

PROJECT SOURCE NOTES:

1. TOPOGRAPHY AND EXISTING FEATURE INFORMATION OBTAINED FROM A FIELD SURVEY BY BOWMAN CONSULTING GROUP, LTD, DATED: MARCH 15, 2019., BY MEANS OF CONVENTIONAL SURVEY METHODS.
2. BOUNDARY INFORMATION WAS OBTAINED FROM DEED OF RECORD, EXISTING LAND RECORDS, AND FIELD CHECK PERFORMED BY BOWMAN CONSULTING GROUP, LTD, DATED: FEBRUARY 5, 2019.
3. THE HORIZONTAL AND VERTICAL DATUM AS REFERENCED HEREON WAS ESTABLISHED BY STATIC GPS CONTROL METHODS. THE HORIZONTAL DATUM IS REFERENCED TO VIRGINIA COORDINATE SYSTEM OF 1983 (VCS83) AND THE VERTICAL DATUM IS REFERENCED TO NAVD 1988.
4. TITLE REPORT WAS PROVIDED BY COMMONWEALTH LAND TITLE INSURANCE COMPANY, COMMITMENT FILE NUMBER 67990, DATED FEBRUARY 24, 2019 AT 8:00 AM.

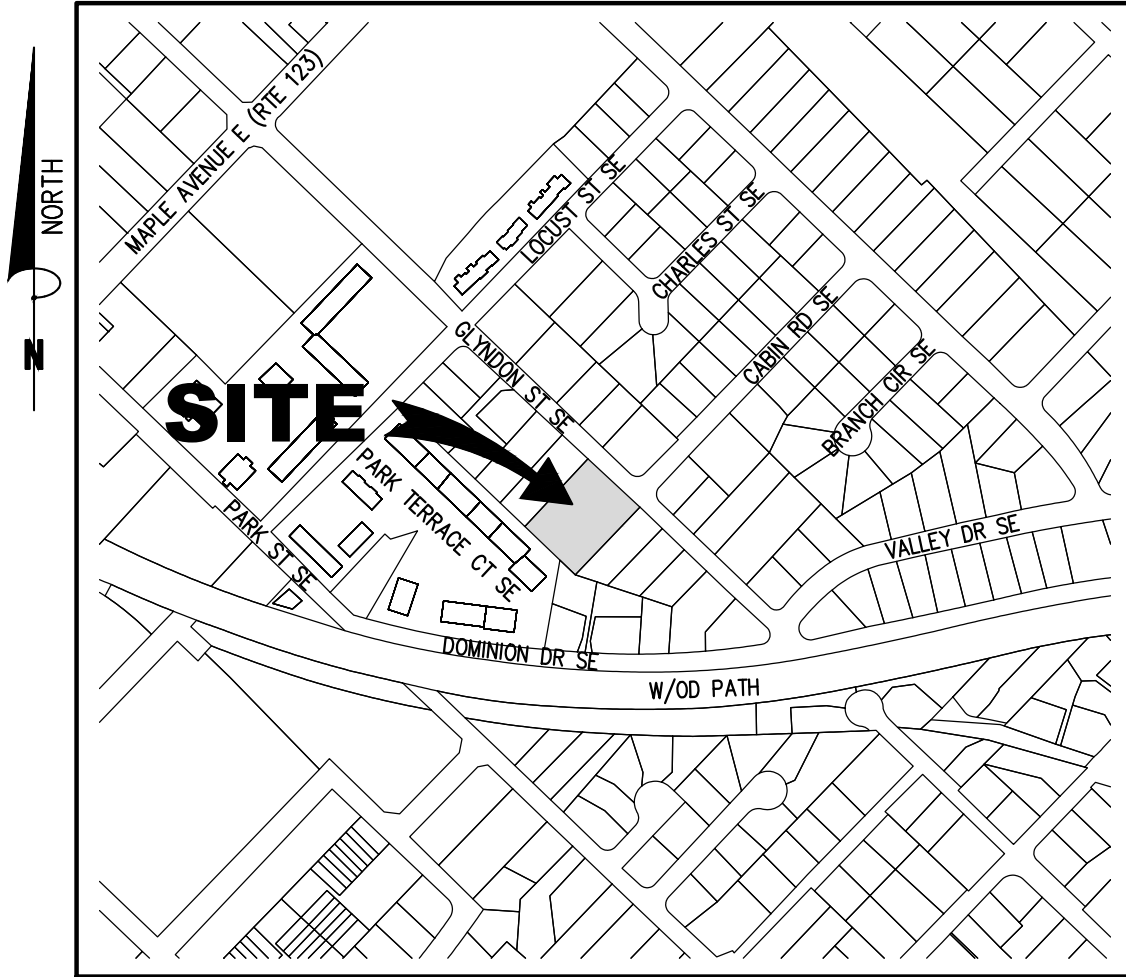
GENERAL NOTES:

1. THIS SITE IS SERVED BY PUBLIC WATER AND PUBLIC SANITARY SEWER.
2. ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF VIENNA.
3. ALL EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE CURRENT STANDARDS AND SPECIFICATIONS OF THE TOWN OF VIENNA AND THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.
4. THE LAND DISTURBER FOR THE PROJECT SHALL MONITOR COMPLIANCE WITH MINIMUM STANDARDS (MS-19) 4 VA C 50-30-40 TO THE EXTENT THEY APPLY TO THIS PLAN.
5. TREES ARE NOT TO BE PLANTED IN SWALES, IN ORDER TO PRESERVE DRAINAGE FLOWPATH.
6. CLEARING AND GRADING SHALL BE IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLANS AND STANDARDS SET FORTH BY THE PUBLIC FACILITIES MANUAL AND THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. ALL LAND ON OR OFF-SITE WHICH IS DISTURBED BY THIS DEVELOPMENT AND WHICH IS NOT BUILT UPON OR SURFACED, SHALL BE ADEQUATELY STABILIZED TO CONTROL EROSION AND SEDIMENTATION.
7. THE PERMITTEE SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING THE PRIVATE STREETS AND TOWN RIGHT OF WAY, AND IT IS THE PERMITTEE'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO INSURE THAT THE ROAD IS MAINTAINED IN A CLEAN, MUD AND DUST-FREE CONDITION AT ALL TIMES. SEE SILTATION AND EROSION CONTROL PLANS.
8. NO AREA SHALL BE LEFT DENUDED FOR A PERIOD GREATER THAN 14 DAYS EXCEPT FOR THAT PORTION OF THE SITE IN WHICH WORK WILL BE CONTINUOUS BEYOND 14 DAYS.
9. THE EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE BASED UPON AVAILABLE INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR WORK AND FOR ANY DAMAGES WHICH OCCUR BY HIS FAILURE TO LOCATE OR PRESERVE THESE UNDERGROUND UTILITIES. IF DURING CONSTRUCTION OPERATIONS THE CONTRACTOR SHOULD ENCOUNTER UTILITIES OTHER THAN THOSE SHOWN ON THE PLANS, HE SHALL IMMEDIATELY NOTIFY THE OWNER/ENGINEER AND TAKE NECESSARY AND PROPER STEPS TO PROTECT THE FACILITY AND ASSURE THE CONTINUANCE OF SERVICE.
10. ALL UTILITIES AND UTILITY POLES THAT MAY NEED TO BE RELOCATED DUE TO THIS PROJECT SHALL BE DONE AT THE EXPENSE OF THE DEVELOPER.
11. ELEVATIONS SHOWN ARE ON STRAIGHT GRADES, THE CONTRACTOR SHALL ROUND ALL VERTICAL BREAKS WITH SMOOTH SPLINE CURVES.
12. ALL CONSTRUCTION DUE TO THIS PROJECT IS TO BE DONE IN ACCORDANCE WITH THE STANDARDS SET BY THE STATE OF VIRGINIA, FAIRFAX COUNTY, AND THE TOWN OF VIENNA.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER AND THE ENGINEER/SURVEYOR OF ANY CHANGES OR CONDITIONS ATTACHED TO PERMITS OBTAINED FROM THE TOWN OF VIENNA, OR ANY OTHER AUTHORITY ISSUING PERMITS.
14. THE CONTRACTOR SHALL ADJUST MANHOLE TOPS, VALVE BOXES, ETC. TO MEET FINAL PAVEMENT/GROUND GRADE.
15. ALL CONSTRUCTION INVOLVING PROBLEM SOIL MUST BE PERFORMED UNDER THE FULL-TIME INSPECTION OF THE GEOTECHNICAL ENGINEER.
16. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THERE IS NO EVIDENCE OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL.
17. THE GEOTECHNICAL ENGINEER SHALL FURNISH A WRITTEN OPINION TO THE TOWN AS TO WHETHER OR NOT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE APPROVED PLANS PRIOR TO THE ISSUANCE OF A USE PERMIT.
18. THE CONTRACTOR IS REQUIRED TO PERFORM ALL TESTS REQUIRED BY THE TOWN TO SECURE ACCEPTANCE OF ALL UTILITIES.
19. A SMOOTH GRADE SHALL BE MAINTAINED FROM CENTERLINE OR ACROSS TRAVELWAY OF PROPOSED ROADS OR PARKING SURFACES TO PROPOSED CURB AND GUTTER TO PRECLUDE THE FORMING OF FALSE GUTTER AND/OR PONDING OF WATER ON ANY ROAD OR PARKING AREA.
20. ANY UTILITIES TO BE PLACED UNDER EXISTING STREETS SHALL BE JACK AND BORED UNLESS MODIFIED BY PERMIT.
21. ANY DAMAGE TO EXISTING STREETS DUE TO THIS DEVELOPMENT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER.
22. POSTED SPEED LIMIT ON GLYNDON STREET, SE (ROUTE #) IS 25 MPH.
POSTED SPEED LIMIT ON CABIN ROAD, SE (ROUTE #2524) IS 25 MPH.
23. THERE IS NO RPA ON SITE BASED ON REVIEW OF THE TOWN OF VIENNA ENVIRONMENTAL MAPS.

TOWN OF VIENNA GENERAL NOTES

1. A PRE-CONSTRUCTION MEETING MUST BE HELD PRIOR TO THE START OF CONSTRUCTION. CALL 703-255-6384 TO SCHEDULE THE PRE-CONSTRUCTION MEETING.
2. ALL CONSTRUCTION GENERATED DEBRIS MUST BE HAULED AWAY BY THE CONTRACTOR OR OWNER.
3. PRIOR TO THE REMOVAL OF ANY TOWN TREES (TREES WITHIN THE RIGHT OF WAY),THE APPLICANT OR THEIR REPRESENTATIVE SHALL CONTACT THE TOWN OF VIENNA ARBORIST AT 703-255-6360 TO COORDINATE HAVING THE TOWN ARBORIST ONSITE DURING ALL TOWN TREE REMOVAL.
4. TREE PROTECTION FOR ANY TOWN TREE, AS SHOWN ON PLAN, MUST BE INSTALLED PRIOR TO ANY SITE WORK.
5. IT IS UNLAWFUL TO PERFORM ANY CONSTRUCTION ABOVE FOUNDATION CORNERS PRIOR TO APPROVAL OF SETBACKS. WORK COMPLETED IN VIOLATION OF THIS REQUIREMENT IS SUBJECT TO DEMOLITION.
6. ALL DUMPSTERS/PODS ARE TO BE PLACED ON PRIVATE PROPERTY.
7. FRONT ELEVATION CHECKS ARE REQUIRED.
8. WALL CHECK SURVEYS ARE REQUIRED AND MUST BE SUBMITTED PRIOR TO CONSTRUCTION ABOVE FOUNDATION CORNERS.
9. A CERTIFICATE OF OCCUPANCY IS REQUIRED PRIOR TO OCCUPANCY. ALL REQUIRED DOCUMENTATION AND INSPECTIONS MUST BE SUBMITTED/COMPLETED BEFORE THE TOWN OF VIENNA WILL ISSUE A CERTIFICATE OF OCCUPANCY.
10. EXISTING SANITARY SEWER LATERALS ARE TYPICALLY CAPPED AT OR NEAR THE PROPERTY LINE. THE REUSE OF THE PORTION OF THE EXISTING SANITARY SEWER LATERAL BETWEEN THE TOWN OWNED SEWER MAIN AND THE CAPPED END MAY BE ALLOWED PROVIDING THAT A LICENSED PLUMBER CERTIFIES THAT THE EXISTING PIECE OF PIPE IS GRADED PROPERLY AND IN LIKE NEW CONDITION. THE REUSE OF A PORTION OF THE EXISTING LATERAL DOES NOT IMPLY THAT THE TOWN IS WARRANTING THE CONDITION IN ANY WAY.

ADDITION TO THE KATRINA HINE ECHOLS DIVISION TOWN OF VIENNA FAIRFAX COUNTY, VIRGINIA



VICINITY MAP

SCALE: 1"=500'

APPLICANT/DEVELOPER:
Fisher Custom Homes, LLC
131 CHURCH STREET NW
VIENNA, VIRGINIA 22180
T 703.281.0009

OWNER:
Linda Lee Thompson
4115 Windmill Road
Williamsburg, VIRGINIA 23188

CIVIL ENGINEERING:
Bowman Consulting Group, Ltd.
13461 SUNRISE VALLEY DRIVE
SUITE 500
HERNDON, VIRGINIA 20171
T 703.464.1000

SHEET INDEX:

- 1 COVER SHEET
- 2 EXISTING CONDITIONS PLAN
- 3 GRADING PLAN
- 4 EROSION AND SEDIMENT CONTROL PLAN PHASE I & II
- 5 EROSION AND SEDIMENT CONTROL DETAIL
- 6 STOPPING SIGHT DISTANCE
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- 13 PRE- AND POST-DEVELOPMENT LAND COVER

SITE DATA AND TABULATIONS:

TAX MAP NO: 0384-25-0003
DEED BOOK: WB01143 PAGE: 0457
ZONE: RS-10 (10,000 3.2 DU/AC)
USE: SINGLE-FAMILY, DETACHED
LOT AREA: 0.98221 Ac 42,785 sf
OFF STREET PARKING REQUIRED: 4 per LOT
OFF STREET PARKING PROVIDED: 4 per LOT

