M17 MANUAL.
6. VALVES AND SERVICE LINES ARE TO BE INSTALLED AND TESTED IN ACCORDANCE WITH THE CURRENT VERSION OF AWWA G200–09 DISTRIBUTION SYSTEMS AND M44 DISTRIBUTION VALVES; SELECTION, INSTALLATION, FIELD TESTING, AND MAINTENANCE, 3RD ED.
7. PRIOR TO ACCEPTANCE BY THE CITY OF ALEXANDRIA, FIELD TESTING AND PRESSURE READINGS SHALL BE PROVIDED BY THE CONTRACTOR.
8. FIRE HYDRANTS SHALL BE LOCATED AT EACH STREET INTERSECTION. THERE SHALL BE AT LEAST ONE FIRE HYDRANT LOCATED AT EACH INTERSECTION. THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS IN BUSINESS DISTRICTS, MEASURING ALONG STREET CENTERLINES, SHALL BE 300 FEET. ALL PARTS OF EACH BUILDING SHALL BE WITHIN 500 FEET OF HOSE RUN FROM A FIRE HYDRANT. THE MAXIMUM DISTANCE BETWEEN FIRE HYDRANTS IN RESIDENTIAL DISTRICTS, MEASURED ALONG STREET CENTERLINES, SHALL NOT EXCEED 500 FEET.
9. PRIOR TO INSTALLATION OF PRIVATE HYDRANTS, AMERICAN WATER IS TO SIGN OFF ON THE HYDRANT LOCATION.
10. HYDRANTS SHALL NOT BE USED AS TEMPORARY BLOW–OFFS DURING CONSTRUCTION.
11. NO VERTICAL OBSTRUCTIONS SHALL BE WITHIN 10' OF EITHER SIDE OR REAR OF HYDRANT.
12. SPECIFY BOLLARDS WHERE HYDRANTS ARE UNPROTECTED BY CURB AND GUTTER, PLACED IN OPEN SPACE OR AT THE REAR OF COMMERCIAL BUILDINGS.
13. FIRE HYDRANTS SHALL BE PLACED AT SIGNIFICANT HIGH POINTS OF MAINS TO RELEASE AIR.
14. TO ENABLE THE DRAINING AND FLUSHING OF ALL MAINS, SPECIFY FIRE HYDRANTS AT SIGNIFICANT LOW POINTS.
15. LANDSCAPING, TREES, BMP'S, SIGNS, SIGNALS, LIGHT POLES, AND/OR OTHER UTILITIES ARE NOT PERMITTED TO BE WITHIN 5 FEET OF A HYDRANT.
16. WHEN INSTALLED IN PARKING AREA, FIRE HYDRANT SHALL BE PROTECTED BY BARRIERS THAT WILL PREVENT PHYSICAL DAMAGE BY VEHICLES.
17. IN THE CITY OF ALEXANDRIA, PUBLIC AND PRIVATE FIRE HYDRANTS ARE LOCATED AND MAINTAINED TO ASSURE THE APPROPRIATE SUPPLY OF WATER IS AVAILABLE FOR FIREFIGHTING PURPOSES. ALL PUBLIC FIRE HYDRANTS ARE THE PROPERTY OF THE CITY OF ALEXANDRIA. ALL FIRE HYDRANTS LOCATED ON PRIVATE PROPERTY ARE THE OWNERSHIP AND MAINTENANCE RESPONSIBILITY OF THE PROPERTY OWNER. IN ORDER TO PROVIDE FOR FIREFIGHTING PURPOSES, IT IS NECESSARY THAT ALL FIRE HYDRANTS BE EASILY RECOGNIZABLE TO AVOID BEING BLOCKED OR OBSTRUCTED. TO AID IN MAINTAINING THE IDENTIFIABLE APPEARANCE AND BY ORDER OF THE FIRE CHIEF, ALL FIRE HYDRANTS SHALL BE PAINTED AS DIRECTED:
   A. ALL PUBLIC AND PRIVATE HYDRANT BARRELS AND EXTENSIONS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "SAFETY YELLOW" #B54Y2437
   B. ALL PUBLIC HYDRANT BONNETS AND CAPS SHALL BE PAINTED WITH AN APPROVED REFLECTIVE WHITE: SHERWIN WILLIAMS "PURE WHITE" # B54W2401
   C. ALL PRIVATE HYDRANT BONNETS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "SAFETY YELLOW" #B54Y2437
   D. ALL PRIVATE HYDRANT CAPS SHALL BE PAINTED WITH THE APPROVED: SHERWIN WILLIAMS "PURE WHITE" #B54W2401
   E. HYDRANT BARRELS AND EXTENSIONS MAY BE PAINTED WITH AN APPROVED FLAT BLACK IN THE HISTORIC AND OLD TOWN AREAS OF THE CITY WHEN SPECIFICALLY APPROVED IN WRITING BY THE FIRE CHIEF.

FIRE HYDRANT INSTALLATION NOTES

REVISION	DATE
	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSFH–1A

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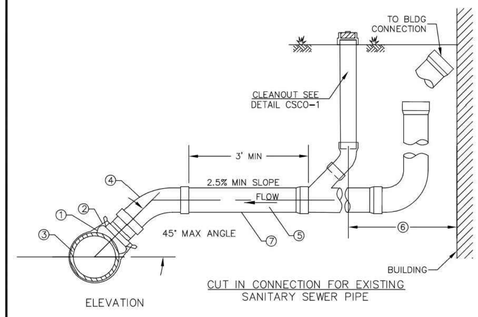
Pipe Type	Pipe Cutting Method	Connection Type	Applicable Detail
PVC (SDR–26) or Schedule 40	Tapping Machine	Romac CB Sewer Saddle or approved equal	CSLC–1A
Concrete	Coring	Romac CB Sewer Saddle or approved equal	CSLC–1A
Cast Iron/ Ductile Iron	Tapping Machine	Romac CB Sewer Saddle or approved equal	CSLC–1A
Vitrified Clay Pipe (VCP)	Saw Cut	Manufactured Y or T connection	CSLC–1B
Brick	Special design		
Non–circular pipe			
Other Material			

NOTE:
1. ROMAC CB SEWER SADDLE OR CITY APPROVED EQUAL
2. ROMAC CB STRAPS 304 STAINLESS STEEL
3. EXISTING SEWER MAIN
4. 45° ELBOW/ BEND
5. PVC LATERAL SDR 26 OR SCHEDULE 40.
6. MINIMUM AND MAXIMUM SLOPE IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
7. INVERT OF HOUSE CONNECTION MUST BE AT CROWN OF SEWER OR HIGHER.



SANITARY SEWER LATERAL CONNECTION

REVISION	DATE
	8/30/2022

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSLC–1A

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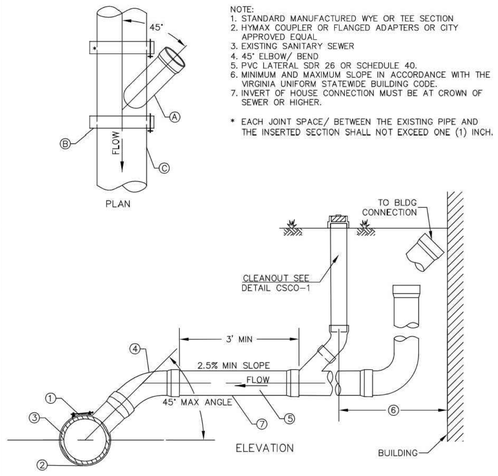

NOTE:
1. STANDARD MANUFACTURED WYE OR TEE SECTION
2. HYMAX COUPLER OR FLANGED ADAPTERS OR CITY APPROVED EQUAL
3. EXISTING SANITARY SEWER
4. 45° ELBOW/ BEND
5. PVC LATERAL SDR 26 OR SCHEDULE 40.
6. MINIMUM AND MAXIMUM SLOPE IN ACCORDANCE WITH THE VIRGINIA UNIFORM STATEWIDE BUILDING CODE.
7. INVERT OF HOUSE CONNECTION MUST BE AT CROWN OF SEWER OR HIGHER.

* EACH JOINT SPACE/ BETWEEN THE EXISTING PIPE AND THE INSERTED SECTION SHALL NOT EXCEED ONE (1) INCH.

MANUFACTURED WYE OR TEE CONNECTION FOR EXISTING VITRIFIED CLAY PIPE (VCP) OR REPLACING ENTIRE SECTION OF OTHER MATERIALS PIPES

SANITARY SEWER LATERAL CONNECTION

REVISION	DATE
	8/30/2022

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSLC–1B

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NOTES:
A. CONNECTION TO A PUBLIC SANITARY SEWER SHALL REQUIRE A SEWER LATERAL CONNECTION PERMIT FROM THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES (T&ES). IF THE SANITARY SEWER IS LOCATED WITHIN THE PUBLIC RIGHT OF WAY AN EXCAVATION PERMIT SHALL ALSO BE REQUIRED.
B. THE CONNECTION SHALL BE MADE PER THE RECOMMENDATIONS OF THE MANUFACTURER, AND IN THE PRESENCE OR WITH THE APPROVAL OF THE T&ES, CONSTRUCTION AND INSPECTION (C&I) INSPECTOR.
C. THE SADDLE SHALL PROPERLY MATCH THE SANITARY SEWER MAIN PIPE.
D. THE CUT ON THE EXISTING PIPE MUST BE NO LARGER THAN NECESSARY TO INSTALL SADDLE.
E. ROUGH EDGES LEFT BY SAW CUT OR CORING SHALL BE SMOOTHED WITH A FILE OR SAND PAPER DEPENDING UPON THE MATERIAL OF THE SANITARY SEWER PIPE.
F. OVER CUTTING THE HOLE OR DAMAGING THE SEWER MAIN WILL WARRANT REPLACEMENT OF THE DAMAGED MAIN LINE SEGMENT AND INSTALLATION OF A FACTORY MANUFACTURED WYE OR TEE CONNECTION PER DETAIL CSLC–1B.
G. THE SADDLE CONNECTION MAY BE REPLACED WITH COMPRESSION SLEEVE CONNECTION WITH APPROVAL OF T&ES ENGINEER.
H. THE TAP MUST BE OFFSET MINIMUM 2' FROM THE JOINTS.
I. THE MANUFACTURED WYE OR TEE CONNECTION SHALL BE INSTALLED BY CUTTING OUT A SECTION OF VCP SEWER MAIN, MAINTAINING SQUARE ENDS, AND INSERTING THE MANUFACTURED WYE OR TEE SECTION. THE JOINTS ON BOTH SIDES SHALL BE SEALED USING HYMAX COUPLERS OR HYMAX FLANGED ADAPTERS OR CITY APPROVED EQUAL.
J. T&ES INSPECTOR MUST INSPECT THE TAP PRIOR TO BACKFILL.
K. ALL NEW INSTALLATIONS AND/OR REINSTALLATIONS OF SANITARY LINES 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 5 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 APPROVED COLOR FOR SANITARY SEWER LINES AND LATERALS IS GREEN.
L. BEDDING SHOULD BE AS PER (CSTB–1).
M. SEE CSCO–1 FOR CLEANOUT DETAIL.
N. FOR PIPE MATERIAL TABLE SEE DETAIL CSLC–1A.

SANITARY SEWER LATERAL CONNECTION NOTES

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ALEXANDRIA, VIRGINIA

CSLC–1C

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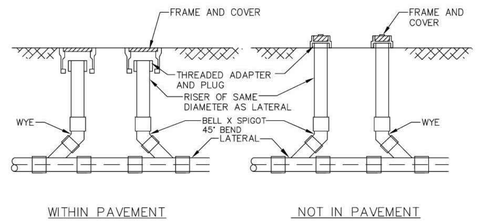

NOTE:
1. TERMINATE TRACER WIRE WITH CLEANOUT THAT IS WITHIN 5" OF BUILDING'S EXTERIOR. TERMINATE TRACER WIRE ABOVE GRADE IN AN ACCESSIBLE LOCATION. WHERE PROJECTED FROM DAMAGE. IF NOT USING IRON FRAME AND COVER.
2. TRACER WIRE TO BE #12 AWG SOLID COPPER WITH 45 MIL POLYETHYLENE INSULATION. AT TEMPORARY TERMINATION OF LATERAL BY UTILITY CONTRACTOR, MAKE SPLICE WITH BUTT CONNECTOR AND SHRINK SLEEVE. NO OTHER SPLICES PERMITTED.
3. EXPOSED CONCRETE TO HAVE CHAMFERED EDGES.

SANITARY SEWER CLEANOUT

REVISION	DATE
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ALEXANDRIA, VIRGINIA

CSCO–1

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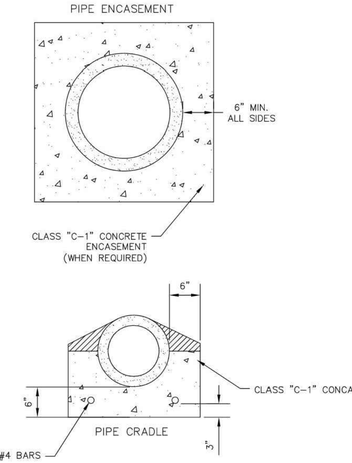

NOTE:
1. MINIMUM REQUIRED FOR UNCONTROLLED FILL AND UNACCEPTABLE NATIVE SOILS. GEOTECHNICAL ANALYSIS REQUIRED FOR OTHER CONDITIONS.
2. ENCASEMENT TO BE ONLY FOR SHALLOW COVER ≤ 2 FEET.
3. EXTEND PIPE ENCASEMENT 10' ON EACH SIDE OF THE POINT OF THE CROSSING.
4. REFER TO DESIGN GUIDELINES FOR SITE PREPARATION NOTE 4 ON G-05 FOR ADDITIONAL REQUIREMENTS.

SEWER PIPE ENCASEMENT AND HIGH CRADLE

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSSE–1

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STANDARD DETAILS

NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
1	10/2025	100% SUBMITTAL	H LUSK	T WEINSTEIN	P FESER	APVD H LUSK
2	04/2025	90% SUBMITTAL				
3	11/2024	65% SUBMITTAL				
4	06/2024	60% SUBMITTAL				
5	09/2023	30% SUBMITTAL				

DSGN H LUSK

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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WATER & SEWER
STANDARD DETAILS
(SHEET 3 OF 10)

FINAL DESIGN (NOT FOR CONSTRUCTION)

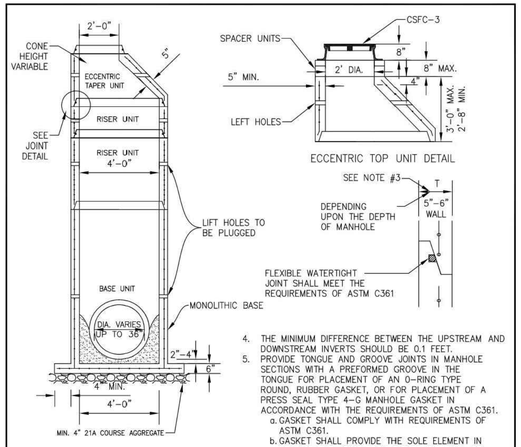
NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-03
SHEET	121 of 158

FILENAME: CD-03.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:11 AM



N.T.S.

NOTE:
1. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.
2. PIPE MUST BE FLUSH WITH INSIDE WALL OF MANHOLE.
3. WALLS TO DEPTH OF 12' TO BE 5" THICK. WALLS DEEPER THAN 12' TO BE 6".
4. THE MINIMUM DIFFERENCE BETWEEN THE UPSTREAM AND DOWNSTREAM INVERTS SHOULD BE 0.1 FEET.
5. PROVIDE TONGUE AND GROOVE JOINTS IN MANHOLE SECTIONS WITH A PREFORMED GROOVE IN THE TONGUE FOR PLACEMENT OF AN O-RING TYPE ROUND, RUBBER GASKET, OR FOR PLACEMENT OF A PRESS SEAL TYPE 4-G MANHOLE GASKET IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C361.
   a. GASKET SHALL COMPLY WITH REQUIREMENTS OF ASTM C361.
   b. GASKET SHALL PROVIDE THE SOLE ELEMENT IN SEALING THE JOINT FROM EITHER INTERNAL OR EXTERNAL HYDROSTATIC PRESSURE.
6. MANHOLE SHALL BE TESTED FOR NEGATIVE AIR PRESSURE (VACUUM) TEST IN ACCORDANCE WITH ASTM C1244 FOR THE FINAL ACCEPTANCE.
7. WHEN A WATERTIGHT FRAME AND COVER IS REQUIRED BY THE CITY, A CSFC-4 SHALL BE USED.
8. FOR MANHOLES OVER 60" IN DIAMETER, A SPECIAL DESIGN WILL BE SUBMITTED TO CITY FOR APPROVAL.
9. FOR REINFORCEMENT SCHEDULE SEE CSMH-2, PAGE 11.

PRECAST MANHOLE
4' INSIDE DIAMETER; FOR PIPES UP TO 36" IN DIAMETER

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CSMH-3

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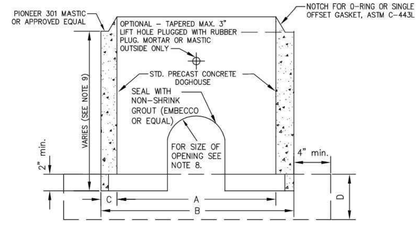
NOTE:
1. CONCRETE TO BE VDOT CLASS A-4.
2. ALL REINFORCING STEEL TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. A-615.
3. MANHOLE SECTIONS TO MEET THE CURRENT REQUIREMENTS OF ASTM SPEC. C-478.
4. TAPERED JOINT WITH O-RING GASKET, OR SINGLE OFFSET JOINT WITH RUBBER GASKET TO MEET CURRENT REQUIREMENTS OF ASTM SPEC. C-443.
5. DOGHOUSE OPENING MAY ONLY BE USED WHEN PLACING A NEW MH OVER AN EXISTING LINE; OTHERWISE, THE OPENING MUST BE CAST. SIZE, LOCATION & ANGLE OF ENTRY MUST BE AS REQUIRED BY THE PLANS.
6. MH SECTION TO BE CAST IN THE BASE A MIN. OF 2".
7. JOINT CONFIGURATION MAY BE CAST BELL-UP OR SPIGOT-UP.
8. HOLES IN PRECAST UNITS ARE TO BE 4" MIN. 8" MAX. LARGER THAN THE OUTSIDE DIA. OR THE PROPOSED PIPE.
9. BASE SECTION TO PROVIDE MIN. 6" CLEARANCE BETWEEN TOP OF PIPE OPENING AND BOTTOM OF BELL AND SPIGOT JOINT.
10. THE MANHOLE SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

CHART "A"

	MIN. DIMENSIONS (in.)		
MH	4' – 0"	5' – 0"	6' – 0"
A	48"	60"	72"
B	58"	72"	86"
C	5"	6"	7"
D	6"	8"	10"

DIMENSIONS OF D MUST BE TAKEN FROM BOTTOM OF KEY (SEE DRAWING BELOW)



DOGHOUSE MANHOLE

REVISION	DATE
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSMH-5

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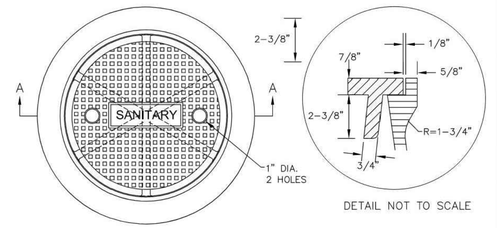
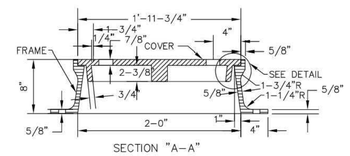


DETAIL NOT TO SCALE



SECTION "A-A"

NOTE: THE MANHOLE FRAME AND COVER SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

NOTE :
TOP AND CASTING TO BE MACHINED.
FRAME WEIGHT 200 LBS.
COVER WEIGHT 125 LBS.
TOTAL WEIGHT 325 LBS.

MANHOLE FRAME & COVER

REVISION	DATE
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CSFC-3

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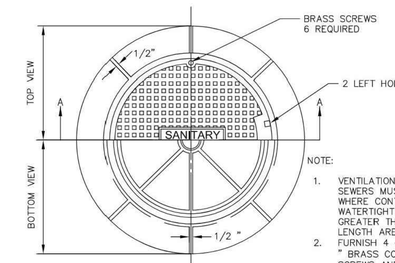
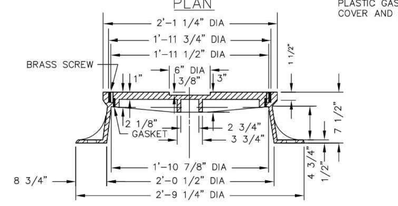


NOTE:
1. VENTILATION OF GRAVITY SEWERS MUST BE PROVIDED WHERE CONTINUOUS WATERTIGHT SECTIONS GREATER THAN 1000 FEET IN LENGTH ARE INCURRED.
2. FURNISH 4 – 3/8 " x 2 1/2 " BRASS COUNTERSUNK CAP SCREWS AND FLEXIBLE PLASTIC GASKET BETWEEN COVER AND FRAME SET.

PLAN



SECTION A-A
NOT TO SCALE

MINIMUM AVG. WEIGHTS	
FRAME	190 LBS
COVER	120 LBS
TOTAL	310 LBS

NOTE: THE MANHOLE FRAME AND COVER SHALL BE DESIGNED TO MEET HS-20 LOADING CAPACITY.

MANHOLE FRAME & COVER
(Bolted - Watertight)

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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
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CSFC-4

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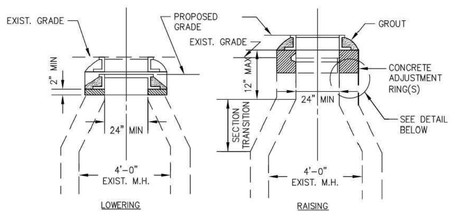
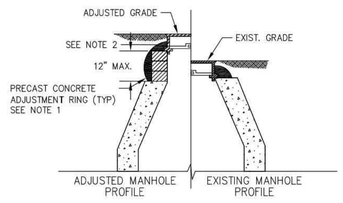


ADJUSTMENT (FRAME & COVER ONLY)

RAISE OR LOWER FRAME AND COVER SUCH THAT HEIGHT OF 24" NECK SECTION, INCLUDING FRAME AND COVER, DOES NOT EXCEED 12" MAXIMUM OR 2" MINIMUM. IF RANGE IS EXCEEDED, USE MODIFIED MANHOLE ADJUSTMENT.



SEE NOTES ON MODIFIED MANHOLE ADJUSTMENT DETAIL, CSMA-1A.

MANHOLE
(Grade Rim Adjustments)

REVISION	DATE
	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSMA-1

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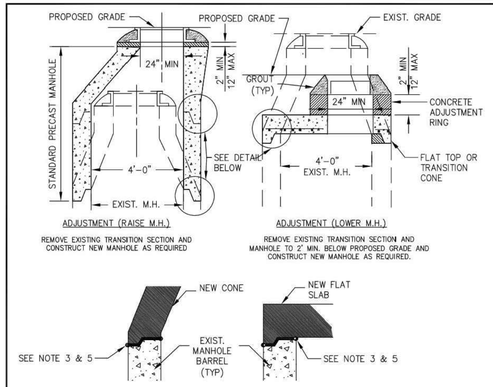

NOTES:
1. RINGS TO BE COATED ON ALL INTERIOR SURFACES, 3/8" THICK (MIN) WITH HYDRAULIC CEMENT HIGH STRENGTH GROUT.
2. MH CASTING (FRAME) AND PRECAST CONCRETE ADJUSTMENT RINGS TO BE SET AND EMBEDDED IN BUTYL JOINT MATERIAL ("RAM-NEK" OR EQUAL) AND CAPPED WITH HIGH STRENGTH HYDRAULIC CEMENT GROUT OVER FRAME FLANGE, ADJUSTMENT RINGS AND CONE OR BARREL SECTION.
3. BUTYL JOINT MATERIAL TO BE PLACED OVER ENTIRE SURFACE OF JOINT AND SQUEEZED OUT WHEN JOINT IS MADE. STRIKE EXCESS FLUSH WITH JOINT BEFORE APPLYING GROUT.
4. NEW MH SECTION TO BE SET AND EMBEDDED IN BUTYL JOINT MATERIAL ("RAM-NEK" OR EQUAL).
5. CLEAN AND PATCH EXISTING BARREL SURFACE, PLACE BUTYL JOINT MATERIAL OVER ENTIRE SURFACE (TOP SHOULDER, SLOPE AND SEAT) AND SQUEEZE OUT WHEN JOINT IS MADE.
6. THE CONTRACTOR SHALL RE-GROUT THE ENTIRE MANHOLE WHEN STRUCTURE IS RAISED OR LOWERED.

MODIFIED MANHOLE ADJUSTMENTS

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	06/21/2021

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSMA-1A

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STANDARD DETAILS
NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	06/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		
DSGN	H LUSK	DR	T WEINSTEIN	CHK	P FESER	APVD	H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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STORM STANDARD DETAILS
(SHEET 4 OF 10)

FINAL DESIGN (NOT FOR CONSTRUCTION)

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VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-04
SHEET	122 of 158

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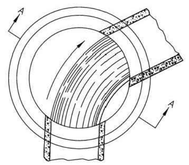
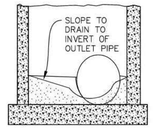


TREATMENT IN PRECAST MANHOLES

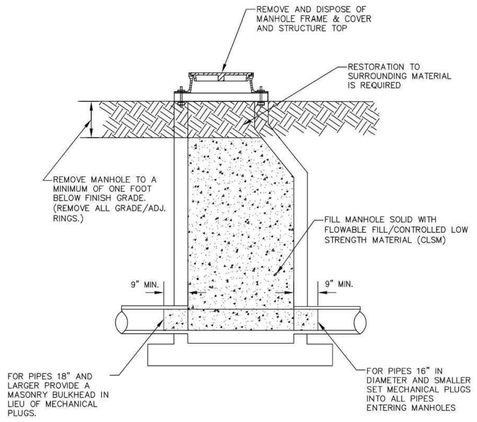


SECTION A –A

NOTES:

1. SHAPING OF MANHOLE IN ACCORDANCE WITH THIS DRAWING IS TO APPLY TO THOSE STRUCTURES SPECIFIED ON PLANS.
2. MANHOLE IS TO BE FORMED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STANDARD OR SPECIAL DRAWING. THE INVERT SHAPING AS DETAILED HEREON IS TO CONSIST OF A PORTLAND CEMENT CONCRETE MIX CONFORMING TO VDOT CLASS A3. THE SURFACE SHALL BE LEFT SMOOTH BY MEANS OF HAND TROWELLING. NONE OF THE COARSE AGGREGATE SHALL REMAIN EXPOSED
3. INVERT TO BE PAVED TO THE SHAPE OF THE PIPE AND TO THE SPRING LINE EXCEPT WHERE INLET AND OUTLET PIPE MAKE AN ANGLE WITH EACH OTHER IN WHICH CASE PAVING SHALL BE TO THE CROWN OF THE OUTLET PIPE. THEN FROM THE SPRING LINE OR THE CROWN, WHICHEVER IS THE CASE, THE PAVING IS TO BE EXTENDED UPWARD AT A 45° ANGLE TO MEET THE STRUCTURE WALL.
4. DETAILS OF INVERT SHAPING AS SHOWN HEREON ARE FOR EXAMPLE PURPOSES ONLY. EACH MANHOLE IS TO BE SHAPED INDIVIDUALLY TO BEST FIT THE PARTICULAR INLET AND OUTLET CONFIGURATION AND FLOW LINES.

MANHOLE SHAPING	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSIS–2
	PAGE 40



NOTE:
VDOT A3 CONCRETE SHALL BE USED FOR THE CONCRETE MATERIAL.

MANHOLE ABANDONMENT	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSMA–1
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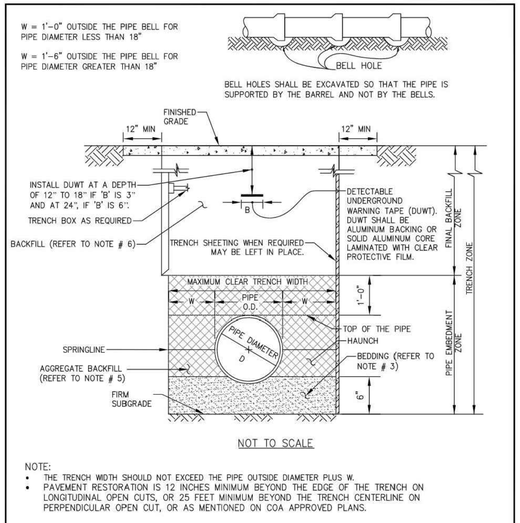

NOT TO SCALE

NOTE:
- THE TRENCH WIDTH SHOULD NOT EXCEED THE PIPE OUTSIDE DIAMETER PLUS W.
- PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUT, OR AS MENTIONED ON COA APPROVED PLANS.

TRENCH BEDDING & BACKFILL DETAIL DUCTILE IRON PIPE (DIP) - TYPE 4	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSTB–2
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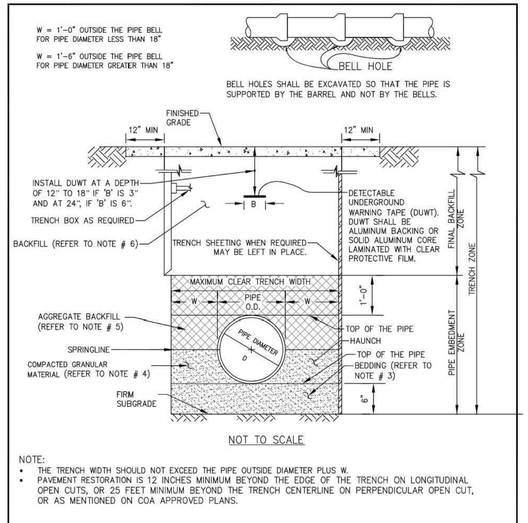

NOT TO SCALE

NOTE:
- THE TRENCH WIDTH SHOULD NOT EXCEED THE PIPE OUTSIDE DIAMETER PLUS W.
- PAVEMENT RESTORATION IS 12 INCHES MINIMUM BEYOND THE EDGE OF THE TRENCH ON LONGITUDINAL OPEN CUTS, OR 25 FEET MINIMUM BEYOND THE TRENCH CENTERLINE ON PERPENDICULAR OPEN CUT, OR AS MENTIONED ON COA APPROVED PLANS.

TRENCH BEDDING & BACKFILL DETAIL TYPE 5 DUCTILE IRON PIPE (DIP)	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSTB–2A
	PAGE 38

NOTE:

1. DUCTILE IRON PIPE (DIP) SHALL BE INSTALLED PER THE REQUIREMENTS OF ANSI/AWWA C150/A21.50 AND ANSI/AWWA C600, AS MODIFIED IN THIS DETAIL.
2. MINIMUM COVER FOR ALL H–25 LOADING APPLICATIONS SHALL BE 3'–6". MINIMUM COVER IS MEASURED FROM THE TOP OF PIPE TO THE TOP OF A RIGID PAVEMENT OR BOTTOM OF FLEXIBLE/ASPHALT PAVEMENT SECTIONS.
3. BEDDING MATERIAL SHALL BE SAND, GRAVEL, OR CRUSHED STONE CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C150/A21.50 AND ANSI/AWWA C600 OR VDOT AGGREGATE #8 OR CRUSHER RUN AGGREGATE #25 OR #26 CONFORMING TO THE REQUIREMENTS OF SECTION 205 OF VDOT ROAD AND BRIDGE SPECIFICATIONS TO A DEPTH OF 1/8 PIPE DIAMETER, D, OR 6" MINIMUM. WORK MATERIAL UNDER PIPE TO PROVIDE HAUNCH SUPPORT. WHEN STANDING WATER IS IN PIPE FOUNDATION AREA, #57 STONE CAN BE USED AS A BACKFILL IN THE SUBFOUNDATION WITH THE CONDITION THAT #57 STONE SHALL BE CAPPED WITH A MINIMUM 4" CRUSHER RUN PRIOR TO PLACEMENT OF A PIPE (COMPACTION TESTING ON #57 STONE IS NOT REQUIRED; SEAT STONE IN TRENCH).
4. PIPE BEDDED TO ITS CENTERLINE IN COMPACTED GRANULAR MATERIAL CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C150/A21.50 AND ANSI/AWWA C600 WITH 6" MINIMUM UNDER PIPE OR VDOT AGGREGATE #8 OR CRUSHER RUN AGGREGATE #26 AND #27 CONFORMING TO THE REQUIREMENTS OF SECTION 205 OF VDOT ROAD AND BRIDGE SPECIFICATIONS. WORK MATERIAL UNDER PIPE TO PROVIDE HAUNCH SUPPORT. WHEN STANDING WATER IS IN PIPE FOUNDATION AREA, #57 STONE CAN BE USED AS A BACKFILL IN THE SUBFOUNDATION WITH THE CONDITION THAT #57 STONE SHALL BE CAPPED WITH A MINIMUM 4" CRUSHER RUN PRIOR TO PLACEMENT OF A PIPE (COMPACTION TESTING ON #57 STONE IS NOT REQUIRED; SEAT STONE IN TRENCH).
5. AGGREGATE BACKFILL MATERIAL SHALL BE SAND, GRAVEL, OR CRUSHED STONE CONFORMING TO THE REQUIREMENTS OF ANSI/AWWA C150/A21.50 AND ANSI/AWWA C600 COMPACTED TO 1 FOOT ABOVE TOP OF PIPE (APPROXIMATELY 80% STANDARD PROCTOR, AASHTO T–99) OR VDOT CLASS I BACKFILL MATERIAL SHALL BE CRUSHER RUN #26 AND #27, AGGREGATE BASE 21–A, OR 21–B WITH DRAINAGE, FLOWABLE FILL, OR CRUSHED GLASS CONFORMING TO THE SIZE REQUIREMENTS FOR CRUSHER RUN AGGREGATE SIZE #26 AND #27 – FROM BEDDING TO 1 FOOT ABOVE TOP OF PIPE. THE BACKFILL SHALL BE INSTALLED IN LIFTS AND COMPACTED PER ANSI/AWWA C150/A21.50 AND ANSI/AWWA C600.
6. EXCAVATED MATERIAL BACKFILLED IN 6" LAYERS TO 95% COMPACTION. SELECT MATERIAL, WHERE CALLED FOR, MAY BE USED.
7. BACKFILL UNDER PAVED ROAD TO BE SELECT MATERIAL VDOT 21A.
8. SHEETING LEFT IN PLACE SHALL BE EITHER STEEL OF PRESSURE TREATED WOOD.

TRENCH BEDDING & BACKFILL DETAIL NOTES FOR DUCTILE IRON PIPE	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSTB–2B
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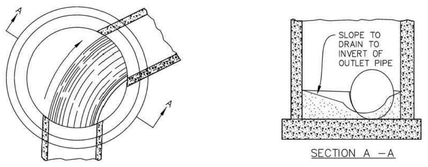

TREATMENT IN PRECAST MANHOLES

SECTION A –A

NOTES:

1. SHAPING OF MANHOLE IN ACCORDANCE WITH THIS DRAWING IS TO APPLY TO THOSE STRUCTURES SPECIFIED ON PLANS.
2. MANHOLE IS TO BE FORMED AND CONSTRUCTED IN ACCORDANCE WITH APPLICABLE STANDARD OR SPECIAL DRAWING. THE INVERT SHAPING AS DETAILED HEREON IS TO CONSIST OF A PORTLAND CEMENT CONCRETE MIX CONFORMING TO VDOT CLASS A3. THE SURFACE SHALL BE LEFT SMOOTH BY MEANS OF HAND TROWELLING. NONE OF THE COARSE AGGREGATE SHALL REMAIN EXPOSED
3. INVERT TO BE PAVED TO THE SHAPE OF THE PIPE AND TO THE SPRING LINE EXCEPT WHERE INLET AND OUTLET PIPE MAKE AN ANGLE WITH EACH OTHER IN WHICH CASE PAVING SHALL BE TO THE CROWN OF THE OUTLET PIPE. THEN FROM THE SPRING LINE OR THE CROWN, WHICHEVER IS THE CASE, THE PAVING IS TO BE EXTENDED UPWARD AT A 45° ANGLE TO MEET THE STRUCTURE WALL.
4. DETAILS OF INVERT SHAPING AS SHOWN HEREON ARE FOR EXAMPLE PURPOSES ONLY. EACH MANHOLE IS TO BE SHAPED INDIVIDUALLY TO BEST FIT THE PARTICULAR INLET AND OUTLET CONFIGURATION AND FLOW LINES.

MANHOLE SHAPING	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSIS–2
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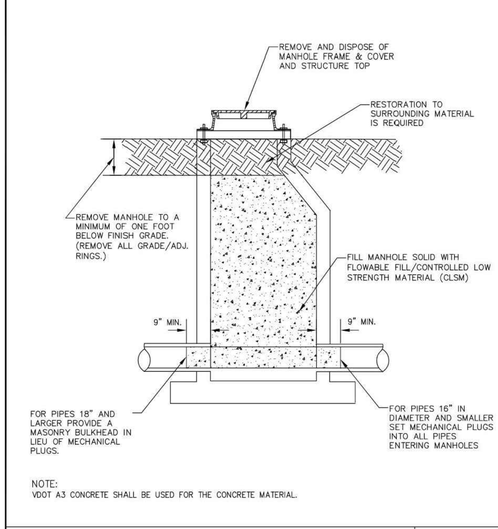

NOTE:
VDOT A3 CONCRETE SHALL BE USED FOR THE CONCRETE MATERIAL.

