

REVISIONS	



# TOWN OF VIENNA

## DEPARTMENT OF PUBLIC WORKS

### MANVELL ROAD SE

### DRAINAGE IMPROVEMENT

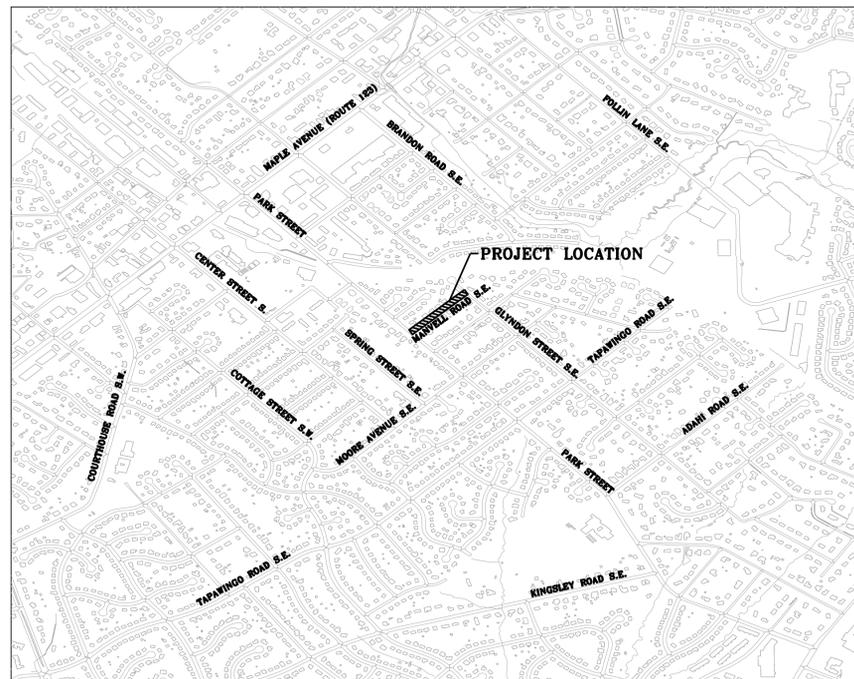
### PLAN

CLIENT INFORMATION  
**TOWN OF VIENNA, VA**  
 127 CENTER STREET SOUTH  
 VIENNA, VA, 22180



**MANVELL ROAD SE**  
**DRAINAGE**  
**IMPROVEMENTS**

<b>GRADING GENERAL NOTES</b>	
1	Earthwork quantities on this project are based on anticipated settlement and may require adjusting during construction.
<b>DRAINAGE GENERAL NOTES</b>	
1	When Town of Vienna Curb and Gutter (see Town's detail Sheet 2A) is specified on a radius (such as at a street intersection), the Town may approve a change in the cross slope of the gutter to facilitate proper drainage.
<b>PAVEMENT GENERAL NOTES</b>	
1	The pavement materials on this project will be paid for on a tonnage basis. The weight will vary in accordance with the specific gravity of the aggregates and the asphaltic content of the mix actually used to secure the design depth. The weight of the asphalt concrete is based on 95% of the theoretical maximum density.
<b>INCIDENTALS GENERAL NOTES</b>	
1	Certain trees shall be preserved as noted on plans or as directed by the Town.
2	When standard slope roundoffs would damage trees, bushes, or other desirable vegetation, they shall be omitted when so ordered by the Town.
3	Clearing and grubbing shall be confined to those areas needed for construction. No trees or shrubs in ungraded areas shall be cut without the permission of the Town.
4	The following outside sources, under contract with the Town, have provided information on this project: Roadway Design      Whitman, Requardt & Associates, LLP Survey                  Rice Associates Utility Designation      Rice Associates If questions arise during construction, please contact the Town. DO NOT CONTACT THE OUTSIDE SOURCES.
5	All electronic plan assemblies will include the construction plans in one format: .pdf files. Only the .pdf files will be considered as part of the official plan assembly.
<b>MAINTENANCE OF TRAFFIC GENERAL NOTES</b>	
1	The Contractor shall develop and provide a Maintenance of Traffic plan to be submitted and approved by the Town. The Contractor shall coordinate with the Town on allowable work hours. The plan shall be in accordance with the Virginia Work Area Protection Manual 2011 Revision 2.1. The Contractor should refer to the following standards: TTC-4.2 - STATIONARY OPERATION ON A SHOULDER TTC-5.2 - SHOULDER OPERATION WITH MINOR ENCROACHMENT TTC-23.2 - LANE CLOSURE ON A TWO-LANE ROADWAY USING FLAGGERS  TTC-35.1 - SIDEWALK CLOSURE AND BYPASS SIDEWALK OPERATIONS TTC-53.0 - SIGNING FOR PROJECT LIMITS
2	The Contractor shall maintain access to entrances and safe passage for pedestrians and bicyclists during construction where existing facilities are present.
3	A minimum of one traffic lane shall open to traffic at all times
4	When Town of Vienna police are required to assist in maintaining traffic, the Contractor shall contact the Town and provide a minimum of 5 days advance notice. The Contractor shall notify Town police of any cancellation at least 24 hours in advance.
5	Pavement markings in conflict with the lane configurations during construction shall be covered with non-reflective removable black tape, and restriped as necessary.
6	Contractor shall ensure positive drainage for the duration of the project.
7	Contractor shall schedule all phases of construction in such a manner that water, sewer, cable, power, gas, and any overhanging utility and any underground utility services will not be interrupted. The cost of any temporary connection, in part or whole, shall be incidental to the construction.
8	Disposal site and staging area locations shall be the responsibility of the Contractor. No work shall be performed until such sites have been accepted by the Town.
9	At the conclusion of each workday, all areas excavated below the existing surface shall be backfilled with approved material for the safety and protection of the public.
10	All traffic control devices and signs necessary for maintenance of traffic are to be installed, maintained and removed by the Contractor.
<b>UTILITIES GENERAL NOTES</b>	
1	The utility information shown on these plans is taken from information provided by an underground utility designating and locating company and in some cases, from information received from the utility companies. The Town does not guarantee that the utility information shown on the plans is complete or accurate. The Contractor must verify the utility locations prior to construction.
2	All existing underground utilities shall be marked in the field by Miss Utility prior to construction. The Contractor shall be responsible for scheduling the field marking of utilities with Miss Utility. Miss Utility 1-800-552-7011 or 811 VAB11.com
3	All existing underground utilities shall be physically located by the Contractor prior to the beginning of any construction in the vicinity of these utilities.
<b>TOWN OF VIENNA GENERAL NOTES</b>	
1	A Pre-Construction meeting must be held prior to the start of construction. The Contractor shall contact the Town to schedule the Pre-Construction meeting.
2	All construction generated debris must be hauled away by the Contractor.
3	Prior to the removal of any Town trees (trees within the Right of Way), the Contractor shall contact the Town arborist to coordinate having the Town arborist onsite during all Town tree removal.
4	Tree protection for any Town tree, if shown on the plan, must be installed prior to any work.
5	Clearing, grubbing, tree removal, root pruning and tree protection shall be in accordance with VDOT Road and Bridge Specifications and the Town's FPM and Tree Preservation and Planting Guide and the Virginia Erosion and Sediment Control Handbook. The Contractor shall coordinate with the Town and property owners as directed by the Town prior to commencing any of these activities.



VICINITY MAP  
 SCALE: 1"=1,000'

## 100% DESIGN CONSTRUCTION DRAWINGS

SHEET INDEX	
SHEET NO.	TITLE
1	COVER SHEET
1A	SURVEY DATA
2	TYPICAL SECTIONS
2A	TYPICAL DETAILS
2B	EXISTING CONDITIONS AND DEMOLITION PLAN
2C	GEOMETRIC LAYOUT
2D	CURB RAMP STAKING DETAILS
3	SITE PLAN
4	SITE PLAN
4A	DRAINAGE PROFILE
5	EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS
5A	EROSION AND SEDIMENT PLAN
5B	EROSION AND SEDIMENT PLAN

GRAPHIC SCALES	

SIGNATURE	



**Whitman, Requardt & Associates, LLP**  
 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

<b>COVER SHEET</b>	
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SCALE: 1" = 1000'		
DATE: 09/2024	SHEET	1
DES: WRA	DRAWN: JZ	CHECK: KO

GENERAL NOTES:

- PROPERTY LINES SHOWN ON THIS SURVEY ARE A COMPILATION OF DEEDS AND PLATS OF RECORD, SURVEYS BY OTHERS, AND LIMITED MONUMENT TIES. LINES SHOWN HEREON ARE NOT THE RESULT OF A FIELD RUN BOUNDARY SURVEY.
- THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT. NOT ALL EASEMENTS AND/OR ENCUMBRANCES ARE NECESSARILY SHOWN HEREON.
- THIS SURVEY WAS PREPARED FOR: WHITMAN, REQUARDT & ASSOCIATES, LLP 12700 FAIR LAKES & CIRCLE, SUITE 300 FAIRFAX, VA 22033
- THIS SURVEY WAS PREPARED BY: RICE ASSOCIATES 3145 VIRGINIA BEACH BLVD., SUITE 103 VIRGINIA BEACH, VIRGINIA 23452
- THE HORIZONTAL DATUM IS VIRGINIA COORDINATE SYSTEM 83 (NORTH ZONE), AND THE VERTICAL DATUM IS NAVD88, BOTH ESTABLISHED BY GPS OBSERVATIONS.
- THE CONTOUR INTERVAL IS TWO (2) FEET.
- THE HORIZONTAL AND VERTICAL UNIT OF MEASUREMENT IS THE U.S. SURVEY FOOT.
- THIS SURVEY FOR A PORTION OF MOORE AVE. S.E. WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF WILLIAM G. LIPPY JR. FROM AN ACTUAL GROUND SURVEY MADE UNDER MY SUPERVISION; DATA WAS OBTAINED ON NOVEMBER 4, 2022, THROUGH NOVEMBER 8, 2022; THIS SURVEY DATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

General Utility Notes:

- All utilities shown hereon were designated according to asce 38-02 "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data"
- All utilities shown hereon are depicted as Quality Level "B" unless otherwise noted.
- Utilities designated with a "DATUM" (depicted according to utility records) are Quality Level "D". These utilities are depicted using sound professional judgment interpreting available third-party records and/or oral histories.
- If available, utility size and type for Quality Level "B" depictions are determined through available utility owner information. Utilities labeled as unknown have no correlated records or visible appurtenances to determine function or type.
- Reliance upon this data for risk management purposes during bidding does not relieve the excavator or utility owner from following all applicable utility damage prevention statutes, policies, and/or procedures during excavation
- It is important that the contractor investigate and understands the scope of work between the project owner and their engineer regarding the scope and limits of the utility investigations leading to these utility depictions.
- Utility mapping was completed on 11/9/22. Utilities may have been changed or been added after this date. All utilities shown hereon were designated under the direct supervision of Timothy Payne, LS #003090