BULK REGULATIONS:

MAXIMUM BUILDING HEIGHT: 35'
YARD SETBACK REQUIRED PROVIDED

		LOT 3A	LOT 3B
FRONT YARD:	25'	25'	25'
SIDE YARD:	12'	12'	12'
REAR YARD:	35'	35'	35'

LOT COVERAGE:	LOT 3A	LOT 3B
MAXIMUM ALLOWED (25%)	5,348 SF	5,348 SF
PROPOSED:		
HOUSE:	3,404 SF	2,921 SF
PORCH:	444 SF	274 SF
DRIVEWAY:	1,080 SF	1,010 SF
TOTAL:	4,928 SF (23.0%)	4,205 SF (19.66%)

DECK COVERAGE:	LOT 3A	LOT 3B
MAXIMUM ALLOWED (5%)	1,070 SF	1,070 SF
PROPOSED:	273 SF (1.28%)	318 SF (1.48%)

SHAPE FACTOR CALCULATION			
LOT	LOT PERIMETER	LOT AREA	LOT SHAPE FACTOR
LOT 3A	655.40'	21,392 S.F.	20.08
LOT 3B	655.40'	21,393 S.F.	20.08

AREA TABULATION			
PARID -	42,785 S.F. OR 0.98221 ACRES	LOT 3A LOT 3B	21,392 S.F. OR 0.49110 ACRES 21,393 S.F. OR 0.49111 ACRES
TOTAL =	42,785 S.F. OR 0.98221 ACRES	TOTAL	42,785 S.F. OR .98221 ACRES

FRONTAGE IMPROVEMENTS ALTERNATIVE NARRATIVE:

APPLICANT REQUESTS A WAIVER OF THE FRONTAGE IMPROVEMENTS INCLUDING CURB, GUTTER AND SIDEWALK AT THIS TIME. APPLICANT SHALL AGREE TO PROVIDE THE LOCATION AND INSTALLATION OF NEIGHBORHOOD SERVING STORM DRAIN CONDUIT AND EASEMENTS WITHIN THE SUBJECT PROPERTY TO BE UTILIZED BY THE TOWN AS MAY BE DEEMED APPROPRIATE IN-LIEU OF THE CONSTRUCTION OF FRONTAGE IMPROVEMENTS.

TOWN OF VIENNA PLAN APPROVAL

Dept. of Planning and Zoning
_____ Date

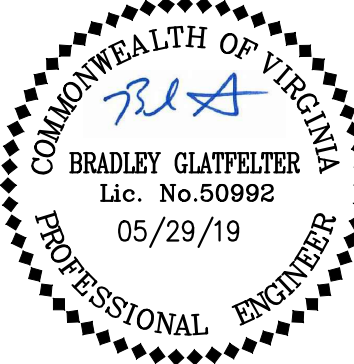
Dept. of Public Works
_____ Date

Bowman
CONSULTING GROUP

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Herndon, Virginia 20171
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www.bowmanconsulting.com
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COVER SHEET
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

COUNTY PROJECT NUMBER



PLAN STATUS

05/29/19 REV PER COMMENTS

DATE DESCRIPTION

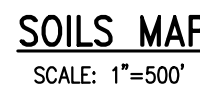
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JOB No. 030170-01-001

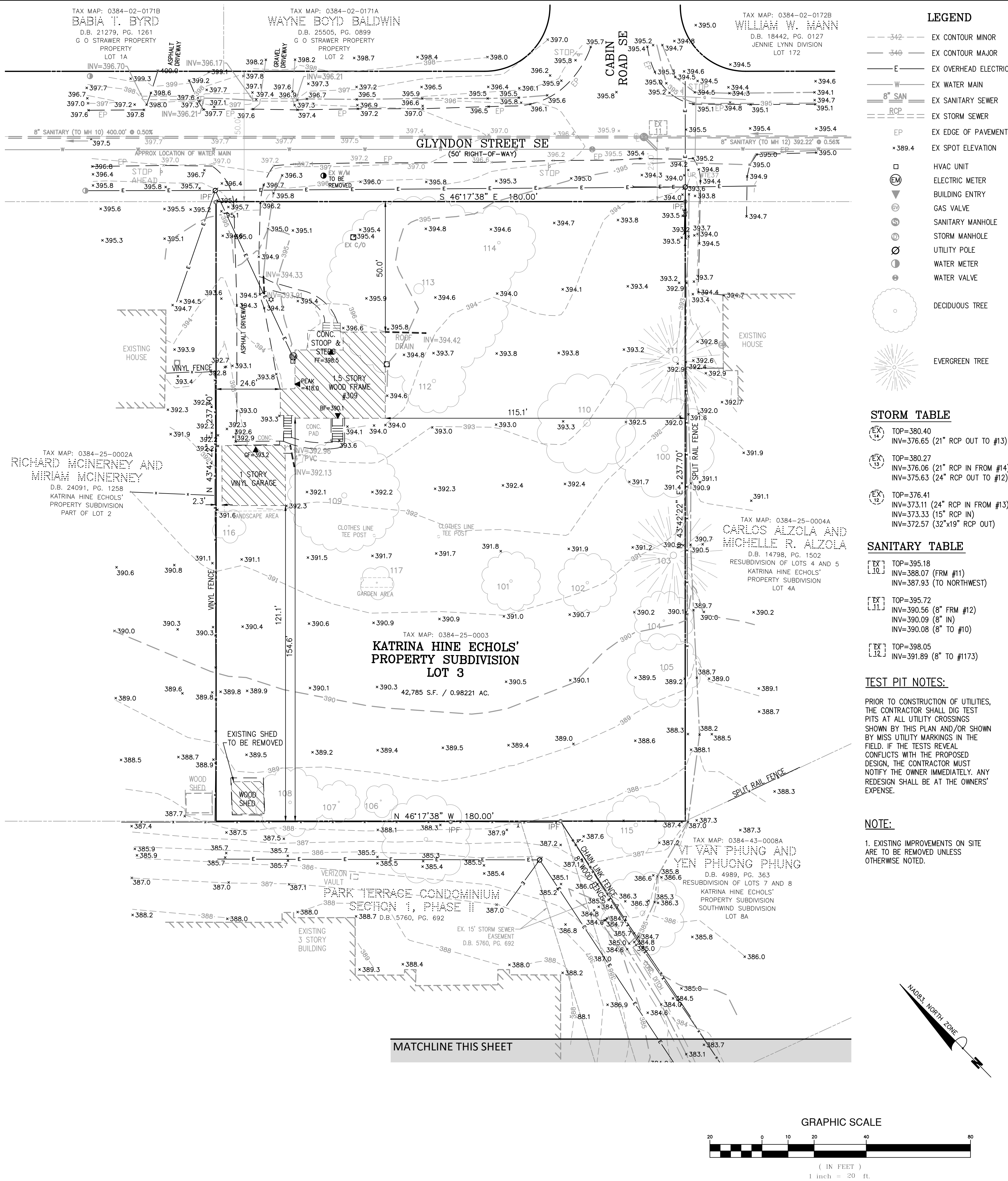
DATE : April, 2019

FILE No. 030170-D-ZP-001

SHEET 1 OF 13



SOIL DATA TABLE (PER FAIRFAX COUNTY SOILS MAP 2011)					
SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	ERODABILITY	PROBLEM CLASS
101	URBAN LAND – WHEATON COMPLEX	GOOD	FAIR S	HIGH	IVB
105B	WHEATON – GLENELG COMPLEX	GOOD	GOOD	HIGH	IVB
107B	WHEATON – MEADOWVILLE COMPLEX	FAIR B, w	MARGINAL S, w	MEDIUM	IVB



