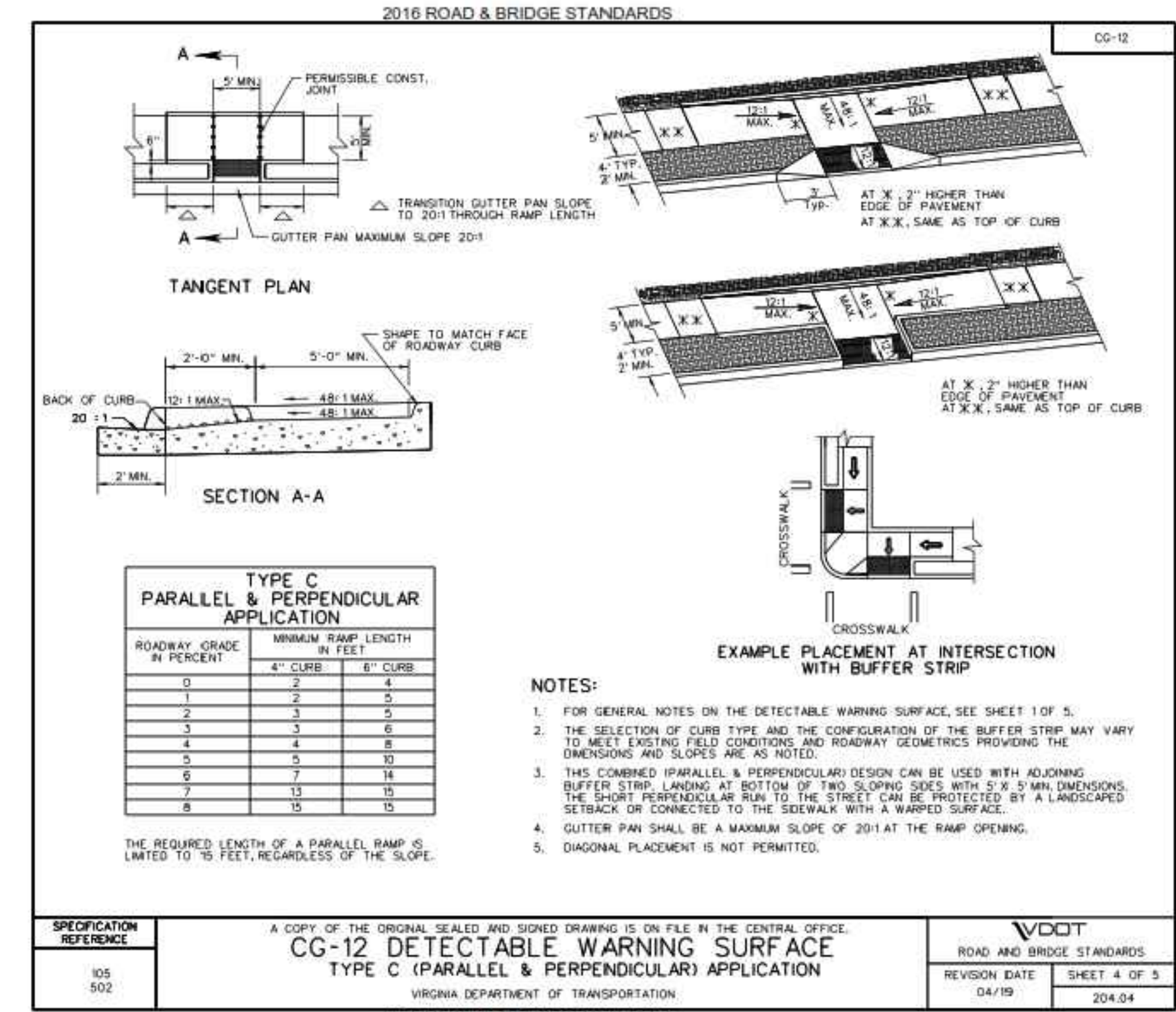
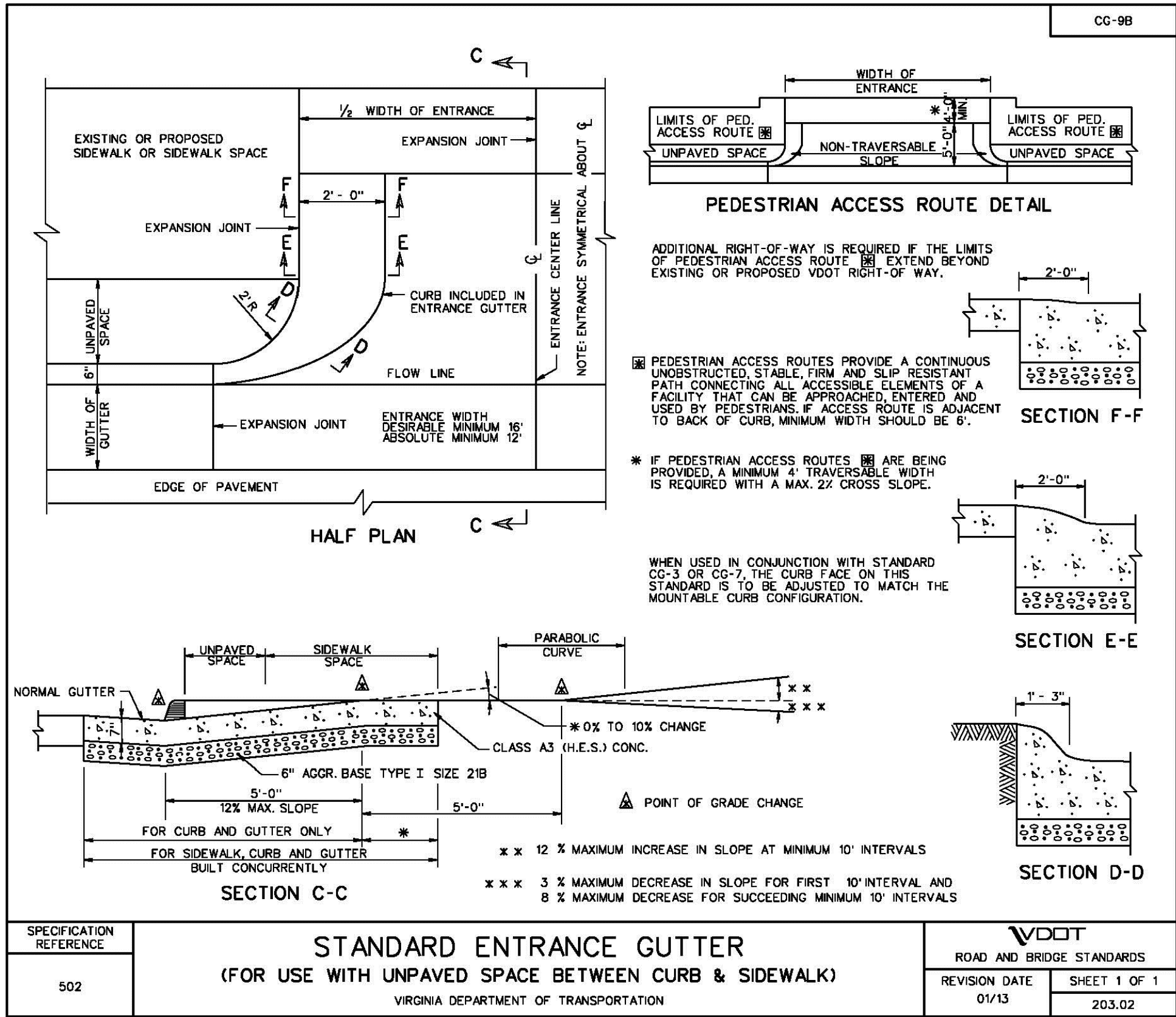
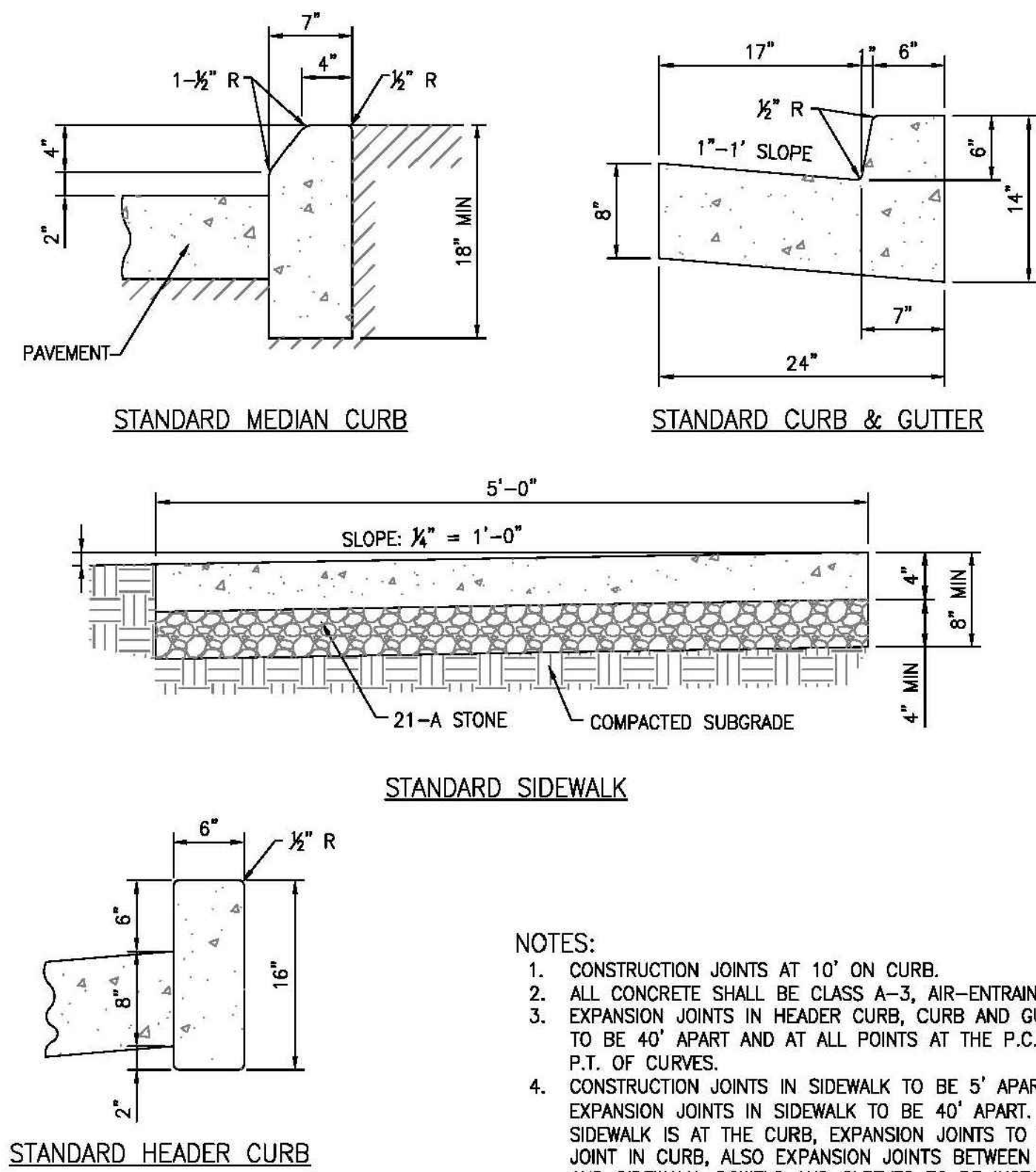
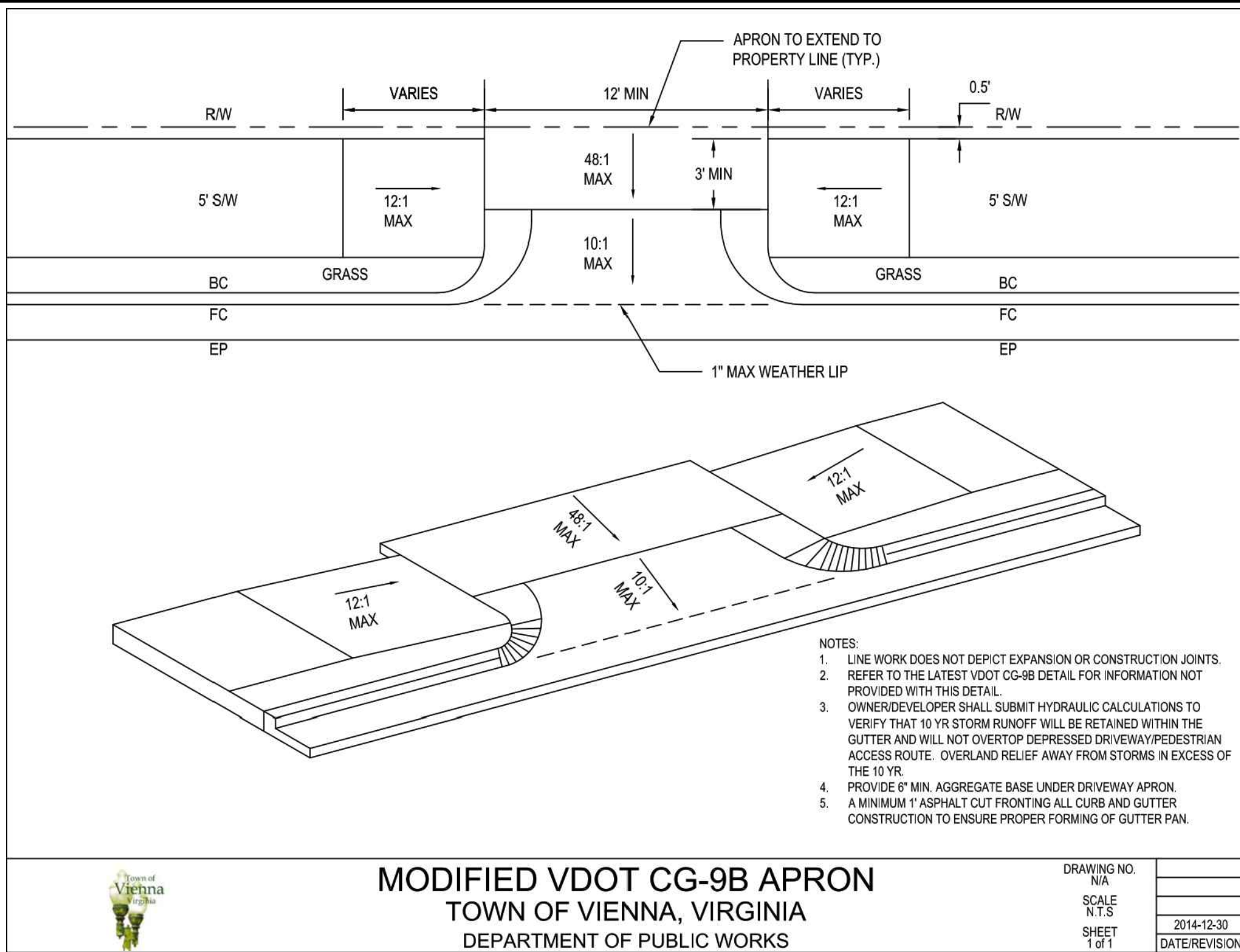
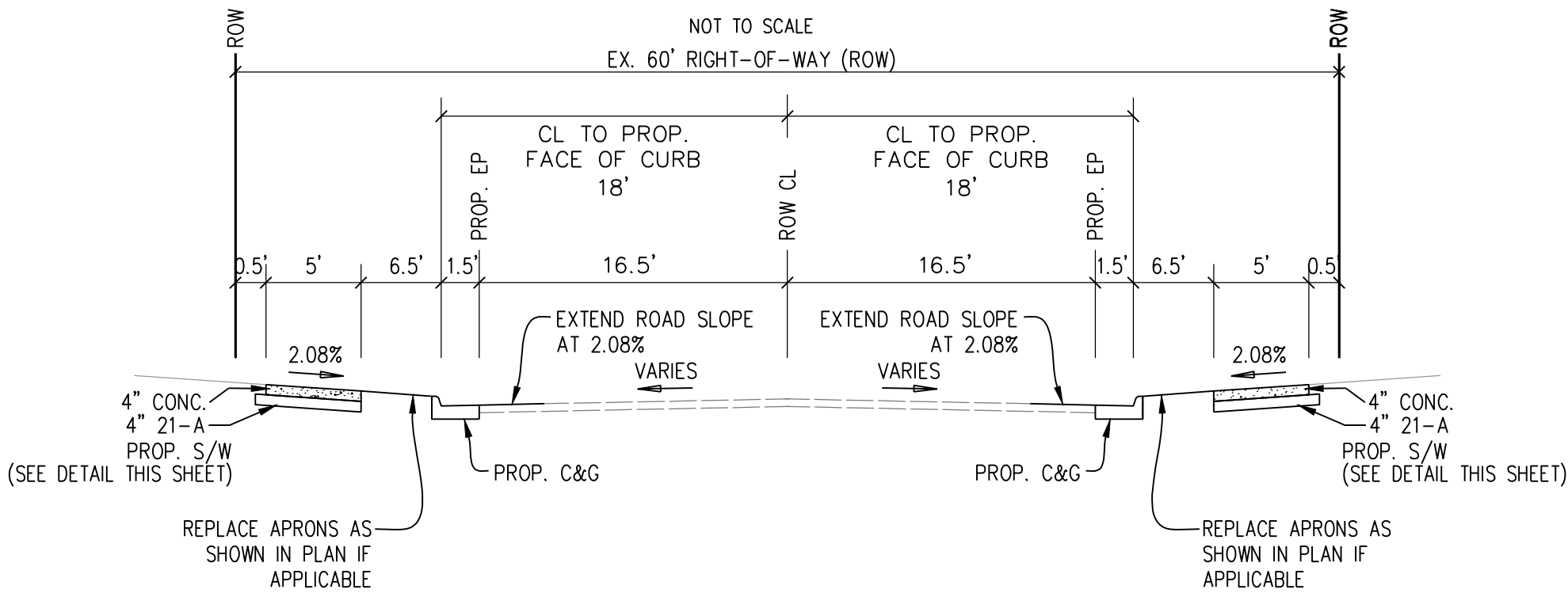