UTILITY LEGEND

<ul style="list-style-type: none"> <li>□ EB Electric Box</li> <li>■ Electric Guy Pole</li> <li>⊕ Electric Ground Light</li> <li>⊕ Electric Guy Wire</li> <li>⊕ Electric Hand Hole</li> <li>⊕ Electric Meter</li> <li>⊕ Electric Manhole</li> <li>⊕ Electric Marker Post</li> <li>⊕ Electric Pedestal</li> <li>⊕ Electric Stub</li> <li>■ Electric Power Pole</li> <li>⊕ Electric Power Riser Pole</li> <li>⊕ Electric Light Pole</li> <li>⊕ Electric Luminaire</li> <li>⊕ End of Information (All Utilities)</li> <li>⊕ Fire Hydrant</li> <li>⊕ Fiber Optic Hand Hole</li> <li>⊕ Fiber Optic Marker</li> <li>⊕ Fiber Optic Manhole</li> <li>⊕ Fiber Optic Pedestal</li> <li>⊕ Gas Meter</li> <li>⊕ Gas Manhole</li> <li>⊕ Gas Marker Post</li> <li>⊕ Gas Monitoring Well</li> <li>⊕ Gas Stub</li> <li>⊕ Gas Test Station</li> <li>⊕ Gas Valve</li> <li>⊕ Gas Vent</li> <li>⊕ Gas Well</li> <li>⊕ Sanitary Air Release Valve</li> <li>⊕ Sanitary Flow Arrow</li> <li>⊕ Sanitary Stub</li> <li>⊕ Sewer Clean Out</li> <li>⊕ Sanitary Force Main Valve</li> <li>⊕ Sanitary Marker Post</li> <li>⊕ Sanitary Manhole</li> <li>⊕ Sewer Vent Pipe</li> <li>⊕ Unknown Clean Out</li> <li>⊕ Unknown Hand Hole</li> <li>⊕ Unknown Manhole</li> </ul>	<ul style="list-style-type: none"> <li>□ TB Telephone Booth</li> <li>● Telephone Guy Pole</li> <li>○ Telephone Guy Wire</li> <li>⊕ Test Holes (All Utilities)</li> <li>⊕ Telephone Cell Tower</li> <li>⊕ Telephone Hand Hole</li> <li>⊕ Telephone Manhole</li> <li>⊕ Telephone Marker Post</li> <li>● Telephone Pole</li> <li>⊕ Telephone Pedestal</li> <li>⊕ Telephone Riser Pole</li> <li>⊕ Television Satellite Dish</li> <li>⊕ Tower Anchor</li> <li>⊕ Traffic Camera Pole</li> <li>⊕ Traffic Control Hand Hole</li> <li>⊕ Traffic Control Manhole</li> <li>⊕ Traffic Control Guy Wire</li> <li>⊕ Traffic Control Pedestal</li> <li>⊕ Traffic Signal Guy Pole</li> <li>⊕ Traffic Signal Pole</li> <li>⊕ Traffic Signal Pole w/ Luminaire</li> <li>⊕ Telephone Stub</li> <li>⊕ Television Hand Hole</li> <li>⊕ Television Manhole</li> <li>⊕ Television Marker Post</li> <li>⊕ Television Pedestal</li> <li>⊕ Television Stub</li> <li>⊕ Water Blow Off</li> <li>⊕ Water Well</li> <li>⊕ Water Meter</li> <li>⊕ Water Manhole</li> <li>⊕ Water Marker Post</li> <li>⊕ Water Spigot</li> <li>⊕ Water Slamese Connection</li> <li>⊕ Water Stub</li> <li>⊕ Water Valve</li> <li>⊕ Water Post Inspection Valve</li> <li>⊕ Water Irrigation Valve</li> <li>⊕ Water Steam Manhole</li> <li>⊕ Water Steam Vent Pipe</li> </ul>
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— CAFO —	Fiber Optic Cable Television
— CHEM —	Chemical Line (above or below ground)
— FO Duct —	Underground Fiber Optic Duct
— FUEL —	Fuel Line (above or below ground)
— G —	Gas Line *
— G Duct —	Gas Line Duct
— SAN —	Gravity Sewer *
— SFM —	Sanitary Force Main *
— TCFO —	Traffic Control Fiber Optic
— T/FO —	Telephone Fiber Optic
— FO —	Underground Fiber Optic
— Unk —	Unknown Utility Line
— E —	Underground Power Cable
— E Duct —	Underground Power Cable Duct
— T/Tg —	Underground Telephone Cable
— T/Tg Duct —	Underground Telephone Cable Duct
— TC —	Underground Traffic Control
— TC Duct —	Underground Traffic Control Duct
— CATV —	Underground Television Cable
— CATV Duct —	Underground Television Cable Duct
— VS —	Vacuum Sewer
— W —	Water Line *
— W Duct —	Water Line Duct
— Unk —	Depicted According To Utility Records **
— Unk —	Abandoned According To Utility Records **
— Unk —	According To Miss Utility Information **
	* Designate size ( Variable from 0.75" to 54" )
	** Designate type ( Unknown line is shown )

PLANIMETRIC LEGEND

⊕	Advertising Sign
⊕	Bore Hole
⊕	Bench Mark
⊕	Boilard Post
⊕	Photo Control Point
⊕	Control Station
⊕	Drainage Flow Arrow (Storm Drainage)
⊕	Filler Cap (Gas Stations)
⊕	Flow Arrow (Streams & Rivers)
⊕	Flag Pole
⊕	Secondary Control Point
⊕	Filler Pipe (Gas Stations)
⊕	Gas Tank Access Manhole (Gas Stations)
⊕	Gravesite Marker
⊕	Guard Post
⊕	Gas Vent Pipe (Gas Stations)
⊕	Mail Box
⊕	Mine Entrance
⊕	Nade Point
⊕	Property Line Symbol
⊕	Found Monumentation
⊕	Property Monument
⊕	Metal or Wooden Post
⊕	Monitoring Well
⊕	Road Arrow
⊕	Reference
⊕	Right of Way Monument
⊕	VDOT Commission Monument
⊕	Iron Right of Way Pin
⊕	Railroad Mile Marker
⊕	Railroad Right of Way Monument
⊕	Railroad Signal Pole or Gate
⊕	Railroad Telegraph Pole
⊕	Railroad Telephone Pole
⊕	Railroad Switch
⊕	Shrub
⊕	Storm Sewer Manhole
⊕	Photogrammetric Target
⊕	Tree
⊕	Traffic Left Turn Arrow
⊕	Traffic Left-Right Arrow
⊕	Traffic Left-Thru Arrow
⊕	Traffic Left-Thru-Right Arrow
⊕	Traffic Right Turn Arrow
⊕	Traffic Thru Arrow
⊕	Traffic Thru-Right Arrow
⊕	Traffic Springback Marker
⊕	Wetland Flag Automatic
⊕	Wetland Flag Manual
⊕	Bridge Elevation
⊕	Plan Elevation
⊕	Water Elevation
⊕	Elevation Tick Mark
⊕	Connected Plat Symbol
⊕	Brush Line
⊕	Pipe Culverts *
⊕	City Line
⊕	County Line
⊕	Curb Only
⊕	Curb and Gutter
⊕	Fence Line
⊕	Guardrail
⊕	Hedge Row
⊕	Jersey Barrier
⊕	Obscure Areas
⊕	Paved Ditches
⊕	Railroad
⊕	Right of Way
⊕	State Line
⊕	Edges of Water
⊕	Sidewalks
⊕	Wetlands
⊕	Woods
⊕	* Designate size of culverts ( Variable from 12" to 120" )

Storm Sewer Table

EX.01	EX. STM STR-01 POINT *80576 MSMD *N/A Inv. Out 18" RCP	+393.14'
EX.02	EX. STM STR-02 POINT *80554 MSMD *N/A Top Inv. In 18" RCP from EX.01 Inv. In 15" RCP from S.W. Inv. Out 21" RCP to N.W.	+393.38' +389.48' +389.28' +388.98'
EX.03	EX. STM STR-03 POINT *80570/80572 MSMD *N/A Inv. In 15" CMP Inv. Out 15" CMP	+395.06' +394.66'
EX.04	EX. STM STR-04 POINT *80566/80568 MSMD *N/A Inv. In 12" CMP Inv. Out 12" CMP	+397.28' +397.10'
EX.05	EX. STM STR-05 POINT *80547/80549 MSMD *N/A Inv. In 12" RCP Inv. In 12" RCP	+409.81' +408.26'
EX.06	EX. STM STR-06 POINT *80901/80915 MSMD *N/A Inv. In 12" CMP Inv. In 12" CMP	+395.37' +395.01'
EX.07	EX. STM STR-07 POINT *80826/80839 MSMD *N/A Inv. In 15" CMP Inv. In 15" CMP	+395.54' +395.43'

Sanitary Sewer Table

EX.075	EX. SAN MH-075 POINT *80602 FCWM *038-4-075 Top Inv. In 8" Clay Pipe from N.E. Inv. In 8" Clay Pipe from S.E. Inv. Out 8" Clay Pipe to EX.081	+405.11' +395.46' +395.51' +395.31'
EX.081	EX. SAN MH-081 POINT *80600 FCWM *038-4-081 Top Inv. In 8" Clay Pipe from EX.082 Inv. In 8" Clay Pipe from EX.075 Inv. Out 8" Clay Pipe to EX.084	+399.49' +389.49' +389.09' +389.04'
EX.082	EX. SAN MH-082 POINT *80574 FCWM *038-4-082 Top Inv. In 8" Clay Pipe from EX.083 Inv. In 8" Clay Pipe from EX.081	+396.32' +391.04' +391.02'
EX.083	EX. SAN MH-083 POINT *80551 FCWM *038-4-083 Top Inv. Out 8" Clay Pipe to EX.082	+404.86' +396.86'
EX.084	EX. SAN MH-084 POINT *80598 FCWM *038-4-084 Top Inv. In 8" Clay Pipe from N.E. Inv. In 8" Clay Pipe from EX.081 Inv. Out 8" Clay Pipe to N.W.	+396.50' +385.70' +385.60' +385.50'