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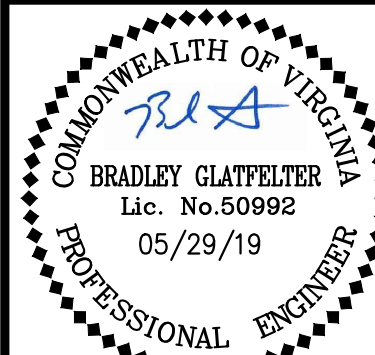
Phone: (703) 464-1000
Fax: (703) 481-9720

www.bowmanconsulting.com

Bowman Consulting Group, Ltd.

EXISTING CONDITIONS PLAN
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
FAIRFAX COUNTY, VIRGINIA
TOWN OF VIENNA

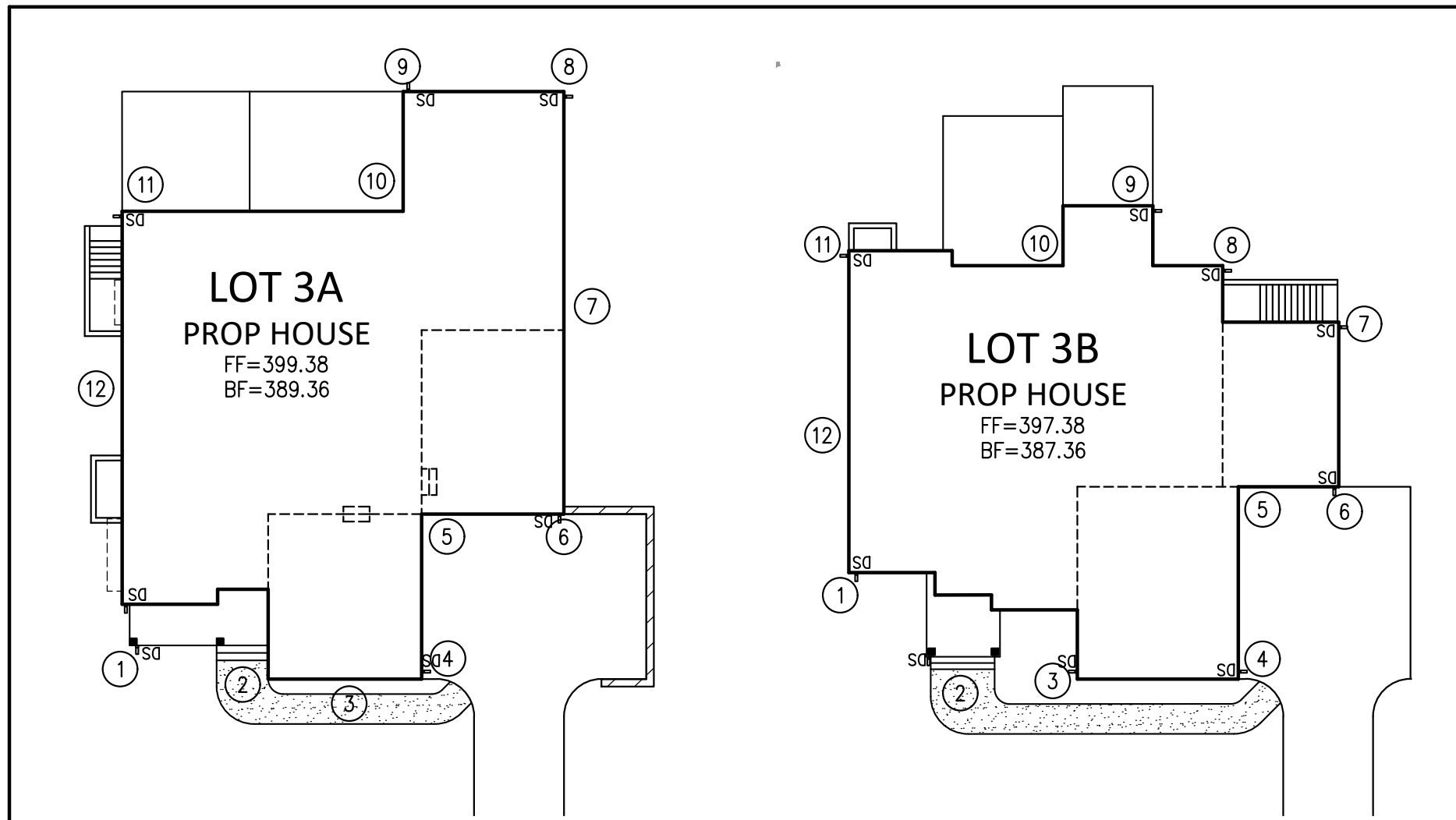
COUNTY PROJECT NUMBER



PLAN STATUS	
05/29/19	REV PER COMMEN

DATE	DESCRIPTION	
KF DESIGN	KF DRAWN	BG CHKD
SCALE	H: 1" = 20' V: N/A	
JOB No. 030170-01-001		
DATE : April, 2019		
FILE No. 030170-D-ZP-001		

SHEET 2 OF 13



PRELIMINARY GRADE DEVIATION TABULATION

SCALE: 1"=20'

Grade Deviation Computations Lot 3A			
Spot#	Post Elevation	Pre Elevation	Deviation (ft)
1	396.50	395.10	1.40
2	397.00	395.60	1.40
3	397.00	395.80	1.20
4	397.00	395.70	1.30
5	397.00	395.90	1.10
6	397.00	394.00	3.00
7	393.40	393.20	0.20
8	392.40	392.20	0.20
9	392.20	392.10	0.10
10	393.00	393.20	-0.20
11	392.80	392.80	0.00
12	394.00	394.00	0.00
Total Grade	4739.30	4729.60	9.70
Average Grade	394.94	394.13	0.81

Grade Deviation Computations Lot 3B			
Spot#	Post Elevation	Pre Elevation	Deviation (ft)
1	394.25	393.20	1.05
2	395.00	393.60	1.40
3	395.50	394.00	1.50
4	395.71	394.10	1.61
5	395.71	393.60	2.11
6	395.71	393.60	2.11
7	393.65	393.00	0.65
8	393.40	393.00	0.40
9	393.00	392.90	0.10
10	393.00	392.90	0.10
11	392.00	392.00	0.00
12	393.00	393.00	0.00
Total Grade	4729.93	4718.90	11.03
Average Grade	394.16	393.24	0.92

SITE GRADING NOTE:

- PROPOSED CONTOURS AND SPOT ELEVATION SHOWN HEREIN ARE SUBJECT TO ADJUSTMENT/REVISION WITH FINAL LOT GRADING PLAN.