MANHOLE ABANDONMENT	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSMA–1
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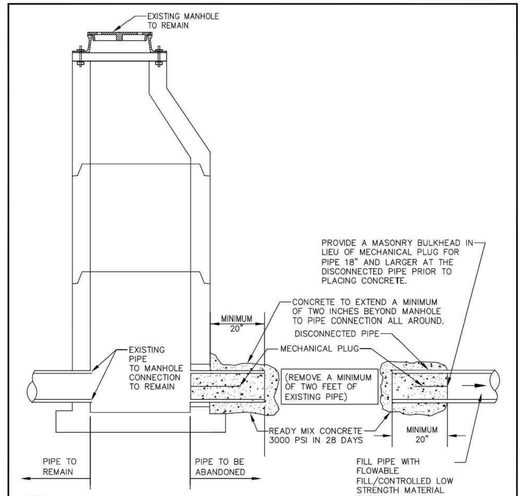

NOTE:
1. VDOT A3 CONCRETE SHALL BE USED FOR THE CONCRETE MATERIAL.
2. WHEN THE PIPE IS TO BE ABANDONED FROM THE STRUCTURE, THE WALL SHALL BE FLUSH WITH CONCRETE.
3. CONTROLLED LOW STRENGTH MATERIAL (CLSM) IS A SELF–COMPACTED, CEMENTITIOUS MATERIAL USED TO FILL ABANDONED SEWERS. (ASTM D–5971, ASTM D–6103, ASTM D–6023, ASTM D–4832)

PIPE ABANDONMENT	06/21/2021 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSPA–1
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STANDARD DETAILS

NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		APVD
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	06/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		
DSGN	H LUSK	DR	T WEINSTEIN	CHK	P FESER	APVD	H LUSK

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ALEXANDRIA, VA 22314

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STORM STANDARD DETAILS (SHEET 5 OF 10)

NTS

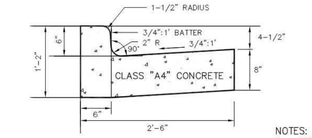
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

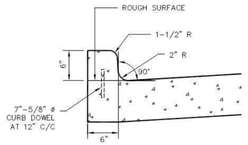
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-05
SHEET	123 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

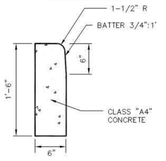
FILENAME: CD-05.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:16 AM



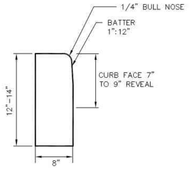
COMBINATION CURB AND GUTTER



INTEGRAL CURB



COPING CURB



GRANITE CURB

NOTES:
1. MATERIAL, FINISH AND TOLERANCE WILL BE IN ACCORDANCE WITH SECTION 404 – HYDRAULIC CEMENT CONCRETE OPERATIONS OF THE LATEST VDOT ROAD & BRIDGE SPECIFICATIONS.
2. ALL CURB AND GUTTER SHALL HAVE MIN. 6" THICK 21A AGGREGATE BASE AND MUST BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY OR 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY.

CURB AND GUTTER, COPING CURB AND GRANITE CURB

06/03/2022

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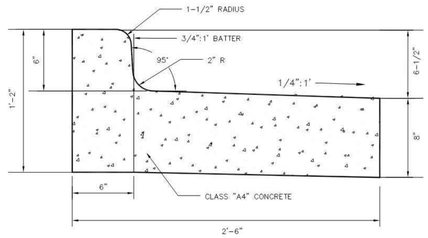
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTES:
1. MATERIAL, FINISH AND TOLERANCE WILL BE IN ACCORDANCE WITH SECTION 404 – HYDRAULIC CEMENT CONCRETE OPERATIONS OF THE LATEST VDOT ROAD & BRIDGE SPECIFICATIONS.
2. ALL CURB AND GUTTER SHALL HAVE MIN. 6" THICK 21A AGGREGATE BASE AND MUST BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY OR 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY.

CURB AND GUTTER REVERSE FLOW

06/03/2022

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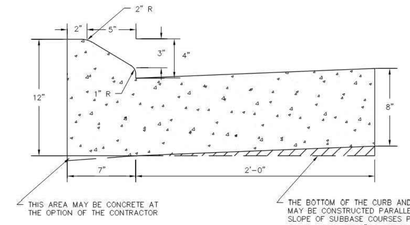
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NOTE:
1. THIS ITEM MAY BE PRECAST OR CAST IN PLACE.
2. CONCRETE TO BE CLASS A4 IF CAST IN PLACE, 4000 PSI IF PRECAST.
3. MATERIAL, FINISH AND TOLERANCE WILL BE IN ACCORDANCE WITH SECTION 404 – HYDRAULIC CEMENT CONCRETE OPERATIONS OF THE LATEST VDOT ROAD & BRIDGE SPECIFICATIONS.
4. ALL CURB AND GUTTER SHALL HAVE MIN. 6" THICK 21 A AGGREGATE BASE AND MUST BE COMPACTED TO 95% OF THE MAXIMUM STANDARD PROCTOR DENSITY OR 90% OF THE MAXIMUM MODIFIED PROCTOR DENSITY.

MOUNTABLE CURB & GUTTER

06/03/2022

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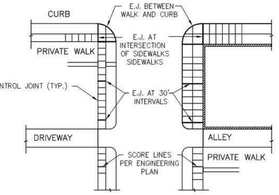
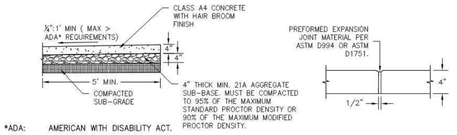
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



EXPANSION JOINT PLACEMENT



*ADA: AMERICAN WITH DISABILITY ACT.

SIDEWALK SECTION

EXPANSION JOINT

NOTES:
1. SCORING OF CONCRETE SLAB SHALL BE SAW CUT NOT MORE THAN 3/16" IN WIDTH AND NOT MORE THAN ¼" DEEP.
2. THE EXPANSION JOINTS SHALL BE ½" WIDE, FULL DEPTH, AND SHALL BE OF PRE–FORMED EXPANSION JOINT MATERIAL CONFORMING TO THE REQUIREMENTS OF ASTM D994 ASPHALT OR ASTM D1751 FIBRE. EXPANSION MATERIAL SHALL BE SECURED IN A MANNER THAT WILL PREVENT MOVEMENT OR DISPLACEMENT OF CONCRETE DURING PLACEMENT.
3. THE EXPANSION JOINTS SHALL BE PLACED PERPENDICULAR TO CONCRETE CURB AT A DISTANCE OF 30' OR COINCIDING WITH THE SCORING.
4. DOWELS SHALL BE PLACED AT THE END OF A SIDEWALK PLACEMENT, AT INTERRUPTIONS FOR A DRIVEWAY, OR IF SIDEWALK SLABS ARE POURED AT DIFFERENT TIMES.
5. SAWING OF JOINTS SHALL BE CONDUCTED AS SOON AS THE CONDITION OF THE CONCRETE PERMITS AND BEFORE ANY RANDOM CRACKING APPEARS.
6. ALL STRUCTURAL ITEMS TO CONFORM TO THE LATEST EDITION OF UNIFORM STATEWIDE BUILDING CODE (USBC) REQUIREMENTS.
7. PRIOR TO CONSTRUCTION, ALL STRUCTURAL CROSS SECTIONS SHALL BE REVIEWED BY A QUALIFIED STRUCTURAL AND/OR GEOTECHNICAL ENGINEER, AND MODIFIED AS NECESSARY BASED ON THE SITE SPECIFIC GEOTECHNICAL REPORT.

STANDARD CONCRETE SIDEWALK

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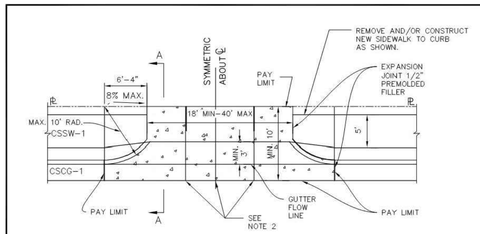
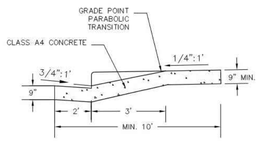
ALEXANDRIA, VIRGINIA



PLAN VIEW

NOTES:
1. ENTRANCE IS POURED MONO–LITHIC WITH RADIAL CURB AND FINISHED INTO SMOOTH TRANSITION.
2. THE MINIMUM WIDTH OF THE ENTRANCE IS 18' AND THE MAXIMUM WIDTH IS 40'. THE ENTRANCE SHOULD BE NO MORE THAN 40' UNLESS APPROVED BY THE DIRECTOR OF TES.
3. NEW CURB AND SIDEWALK GRADE IS TO CONTINUE THROUGH GRADE POINT AT 1/4":1' MAX.
4. SLOPE OF GRASS AREAS WILL BE 1/2" PER FOOT MAX.
5. THE MAXIMUM DIFFERENCE BETWEEN THE APPROACH GRADE AND THE ENTRANCE CROSS SLOPE SHALL NOT EXCEED 8%.
6. MAINTAIN A SEPARATION OF 150 FEET BETWEEN THE BEGINNING OF STREET CORNER RADIUS AND ANY DRIVEWAY APRON RADIUS ON ARTERIAL AND COLLECTOR ROADWAYS, WITH A MINIMUM OF 100 FEET PERMITTED, SUBJECT TO THE APPROVAL OF THE DIRECTOR OF T&ES.
7. DEPRESS SLAB 1 1/2" AT CENTERLINE AND BLEND INTO FLOW LINE.



SECTION A–A

COMMERCIAL ENTRANCE

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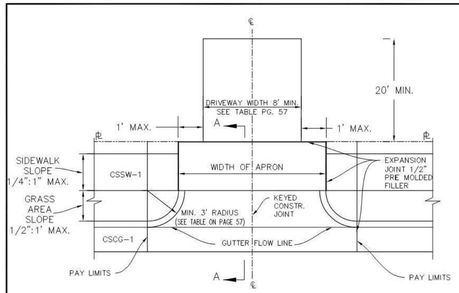
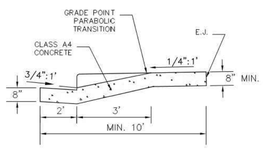
ALEXANDRIA, VIRGINIA



PLAN VIEW



SECTION A–A

NOTES:
1. DEPRESS SLAB 1 1/2" AT CENTERLINE AND BLEND INTO FLOW LINE.
2. PAY QUANTITIES SQ. YD. COMPLETE.
3. CLASS "A4" CONCRETE.
4. THE MAXIMUM DIFFERENCE BETWEEN THE APPROACH GRADE AND THE ENTRANCE CROSS SLOPE SHALL NOT EXCEED 8%.
5. MAINTAIN A MINIMUM SEPARATION OF 30 FEET ON RESIDENTIAL STREETS BETWEEN THE BEGINNING OF THE STREET CORNER RADIUS AND ANY DRIVEWAY APRON RADIUS.

RESIDENTIAL ENTRANCE

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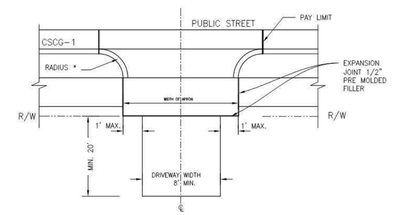
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CLASS OF STREET	LOCAL				COLLECTOR				ARTERIAL	
	MINOR		MAJOR		RESIDENTIAL		PRIMARY			
TYPE OF LANE AGAINST CURB	W/CURB PARK LANE	W/O CURB PARK LANE	W/CURB PARK LANE	W/O CURB PARK LANE	W/CURB PARK LANE	W/O CURB PARK LANE	W/CURB PARK LANE	W/O CURB PARK LANE	W/CURB PARK LANE	W/O CURB PARK LANE
MIN. WIDTH FT. **	8	9	10	12	9	10	10	12	12	16
MIN. RADIUS FT. *	3	5	5	7	5	7	5	7	7	10

* RADII SHALL BE IN FRONT OF THE PROPERTY SERVED BY THE DRIVEWAY WHENEVER POSSIBLE. JOINT DRIVEWAY MAY BE APPROVED, BUT MINIMUM WIDTH OF APRON IS REQUIRED ON EACH SIDE OF LOT LINE.

** WIDTH OF DRIVEWAY ON PROPERTY AT END OF APRON MAY NOT BE LESS THAN 8', OR 2' LESS THAN THE ABOVE WIDTH WHICHEVER IS GREATER. WHERE EVEN FURTHER REDUCTION IN WIDTH OF DRIVE WAY IS DESIRED ON LONG DRIVEWAYS A 10 TO 1 MIN. TRANSITION IN WIDTH MUST BE USED TO REACH SAID REDUCED WIDTH.

NOTE: UPON WRITTEN REQUEST TO THE DIRECTOR OF T&ES, VARIANCES FROM THE MINIMUM DRIVEWAY STANDARDS MAY BE GRANTED PROVIDED THAT STRICT APPLICATION OF THE REQUIREMENTS WILL EFFECTIVELY PROHIBIT OR UNREASONABLY RESTRICT THE USE OF THE PROPERTY; AND, PROVIDED THAT SUCH VARIANCE WILL NOT BE OF SUBSTANTIAL DETRIMENT TO ADJACENT PROPERTY. APPLICANT TO NOTIFY ADJACENT PROPERTY OWNERS OF DRIVEWAY REQUEST FOR ALL CURB CUTS AT LEAST 14 DAYS IN ADVANCE OF APPROVAL BY T&ES. APPEALS OF DECISIONS OF THE DIRECTOR OF T&ES MAY BE MADE IN WRITING TO THE TRAFFIC & PARKING BOARD BY THE APPLICANT OR AN ADJACENT PROPERTY OWNER OF THE PROPOSED DRIVEWAY.



RESIDENTIAL DRIVEWAY MINIMUM STANDARDS

06/03/2022

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CSRE–1A	
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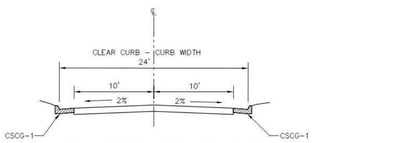
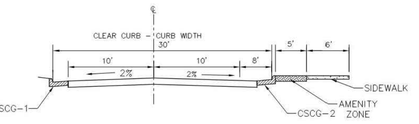
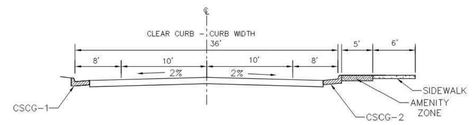
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA



NO ABUTTING SIDEWALKS, NO PARKING



ABUTTING SIDEWALK ONE SIDE, PARKING ONE SIDE



ABUTTING SIDEWALK ONE SIDE, PARKING BOTH SIDES

NOTES:
1. FOR SIDEWALK AND STREET WIDTHS SEE ALEXANDRIA COMPLETE STREETS DESIGN GUIDELINES.
2. PRIVATE STREETS SHOULD BE LABELED ON DEVELOPMENT PLANS.

RESIDENTIAL STREET MINIMUM STANDARDS

06/03/2022

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CSPS–2	
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DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

GENERAL NOTE:
MAXIMUM SLOPES PER THESE DETAILS CANNOT BE EXCEEDED. CONTRACTOR MUST CHECK EXISTING ELEVATIONS OF PAVEMENT, CURB, AND SIDEWALK PRIOR TO INSTALLATION. IF ADDITIONAL DEMOLITION AND REWORK OF SIDEWALK AND CURB ARE REQUIRED IN ORDER TO MEET THE MAXIMUM SLOPE REQUIREMENTS, PROVIDE SURVEY FINDINGS TO CITY. DO NOT PROCEED WITH CONSTRUCTION AT THE LOCATION UNTIL DIRECTION IS PROVIDED BY THE CITY.

STANDARD DETAILS

NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
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	09/2023	30% SUBMITTAL		

DSGN H LUSK DR T WEINSTEIN CHK P FESER APVD H LUSK

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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ROADWAY STANDARD DETAILS
(SHEET 6 OF 10)

FINAL DESIGN (NOT FOR CONSTRUCTION)

NTS
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-06
SHEET	124 of 158

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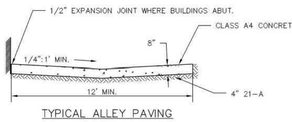
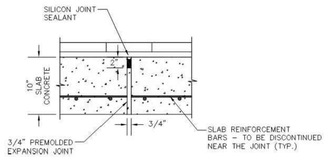
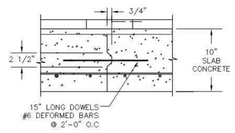


TYPICAL ALLEY PAVING



EXPANSION JOINT DETAIL
(TYP.)



CONSTRUCTION JOINT DETAIL
(TYP.)

NOTES:
1. PAVING THICKNESS AND ANY REINFORCING TO BE SPECIFIED FOR EACH JOB ON THE APPROVED PLANS.
2. LONGITUDINAL JOINTS AT MAX. 18' UNLESS SLAB IS REINFORCED.
3. SAWED JOINTS TO BE MIN. 1/4 THICKNESS OF SLAB.
4. ALL CONCRETE STREETS SHALL BE DESIGNED USING VDOT STANDARDS.
5. PROVIDE EXPANSION JOINT AT 30' O.C.
6. SCORE CONCRETE PAVEMENT.
7. FOR ALLEYS WITH HEAVY TRUCK TRAFFIC, CONCRETE PAVEMENT SECTION WILL BE DESIGNED.

CONCRETE PAVING OF ALLEYS & STREETS

06/03/2022

REVISION DATE

DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSCP-1

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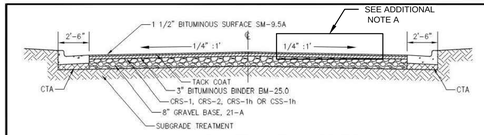
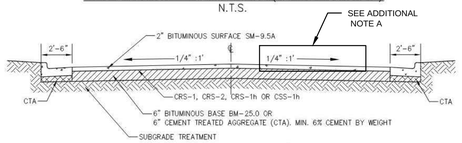
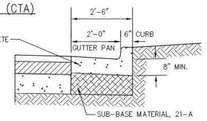


*CTA – CEMENT TREATED AGGREGATE

TYPICAL SECTION – FLEXIBLE BASE (ASPHALT CONCRETE)
N.T.S.



TYPICAL SECTION – RIGID BASE (CTA)
N.T.S.



NOTES:
1. 12 1/2" MIN. FROM BASE OF SUBGRADE TREATMENT TO SURFACE.
2. PAVEMENT DESIGN MUST BE PREPARED FOR NEW ROADS BASED ON CBR=10.
3. ADD TACK COAT BETWEEN ASPHALT LAYERS.

CALIFORNIA BEARING RATIO (CBR) NOTE:
1. 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 SUBGRADE MATERIALS. THE PAVEMENT SECTION SHALL BE DESIGNED BY A GEOTECHNICAL/LICENSED PROFESSIONAL ENGINEER TO 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.
2. THE THICNESSES 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 PAVEMENT INCLUDING EMERGENCY VEHICLE EASEMENT (EVE) TO SUPPORT H-20 LOADING BASED ON ACTUAL CBR VALUE AND USING VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) METHOD (VASWANI METHOD) AND STANDARD MATERIAL SPECIFICATION SHALL BE ACCEPTABLE.

ADDITIONAL NOTES:

A. THIS PROJECT IS CONSTRAINED TO WORK WITHIN THE CITY ROW UNLESS OTHERWISE NOTED. VERTICAL ELEVATIONS SHOULD BE HELD AT THE ROW LINE. SIDEWALK AND CURB ELEVATIONS ARE TO BE REPLACED TO MATCH PRECONSTRUCTION CONDITIONS UNLESS OTHERWISE DIRECTED IN THE DRAWINGS.

B. EXISTING SURVEY HAS FOUND LOCATIONS WHERE THE ROAD CROSS SLOPE DIFFERS FROM 1/4":1'. CONTRACTOR SHALL ADJUST THE ROAD CROSS SLOPE TO TIE INTO EXISTING VERTICAL ELEVATIONS OF GUTTERS, RAMPS, APRONS, AND AREAS OF TIE-IN TO EXISTING PAVEMENT AND MILL AND OVERLAY.

ASPHALT PAVING OF ALLEYS AND STREETS

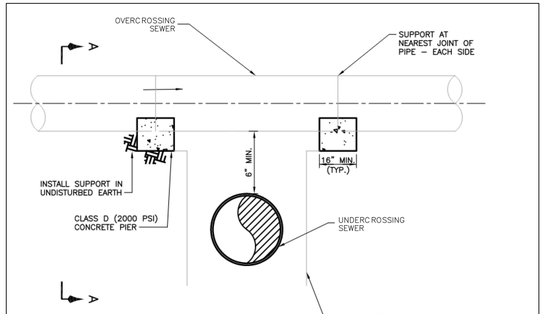
06/03/2022

REVISION DATE

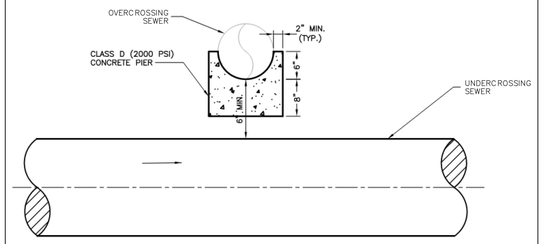
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES
ALEXANDRIA, VIRGINIA

CSAP-1

PAGE 62



ELEVATION

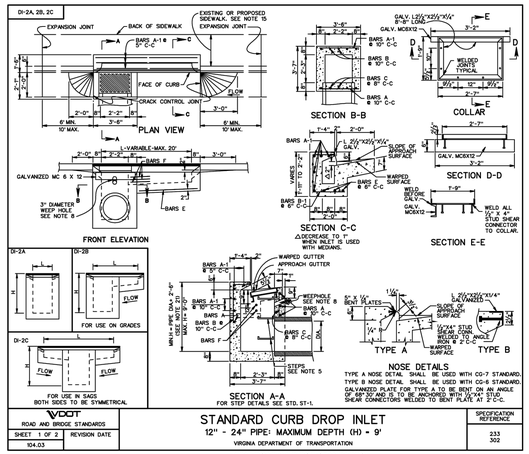


SECTION A-A

UTILITY CROSSING DETAIL
SCALE: NOT TO SCALE

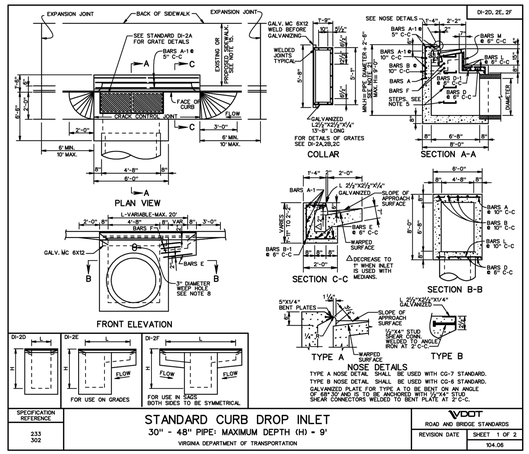
NOTES:
1. PROPOSED SEWER JOINTS SHALL BE LOCATED AS FAR FROM EXISTING CROSSING AS POSSIBLE. NO PIPE JOINT FOR NEW PIPING SHALL BE CLOSER THAN 4 FEET TO THE CROSSING.
2. CONTRACTOR RESPONSIBLE FOR ADDITIONAL SUPPORT NEEDED TO PERFORM THE WORK MAY INCLUDED TEMPORARY OR ADDITIONAL PERMANENT SUPPORTS AS FIELD VERIFIED CONDITIONS REQUIRE.

2016 ROAD & BRIDGE STANDARDS



2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS



2016 ROAD & BRIDGE STANDARDS

STANDARD DETAILS

NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

DSGN H.LUSK DR T.WEINSTEIN CHK P.FESER APVD H.LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

STANDARD DETAILS
(SHEET 7 OF 10)

FINAL DESIGN (NOT FOR CONSTRUCTION)

NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-07
SHEET	125 of 158

FILENAME: CD-07.dwg PLOT DATE: 9/19/2025 PLOT TIME: 1:28 PM

NOTE:

1. CURB RAMPS SHALL COMPLY WITH APPLICABLE VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) ROAD & BRIDGE STANDARDS. THE CURB RAMP DETAILS CAN BE FOUND IN THE LATEST ADDITION OF THE VDOT ROAD & BRIDGE STANDARDS: CG-12; PAGE 204.01 – 204.05.

2. PER CITY AND VDOT COMPLETE STREET GUIDELINES, CURB RAMPS SHALL BE PROVIDED FOR EACH DIRECTION OF CROSSING AT INTERSECTIONS THAT INCORPORATE PEDESTRIAN ACCESS ROUTES, AND ON BOTH SIDES OF A MIDBLOCK LOCATION TO ESTABLISH A PEDESTRIAN ACCESS ROUTE. CURB RAMPS SHALL BE IN LINE WITH THE DIRECTION OF PEDESTRIAN TRAVEL.

3. WHERE THERE IS INSUFFICIENT ROOM TO DEVELOP A MEANINGFUL CURB HEIGHT BETWEEN SEPARATE RAMPS ON A CORNER OR WHERE DOING SO WOULD CREATE AN OBSTACLE, A DESIGN KNOWN AS A "FAN" RAMP MAY BE ACCEPTABLE WHERE A MAXIMUM 8.3% RAMP GRADE IS WRAPPED AROUND A SHARED LANDING WITH DETECTABLE WARNING SURFACES RINGING THE RADIUS. FAN RAMPS CLOSELY MIMIC THE GRADE RISE OF A DIAGONAL RAMP BUT OPEN UP COMPLETELY TO BOTH DIRECTIONS OF TRAVEL. FAN TYPE RAMPS ARE USEFUL WHEN VERTICAL GRADES CANNOT BE MET BY ANY OTHER RAMP TYPE BECAUSE THEY RISE VERTICALLY FROM THE FLOW LINE TO A COMMON LANDING. THIS TYPE OF RAMP SHOULD BE USED ONLY WHEN SEPARATE CURB RAMPS ARE NOT FEASIBLE.

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /April_2019_Revision/204_01.pdf

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /April_2019_Revision/204_02.pdf

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /April_2019_Revision/204_03.pdf

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /April_2019_Revision/204_04.pdf

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /April_2019_Revision/204_05.pdf

GENERAL NOTES:
FOR DETAILS NOT SHOWN IN THE CITY OF ALEXANDRIA CONSTRUCTION STANDARDS, REFER TO THE VDOT ROAD AND BRIDGE STANDARDS, VOLUME I AND VOLUME II.

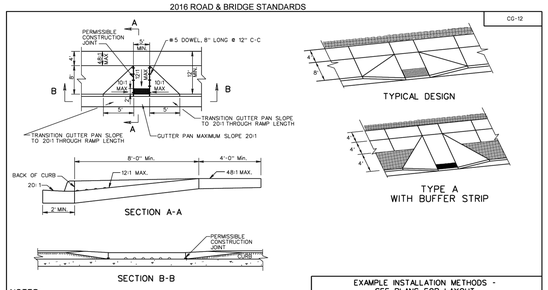
https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /Volume1.pdf

https: //www.virginiadot.org/business/resources/LocDes/VDOT2016_Road_and_Bridge_Standards /Volume2.pdf

ACCESSIBLE CURB RAMP	06/03/2022 REVISION DATE
DEPARTMENT OF TRANSPORTATION & ENVIRONMENTAL SERVICES ALEXANDRIA, VIRGINIA	CSCR-1
	PAGE 65

2016 ROAD & BRIDGE STANDARDS

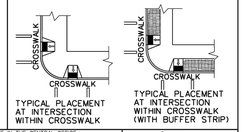
CG-12



NOTES:

1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. THIS DESIGN TO BE USED FOR CONSTRUCTION THAT INCORPORATES WIDER SIDEWALK, LANDING (4' WIDE) REQUIRED AT TOP OF CURB RAMP. MINIMUM CURB RAMP LENGTH 8 FEET FOR NEW CONSTRUCTION.
3. GUTTER PAN SHALL BE A MAXIMUM SLOPE OF 20:1 AT THE RAMP OPENING.
4. DIAGONAL PLACEMENT IS NOT PERMITTED.

EXAMPLE INSTALLATION METHODS - SEE PLANS FOR LAYOUT

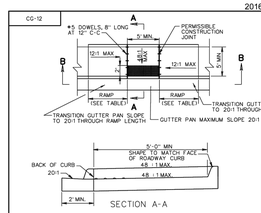


SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE TYPE A (PERPENDICULAR) APPLICATION VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS
105 502 504		REVISION DATE 04/19 · SHEET 2 OF 5 · 204.02

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

CG-12

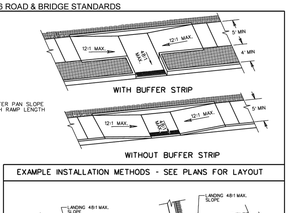


NOTES:

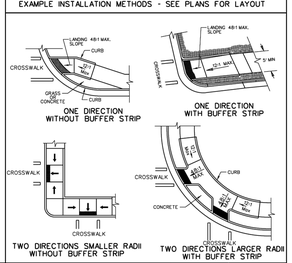
1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. THE REQUIRED LENGTH OF A PARALLEL RAMP IS LIMITED TO 15 FEET, REGARDLESS OF THE SLOPE.
3. GUTTER PAN SHALL BE A MAXIMUM SLOPE OF 20:1 AT THE RAMP OPENING.
4. DIAGONAL PLACEMENT IS NOT PERMITTED.

TYPE B PARALLEL APPLICATION

ROADWAY GRADE IN PERCENT	MINIMUM RAMP LENGTH IN FEET	
	4" CURB	6" CURB
0	4	6
1	5	7
2	5	8
3	6	9
4	8	12
5	10	15
6	14	15



EXAMPLE INSTALLATION METHODS - SEE PLANS FOR LAYOUT

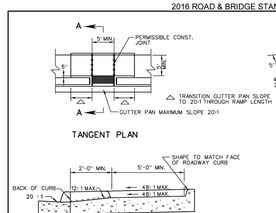


VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE TYPE B (PARALLEL) APPLICATION VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 3 OF 5 · REVISION DATE 04/19 · 204.03		105 502 504

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

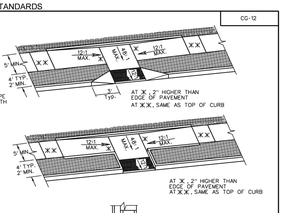
CG-12



TYPE C PARALLEL & PERPENDICULAR APPLICATION

ROADWAY GRADE IN PERCENT	MINIMUM RAMP LENGTH IN FEET	
	4" CURB	6" CURB
0	2	4
1	2	5
2	3	5
3	3	6
4	4	8
5	5	10
6	7	14
7	13	15
8	15	15

THE REQUIRED LENGTH OF A PARALLEL RAMP IS LIMITED TO 15 FEET, REGARDLESS OF THE SLOPE.



NOTES:

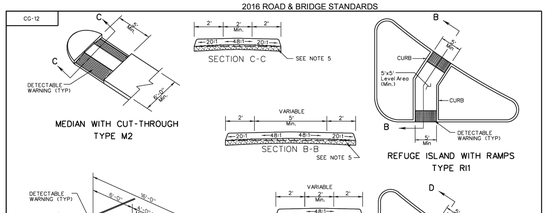
1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. THE SELECTION OF CURB TYPE AND THE CONFIGURATION OF THE BUFFER STRIP MAY VARY TO MEET EXISTING FIELD CONDITIONS AND ROADWAY GEOMETRICS PROVIDING THE DIMENSIONS AND SLOPES ARE AS NOTED.
3. THIS COMBINED (PARALLEL & PERPENDICULAR) DESIGN CAN BE USED WITH ADJOINING CURB RAMPS WHERE THE SIDEWALK RUNS PARALLEL TO THE STREET WITH NO DIMENSIONS. THE SHORT PERPENDICULAR RUN TO THE STREET CAN BE PROTECTED BY A LANDSCAPED SETBACK OR CONNECTED TO THE SIDEWALK WITH A WARPED SURFACE.
4. GUTTER PAN SHALL BE A MAXIMUM SLOPE OF 20:1 AT THE RAMP OPENING.
5. DIAGONAL PLACEMENT IS NOT PERMITTED.

SPECIFICATION REFERENCE	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE TYPE C (PARALLEL & PERPENDICULAR) APPLICATION VIRGINIA DEPARTMENT OF TRANSPORTATION	VDOT ROAD AND BRIDGE STANDARDS
105 502		REVISION DATE 04/19 · SHEET 4 OF 5 · 204.04

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

CG-12



NOTES:

1. FOR GENERAL NOTES ON THE DETECTABLE WARNING SURFACE, SEE SHEET 1 OF 5.
2. CURB SHALL BE SHAPED TO MATCH THE FACE OF ROADWAY CURB.
3. SEE ROADWAY PLANS FOR MEDIAN AND REFUGE ISLAND DIMENSIONS.
4. RAMPS AND CUT THROUGHS SHALL BE ALIGNED WITH CROSSWALKS.
5. THE RAMPS AND CUT THROUGHS SHALL BE INSTALLED AND PAID FOR AS 4" HYDRAULIC CEMENT CONCRETE SIDEWALK IN ACCORDANCE WITH SECTION 504 OF THE ROAD & BRIDGE SPECIFICATIONS. EXCAVATION OF MATERIAL FOR THE INSTALLATION OF THE SIDEWALK SHALL BE INCLUDED IN THE PRICE BID FOR 4" HYDRAULIC CEMENT CONCRETE SIDEWALK.
6. CUT THROUGHS LESS THAN 6' IN WIDTH SHALL NOT HAVE DETECTABLE WARNINGS INSTALLED.

VDOT ROAD AND BRIDGE STANDARDS	A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE. CG-12 DETECTABLE WARNING SURFACE MEDIAN AND REFUGE ISLAND APPLICATIONS VIRGINIA DEPARTMENT OF TRANSPORTATION	SPECIFICATION REFERENCE
SHEET 5 OF 5 · REVISION DATE 04/19 · 204.05		105 502

2016 ROAD & BRIDGE STANDARDS

GENERAL NOTE:

MAXIMUM SLOPES PER THIS DETAIL CANNOT BE EXCEEDED. CONTRACTOR MUST CHECK EXISTING ELEVATIONS OF PAVEMENT, CURB, AND SIDEWALK PRIOR TO INSTALLATION OF ACCESSIBLE RAMPS. IF ADDITIONAL DEMOLITION AND REWORK OF SIDEWALK AND CURB ARE REQUIRED IN ORDER TO MEET THE MAXIMUM SLOPE REQUIREMENTS, PROVIDE SURVEY FINDINGS TO CITY. DO NOT PROCEED WITH RAMP CONSTRUCTION AT THE LOCATION UNTIL DIRECTION IS PROVIDED BY THE CITY.

STANDARD DETAILS

NOT TO SCALE

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	CHK	APVD
	10/2025	100% SUBMITTAL			
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN H LUSK · DR T WEINSTEIN · CHK P FESER · APVD H LUSK

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

CIVIL

STANDARD DETAILS (SHEET 8 OF 10)

FINAL DESIGN (NOT FOR CONSTRUCTION)

NTS

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-08
SHEET	126 of 158

FILENAME: CD-08.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:20 AM

2016 ROAD & BRIDGE STANDARDS

BCS-01

GENERAL NOTES:

Capacity AASHTO HL-93 Loading

Specifications:

Construction: Virginia Department of Transportation Road and Bridge Specifications.

Design: AASHTO LRFD Bridge Design Specifications, 5th Edition 2010; 2011 Interim Specifications and VDOT Modifications.

All concrete shall be Class A4.

For culverts in D to 2 feet fills, reinforcing steel (not including wingwalls) shall be Corrosion Resistant Reinforcing (CRR), Class I. CRR Class I shall also be used as the plans or other contract documents require. Reinforcing steel shall be epoxy coated conforming to ASTM A775, Grade 60. CRR steel, Class II or Class III, may be substituted for Class I.

All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Construction joints shall be constructed and bonded in accordance with the current VDOT Road and Bridge Specifications.

Barrels more than 30' in length shall be poured in sections by providing vertical construction joints, not exceeding 20' between joints nor more than 30' from ends of barrels.

★★ Bars BH1 and BH3 shall have a pin diameter of 24 bar diameters.

Dimensions on bar diagrams are out-to-out of bars. Bars are straight unless otherwise shown.

The number of BL1 and BL2 bars shown in the table is the number of longitudinal bars shown in the typical section and may not equal the total number of bars required. BE1 and BL2 bars and BH1 and BH2 bars shall be alternated as shown in the typical section. The BL1 bars shall extend 40 bar diameters beyond the joint. Extended QUAN./LF. shown for reinforcing steel does not include the quantity for laps of BL1 and BL2 bars. The additional weight per longitudinal lap is shown in the table.

The minimum cover of main reinforcing bars shall be 2½" from the face of the concrete for culverts under 0 to 2 feet fills and shall be 2" from the face of the concrete for all other culverts.