REVISIONS	

CLIENT INFORMATION  
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 127 CENTER STREET SOUTH  
 VIENNA, VA, 22180



**MANVELL ROAD SE DRAINAGE IMPROVEMENTS**


GRAPHIC SCALES

SIGNATURE



**Whitman, Requardt & Associates, LLP**  
 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

SURVEY DATA	

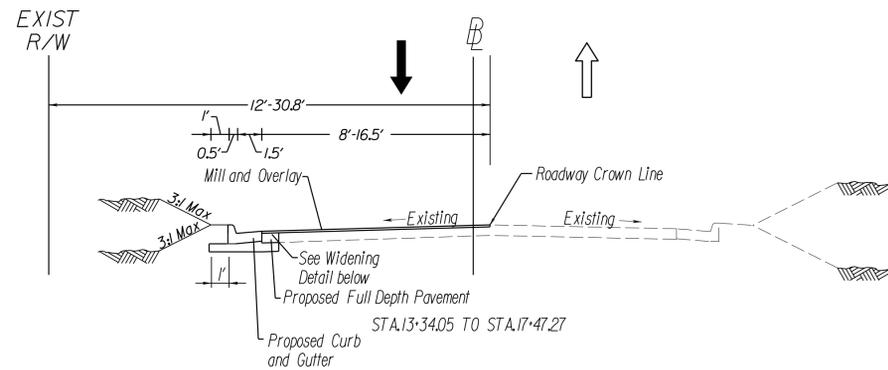
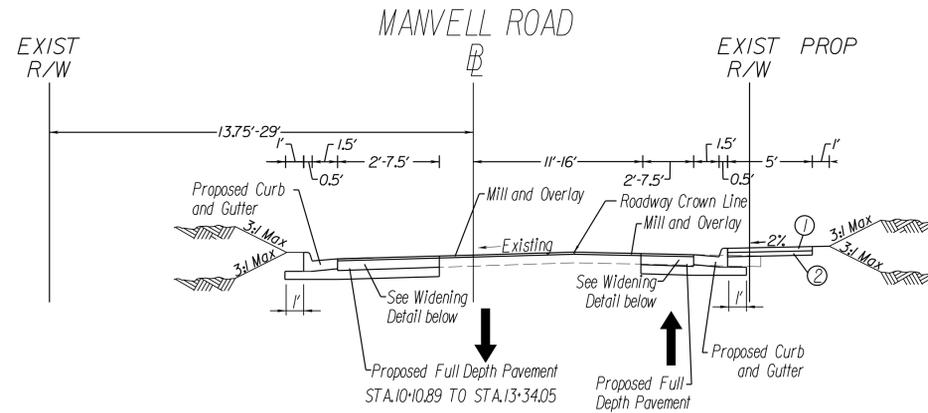
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DES: WRA	DRAWN: JZ	CHECK: KO

# TYPICAL SECTIONS

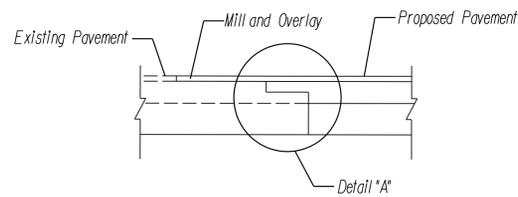
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## SIDEWALK SECTION

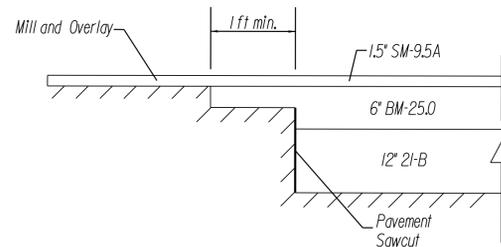
- ① 4" HYDRAULIC CEMENT CONCRETE CLASS A3 SIDEWALK RECD
- ② 4" AGGREGATE BASE MATERIAL SIZE 21A



## TYPICAL PAVEMENT WIDENING DETAIL

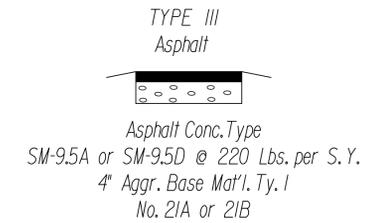
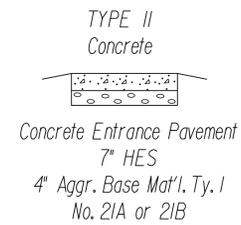


## DETAIL "A"



## PRIVATE ENTRANCE TYPE

NOT TO SCALE

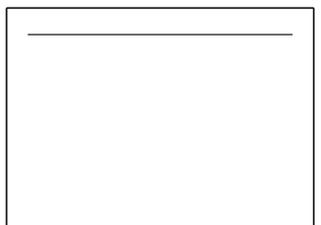


REVISIONS	

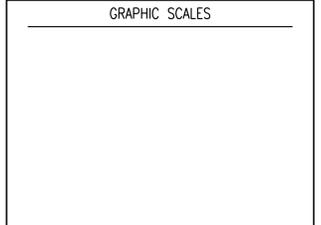
CLIENT INFORMATION  
**TOWN OF VIENNA, VA**  
 127 CENTER STREET SOUTH  
 VIENNA, VA, 22180



## MANVELL ROAD SE DRAINAGE IMPROVEMENTS



GRAPHIC SCALES



SIGNATURE



**Whitman, Reardon & Associates, LLP**  
 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

## TYPICAL SECTIONS

SCALE: N/A	
DATE: 09/2024	SHEET 2
DES: WRA	DRAWN: JZ CHECK: KO

# TYPICAL DETAILS NOT TO SCALE

REVISIONS	

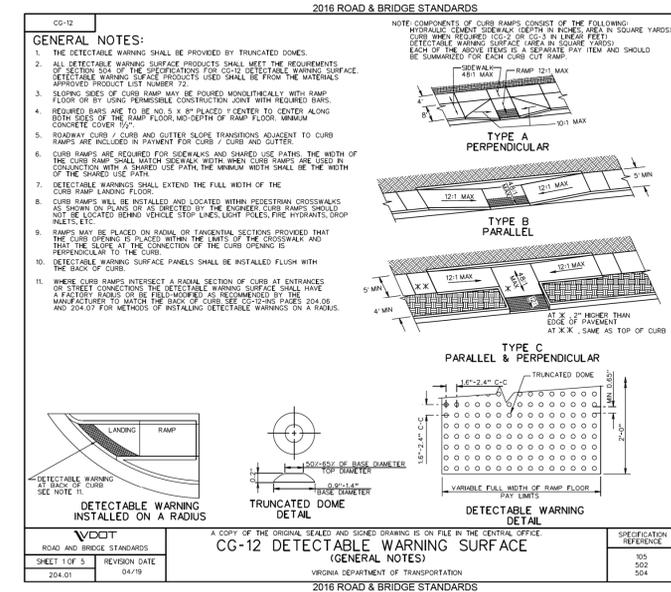
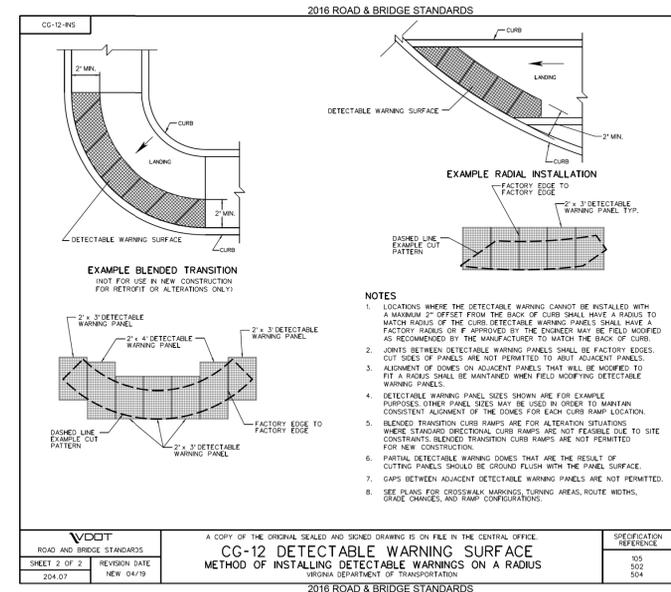
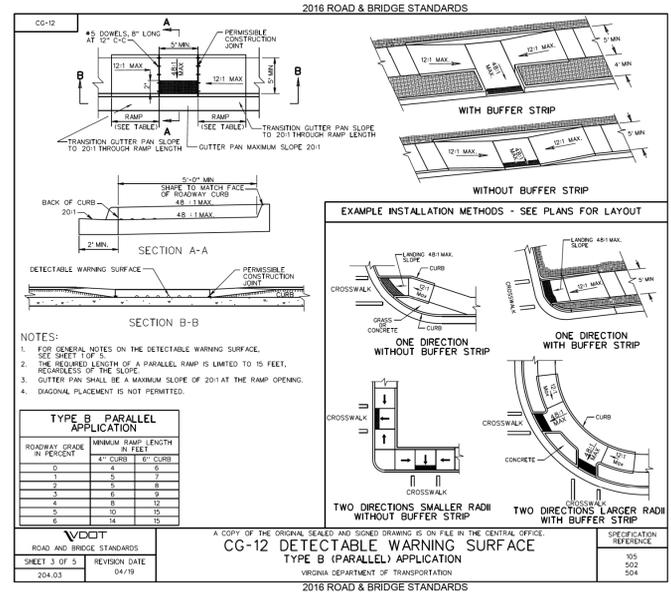
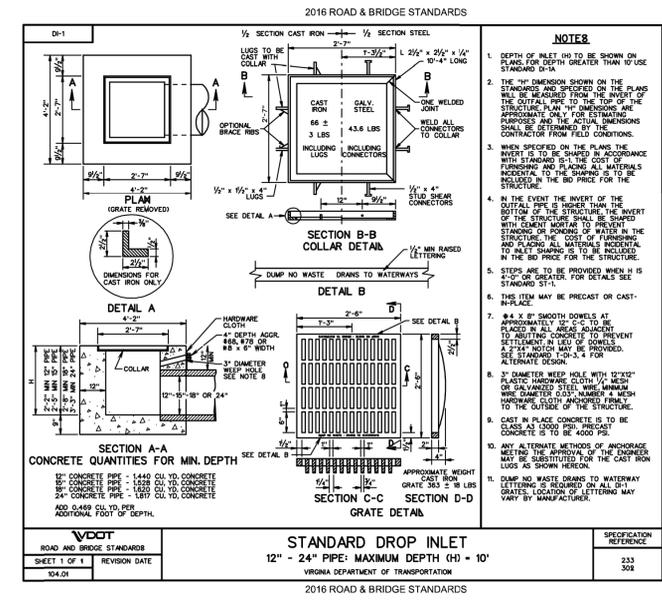
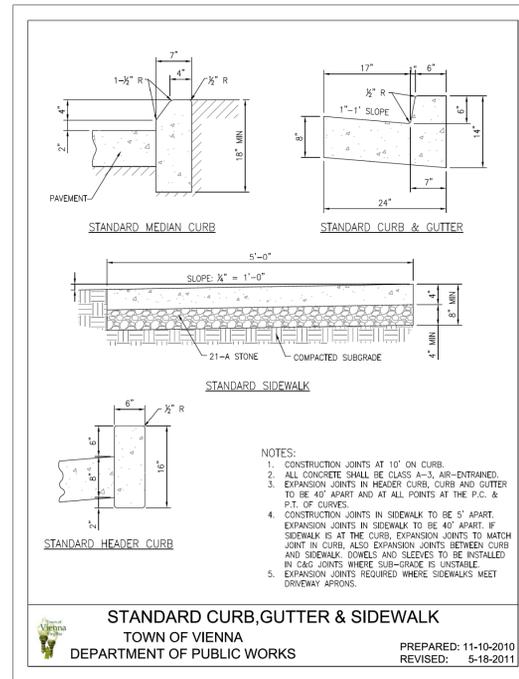
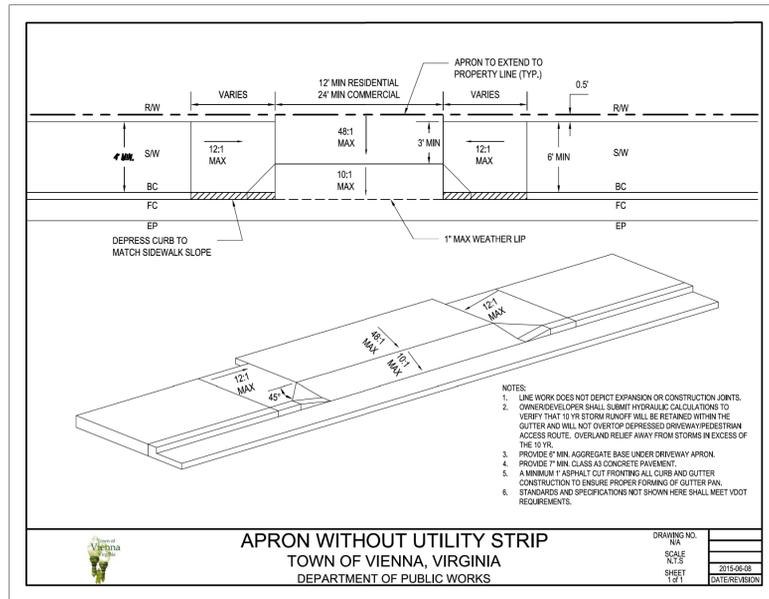
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## MANVELL ROAD SE DRAINAGE IMPROVEMENTS