SANITARY SEWER NOTES:

- APPLICANT WILL LINE THE EXISTING SANITARY SEWER MAIN IF DEEMED NECESSARY BY TOWN DURING INSPECTION UP TO THE NEXT DOWNSTREAM SANITARY MANHOLE.
- PER SECTION 715.1 SEWAGE BACKFLOW, WHERE PLUMBING FIXTURES ARE INSTALLED ON A FLOOR WITH A FINISHED FLOOR ELEVATION BELOW THE ELEVATION OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER, SUCH FIXTURES SHALL BE PROTECTED BY A BACKWATER VALVE INSTALLED IN THE BUILDING DRAIN, OR HORIZONTAL BRANCH SERVING SUCH FIXTURES. PLUMBING FIXTURES INSTALLED ON A FLOOR WITH A FINISHED FLOOR ELEVATION ABOVE THE ELEVATION OF THE MANHOLE COVER OF THE NEXT UPSTREAM MANHOLE IN THE PUBLIC SEWER SHALL NOT DISCHARGE THROUGH A BACKWATER VALVE.
- PER SECTION 715.2 MATERIAL, ALL BEARING PARTS OF BACKWATER VALVES SHALL BE OF CORROSION-RESISTANT MATERIAL. BACKWATER VALVES SHALL COMPLY WITH ASME A112.41.1, CSA B181.1 OR CSA B181.2.
- PER SECTION 715.3 SEAL, BACKWATER VALVES SHALL BE SO CONSTRUCTED AS TO PROVIDE A NEW MECHANICAL SEAL AGAINST BACKFLOW.
- PER SECTION 715.4 DIAMETER, BACKWATER VALVES, WHEN FULLY OPEN, SHALL HAVE A CAPACITY OF NOT LESS THAN THAT OF THE PIPES IN WHICH THEY ARE INSTALLED.
- PER SECTION 715.5 LOCATION, BACKWATER VALVES SHALL BE INSTALLED SO THAT ACCESS IS PROVIDED TO THE WORKING PARTS FOR SERVICE AND REPAIR.

WATER SERVICE NOTES:

- ALL WATER SERVICE LINES WILL BE 1 INCH.
- NEW WATER METERS WILL BE 1". (SEE DETAIL SHEET 11)
- EXISTING WATER SERVICE TO BE CUT AND CRIMPED AT THE WATER MAIN. THE EXISTING CORPORATION STOP MUST BE TURNED OFF.

FOUNDATION DRAIN (FD) NOTE:

- BUILDING FOUNDATION DRAIN IS TO CONNECT TO SUMP PUMP PIT DUE TO NO AVAILABLE OUTFALL BY MEANS OF GRAVITY FLOW.

SANITARY SEWER LATERAL SCHEDULE:

LOT NO.	FROM STR	TO STR	DISTANCE FROM EX.10	LAT. SIZE (IN)	MAIN SIZE (IN)	INV. @ STR #10	LAT INV. @ MAIN	SLOPE (FT./FT.)	INV. @ STR #11	LENGTH MAIN TO C/O	INV. @ C/O
A	10	11	307	4	8	388.07	389.61	0.05%	NA	58	391.44
B	10	11	400	4	8	388.07	NA	NA	390.56	67	391.95

NOTE: CAP AND ABANDON EXISTING LATERAL THAT SERVES EXISTING DWELLING PER TOWN OF VIENNA STANDARDS.

Building height computations Average Grade Lot A	
Spot#	Post Elevation
1	396.50
2	397.00
3	397.00
4	397.00
5	397.00
6	397.00
Total Grade	2381.50
Average Grade	396.92

Building Lot A			
Total Grade	Avg Finished Grade (AFG) Elevation	Peak Roof (Highest Ridge) Elevation	Proposed Dwelling Height
2381.50	396.92	431.54	34.62
Dwelling Height Permitted = 35.00 ft			
Dwelling Height Proposed = 34.62 ft			

Building height computations Average Grade Lot B	
Spot#	Post Elevation
1	394.25
2	395.00
3	395.50
4	395.71
5	395.71
6	395.71
Total Grade	2371.88
Average Grade	395.31

Building Lot B			
Total Grade	Avg Finished Grade (AFG) Elevation	Peak Roof (Highest Ridge) Elevation	Proposed Dwelling Height
2371.88	395.31	429.23	33.92
Dwelling Height Permitted = 35.00 ft			
Dwelling Height Proposed = 33.92 ft			

LOT A
PRELIMINARY BUILDING HEIGHT
COMPUTATIONS

(SUBJECT TO REVISION WITH FINAL ENGINEERING/ARCHITECTURAL DESIGN)

LOT B
PRELIMINARY BUILDING HEIGHT
COMPUTATIONS

(SUBJECT TO REVISION WITH FINAL ENGINEERING/ARCHITECTURAL DESIGN)



PRELIMINARY LOT A HOUSE ELEVATION

SCALE: NTS

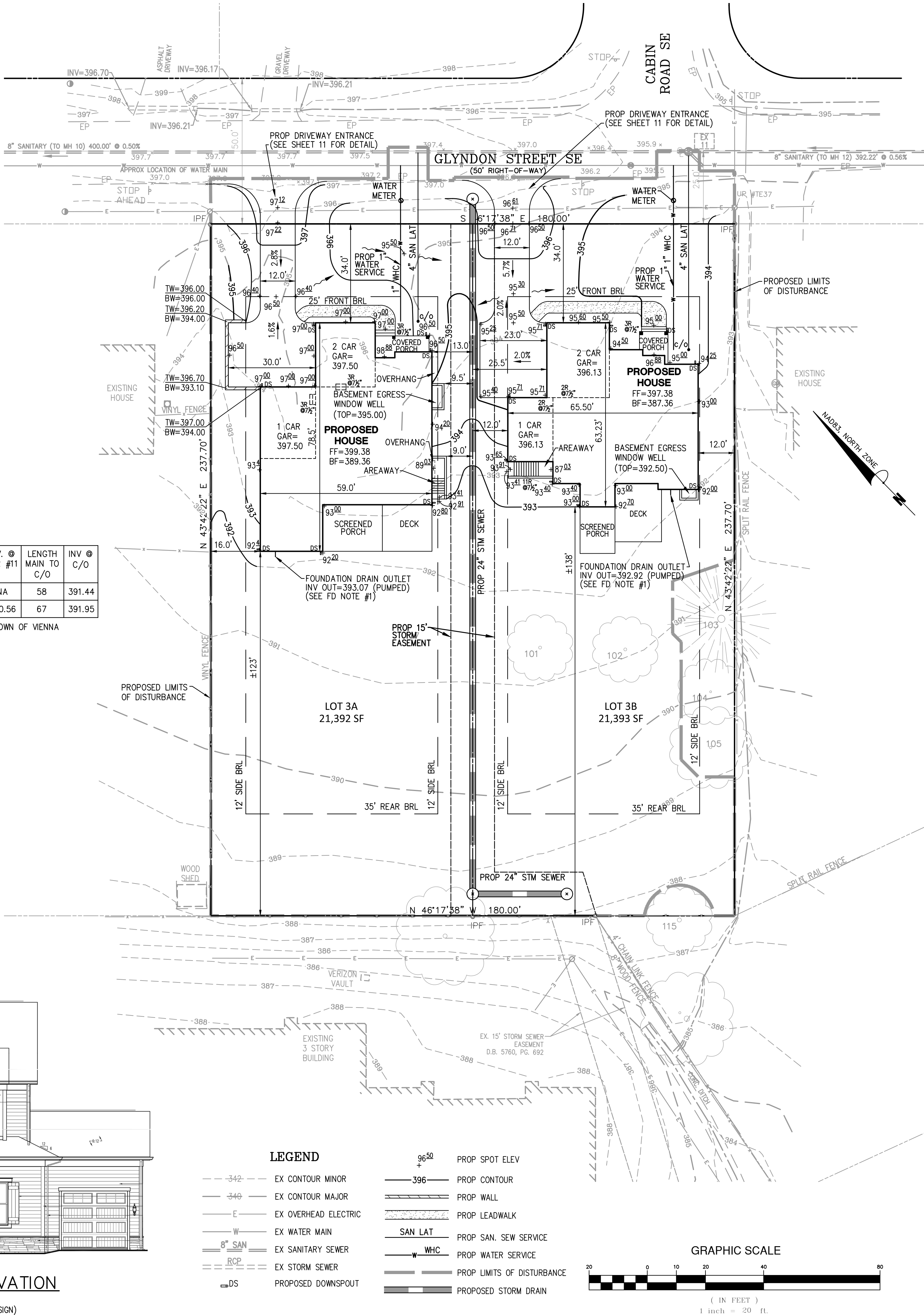
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PRELIMINARY LOT B HOUSE ELEVATION