At the Contractor's option, BV1 bars may be spliced at the permissible construction joint in order to facilitate construction. No additional compensation shall be provided for the increase in reinforcing steel quantity due to the splices.

Headwall quantities shown assume wingwalls are to be built at a 45° angle to the headwall.

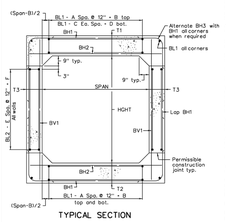
The designs are applicable to the fill height and other conditions indicated. Any change in the conditions invalidates these designs.

Wingwalls referenced by letter apply when the acceptable foundation level is the same for both box and wings. If foundation levels are different, the height of the wingwall shall be adjusted by selection of another lettered wingwall of the appropriate height. For wingwall details, refer to standard series BCW for the appropriate fill slope.

For details of extending existing boxes, refer to standard BCE-01.

For installation of details for skewed culverts, see the skewed box details included in the road plans.

This standard shall be used with the BCS standard series.



TYPICAL SECTION

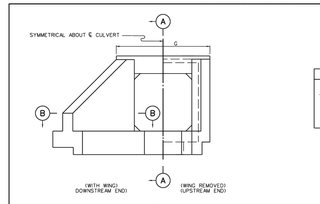
A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

VDOT ROAD AND BRIDGE STANDARDS	SINGLE BOX CULVERTS	SPECIFICATION REFERENCE
SHEET 1 OF 2: 1002.01	STANDARD DETAILS	
REVISION DATE: 09/22	VIRGINIA DEPARTMENT OF TRANSPORTATION	

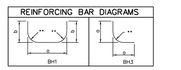
2016 ROAD & BRIDGE STANDARDS

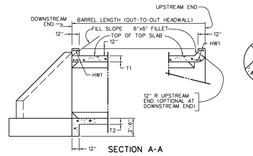
2016 ROAD & BRIDGE STANDARDS

BCS-01

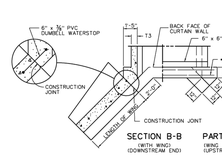


END ELEVATION





SECTION A-A (WITH WING)



SECTION B-B (WITH WING) (DOWNSTREAM END)

PART PLAN (WING REMOVED) (UPSTREAM END)

SPECIFICATION REFERENCE	SINGLE BOX CULVERTS	VDOT ROAD AND BRIDGE STANDARDS
	STANDARD DETAILS	REVISION DATE: 07/11
	VIRGINIA DEPARTMENT OF TRANSPORTATION	SHEET 2 OF 2: 1002.02

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

BCS-02

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCS-DT.

SPAN	HGHT	DIMENSIONS T1	T2	T3	REINFORCING STEEL A	B	C	D	E	F	BH1 SIZE	BH1 SPACING C-C	BH1 a	BH1 b	BH1 LENGTH	BH2 SIZE	BH2 SPACING C-C	BH2 LENGTH	BH3 SIZE	BH3 SPACING C-C	BH3 a	BH3 LENGTH	BV1 SIZE	BV1 SPACING C-C	BV1 LENGTH	NO. BL1 PER SPA.	NO. BL2 PER SPA.
ø1	ø1	ø1	ø1	ø1																							
3	3	8"	8"	8"	2	2'- 0"	4	2'- 0"	1	1'- 0"	4	12"	4'- 0"	2'- 8"	8'-10"	4	12"	4'- 0"	---	---	------	------	4	12"	4'- 1"	4	12
3	4	8"	8"	8"	2	2'- 0"	4	2'- 0"	2	2'- 0"	4	12"	4'- 0"	3'- 2"	9'-10"	4	12"	4'- 0"	---	---	------	------	4	12"	5'- 1"	18	12
4	3	9"	9"	8"	3	3'- 0"	6	3'- 0"	1	1'- 0"	4	12"	5'- 0"	2'- 9"	10'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	12
4	4	9"	9"	8"	3	3'- 0"	6	3'- 0"	2	2'- 0"	4	12"	5'- 0"	3'- 3"	11'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	12
4	5	9"	9"	8"	3	3'- 0"	6	3'- 0"	3	3'- 0"	4	12"	5'- 0"	3'- 9"	12"- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	16
4	6	9"	9"	8"	3	3'- 0"	6	3'- 0"	4	4'- 0"	4	12"	5'- 0"	4'- 3"	13'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	20
5	3	9½"	9½"	8"	4	4'- 0"	8	4'- 0"	1	1'- 0"	4	12"	6'- 0"	2'- 9½"	11'- 0"	6	11"	6'- 0"	---	---	------	------	4	12"	6'- 2"	28	8
5	4	9½"	9½"	8"	4	4'- 0"	8	4'- 0"	2	2'- 0"	4	12"	6'- 0"	3'- 3½"	12"- 0"	6	11"	6'- 0"	---	---	------	------	4	12"	5'- 2"	28	12
5	5	9½"	9½"	8"	4	4'- 0"	8	4'- 0"	3	3'- 0"	4	12"	6'- 0"	3'- 9½"	13'- 0"	6	10"	6'- 0"	---	---	------	------	4	12"	5'- 2"	28	12
5	6	9"	9"	8"	4	4'- 0"	8	4'- 0"	4	4'- 0"	4	12"	6'- 0"	4'- 3"	13'-10"	6	10"	6'- 0"	---	---	------	------	4	12"	5'- 2"	28	16
6	4	9½"	9½"	8"	5	5'- 0"	10	5'- 0"	2	2'- 0"	4	9"	7'- 0"	3'- 3½"	13'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	12
6	5	9½"	9½"	8"	5	5'- 0"	10	5'- 0"	3	3'- 0"	4	9"	7'- 0"	3'- 9½"	14'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	16
6	6	9½"	9½"	8"	5	5'- 0"	10	5'- 0"	4	4'- 0"	4	9"	7'- 0"	4'- 3½"	15'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	20
6	7	9½"	9½"	8"	5	5'- 0"	10	5'- 0"	5	5'- 0"	4	9"	7'- 0"	4'- 9½"	16'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	24
6	8	9½"	9½"	8"	5	5'- 0"	10	5'- 0"	6	6'- 0"	4	9"	7'- 0"	5'- 3½"	17'- 0"	6	9"	7'- 0"	4	12"	3'- 6"	6'- 8"	4	12"	9'- 2"	33	28
7	4	9½"	9½"	8"	6	6'- 0"	12	6'- 0"	2	2'- 0"	4	8"	8'- 0"	3'- 3½"	14'- 1"	6	8"	8'- 0"	---	---	------	------	4	12"	9'- 2"	38	12
7	5	9½"	9½"	8"	6	6'- 0"	12	6'- 0"	3	3'- 0"	4	8"	8'- 0"	4'- 3½"	15'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	9'- 2"	38	16
7	6	9½"	9½"	8"	6	6'- 0"	12	6'- 0"	4	4'- 0"	4	8"	8'- 0"	4'- 9½"	16'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	9'- 2"	38	20
7	7	9½"	9½"	8"	6	6'- 0"	12	6'- 0"	5	5'- 0"	4	8"	8'- 0"	5'- 3½"	17'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	9'- 2"	38	24
7	8	9½"	9½"	8"	6	6'- 0"	12	6'- 0"	6	6'- 0"	4	8"	8'- 0"	5'- 9½"	18'-10"	6	8"	8'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	38	28
8	4	9½"	9½"	8"	7	7'- 0"	14	7'- 0"	2	2'- 0"	4	7½"	9'- 0"	3'- 3½"	14'- 1"	6	7½"	9'- 0"	---	---	------	------	4	12"	9'- 2"	43	12
8	5	9½"	9½"	8"	7	7'- 0"	14	7'- 0"	3	3'- 0"	4	7½"	9'- 0"	4'- 3½"	15'-10"	6	7½"	9'- 0"	---	---	------	------	4	12"	9'- 2"	43	16
8	6	9½"	9½"	8"	7	7'- 0"	14	7'- 0"	4	4'- 0"	4	7½"	9'- 0"	4'- 9½"	16'-10"	6	7½"	9'- 0"	---	---	------	------	4	12"	9'- 2"	43	20
8	7	9½"	9½"	8"	7	7'- 0"	14	7'- 0"	5	5'- 0"	4	7½"	9'- 0"	5'- 3½"	17'-10"	6	7½"	9'- 0"	---	---	------	------	4	12"	9'- 2"	43	24
8	8	9½"	9½"	8"	7	7'- 0"	14	7'- 0"	6	6'- 0"	4	7½"	9'- 0"	5'- 9½"	18'-10"	6	7½"	9'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	43	28
8	9	9½"	9½"	8"	8	8'- 0"	16	8'- 0"	2	2'- 0"	4	6½"	10'- 0"	3'- 3½"	14'- 1"	6	6½"	9'- 0"	3	12"	3'- 6"	6'-10"	4	12"	9'- 2"	48	12
8	10	9½"	9½"	8"	8	8'- 0"	16	8'- 0"	3	3'- 0"	4	6½"	10'- 0"	4'- 3½"	15'-10"	6	6½"	9'- 0"	3	12"	3'-11"	7'- 5"	4	12"	9'- 2"	48	16
8	11	9½"	9½"	8"	8	8'- 0"	16	8'- 0"	4	4'- 0"	4	6½"	10'- 0"	4'- 9½"	16'-10"	6	6½"	9'- 0"	3	12"	4'- 5"	8'- 3"	4	12"	9'- 2"	48	20
8	12	9½"	9½"	8"	8	8'- 0"	16	8'- 0"	5	5'- 0"	4	6½"	10'- 0"	5'- 3½"	17'-10"	6	6½"	9'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	48	24
9	4	9"	9"	8"	9	9'- 0"	18	9'- 0"	2	2'- 0"	4	6"	10'- 0"	3'- 3"	14'- 1"	6	6"	10'- 0"	---	---	------	------	4	12"	9'- 2"	53	12
9	5	9"	9"	8"	9	9'- 0"	18	9'- 0"	3	3'- 0"	4	6"	10'- 0"	4'- 3"	15'-10"	6	6"	10'- 0"	---	---	------	------	4	12"	9'- 2"	53	16
9	6	9"	9"	8"	9	9'- 0"	18	9'- 0"	4	4'- 0"	4	6"	10'- 0"	4'- 9"	16'-10"	6	6"	10'- 0"	---	---	------	------	4	12"	9'- 2"	53	20
9	7	9"	9"	8"	9	9'- 0"	18	9'- 0"	5	5'- 0"	4	6"	10'- 0"	5'- 3"	17'-10"	6	6"	10'- 0"	---	---	------	------	4	12"	9'- 2"	53	24
9	8	9"	9"	8"	9	9'- 0"	18	9'- 0"	6	6'- 0"	4	6"	10'- 0"	5'- 9"	18'-10"	6	6"	10'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	53	28
10	4	10"	10"	8"	10	10'- 0"	20	10'- 0"	2	2'- 0"	4	5½"	11'- 0"	3'- 3½"	14'- 1"	6	5½"	11'- 0"	---	---	------	------	4	12"	9'- 2"	58	12
10	5	10"	10"	8"	10	10'- 0"	20	10'- 0"	3	3'- 0"	4	5½"	11'- 0"	4'- 3½"	15'-10"	6	5½"	11'- 0"	---	---	------	------	4	12"	9'- 2"	58	16
10	6	10"	10"	8"	10	10'- 0"	20	10'- 0"	4	4'- 0"	4	5½"	11'- 0"	4'- 9½"	16'-10"	6	5½"	11'- 0"	---	---	------	------	4	12"	9'- 2"	58	20
10	7	10"	10"	8"	10	10'- 0"	20	10'- 0"	5	5'- 0"	4	5½"	11'- 0"	5'- 3½"	17'-10"	6	5½"	11'- 0"	---	---	------	------	4	12"	9'- 2"	58	24
10	8	10"	10"	8"	10	10'- 0"	20	10'- 0"	6	6'- 0"	4	5½"	11'- 0"	5'- 9½"	18'-10"	6	5½"	11'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	58	28
12	4	10½"	10½"	8"	11	11'- 0"	22	11'- 0"	2	2'- 0"	4	5"	11'- 0"	3'- 3½"	14'- 1"	6	5"	11'- 0"	---	---	------	------	4	12"	9'- 2"	63	12
12	5	10½"	10½"	8"	11	11'- 0"	22	11'- 0"	3	3'- 0"	4	5"	11'- 0"	4'- 3½"	15'-10"	6	5"	11'- 0"	---	---	------	------	4	12"	9'- 2"	63	16
12	6	10½"	10½"	8"	11	11'- 0"	22	11'- 0"	4	4'- 0"	4	5"	11'- 0"	4'- 9½"	16'-10"	6	5"	11'- 0"	---	---	------	------	4	12"	9'- 2"	63	20
12	7	10½"	10½"	8"	11	11'- 0"	22	11'- 0"	5	5'- 0"	4	5"	11'- 0"	5'- 3½"	17'-10"	6	5"	11'- 0"	---	---	------	------	4	12"	9'- 2"	63	24
12	8	10½"	10½"	8"	11	11'- 0"	22	11'- 0"	6	6'- 0"	4	5"	11'- 0"	5'- 9½"	18'-10"	6	5"	11'- 0"	4	12"	3'- 9"	6'- 8"	4	12"	9'- 2"	63	28

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

VDOT ROAD AND BRIDGE STANDARDS	SINGLE BOX CULVERTS	SPECIFICATION REFERENCE
SHEET 1 OF 2: 1002.03	0 TO 2 FT. FILLS	
REVISION DATE: 07/11	VIRGINIA DEPARTMENT OF TRANSPORTATION	

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

BCS-02

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCS-DT.

SPAN	HGHT	QUAN./LF (CONCRETE, CU.YDS.)	(REINFORCING STEEL, LBS.)	(EXCAVATION, CU.YDS.)	(EMBANKMENT, CU.YDS.)	HW1 SIZE	HW1 LENGTH	HEADWALLS (REINFORCING STEEL, LBS.)	(CONCRETE, CU.YDS.)	(EXCAVATION, CU.YDS.)	(EMBANKMENT, CU.YDS.)	WINGWALL
ø1	ø1											
3	3	17.854	0.413	54.850	5'-10"	6	5'- 6"	1,041	33.044	1,045	33.044	A
3	4	19.266	0.463	48.552	5'-10"	6	5'- 6"	1,134	33.044	1,137	33.044	C
4	3	22.029	0.482	53.114	6'-10"	6	6'- 6"	1,142	39.052	1,149	39.052	A
4	4	23.441	0.531	56.495	6'-10"	6	6'- 6"	1,235	39.052	1,242	39.052	C
4	5	24.853	0.580	60.611	6'-10"	6	6'- 6"	1,328	39.052	1,335	39.052	E
5	3	26.295	0.629	61.791	6'-10"	6	6'- 6"	1,420	39.052	1,427	39.052	G
5	4	27.616	0.596	67.271	7'-10"	6	7'- 6"	1,259	45.060	1,269	45.060	B
5	5	29.028	0.645	75.429	7'-10"	6	7'- 6"	1,444	45.060	1,454	45.060	D
5	6	30.440	0.684	79.872	7'-10"	6	7'- 6"	1,544	45.060	1,555	45.060	F
5	7	31.852	0.732	85.391	7'-10"	6	7'- 6"	1,638	45.060	1,650	45.060	H
6	4	31.791	0.652	84.653	8'-10"	6	8'- 6"	1,449	51.068	1,463	51.068	B
6	5	33.203	0.701	89.275	8'-10"	6	8'- 6"	1,542	51.068	1,555	51.068	F
6	6	34.615	0.750	93.896	8'-10"	6	8'- 6"	1,634	51.068	1,648	51.068	H
6	7	36.027	0.798	105.585	9'-10"	6	9'- 6"	1,727	51.068	1,741	51.068	J
6	8	37.439	0.846	124.615	9'-10"	6	9'- 6"	1,820	51.068	1,833	51.068	L
7	4	35.966	0.721	94.040	9'-10"	6	9'- 6"	1,545	57.076	1,562	57.076	D
7	5	36.780	0.818	110.865	9'-10"	6	9'- 6"	1,730	57.076	1,747	57.076	H
7	8	41.614	0.916	130.884	9'-10"	6	9'- 6"	1,915	57.076	1,933	57.076	L
7	10	44.438	1.012	155.617	9'-10"	6	9'- 6"	2,101	57.076	2,118	57.076	P
8	4	40.141	0.793	111.025	10'-10"	6	10'- 6"	1,639	63.084	1,659	63.084	D
8	6	42.965	0.889	142.409	10'-10"	6	10'- 6"	1,824	63.084	1,845	63.084	H
8	8	45.789	0.985	175.195	10'-10"	6	10'- 6"	2,010	63.084	2,030	63.084	L
8	10	48.613	1.069	186.158	10'-10"	6	10'- 6"	2,197	63.084	2,218	63.084	P
9	4	44.316	0.848	175.518	11'-10"	6	11'- 6"	1,735	69.092	1,758	69.092	D
9	6	47.140	0.948	175.751	11'-10"	6	11'- 6"	1,930	69.092	1,944	69.092	H
9	8	49.964	1.046	168.633	11'-10"	6	11'- 6"	2,125	69.092	2,129	69.092	L
9	10	52.788	1.143	189.675	11'-10"	6	11'- 6"	2,291	69.092	2,315	69.092	P
9	12	55.612	1.236	265.973	11'-10"	6	11'- 6"	2,476	69.092	2,500	69.092	T
10	4	48.491	0.925	180.133	12'-10"	6	12'- 6"	1,826	75.100	1,853	75.100	D
10	6	51.315	1.026	158.894	12'-10"	6	12'- 6"	2,012	75.100	2,039	75.100	H
10	8	54.139	1.121	200.152	12'-10"	6	12'- 6"	2,197	75.100	2,224	75.100	L
10	10	56.963	1.219	212.453	12'-10"	6	12'- 6"	2,383	75.100	2,410	75.100	P
10	12	59.787	1.313	279.378	12'-10"	6	12'- 6"	2,568	75.100	2,595	75.100	T
12	6	59.665	1.161	275.345	14'-10"	6	14'- 6"	2,187	87.116	2,230	87.116	H
12	8	62.489	1.259	268.538	14'-10"	6	14'- 6"	2,387	87.116	2,431	87.116	L
12	10	65.313	1.359	258.134	14'-10"	6	14'- 6"	2,573	87.116	2,606	87.116	P
12	12	68.137	1.454	318.805	14'-10"	6	14'- 6"	2,753	87.116	2,786	87.116	T

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

SPECIFICATION REFERENCE	SINGLE BOX CULVERTS	VDOT ROAD AND BRIDGE STANDARDS
	0 TO 2 FT. FILLS	SHEET 2 OF 2: 1002.04
	VIRGINIA DEPARTMENT OF TRANSPORTATION	

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

BCS-10

FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCS-DT.

SPAN	HGHT	DIMENSIONS T1	T2	T3	REINFORCING STEEL A	B	C	D	E	F	BH1 SIZE	BH1 SPACING C-C	BH1 a	BH1 b	BH1 LENGTH	BH2 SIZE	BH2 SPACING C-C	BH2 LENGTH	BH3 SIZE	BH3 SPACING C-C	BH3 a	BH3 LENGTH	BV1 SIZE	BV1 SPACING C-C	BV1 LENGTH	NO. BL1 PER SPA.	NO. BL2 PER SPA.
ø1	ø1	ø1	ø1	ø1																							
3	3	8"	8"	8"	2	2'- 0"	2	2'- 0"	1	1'- 0"	4	12"	4'- 0"	2'- 8"	8'-10"	4	12"	4'- 0"	---	---	------	------	4	12"	4'- 0"	4	12
3	4	8"	8"	8"	2	2'- 0"	2	2'- 0"	2	2'- 0"	4	12"	4'- 0"	3'- 2"	9'-10"	4	12"	4'- 0"	---	---	------	------	4	12"	5'- 1"	18	12
4	3	8"	8"	8"	3	3'- 0"	3	3'- 0"	1	1'- 0"	4	12"	5'- 0"	2'- 9"	10'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	12
4	4	8"	8"	8"	3	3'- 0"	3	3'- 0"	2	2'- 0"	4	12"	5'- 0"	3'- 3"	11'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	16
4	5	8"	8"	8"	3	3'- 0"	3	3'- 0"	3	3'- 0"	4	12"	5'- 0"	3'- 9"	12"- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	20
4	6	8"	8"	8"	3	3'- 0"	3	3'- 0"	4	4'- 0"	4	12"	5'- 0"	4'- 3"	13'- 0"	6	12"	5'- 0"	---	---	------	------	4	12"	5'- 2"	23	24
5	3	8"	8"	8"	4	4'- 0"	4	4'- 0"	1	1'- 0"	4	12"	6'- 0"	2'- 9"	10'-10"	5	12"	6'- 0"	---	---	------	------	4	12"	6'- 2"	28	8
5	4	8"	8"	8"	4	4'- 0"	4	4'- 0"	2	2'- 0"	4	12"	6'- 0"	3'- 3"	12"- 0"	5	12"	6'- 0"	---	---	------	------	4	12"	6'- 2"	28	12
5	5	8"	8"	8"	4	4'- 0"	4	4'- 0"	3	3'- 0"	4	12"	6'- 0"	3'- 9"	13'- 0"	5	12"	6'- 0"	---	---	------	------	4	12"	6'- 2"	28	16
5	6	8"	8"	8"	4	4'- 0"	4	4'- 0"	4	4'- 0"	4	12"	6'- 0"	4'- 3"	13'-10"	5	12"	6'- 0"	---	---	------	------	4	12"	6'- 2"	28	20
6	4	8"	8"	8"	5	5'- 0"	5	5'- 0"	2	2'- 0"	4	9"	7'- 0"	3'- 3"	13'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	12
6	5	8"	8"	8"	5	5'- 0"	5	5'- 0"	3	3'- 0"	4	9"	7'- 0"	3'- 9"	14'- 0"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	16
6	6	8"	8"	8"	5	5'- 0"	5	5'- 0"	4	4'- 0"	4	9"	7'- 0"	4'- 3"	14'-10"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	20
6	7	8"	8"	8"	5	5'- 0"	5	5'- 0"	5	5'- 0"	4	9"	7'- 0"	4'- 8"	15'-10"	6	9"	7'- 0"	---	---	------	------	4	12"	8'- 2"	33	24
6	8	8"	8"	8"	5	5'- 0"	5	5'- 0"	6	6'- 0"	4	9"	7'- 0"	5'- 2"	16'-10"	6	9"	7'- 0"	4	12"	3'- 3"	6'- 3"	4	12"	8'- 2"	33	28
7	4	8"	8"	8"	6	6'- 0"	6	6'- 0"	2	2'- 0"	4	8"	8'- 0"	3'- 3½"	14'- 1"	6	8"	8'- 0"	---	---	------	------	4	12"	7'- 2"	38	12
7	5	8"	8"	8"	6	6'- 0"	6	6'- 0"	3	3'- 0"	4	8"	8'- 0"	4'- 3½"	15'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	7'- 2"	38	16
7	6	8"	8"	8"	6	6'- 0"	6	6'- 0"	4	4'- 0"	4	8"	8'- 0"	4'- 9½"	16'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	7'- 2"	38	20
7	7	8"	8"	8"	6	6'- 0"	6	6'- 0"	5	5'- 0"	4	8"	8'- 0"	5'- 3½"	17'-10"	6	8"	8'- 0"	---	---	------	------	4	12"	7'- 2"	38	24
7	8	8"	8"	8"	6	6'- 0"	6	6'- 0"	6	6'- 0"	4

2016 ROAD & BRIDGE STANDARDS

BCD-DT

GENERAL NOTE

Capacity: AASHTO H-93 Loading.

Specifications:

Construction - Va. Department of Transportation Road and Bridge Specifications.

Design - AASHTO LRFD Bridge Design Specifications, 5th Edition / 2010 Interims. Specifications and LRFD Publications.

All concrete shall be Class A4.

For culverts in D to 2 foot fills, reinforcing steel including stirrups, ties, and cages shall be Grade 60 Epoxy Coated. Grade 1 QMR Class 1 shall not be used as the plans or other contract documents designate. Otherwise, reinforcing steel shall be Grade 60 QMR Class I, Grade 1 QMR Class II, or Grade 1 QMR Class III. Class I or Class III may be substituted for Class II.

All reinforcing bar dimensions on the detailed drawings are to centers of bars except where otherwise noted and are subject to fabrication and construction tolerances.

Construction joints shall be constructed and bonded in accordance with the current Road and Bridge Specifications.

Barrels more than 35' in length shall be poured in sections by providing vertical construction joints, not exceeding 25' between joints nor more than 50' from ends of barrels.

** All bends shall be made with a pin diameter as listed in TABLE A for BH1 and BH2 and BH4 which shall have a pin diameter of 24 bar diameters.

Dimensions on bar diagrams are out-to-out of bars. Bars are straight and #4 size unless otherwise shown. BL2 shall be #3 size.

The number of BL1 and BL2 bars shown in the table is the number of longitudinal bars shown in the Typical Section and may not equal the total number of bars required. BL1 and BL2 shall have a lap of 30 bar diameters at splices. At construction joints, first placed bars shall project 30 bar diameters beyond the joint. Estimated weight per longitudinal bar is shown in the table. Additional weight for laps of BL1 and BL2 bars. The additional weight per longitudinal lap is shown in the table.

The minimum cover of main reinforcing bars shall be 2½" from the face of the concrete for culverts under 0 to 2 foot fills and shall be 2" from the face of concrete for all other culverts.

At the Contractor's option, BV1 and BV2 bars may be spliced at the midpoint of the longitudinal span to facilitate construction. No additional compensation shall be provided for the increase in reinforcing steel quantity due to the splices.

Bar HW2 shall be 4" less than culvert height in length.

Headwall quantities shown assume wingwalls are to be built at a 45° angle to the headwall.

The designs are applicable to the fill height and other conditions indicated. Any change in the conditions invalidates these designs.

Wingwalls referenced by letter apply when the acceptable foundation level is the same for both wingwalls. If foundation levels are different, the height of the wingwall shall be adjusted by section of another lettered wingwall of appropriate height. For wingwall details, refer to standard series BCW for the appropriate fill slope.

For details of extending existing barrels, refer to Standard BCE-01.

For modification of details for skewed culverts, see the skewed box details included in the road plans.

This standard shall be used with the BCD standard series.

A COPY OF THE ORIGINAL SEALED AND SIGNED DRAWING IS ON FILE IN THE CENTRAL OFFICE.

SPECIFICATION REFERENCE

DOUBLE BOX CULVERTS
STANDARD DETAILS
VIRGINIA DEPARTMENT OF TRANSPORTATION

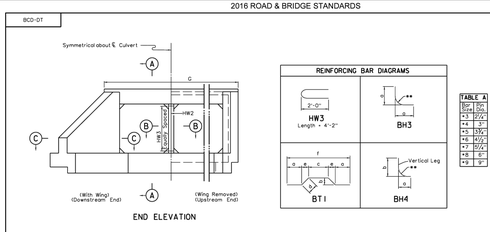
VDOT ROAD AND BRIDGE STANDARDS

SHEET	REVISION DATE
1003.03	09/22

2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

BCD-DT



REINFORCING BAR DIAGRAMS

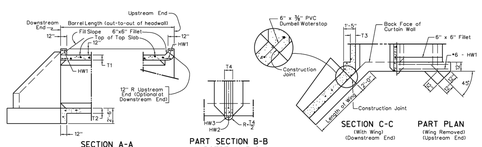


TABLE A

Bar Size	Dia.
#3	3½"
#4	5"
#5	6¾"
#6	8½"
#7	10¼"
#8	12"
#9	13¾"

SPECIFICATION REFERENCE

DOUBLE BOX CULVERTS
STANDARD DETAILS
VIRGINIA DEPARTMENT OF TRANSPORTATION

VDOT ROAD AND BRIDGE STANDARDS

SHEET	REVISION DATE
1003.03	07/11

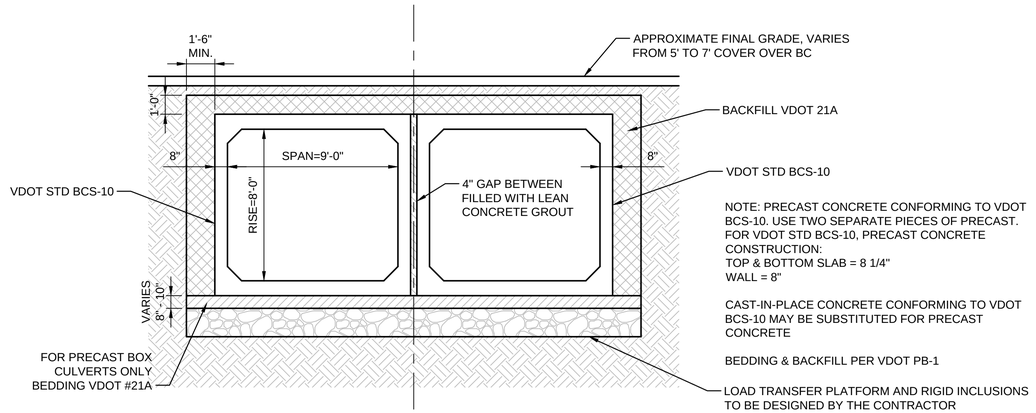
2016 ROAD & BRIDGE STANDARDS

2016 ROAD & BRIDGE STANDARDS

BCD-02

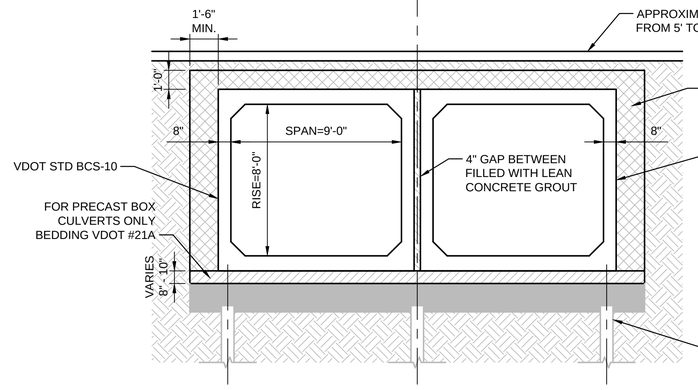
FOR TYPICAL SECTION, NOTES AND OTHER DETAILS, REFER TO STANDARD BCD-DT.

| DIMENSIONS | | | | | | | REINFORCING STEEL | | | | | | |



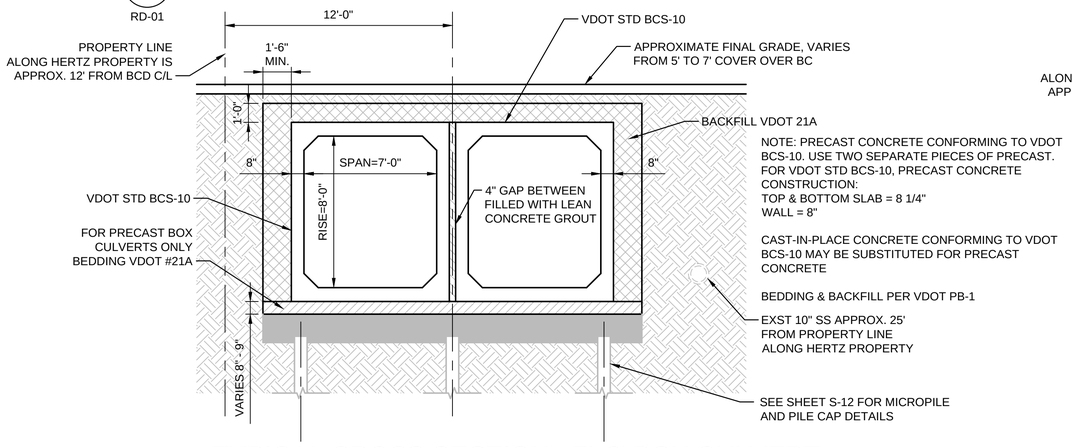
TYPICAL CROSS SECTION - 9'x8' BOX CULVERT STA 100+40 TO 103+19

A
1/4" = 1'-0"
RD-01



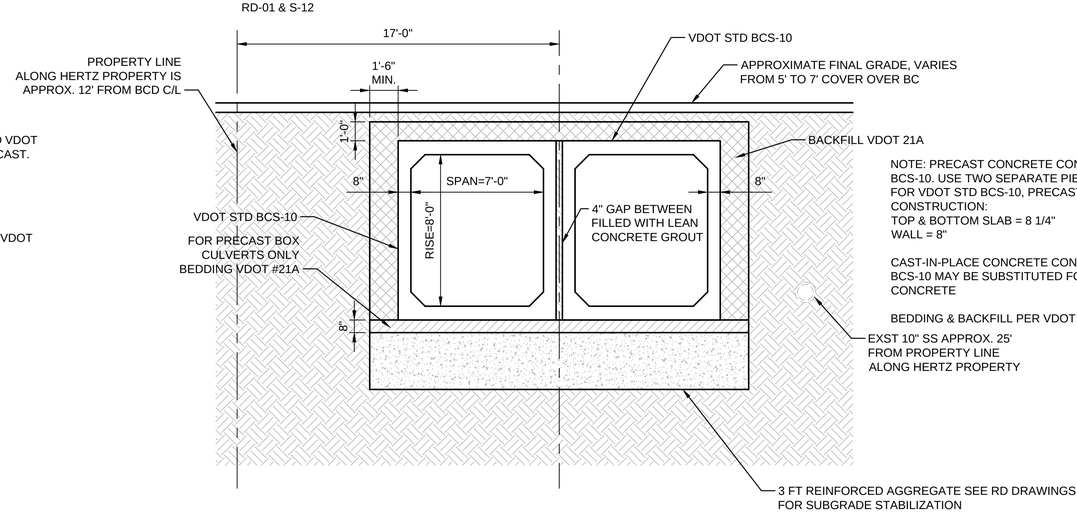
TYPICAL CROSS SECTION - 9'x8' BOX CULVERT STA 103+19 TO 104+85

B
1/4" = 1'-0"
RD-01 & S-12



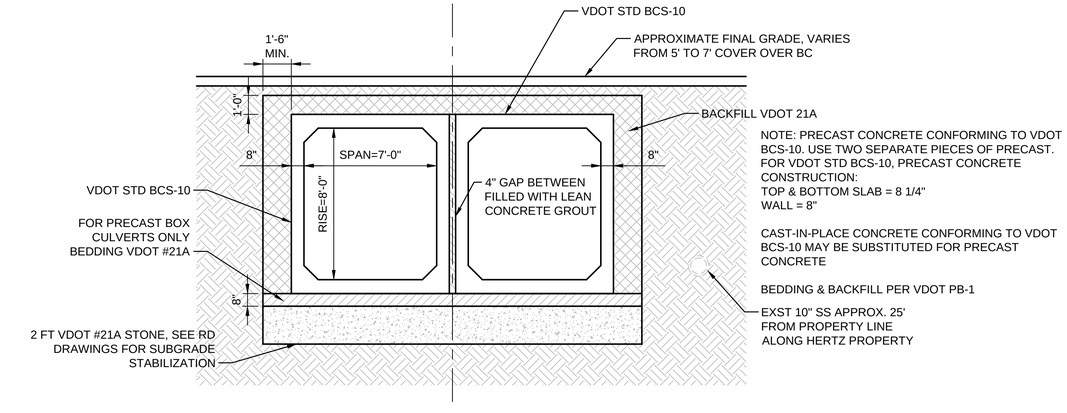
TYPICAL CROSS SECTION - 7'x8' BOX CULVERT STA 104+85 TO STA 105+50

C
1/4" = 1'-0"
RD-01 & S-12



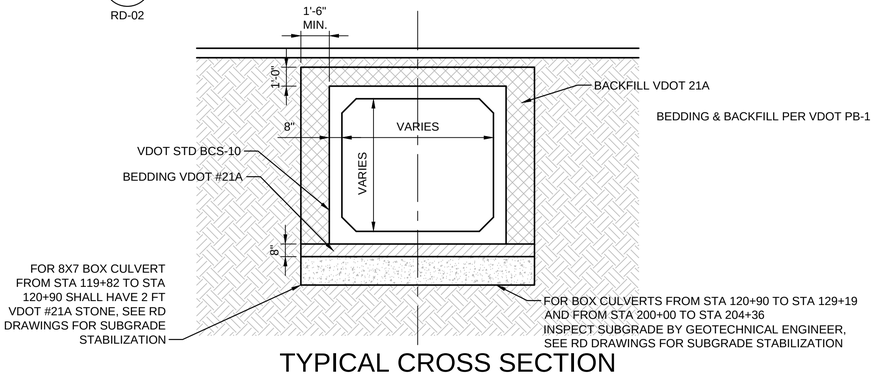
TYPICAL CROSS SECTION - 7'x8' BOX CULVERT STA 105+50 TO 109+30

D
1/4" = 1'-0"
RD-02



TYPICAL CROSS SECTION - 7'x8' BOX CULVERT STA 109+30 TO STA 119+82

E
1/4" = 1'-0"
RD-02 THRU RD-04



TYPICAL CROSS SECTION - BOX CULVERT

F
1/4" = 1'-0"
RD-04 THRU RD-06 & RD-08

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
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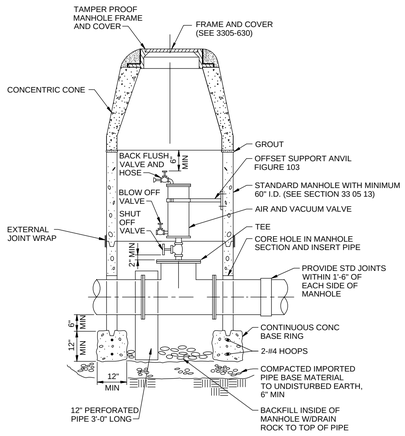
SINGLE AND DOUBLE BOX CULVERT TYPICAL SECTIONS

FINAL DESIGN (NOT FOR CONSTRUCTION)

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	CD-11
SHEET	129 of 158



A MANHOLE AND T DETAIL

NTS

RD-19

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	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
DSGN	H LUSK		H LUSK			H LUSK

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MISCELLANEOUS DETAILS

NTS

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DWG	CD-12
SHEET	130 of 158

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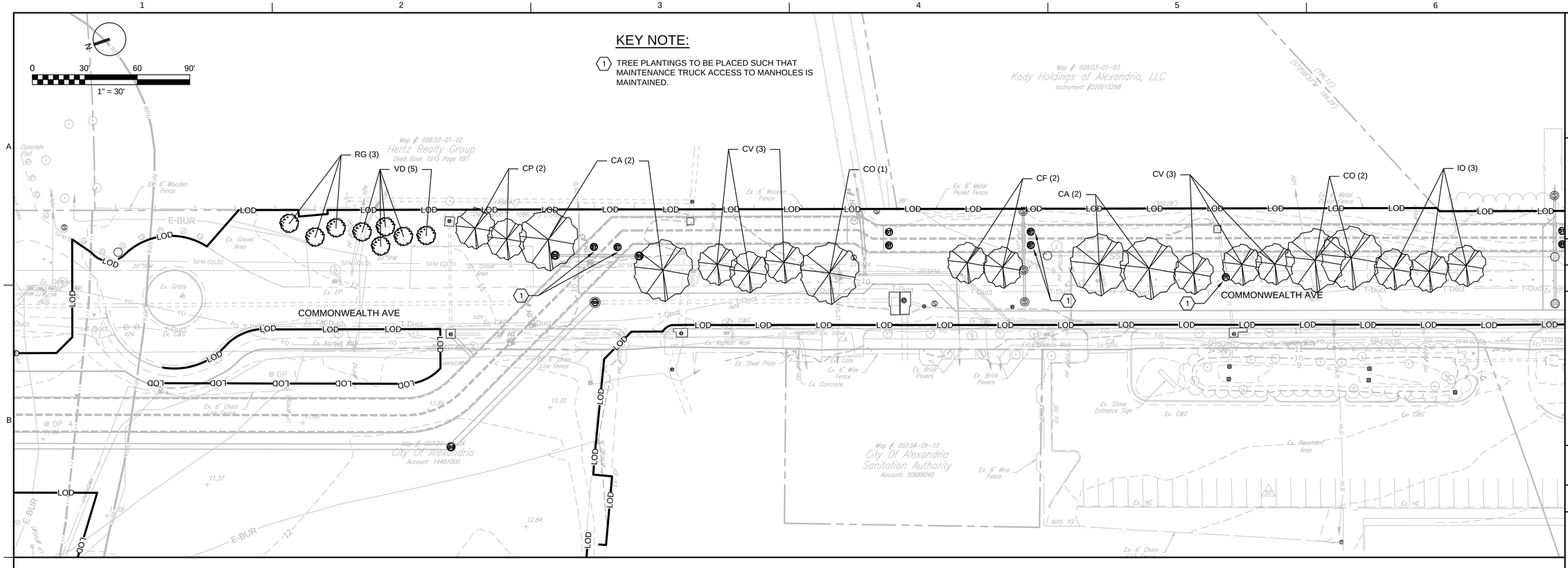

PLANTING PLAN						
PLANT SYMBOL	PLAN KEY	QUANTITY	GENIUS	SPECIES	COMMON NAME	CALIPER/HEIGHT
TREES	CA	4	CARPINUS	CAROLINIANA	AMERICAN HORNBEAM	1.5"
	CO	3	CELTIS	OCCIDENTALIS	HACKBERRY	2.5"
	CV	6	CHIONANTHUS	VIRGINICUS	FRINGE TREE	1.5"
	CF	2	CORNUS	FLORIDA	FLOWERING DOGWOOD	1.5"
	CP	2	CRATAEGUS	PHAENOPYRUM	WASHINGTON HAWTHORN	1.5"
	IO	3	ILEX	OPCACA	AMERICAN HOLLY	6'-8'
	TOTAL	20				
SHRUBS	RG	3	RHUS	GLABRA	SMOOTH SUMAC	7 GALLON
	VD	5	VIBURNUM	DENTATUM	SOUTHERN ARROWWOOD	7 GALLON
	TOTAL	8				

SHEET NOTES:

1. Contractor must loosen soil and amend to generate planting soils for each tree or shrub planting on this drawing to comply with soil volume requirements of the City of Alexandria 300 cubic feet for trees and 150 cubic feet for shrubs.
2. Contractor shall field locate planting materials to optimize root zone requirements of the plant material to avoid infrastructure conflicts.