GRAPHIC SCALES	

SIGNATURE	



SIGNATURE	

**WRA**  
Whitman, Reardon & Associates, LLP  
12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

TYPICAL DETAILS	
SCALE: N/A	
DATE: 09/2024	SHEET 2A
DES: WRA	DRAWN: JZ CHECK: KO

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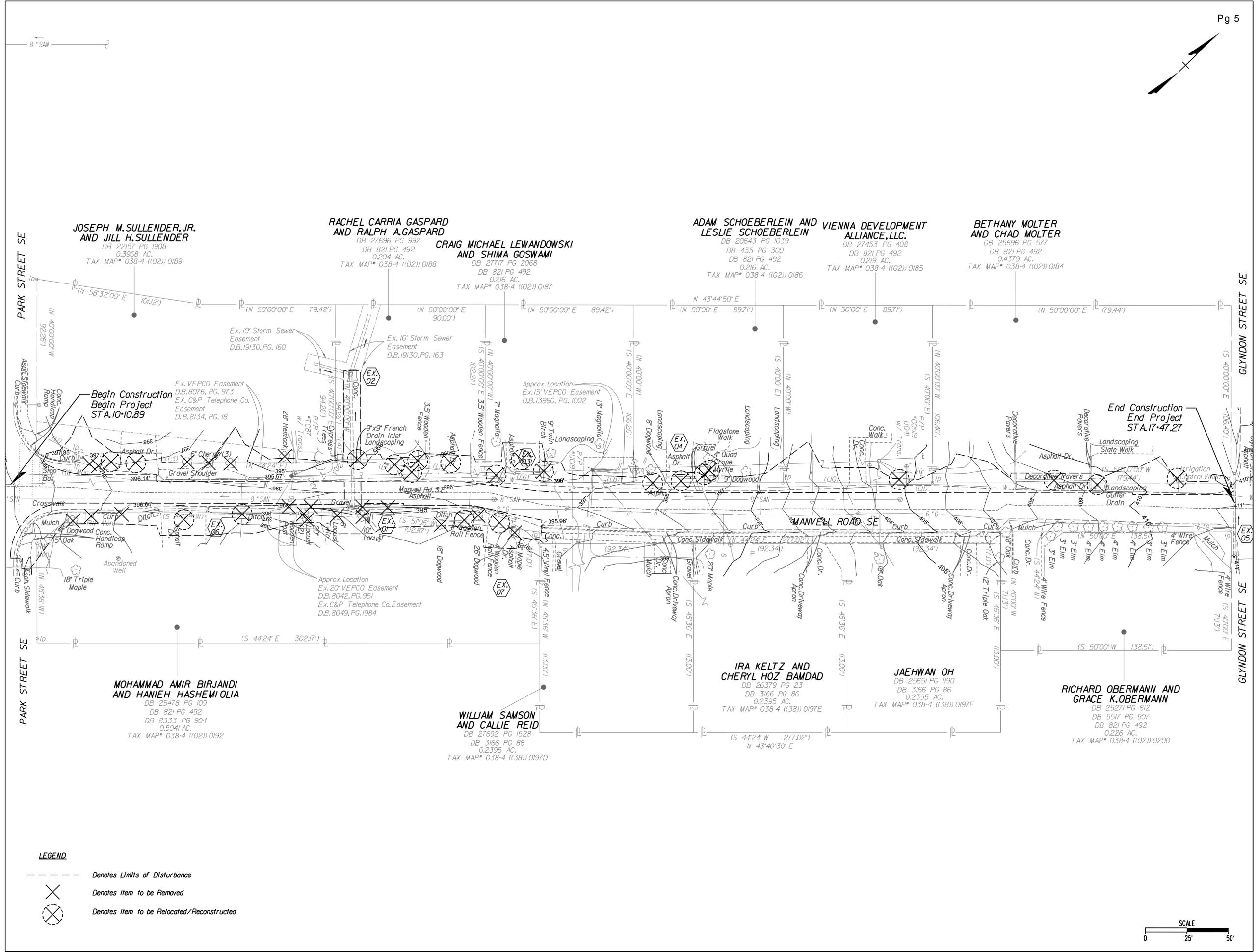
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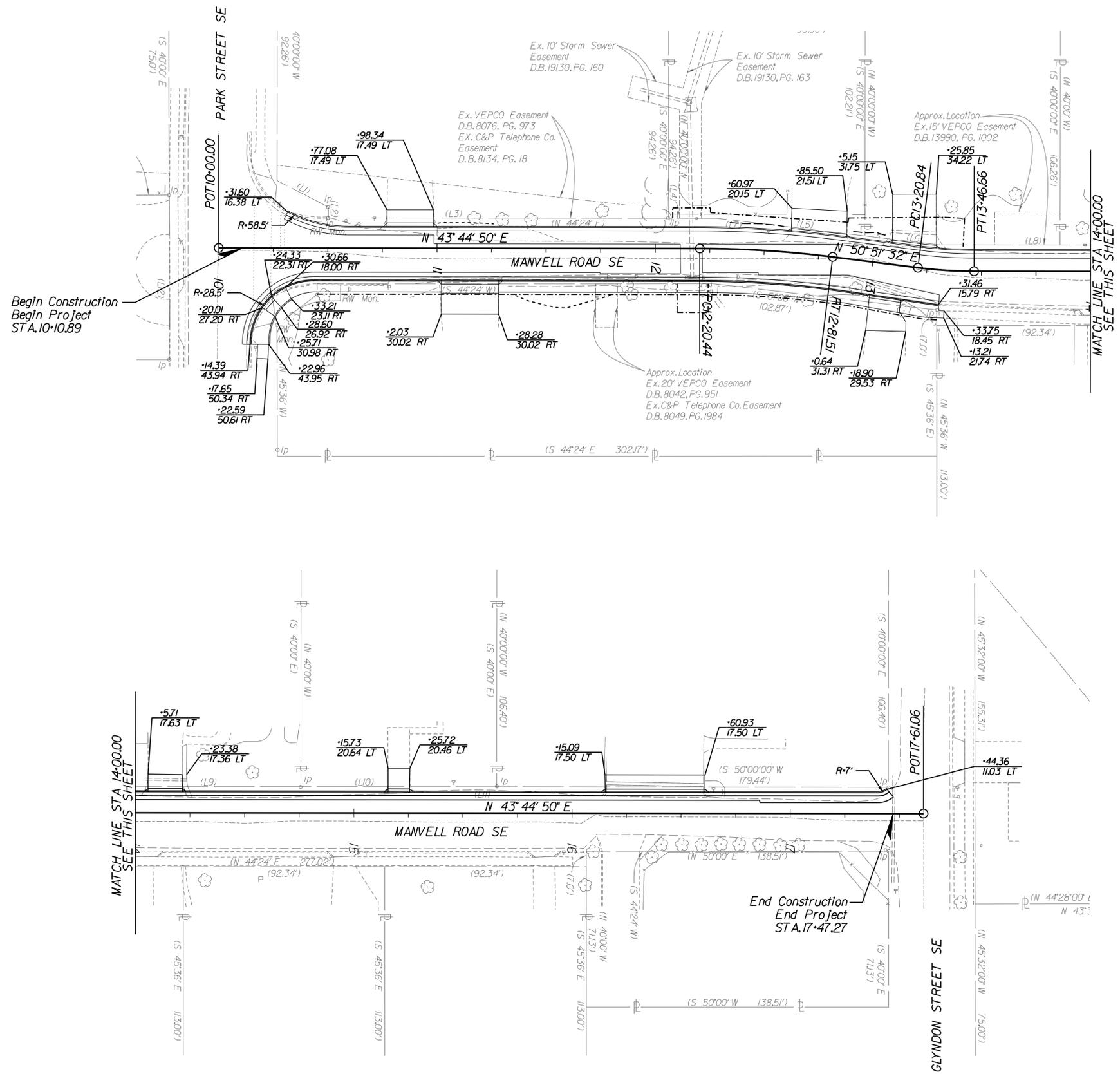
**EXISTING CONDITIONS AND DEMOLITION PLAN**

SCALE: 1"=25'  
 DATE: 09/2024 SHEET 2B  
 DES: WRA DRAWN: JZ CHECK: KO



- LEGEND**
- Denotes Limits of Disturbance
  - ✕ Denotes Item to be Removed
  - ⊗ Denotes Item to be Relocated/Reconstructed