SCALE: NTS

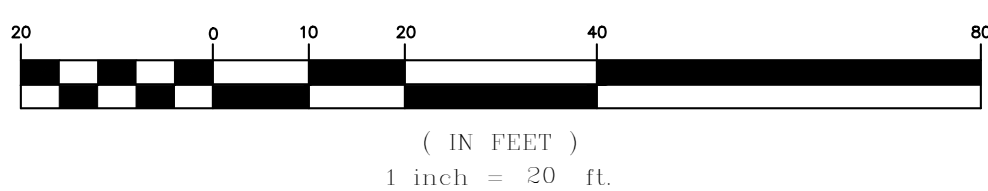
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LEGEND

--- 342 ---	EX CONTOUR MINOR	--- 396 ---	PROP SPOT ELEV
--- 340 ---	EX CONTOUR MAJOR	--- 396 ---	PROP CONTOUR
--- E ---	EX OVERHEAD ELECTRIC	--- 396 ---	PROP WALL
--- W ---	EX WATER MAIN	--- 396 ---	PROP LEADWALK
--- 8" SAN ---	EX SANITARY SEWER	--- SAN LAT ---	PROP SAN. SEW SERVICE
--- RCP ---	EX STORM SEWER	--- W ---	PROP WATER SERVICE
--- DS ---	PROPOSED DOWNSPOUT	--- ---	PROP LIMITS OF DISTURBANCE
		--- ---	PROPOSED STORM DRAIN

GRAPHIC SCALE





1. ALL WORK WITHIN THE TREE SAVE AREAS AND WITHIN 25 FEET SHALL BE DONE USING SMALL "WALK BEHIND" MACHINERY AND HAND TOOLS.
2. CONTRACTOR SHALL ENSURE BY ALL MEANS THAT TREES MARKED AND FLAGGED TO BE SAVED ARE NOT DAMAGED DURING DEMOLITION.
3. REMOVE FROM THE PROJECT SITE ALL DEMOLISHED MATERIAL AND DISPOSE OF IN APPROVED LOCATION.

PROPOSED DRAINAGE DIVIDE



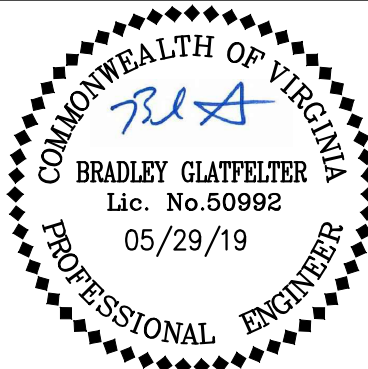
GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

EROSION AND SEDIMENT CONTROL PLAN PHASE I & II

SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
FAIRFAX COUNTY, VIRGINIA
TOWN OF VIENNA

COUNTY PROJECT NUMBER



PLAN STATUS	
05/29/19	REV PER COMMENT

DATE	DESCRIPTION
KF DESIGN	KF DRAWN BG CHKD
SCALE	H: 1" = 20' V: N/A
JOB No.	030170-01-001
DATE :	April, 2019
FILE No.	030170-D-ZP-001
SHEET	4 OF 13

SHEET 4 OF 13

Cad file name : P:\030170 - 309 Glyndon Street\030170-01-002 (PLN) - 309 Glyndon Street\Planning\Engineering\030170-01-001-ESP.dwg