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4	05/2024	60% SUBMITTAL				
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LANDSCAPE

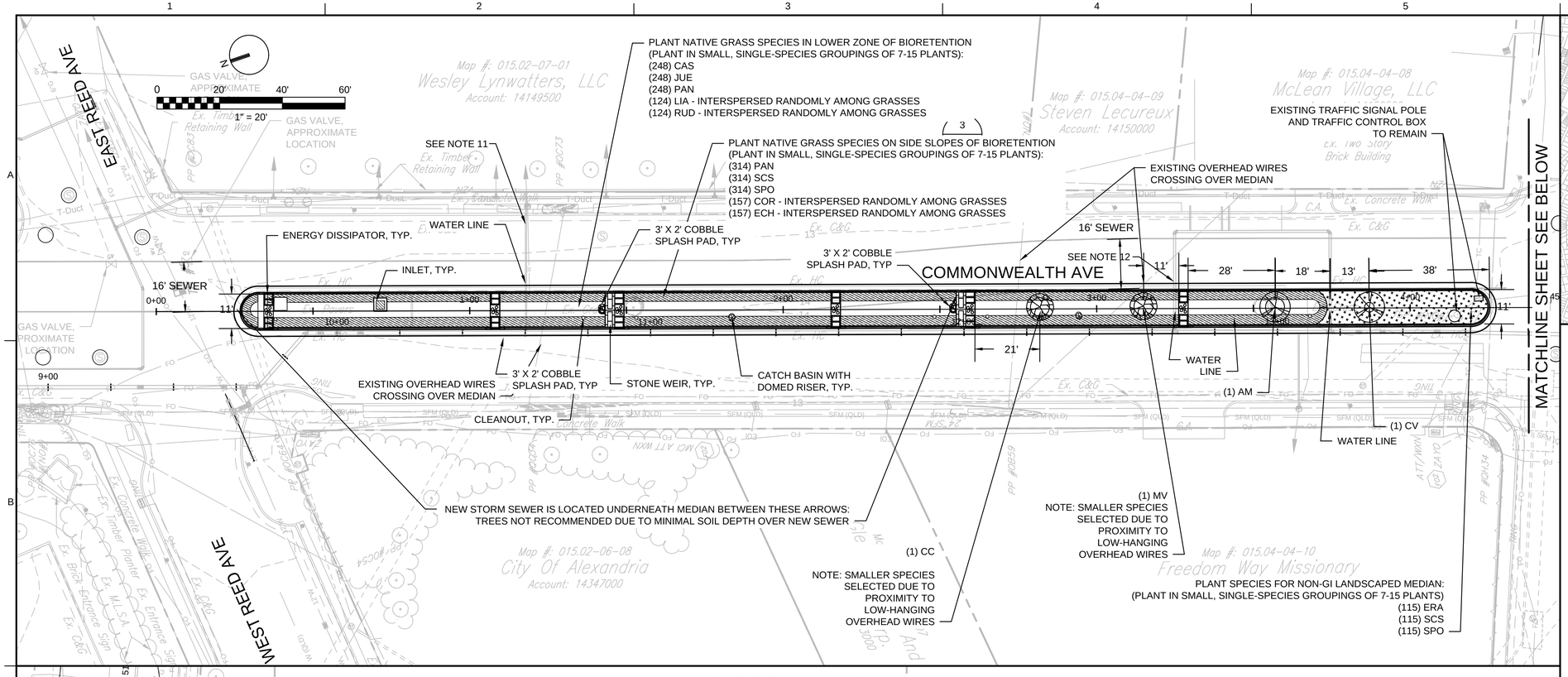
REPLANTING PLAN
COMMONWEALTH AVENUE

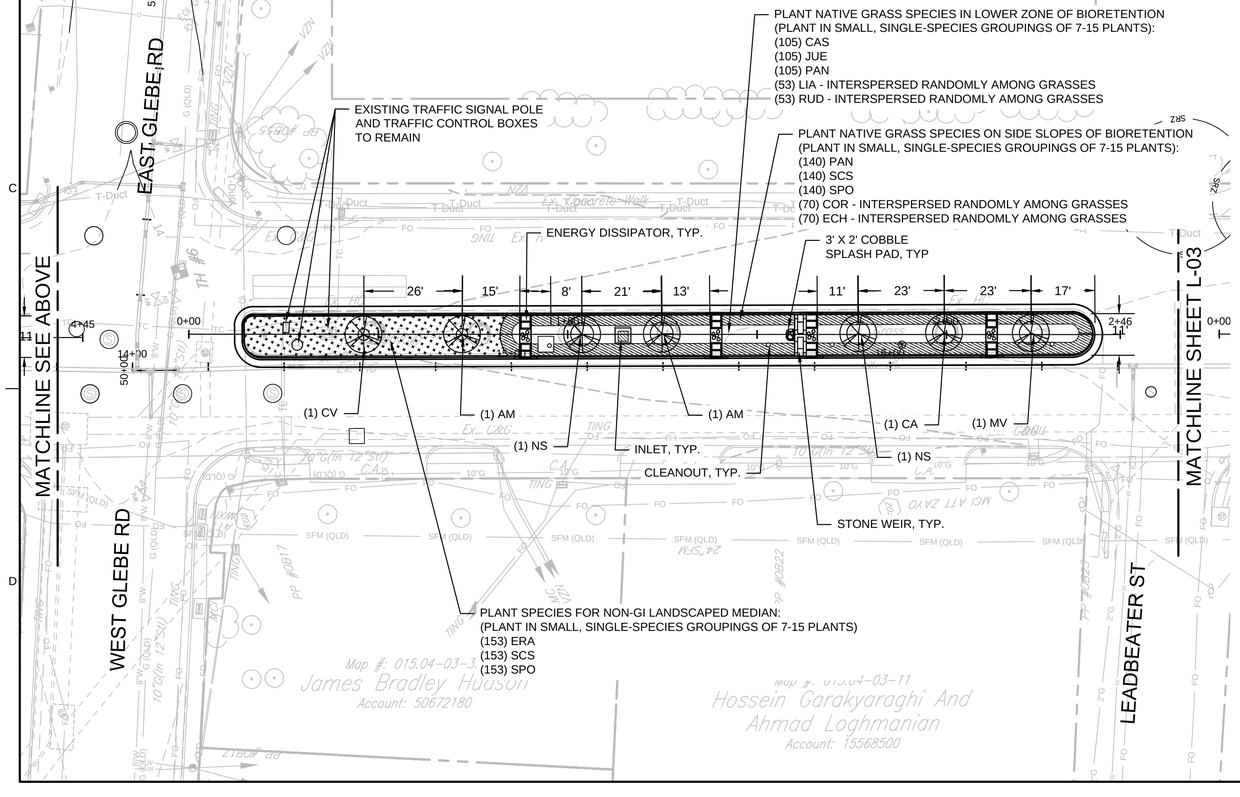
FINAL DESIGN (NOT FOR CONSTRUCTION)

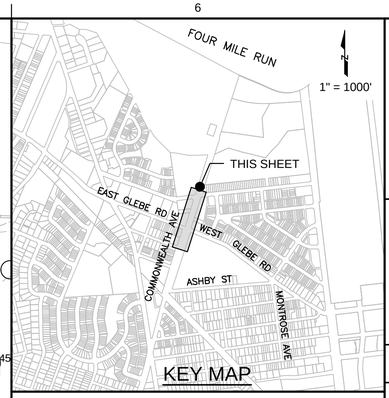
1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-01
SHEET	131 of 158

FILENAME: L-01.dwg PLOT DATE: 10/5/2025 PLOT TIME: 3:37 PM







SHEET NOTES

1. FOR LANDSCAPE PLAN NOTES, REFER TO SHEET L-05.
2. FOR PLANT SCHEDULE, REFER TO SHEETL-05.
3. EROSION CONTROL MATTING SHALL BE INSTALLED ON SIDE SLOPES PER STANDARD DETAILS. REFER TO SHEET L-07.
4. NATIVE ORNAMENTAL GRASSES SHALL BE PLANTED IN A MIX OF SMALL, SINGLE-SPECIES GROUPINGS TO ACHIEVE A NATURALIZED APPEARANCE. AVOID PLANTING IN LARGE SINGLE-SPECIES BLOCKS.
5. FLOWERING PERENNIALS SHALL BE INTERSPERSED RANDOMLY AMONG THE GRASSES, FOR VISUAL INTEREST AND POLLINATOR VALUE.
6. TREE BRANCHES SHALL NOT OBSTRUCT THE VISIBILITY OF PEDESTRIANS OR VEHICLES. TREE BRANCHES SHALL BE MAINTAINED TO PROVIDE CLEAR SPACE TO A MINIMUM HEIGHT OF 7'.

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				
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LANDSCAPE

LANDSCAPE PLAN
COMMONWEALTH AVENUE
(SHEET 1 OF 2)

1"=20'
VERIFY SCALE
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DATE	OCTOBER 2025
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DWG	L-02
SHEET	132 of 158

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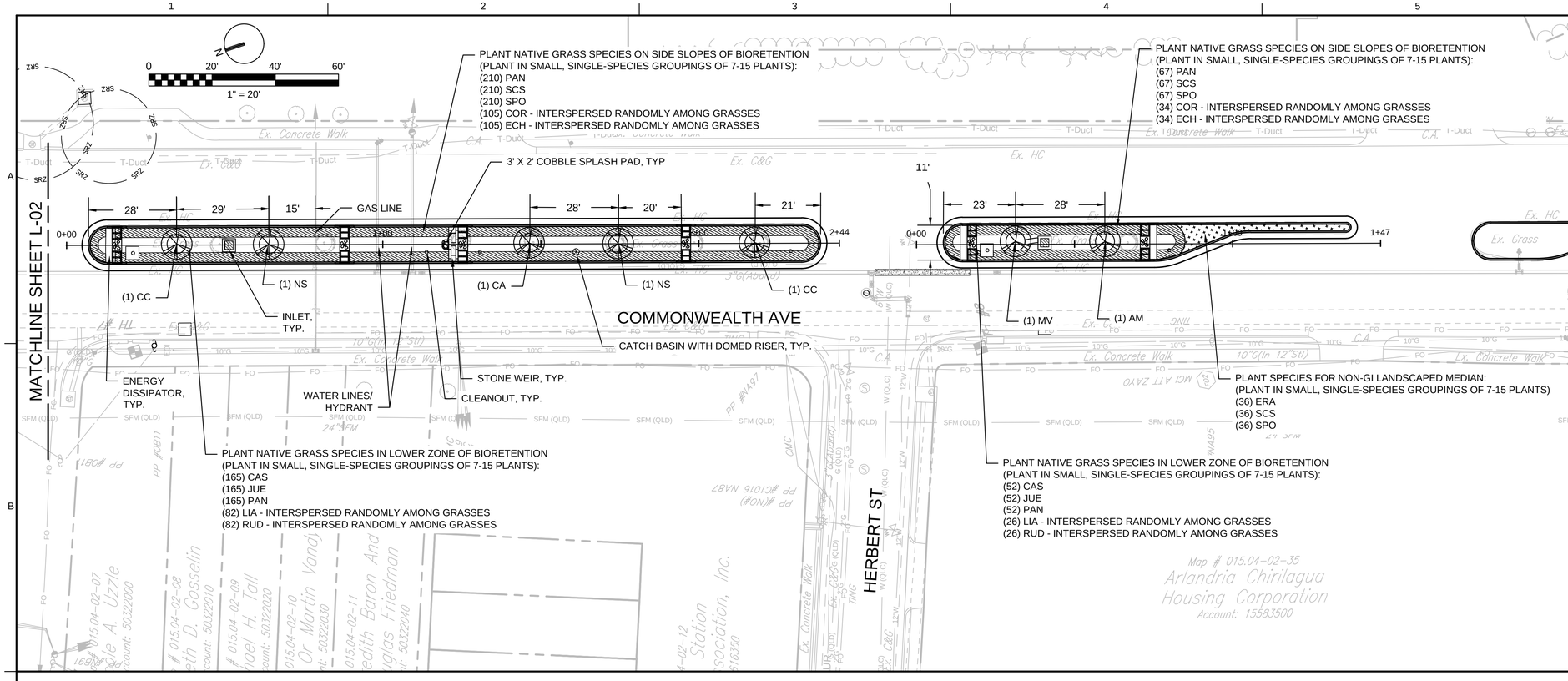
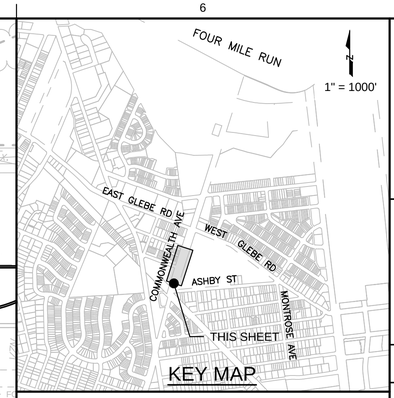
FILENAME: L-02.dwg PLOT DATE: 9/28/2025 PLOT TIME: 9:52 PM





SHEET NOTES

1. FOR LANDSCAPE PLAN NOTES, REFER TO SHEET L-04.
2. FOR PLANT SCHEDULE, REFER TO SHEET L-04.
3. EROSION CONTROL MATTING SHALL BE INSTALLED ON SIDE SLOPES PER STANDARD DETAILS. REFER TO SHEET L-06.
4. NATIVE ORNAMENTAL GRASSES SHALL BE PLANTED IN A MIX OF SMALL, SINGLE-SPECIES GROUPINGS TO ACHIEVE A NATURALIZED APPEARANCE. AVOID PLANTING IN LARGE SINGLE-SPECIES BLOCKS.
5. FLOWERING PERENNIALS SHALL BE INTERSPERSED RANDOMLY AMONG THE GRASSES, FOR VISUAL INTEREST AND POLLINATOR VALUE.
6. TREE BRANCHES SHALL NOT OBSTRUCT THE VISIBILITY OF PEDESTRIANS OR VEHICLES. TREE BRANCHES SHALL BE MAINTAINED TO PROVIDE CLEAR SPACE TO A MINIMUM HEIGHT OF 7'.

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FOUR MILE RUN STORM SEWER UPGRADES
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ALEXANDRIA, VA 22314

FINAL DESIGN (NOT FOR CONSTRUCTION)

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LANDSCAPE

LANDSCAPE PLAN COMMONWEALTH AVENUE (SHEET 2 OF 2)

1"=20'
VERIFY SCALE
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0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-03
SHEET	133 of 158

FILENAME: L-03.dwg PLOT DATE: 9/28/2025 PLOT TIME: 9:56 PM

SHEET NOTES

1. EXISTING BASEBALL FIELD RESTORATION TO BE PERFORMED WITHIN LIMITS OF DISTURBANCE.
2. SEE SHEET L-08 FOR IRRIGATION DETAILS.
3. SEE SHEET L-05 FOR SEEDING REQUIREMENTS.
4. VERIFY ALL SITE CONDITIONS AND DIMENSIONS SHOWN ON PLANS PRIOR TO COMMENCEMENT OF WORK. NOTIFY OWNER AND ITS REPRESENTATIVES OF ANY DISCREPANCIES OF IRREGULAR CONDITIONS.
5. CONTRACTOR TO SUBMIT SHOP DRAWING SHOWING ALL ELEMENTS PER SPECIFICATIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL FIELD LAYOUT. THE CONTRACTOR SHALL TAKE TIES TO IRRIGATION CONNECTIONS AND PROVIDE MARKED-UP RECORD PLANS FOR ALL UTILITIES INSTALLED OR ENCOUNTERED PER SPECIFICATIONS.
7. THE CONTRACTOR SHALL PROVIDE SMOOTH TRANSITIONS BETWEEN NEW WORK AND EXISTING CONDITIONS.
8. FIELD MARKING TO BE PERFORMED BY OTHERS; INFIELD AND BASE PATH DIMENSIONS ARE SYMMETRICAL ABOUT CENTERLINE. ALL OTHER PLAY FIELD DIMENSIONS MAY VARY. ALL ANGLES ARE 90° UNLESS OTHERWISE INDICATED. DIMENSIONS ARE TO BACK OF 1ST AND 3RD BASE, AND TO CENTER OF 2ND BASE.
9. PROPOSED IRRIGATION SYSTEM TO BE RECONNECTED TO EXISTING CONTROL SYSTEM AND WATER SUPPLY FEED LOCATED IN ADJACENT PARK RESTROOM BUILDING.
10. ELECTRICAL SERVICES TO REMAIN MUST BE PROTECTED AND MAINTAINED DURING CONSTRUCTION.

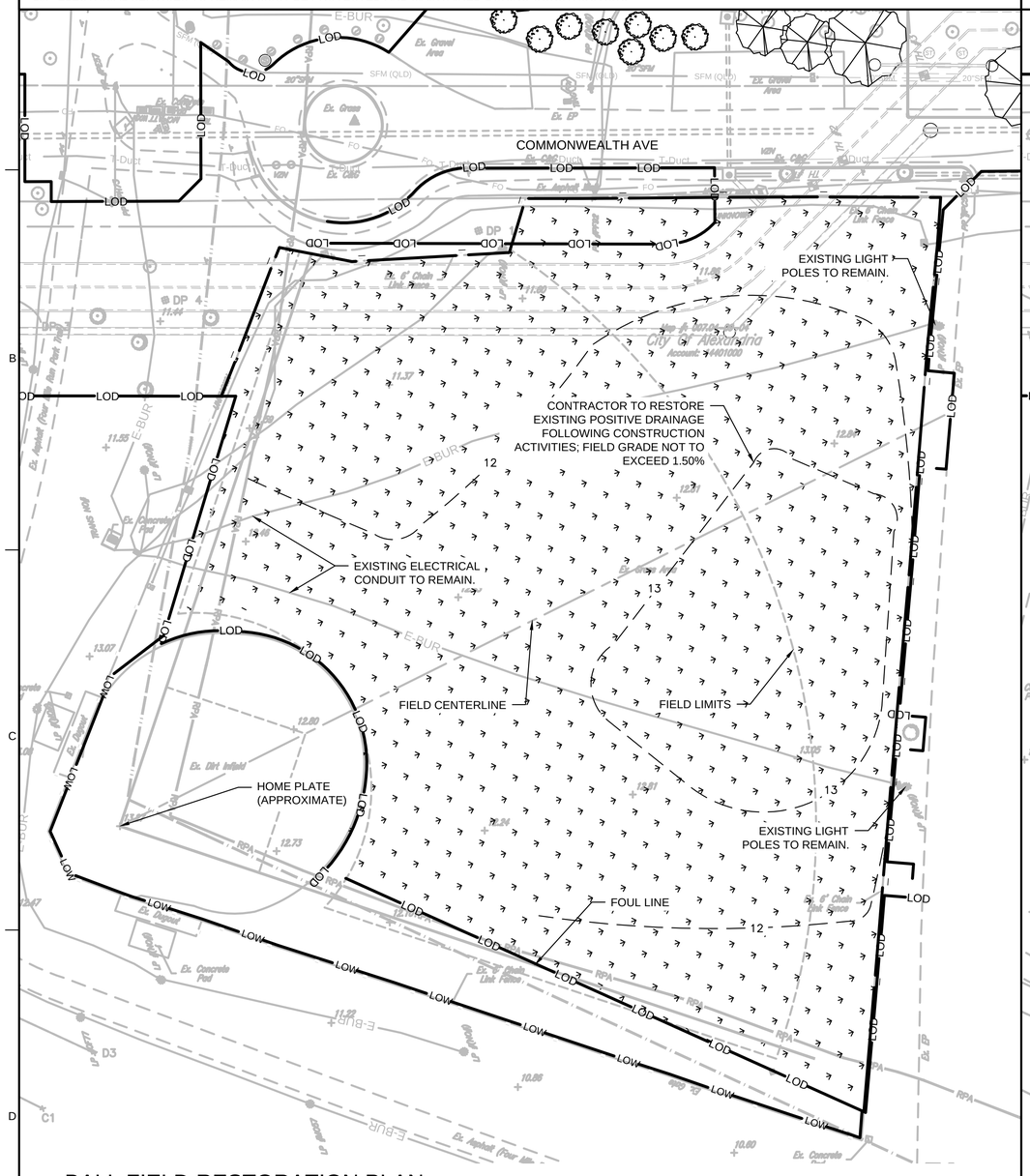
LEGEND

- ROTARY SPRINKLER - FULL CIRCLE - 55' RADIUS, 14.3 GPM, 60 PSI
- ROTARY SPRINKLER - PART CIRCLE - 55' RADIUS, 14.3 GPM, 60 PSI
- ROTARY SPRINKLER - PART CIRCLE - 55' RADIUS, 7.5 GPM, 60 PSI
- ROTARY SPRINKLER - PART CIRCLE - 60' RADIUS, 17.8 GPM, 60 PSI
- ROTARY SPRINKLER - PART CIRCLE - 60' RADIUS, 9.2 GPM, 60 PSI
- 1" QUICK COUPLER VALVE
- 1.5" ELECTRIC VALVE
- IRR — MAIN LINE PIPE - PVC, SEE PLAN FOR SIZING
- LATERAL PIPE - PVC, SEE PLAN FOR SIZING
- SLEEVE PIPE
- NATURAL GRASS FIELD
- 6' CHAIN LINK FENCE
- FIELD MARKING

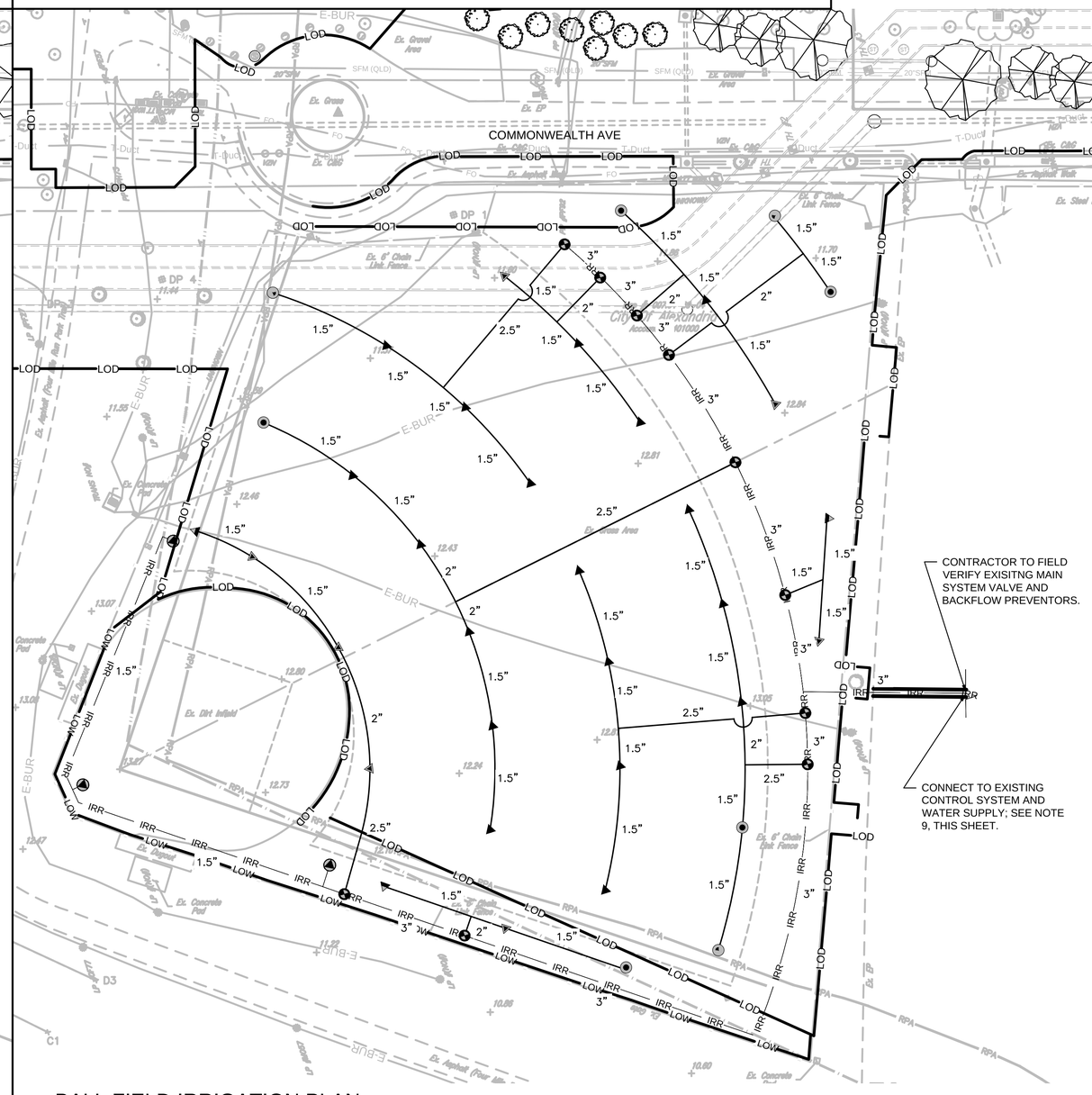
N

0 30' 60' 90'

1" = 30'



BALL FIELD RESTORATION PLAN



BALL FIELD IRRIGATION PLAN

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NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	A.CARLSON	V.TAYLOR	M.DEVUONO	J.KELLY
	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

ARCADIS

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

LANDSCAPE

IRRIGATION & RESTORATION PLAN
COMMONWEALTH AVENUE

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-04
SHEET	134 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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LANDSCAPE NOTES

CITY OF ALEXANDRIA STANDARD LANDSCAPE PLAN NOTES

1. THE SPECIFIER, CONTRACTOR AND INSTALLER OF PLANT MATERIAL ARE RESPONSIBLE FOR UNDERSTANDING AND ADHERING TO THE STANDARDS SET FORTH IN THE MOST RECENT VERSION OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND APPLICABLE CONDITIONS OF APPROVAL. ALL QUESTIONS REGARDING APPLICATION OF, OR ADHERENCE TO, THE STANDARDS AND/OR CONDITIONS OF APPROVAL SHALL BE DIRECTED TO THE CITY PRIOR TO COMMENCEMENT OF DEMOLITION, CONSTRUCTION, OR ANY LAND DISTURBING ACTIVITY.
2. THE CITY-APPROVED LANDSCAPE PLAN SUBMISSION, INCLUDING PLANT SCHEDULE, NOTES AND DETAILS SHALL BE THE DOCUMENT USED FOR INSTALLATION PURPOSES AND ALL PROCEDURES SET FORTH IN THE LANDSCAPE GUIDELINES MUST BE FOLLOWED.
3. THE CONTRACTOR SHALL NOT INTERFERE WITH ANY TREE PROTECTION MEASURES OR IMPACT ANY EXISTING VEGETATION IDENTIFIED TO BE PRESERVED PER THE APPROVED TREE AND VEGETATION PROTECTION PLAN.
4. ANY CHANGES, ALTERATIONS OR MODIFICATIONS TO THE SITE CONDITIONS THAT AFFECT VEGETATION PROTECTION ZONES WILL REQUIRE AN AMENDMENT TO THE APPROVED TREE AND VEGETATION PROTECTION PLAN AND/OR DETAILS.
5. INSTALLATION OF PLANT MATERIAL MAY ONLY OCCUR DURING THE PLANTING SEASONS IDENTIFIED IN THE LANDSCAPE GUIDELINES.
6. IN LIEU OF MORE STRENUOUS SPECIFICATIONS, ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF LANDSCAPE SPECIFICATION GUIDELINES AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, DISTRICT OF COLUMBIA AND VIRGINIA; GAITHERSBURG, MARYLAND.
7. SUBSTITUTIONS TO THE APPROVED PLANT MATERIAL SHALL NOT OCCUR UNTIL WRITTEN APPROVAL IS PROVIDED BY THE CITY.
8. MAINTENANCE FOR THIS PROJECT SHALL BE PERFORMED BY THE CITY OF ALEXANDRIA AND IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES AND AS CONDITIONED BY PROJECT APPROVAL, AS APPLICABLE.

CITY OF ALEXANDRIA STANDARD TREE PRESERVATION NOTES

1. VEGETATION DESIGNATED FOR PROTECTION AND/OR PRESERVATION SHALL CONTINUOUSLY RECEIVE AN ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD.
   - MAINTENANCE SHALL BE PRO-ACTIVE.
   - MAINTENANCE OPERATIONS SHALL AGGRESSIVELY MONITOR THE HEALTH, GROWTH AND VIGOR OF VEGETATION AND PRESCRIBE SELECTIVE PRUNING, REMOVAL OF VOLUNTEER AND/OR INVASIVE SPECIES, WATERING, FERTILIZATION AND INSTALLATION OF MULCH/TOPDRESSING.
   - WHEN PRESERVED VEGETATION IS LOCATED ON CITY PROPERTY, MAINTENANCE SHALL BE PERFORMED TO THE SATISFACTION OF THE CITY.
2. AREAS DESIGNATED FOR PROTECTION AND/OR PRESERVATION OF VEGETATION SHALL NOT BE ENTERED OR UTILIZED (APPROVED MAINTENANCE PROCEDURES AND WATERING EXCEPTED) THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. PROHIBITED ITEMS/ACTIVITIES INCLUDE, BUT ARE NOT LIMITED TO:
   - MODIFYING SITE TOPOGRAPHY IN A MANNER THAT DIRECTLY OR INDIRECTLY ALTERS EXISTING SITE DRAINAGE WITHIN PROTECTION ZONE INCLUDING TRENCHING OR GRADING OPERATIONS AND PLACING, STORING OR STOCKPILING SOIL OR CONSTRUCTION RELATED SUPPLIES.
   - FELLING AND STORING VEGETATION. III. INCINERATING MATERIALS WITHIN OR IN CLOSE PROXIMITY.
   - OPERATING MACHINERY OR EQUIPMENT, INCLUDING VEHICLE/EQUIPMENT PARKING OR STORAGE.
   - TEMPORARY OR PERMANENT UTILITY CONSTRUCTION, PAVING OR IMPERVIOUS SURFACE INSTALLATION.
   - DISPOSAL OF DEBRIS OR CHEMICALS. VII. TEMPORARY FACILITIES OR OCCUPATION BY WORK FORCE.
   - STORAGE OF CONSTRUCTION MATERIALS OR WASTE.