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**GEOMETRIC LAYOUT**

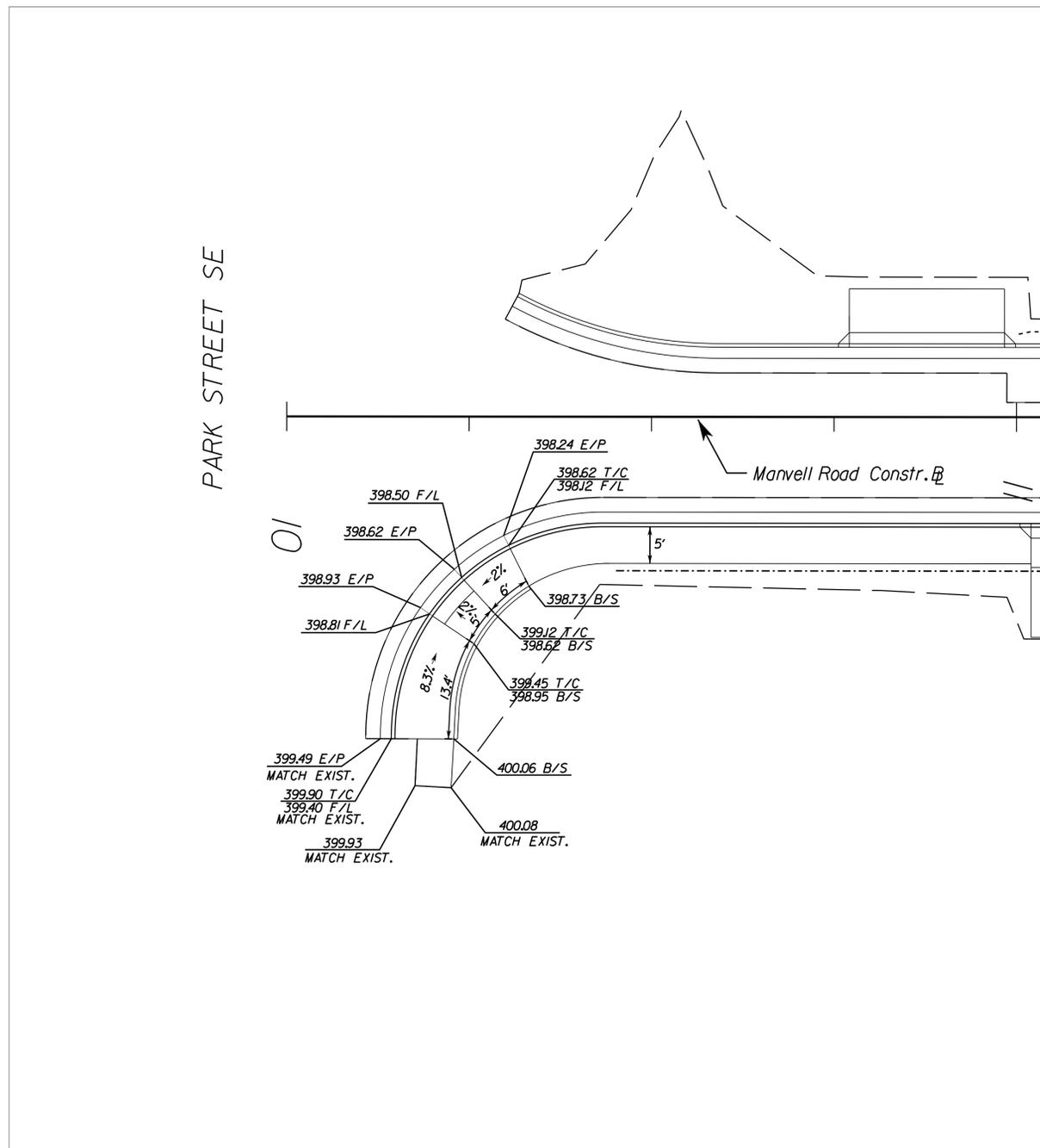
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DATE: 09/2024	SHEET 2C	
DES: WRA	DRAWN: JZ	CHECK: KO

REVISIONS	

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**MANVELL ROAD SE  
 DRAINAGE  
 IMPROVEMENTS**



**Legends:**  
 T/C Top of Curb  
 F/L Flowline  
 E/P Edge of Pavement  
 B/S Back of Sidewalk



GRAPHIC SCALES

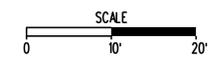
SIGNATURE



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 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

**CURB RAMP STAKING  
 DETAILS**

SCALE: 1" = 10'	
DATE: 09/2024	SHEET 2D
DES: WRA	DRAWN: JZ
CHECK: KO	



Alignment name: Manvell Rd	STATION	NORTHING	EASTING	STATION	NORTHING	EASTING	STATION	NORTHING	EASTING
Element: Linear	10+00.000 R1	7012787.022	11836720.386	Element: Linear	12+81.506 R1	7012987.651	Element: Linear	13+46.655 R1	7013029.974
START (PC)	12+20.438 R1	7012946.266	11836872.814	PT (PT)	13+20.838 R1	7013012.478	PT (PT)	17+61.064 R1	7013329.342
Tangential Direction: N43.747°E				PC (PC)	13+20.838 R1	7013012.478	END (END)	N43.747°E	11836967.135
Tangential Length: 220.438				Tangential Direction: N50.859°E			Tangential Length: 414.409		
Element: Circular	12+20.438 R1	7012946.266	11836872.814	Element: Circular	13+20.838 R1	7013012.478	Element: Circular	13+46.655 R1	7013029.974
PC (HPI)	12+51.011 R1	7012968.352	11836893.955	PC (HPI)	13+33.763 R1	7013020.637	PC (HPI)	13+46.655 R1	7013029.974
CC (CC)	12+20.438 R1	7012946.266	11836872.814	CC (CC)	13+20.838 R1	7013012.478	CC (CC)	13+46.655 R1	7013029.974
PT (PT)	12+81.506 R1	7012987.651	11836917.667	PT (PT)	13+46.655 R1	7013029.974	PT (PT)	13+46.655 R1	7013029.974
Radius: 492.000				Radius: 208.000			Radius: 208.000		
Delta: 7.112° Right				Delta: 7.112° Left			Delta: 7.112° Left		
Degree of Curvature (Arc): 11.645°				Degree of Curvature (Arc): 27.546°			Degree of Curvature (Arc): 27.546°		
Length: 61.068				Length: 25.817			Length: 25.817		
Tangent: 30.573				Tangent: 12.925			Tangent: 12.925		
Chord: 61.028				Chord: 25.801			Chord: 25.801		
Middle Ordinate: 0.947				Middle Ordinate: 0.400			Middle Ordinate: 0.400		
External: 0.949				External: 0.401			External: 0.401		
Tangent Direction: N43.747°E				Tangent Direction: N50.859°E			Tangent Direction: N43.747°E		
Radial Direction: S46.253°E				Radial Direction: S39.141°E			Radial Direction: S46.253°E		
Chord Direction: N47.303°E				Chord Direction: N47.303°E			Chord Direction: N47.303°E		
Radial Direction: S39.141°E				Radial Direction: S46.253°E			Radial Direction: S46.253°E		
Tangent Direction: N50.859°E				Tangent Direction: N43.747°E			Tangent Direction: N43.747°E		

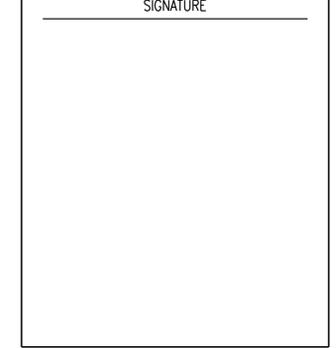
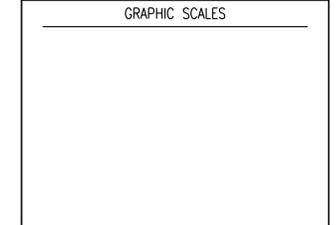
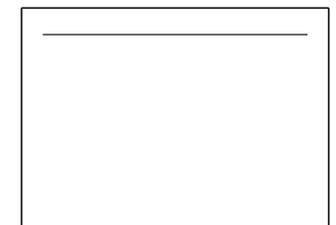


REVISIONS	

CLIENT INFORMATION  
**TOWN OF VIENNA, VA**  
 127 CENTER STREET SOUTH  
 VIENNA, VA, 22180



**MANVELL ROAD SE DRAINAGE IMPROVEMENTS**

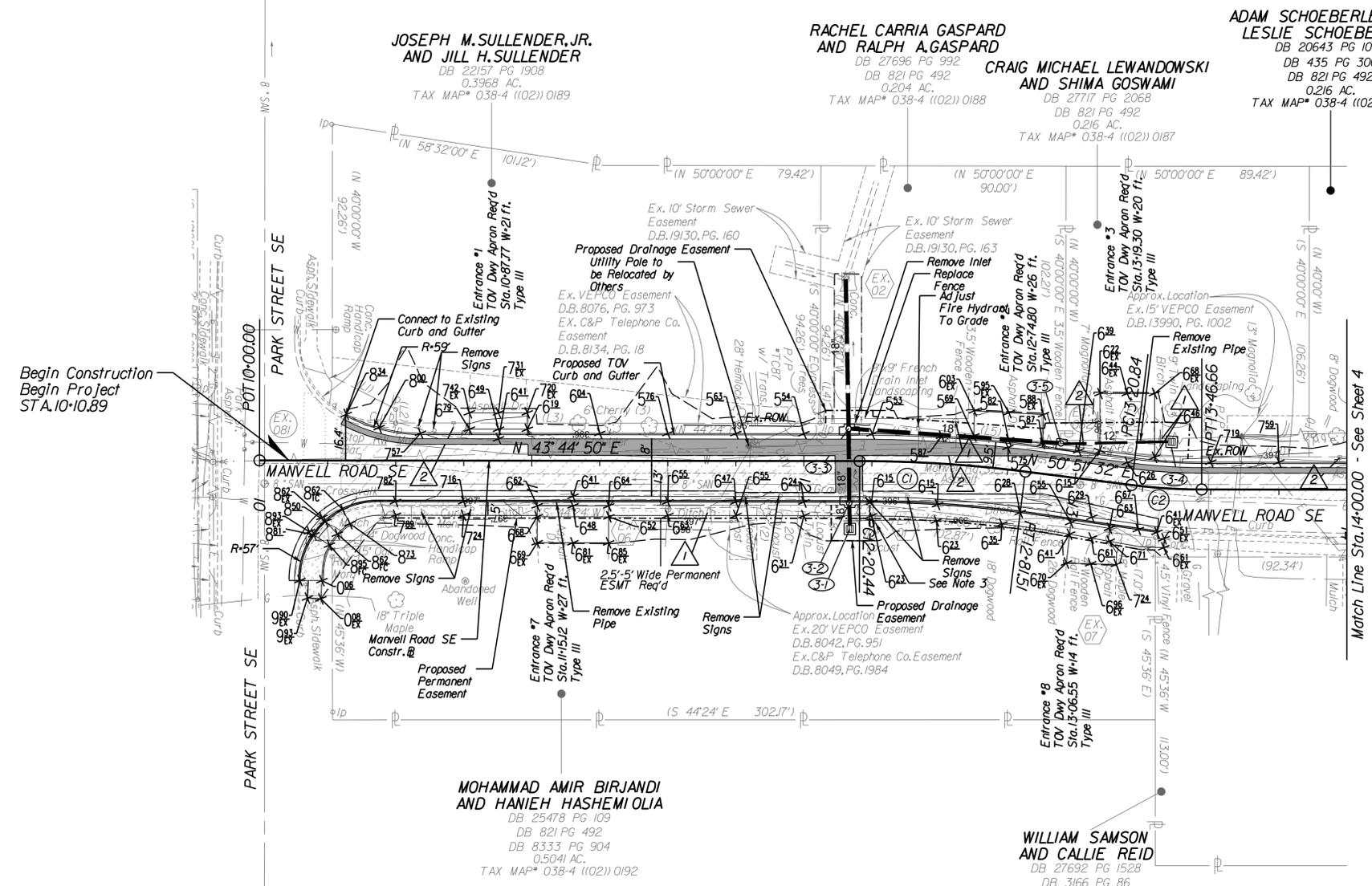



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**SITE PLAN**

SCALE: 1" = 25'

DATE: 09/2024	SHEET 3
DES: WRA	DRAWN: JZ
CHECK: KO	



Begin Construction  
 Begin Project  
 STA. 10+10.89

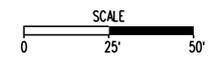
Match Line Sta. 14+00.00 - See Sheet 4

- (C1) Curve C1  
 PI • 12+51.01  
 DELTA • 7° 06' 41.84" (RT)  
 D • 11' 38" 44"  
 T • 30.57'  
 L • 61.07'  
 R • 492.00'  
 PC • 12+20.44  
 PT • 12+81.51
- (C2) Curve C2  
 PI • 13+33.76  
 DELTA • 7° 06' 41.83" (LT)  
 D • 27' 32" 46"  
 T • 12.93'  
 L • 25.82'  
 R • 208.00'  
 PC • 13+20.84  
 PT • 13+46.66

- 1 Relocate Water Meter
- 2 Relocate Mailbox

- NOTES:**
1. PROPOSED SIDEWALK SHALL DRAIN TOWARDS ROADWAY AT 2%.
  2. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROTECT FROM HARM OR REPLACE UNDER LICENSED LAND SURVEYOR ALL PROPERTY MONUMENTATION DISTURBED BY CONSTRUCTION.
  3. EXISTING FRENCH DRAIN OUTLET PIPES TO BE TRUNCATED TO DRAIN TOWARD PROPOSED STRUCTURE 3-1.