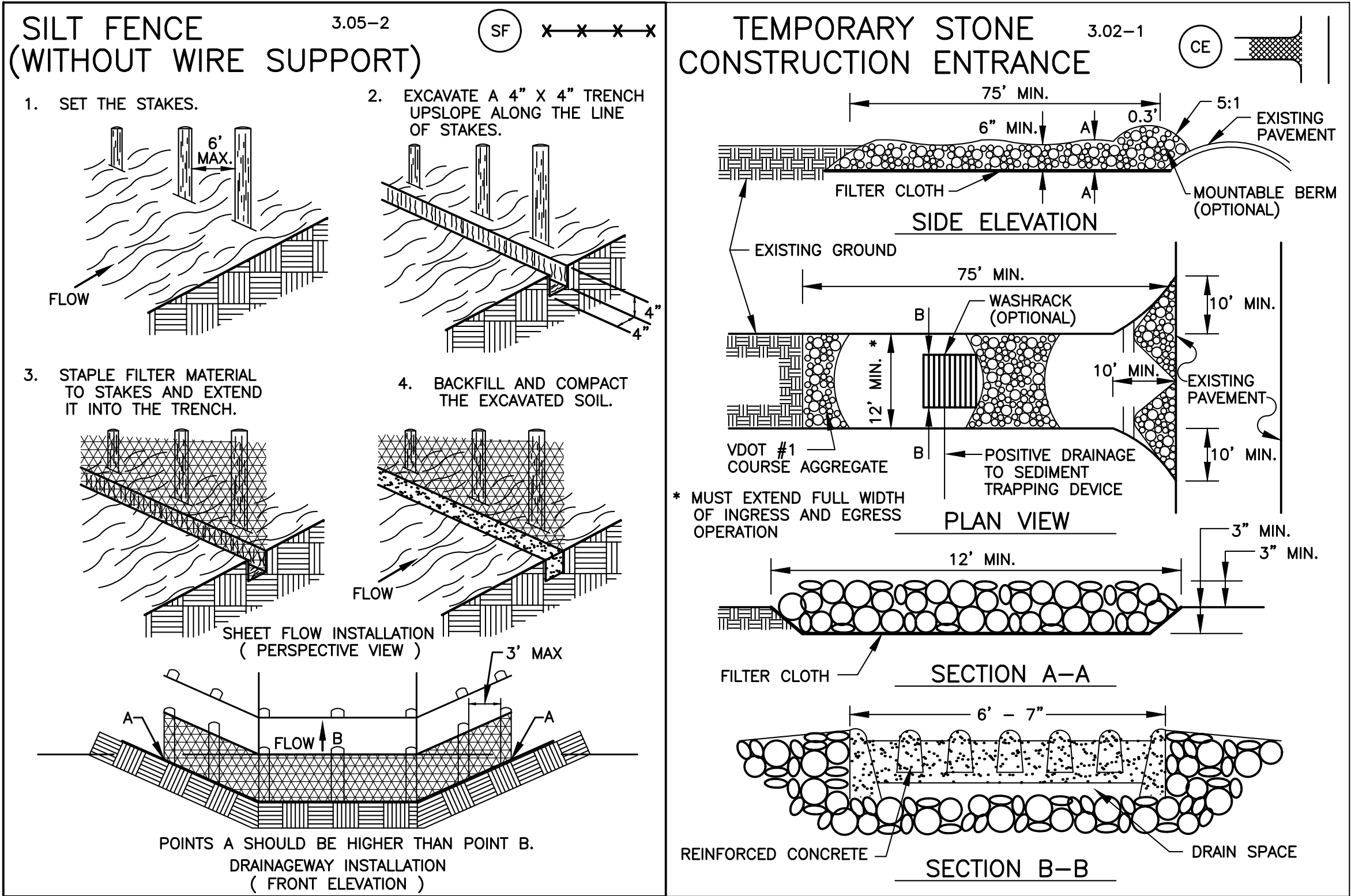


TABLE 6-1 GENERAL EROSION AND SEDIMENT CONTROL NOTES	
ES-1:	Unless otherwise indicated, all vegetative and structural erosion and sediment control practices will be constructed and maintained according to minimum standards and specifications of the Virginia Erosion and Sediment Control Handbook and Virginia Regulations 4VAC50-30-1 Erosion and Sediment Control Regulations.
ES-2:	The plan approving authority must be notified one week prior to the pre-construction conference, one week prior to the commencement of land disturbing activity, and one week prior to the final inspection.
ES-3:	All erosion and sediment control measures are to be placed prior to or as the first step in clearing.
ES-4:	A copy of the approved erosion and sediment control plan shall be maintained on the site at all times.
ES-5:	Prior to commencing land disturbing activities in areas other than 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 plan approving authority.
ES-6:	The contractor is responsible for installation of any additional erosion control measures necessary to prevent erosion and sedimentation as determined by the plan approving authority.
ES-7:	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.
ES-8:	During dewatering operations, water will be pumped into an approved filtering device.
ES-9:	The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repair or cleanup to maintain the effectiveness of the erosion control devices shall be made immediately.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

THE PROJECT INCLUDES DEMOLITION OF EXISTING FEATURES, CLEARING, GRADING, CONSTRUCTION OF TWO NEW SINGLE FAMILY HOMES AND ASSOCIATED SERVICE CONNECTIONS. CONSTRUCTION ACTIVITIES WILL DISTURB APPROXIMATELY 0.996 ACRES OF LAND.

EXISTING SITE CONDITIONS

THE SITE IS ON A TERRAIN WITH THE STEEPEST SLOPES FOUND TO BE LESS THAN 10%. THE SITE DRAINS TO THE SOUTH. THE ENTIRE SITE IS LOCATED WITHIN THE DIFFICULT RUN WATERSHED.

ADJACENT PROPERTY

THE SITE FACES GLYNDON STREET S.E., A PUBLIC STREET, TO THE NORTHEAST. THE LOT IS BOUNDED BY SINGLE-FAMILY LOTS TO THE SIDE, CONDOMINIUM TO THE REAR. LAND DISTURBANCE WILL EFFECT ONLY A SMALL PORTION OF GLYNDON STREET, S.E.

OFF-SITE AREAS

THERE ARE NO OFF-SITE AREAS THAT WILL BE ADVERSELY AFFECTED BY ANY LAND-DISTURBING ACTIVITIES.

SOILS

FOR SOILS MAP AND SOIL PROPERTIES DESCRIPTIONS SEE SHEET 2. THE PREDOMINANT SITE SOIL IS WHEATON-GLENELG COMPLEX. SOILS REPORT IS NOT REQUIRED FOR THIS TYPE OF SOIL.

CRITICAL EROSION AREAS

THERE ARE NO LARGE CRITICAL AREAS ON SITE.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED ON THE PLAN AND IN THIS NARRATIVE ALL VEGETATIVE AND STRUCTURAL CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS REQUIREMENTS OF THE CURRENT EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH). THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VESCH SHALL BE ADHERED TO UNLESS WAIVED BY A WAIVER APPROVED BY THE REVIEWING AUTHORITIES. UNLESS OTHERWISE INDICATED ALL SPECIFICATION REFERENCES IN THIS NARRATIVE AND ON THE PLAN REFER TO VESCH.

STRUCTURAL PRACTICES

- CONSTRUCTION ENTRANCE – SPEC 3.02
EXISTING CONCRETE DRIVEWAY SHALL SERVE AS CONSTRUCTION ENTRANCE ADJACENT TO THE HOUSE. CONSTRUCTION OPERATIONS, OFFSET FROM THE PUBLIC ROADWAY.
- SILT FENCE BARRIER – SPEC 3.05
SILT FENCE BARRIER WILL BE USED ALONG THE SITE BOUNDARY WHERE THE ADJACENT LAND IS PROPOSED TO BE DISTURBED AS INDICATED ON THE PLAN.
- SUPER SILT FENCE BARRIER – SPEC 3.05
SUPER SILT FENCE BARRIER WILL BE USED ALONG THE SITE BOUNDARY WHERE THE ADJACENT LAND IS PROPOSED TO BE DISTURBED AS INDICATED ON THE PLAN.
- INLET PROTECTION – SPEC 3.07-8
INLET SHALL BE PROTECTED DURING CONSTRUCTION

VEGETATIVE PRACTICES

- TOPSOILING – SPEC. 3.30
TOPSOIL WILL BE STRIPPED FROM AREAS TO BE GRADED AND PORTION STOCKPILED ON SITE FOR LATER USE. THE STOCKPILE LOCATION SHALL BE SELECTED BY THE SITE SUPERINTENDENT AND THE STOCKPILE SHALL BE PROTECTED WITH A SILT FENCE BARRIER. TOPSOIL NOT USED IN FINAL LANDSCAPING SHALL BE HAULED OFF SITE.
- TEMPORARY SEEDING – SPEC. 3.31
ALL DENUDED AREAS, WHICH ARE PLANNED TO BE LEFT DORMANT FOR MORE THAN 7 DAYS, SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING. THE SELECTION OF THE SEED MIXTURE WILL DEPEND ON THE TIME OF THE YEAR WHEN TEMPORARY SEEDING IS APPLIED.
- PERMANENT SEEDING – SPEC. 3.32
ALL DENUDED AREAS SHALL BE SEEDED WITH PERMANENT VEGETATION IN ACCORDANCE WITH THE LANDSCAPE PLAN MADE PART OF THE CONSTRUCTION SITE PLAN. THE PERMANENT SEEDING SHALL BE APPLIED AT THE EARLIEST OPPORTUNITY TO PERMANENTLY STABILIZE DISTURBED AREAS AND TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM THE DISTURBED AREAS.
- MULCH – SPEC. 3.35
MULCH (STRAW OR FIBER) SHALL BE USED ON SEEDED AREAS AND SHALL BE APPLIED AS A SECOND STEP IN SEEDING OPERATION.