TREE NOTES FOR BIORETENTION BMPS WITH TREES

1. FOLLOW ANSI A300 PLANTING STANDARDS.
2. EXPOSE ROOT FLARE AND PLANT TREE WITH ROOT FLARE AT GRADE.
3. ALL EXCESS SOIL AND DUG MATERIAL ABOVE GRADE SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
4. REMOVE AND DISPOSE OF TOP 50% OF WIRE AND BURLAP OR 100% OF FABRIC BAGS.
5. SPREAD A 3" LAYER OF MULCH 36" OUT FROM THE TRUNK IN ALL DIRECTIONS. MULCH SHALL BE KEPT 6" FROM THE TRUNK ITSELF.
6. COMPACT MEDIA BENEATH ROOT BALL SUCH THAT ROOTBALL DOES NOT SINK.
7. THOROUGHLY WATER IN TREE WITH NO LESS THAN FIFTEEN (15) GALLONS OF WATER TO SETTLE THE SOIL AROUND THE ROOTS OF THE ROOT BALL AT THE TIME OF PLANTING; WATERING SHALL BE COMPLETED REGARDLESS OF THE WEATHER AT THE TIME OF PLANTING

LANDSCAPE NOTES

1. REFER TO SEPARATE TREE PROTECTION PLAN, WHICH INCLUDES EXISTING TREE INVENTORY.
2. ALL VEGETATION PRESERVATION AND PROTECTION METHODS SHALL BE APPROVED/VERIFIED IN FIELD BY THE CITY ARBORIST PRIOR TO COMMENCEMENT OF ANY GROUND DISTURBING ACTIVITY.
3. LOCATION AND METHOD FOR PROTECTION AND PRESERVATION OF EXISTING TREES WILL BE SHOWN ON DEMOLITION AND SEDIMENT AND EROSION CONTROL PLAN SHEETS.
4. PRIOR TO COMMENCEMENT OF LANDSCAPE INSTALLATION/PLANTING OPERATIONS, A PRE-INSTALLATION/CONSTRUCTION MEETING WILL BE SCHEDULED WITH THE CITY'S ARBORIST AND LANDSCAPE ARCHITECTS TO REVIEW THE SCOPE OF INSTALLATION PROCEDURES AND PROCESSES.
5. ALL CONSTRUCTION WASTE SHALL BE REMOVED PRIOR TO PLANTING.
6. CONTRACTOR SHALL HAVE ALL SUBSURFACE UTILITIES MARKED PRIOR TO THE START OF WORK.
7. PLANT LOCATIONS ARE APPROXIMATE. PRIOR TO PLANTING, LOCATION OF ALL PLANT MATERIALS WILL BE APPROVED BY THE LANDSCAPE ARCHITECT.
8. ALL PLANT MATERIALS SHALL COMPLY WITH THE CURRENT AND MOST UP TO DATE EDITION OF AMERICAN STANDARDS FOR NURSERY STOCK ANSI 760.1.
9. ALL PLANT MATERIAL WILL HAVE TAGS INDICATING COMMON NAME, BOTANICAL NAME, CULTIVAR, AND SIZE.
8. AREAS OF BARE SOIL WILL NOT BE ACCEPTED. MULCHED AREAS AND PLANTING AREAS SHALL BE WEED FREE UPON ACCEPTANCE OF THE PROJECT BY THE CITY.
9. IMMEDIATELY AFTER ACCEPTANCE OF PLANTINGS, TAGS AND RIBBONS SHALL BE REMOVED.
10. ALL PLANTS WILL BE MULCHED PER PLANS AND SPECIFICATIONS.
11. AS-BUILT DRAWINGS FOR THIS LANDSCAPE PLAN AND/OR IRRIGATION/WATER MANAGEMENT SYSTEM SHALL BE PROVIDED IN COMPLIANCE WITH CITY OF ALEXANDRIA LANDSCAPE GUIDELINES. AS-BUILT DRAWINGS SHALL INCLUDE CLEAR IDENTIFICATION OF ALL VARIATION(S) AND CHANGES FROM APPROVED DRAWINGS INCLUDING LOCATION, QUANTITY AND SPECIFICATION OF ALL PROJECT ELEMENTS.
12. ALL SITE FURNISHINGS WITHIN SITE RESTORATION LIMITS SHALL BE SALVAGED AND REINSTALLED, OR REPLACED IN-KIND.

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	NOTES	NATIVE
Trees							
AM	4	Amelanchier canadensis	Canadian Serviceberry	1.5 - 2" B&B	As shown		Locally native
CA	2	Carpinus caroliniana	American Hornbeam	1.5 - 2" B&B	As shown		Locally native
CC	3	Cercis canadensis	Eastern Redbud	1.5 - 2" B&B	As shown	Smaller tree, suitable for underneath utility lines	Locally native
CV	2	Crataegus viridis 'Winter King'	Winter King Hawthorn	1.5 - 2" B&B	As shown	Will be planted in non-bioretention zones	Locally native
MV	3	Magnolia virginiana	Sweetbay Magnolia	1.5 - 2" B&B	As shown		Locally native
NS	4	Nyssa sylvatica	Black Gum	1.5 - 2" B&B	As shown		Locally native
Ornamental Grasses							
CAS	570	Carex stricta	Tussock Sedge	#1 CONT.	12-18" O.C.	lower zone	Locally native
JUE	570	Juncus effusus	Soft Rush	#1 CONT.	12-18" O.C.	lower zone	Locally native
PAN	1605	Panicum virgatum 'Shenandoah'	Shenandoah Switchgrass	#1 CONT.	12-18" O.C.	lower zone and side slopes	Locally native
SCS	1035	Schizachyrium scoparium	Little Bluestem	#1 CONT.	12-18" O.C.	side slopes	Locally native
SPO	1035	Sporobolus heterolepis 'Tara'	Dwarf Prairie Dropseed	#1 CONT.	12-18" O.C.	side slopes	
Perennials							
COR	366	Coreopsis verticillata	Whorled Tickseed	#1 CONT.	12-18" O.C.	side slopes, interspersed among grasses	Locally native
ECH	366	Echinacea purpurea	Purple Coneflower	#1 CONT.	12-18" O.C.	side slopes, interspersed among grasses	Regionally native
LIA	285	Liatris spicata 'Kobold'	Kobold Dense Blazing Star	#1 CONT.	12-18" O.C.	lower zone, interspersed among grasses	Locally native
RUD	285	Rudbeckia fulgida 'Goldsturm'	Black Eyed Susan	#1 CONT.	12-18" O.C.	lower zone, interspersed among grasses	Regionally native

LANDSCAPE PLANTING NOTES

1. ALL LANDSCAPE RELATED WORK SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT AND MOST UP-TO-DATE EDITION (AT TIME OF CONSTRUCTION) OF THE CITY OF ALEXANDRIA LANDSCAPE GUIDELINES, ANSI Z60.1-2014 AMERICAN STANDARD FOR NURSERY STOCK, AND LANDSCAPE SPECIFICATION GUIDELINES (6TH EDITION - 2014) AS PRODUCED BY THE LANDSCAPE CONTRACTORS ASSOCIATION OF MARYLAND, VIRGINIA, DISTRICT OF COLUMBIA AND VIRGINIA.

2. PLANTING AREA SHALL BE FREE FROM DEBRIS, STONES, GRAVEL, OR OTHER FOREIGN MATTER PRIOR TO PLANTING, SEEDING, OR SODDING.

LANDSCAPE SPECIFICATION AND INSTALLATION

1. SEED

1.1. PROCURE FROM NEW OF THE YEAR SEED CROPS, FREE OF FOREIGN MATERIAL OR WEED SEEDS.
1.2. FURNISH AND INSTALL PERMANENT SEEDING IN CONFORMANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK; SPECIFICATION 3.32- PERMANENT SEEDING (VESCH-PS).
1.3. PREPARE PLANTING AREA PER VESCH AND BY RAKING OUT AND REMOVING ALL DEBRIS OVER 1" IN DIAMETER.
1.4. PREPARE PLANTING AREA WITH SOIL CONDITIONER, TOPSOIL, AND/OR LIME, AS PER THE RECOMMENDATIONS OF A SOIL TEST CONDUCTED FOR HORTICULTURAL/LANDSCAPE PLANTING PER VESCH.
1.5. PACK OR ROLL SEED BEFORE AND AFTER SEEDING. SEEDBED SHOULD BE FIRM, SHOWING ONLY A SLIGHT IMPRINT WHEN STEPPED ON.
1.6. REPLACEMENT OR OVERSEEDING MIXES SHALL MATCH OR COMPLIMENT ORIGINAL INSTALLATION/EXISTING CONDITIONS SPECIFIED TO REMAIN.
1.7. PROVIDE CONTINUOUS UNIFORM AND CONSISTENT COVERAGE.

2. TOPSOIL

2.1. SEE LANDSCAPE SPECIFICATION GUIDELINES REFERENCED IN PAGE 1 OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
2.2. SUITABLE TOPSOIL SHALL BE STRIPPED FROM EXCAVATIONS AND STOCKPILED FOR REUSE.
2.3. THE CONTRACTOR SHALL SUPPLY ANY ADDITIONAL MATERIAL AS REQUIRED. THIS SOIL SHALL BE FRIABLE LOAM, AND SHALL BE OBTAINED FROM NATURALLY WELL-DRAINED AREAS. IT SHALL BE FREE FROM SUBSOIL, CLAY LUMPS, STONES, STUMPS, ROOTS, BRUSH, WEEDS, LITTER, TRASH OR OTHER HARMFUL MATERIAL.

3. MULCH

3.1. MULCH SHALL BE TRIPLE SHREDDED HARDWOOD MULCH, AGED A MINIMUM OF SIX (6) MONTHS, FREE FROM DEBRIS, MILDEW, DISEASE, PATHOGENS, OR OTHER MATERIAL OTHERWISE DELETERIOUS TO PLANT HEALTH. MULCH SHALL BE PLACED TO A UNIFORM DEPTH, AS INDICATED IN THE DETAILS.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	T WEINSTEIN	L FEASTER	L FEASTER	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN L ROMINGER

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

FINAL DESIGN (NOT FOR CONSTRUCTION)

Jacobs

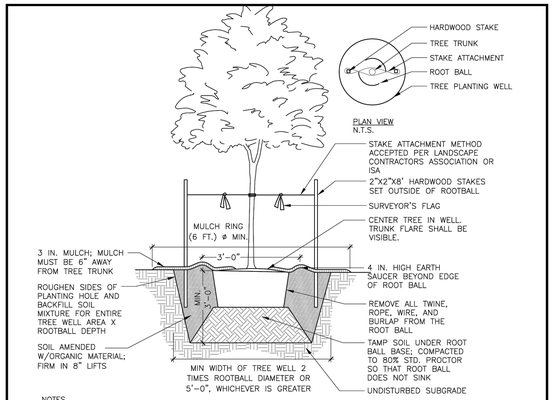
LANDSCAPE

LANDSCAPE NOTES AND PLANTING SCHEDULE

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-05
SHEET	135 of 158



NOTES

1. AT PLANTING PRUNE ONLY CROSSING LIMBS, BROKEN OR DEAD BRANCHES, AND ANY BRANCHES THAT POSE A HAZARD TO PEDESTRIANS PER ANSI STANDARDS A300. DO NOT PRUNE INTO OLD WOOD ON EVERGREENS.
2. CONTRACTOR SHALL MAXIMIZE EXCAVATED AREA FOR TREE WELL WITHOUT ADVERSELY IMPACTING ADJACENT SITE FEATURES
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. TREES PLANTED WITHOUT THE TRUNK FLARE VISIBLE WILL BE REJECTED.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.
7. STAKES WILL BE INSTALLED USING ARBORICULTURE PRACTICES, TREES SHALL STAND PLUM AFTER STAKING.
8. INSTALLATION WILL INCLUDE THE REMOVAL OF ALL STAKING MATERIAL ONE YEAR AFTER INSTALLATION. ANY HOLES LEFT BY REMOVING STAKING SHALL BE FILLED WITH APPROVED TOPSOIL / BACKFILL MIXTURE.
9. CONTRACTOR SHALL USE GALVANIZED EYESCREW & TURNBUCKLE INSTEAD OF ARBOR TIE ONLY FOR TREES OF SIGNIFICANT SIZE AS DIRECTED BY CITY STAFF.

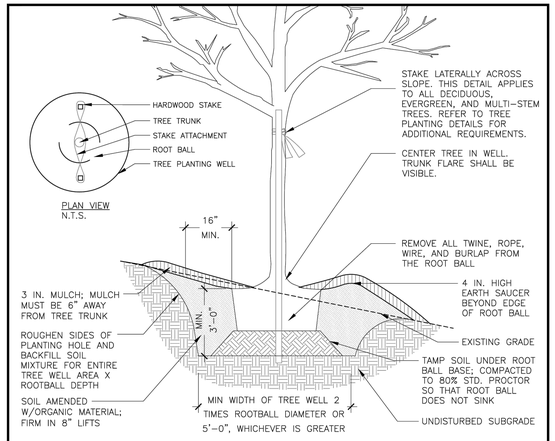
A DECIDUOUS TREE PLANTING
NOT TO SCALE

OF UPDATES: 01 LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE: THE INFORMATION SHOWN HEREIN THIS DOCUMENT IS FOR GENERAL GUIDANCE ONLY AND IS NOT INTENTED FOR CONSTRUCTION PURPOSES. ITS USE SHALL NOT RELIEVE THE DESIGN PROFESSIONAL OR CONTRACTOR OF ANY LEGAL RESPONSIBILITY.

Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
DECIDUOUS TREE PLANTING
I OF I
LD 001



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6. REFER TO STAKING DETAILS.
7. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A TREE PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES: 01 LAST UPDATED: 12/02/2019

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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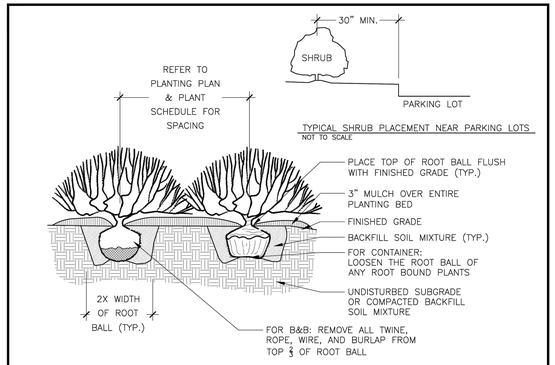
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
TREE PLANTING ON SLOPE
I OF I
LD 004



NOTES

1. AT PLANTING, PRUNE ONLY BROKEN OR DEAD BRANCHES PER ANSI 300 STANDARD.
2. PLANTING WELL / TRENCH SHALL BE DUG TO ALLOW TOP OF ROOT BALL TO SET FLUSH WITH EXISTING GRADE.
3. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS. ORIENT BEST FACE OF PLANT TO BE MOST VISIBLE.
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. DO NOT PLACE MULCH IN CONTACT WITH STEM OF PLANTS.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, ESTABLISHMENT WATERING SHALL BE PER THE SPECIFICATIONS ON ALL DETAILS.

A SHRUB PLANTING
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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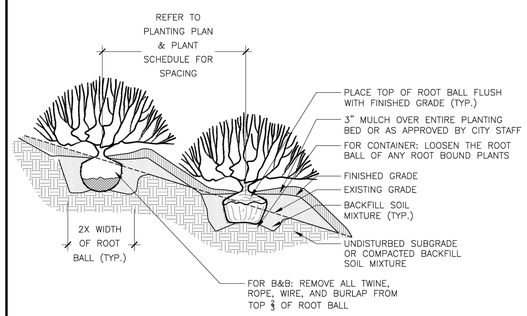
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
SHRUB PLANTING
I OF I
LD 009



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A SHRUB PLANTING ON SLOPE
NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

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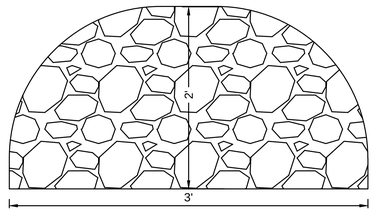
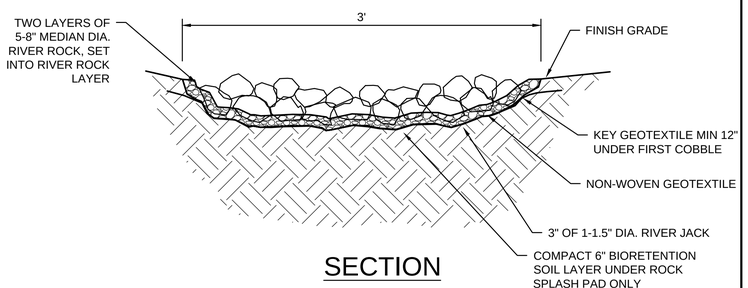
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
SHRUB PLANTING ON SLOPE
I OF I
LD 010



PLAN



SECTION

COBBLE SPLASH PAD
NTS

NOTE: DO NOT PLACE RIVER ROCK SPLASH PAD WITHIN 3 FEET OF TREE TRUNK.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	L ROMINGER	T WEINSTEIN	L FEASTER	APVD
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	06/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN L FEASTER

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

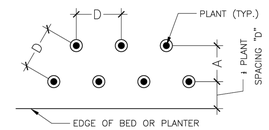
LANDSCAPE
LANDSCAPE DETAILS (SHEET 1 OF 3)

FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-06
SHEET	136 of 158

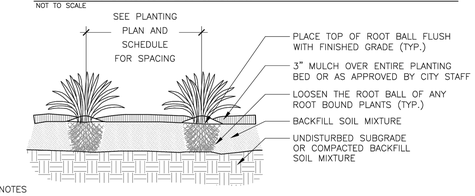
FILENAME: L-06.dwg PLOT DATE: 10/5/2025 PLOT TIME: 5:00 PM



PLANT SPACING "D" O.C.	ROW "A" O.C.	PLANTS PER SQ. FT.
6"	5"	4.00
8"	7"	2.25
9"	8"	1.77
12"	10"	1.00
15"	13"	0.77
18"	16"	0.44

TRIANGULAR SPACING PLAN & CHART

NOT TO SCALE



NOTES

1. PLANTING WELL / TRENCH SHALL BE DUG TO ALLOW TOP OF ROOT BALL TO SET FLUSH WITH EXISTING GRADE.
2. SET PLANTS IN ERECT, STABLE, AND UNIFORM POSITIONS. ORIENT BEST FACE OF PLANT TO BE MOST VISIBLE.
3. GROUND COVERS AND PERENNIALS SHALL BE INSTALLED WITH TRIANGULAR SPACING. REFER TO CHART.
4. UNLESS OTHERWISE DIRECTED BY PROJECT SPECIFICATIONS OR CITY STAFF, SOIL MIXTURE SHALL BE CLEANED OF DEBRIS, AND MEET SOIL COMPOSITION REQUIREMENTS OF CITY OF ALEXANDRIA LANDSCAPE GUIDELINES.
5. DO NOT PLACE MULCH IN CONTACT WITH STEM OR CROWN OF PLANTS.
6. ALL PLANTS MUST BE WATERED AT INSTALLATION AND AGAIN WITHIN 48-HOURS OF INSTALLATION, PER THE SPECIFICATIONS.

A GROUNDCOVER & PERENNIAL PLANTING

NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
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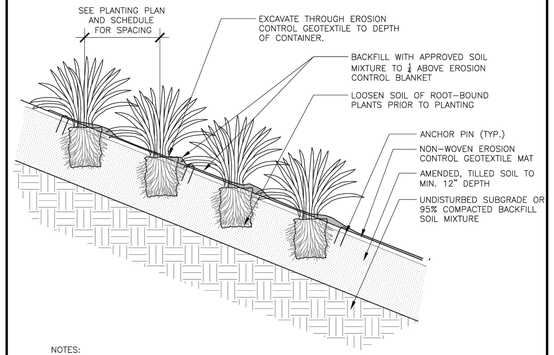
Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
GROUNDCOVER & PERENNIAL PLANTING
1 OF 1
LD 011



NOTES:

1. REFER TO CITY OF ALEXANDRIA GROUND COVER AND PERENNIAL PLANTING DETAIL AND NOTES FOR ADDITIONAL SPECIFICATIONS.
2. ALL PLANTS MUST BE WATERED TWICE, ONCE AT INSTALLATION AND AGAIN WITHIN 48 HOURS OF INSTALLATION PER THE SPECIFICATIONS.

A GROUNDCOVER & PERENNIAL PLANTING ON SLOPE

NOT TO SCALE

OF UPDATES: 00 LAST UPDATED:

CITY OF ALEXANDRIA, VIRGINIA
STANDARD LANDSCAPE DETAILS
CITY OF ALEXANDRIA, VIRGINIA

NOTE:
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Source: CITY OF ALEXANDRIA
Approved by: COA
Date drawn: 01/01/19
GROUNDCOVER & PERENNIAL PLANTING ON SLOPE
1 OF 1
LD 012

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN L ROMINGER

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

LANDSCAPE
LANDSCAPE DETAILS
(SHEET 2 OF 3)

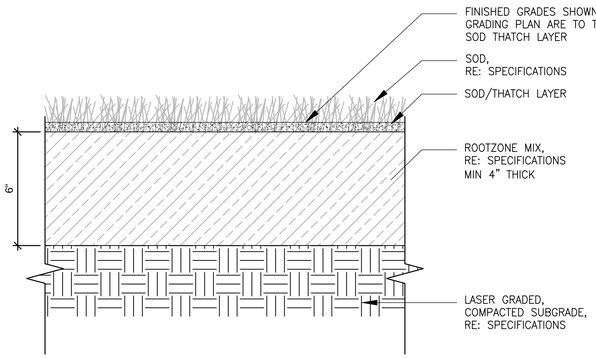
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-07
SHEET	137 of 158

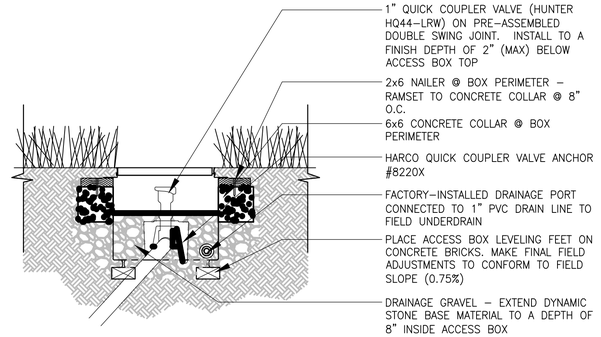
FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: L-07.dwg PLOT DATE: 9/28/2025 PLOT TIME: 10:04 PM



NATURAL GRASS PLAYING FIELD

SCALE: N.T.S.

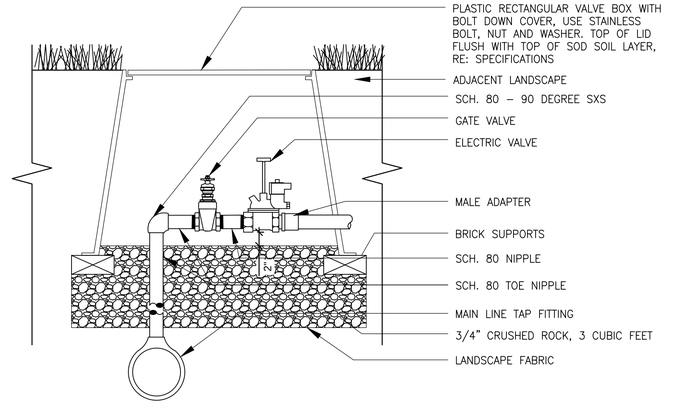


NOTES:

1. QUICK COUPLER ACCESS BOX SHALL BE SPORTSFIELD SPECIALTIES COMBOX PLUS 3500.5 HALF BOX, OR APPROVED EQUAL.
2. TOP OF WOOD NAILER SHALL BE FLUSH WITH TOP OF FINISH STONE AND SHALL CONFORM TO THE FINISHED SLOPE OF THE FIELD (0.75%).

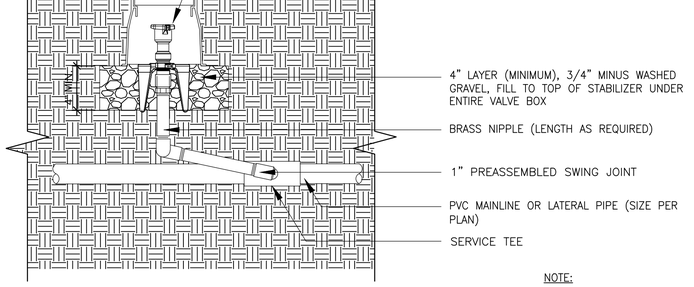
QUICK COUPLER VALVE

SCALE: N.T.S.



ELECTRIC VALVE ASSEMBLY

SCALE: N.T.S.

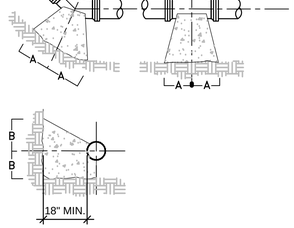


NOTE:

1. USE HARCO STABILIZER TO STABILIZE QUICK COUPLER RISER, RE: SPECIFICATIONS.

QUICK COUPLER ASSEMBLY

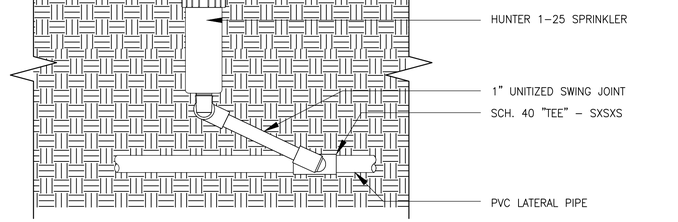
SCALE: N.T.S.



SOIL	SIZE	90 BEND		45 BEND		TEE	
		A	B	A	B	A	B
4000 PSF	2-1/2"	8"	10"	6"	8"	3"	8"
	3"	8"	10"	6"	8"	3"	8"
	4"	8"	10"	6"	8"	3"	8"
	6"	8"	10"	6"	8"	3"	8"
	8"	12"	12"	8"	10"	5"	9"
	10"	16"	14"	10"	12"	6"	10"
2000 PSF	2-1/2"	16"	10"	9"	10"	6"	8"
	3"	16"	10"	9"	10"	6"	8"
	4"	16"	10"	9"	10"	6"	8"
	6"	16"	10"	9"	10"	6"	8"
	8"	22"	13"	12"	13"	8"	10"
	10"	26"	17"	14"	17"	10"	13"

THRUST BLOCKS

SCALE: N.T.S.

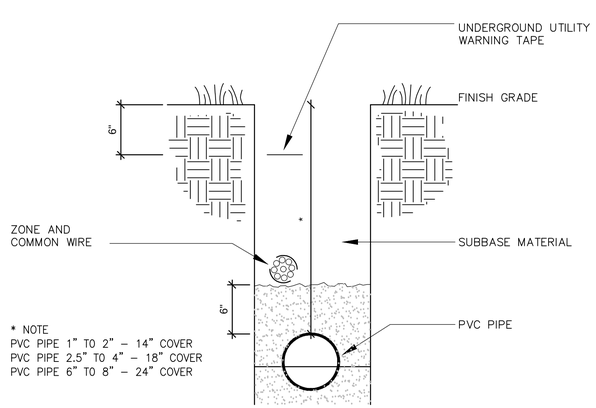


NOTE:

CONTRACTOR TO HAND COMPACT ALL SOIL AROUND HEADS PRIOR TO GRASSING.

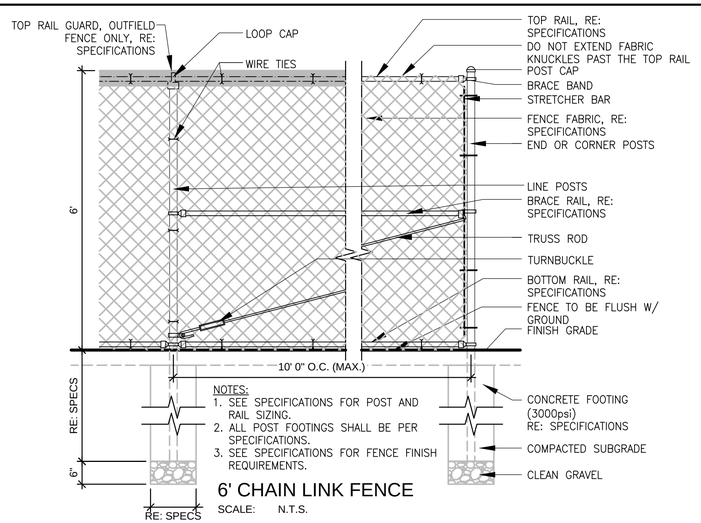
I-25 SPRINKLER ASSEMBLY

SCALE: N.T.S.



IRRIGATION TRENCH

SCALE: N.T.S.

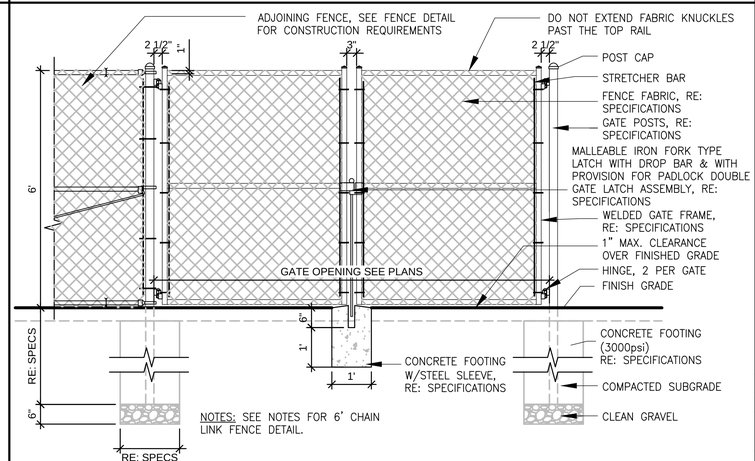


NOTES:

1. SEE SPECIFICATIONS FOR POST AND RAIL SIZING.
2. ALL POST FOOTINGS SHALL BE PER SPECIFICATIONS.
3. SEE SPECIFICATIONS FOR FENCE FINISH REQUIREMENTS.

6' CHAIN LINK FENCE

SCALE: N.T.S.



NOTES: SEE NOTES FOR 6' CHAIN LINK FENCE DETAIL.

6' CHAIN LINK FENCE DOUBLE GATE

SCALE: N.T.S.

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DSGN A.CARLSON | DR V.TAYLOR | CHK M.DEVUONO | APVD J.KELLY

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CITY OF ALEXANDRIA, VA
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ALEXANDRIA, VA 22314

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LANDSCAPE

LANDSCAPE DETAILS (SHEET 3 OF 3)

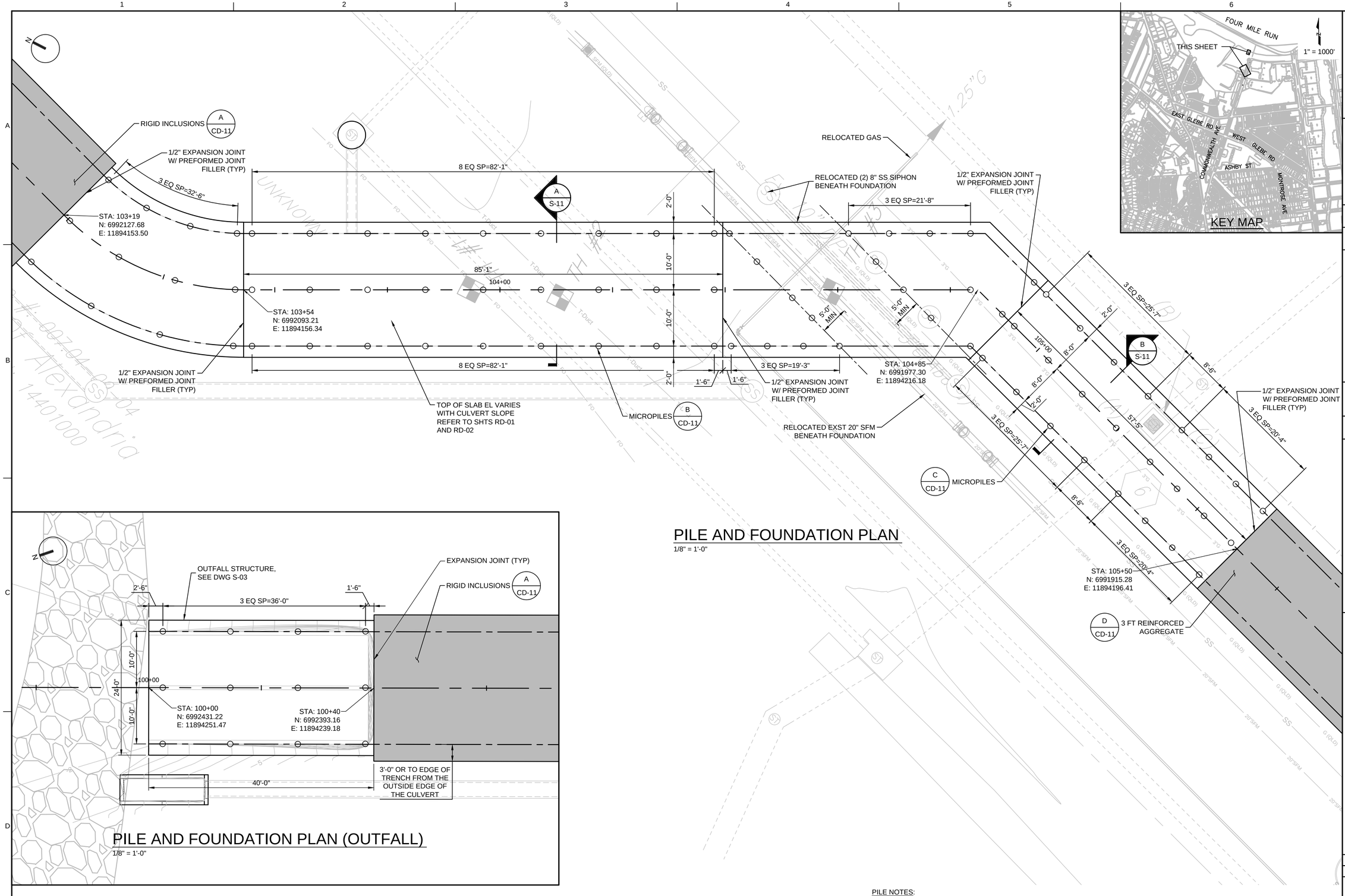
FINAL DESIGN (NOT FOR CONSTRUCTION)

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	L-08
SHEET	138 of 158

FILENAME: L-08.dwg PLOT DATE: 9/28/2025 PLOT TIME: 10:04 PM



PILE AND FOUNDATION PLAN

1/8" = 1'-0"

PILE AND FOUNDATION PLAN (OUTFALL)

1/8" = 1'-0"

PILE NOTES:

1. SEE MICROPILE DETAIL ON S-12 FOR PILE SIZE, LENGTH, ELEVATIONS, AND ALLOWABLE LOADS.

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	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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ALEXANDRIA, VA 22314

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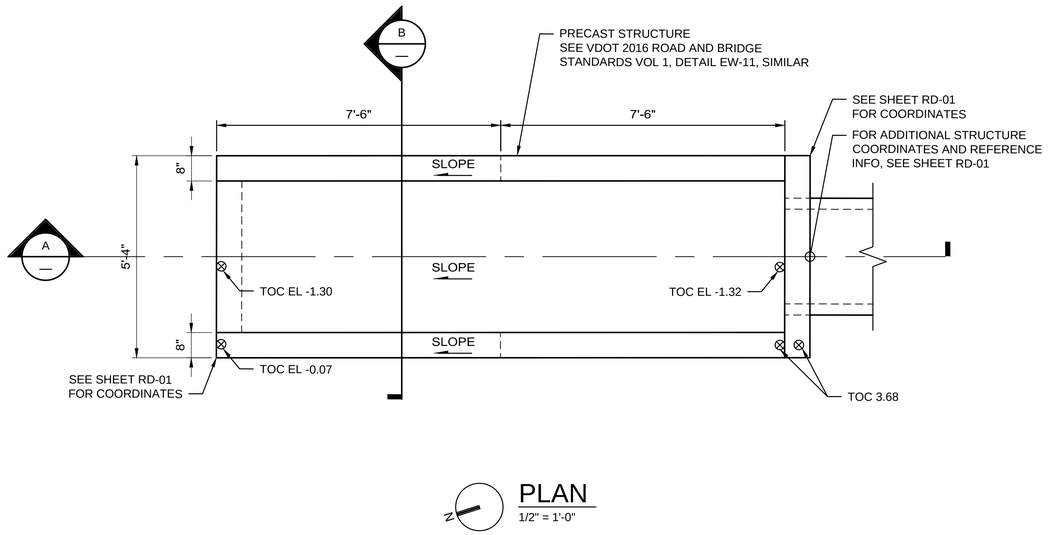
STRUCTURAL

PILE AND FOUNDATION PLAN

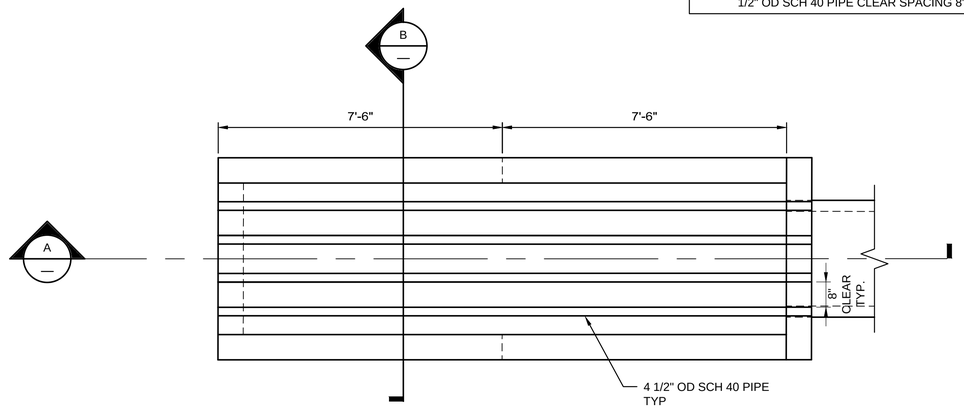
1/8"=1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-01
SHEET	139 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)



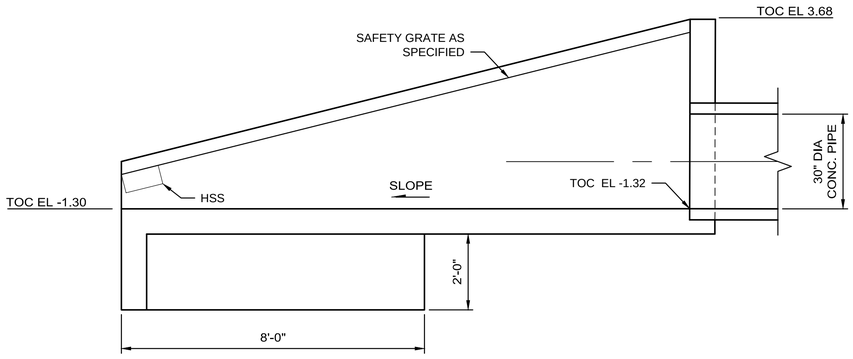
PLAN
1/2" = 1'-0"



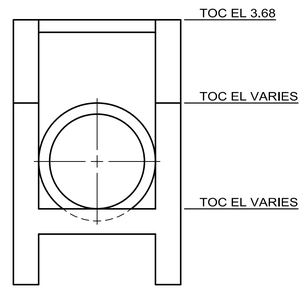
PLAN
1/2" = 1'-0"

GENERAL SHEET NOTES

1. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-01.
2. FABRICATE SAFETY GRATE PER VDOT 2016 ROAD AND BRIDGE STANDARDS VOL 1, DETAIL EW-11, SIMILAR. 4 1/2" OD SCH 40 PIPE CLEAR SPACING 8" TYP.