- LEGEND**
- Proposed Mill and Overlay
  - Proposed Full Depth Pavement
  - Proposed Concrete (Curb & Gutter, CG-12, Sidewalk, etc)
  - Proposed CG-12 Detectable Warning Surface
  - Denotes Construction Limits in Cuts
  - Denotes Construction Limits in Fills
  - Limits of Disturbance

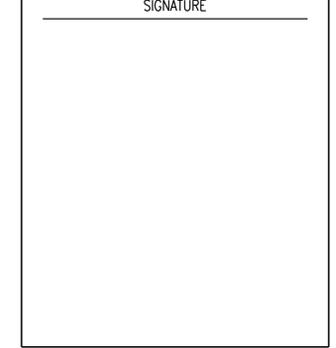
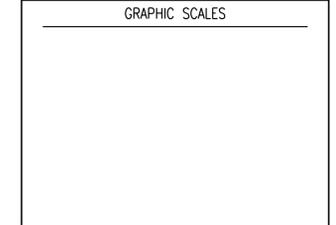
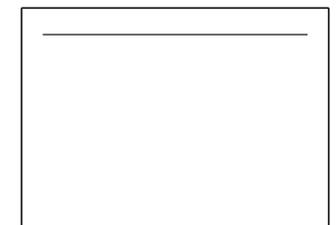




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 VIENNA, VA, 22180

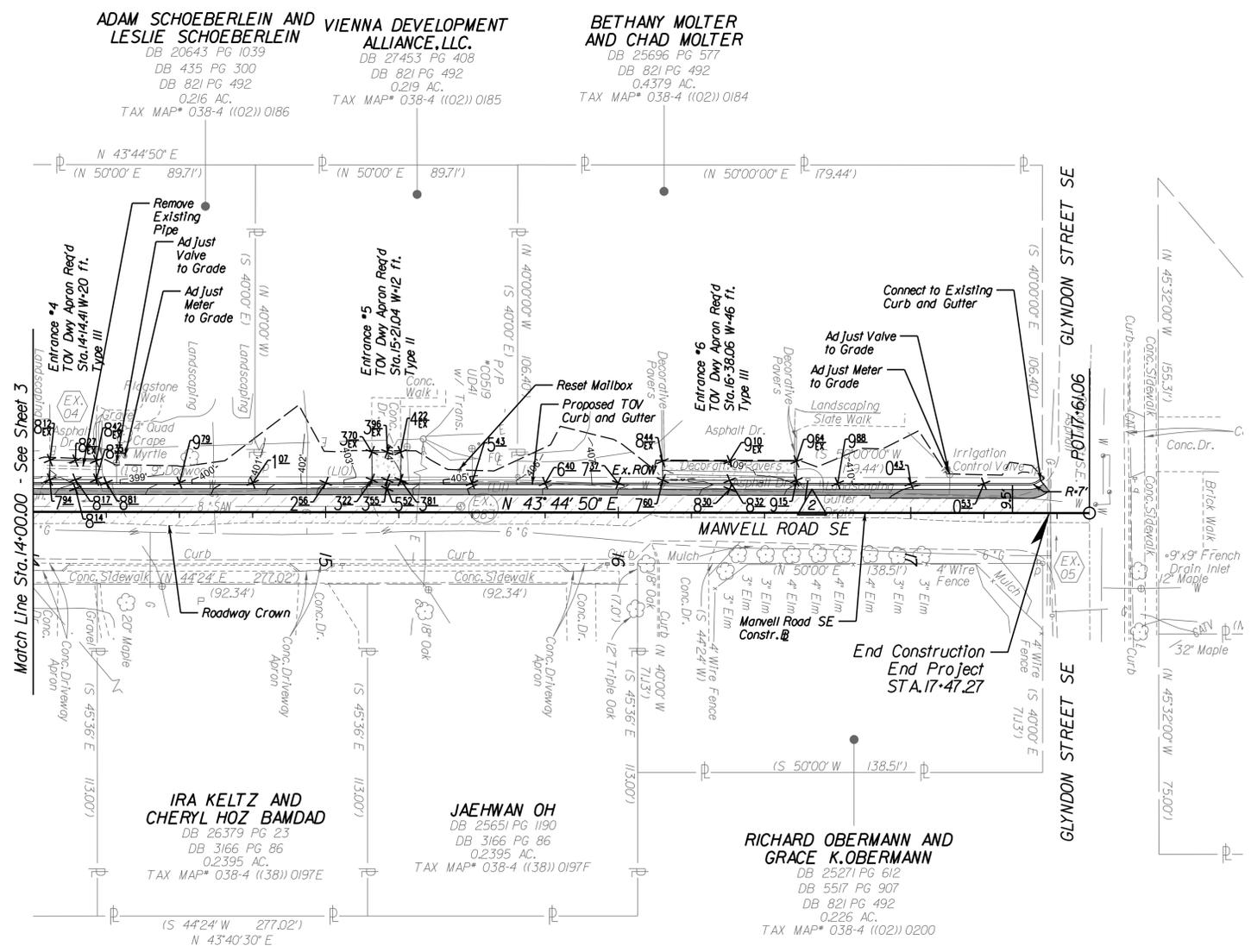
**MANVELL ROAD SE DRAINAGE IMPROVEMENTS**



**Whitman, Requardt & Associates, LLP**  
 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

**SITE PLAN**

SCALE: 1" = 25'	
DATE: 09/2024	SHEET 4
DES: WRA	CHECK: KO

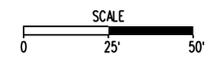


**LEGEND**

- Proposed Mill and Overlay
- Proposed Full Depth Pavement
- Proposed Concrete (Curb & Gutter, CG-12, Sidewalk, etc)
- Proposed CG-12 Detectable Warning Surface
- Limits of Disturbance

**NOTES:**  
 1. EXISTING FRENCH DRAIN OUTLET PIPES TO BE TRUNCATED TO DRAIN TOWARD PROPOSED STRUCTURE 3-I

- Relocate Water Meter
- Relocate Mailbox

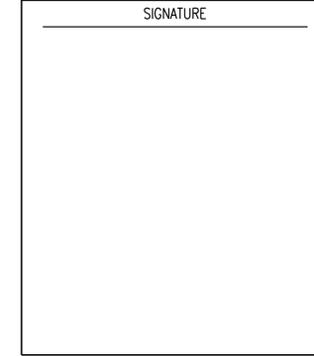
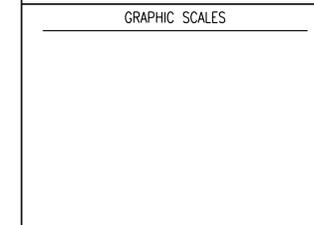
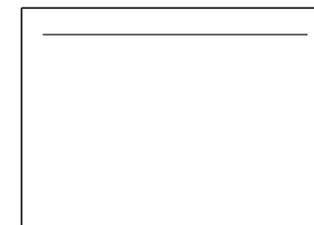


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 127 CENTER STREET SOUTH  
 VIENNA, VA, 22180



**MANVELL ROAD SE DRAINAGE IMPROVEMENTS**

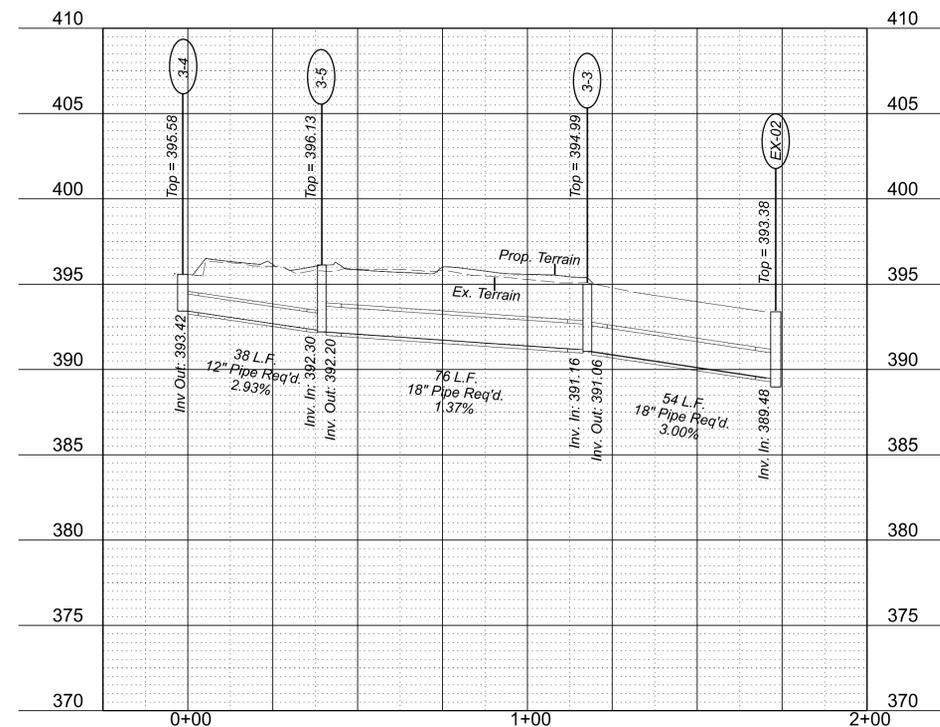



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**DRAINAGE PROFILES**

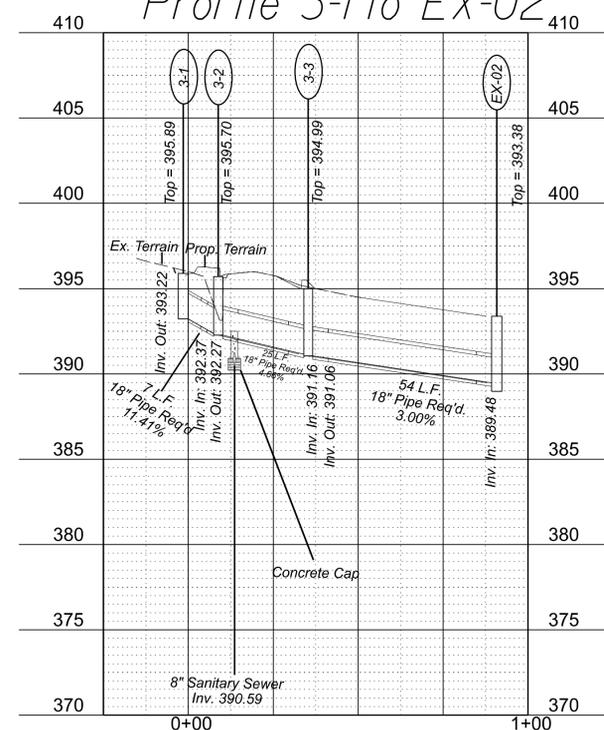
SCALE: \_\_\_\_\_  
 DATE: 09/2024 SHEET 4A  
 DES: WRA DRAWN: JZ CHECK: KO