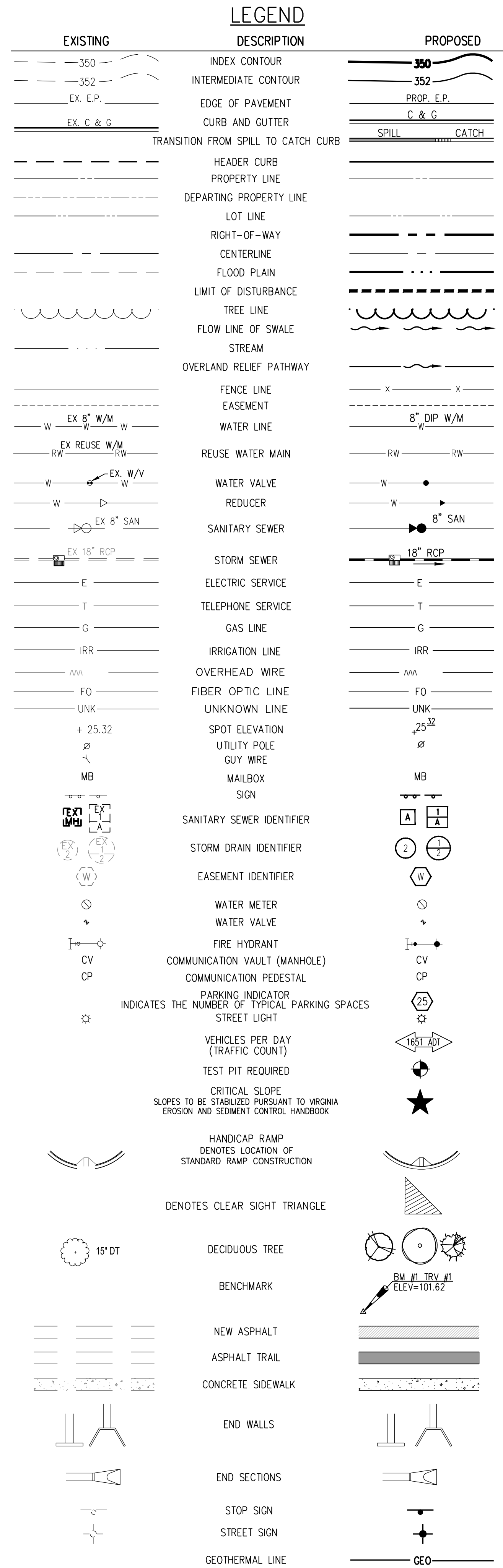
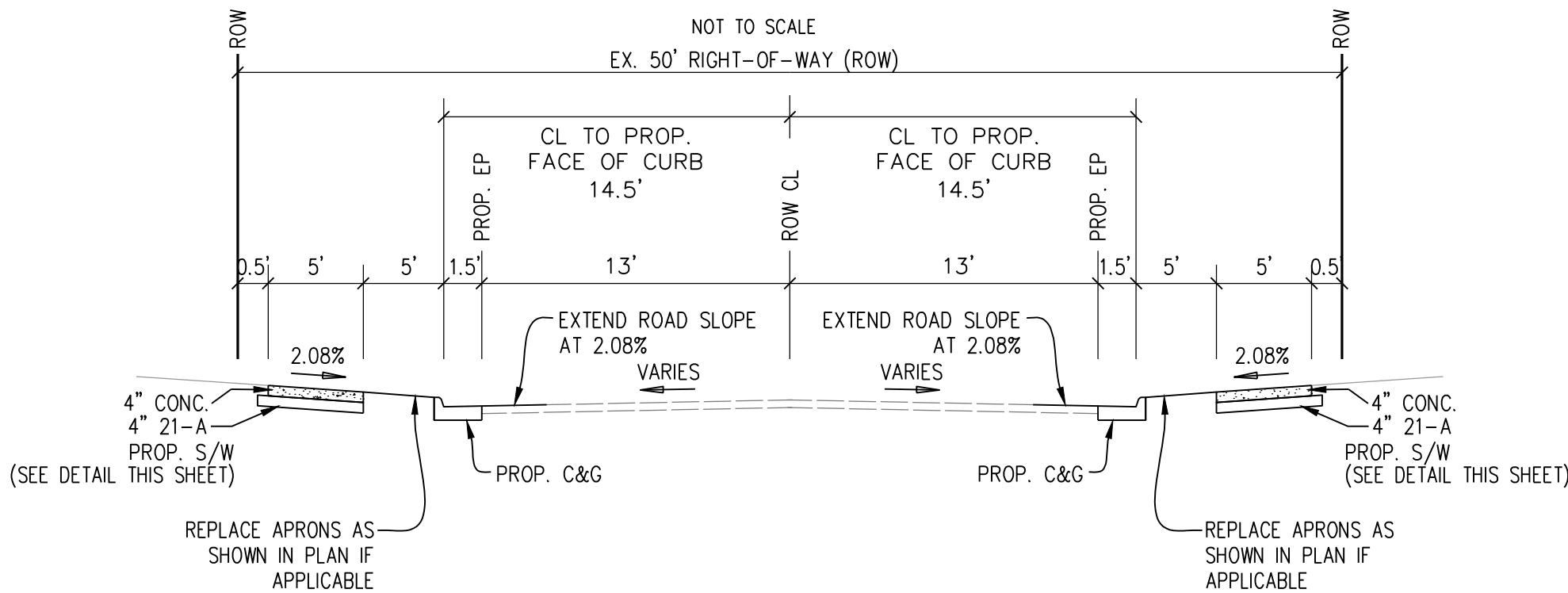
CHURCH STREET N.E.



STANDARD CURB, GUTTER & SIDEWALK
TOWN OF VIENNA
DEPARTMENT OF PUBLIC WORKS

PREPARED: 11-10-2010
REVISED: 5-18-2011

GLYNDON STREET N.E.



PLAN DATE: 05-08-2023
05-29-2024

Urban, Ltd.
7712 Lakeside Drive
Arlington, Virginia 22203
Tel: 703.642.8080
Fax: 703.642.8251
www.urban-llc.com

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COMMONWEALTH OF VIRGINIA
C. RYAN CONNOR
Lic. No. 039531
05/29/2024
PROFESSIONAL ENGINEER

NOTES AND DETAILS
CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

DATE: APRIL, 2023
SCALE: N/A
C.I. N/A

SHEET 2 OF 16
FILE No. PP-2617



SHEETS 4,6,10&12

SHEETS 4,6,10&12

SHEETS
5,7,11&13

SHEETS
5,7,11&13

OVERVIEW

CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

DATE: APRIL, 2023

SCALE: 1"=50'

PLAN DATE

05-08-2023
05-29-2024

Urban, Ltd.

7712 Little River Turnpike
Suite 200
Fairfax, VA 22033
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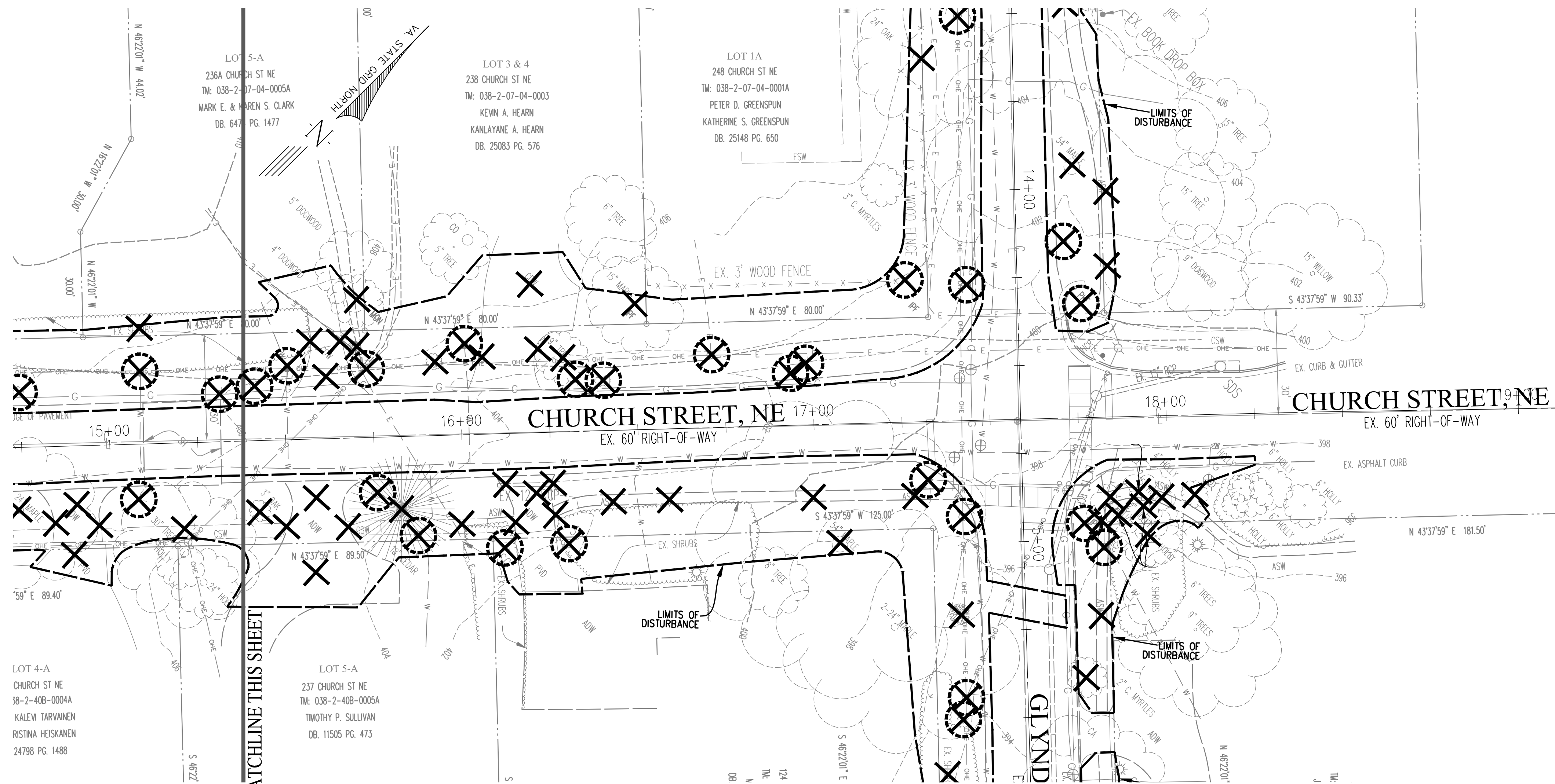
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05/29/2024

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REVISIONS

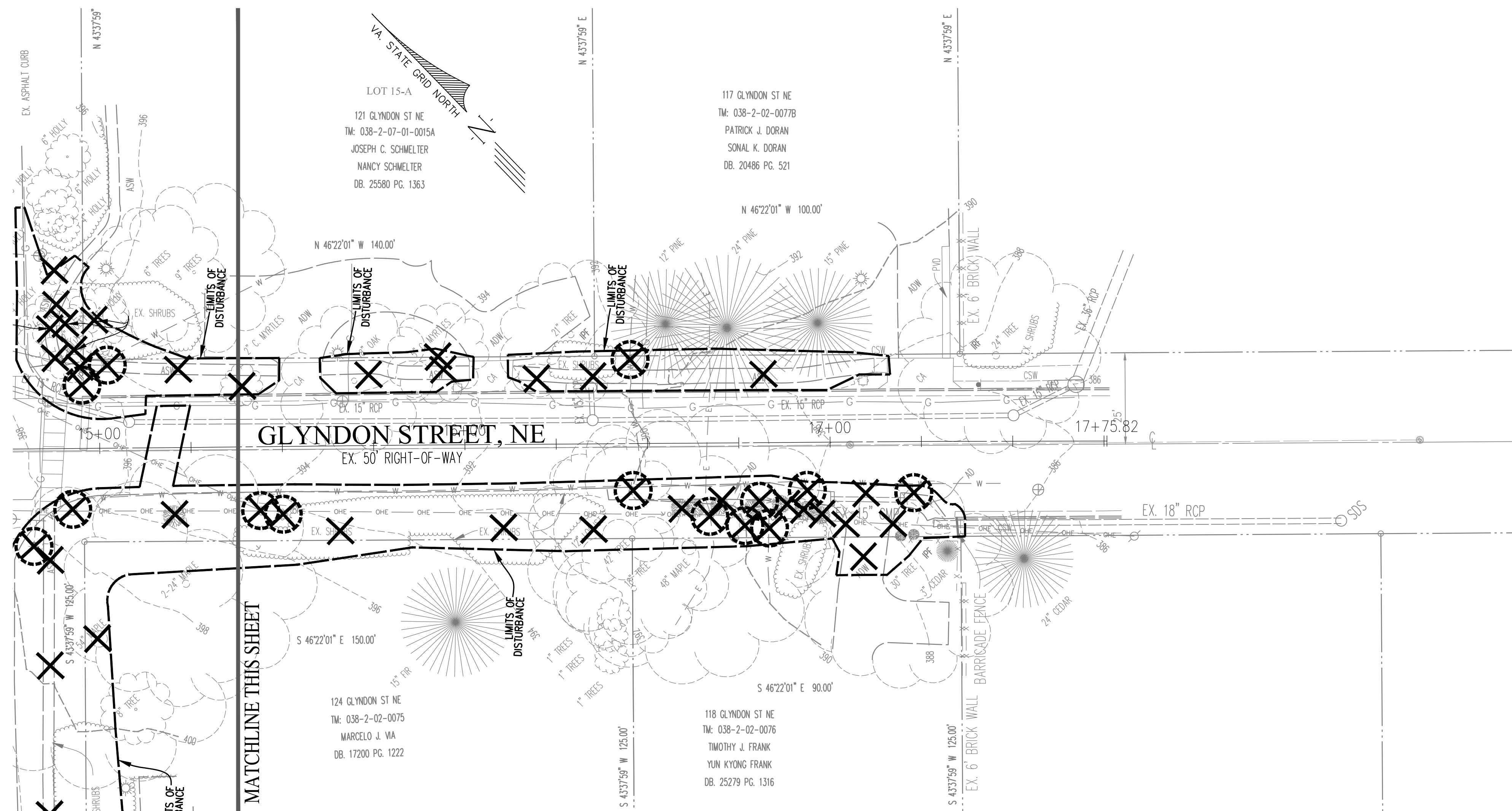
No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE
2	5/29/24	95% DESIGN CONSTRUCTION PLAN			
1	5/8/23	30% DESIGN CONSTRUCTION PLAN			