A SECTION
1/2" = 1'-0"



NOTE:
SAFETY GRATE NOT SHOWN.

B SECTION
1/2" = 1'-0"

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	11/2024	65% SUBMITTAL				
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	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

STRUCTURAL

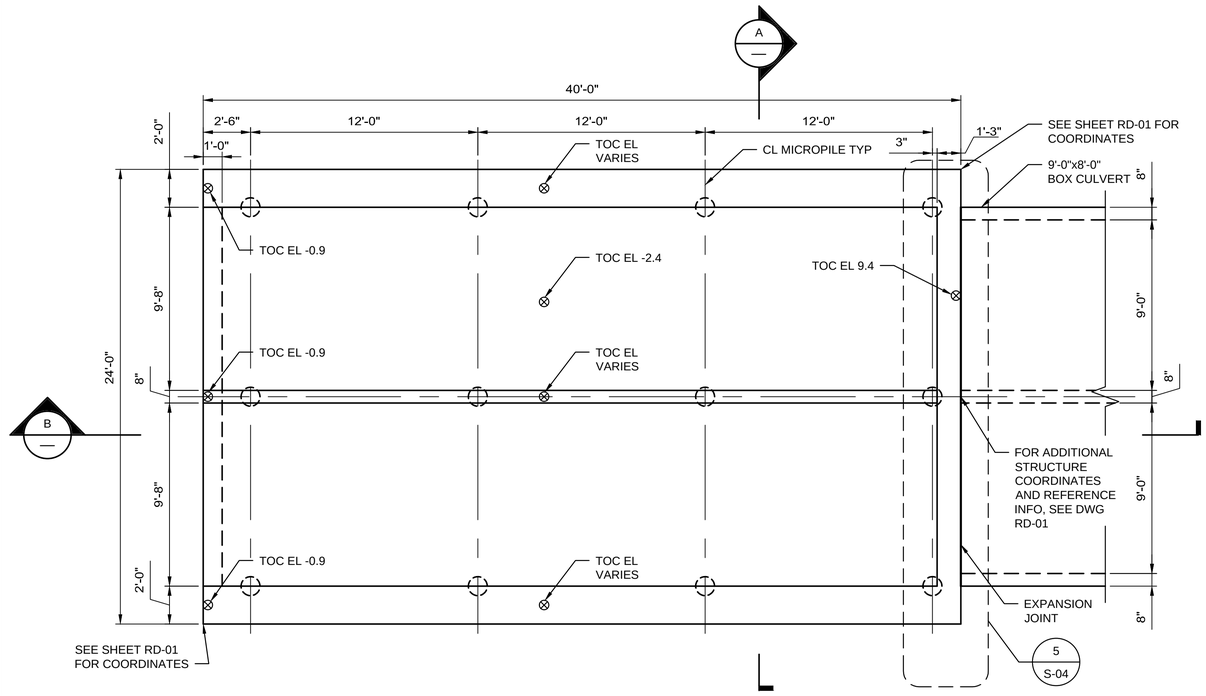
SS C-01 RELOCATED
SANITARY SEWER
OUTFALL STRUCTURE

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-02
SHEET	140 of 158

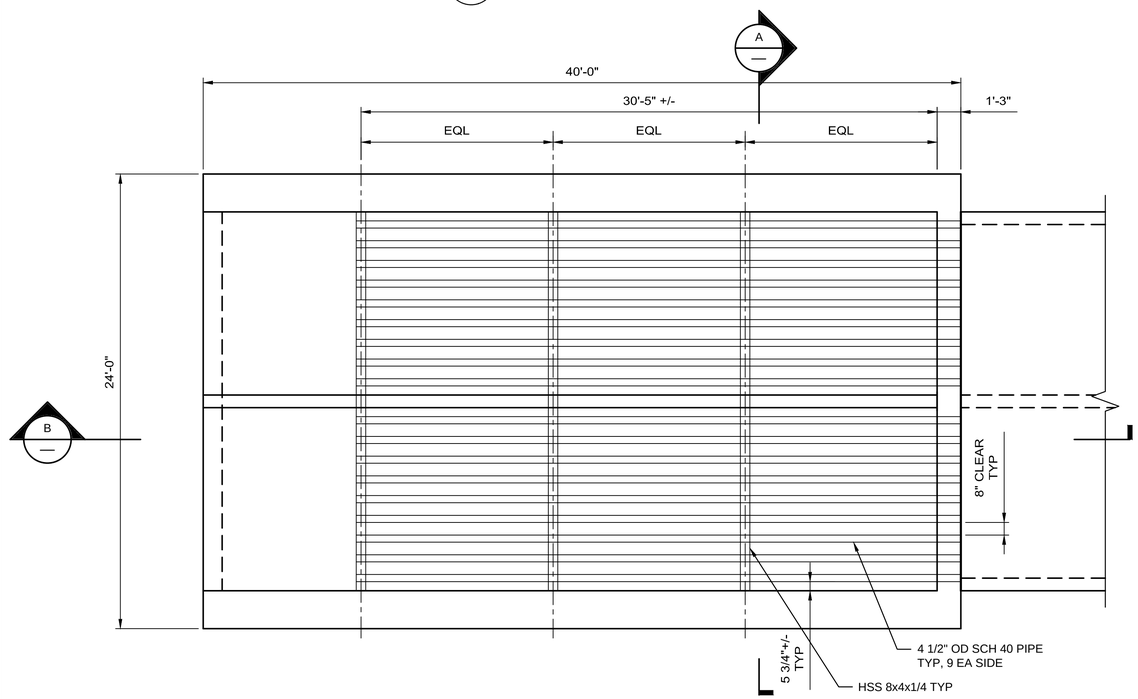
FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: S-02.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:25 AM



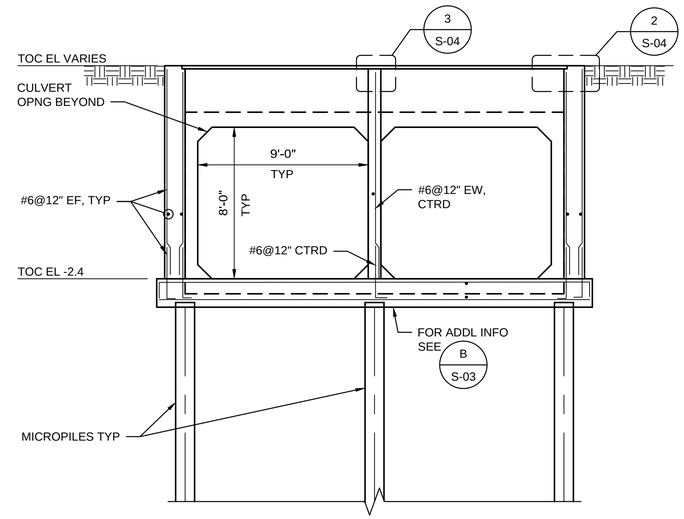
FOUNDATION PLAN

1/4" = 1'-0"



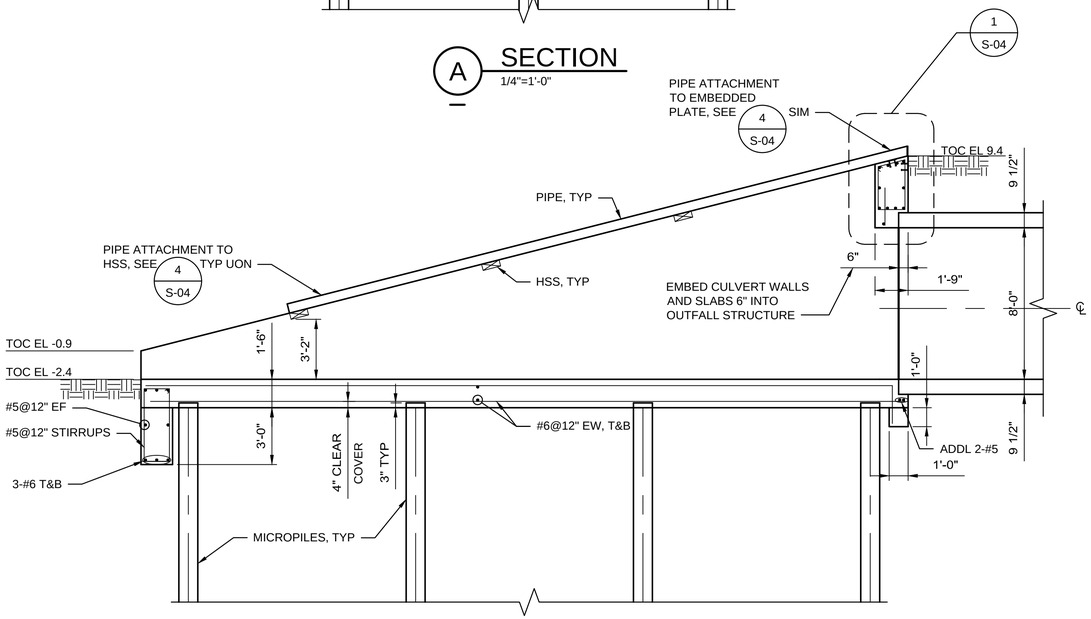
SAFETY GRATE PLAN

1/4" = 1'-0"



A SECTION

1/4"=1'-0"



B SECTION

1/4"=1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-01.
3. HOT DIP GALVANIZE ALL STEEL FABRICATION.
4. STEEL SURFACES IN CONTACT WITH CONCRETE SHALL BE COATED WITH 2 LAYERS OF COAL TAR PAINT.
5. FOR PILE PLAN, SEE DWG S-01.

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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STRUCTURAL

ST C-01 STORM SEWER OUTFALL STRUCTURE

1/4"=1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
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SHEET	141 of 158

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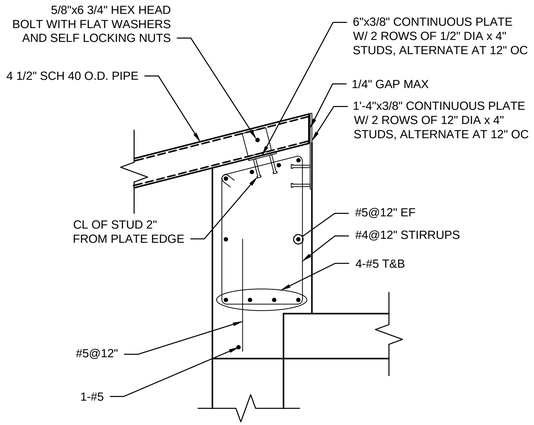
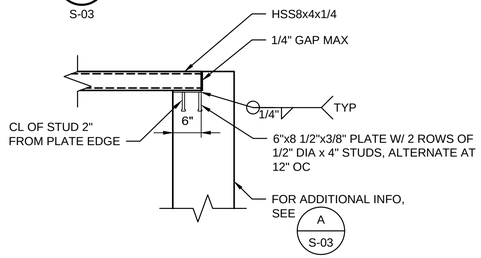
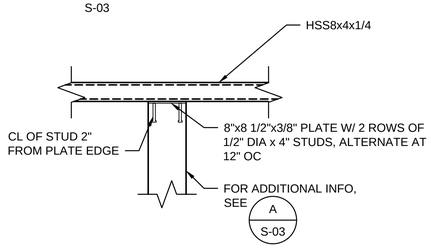


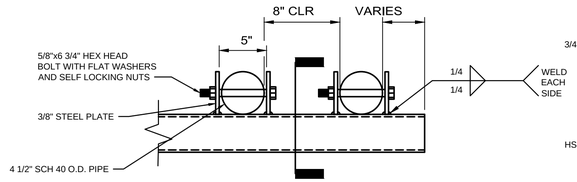
1 DETAIL
3/4"=1'-0"
S-03



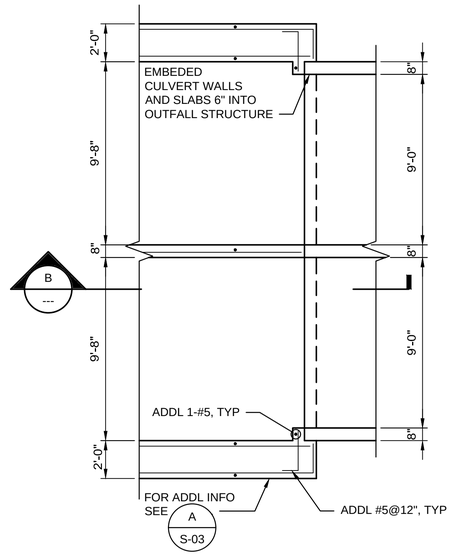
2 DETAIL
3/4"=1'-0"
S-03



3 DETAIL
3/4"=1'-0"
S-03



4 DETAIL
1 1/2"=1'-0"
S-03



5 DETAIL
1/4"=1'-0"
S-03

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

STRUCTURAL

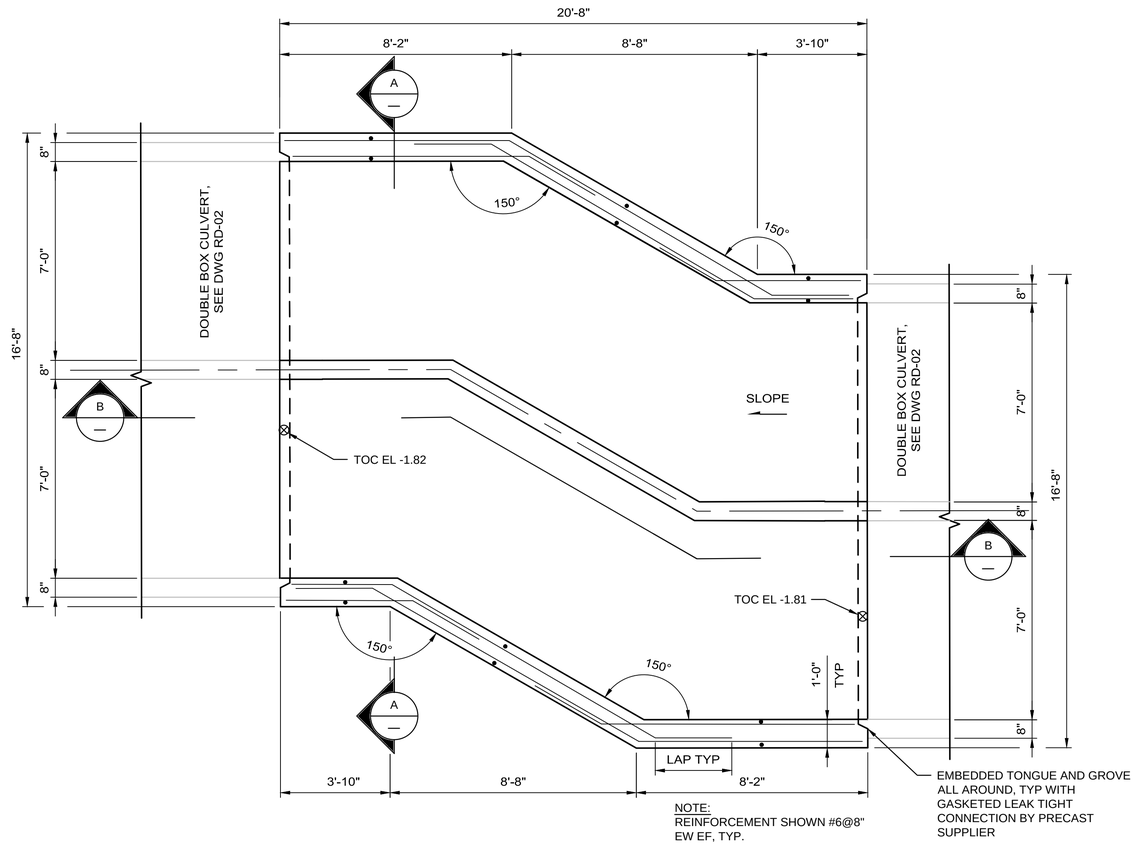
ST C-01 STORM SEWER OUTFALL STRUCTURE DETAILS

FINAL DESIGN (NOT FOR CONSTRUCTION)

3/4"=1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

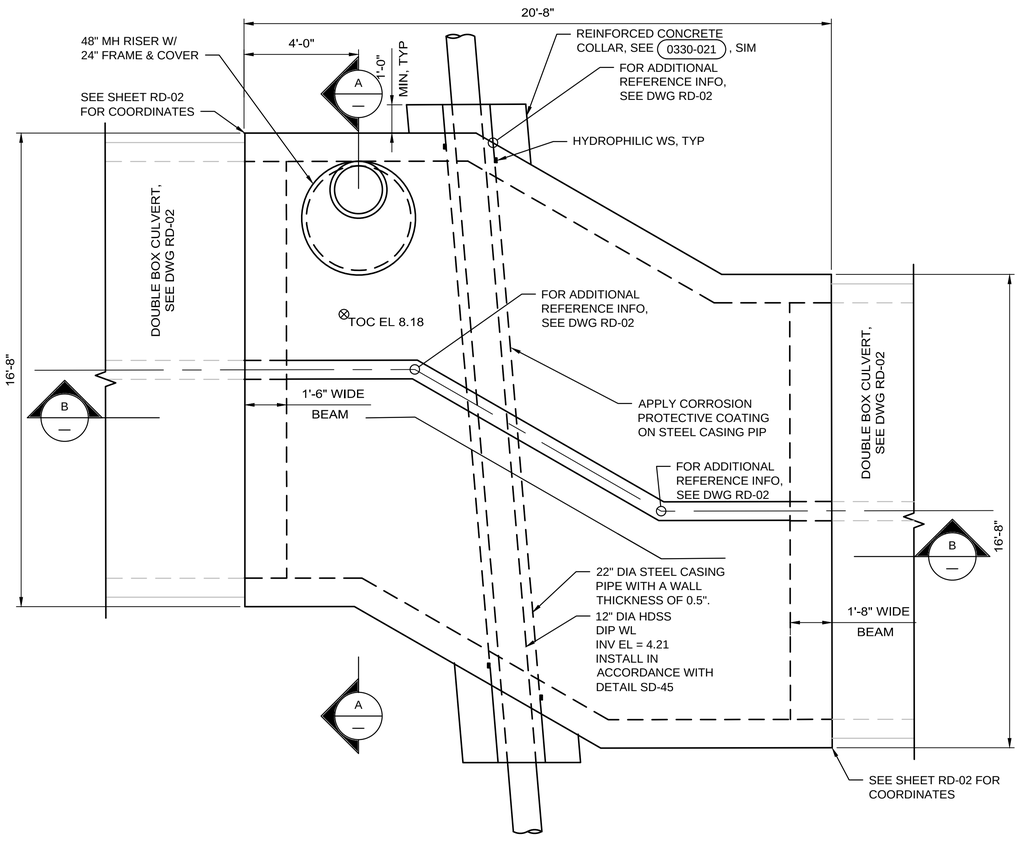
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-04
SHEET	142 of 158

FILENAME: S-04.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:24 AM



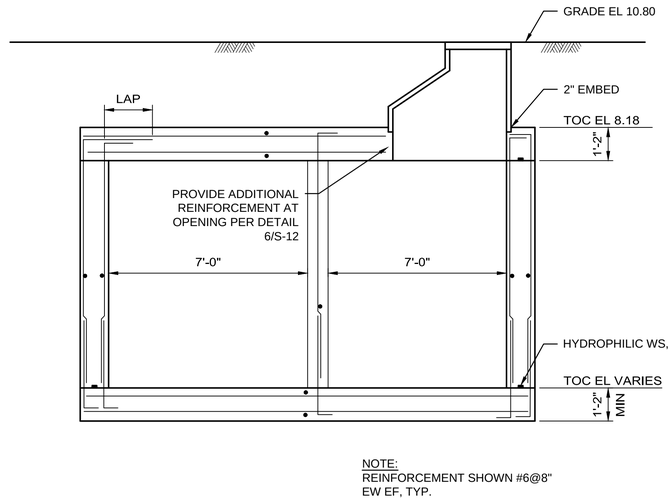
LOWER PLAN

3/8" = 1'-0"



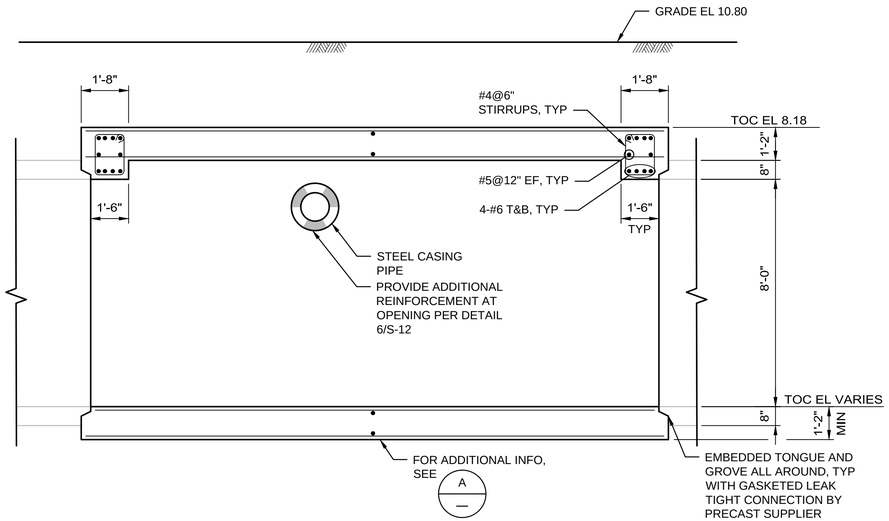
TOP PLAN

3/8" = 1'-0"



SECTION A

3/8" = 1'-0"



SECTION B

3/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07 AND S-12.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-02.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY
	10/2025	100% SUBMITTAL	P KARABAN	L ZHANG	APVD
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN D LANGE APVD D LANGE

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

STRUCTURAL

ST C-05 OFFSET STRUCTURE

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE OCTOBER 2025
PROJ E5X81200
DWG S-05
SHEET 143 of 158

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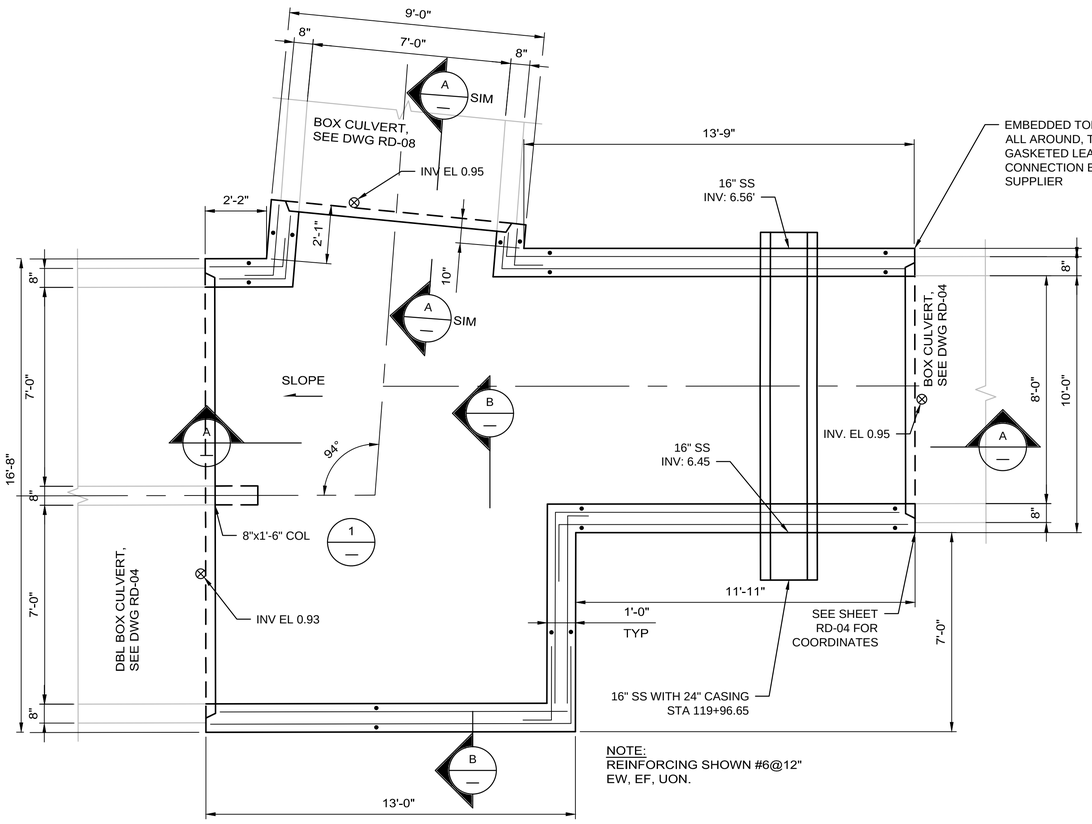
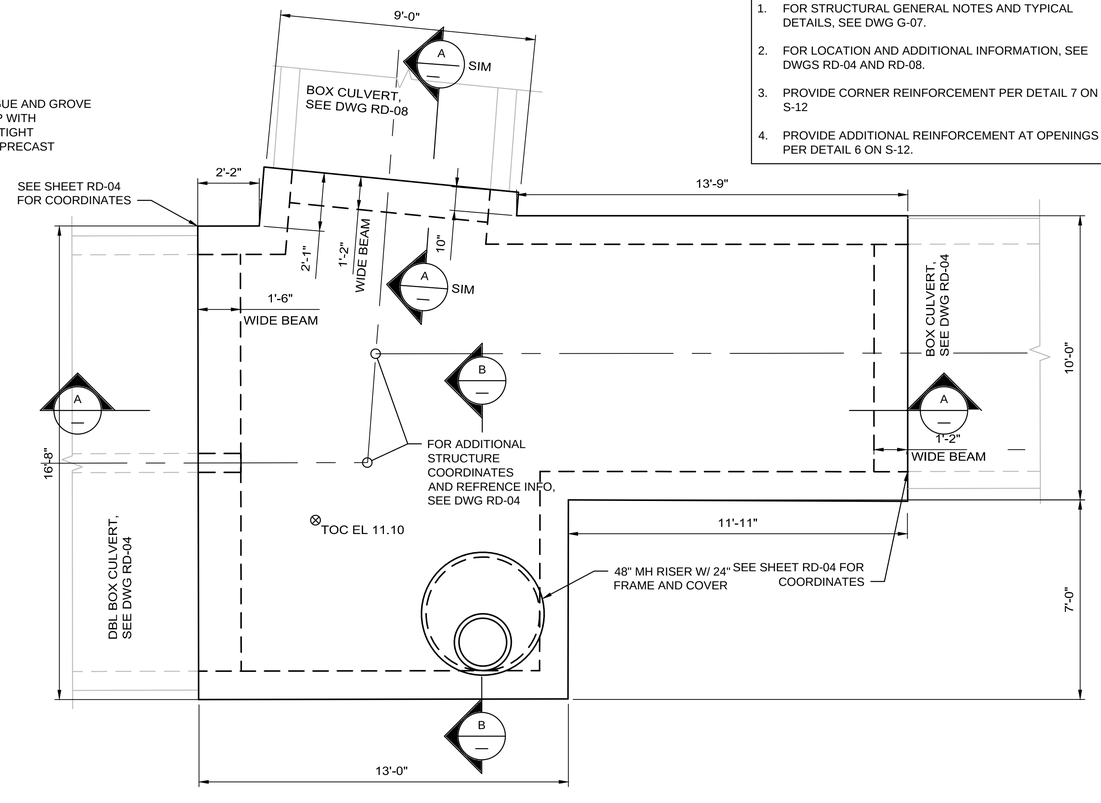
FINAL DESIGN (NOT FOR CONSTRUCTION)

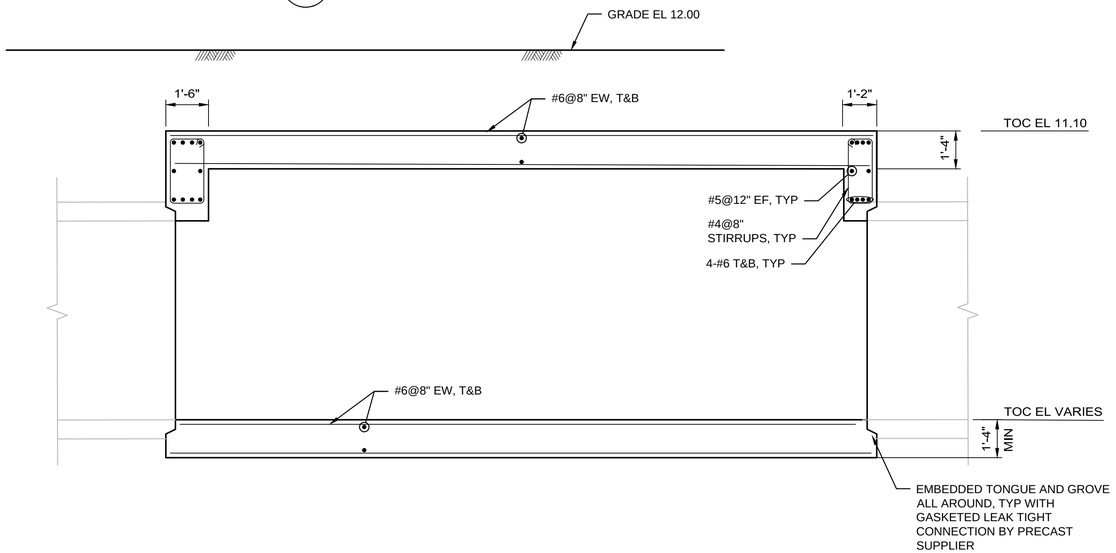


NOTE:
REINFORCING SHOWN #6@12" EW, EF, UON.

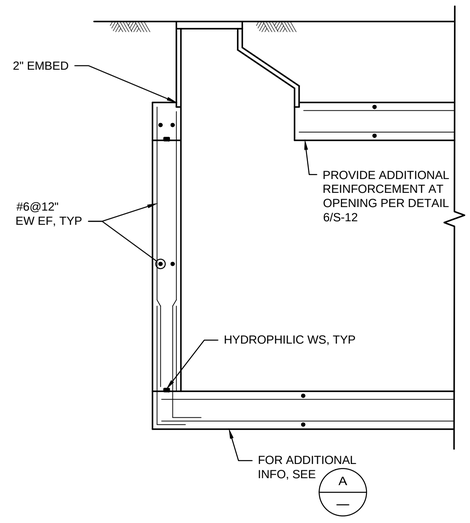
LOWER PLAN
3/8" = 1'-0"



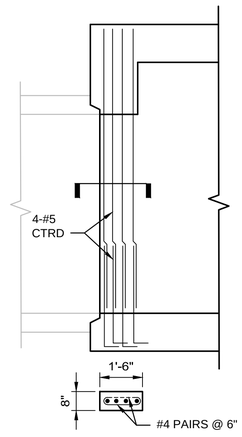
TOP PLAN
3/8" = 1'-0"



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



B SECTION
3/8" = 1'-0"



1 DETAIL
3/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWGS RD-04 AND RD-08.
3. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-12
4. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER DETAIL 6 ON S-12.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	D LANGE	P KARABAN	L ZHANG	D LANGE
	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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STRUCTURAL

ST C-15 JUNCTION BOX NO. 1

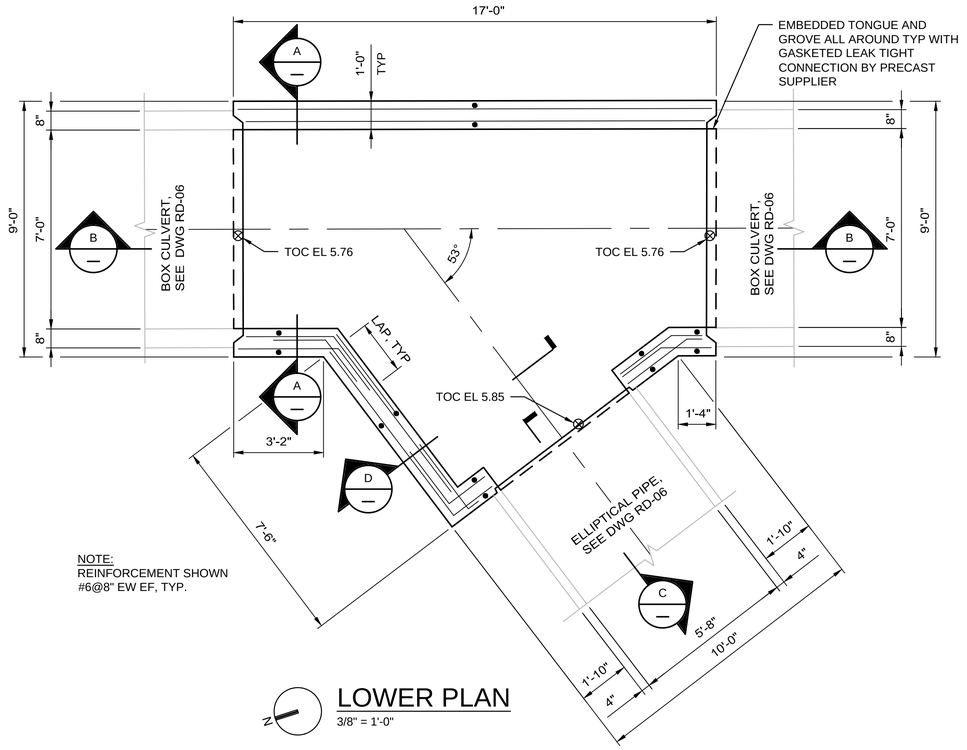
FINAL DESIGN (NOT FOR CONSTRUCTION)

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

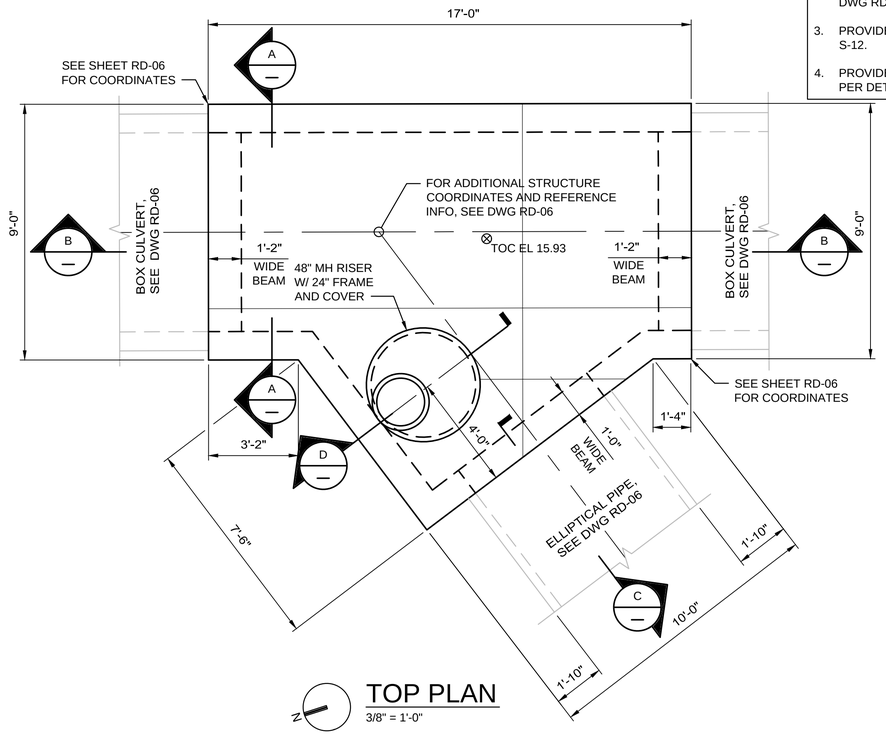
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-06
SHEET	144 of 158

GENERAL SHEET NOTES

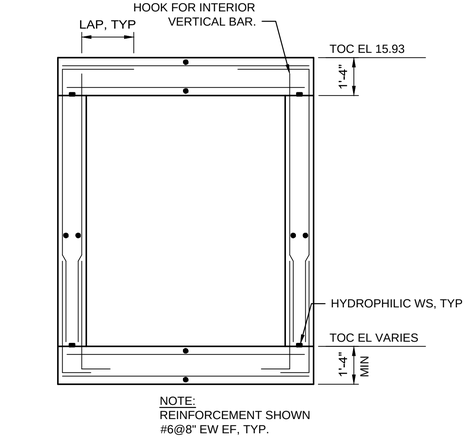
1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-06.
3. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-12.
4. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER DETAIL 6 ON S-12.