Profile 3-4 to EX-02



- 3-4  
 1 ST'D DI-1 REQ'D  
 H = 2.17' INV.(OUT) 393.42  
 ST'D IS-1 REQ'D
- 3-4 TO 3-5  
 38 L.F.-12" STORM SEWER PIPE REQ'D  
 INV.(IN) 393.42 INV.(OUT) 392.30  
 SILT-TIGHT JOINT TYPE
- 3-5  
 1 ST'D DI-3B (L=6') REQ'D  
 H = 3.93' INV.(OUT) 392.20  
 ST'D IS-1 REQ'D
- 3-5 TO 3-3  
 76 L.F.-18" STORM SEWER PIPE REQ'D  
 INV.(IN) 392.20 INV.(OUT) 391.06  
 SILT-TIGHT JOINT TYPE
- 3-3  
 1 ST'D DI-3C (L=6') REQ'D  
 H = 3.93' INV.(OUT) 391.06  
 ST'D IS-1 REQ'D
- 3-3 TO EX-02  
 54 L.F.-18" STORM SEWER PIPE REQ'D  
 INV.(IN) 391.06 INV.(OUT) 389.48  
 SILT-TIGHT JOINT TYPE  
 REMOVE 54 L.F. EX.18" PIPE
- EX-02  
 MODIFY STR.TO ACCEPT PROP.18" PIPE

Profile 3-1 to EX-02



- 3-1  
 1 ST'D DI-1 REQ'D  
 H = 2.67' INV.(OUT) 393.22  
 ST'D IS-1 REQ'D
- 3-1 TO 3-2  
 7 L.F.-18" STORM SEWER PIPE REQ'D  
 INV.(IN) 393.22 INV.(OUT) 392.37  
 SILT-TIGHT JOINT TYPE
- 3-2  
 1 ST'D DI-3C (L=6') REQ'D  
 H = 3.43' INV.(OUT) 392.27  
 ST'D IS-1 REQ'D
- 3-2 TO 3-3  
 25 L.F.-18" STORM SEWER PIPE REQ'D  
 CONCRETE CAP REQ'D  
 INV.(IN) 392.27 INV.(OUT) 391.16  
 SILT-TIGHT JOINT TYPE  
 REMOVE 25 L.F. EX.18" PIPE  
 H (1.8') IS LESS THAN MINIMUM DEPTH



# EROSION AND SEDIMENT CONTROL NARRATIVE

## PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF SIDEWALK AND DRAINAGE IMPROVEMENTS FOR THE EXISTING MANVELL ROAD SE. IMPROVEMENTS INCLUDE CURB AND GUTTER, SIDEWALK, DRIVEWAY ENTRANCES, CURB RAMPS, AND DRAINAGE INLETS. THE TOTAL DISTURBED AREA FOR THE PROJECT IS 0.48 ACRES.

## EXISTING SITE CONDITIONS

THE SITE IS EXISTING ROADWAY, MANVELL ROAD SE, WITH CURB AND GUTTER, DRIVEWAY ENTRANCES, AND FRONT YARDS CONTAINING MAILBOXES, WATER METERS, TREES, FENCE, ETC.

## ADJACENT PROPERTIES

THE SITE IS SURROUNDED ON ALL SIDES BY SINGLE-FAMILY LOTS.

## OFF-SITE AREAS

THERE IS CONSTRUCTION ON OFF-SITE AREAS ADJACENT TO THE ROADWAY. EROSION AND SEDIMENT CONTROL DEVICES WILL BE PLACED OFFSITE AS SHOWN ON PLAN.

## SOILS INFORMATION

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS

## CRITICAL EROSION AREAS

THERE ARE NO CRITICAL AREAS ASSOCIATED WITH THIS PROJECT. NO SLOPES ARE GREATER THAN 20%, AND THERE ARE NOT RESOURCE PROTECTION AREAS WITHIN THE PROJECT LIMITS.

## EROSION AND SEDIMENT CONTROL MEASURES

THE EROSION AND SEDIMENT CONTROL MEASURES FOR THIS PROJECT ARE DESCRIBED IN DETAIL IN THE EROSION AND SEDIMENT CONTROL PROGRAM ON THIS SHEET.

## OVERALL MANAGEMENT STRATEGY

THE OVERALL STRATEGY FOR THIS SITE IS TO TREAT THE ONSITE RUNOFF WITH PERIMETER SILT FENCE AND INLET PROTECTION.

## EROSION CONTROL PROGRAM (GENERAL GUIDELINES)

NOT MORE THAN 75% OF THE SITE IS TO BE DENUDE AT ONE TIME. TEMPORARY SEEDING AND MULCHING ARE TO BE APPLIED TO ANY AREA WITHIN THE SITE NOT CONTINUOUSLY WORKED FOR 5 DAYS AFTER CLEARING AND ROUGH GRADING. IN ADDITION, THE CONTRACTOR SHALL TAKE THE FOLLOWING STEPS TO MINIMIZE THE VOLUME OF SILT:

- CONTRACTOR SHALL EVALUATE THE SITE TO DETERMINE EXTENSIVE CUT AND FILL AREAS AND SHALL WORK THOSE AREAS TO MINIMIZE THE EXTENT OF HEAVY EQUIPMENT WORK. CONTRACTOR SHALL STRIVE TO BRING AREAS TO GRADE (ROUGH OF FINISH) AND TO STABILIZE, BY TEMPORARY OR PERMANENT VEGETATION, THESE DISTURBED AREAS PRIOR TO BEGINNING WORK IN OTHER AREAS.
- FILL AREAS SHALL BE COMPACTED COMPLETELY PRIOR TO THE END OF EACH WORK DAY. FILL SLOPE SURFACES SHALL BE LEFT ROUGHENED TO REDUCE SHEET EROSION OF THE SLOPES. CONTRACTOR SHALL REDIRECT CONCENTRATED RUNOFF, BY EARTH BERMS OR OTHER DEVICES, AROUND ACTIVELY DISTRIBUTED AREAS TO STABILIZE OUTLETS.
- CUT SLOPE, AS NECESSARY, SHALL BE PROTECTED FROM CONCENTRATED FLOW BY BERMS ABOVE THE SLOPE AND DIRECTED AROUND THE DISTURBED AREA TO STABILIZED OUTLETS.
- IN NEW PAVEMENT AREAS, PLACE THE AGGREGATE BASE STONE ON THE FINISHED SUBGRADE AT THE EARLIEST POSSIBLE TIME.
- MATERIALS AND METHODS USED IN CONSTRUCTION AND MAINTENANCE OF THE EROSION AND SEDIMENT CONTROL MEASURES REQUIRED SHALL CONFORM TO THE CONSTRUCTION STANDARDS AND SPECIFICATIONS IN CHAPTER 3 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), THIRD EDITION, 1992, AS WELL AS ANY OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
- WHERE APPROPRIATE AND FEASIBLE, AREAS IN WHICH NATURAL GRADES ARE NOT IMPACTED BY PROPOSED GRADING OR STOCKPILE AREAS, SHALL BE LEFT WITH THEIR EXISTING VEGETATION IN PLACE. ALL AREAS SUBJECT TO GRADING SHALL BE SEEDED AND MULCHED AS SOON AS PRACTICAL.
- PERMANENT OR SOIL STABILIZATION SHALL BE APPLIED TO DENUDE 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 DENUDE 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 1 YEAR.

## SEDIMENT CONTROL PROGRAM (PHASE 1)

- INSTALL PERIMETER CONTROLS AS SHOWN ON THE PHASE 1 PLAN SHEET 6A AND 6B (SILT FENCE, INLET PROTECTION, ETC.)
- PERIMETER CONTROLS MUST BE APPROVED IN WRITING BY THE TOWN E&S INSPECTOR BEFORE CLEARING OF THE SITE CAN TAKE PLACE.
- BEGIN GRADING OF PROJECT SITE AND RELOCATION OF UTILITIES, IF NECESSARY.

## SEDIMENT CONTROL PROGRAM (PHASE 2)

- BEGIN CONSTRUCTION OF SIDEWALK, DRIVEWAY ENTRANCES, PAVEMENT AND CURB AND GUTTER.
- INLET PROTECTION (IP) INSTALLED DURING PHASE 1 SHALL BE ROUTINELY INSPECTED AND REPLACED IF NECESSARY.
- PERMANENTLY STABILIZE UNPAVED AREAS WITH SOD (PER SEC. 3.33 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK).
- THE CONTROL MEASURES MAY NOT BE REMOVED UNTIL ALL OF THE DISTURBED AREAS HAVE BEEN STABILIZED AND ONLY AS APPROVED AND DIRECTED BY THE INSPECTOR.

## MAINTENANCE

THE FOLLOWING IS A PROGRAM OF MAINTENANCE FOR THE MECHANICAL AND PERMANENT CONTROLS SPECIFIED IN THIS NARRATIVE AND ON THE PLAN:

- THE SITE SUPERINTENDENT, OR HIS REPRESENTATIVE, SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E., SEEDED OR SODDED AREAS) ON A DAILY BASIS (ESPECIALLY AFTER A HEAVY RAINFALL) TO ENSURE THAT ALL CONTROLS ARE IN PLACE AND THAT NONE HAVE BEEN DAMAGED. ANY DAMAGED CONTROL SHALL BE REPAIRED PRIOR TO THE END OF THE WORK DAY TO INCLUDE RESEEDING OR RESETTING, IF NECESSARY. WHEN IT IS CLEAR THAT PLANTS HAVE NOT GERMINATED ON AN AREA OR HAVE DIED, THESE AREAS MUST BE RE-SEEDING IMMEDIATELY TO PREVENT EROSION DAMAGE.
- AFTER ALL CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS ARE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GROUND SHALL BE RESTORED ESTABLISHMENT OF VEGETATION, TO ITS NATURAL OR PROPOSED CONDITION. REMOVAL OF ANY CONTROL IS CONTINGENT UPON APPROVAL BY THE TOWN INSPECTOR.