- ✕ ITEM TO BE REMOVED
- ⊗ ITEM TO BE RELOCATED
SEE SITE PLAN FOR
NEW LOCATION

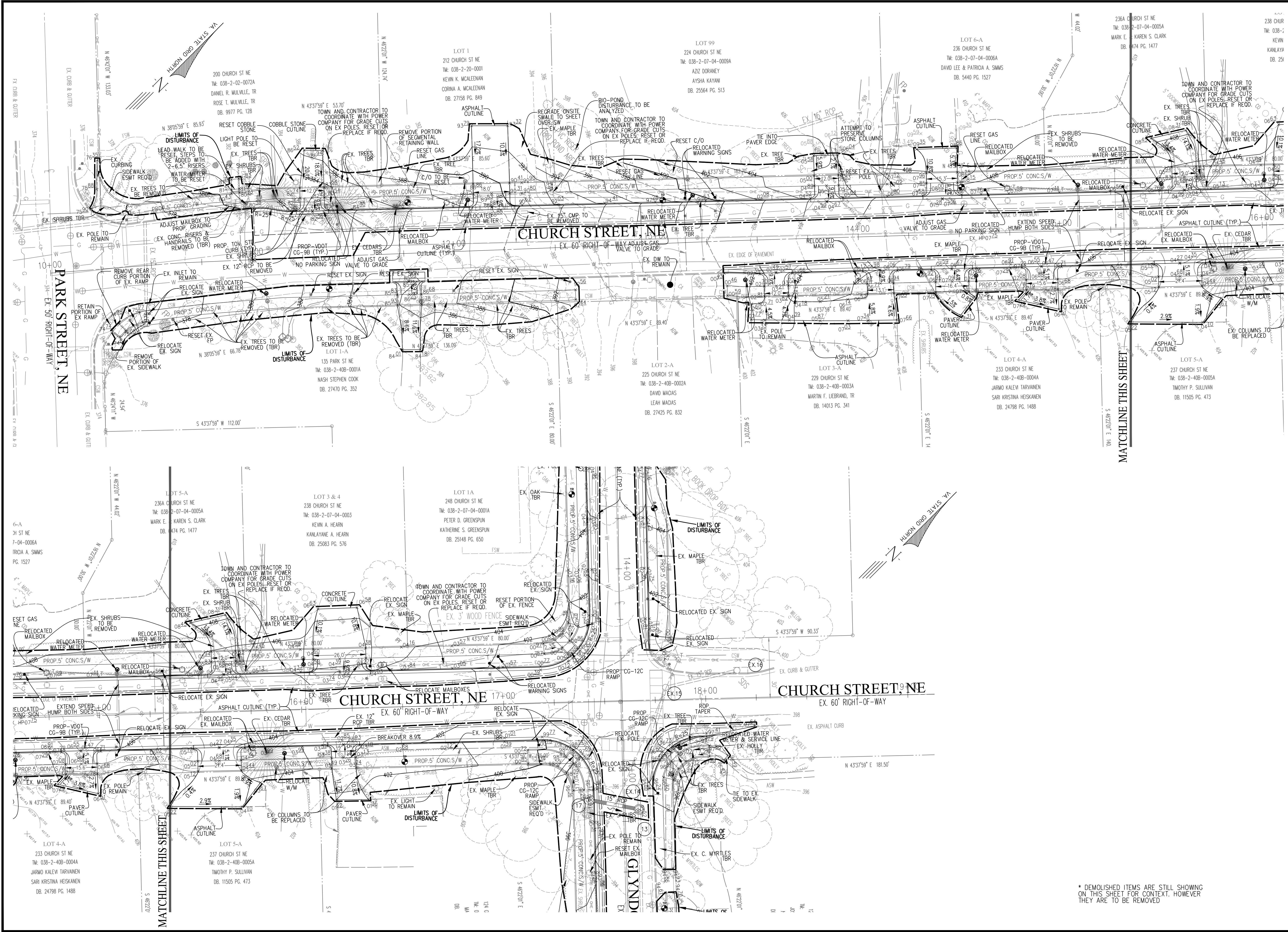
SHEET
4
OF
16

FILE No.
PP-2617



- ✕ ITEM TO BE REMOVED
- ⊗ ITEM TO BE RELOCATED
SEE SITE PLAN FOR
NEW LOCATION

SHEET 5 OF 16	EXISTING CONDITIONS AND DEMOLITION PLAN
FILE No. PP-2617	CHURCH STREET, N.E. SIDEWALK IMPROVEMENT PLAN TOWN OF VIENNA FAIRFAX COUNTY, VIRGINIA
	SCALE: 1"=20' C.I. 1" DATE: APRIL, 2023



REVISIONS	
No.	DATE
1	5/29/24
2	5/29/24

PLAN DATE	DATE
05-08-2023	05-29-2024

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COMMONWEALTH OF VIRGINIA
C. RYAN CONNOR
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05/29/2024
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SITE PLAN - CHURCH STREET
CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

DATE: APRIL, 2023
CL. 1"
SCALE: 1"=20'

SHEET
6
OF
16
FILE No.
PP-2617

* DEMOLISHED ITEMS ARE STILL SHOWING
ON THIS SHEET FOR CONTEXT. HOWEVER
THEY ARE TO BE REMOVED

GLYNDON STREET EAST BOUND LANE										
Sta	Existing Crown Elevation	Existing EP Width from Existing Crown	Existing EP Elevation	Existing Xslope from Existing Crown	Existing Longitude Slope	Proposed EP Width from Existing Crown	Proposed Xslope	Prop EP Elevation	Prop. EP Longitude Slope	Prop. TC Elevation
1048.15	391.29	11	390.76	-4.82%	3.94%	14.11	-4.82%	390.61	N/A	390.99
1050	391.36	10.96	390.84	-4.74%	3.78%	14.09	-4.74%	390.69	4.40%	391.07
1075	392.31	10.48	391.90	-3.91%	3.80%	14.00	-3.91%	391.76	4.28%	392.14
1100	393.14	10.39	392.69	-4.33%	3.32%	13.90	-4.33%	392.54	3.10%	392.92
1113.53	393.63	10.35	393.16	-4.54%	3.62%	13.89	-4.54%	393.00	3.41%	393.38
1125	394.09	10.36	393.68	-3.96%	4.01%	13.95	-3.96%	393.54	4.70%	N/A
1136.79	394.56	10.36	394.22	-3.28%	3.99%	14.00	-3.28%	394.10	4.77%	394.48
1150	395.20	10.40	394.94	-2.50%	4.84%	14.01	-2.50%	394.85	5.67%	395.23
1152.52	395.34	10.42	395.07	-2.59%	5.56%	14.00	-2.59%	394.98	5.06%	395.36
1168.52	396.23	10.57	395.88	-3.31%	5.56%	13.97	-3.31%	395.77	4.94%	396.15
1175	396.59	10.62	396.21	-3.58%	5.56%	13.95	-3.58%	396.09	4.99%	396.47
1200	398.03	10.61	397.86	-1.60%	5.76%	13.93	-1.60%	397.81	6.86%	398.19
1225	399.67	10.64	399.50	-1.60%	6.56%	13.94	-1.60%	399.45	6.56%	399.83
1250	401.36	10.61	401.15	-1.98%	6.36%	13.89	-1.98%	401.09	6.55%	401.47
1275	402.96	10.46	402.77	-1.82%	6.44%	13.81	-1.82%	402.71	6.50%	403.09
1275.48	402.99	10.46	402.79	-1.91%	6.25%	13.81	-1.91%	402.73	3.50%	403.11
1291.4	403.88	10.40	403.67	-2.02%	4.52%	13.80	-2.02%	403.60	5.05%	403.98
1300	404.28	10.42	404.08	-1.92%	4.65%	13.82	-1.92%	404.01	4.81%	404.40
1325	405.12	10.50	404.80	-3.05%	3.36%	13.85	-3.05%	404.70	2.73%	405.08
1330	405.29	10.59	405.04	-2.36%	0.68%	13.82	-2.36%	404.96	1.06%	405.35
1375	404.02	11.03	403.95	-0.63%	-5.08%	13.67	-0.63%	403.93	-4.12%	404.31
1400	402.68	11.56	402.35	-2.85%	-5.36%	13.52	-2.85%	402.29	-6.56%	402.68
1422.62	401.34	11.78	401.02	-2.72%	-5.92%	13.52	-2.72%	400.97	-5.84%	401.35
1425	401.20	11.77	400.89	-2.63%	-5.88%	13.62	-2.63%	400.84	-5.54%	401.22
1508.96	395.94	12.74	395.80	-1.10%	-6.26%	13.74	-1.10%	395.79	-6.02%	396.17
1525	395.38	12.44	394.97	-3.30%	-8.32%	13.78	-3.30%	394.93	-5.38%	395.31
1550	394.51	12.41	393.93	-4.67%	-3.48%	13.88	-4.67%	393.86	-4.26%	394.24
1575	394.09	12.76	392.89	-9.40%	-1.68%	14.00	-9.40%	392.77	-4.35%	393.16
1600	392.45	12.76	391.87	-4.55%	-6.56%	14.04	-4.55%	391.81	-3.85%	392.19
1625	391.08	12.42	390.88	-1.61%	-5.48%	14.05	-1.61%	390.85	-3.83%	391.24
1650	389.81	11.84	389.83	0.17%	-5.08%	14.06	0.17%	389.83	-4.08%	390.22
1675	388.90	11.25	388.75	-1.33%	-3.64%	14.09	-1.33%	388.71	-4.49%	389.09
1700	388.01	13.28	387.84	-1.28%	-3.56%	14.11	-1.28%	387.83	-3.53%	388.21
1701.86	387.95	13.35	387.78	-1.27%	-3.23%	14.11	-1.27%	387.77	-3.17%	388.15
1717.86	387.42	13.92	387.19	-1.65%	-3.31%	14.13	-1.65%	387.19	-3.65%	387.57
1725	387.18	14.63	386.91	-1.85%	-3.36%	15.62	-1.85%	386.89	-4.13%	387.27
1734.18	386.90	19.39	386.53	-1.91%	-3.05%	N/A	N/A	N/A	N/A	N/A
1750	386.44	19.20	386.09	-1.82%	-2.96%	N/A	N/A	N/A	N/A	N/A
1775	385.80	19.14	385.39	-2.14%	-2.56%	N/A	N/A	N/A	N/A	N/A

CHURCH STREET SOUTH BOUND LANE											
Station	Existing Crown Elevation	Existing EP Width from Existing Crown	Existing EP Elevation	Existing Xslope from Existing Crown	Existing Longitude Slope	Proposed EP Width from Existing Crown	Proposed Crown Elevation	Proposed Xslope	Prop EP Elevation	Prop. EP Longitude Slope	Prop. TC Elevation
1100	380.51	23.79	379.89	-2.61%	8.32%	N/A	N/A	N/A	N/A	N/A	N/A
1101.6	380.65	23.85	380.00	-2.73%	8.75%	23.85	N/A	-2.73%	380.00	N/A	380.38
1122.78	382.33	15.67	382.61	1.79%	7.93%	21.53	382.33	-2.08%	381.88	8.89%	382.26
1125	382.50	14.87	382.91	2.76%	7.66%	21.48	382.50	-2.08%	382.05	7.70%	382.43
1138.41	383.52	12.96	383.86	2.62%	7.61%	21.23	383.52	-2.08%	383.08	7.65%	383.46
1150	384.36	13.10	384.62	1.22%	7.25%	21.06	384.36	-2.08%	383.92	7.28%	384.30
1175	386.20	13.19	385.97	-1.74%	7.36%	20.69	N/A	-1.74%	385.84	7.67%	386.22
1200	388.08	13.10	387.57	-3.89%	7.52%	20.33	N/A	-3.89%	387.29	5.80%	387.67
1208.12	388.72	12.92	388.24	-3.72%	7.68%	20.21	N/A	-3.72%	387.97	8.38%	388.35
1225	390.05	12.77	389.66	-3.05%	7.88%	19.95	N/A	-3.05%	389.44	8.72%	389.82
1230.49	390.49	12.72	390.10	-3.07%	8.01%	19.88	N/A	-3.07%	389.88	8.01%	390.26
1250	392.22	12.42	391.86	-2.90%	8.87%	19.58	N/A	-2.90%	391.65	9.08%	392.03
1275	394.62	11.69	394.26	-3.08%	9.60%	19.19	N/A	-3.08%	394.03	9.51%	394.41
1300	397.22	11.19	397.03	-1.70%	9.68%	18.81	N/A	-1.70%	396.90	11.49%	397.28
1325	399.88	10.93	399.45	-3.93%	10.64%	18.43	N/A	-3.93%	399.15	9.02%	399.53
1350	402.30	10.86	401.94	-3.31%	9.68%	18.15	N/A	-3.31%	401.70	10.17%	402.08
1375	404.41	11.06	404.14	-2.44%	8.44%	17.99	N/A	-2.44%	403.97	9.09%	404.35
1376.92	404.55	11.08	404.30	-2.26%	7.29%	17.98	N/A	-2.26%	404.14	9.04%	404.52
1392.92	405.69	11.14	405.42	-2.42%	7.12%	17.88	N/A	-2.42%	405.26	6.95%	405.64
1400	406.19	11.12	405.83	-3.24%	7.06%	17.84	N/A	-3.24%	405.81	5.03%	405.99
1425	407.15	11.42	407.04	-0.96%	3.84%	17.68	N/A	-0.96%	406.98	5.47%	407.36
1432.53	407.43	11.69	407.28	-1.28%	3.72%	17.64	N/A	-1.28%	407.20	2.97%	407.58
1450	407.67	12.18	407.63	-0.33%	1.37%	17.55	N/A	-0.33%	407.61	2.34%	N/A
1451.73	407.68	12.16	407.61	-0.58%	0.58%	17.54	N/A	-0.58%	407.58	-1.93%	407.96
1461.1	407.75	12.06	407.51	-1.99%	0.75%	18.54	N/A	-1.99%	407.38	-2.11%	407.76
1475	407.61	11.82	407.37	-2.03%	-1.01%	19.54	N/A	-2.03%	407.21	-1.21%	407.59
1500	407.08	11.83	406.84	-2.03%	-2.12%	17.31	N/A	-2.03%	406.73	-1.94%	407.11
1525	406.40	11.94	406.25	-1.26%	-2.72%	17.19	N/A	-1.26%	406.18	-2.18%	406.56
1550	405.68	12.06	405.47	-1.74%	-2.88%	17.07	N/A	-1.74%	405.38	-3.21%	405.76
1553.93	405.57	12.09	405.36	-1.74%	-2.80%	17.05	N/A	-1.74%	405.27	-2.77%	405.65
1570.01	405.11	12.17	404.94	-1.40%	-2.86%	16.97	N/A	-1.40%	404.87	-2.49%	405.25
1575	404.97	12.20	404.81	-1.31%	-2.81%	16.94	N/A	-1.31%	404.75	-2.51%	405.13
1600	404.30	12.31	404.07	-1.87%	-2.68%	16.82	N/A	-1.87%	403.99	-3.05%	404.37
1604.44	404.20	12.28	403.99	-1.71%	-2.25%	16.80	N/A	-1.71%	403.91	-1.64%	404.29
1625	403.75	12.15	403.65	-0.82%	-2.19%	16.70	N/A	-0.82%	403.61	-1.46%	403.99
1634.37	403.54	12.09	403.62	0.66%	-2.24%	16.65	N/A	0.66%	403.65	0.40%	404.03
1650	403.24	12.07	403.40	1.33%	-1.92%	16.58	N/A	1.33%	403.46	-1.22%	403.84
1675	402.51	12.35	402.63	0.97%	-2.92%	16.46	N/A	0.97%	402.67	-3.16%	403.05
1700	401.44	13.14	401.24	-1.52%	-2.48%	16.34	N/A	-1.52%	401.19	-5.91%	401.57
1718.73	400.61	14.31	400.42	-1.33%	-4.43%	16.25	N/A	-1.33%	400.39	-4.26%	400.77
1725	400.35	14.77	400.28	-0.47%	-4.15%	16.86	N/A	-0.47%	400.27	-1.98%	400.65