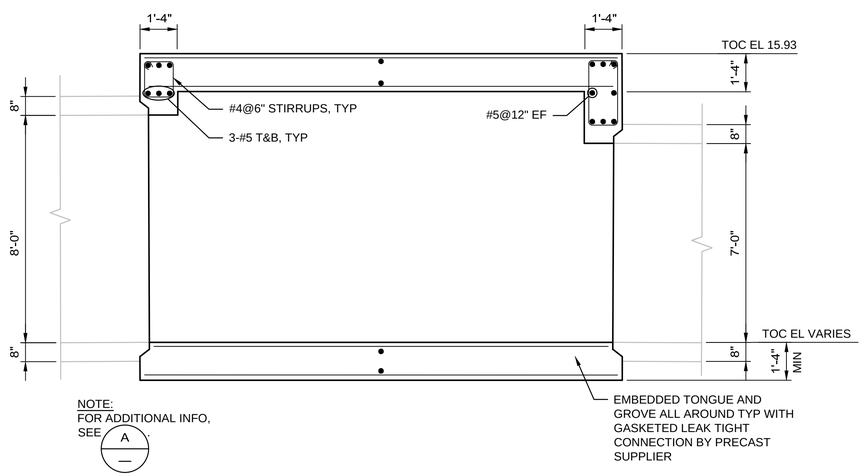
LOWER PLAN
3/8" = 1'-0"



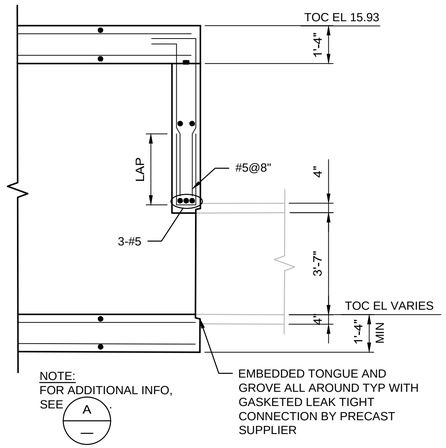
TOP PLAN
3/8" = 1'-0"



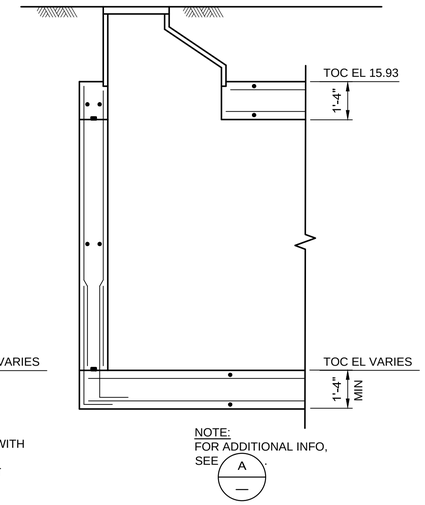
SECTION A
3/8" = 1'-0"



SECTION B
3/8" = 1'-0"



SECTION C
3/8" = 1'-0"



SECTION D
3/8" = 1'-0"

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
DSGN	D LANGE	DR	CHK	APVD
	10/2025	100% SUBMITTAL	L ZHANG	D LANGE
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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STRUCTURAL

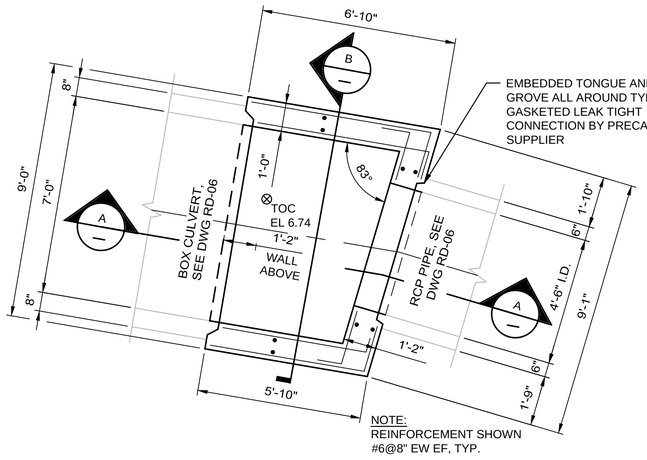
ST C-19 JUNCTION BOX NO. 2

FINAL DESIGN (NOT FOR CONSTRUCTION)

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-07
SHEET	145 of 158

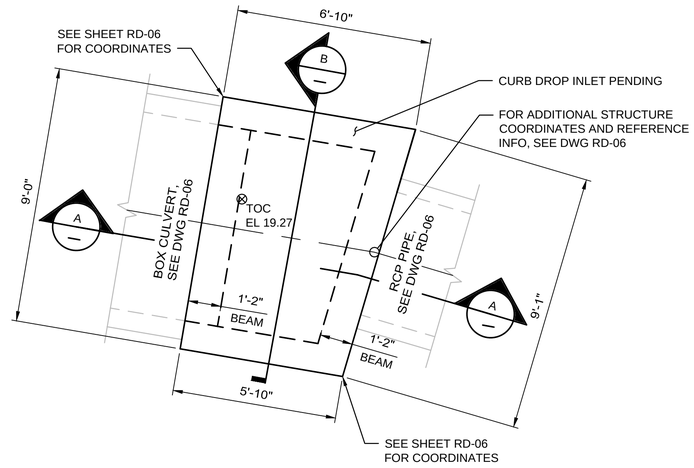
FILENAME: S-07.dwg
PLOT DATE: 4/18/2024
PLOT TIME: 9:27 AM



N

LOWER PLAN

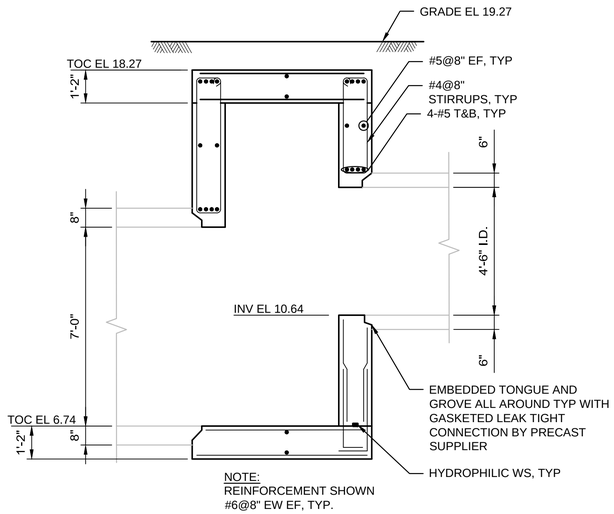
3/8" = 1'-0"



N

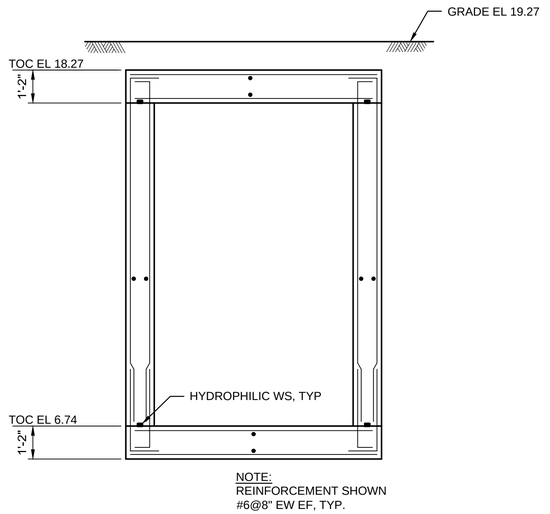
TOP PLAN

3/8" = 1'-0"



A SECTION

3/8" = 1'-0"



B SECTION

3/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-06.
3. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-13.
4. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER DETAIL 6 ON S-13.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN	D LANGE	P KARABAN	D LANGE	L ZHANG		APVD
	10/2025	100% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

STRUCTURAL

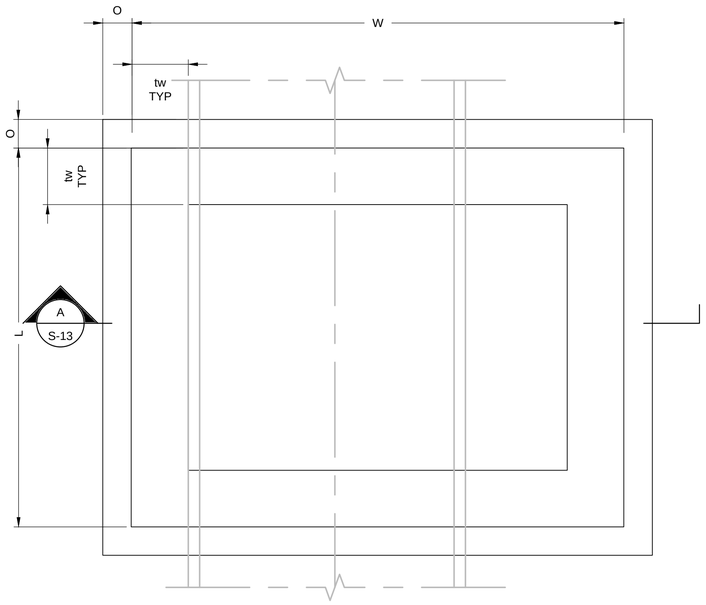
ST C-24 JUNCTION BOX NO. 4

FINAL DESIGN (NOT FOR CONSTRUCTION)

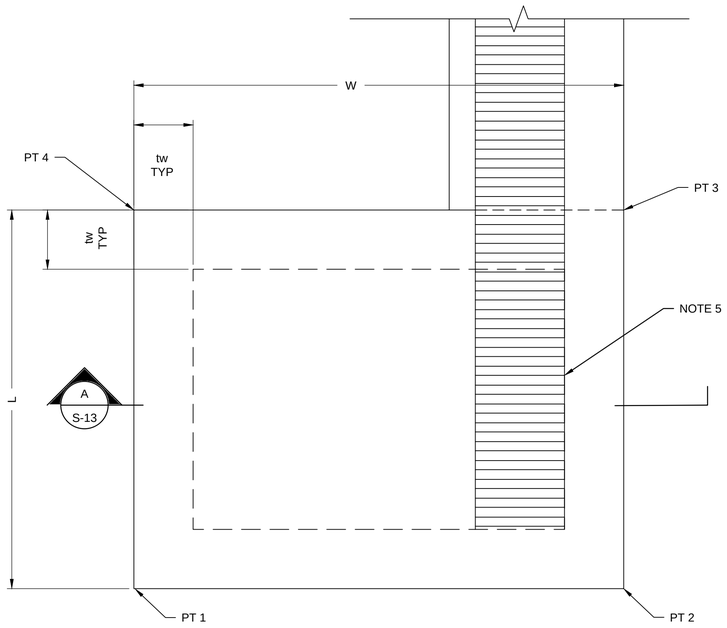
3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-08
SHEET	146 of 158

FILENAME: S-08.dwg PLOT DATE: 4/18/2024 PLOT TIME: 9:27 AM



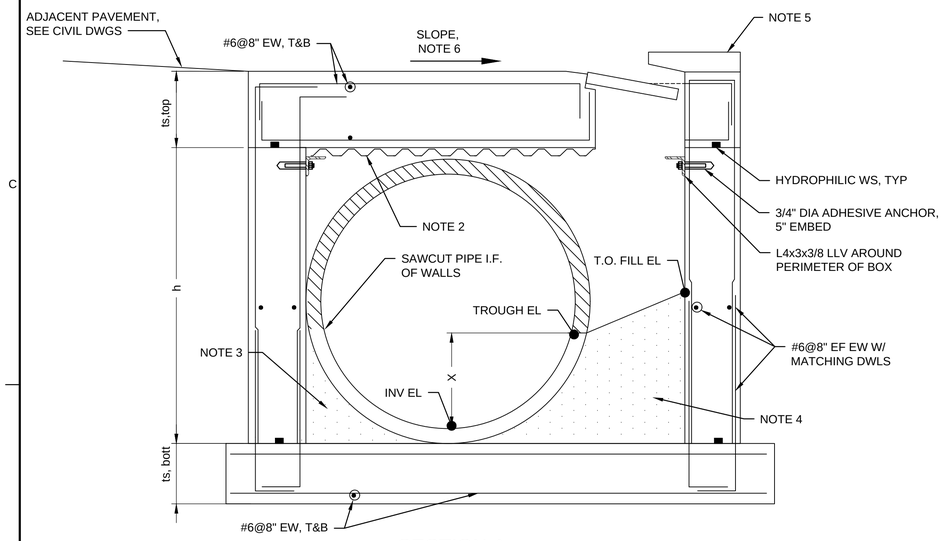
LOWER PLAN



TOP PLAN

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-07.
3. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-12.
4. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER DETAIL 6 ON S-12.



SECTION A

SCHEDULE				
DESCRIPTION	**ABBR**	**C30**	**C31**	**NOTES**
WIDTH	W	4'-8"	4'-8"	
LENGTH	L	6'-6"	6'-6"	
OVERHANG	O	6"	6"	
WALL THICKNESS	tw	1'-0"	1'-0"	
BOTTOM SLAB THICKNESS	ts, bott	1'-2"	1'-2"	
TOP SLAB THICKNESS	ts, top	1'-4"	1'-4"	
WALL HEIGHT	h	TBD	TBD	WALL HEIGHT TO NOT EXCEED 10'-0"
SURFACE ELEVATION 1	PT 1	14.3	16.23	
SURFACE ELEVATION 2	PT 2	13.86	15.72	
SURFACE ELEVATION 3	PT 3	13.89	15.77	
SURFACE ELEVATION 4	PT 4	14.34	16.27	
INV EL	-	TBD	TBD	
TROUGH EL	-	TBD	TBD	
PIPE CUT DISTANCE	X	TBD	TBD	
T.O. FILL EL	-	TBD	TBD	

NOTES:

1. FIELD VERIFY EXISTING PIPE ELEVATIONS.
2. GALVANIZED METAL DECK STAY-IN-PLACE FORM, INSTALL TOP OF DECK FLUSH WITH TOP OF WALL.
3. CAST CONCRETE AGAINST PIPE AS PART OF WALL PLACEMENT.
4. CONCRETE FILL, MATCH TOP OF TROUGH ELEVATION
5. VDOT STANDARD DI-2 CURB DROP INLET. FOLLOW REINFORCEMENT REQUIREMENTS FROM VDOT STANDARD TO ATTACH TO CIP STRUCTURE.
6. TOP OF BOX STRUCTURE TO MATCH SLOPE OF SURROUNDING PAVEMENT.

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	REVISION	DR	CHK	BY
	10/2025	100% SUBMITTAL	D LANGE	B COLLETTE	L ZHANG
	04/2025	90% SUBMITTAL			
	11/2024	65% SUBMITTAL			
	05/2024	60% SUBMITTAL			
	09/2023	30% SUBMITTAL			

DSGN D LANGE APVD D LANGE APVD

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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STRUCTURAL

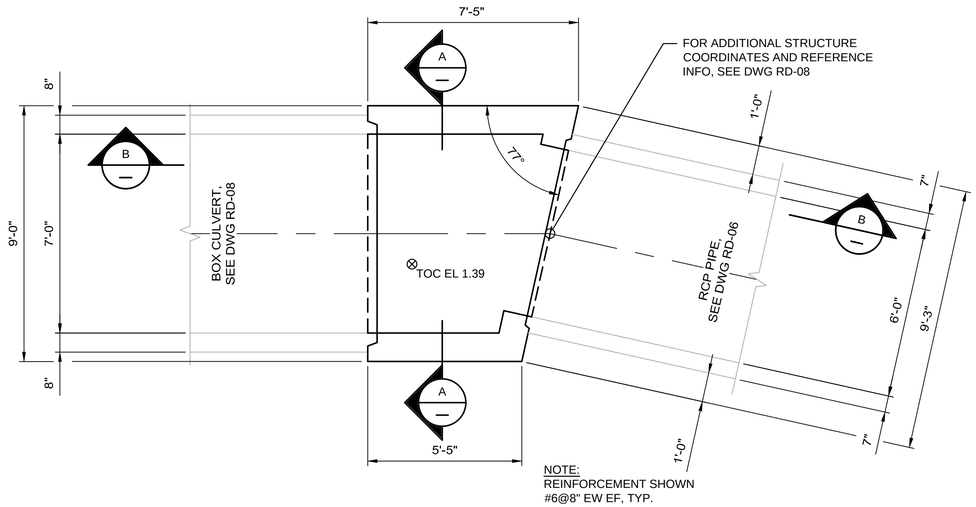
ST C-30 AND C-31 SCHEDULE

FINAL DESIGN (NOT FOR CONSTRUCTION)

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE OCTOBER 2025
PROJ E5X81200
DWG S-09
SHEET 147 of 158

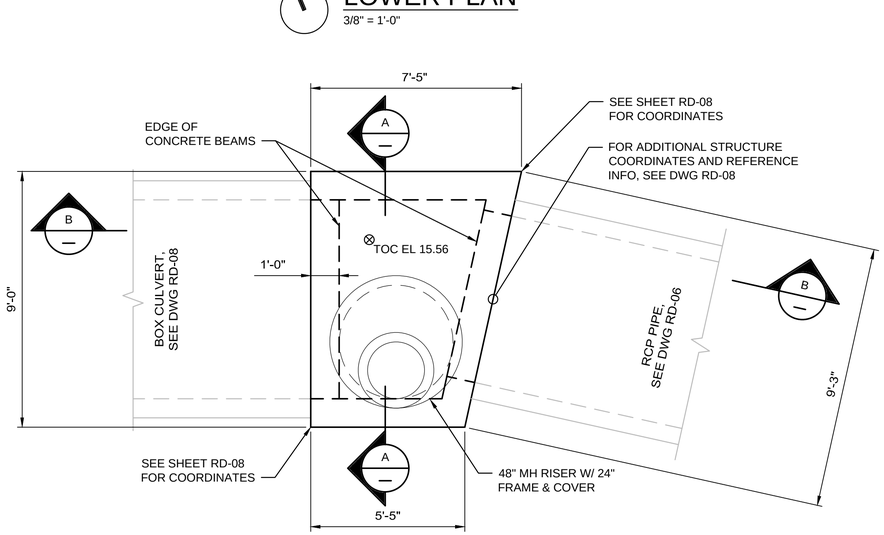
FILENAME: PLOT DATE: 4/18/2024 PLOT TIME: 9:29 AM



NOTE:
REINFORCEMENT SHOWN
#6@8" EW EF, TYP.

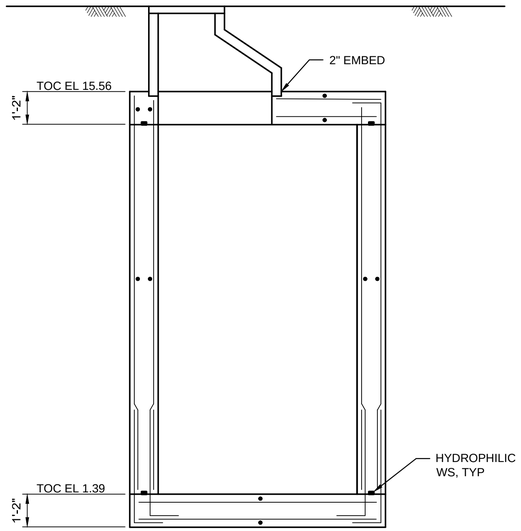
N

LOWER PLAN
3/8" = 1'-0"



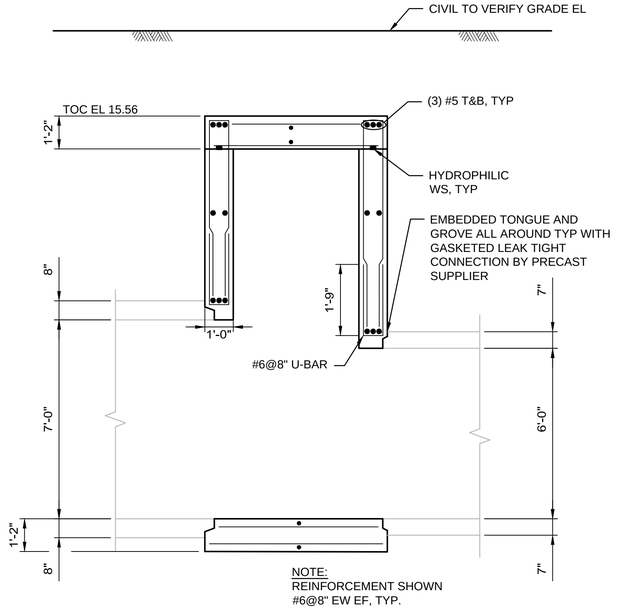
N

TOP PLAN
3/8" = 1'-0"



NOTE:
REINFORCEMENT SHOWN
#6@8" EW EF, TYP.

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



NOTE:
REINFORCEMENT SHOWN
#6@8" EW EF, TYP.

B SECTION
3/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-08.
3. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-12.
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CITY OF ALEXANDRIA
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301 KING STREET
ALEXANDRIA, VA 22314
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NO.	DATE	DSGN	REVISION	DR	CHK	BY	APVD
	10/2025	D LANGE	100% SUBMITTAL	P KARABAN	L ZHANG	L ZHANG	D LANGE
	04/2025		90% SUBMITTAL				
	11/2024		65% SUBMITTAL				
	05/2024		60% SUBMITTAL				
	09/2023		30% SUBMITTAL				

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
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ALEXANDRIA, VA 22314

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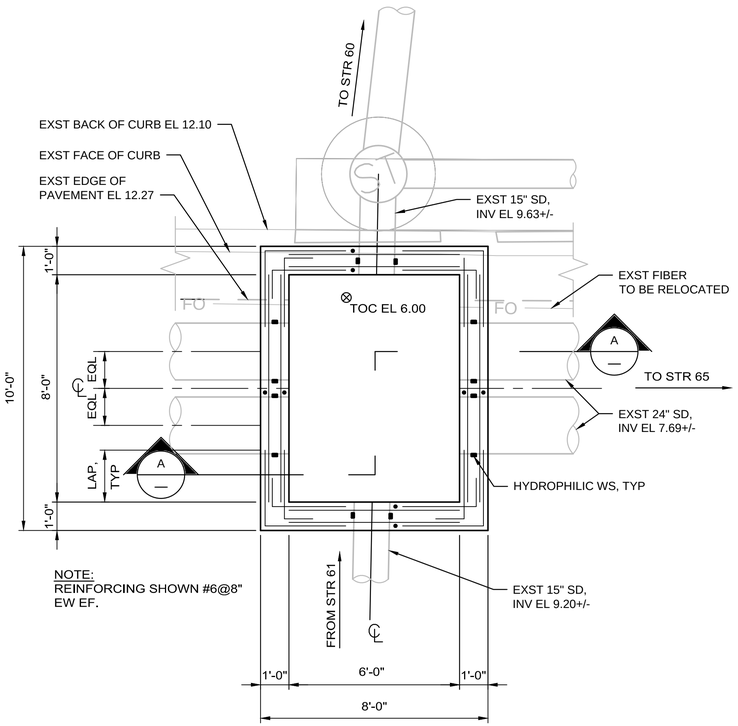
STRUCTURAL

ST EG-08 JUNCTION BOX NO. 6

FINAL DESIGN (NOT FOR CONSTRUCTION)

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

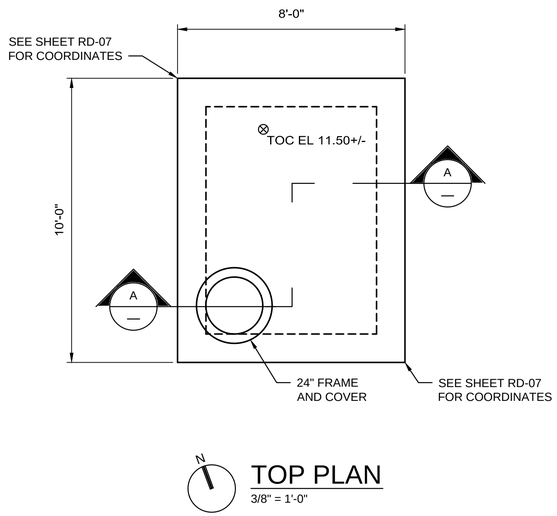
DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-10
SHEET	148 of 158



N

LOWER PLAN

3/8" = 1'-0"



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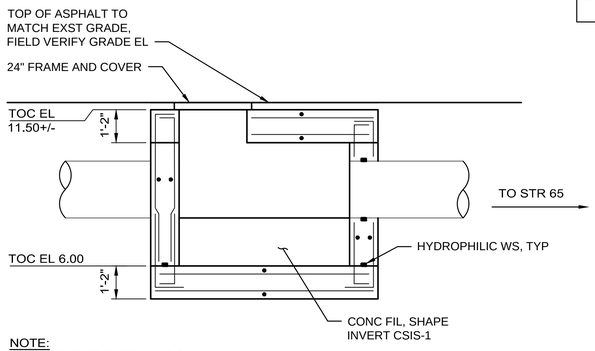
TOP PLAN

3/8" = 1'-0"



A

SECTION

3/8" = 1'-0"

GENERAL SHEET NOTES

1. FOR STRUCTURAL GENERAL NOTES AND TYPICAL DETAILS, SEE DWG G-07.
2. FOR LOCATION AND ADDITIONAL INFORMATION, SEE DWG RD-07.
3. FIELD VERIFY EXISTING PIPE ELEVATIONS.
4. PROVIDE CORNER REINFORCEMENT PER DETAIL 7 ON S-12.
5. PROVIDE ADDITIONAL REINFORCEMENT AT OPENINGS PER DETAIL 6 ON S-12.

CITY OF ALEXANDRIA
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NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN	D LANGE	P KARABAN	D LANGE	L ZHANG		APVD
	10/2025	100% SUBMITTAL				
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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STRUCTURAL

ST WG-60A JUNCTION BOX NO. 6

3/8" = 1'-0"
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-11
SHEET	149 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

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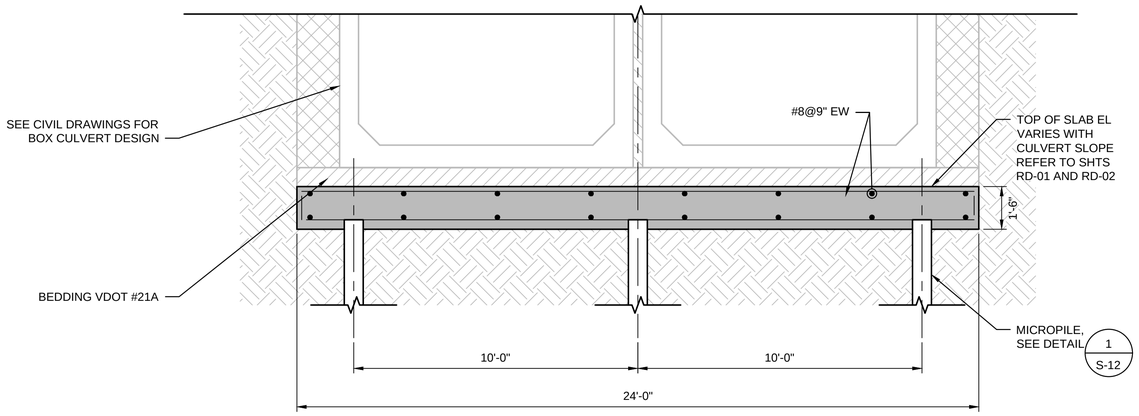
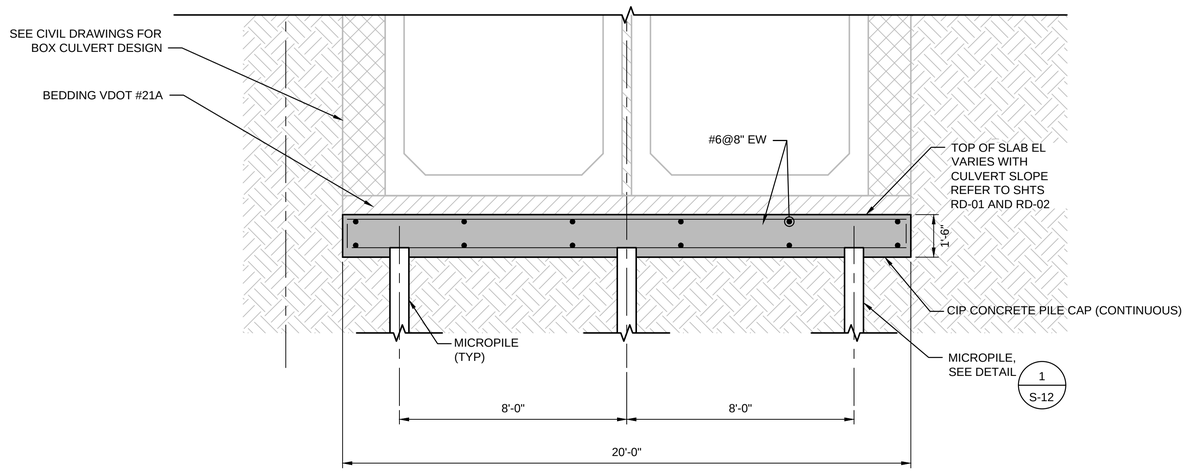


TYPICAL CROSS SECTION - PILE CAP AND MICROPILE BELOW 9'x8' PRECAST BOX CULVERT - STA 103+19 TO 104+85

A
S-01

3/8" = 1'-0"



TYPICAL CROSS SECTION - PILE CAP AND MICROPILE BELOW 7'x8' PRECAST BOX CULVERT - STA 104+85 TO STA 105+50

B
S-01

3/8" = 1'-0"

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NO.	DATE	REVISION	DR	CHK	BY	APVD
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	04/2025	90% SUBMITTAL				
	11/2024	85% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

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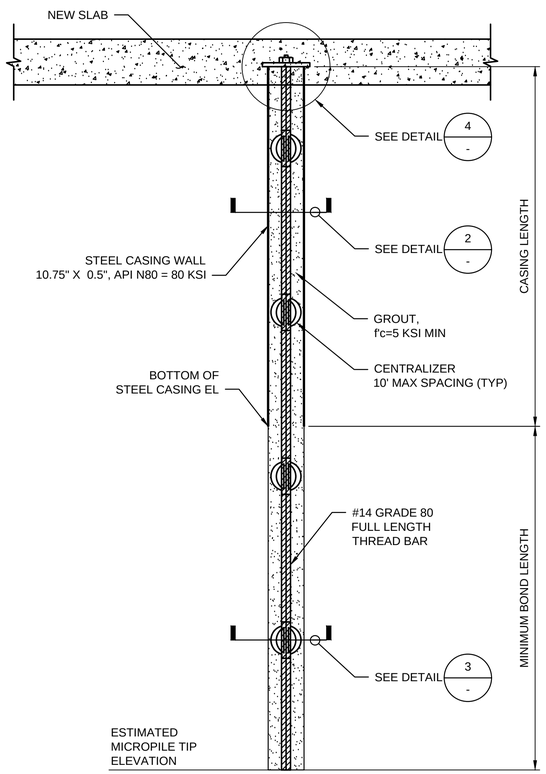
STRUCTURAL

MICROPILE AND PILE CAP SECTIONS

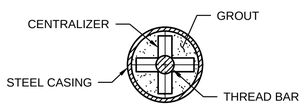
AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-12
SHEET	150 of 158

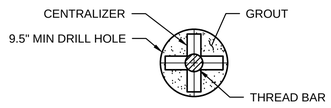
FINAL DESIGN (NOT FOR CONSTRUCTION)



1 MICROPILE DETAIL
NTS
S-11



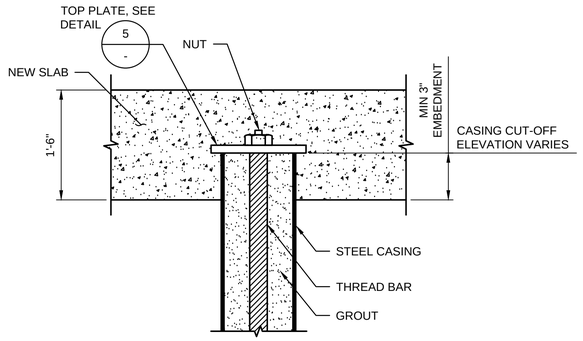
2 DETAIL
NTS



3 DETAIL
NTS

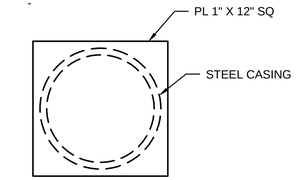
MICROPILE SCHEDULE

PILE LOCATION	PILE QUANTITY	ALLOWABLE LOADS			CASING CUT-OFF ELEVATION (FT)	CASING TIP ELEVATION (FT)	MINIMUM BOND LENGTH (FT)	ESTIMATED MICROPILE TIP ELEVATION (FT)
		COMPRESSION (KIPS)	TENSION (KIPS)	LATERAL (KIPS)				
STA 100+00 TO STA 100+40	12	200	N/A	10	-2.17	-24	58	-82
STA 103+19 TO STA 105+50	82	200	N/A	10	-0.67	-19	61	-80



NOTE:
INSTALLATION TOLERANCE FOR CASING CUT-OFF ELEVATION IS ±1 INCH.

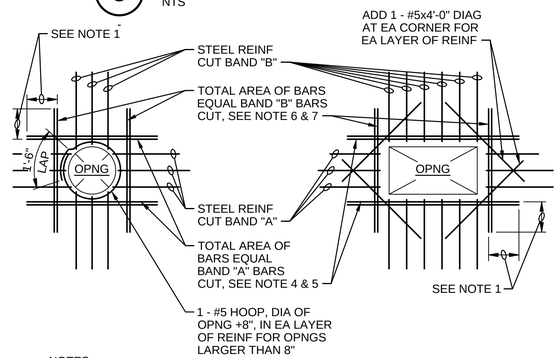
4 DETAIL
NTS



NOTE:
DETAIL TYPICAL AT PIPE SUPPORT PILE CAP.
PLATE SHALL CONFORM TO ASTM A572 GRADE 50.

PLAN

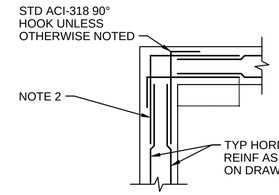
5 DETAIL
NTS



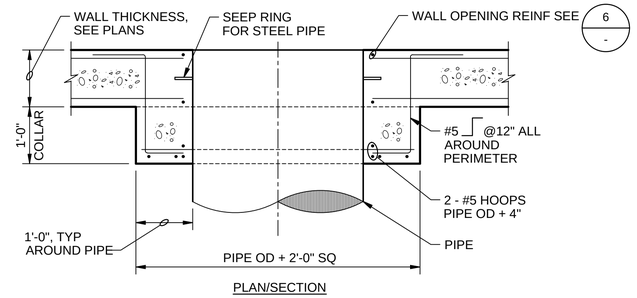
NOTES:

1. PROVIDE MINIMUM LAP, SEE GENERAL STRUCTURAL NOTES.
2. TYPICAL FOR ALL OPENINGS IN CONCRETE WALLS OR SLABS.
3. PROVIDE A MINIMUM OF 2 "A" BARS AND 2 "B" BARS EACH SIDE OF OPENING (1 EACH FACE), INCLUDING DOWELS AND CORNER BARS, TYPICAL.
4. SPACE AT 3 BAR DIAMETERS (OR 3" MINIMUM) ON CENTER. LOCATE HALF OF TOTAL AREA ON EACH SIDE OF OPENING.
5. AT OPENINGS WITHIN 12" OF AN INTERSECTING WALL OR SLAB, PROVIDE ONLY THE EXTRA REINFORCEMENT WHICH WILL FIT, AT THE BAR SPACING IN NOTE 6.

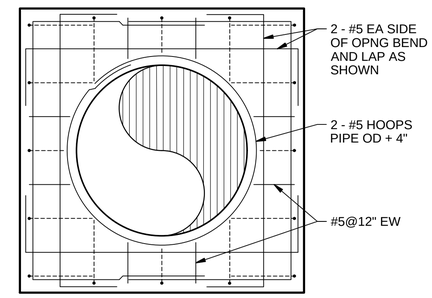
6 OPENING REINFORCEMENT DETAIL
NTS



7 TYPICAL WALL CORNER REINFORCEMENT DETAIL
NTS

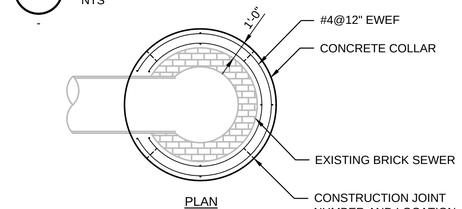


PLAN/SECTION

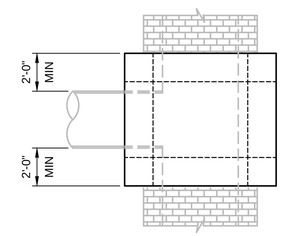


ELEVATION

8 PIPE COLLAR DETAIL
NTS



PLAN



SECTION

NOTES:

1. COLLAR MAY BE CAST IN SEVERAL SEPARATE PLACEMENTS, AS REQUIRED.
2. THREADED COUPLERS MAY BE USED AT CONSTRUCTION JOINTS.
3. SUBMIT LAYOUT OF CONSTRUCTION JOINTS PRIOR TO COMMENCING WORK.