## PERMANENT STABILIZATION

AFTER CONSTRUCTION IS COMPLETE ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IN ACCORDANCE WITH SEC. 3.32 AND 3.35 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

## STORMWATER MANAGEMENT

N/A

## ADDITIONAL NOTES

- THE TOWN INSPECTOR SHALL HAVE THE AUTHORITY TO DIRECT THE ADDITION OR DELETION OF EROSION AND SEDIMENT CONTROLS AS SITE CONDITIONS WARRANT.
- EARTHEN STRUCTURES ARE TO BE STABILIZED IMMEDIATELY UPON COMPLETION.

## EROSION AND SEDIMENT CONTROL MEASURES

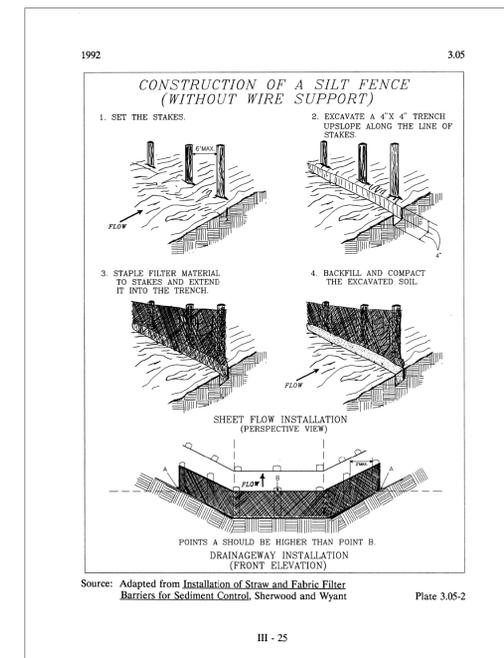
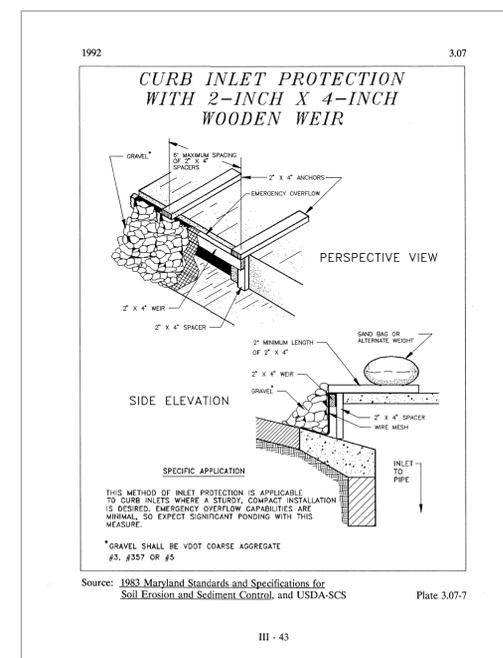
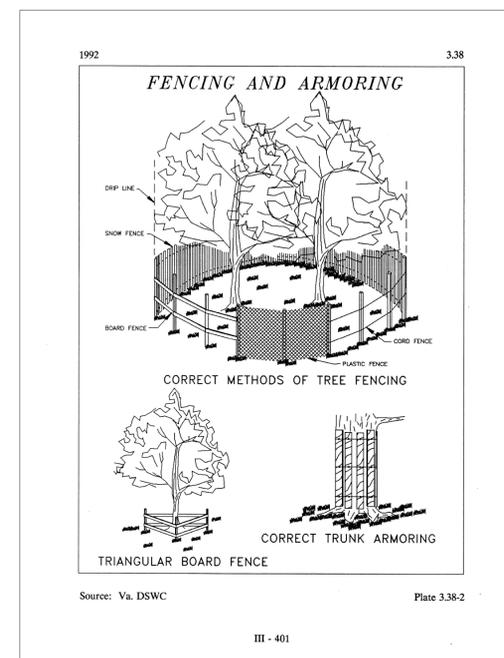
UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VESCH.

THE STRUCTURAL PRACTICES PROPOSED WITH THIS PLAN ARE AS FOLLOWS:

- SILT FENCE - 3.05**  
A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED.
- STORM DRAIN INLET PROTECTION - 3.07**  
A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.
- TOPSOIL - 3.30**  
PRESERVING AND REUSING THE SURFACE LAYER OF SOIL FROM AREAS TO BE GRADED.
- TEMPORARY SEEDING - 3.31**  
THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS.
- SODDING - 3.33**  
STABILIZING FINE-GRADED DISTURBED AREAS BY ESTABLISHING PERMANENT GRASS STANDS WITH SOD.
- MULCHING - 3.35**  
APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE.
- TREE PROTECTION - 3.38**  
PROTECTION OF DESIRABLE TREES FROM MECHANICAL AND OTHER INJURY DURING LAND DISTURBING AND CONSTRUCTION ACTIVITY.
- DUST CONTROL - 3.39**  
REDUCING SURFACE AND AIR MOVEMENT OF DUST DURING LAND DISTURBING, DEMOLITION, AND CONSTRUCTION ACTIVITIES, BY SPRAYING FROM A WATER TRUCK OR OTHER APPROVED METHOD.

# GENERAL LAND CONSERVATION NOTES

- ALL LAND CONSERVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
- NO DISTURBED AREA WILL REMAIN DENUDE FOR MORE THAN 14 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE TOWN.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
- ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN 5 DAYS AFTER BACKFILL.
- ALL TEMPORARY EARTH BERMS, AND DIVERSIONS ARE TO BE MULCHED AND SEEDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED. THE SAME APPLIES TO ALL SOIL STOCKPILES.
- DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
- AT THE COMPLETION OF CONSTRUCTION, ALL TEMPORARY SILTATION AND EROSION CONTOLS SHALL BE REMOVED AND ALL DISTURBED AREAS SHALL BE STABILIZED.



REVISIONS	

CLIENT INFORMATION  
**TOWN OF VIENNA, VA**  
127 CENTER STREET SOUTH  
VIENNA, VA, 22180



## MANVELL ROAD SE DRAINAGE IMPROVEMENTS

## GRAPHIC SCALES

## SIGNATURE



**Whitman, Requardt & Associates, LLP**  
12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

## EROSION AND SEDIMENT CONTROL NARRATIVE AND DETAILS

SCALE: N/A

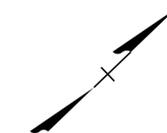
DATE: 09/2024

SHEET 5

DES: WRA

DRAWN: JZ

CHECK: KO



REVISIONS	

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 127 CENTER STREET SOUTH  
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**MANVELL ROAD SE DRAINAGE IMPROVEMENTS**

GRAPHIC SCALES

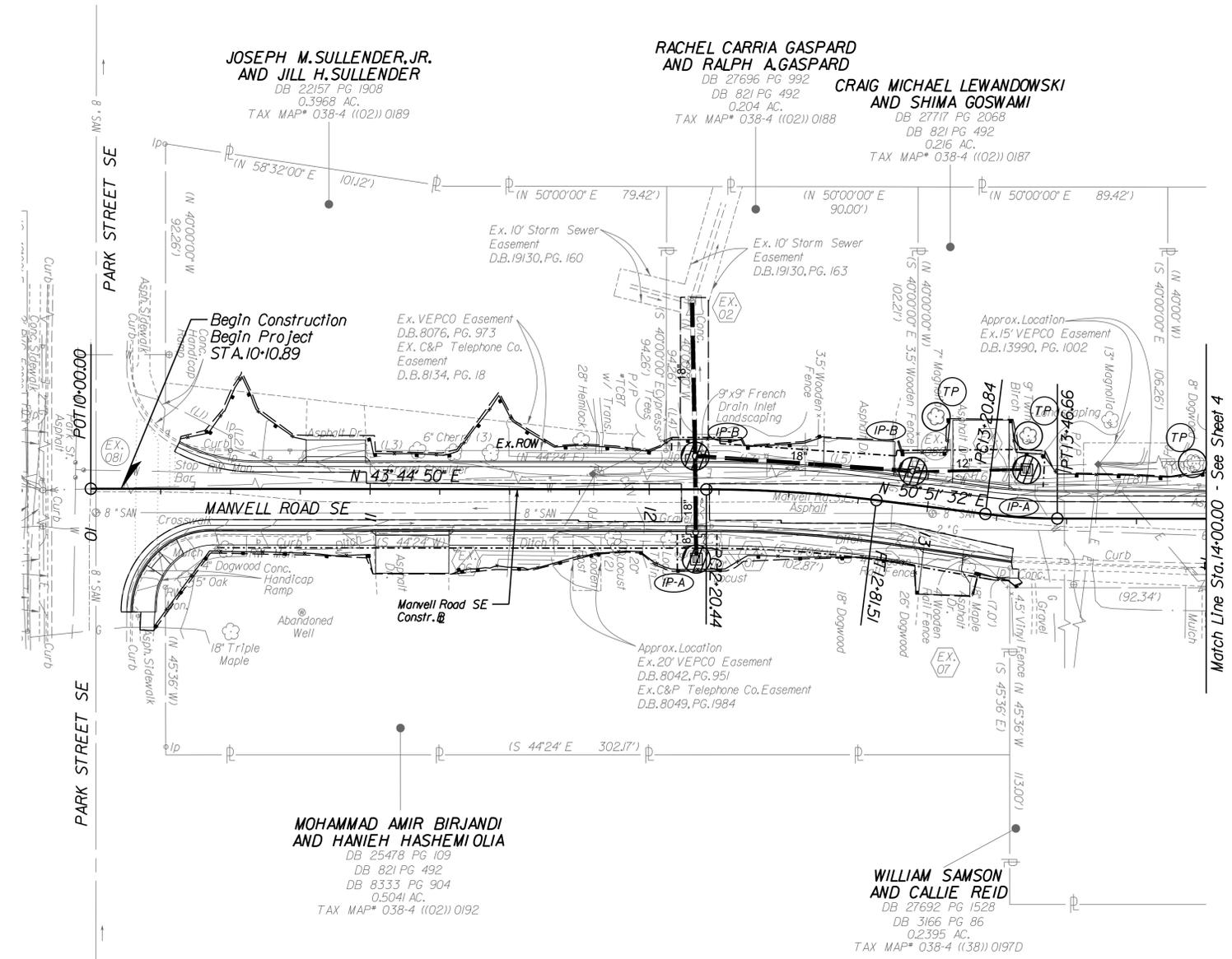
SIGNATURE



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 12700 Fair Lakes Circle, Suite 300, Fairfax, Virginia 22033

**EROSION AND SEDIMENT CONTROL**

SCALE: 1" = 25'  
 DATE: 09/2024 SHEET: 5A  
 DES: WRA DRAWN: JZ CHECK: KO



- LEGEND**
- Denotes Limit of Disturbance
  - IP-A IP-B Denotes Inlet Protection, IP-A VESCH 3.07-1, IP-B VESCH 3.07-8
  - TSF Denotes Temporary Silt Fence
  - TP Denotes Tree Protection