GLYNDON STREET WEST BOUND LANE										
Station	Existing Crown Elevation	Existing EP Width from Existing Crown	Existing EP Elevation	Existing Xslope from Existing Crown	Existing Longitude Slope	Proposed EP Width from Existing Crown	Proposed Xslope	Prop EP Elevation	Prop. EP Longitude Slope	Prop. TC Elevation
1048.15	391.29	10.88	391.01	-2.57%	3.94%	12.05	-2.57%	390.98	N/A	391.36
1050	391.36	10.85	391.09	-2.49%	3.78%	12.06	-2.49%	391.06	4%	391.44
1075	392.31	10.54	392.12	-1.80%	3.80%	12.16	-1.80%	392.09	4.12%	392.47
1100	393.14	10.39	392.88	-2.50%	3.32%	12.26	-2.50%	392.83	2.97%	393.21
1125	394.09	10.34	393.86	-2.22%	4.01%	12.21	-2.22%	393.82	3.94%	394.20
1150	395.20	10.36	394.94	-2.51%	4.84%	12.14	-2.51%	394.90	4.31%	395.28
1175	396.59	10.37	396.27	-3.09%	5.56%	12.21	-3.09%	396.21	5.27%	396.59
1200	398.03	10.04	397.78	-2.49%	5.76%	12.22	-2.49%	397.73	6.05%	398.11
1225	399.67	9.79	399.46	-2.15%	6.56%	12.22	-2.15%	399.41	6.73%	399.79
1250	401.36	9.67	401.26	-1.03%	6.36%	12.26	-1.03%	401.23	7.30%	401.61
1270.5	402.67	10.91	402.62	-0.46%	6.39%	12.33	-0.46%	402.61	6.73%	403.00
1275	402.96	10.63	402.92	-0.38%	6.44%	12.35	-0.38%	402.91	6.67%	403.30
1289.41	403.79	10.18	403.56	-2.26%	5.74%	12.36	-2.26%	403.51	4.14%	403.89
1300	404.28	10.15	403.96	-3.15%	4.65%	12.34	-3.15%	403.89	3.59%	404.27
1325	405.12	10.16	404.63	-4.82%	3.36%	12.30	-4.82%	404.53	2.54%	404.91
1350	405.29	10.29	404.86	-4.18%	0.68%	12.33	-4.18%	404.77	0.99%	405.16
1375	404.02	10.56	403.89	-1.23%	-5.08%	12.48	-1.23%	403.87	-6.63%	404.25
1400	402.68	11.20	402.40	-2.50%	-5.36%	12.64	-2.50%	402.36	-6.01%	402.75
1425	401.20	12.00	400.83	-3.08%	-5.92%	12.58	-3.08%	400.81	-6.21%	401.19
1439.79	400.30	12.43	399.77	-4.26%	-6.09%	N/A	N/A	N/A	N/A	N/A

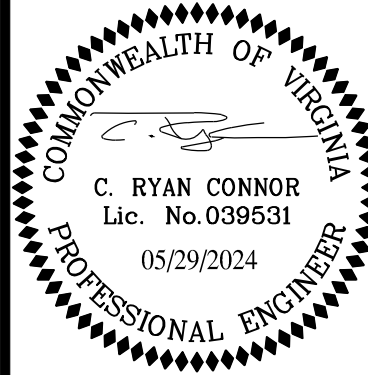
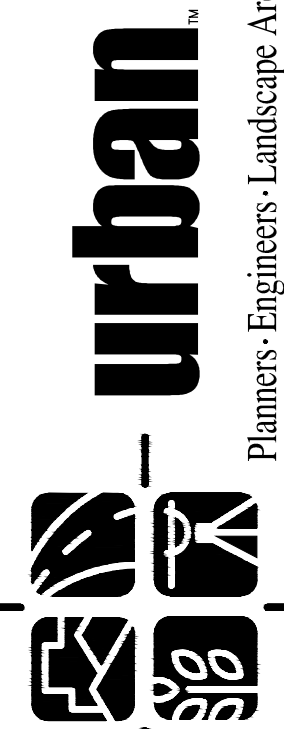
CHURCH STREET NORTH BOUND LANE										
Station	Existing Crown Elevation	Existing EP Width from Existing Crown	Existing EP Elevation	Existing Xslope from Existing Crown	Existing Longitude Slope	Proposed EP Width from Existing Crown	Proposed Xslope	Prop EP Elevation	Prop. EP Longitude Slope	Prop. TC Elevation
1325	399.88	14.09	399.30	-4.12%	10.62%	N/A	N/A	N/A	N/A	N/A
1333	400.73	14.17	400.12	-4.30%	10.63%	N/A	N/A	N/A	N/A	N/A
1350	402.30	13.76	401.94	-2.62%	9.24%	15.00	-2.62%	401.91	N/A	402.29
1350.82	402.37	13.74	401.97	-2.91%	8.54%	15.05	-2.91%	401.93	2.96%	402.31
1366.81	403.79	13.33	403.34	-3.38%	8.88%	15.12	-3.38%	403.28	8.43%	403.66
1375	404.41	13.19	403.94	-3.56%	7.57%	15.16	-3.56%	403.87	7.21%	404.25
1400	406.19	12.77	405.75	-3.45%	7.12%	15.32	-3.45%	405.66	7.17%	406.04
1401.79	406.25	12.74	405.87	-2.98%	3.35%	15.33	-2.98%	405.79	7.30%	406.17
1418.88	406.91	12.55	406.50	-3.27%	3.86%	15.43	-3.27%	406.41	3.59%	406.79
1425	407.15	12.52	406.74	-4.47%	3.92%	15.47	-4.47%	406.64	0.85%	406.84
1435.66	407.55	12.45	406.59	-6.51%	3.75%	15.53	-6.51%	406.46	0.77%	406.92
1450	407.67	12.40	407.05	-5.00%	0.84%	15.60	-5.00%	406.89	2.44%	N/A
1456.07	407.70	12.39	407.05	-5.25%	0.49%	15.63	-5.25%	406.88	-0.16%	407.26
1461.1	407.75	12.39	407.06	-5.57%	0.98%	15.66	-5.57%	406.88	-0.04%	407.26
1475	407.61	12.38	407.06	-4.44%	-0.01%	15.73	-4.44%	406.91	0.24%	407.29
1480.5	407.55	12.34	406.99	-4.54%	-1.09%	15.75	-4.54%	406.84	-1.38%	407.22
1500	407.08	12.03	406.51	-4.74%	-2.41%	15.85	-4.74%	406.33	-2.80%	406.71
1525	406.40	12.21	405.82	-4.75%	-2.72%	15.97	-4.75%	405.64	-2.75%	406.02
1545.97	405.80	11.79	405.06	-6.28%	-2.86%	16.07	-6.28%	404.79	-4.05%	405.17
1550	405.68	11.81	404.90	-6.60%	-2.98%	16.09	-6.60%	404.62	-4.32%	405.00
1571.41	405.07	12.04	404.26	-6.73%	-2.85%	16.19	-6.73%	403.98	-2.97%	404.36
1575	404.97	12.09	404.23	-6.12%	-2.79%	16.21	-6.12%	403.98	-0.08%	404.36
1600	404.30	12.25	403.78	-4.24%	-2.68%	16.33	-4.24%	403.61	-1.48%	403.99
1612.19	404.03	12.14	403.36	-5.52%	-2.21%	16.39	-5.52%	403.13	-3.95%	403.51
1625	403.75	12.03	403.01	-6.15%	-2.19%	16.45	-6.15%	402.74	-3.02%	403.12
1628.19	403.67	11.97	403.04	-5.26%	-2.51%	16.47	-5.26%	402.80	2.04%	403.18
1650	403.24	11.51	402.59	-5.65%	-1.97%	16.58	-5.65%	402.30	-2.29%	402.68
1675	402.51	11.08	402	-4.60%	-2.92%	16.70	-4.60%	401.74	-2.25%	402.12
1700	401.44	10.85	401.16	-2.58%	-4.28%	16.82	-2.58%	401.01	-2.94%	401.39
1718.73	400.61	11.11	400.06	-4.95%	-4.43%	16.91	-4.95%	399.77	-6.58%	400.15
1725	400.35	11.18	399.69	-5.90%	-4.15%	17.73	-5.90%	399.30	-7.49%	399.66

No.	DATE	DESCRIPTION	REV	BY	APPROVED	DATE
2	5/19/24	95% DESIGN CONSTRUCTION PLAN				
1	5/8/23	30% DESIGN CONSTRUCTION PLAN				

REVISIONS

PLAN DATE	05-08-2023 05-29-2024
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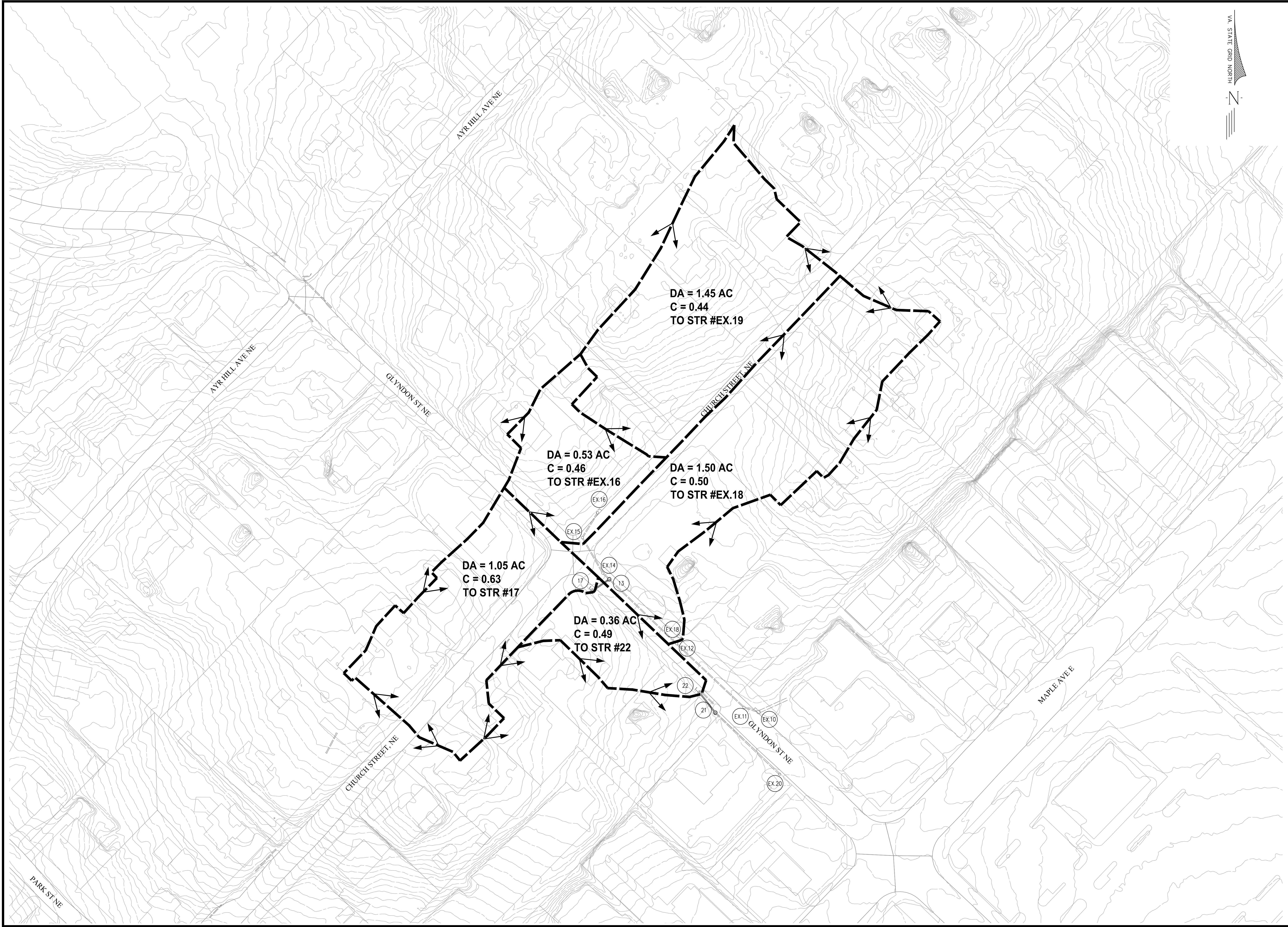
IMPROVEMENTS COMPUTATIONS
CHURCH STREET, N.E.
ALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

DATE: APRIL, 2023

C.I. N/A

SHEET
7A
OF
16

FILE No.
PP-2617



PLAN DATE 05-08-2023 05-29-2024		Urban, Ltd. 7710 Little River Turnpike Arlington, Virginia 22003 Tel. 703.642.8080 Fax. 703.642.8251 www.urban-ltd.com		Planners • Engineers • Landscape Architects • Land Surveyors	
SHEET 8 OF 16		STORM DIVIDES CHURCH STREET, N.E. SIDEWALK IMPROVEMENT PLAN TOWN OF VIENNA FAIRFAX COUNTY, VIRGINIA		DATE: APRIL, 2023	
FILE No. PP-2617		SCALE: 80 C.I. 1"		DATE: APRIL, 2023	
REVISIONS		REV'D/ APPROVED		DATE	
1		5/6/23		30% DESIGN CONSTRUCTION PLAN	
2		5/29/24		95% DESIGN CONSTRUCTION PLAN	

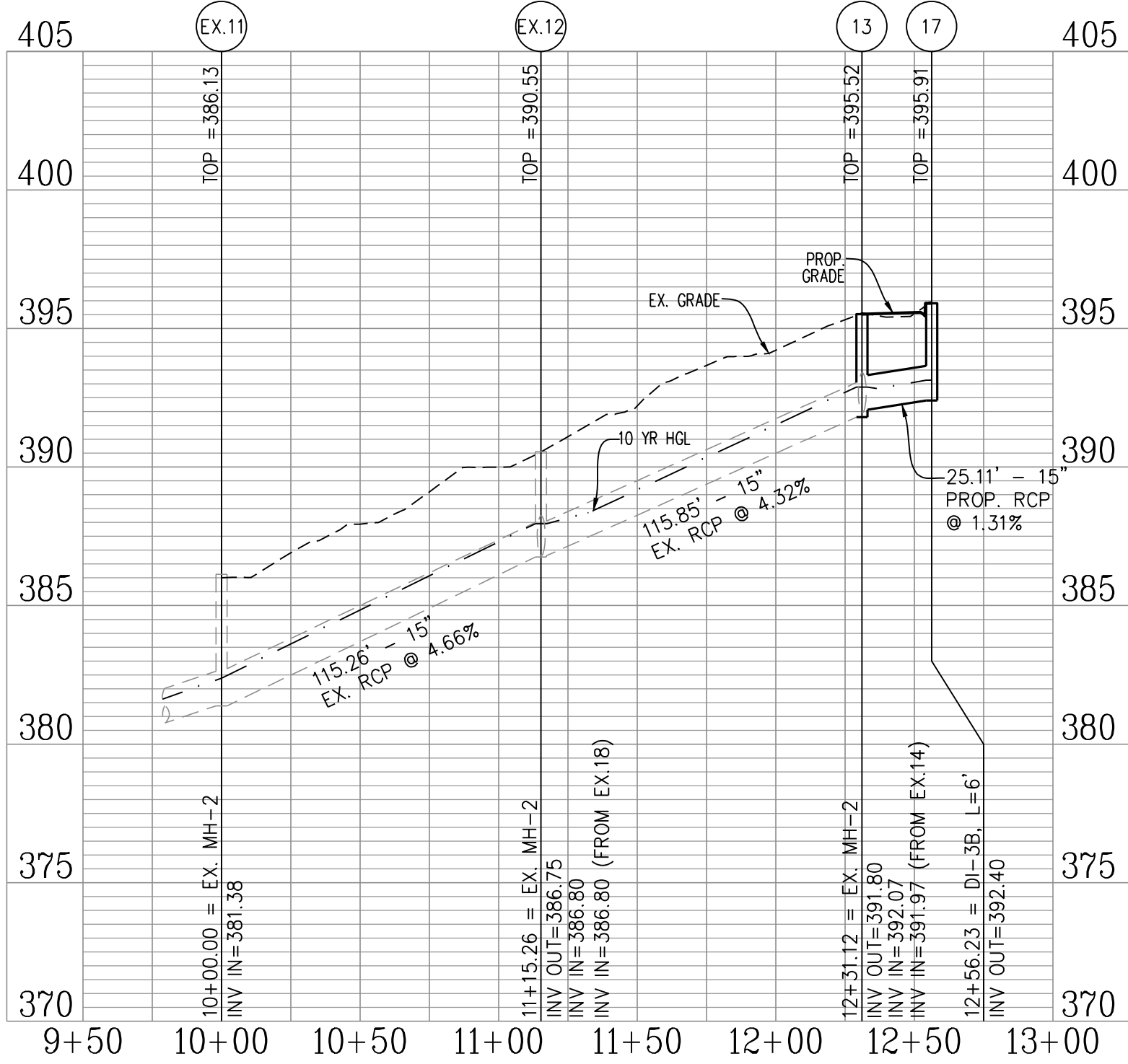
INLET COMPUTATIONS																					
Inlet ID	Inlet Type	Length	DrainageArea	C	CA	I	Q incr.	QCarryover	QCaptured	QBypass	GutterSlope	CrossSlope, Sx	T (Grade) Spread	T (Sump) Spread	W	Sw	d	E	h	Grate Area	10yr WSEL
		(ft)	(ac)	(C)		(in/hr)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/ft)	(ft/ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft)	(%)	(in)	(sqft)	
Ex. 12	Ex. MH-2	....	0.00	0.00	0.00	0.00	0.00	....	....	....	....	....	....	9.53	....	....	....	....	....	....	....
13	Prop. MH-2	....	0.00	0.00	0.00	0.00	0.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ex. 14	Ex. MH-2	....	0.00	0.00	0.00	0.00	0.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ex. 15	Ex. MH-2	....	0.00	0.00	0.00	0.00	0.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Ex. 16	Ex. Curb Inlet	6.00	0.53	0.46	0.24	5.45	4.26	0.00	4.26	0.00	Sag	0.02	....	21.19	1.42	0.083	0.58	100	5.50	....	....
17	Prop. DI-3B	6.00	1.05	0.63	0.66	5.08	3.36	0.00	1.38	1.98	0.05	0.01	9.96	....	1.42	0.083	0.34	41	5.50	....	....
Ex. 18	Ex. Curb Inlet	8.00	1.50	0.50	0.75	5.08	3.81	0.00	1.71	2.10	0.05	0.01	15.68	....	1.42	0.083	0.33	45	5.50	....	....
21	Prop. MH-2	....	0.00	0.00	0.00	0.00	0.00	....	....	....	....	....	....	....	....	....	....	....	....	....	....
22	Prop. DI-3B	8.00	0.36	0.49	0.18	5.45	0.96	0.00	0.93	0.03	0.04	0.01	5.10	....	1.42	0.083	0.29	96	5.50	....	....