9 BRICK SEWER INTERCONNECTION DETAIL
NTS

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	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN D LANGE

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

STRUCTURAL
MICROPILE DETAILS

AS SHOWN
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	S-13
SHEET	151 of 158

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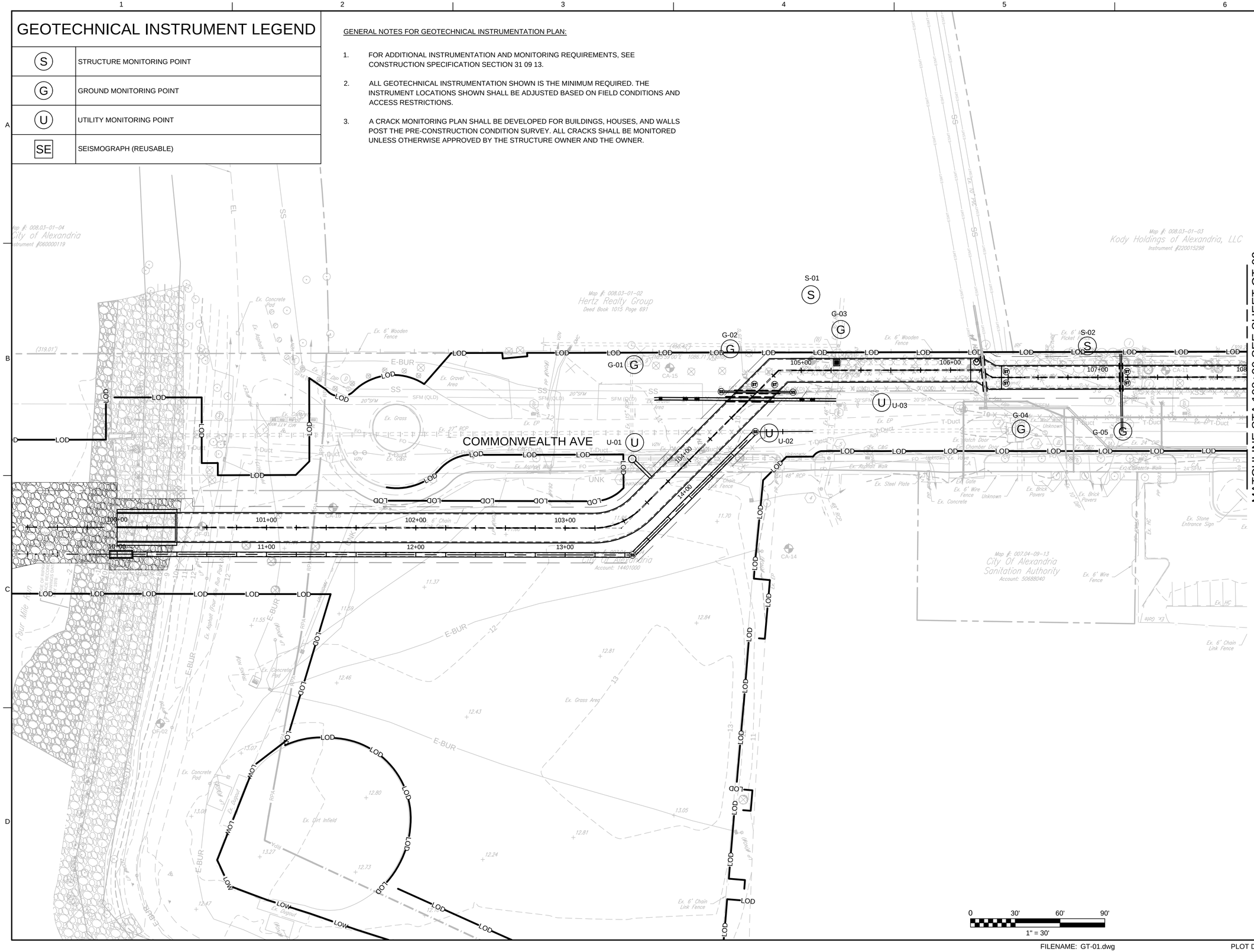
FINAL DESIGN (NOT FOR CONSTRUCTION)

GEOTECHNICAL INSTRUMENT LEGEND

S	STRUCTURE MONITORING POINT
G	GROUND MONITORING POINT
U	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

1. FOR ADDITIONAL INSTRUMENTATION AND MONITORING REQUIREMENTS, SEE CONSTRUCTION SPECIFICATION SECTION 31 09 13.
2. ALL GEOTECHNICAL INSTRUMENTATION SHOWN IS THE MINIMUM REQUIRED. THE INSTRUMENT LOCATIONS SHOWN SHALL BE ADJUSTED BASED ON FIELD CONDITIONS AND ACCESS RESTRICTIONS.
3. A CRACK MONITORING PLAN SHALL BE DEVELOPED FOR BUILDINGS, HOUSES, AND WALLS POST THE PRE-CONSTRUCTION CONDITION SURVEY. ALL CRACKS SHALL BE MONITORED UNLESS OTHERWISE APPROVED BY THE STRUCTURE OWNER AND THE OWNER.


COMMONWEALTH AVE
MATCHLINE STA 108+00 SEE SHEET GT-02
S-01
S-02
G-01
G-02
G-03
G-04
G-05
U-01
U-02
U-03
OF-01
OF-02
CA-14
CA-15
LOD
100+00
101+00
102+00
103+00
104+00
105+00
106+00
107+00
10+00
11+00
12+00
13+00
Map #: 008.03-01-04
City of Alexandria
Instrument #060000119
Map #: 008.03-01-02
Hertz Realty Group
Deed Book 1015 Page 691
Map #: 008.03-01-03
Kody Holdings of Alexandria, LLC
Instrument #220015298
Map #: 007.04-09-13
City Of Alexandria
Sanitation Authority
Account: 50688040
Map #: 008.03-01-01
City of Alexandria
Account: 14401000
Ex. Concrete Pad
Ex. Gravel Area
Ex. Grass
Ex. Dirt Infield
Ex. Asphalt Walk
Ex. Concrete Walk
Ex. Steel Plate
Ex. Brick Pavers
Ex. Stone Entrance Sign
Ex. 6' Wooden Fence
Ex. 6' Wire Fence
Ex. 6' Chain Link Fence
Ex. Gate
Ex. Valve
Ex. Hydrant
Ex. Light Pole
Ex. Utility Pole
Ex. Sign
Ex. Bollard
Ex. Inlet
Ex. Manhole
Ex. Curb Inlet
Ex. Junction Box
Ex. Electric Box
Ex. Telephone Box
Ex. Cable Box
Ex. Mail Box
Ex. Fire Hydrant
Ex. Water Meter
Ex. Water Valve
Ex. Gas Valve
Ex. Gas Meter
Ex. Sanitary Manhole
Ex. Storm Manhole
Ex. Storm Inlet

GEOTECHNICAL INSTRUMENT LEGEND

(S)	STRUCTURE MONITORING POINT
(G)	GROUND MONITORING POINT
(U)	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

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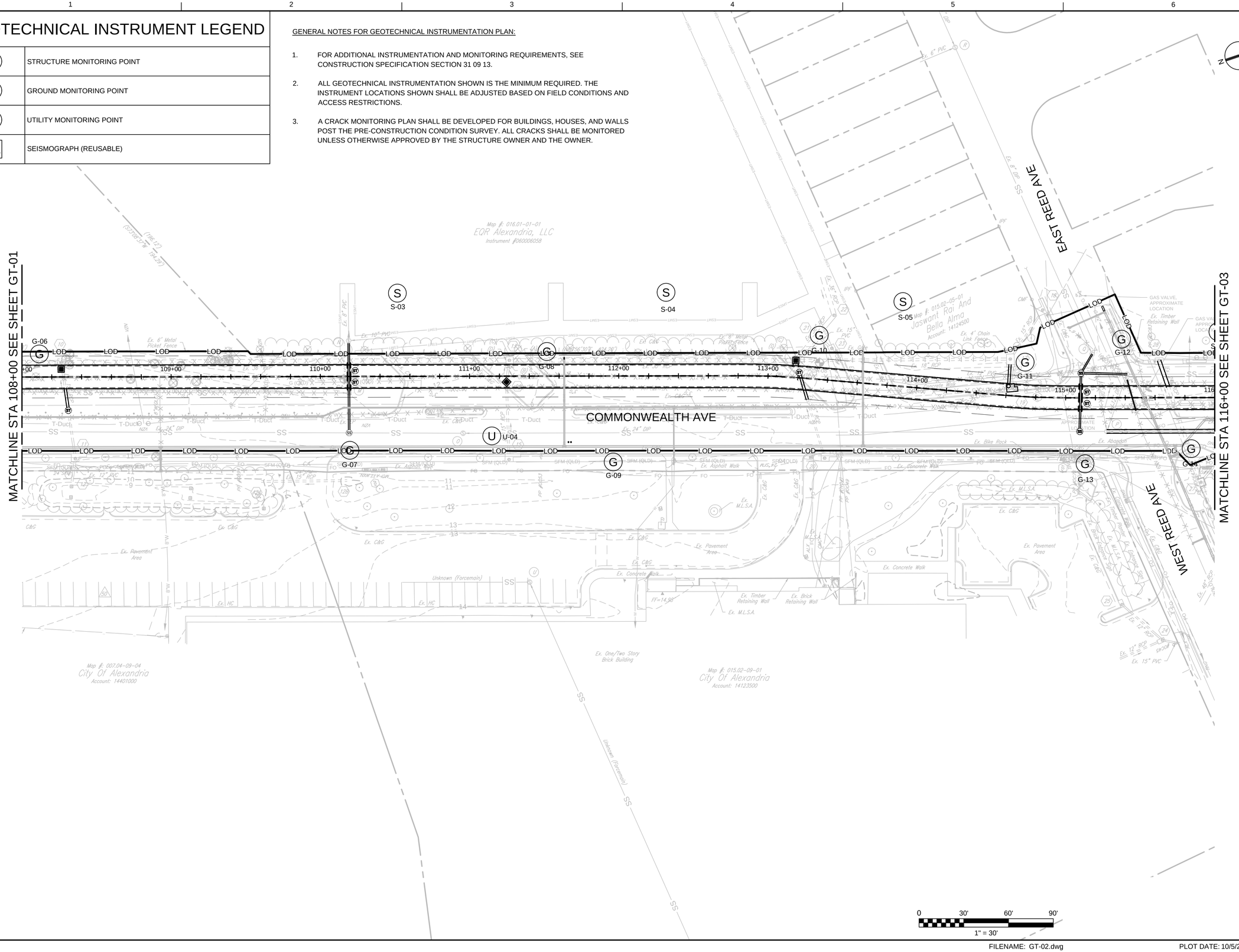

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	04/2025	90% SUBMITTAL				APVD
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN K YANG

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GEOTECHNICAL
GEOTECHNICAL INSTRUMENTATION PLAN (SHEET 2 OF 7)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GT-02
SHEET	153 of 158

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FILENAME: GT-02.dwg PLOT DATE: 10/5/2025 PLOT TIME: 5:40 PM

GEOTECHNICAL INSTRUMENT LEGEND

S	STRUCTURE MONITORING POINT
G	GROUND MONITORING POINT
U	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

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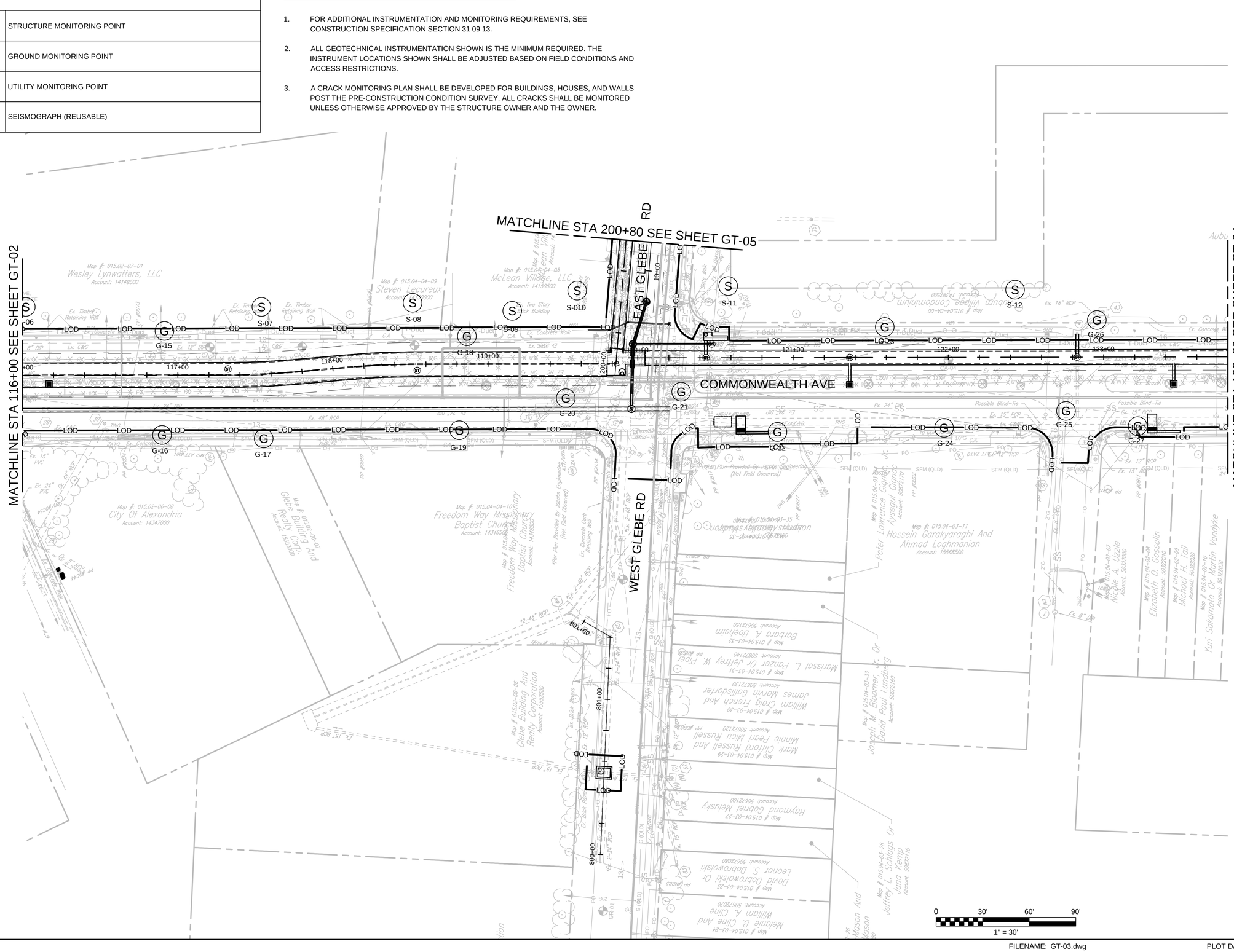

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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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GEOTECHNICAL

GEOTECHNICAL INSTRUMENTATION PLAN (SHEET 3 OF 7)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GT-03
SHEET	154 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

GEOTECHNICAL INSTRUMENT LEGEND

(S)	STRUCTURE MONITORING POINT
(G)	GROUND MONITORING POINT
(U)	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

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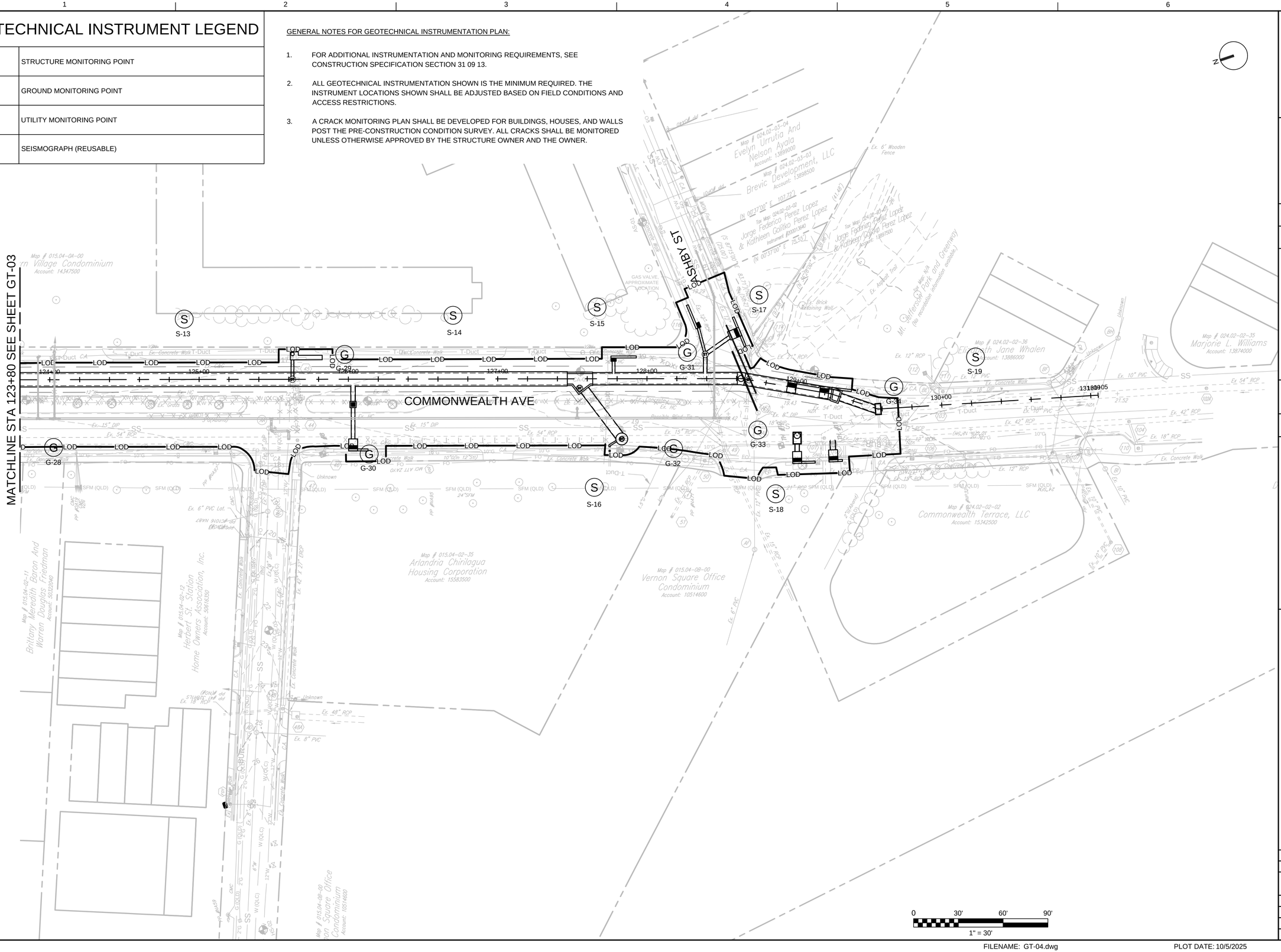

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	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

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DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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GEOTECHNICAL
GEOTECHNICAL INSTRUMENTATION PLAN (SHEET 4 OF 7)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GT-04
SHEET	155 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

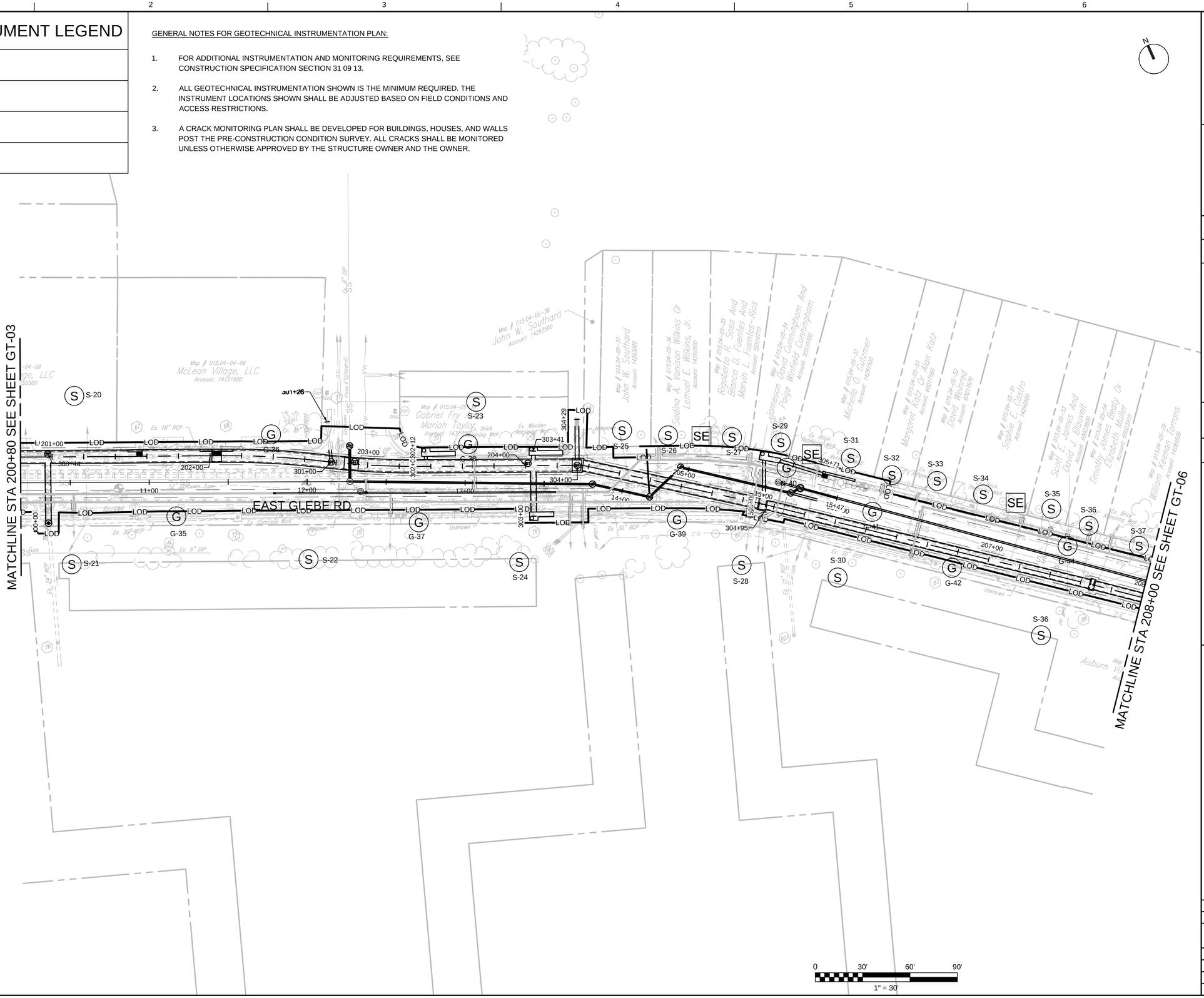
FILENAME: GT-04.dwg PLOT DATE: 10/5/2025 PLOT TIME: 5:41 PM

GEOTECHNICAL INSTRUMENT LEGEND

(S)	STRUCTURE MONITORING POINT
(G)	GROUND MONITORING POINT
(U)	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

1. FOR ADDITIONAL INSTRUMENTATION AND MONITORING REQUIREMENTS, SEE CONSTRUCTION SPECIFICATION SECTION 31 09 13.
2. ALL GEOTECHNICAL INSTRUMENTATION SHOWN IS THE MINIMUM REQUIRED. THE INSTRUMENT LOCATIONS SHOWN SHALL BE ADJUSTED BASED ON FIELD CONDITIONS AND ACCESS RESTRICTIONS.
3. A CRACK MONITORING PLAN SHALL BE DEVELOPED FOR BUILDINGS, HOUSES, AND WALLS POST THE PRE-CONSTRUCTION CONDITION SURVEY. ALL CRACKS SHALL BE MONITORED UNLESS OTHERWISE APPROVED BY THE STRUCTURE OWNER AND THE OWNER.



NO.	DATE	REVISION	DR	CHK	BY	APVD
	10/2025	100% SUBMITTAL	K YANG	T WEINSTEIN	X WANG	K YANG
	04/2025	90% SUBMITTAL				
	11/2024	65% SUBMITTAL				
	05/2024	60% SUBMITTAL				
	09/2023	30% SUBMITTAL				

DSGN

CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

FOUR MILE RUN STORM SEWER UPGRADES
CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

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Jacobs

GEOTECHNICAL

GEOTECHNICAL INSTRUMENTATION PLAN (SHEET 5 OF 7)

1"=30'

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GT-05
SHEET	156 of 158

FINAL DESIGN (NOT FOR CONSTRUCTION)

FILENAME: GT-05.dwg PLOT DATE: 10/5/2025 PLOT TIME: 5:41 PM

GEOTECHNICAL INSTRUMENT LEGEND

(S)	STRUCTURE MONITORING POINT
(G)	GROUND MONITORING POINT
(U)	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

1. FOR ADDITIONAL INSTRUMENTATION AND MONITORING REQUIREMENTS, SEE CONSTRUCTION SPECIFICATION SECTION 31 09 13.
2. ALL GEOTECHNICAL INSTRUMENTATION SHOWN IS THE MINIMUM REQUIRED. THE INSTRUMENT LOCATIONS SHOWN SHALL BE ADJUSTED BASED ON FIELD CONDITIONS AND ACCESS RESTRICTIONS.
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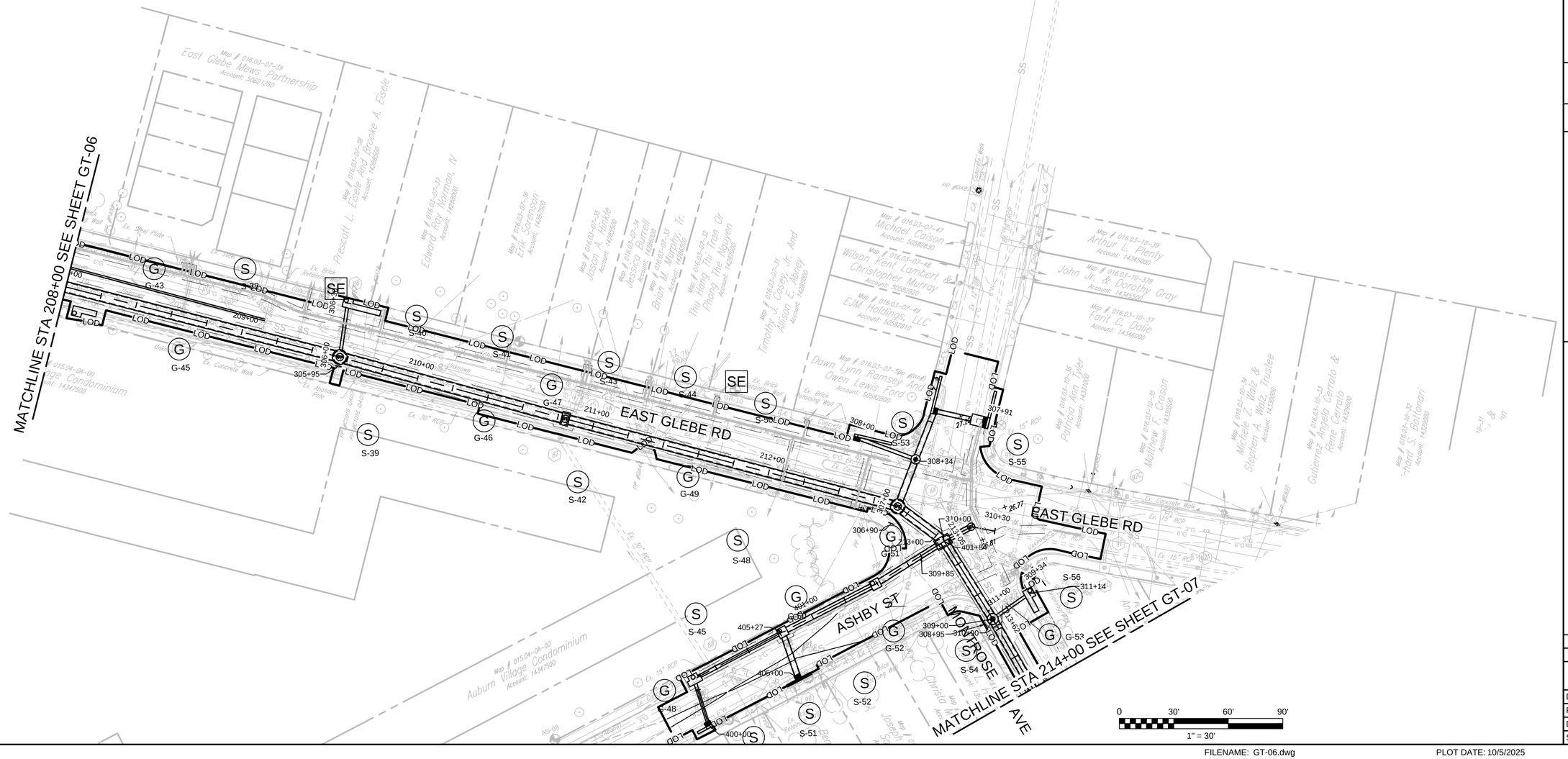
MATCHLINE STA 208+00 SEE SHEET GT-06
EAST GLEBE RD
EAST GLEBE RD
ASHBY ST
MONTROSE AVE
MATCHLINE STA 214+00 SEE SHEET GT-07
East Glebe Mews Partnership
Account: 50621250
Auburn Village Condominium
Account: 14347500
Prescott L. Eisele And Brooke A. Eisele
Account: 14285500
Edward Roy Norman, IV
Account: 14286500
Erik Sorenson
Account: 14287000
Jason A. Hinkle
Account: 14285500
Jessica Burrell
Account: 14286000
Brian M. Murphy
Account: 14286500
Thu Hong Tran Or Phong The Nguyen
Account: 14287000
Timothy J. Casey, Jr. And Allison E. Abney
Account: 14286000
Down Lynn Ramsey And Owen Lewis Ford
Account: 50582600
EJM Holdings, LLC
Account: 50582810
Wilson Kent Lambert & Christopher Murray
Account: 50582620
Michael Calson
Account: 50582830
Arthur L. Plenty
Account: 14345060
John Jr. & Dorothy Gray
Account: 14345020
Farit C. Dolie
Account: 14346200
Patricia Ann Tyler
Account: 14315000
Michele Z. Walz & Stephen A. Walz, Trustee
Account: 14336000
Matthew E. Croson
Account: 14336000
Gutierrez Angela Carrato & Rene Carrato
Account: 14329200
Richard S. Bottonori
Account: 14336000
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Unknown
Ex. 18" RCP
Ex. 12" RCP
Ex. 10" Unknown Type
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Ex. 30" RCP
Ex. Concrete Walk
Ex. Brick Retaining Wall
Ex. Steel Plate
Ex. Asphalt Path
Ex. Utility Pole
Ex. Gas Meter
Ex. Gas Valve
Ex. Water Valve
Ex. Fire Hydrant
Ex. Light Pole
Ex. Sign
Ex. Bollard
Ex. Tree
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Ex. Underground Underground Underground Underground Underground Underground Cable Line
Ex. Overhead Overhead Overhead Overhead Overhead Overhead Cable Line
Ex. Underground Underground Underground Underground Underground Underground Gas Line
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Ex. Overhead Overhead Overhead Overhead Overhead Overhead Overhead Bollard
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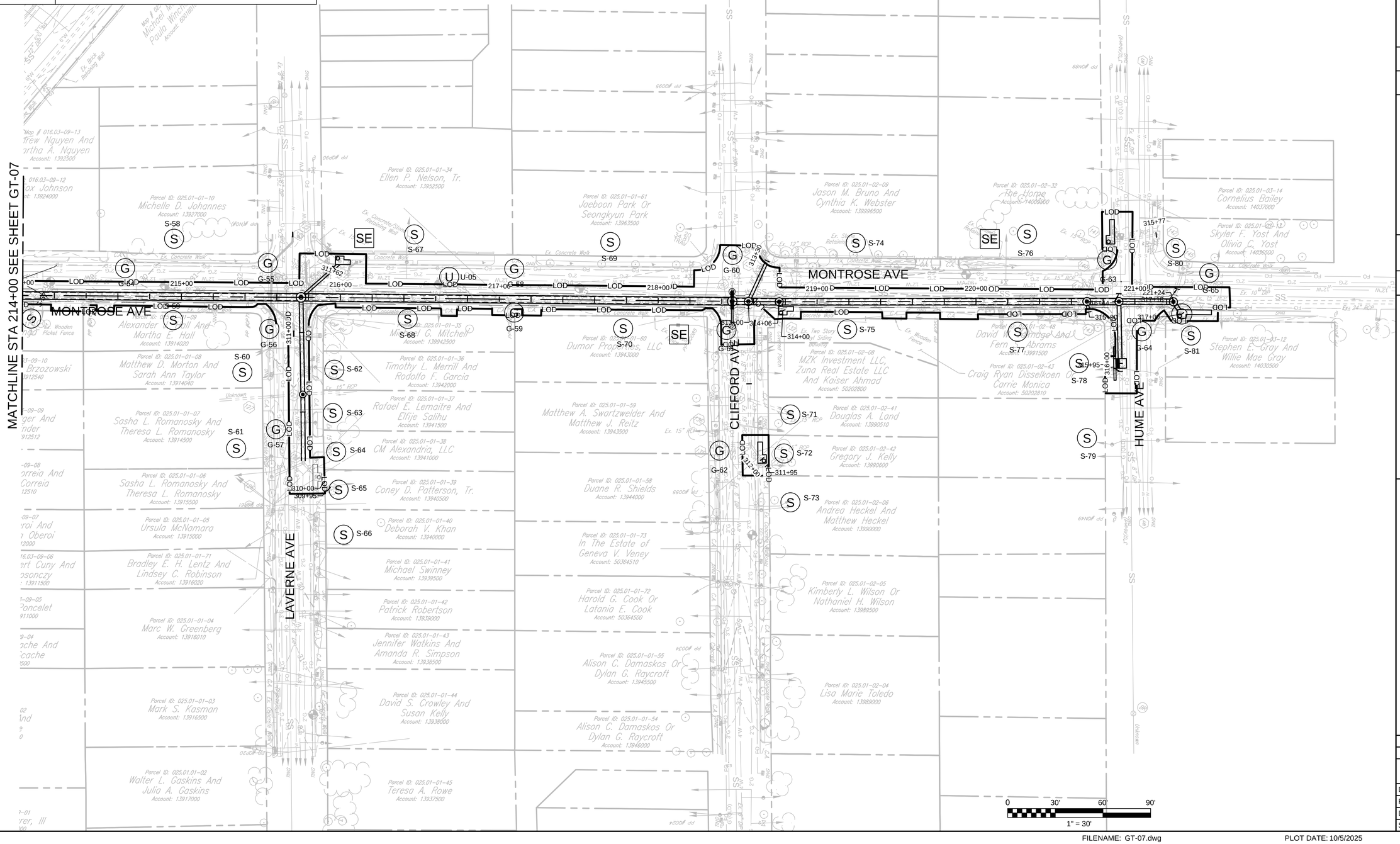
Ex. Overhead Overhead Overhead Overhead Overhead Overhead Overhead Telephone Manhole
Ex. Underground Underground Underground Underground Underground Underground Underground Cable Manhole
Ex. Overh

GEOTECHNICAL INSTRUMENT LEGEND

(S)	STRUCTURE MONITORING POINT
(G)	GROUND MONITORING POINT
(U)	UTILITY MONITORING POINT
SE	SEISMOGRAPH (REUSABLE)

GENERAL NOTES FOR GEOTECHNICAL INSTRUMENTATION PLAN:

1. FOR ADDITIONAL INSTRUMENTATION AND MONITORING REQUIREMENTS, SEE CONSTRUCTION SPECIFICATION SECTION 31 09 13.
2. ALL GEOTECHNICAL INSTRUMENTATION SHOWN IS THE MINIMUM REQUIRED. THE INSTRUMENT LOCATIONS SHOWN SHALL BE ADJUSTED BASED ON FIELD CONDITIONS AND ACCESS RESTRICTIONS.
3. A CRACK MONITORING PLAN SHALL BE DEVELOPED FOR BUILDINGS, HOUSES, AND WALLS POST THE PRE-CONSTRUCTION CONDITION SURVEY. ALL CRACKS SHALL BE MONITORED UNLESS OTHERWISE APPROVED BY THE STRUCTURE OWNER AND THE OWNER.



CITY OF ALEXANDRIA
ALEXANDRIA ENGINEERING
301 KING STREET
ALEXANDRIA, VA 22314
WWW.ALEXANDRIAVA.GOV

NO.	DATE	REVISION	BY	APVD
	10/2025	100% SUBMITTAL		
	04/2025	90% SUBMITTAL		
	11/2024	65% SUBMITTAL		
	05/2024	60% SUBMITTAL		
	09/2023	30% SUBMITTAL		
DSGN	K YANG	DR T WEINSTEIN	CHK X WANG	APVD K YANG

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CITY OF ALEXANDRIA, VA
DEPARTMENT OF PROJECT IMPLEMENTATION
ALEXANDRIA, VA 22314

Jacobs

GEOTECHNICAL
GEOTECHNICAL INSTRUMENTATION PLAN (SHEET 7 OF 7)

FINAL DESIGN (NOT FOR CONSTRUCTION)

1"=30'
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	OCTOBER 2025
PROJ	E5X81200
DWG	GT-07
SHEET	158 of 158

FILENAME: GT-07.dwg PLOT DATE: 10/5/2025 PLOT TIME: 5:42 PM