STORM PIPE COMPUTATIONS

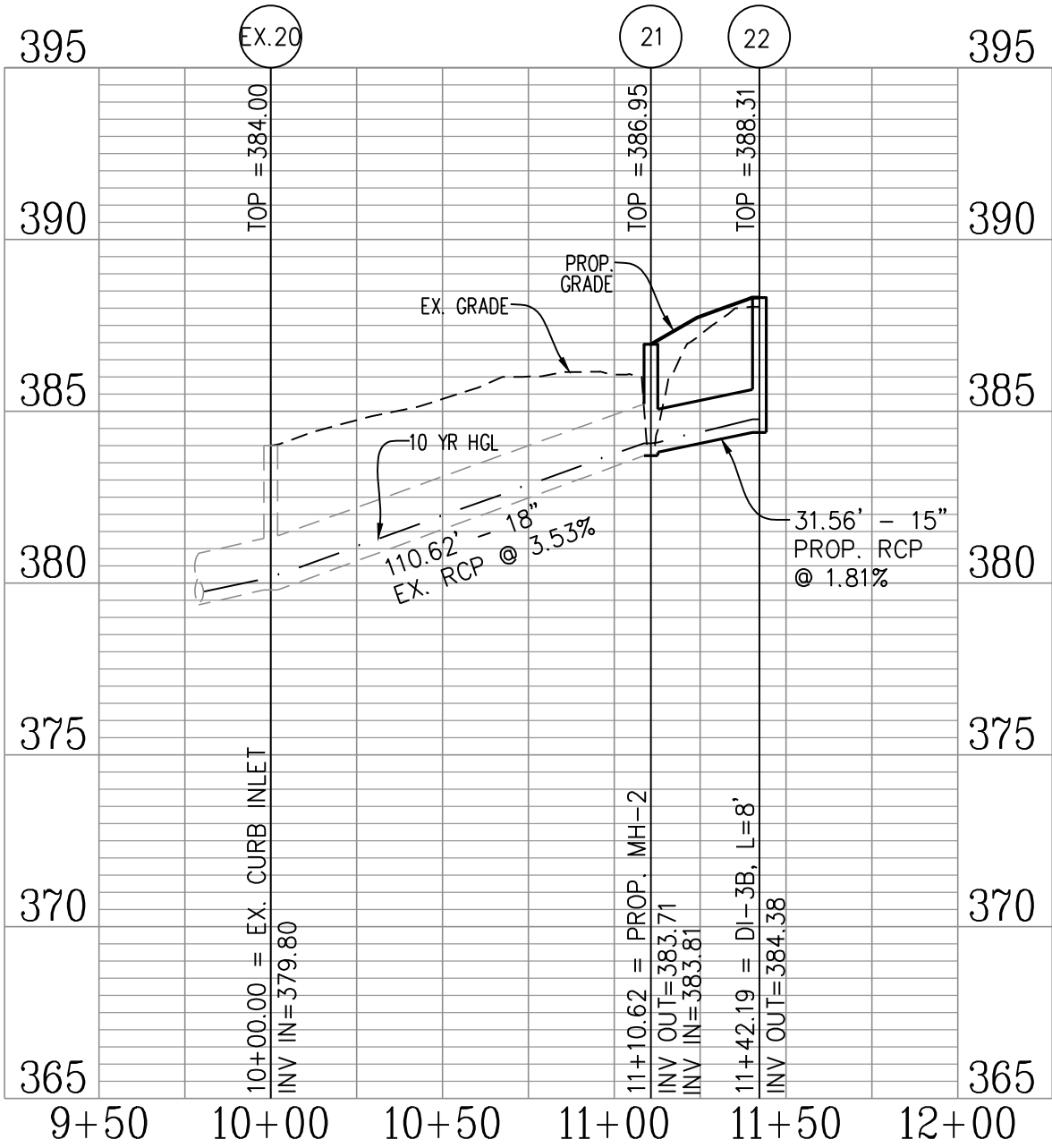
LineID	DrainageArea	RunoffCoeff	IncrCxA	TotalCxA	Inlet Time	Tc	Rainfall Intensity	KnownQ	Runoff Q	InvertUp	InvertDn	Length	Slope	Diameter	Capacity	Actual Flow Velocity	Full Flow Vel
	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(ft)	(ft)	(ft)	(%)	(in)	(cfs)	(ft/s)	(ft/s)
Ex. 12-Ex. 11	0.00	0.00	0.00	1.66	0.00	12.50	5.00	0.00	11.20	386.75	381.38	115.26	4.66	15.00	13.94	9.94	11.36
13-Ex. 12	0.00	0.00	0.00	0.91	0.00	12.20	5.05	0.00	7.50	391.80	386.80	115.86	4.32	15.00	13.41	6.47	10.93
Ex. 14-13	0.00	0.00	0.00	0.24	0.00	10.40	5.37	0.00	4.24	392.31	391.97	11.07	3.07	15.00	11.32	4.63	9.22
Ex. 15-Ex. 14	0.00	0.00	0.00	0.24	0.00	10.20	5.42	0.00	4.25	396.06	392.56	51.01	6.86	15.00	16.91	6.23	13.78
Ex. 16-Ex. 15	0.53	0.46	0.24	0.24	10.00	10.00	5.45	2.93	4.26	396.36	396.10	36.30	0.72	15.00	5.46	4.91	4.45
17-13	1.05	0.63	0.66	0.66	12.00	12.00	5.08	0.00	3.36	392.40	392.07	25.12	1.31	15.00	7.40	4.20	6.03
Ex. 18-Ex. 12	1.50	0.50	0.75	0.75	12.00	12.00	5.08	0.00	3.81	387.13	386.80	8.97	3.68	15.00	12.39	3.94	10.10
21-Ex. 20	0.00	0.00	0.00	0.18	0.00	10.70	5.32	0.00	0.94	383.71	379.80	110.62	3.53	18.00	19.74	2.87	11.17
22-21	0.36	0.49	0.18	0.18	10.00	10.00	5.45	0.00	0.96	384.38	383.81	31.57	1.81	15.00	8.68	3.83	7.07

InletID	Outlet WSE	Do	Qo	Lo	Sfo	Vo	Qi	Vi	Hi	Angle	MinorLoss	Final H	HGLJunct	Inlet WSE	Rim Elev
	(ft)	(in)	(cfs)	(ft)	(%)	(ft)	(cfs)	(ft/s)	(ft)	(Deg)	(ft)	(ft)	(ft)	(ft)	(ft)
Ex. 12	382.38	15.00	11.20	115.26	0.00	1.32	0.00	9.23	1.32	-136.67	n/a	1.21	387.96	387.96	390.55
13	387.96	15.00	7.50	115.86	0.00	0.68	0.00	6.61	0.68	0.43	n/a	1.09	392.89	392.89 j	395.52
Ex. 14	392.89	15.00	4.24	11.07	0.00	0.37	0.00	4.88	0.37	0.00	n/a	0.83	393.14	393.14 j	395.86
Ex. 15	393.14	15.00	4.25	51.01	0.00	0.37	0.00	4.89	0.37	18.28	n/a	0.83	396.89	396.89	398.84
Ex. 16	396.93	15.00	4.26	36.30	0.00	0.37	4.26	4.89	0.37	61.66	n/a	0.83	397.20	397.20	398.98
17	392.89	15.00	3.36	25.12	0.00	0.31	3.36	4.45	0.31	-78.18	n/a	0.74	393.14	393.14 j	395.91
Ex. 18	387.96	15.00	3.81	8.97	0.00	0.34	3.81	4.67	0.34	87.71	n/a	0.79	387.92	387.92 j	390.92
21	380.16	18.00	0.94	110.62	0.00	0.13	0.00	2.87	0.13	-136.35	0.02	0.36	384.07	384.07	386.95
22	384.09	15.00	0.96	31.57	0.00	0.14	0.96	3.00	0.14	8.24	0.14	0.38	384.76	384.76	388.31

STORM PROFILE
SCALE: H: 1"=50' V: 1"=5'



STORM PROFILE
SCALE: H: 1"=50' V: 1"=5'



STORM PROFILES & DETAILS
CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

SCALE: AS SHOWN C.I. N/A DATE: APRIL, 2023

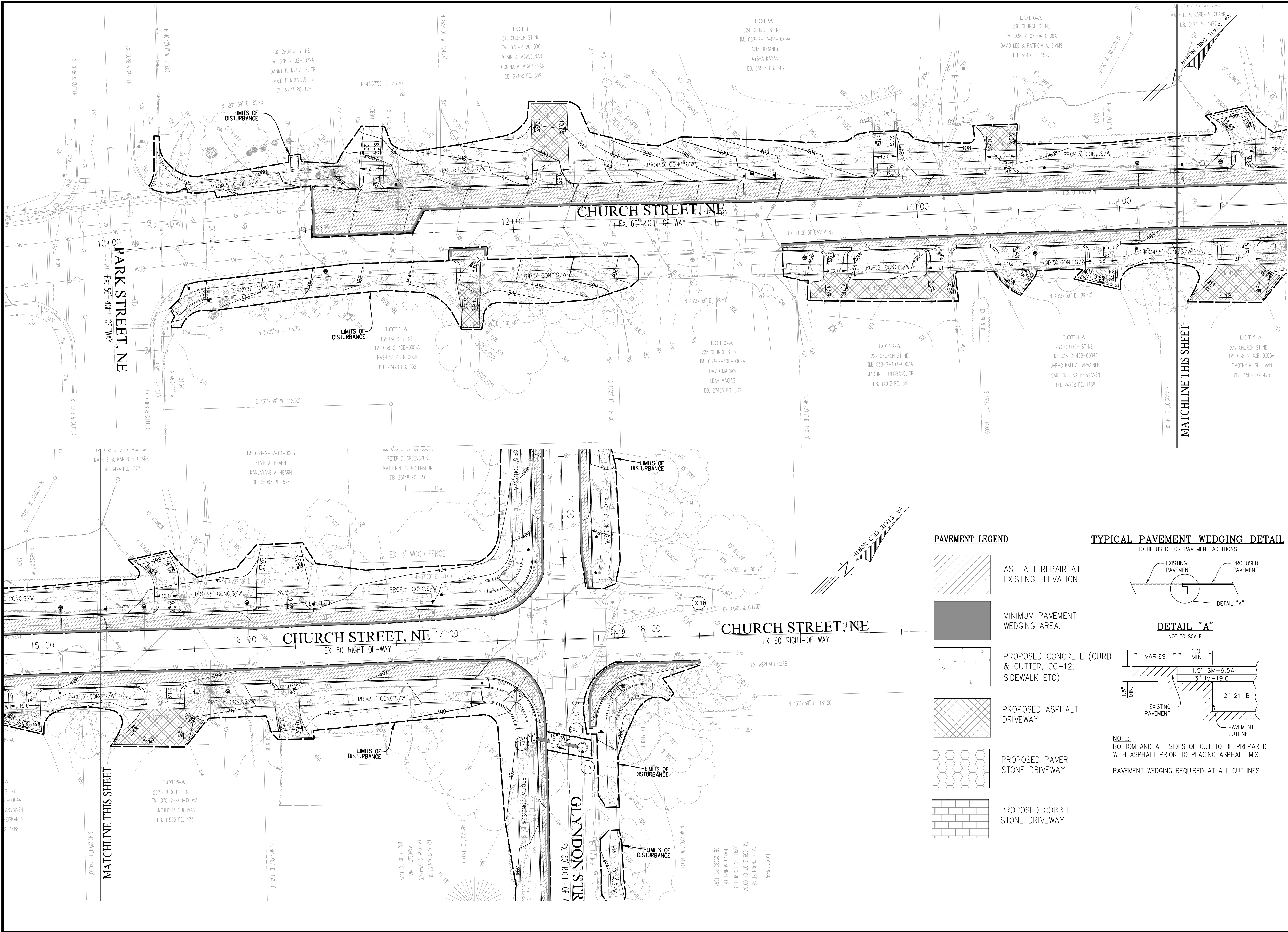
SHEET
9
OF
16

FILE No.
PP-2617

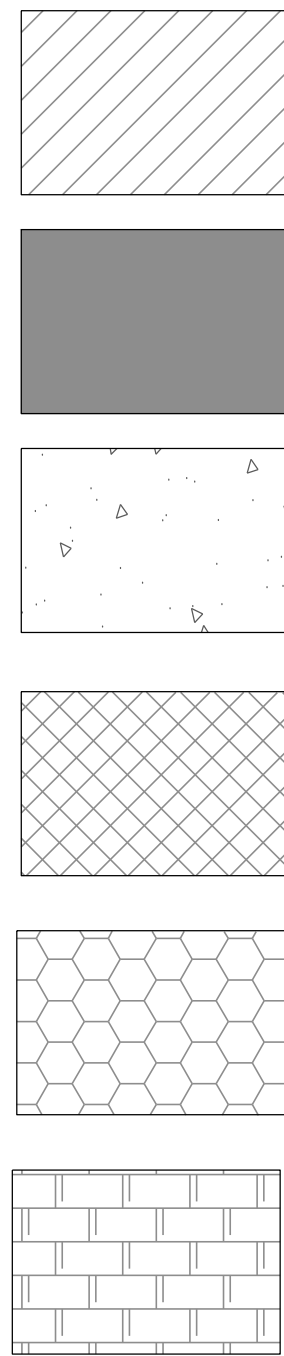
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Arlington, Virginia 22003
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Fax. 703.642.8251
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PLAN DATE		REVISIONS	
05-08-2023	05-29-2024		
		2	15/29/24 95% DESIGN CONSTRUCTION PLAN
		1	5/6/23 30% DESIGN CONSTRUCTION PLAN
		No.	DATE
		REV	BY
		APPROVED	DATE



PAVEMENT LEGEND



ASPHALT REPAIR AT EXISTING ELEVATION.

MINIMUM PAVEMENT WEDGING AREA.

PROPOSED CONCRETE (CURB & GUTTER, CG-12, SIDEWALK ETC)

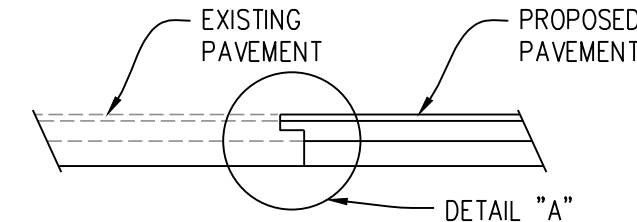
PROPOSED ASPHALT DRIVEWAY

PROPOSED PAVER STONE DRIVEWAY

PROPOSED COBBLE STONE DRIVEWAY

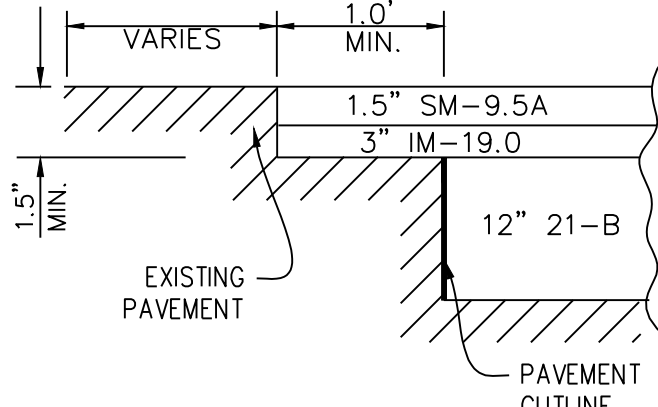
TYPICAL PAVEMENT WEDGING DETAIL

TO BE USED FOR PAVEMENT ADDITIONS



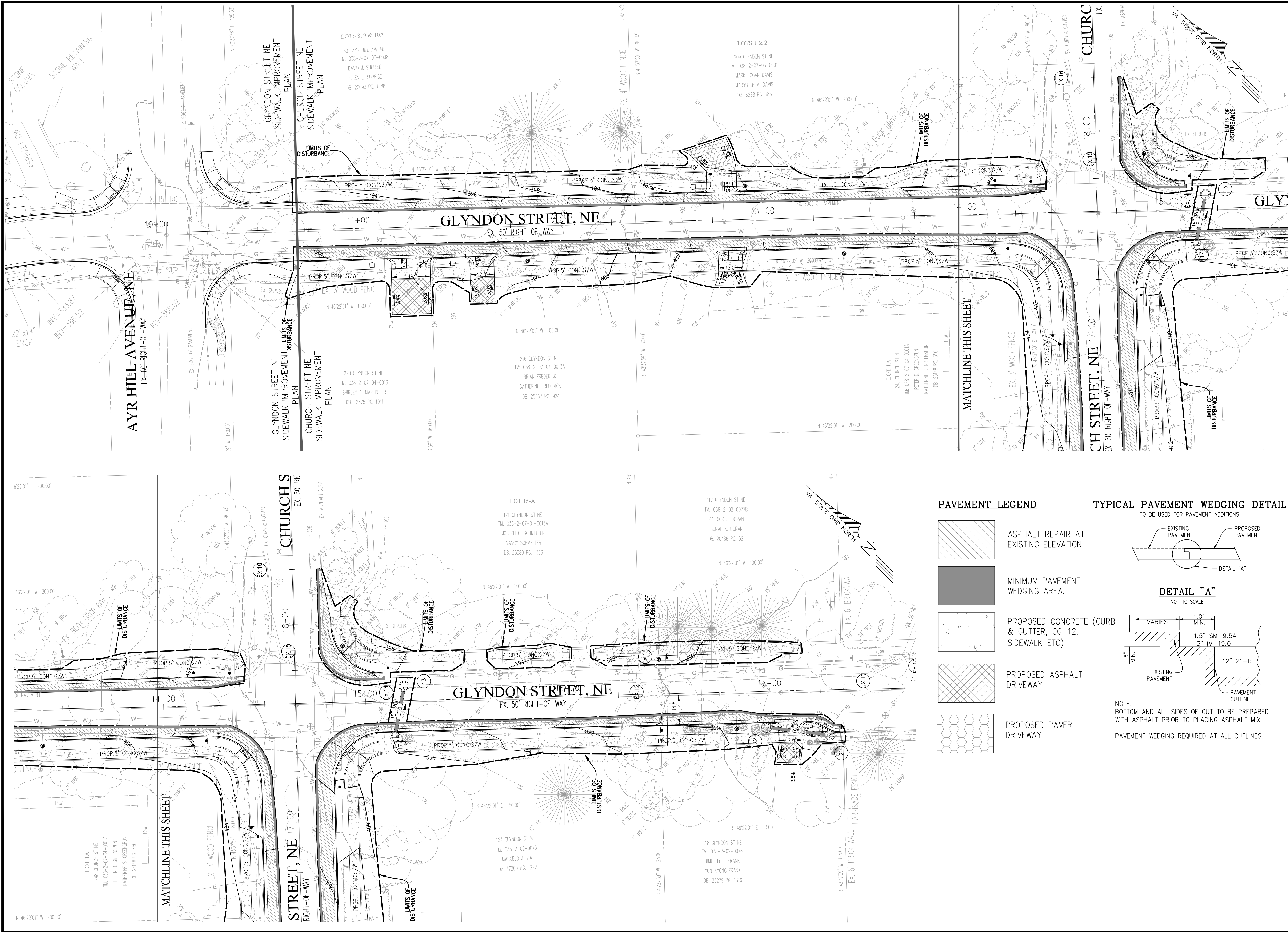
DETAIL "A"

NOT TO SCALE

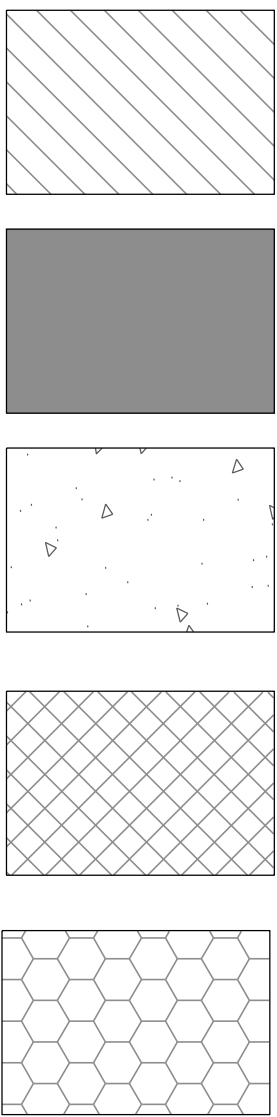


NOTE:
BOTTOM AND ALL SIDES OF CUT TO BE PREPARED WITH ASPHALT PRIOR TO PLACING ASPHALT MIX.
PAVEMENT WEDGING REQUIRED AT ALL CUTLINES.

PLAN DATE: 05-08-2023 05-29-2024		Urban, Ltd. 7712 Little River Turnpike Arlanville, Virginia 22003 Tel: 703.642.8880 Fax: 703.642.8251 www.urban-llc.com	
2 5/29/24 95% DESIGN CONSTRUCTION PLAN		REVISIONS	
1 1/9/23 30% DESIGN CONSTRUCTION PLAN		DATE	
No. DATE DESCRIPTION		REVBY APPROVED	
ROAD DESIGN AND PAVEMENT PLAN		CHURCH STREET, N.E.	
SIDEWALK IMPROVEMENT PLAN		TOWN OF VIENNA	
FAIRFAX COUNTY, VIRGINIA		DATE: APRIL, 2023	
SCALE: 1"=20'		C.I. = 2'	
SHEET 10 OF 16		FILE No. PP-2617	



PAVEMENT LEGEND



ASPHALT REPAIR AT EXISTING ELEVATION.

MINIMUM PAVEMENT WEDGING AREA.

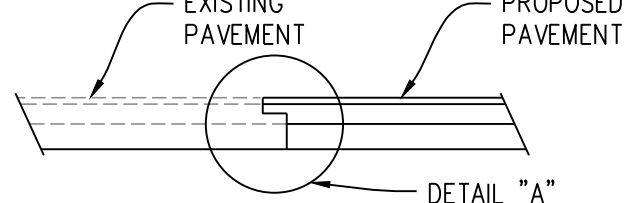
PROPOSED CONCRETE (CURB & GUTTER, CG-12, SIDEWALK ETC)

PROPOSED ASPHALT DRIVEWAY

PROPOSED PAVER DRIVEWAY

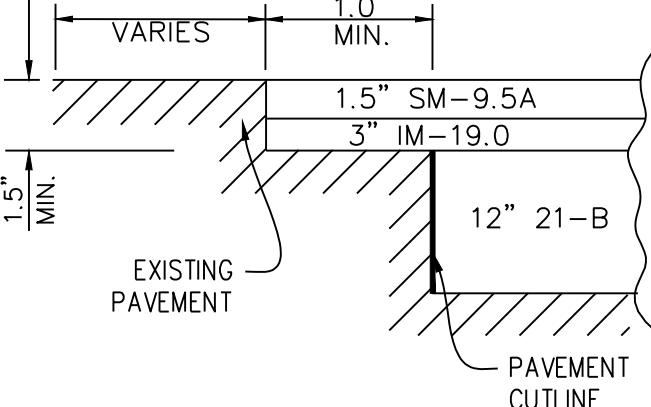
TYPICAL PAVEMENT WEDGING DETAIL

TO BE USED FOR PAVEMENT ADDITIONS



DETAIL "A"

NOT TO SCALE



NOTE:
BOTTOM AND ALL SIDES OF CUT TO BE PREPARED WITH ASPHALT PRIOR TO PLACING ASPHALT MIX.
PAVEMENT WEDGING REQUIRED AT ALL CUTLINES.

PLAN DATE:
05-08-2023
05-29-2024

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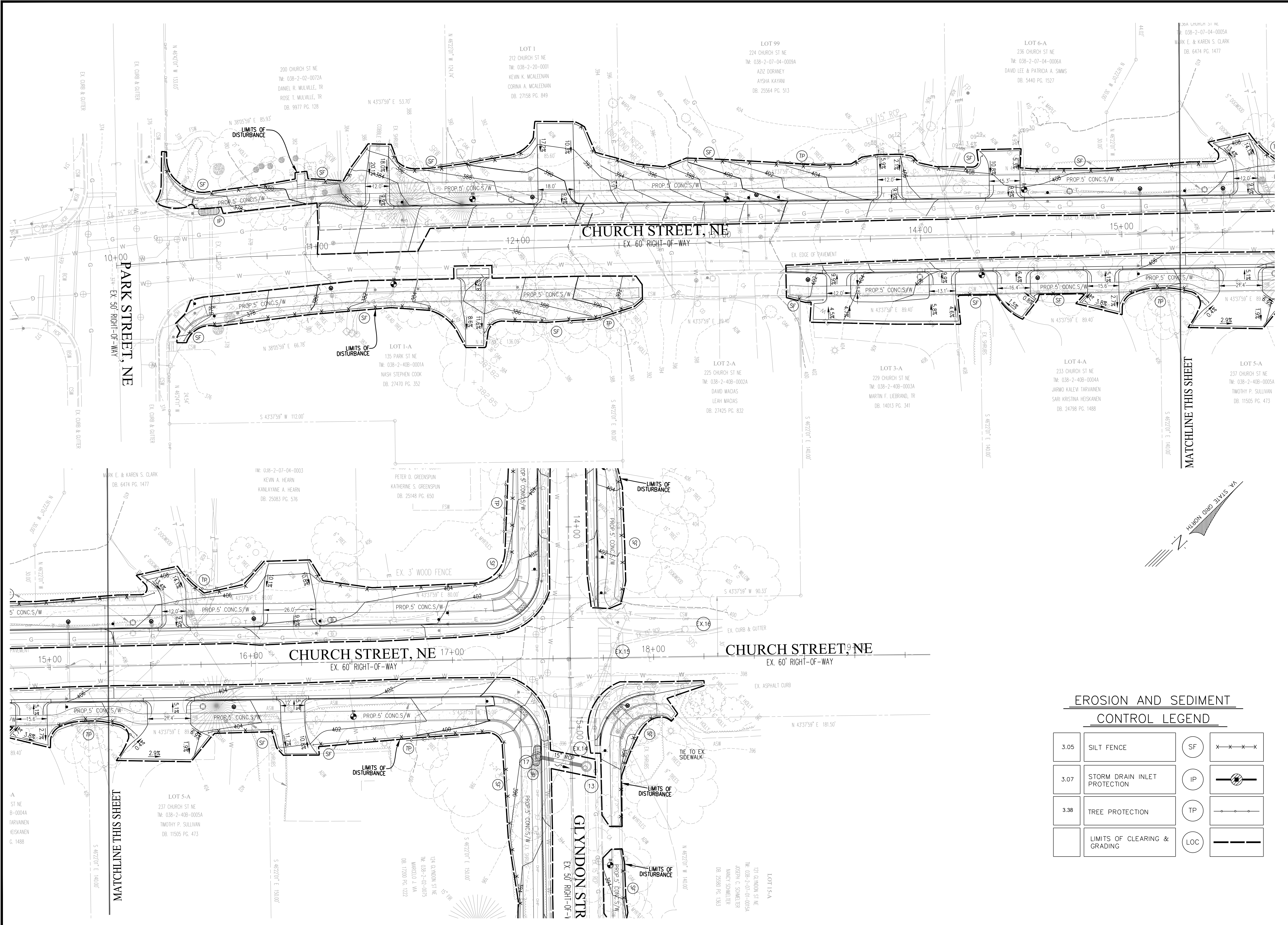
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ROAD DESIGN AND PAVEMENT PLAN
CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

SHEET
11
OF
16
FILE No.
PP-2617

DATE: APRIL, 2023
CL. = 2'
SCALE: 1"=20'

REVISIONS
No. DATE DESCRIPTION REVBY APPROVED DATE
2 5/29/24 95% DESIGN CONSTRUCTION PLAN
1 5/9/23 30% DESIGN CONSTRUCTION PLAN



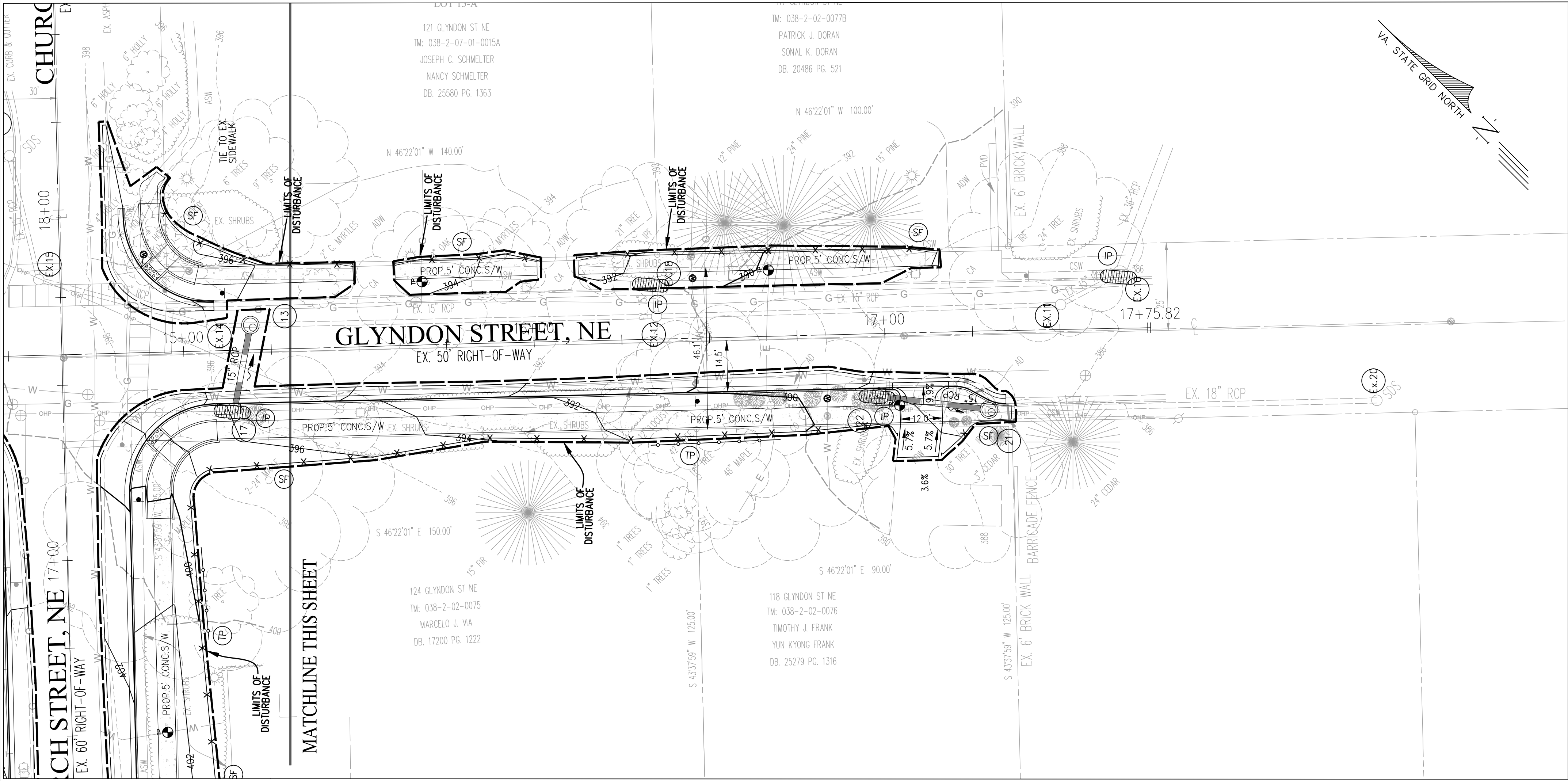
EROSION AND SEDIMENT CONTROL LEGEND			
3.05	SILT FENCE	SF	XXXX
3.07	STORM DRAIN INLET PROTECTION	IP	IP
3.38	TREE PROTECTION	TP	TP
	LIMITS OF CLEARING & GRADING	LOC	LOC

PLAN DATE 05-06-2023 05-29-2024		REVISIONS	
No.		DATE	DESCRIPTION
2	5/29/24	95% DESIGN	CONSTRUCTION PLAN
1	5/28/23	30% DESIGN	CONSTRUCTION PLAN
PLAN DATE 05-06-2023 05-29-2024		REVISIONS	
No.		DATE	DESCRIPTION
2	5/29/24	95% DESIGN	CONSTRUCTION PLAN
1	5/28/23	30% DESIGN	CONSTRUCTION PLAN

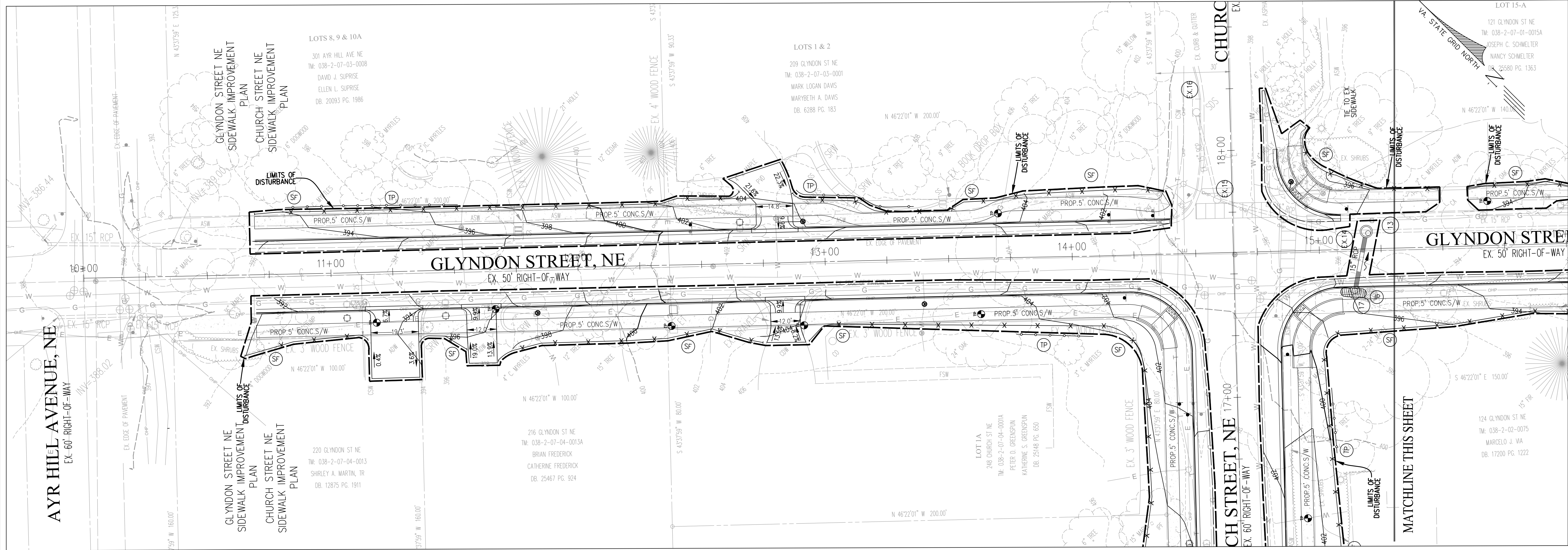
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EROSION AND SEDIMENT CONTROL PH I & PH II		CHURCH STREET, N.E. SIDEWALK IMPROVEMENT PLAN TOWN OF VIENNA FAIRFAX COUNTY, VIRGINIA	DATE: APRIL, 2023		
SHEET 12 OF 16					
FILE No. PP-2617					



EROSION AND SEDIMENT CONTROL LEGEND			
3.05	SILT FENCE	SF	XXXXX
3.07	STORM DRAIN INLET PROTECTION	IP	⊗
3.38	TREE PROTECTION	TP	—●—
	LIMITS OF CLEARING & GRADING	LOC	---



EROSION AND SEDIMENT CONTROL PH I & PH II

CHURCH STREET, N.E.

SIDEWALK IMPROVEMENT PLAN

TOWN OF VIENNA

FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=20'

DATE: APRIL, 2023

SHEET 13 OF 16

FILE No. PP-2617

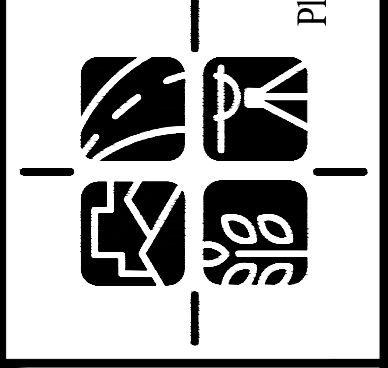
COMMONWEALTH OF VIRGINIA

C. RYAN CONNOR

Lic. No. 0399531

05/29/2024

PROFESSIONAL ENGINEER



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PLAN DATE	
05-08-2023	05-29-2024

REVISIONS	
No.	DATE
2	5/29/24
1	5/29/23
DESCRIPTION	
95% DESIGN CONSTRUCTION PLAN	
30% DESIGN CONSTRUCTION PLAN	
REVIEW APPROVED	
DATE	

PROJECT DESCRIPTION

EXISTING SITE CONDITIONS

ADJACENT PROPERTIES

FF-SITE AREAS

HERE IS CONSTRUCTION ON OFFSITE AREAS ADJACENT TO ROADWAY. EROSION AND SEDIMENT CONTROL DEVICES WILL BE PLACED OFFSITE AS SHOWN ON PLAN.

OILS INFORMATION

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SOIL DRAINAGE	EROSION POTENTIAL	PROBLEM CLASS
95	URBAN LAND	N/A	N/A	N/A	IVB
105B	WHEATON-GLENELG COMPLEX*	GOOD	GOOD	HIGH	IVB
105C	WHEATON-GLENELG COMPLEX*	GOOD	GOOD	HIGH	IVB

CRITICAL EROSION AREAS

HERE ARE NO CRITICAL AREAS ASSOCIATED WITH THIS PROJECT. NO SLOPES ARE GREATER THAN 20%, AND THERE ARE NO RESOURCE PROTECTION AREAS WITHIN THE PROJECT LIMITS.

EROSION AND SEDIMENT CONTROL MEASURES

THE EROSION AND SEDIMENT CONTROL MEASURES FOR THIS PROJECT AREA 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
ENCE AND INLET PROTECTION.

EROSION CONTROL PROGRAM (GENERAL GUIDELINES)

NOT MORE THAN 75% OF THE SITE IS TO BE DENUDED 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 OR FINISH) AND TO STABILIZE, BY TEMPORARY OR PERMANENT VEGETATION, THESE DISTURBED AREAS PRIOR TO BEGINNING WORK IN OTHER AREAS.
1. FILL AREAS SHALL BE COMPACTED COMPLETELY PRIOR TO THE END OF EACH WORK DAY. FILL SLOPE SURFACES SHALL BE LEFT ROUGHENED TO REDUCE SEED EROSION OF THE SLOPES. CONTRACTOR SHALL REDIRECT CONCENTRATED RUNOFF, BY EARTH BERMS OR OTHER DEVICES, AROUND ACTIVELY DISTURBED AREAS TO STABILIZE OUTLETS.
2. CUT SLOPE, AS NECESSARY, SHALL BE PROTECTED FROM CONCENTRATED FLOW BY BERMS ABOVE THE SLOPE AND DIRECTED AROUND THE DISTURBED AREA TO STABILIZED OUTLETS.
3. IN NEW PAVEMENT AREAS, PLACE THE AGGREGATE BASE STONE ON THE FINISH SUBGRADE AT THE EARLIEST POSSIBLE TIME.
4. 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 (REVISED), THIRD EDITION, 1992, AS WELL AS ANY OTHER APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.
5. WHERE APPROPRIATE AND FEASIBLE, AREAS IN WHICH NATURAL GRADES ARE NOT IMPACTED BY PROPOSED GRADING, 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.
6. PERMANENT OR SOIL STABILIZATION SHALL BE APPLIED TO DENUED 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 DENUED 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 I)

1. INSTALL PERIMETER CONTROLS AS SHOWN ON THE PHASE I PLAN (SILT FENCE, ETC.)

PERIMETER CONTROLS MUST BE APPROVED IN WRITING BY THE TOWN E & S INSPECTOR BEFORE CLEARING OF THE SITE CAN TAKE PLACE
2. COMMENCE CONSTRUCTION OF ALL UTILITIES AND GRADING OF THE SITE.

SEDIMENT CONTROL PROGRAM (PHASE II)

1. COMMENCE CONSTRUCTION OF CURB AND GUTTER, DRIVEWAY ENTRANCE, PAVEMENT AND SIDEWALK AS SHOWN ON THE CONSTRUCTION PLANS.
2. INLET PROTECTION (IP) SHALL BE PROVIDED AT STORM DRAIN INLETS AS THEY ARE CONSTRUCTED.
3. PERMANENTLY STABILIZE UNPAVED AREAS WITH SOD (PER SEC. 3.33 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK).
4. 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:

1. 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 INSURE THAT ALL CONTROLS ARE IN PLACE AND THAT NONE HAVE BEEN DAMAGED. ANY DAMAGED CONTROL SHALL BE REPAIRED IMMEDIATELY AND PRIOR TO THE NEXT RAINFALL TO PREVENT EROSION DAMAGE. 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.
2. AFTER ALL CONSTRUCTION OPERATIONS HAVE ENDED AND ALL DISTURBED AREAS ARE STABILIZED, MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND 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

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

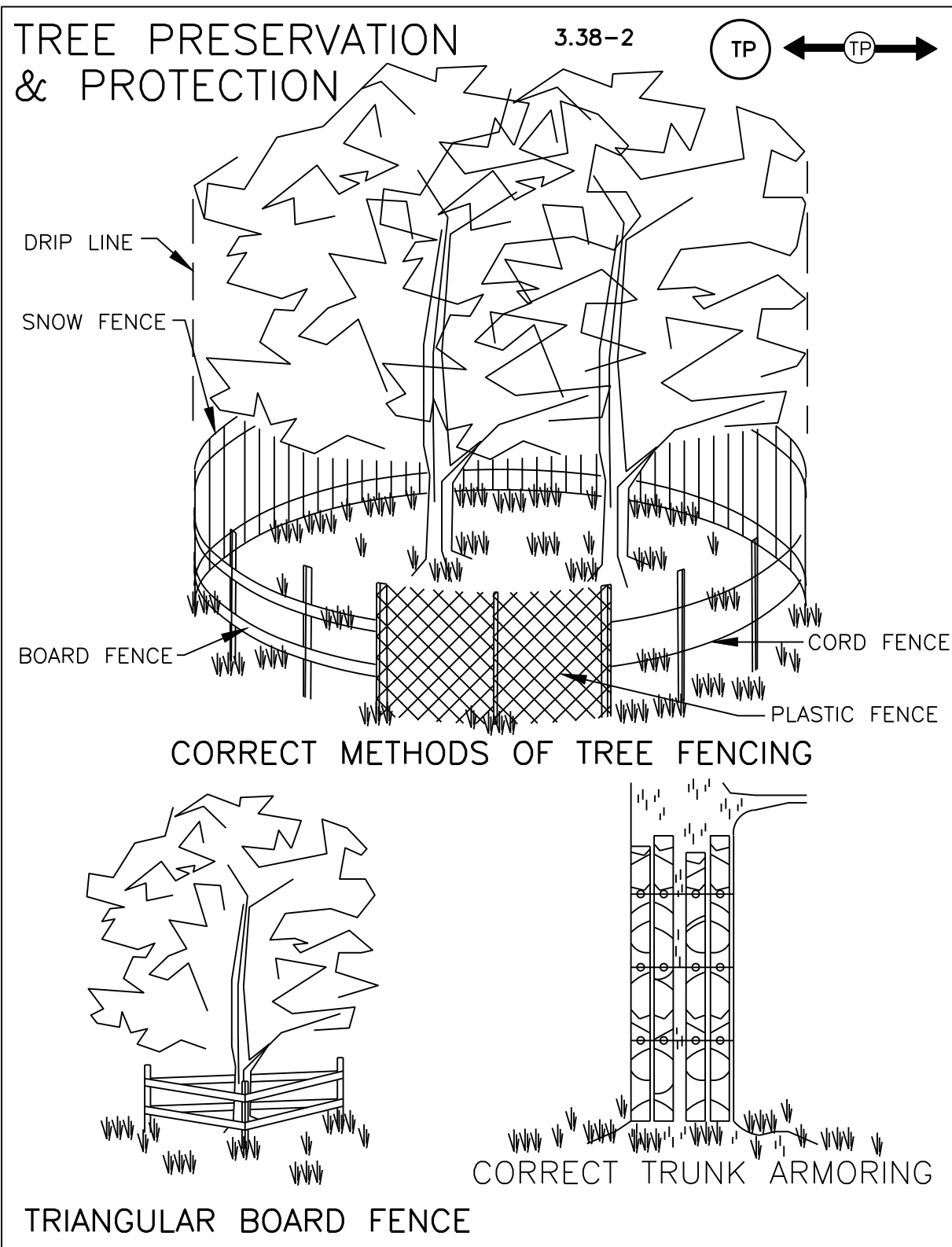
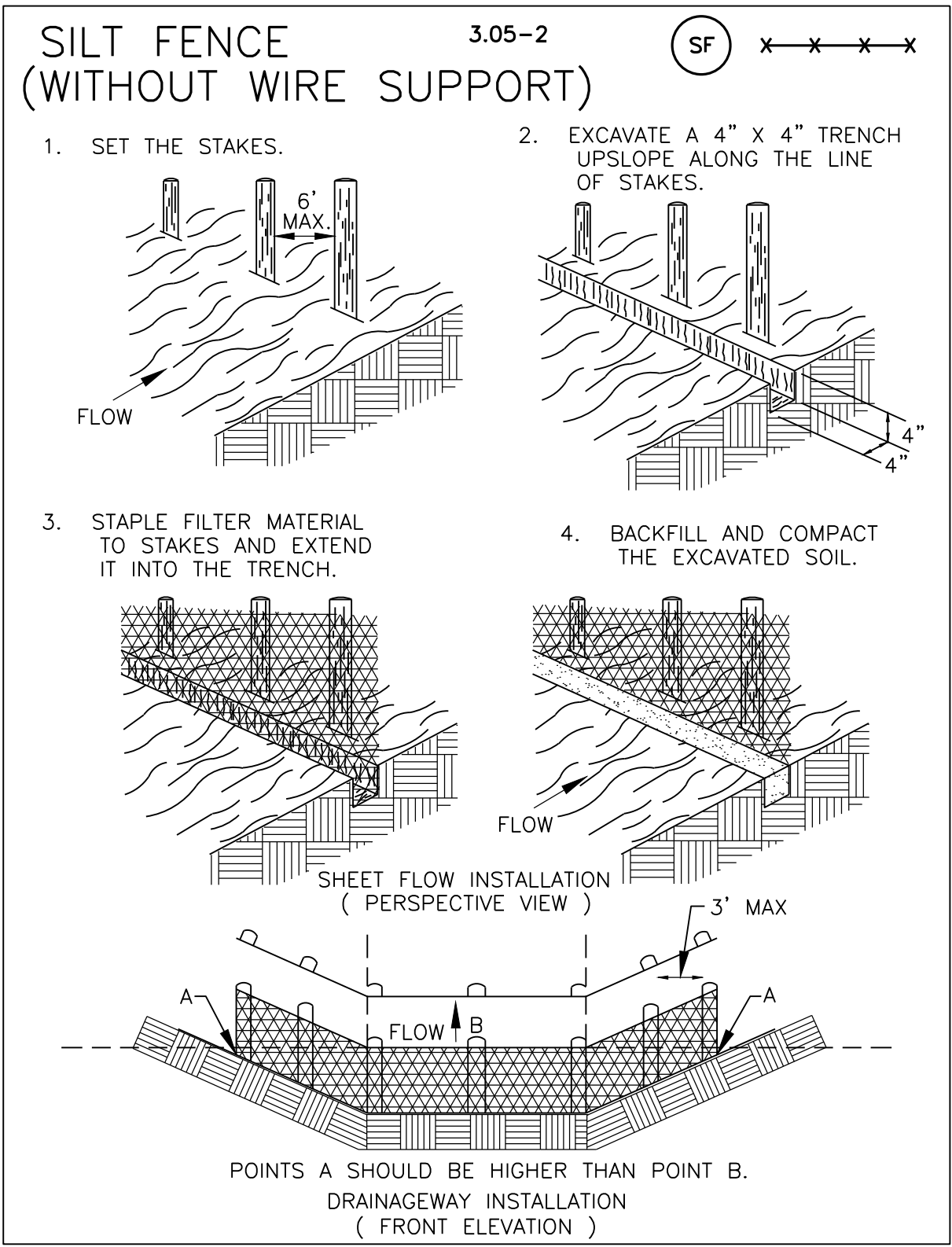
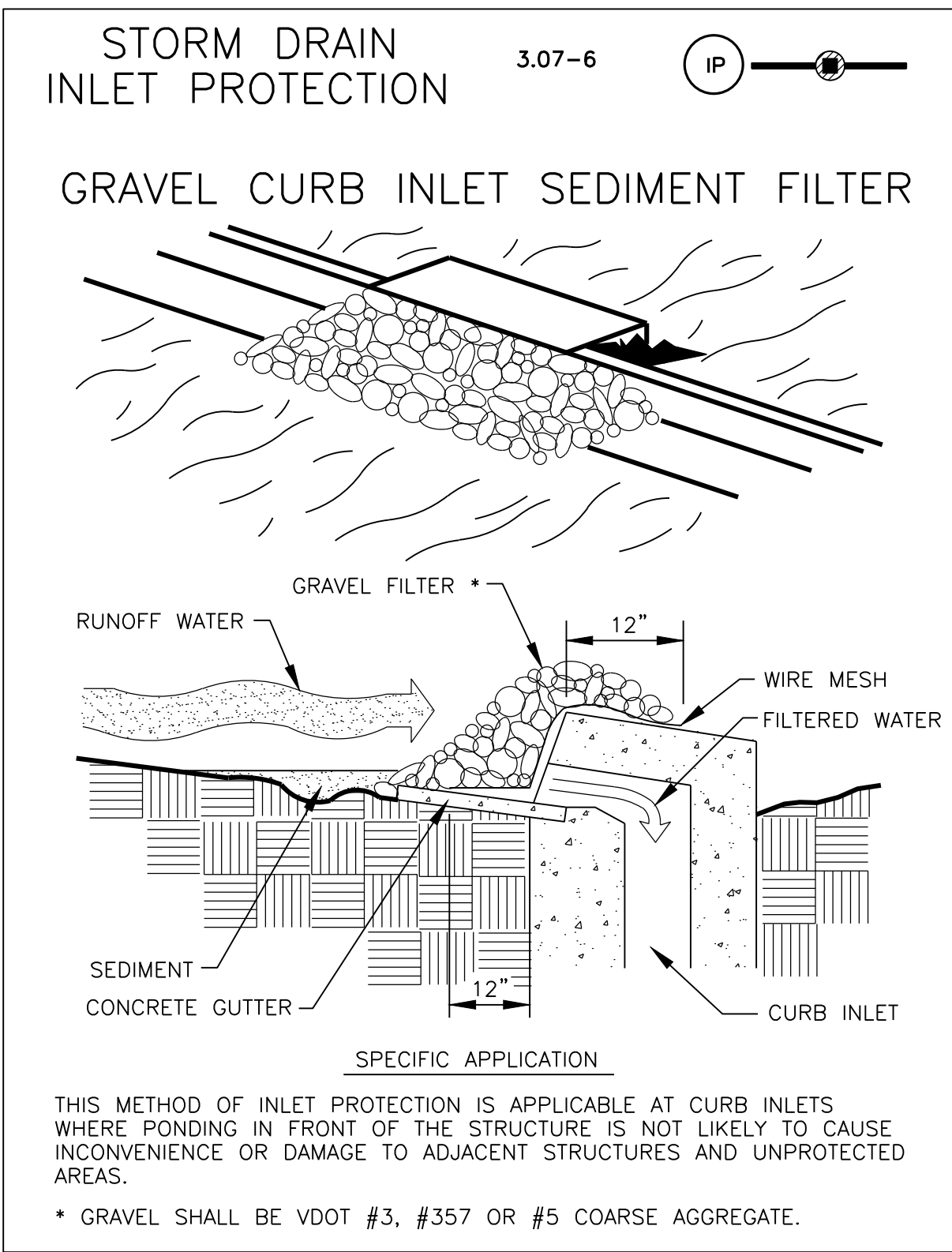
EROSION AND SEDIMENT CONTROL MEASURES:

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.

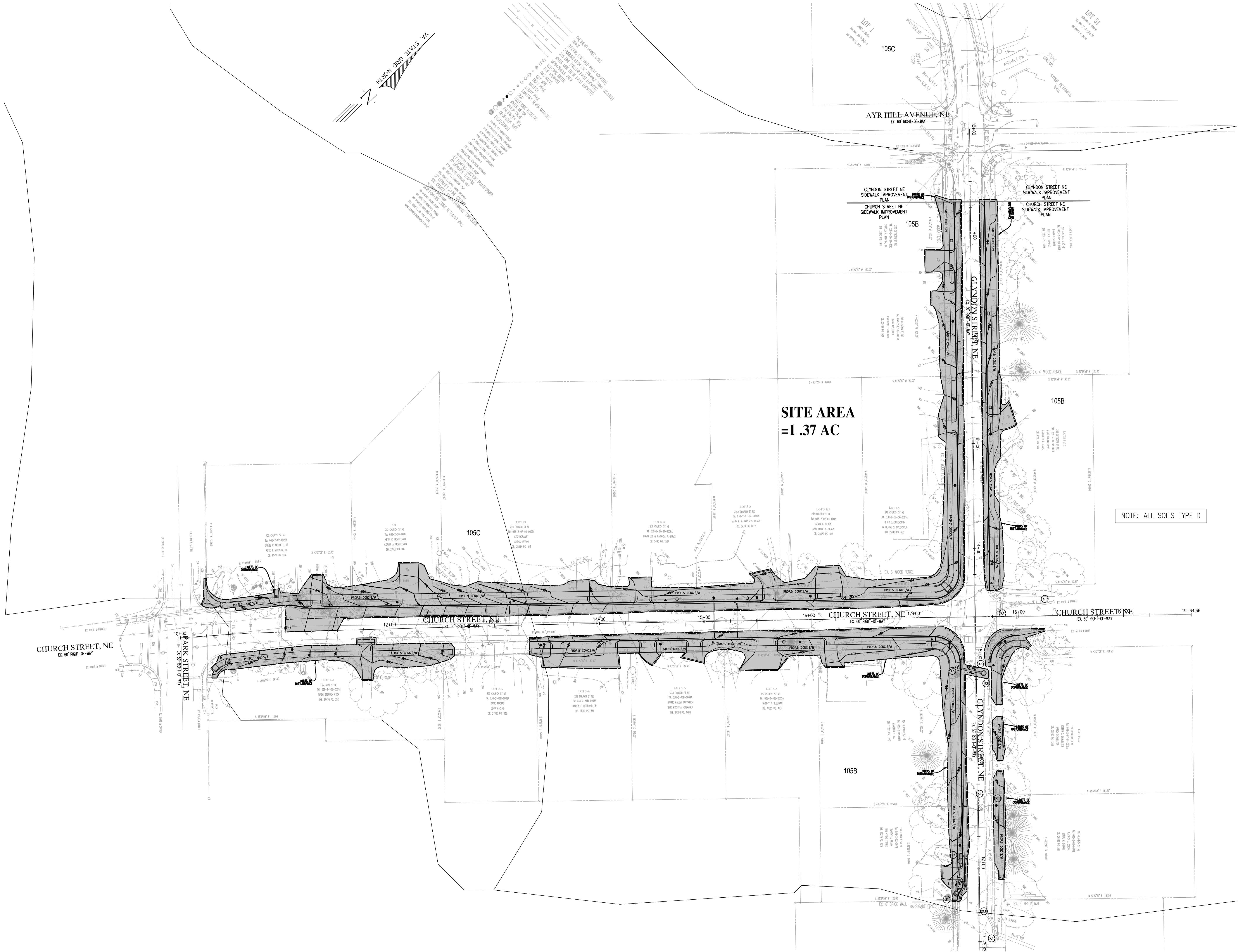
THE STRUCTURAL PRACTICES PROPOSED WITH THIS PLAN ARE AS FOLLOWS:

1. SILT FENCE - 3.05
A TEMPORARY SEDIMENT BARRIER CONSISTING OF A SYNTHETIC FILTER FABRIC STRETCHED ACROSS AND ATTACHED TO SUPPORTING POSTS AND ENTRENCHED.
2. STORM DRAIN INLET PROTECTION - 3.07
A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DROP INLET OR CURB INLET.
3. TOPSOLLING - 3.30
PRESERVING AND REUSING THE SURFACE LAYER OF SOIL FROM AREAS TO BE GRADED.
4. TEMPORARY SEEDING - 3.31
THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS.
5. SODDING - 3.33
STABILIZING FINE-GRADED DISTURBED AREAS BY ESTABLISHING PERMANENT GRASS STANDS WITH SOD
6. MULCHING - 3.35
APPLICATION OF PLANT RESIDUES OR OTHER SUITABLE MATERIALS TO THE SOIL SURFACE.
7. TREE PROTECTION - 3.38
PROTECTION OF DESIRABLE TREES FROM MECHANICAL AND OTHER INJURY DURING LAND DISTURBING AND CONSTRUCTION ACTIVITY.
8. 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.

1. ALL LAND CONSERVATION ACTIVITIES SHALL BE PERFORMED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
2. NO DISTURBED AREA WILL REMAIN DENUDE FOR MORE THAN 14 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE TOWN.
3. 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.
4. ALL STORM SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ONE TIME.
5. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDDED AND MULCHED WITHIN 5 DAYS AFTER BACKFILL.
6. ALL TEMPORARY EARTH BERMS, AND DIVERSIONS ARE TO BE MULCHED AND SEEDDED FOR TEMPORARY VEGETATIVE COVER IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED THE SAME APPLIED TO ALL SOIL STOCKPILES.
7. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
8. AT THE COMPLETION OF CONSTRUCTION, ALL TEMPORARY SILTATION AND EROSION CONTROLS SHALL BE REMOVED AND ALL DISTURBED AREAS SHALL BE STABILIZED.



FILE No. PP-2617	SHEET 14 OF 16	EROSION AND SEDIMENT CONTROL NARRATIVE & DETAILS CHURCH STREET, N.E. SIDEWALK IMPROVEMENT PLAN TOWN OF VIENNA FAIRFAX COUNTY, VIRGINIA SCALE: N/A C.I. 1"	 COMMONWEALTH OF VIRGINIA C. RYAN CONNOR Lic. No. 039531 05/29/2024 PROFESSIONAL ENGINEER	 urban [™] Planners • Engineers • Landscape Architects • Land Surveyors	Urban, Ltd. 7712 Little River Turnpike Annandale, Virginia 22003 Tel. 703.645.8281 Fax 703.645.8281 www.urban-ltd.com	PLAN DATE: 05/06/2023 05-25-2024	No. DATE 1 5/8/23 2 5/29/24 95% DESIGN CONSTRUCTION PLAN 30% DESIGN CONSTRUCTION PLAN	REVISIONS DESCRIPTION REVIEWBY APPROVED DATE
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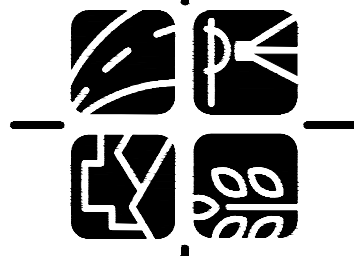
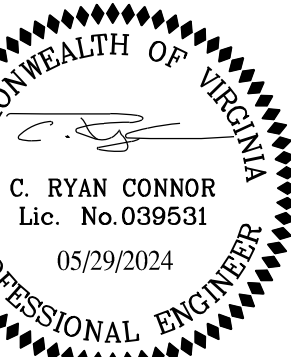
NOTE: ALL SOILS TYPE D

BMP MAP & WATER QUALITY NARRATIVE

CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

SCALE: 1" = 40' C.I. = 2' DATE: APRIL, 2023

SHEET
15
OF
16
FILE No.
PP-2617



Urban, Ltd.
7712 Little River Turnpike
Annandale, Virginia 22003
Tel. 703.642.8080
Fax. 703.642.8251
www.urban-ltd.com

PLAN DATE
05-08-2023
05-29-2024

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE
2	5/29/24	95% DESIGN CONSTRUCTION PLAN			
1	5/8/23	30% DESIGN CONSTRUCTION PLAN			

Project Name:Town of Vienna Church Street, NE

Date:5/29/2024

Linear Development Project?

No

CLEAR ALL

(Ctrl+Shift+H)

data input cells

constant values

calculation cells

final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) →1.37

Maximum reduction required:20%

The site's net increase in impervious cover (acres) is:0.41

Post-Development TP Load Reduction for Site (lb/yr):0.97

Check:

BMP Design Specifications List: 2013 Draft Stds & Specs

Linear project?No

Land cover areas entered correctly?✓

Total disturbed area entered?✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) – undisturbed forest/open space					0.00
Managed Turf (acres) – disturbed, graded for yards or other turf to be				0.92	0.92
Impervious Cover (acres)				0.45	0.45
					1.37

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested					0.00
Managed Turf (acres) – disturbed, graded for yards or other turf to be				0.51	0.51
Impervious Cover (acres)				0.86	0.86
Area Check	OK	OK	OK	OK	1.37

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	2.86
Target TP Load (lb/acre/yr)	0.41
p1 (unitless correction factor)	0.90

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted ¹
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	0.92	0.51
Weighted Rv(turf)	0.25	0.25
% Managed Turf	67%	53%
Impervious Cover (acres)	0.45	0.45
Rv(impervious)	0.95	0.95
% Impervious	33%	47%
Total Site Area (acres)	1.37	0.96
Site Rv	0.48	0.58

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0548	0.0463
Pre-ReDevelopment Treatment Volume (cubic feet)	2,387	2,015
Pre-ReDevelopment TP Load (lb/yr)	1.50	1.27
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.09	1.32
Baseline TP Load (lb/yr) (0.41 lb/acre/yr applied to pre-redevelopment area excluding previous land proposal for new impervious cover)		0.39

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post		
Post-ReDevelopment		
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0%
Managed Turf Cover (acres)	0.51	0.51
Weighted Rv(turf)	0.25	53%
% Managed Turf	37%	
ReDev Impervious Cover (acres)	0.45	
Rv(impervious)	0.95	
% Impervious	47%	
Total ReDev Site Area (acres)	0.96	
ReDev Site Rv	0.58	

Treatment Volume and Nutrient Load

Post-ReDevelopment Treatment Volume (acre-ft)	0.0463	Post-Development Treatment Volume (acre-ft)	0.0325
Post-ReDevelopment Treatment Volume (cubic feet)	2,015	Post-Development Treatment Volume (cubic feet)	1,414
Post-ReDevelopment Load (TP) (lb/yr) ¹	1.27	Post-Development TP Load (lb/yr)	0.89
Post-ReDevelopment TP Load per acre (lb/acre/yr)	1.32		
Max. Reduction Required (Below Pre-ReDevelopment Load)	20%		
TP Load Reduction Required for Redeveloped Area (lb/yr)	0.25	TP Load Reduction Required for New Impervious Area (lb/yr)	0.72

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr)0.97

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	10.73	Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	15.41
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BMP NARRATIVE

THE DRAINAGE AREA UTILIZED IN THE WATER QUALITY COMPUTATIONS CONSISTS OF SITE DISTURBANCE AREA. THE MAJORITY OF THIS SITE DRAINS TO THE EXISTING INLETS AND INTO THE EXISTING STORM SYSTEM WITHIN THE PUBLIC ROW.

PER THE BMP CALCULATIONS ON THIS SHEET AND IN COMPLIANCE WITH VSMP (VRRM) WATER QUALITY CONTROL REQUIREMENTS, THE PHOSPHORUS REMOVAL REQUIREMENT OF 0.97 POUNDS/YEAR IS TO BE OFFSET BY EITHER THE PURCHASE OF NUTRIENT CREDITS OR THE USE OF EXCESS IN OTHER TOWN PROJECTS, AT THE DISCRETION OF THE TOWN ENGINEER.

PLAN DATE
05/08/2023
05-29-2024

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urban

Planners • Engineers • Landscape Architects • Land Surveyors

COMMONWEALTH OF VIRGINIA

C. RYAN CONNOR
Lic. No. 0396531
05/29/2024

PROFESSIONAL ENGINEER

VRRM SPREADSHEET & WATER QUALITY NARRATIVE

CHURCH STREET, N.E.
SIDEWALK IMPROVEMENT PLAN
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

SCALE: 1" = 30'
C.I. = 2'

DATE: APRIL, 2023

SHEET
16
OF
16

FILE No.
PP-2617

REVISIONS

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE
1	5/8/23	30% DESIGN			
2	5/29/24	95% DESIGN			