PHASING OF SEDIMENT AND EROSION CONTROL PLAN

THIS PROJECT INCLUDES CLEARING OF EXISTING TREES AND IMPROVEMENTS AND CONSTRUCTION OF NEW RESIDENCE.

GENERAL CLEARING AND GRADING SHALL BEGIN ONLY AFTER INSTALLATION OF CONSTRUCTION ENTRANCE WITH WASH RACK AND ALL PERIMETER EROSION AND SEDIMENT CONTROLS.

COMBINED PHASE I AND II

- EROSION AND SEDIMENT CONTROLS NECESSARY FOR THE TEMPORARY CONSTRUCTION ENTRANCE WASH RACK (IF REQUIRED) AND THE STAGING AREA SHALL BE INSTALLED.
- CONSTRUCTION ENTRANCE (IF REQUIRED) AND STAGING AREA MAY BE CLEARED AND GRUBBED.
- WASH RACK (IF REQUIRED) SHALL BE INSTALLED.
- UPON COMPLETION OF ALL STEPS DESCRIBED ABOVE, INSTALL PERIMETER CONTROLS AND TREE PROTECTION.
- IF NECESSARY DURING THE CLEARING, ANY DEMOLISHED OR EXCAVATED MATERIAL SHALL BE TEMPORARILY STOCKPILED WITHIN THE STAGING AREA. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED FOR ANY STOCKPILED MATERIAL.
- CLEARING OF ANY AREA FOR THE PURPOSES OF ACCESS AND DEMOLITION MAY BE PERFORMED ANY TIME UPON INSTALLATION OF CONSTRUCTION ENTRANCE AND PERIMETER CONTROLS.
- CLEARING OF THE SITE MAY START ONLY AFTER COMPLETION OF INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS SHOWN ON DRAWINGS AND WITH THE APPROVAL OF TOWN OF VIENNA INSPECTOR.
- SEDIMENT CONTROLS SHALL BE KEPT OPERATIONAL FOR THE MAXIMUM PERFORMANCE POSSIBLE.
- EROSION AND SEDIMENT CONTROLS MAY BE REMOVED ONLY AFTER PERMANENT VEGETATIVE COVER OF THE SITE HAS BEEN ACHIEVED AND WITH THE APPROVAL OF TOWN OF VIENNA INSPECTOR.
- ANY DISTURBED AREA PLANNED TO BE LEFT DORMANT FOR MORE THAN 7 CALENDAR DAYS SHALL BE STABILIZED WITH TEMPORARY VEGETATION.
- PERMANENT SEEDING AND/OR SODDING SHALL BE INSTALLED AS ONE OF THE LAST STEPS IN DEMOLITION TO PREVENT DAMAGE TO THE PLANTING MATERIAL.
- AFTER CONSTRUCTION HAS BEEN COMPLETED AND ALL DISTURBED AREAS HAVE BEEN STABILIZED WITH PERMANENT VEGETATIVE COVER, EROSION AND SEDIMENT CONTROLS MAY BE REMOVED WITH THE APPROVAL OF TOWN OF VIENNA INSPECTOR.

MANAGEMENT STRATEGIES

- CONSTRUCTION WILL BE SEQUENCED SO THAT CONSTRUCTION OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE.
- SEDIMENT TRAPPING MEASURES WILL BE INSTALLED PRIOR TO LAND DISTURBANCE ACTIVITIES.
- TREES DESIGNATED TO BE PRESERVED SHALL BE PROTECTED WITH ORANGE PLASTIC FENCE INSTALLED TOGETHER WITH TREE PROTECTION BARRIER WHERE INDICATED ON DRAWINGS.
- THE CERTIFIED LAND DISTURBER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND THE MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES.
- THE TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE INSPECTED DAILY AND ANY DAMAGE SHALL BE REPAIRED BY THE END OF THE BUSINESS DAY.
- THE TEMPORARY EROSION AND SEDIMENT MEASURES SHALL BE CLEANED AFTER ANY MEASURABLE RAINFALL AND SEDIMENT SPREAD ON SITE IN PROTECTED AREAS.
- TEMPORARY SEEDING SHALL BE APPLIED TO ALL DISTURBED AREAS WITHIN 7 DAYS OF GRADING.

MAINTENANCE

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY BY THE SITE SUPERINTENDENT. THE CERTIFIED LAND DISTURBER FOR THE SITE IS RESPONSIBLE FOR INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES. THE FOLLOWING INSPECTIONS AND MAINTENANCE TASKS ARE PARTICULARLY IMPORTANT AND SHALL BE PERFORMED AS INDICATED:

- CONSTRUCTION ENTRANCE AND WASH RACK SHALL BE INSPECTED WEEKLY. IN CASE THE GRAVEL IS CLOGGED WITH SEDIMENT BUILD-UP AND IS NO LONGER FUNCTIONAL, THE GRAVEL SHALL BE REMOVED, CLEANED AND REPLACED.
- THE SILT FENCE BARRIERS SHALL BE INSPECTED DAILY FOR TEARS, UNDERMINING AND FABRIC DETERIORATION. ANY DAMAGE SHALL BE REPAIRED BY THE CLOSE OF THE BUSINESS DAY.

- THE SILT FENCE BARRIERS SHALL BE INSPECTED WEEKLY FOR DEPTH OF SEDIMENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 18 INCHES. THE SEDIMENT SHALL BE SPREAD ON-SITE IN PROTECTED AREAS.
- SEEDED AREAS SHALL BE INSPECTED DAILY DURING THE ESTABLISHMENT PERIOD TO ENSURE SEED GERMINATION.
- AFTER ESTABLISHMENT OF GOOD STAND OF VEGETATION IN THE SEEDED AREAS, INSPECTIONS SHALL BE CONDUCTED ON WEEKLY BASIS TO ENSURE THAT THE SEEDED AREAS ARE NOT DAMAGED. ANY AREAS WHERE THE VEGETATION DIED, DRIED OR WAS OTHERWISE DAMAGED SHALL BE RESEDED IMMEDIATELY.
- EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED ONLY WITH THE APPROVAL OF TOWN OF VIENNA INSPECTOR.

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING AND/OR SODDING IMMEDIATELY FOLLOWING FINAL WORK. IF ANY SOD IS USED IT SHALL BE TALL FESCUE.

PERMANENT SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH THE PROVISIONS OF SPECIFICATION 3.32 OF VESCH. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER AND LIME SHALL BE APPLIED PRIOR TO MULCHING.

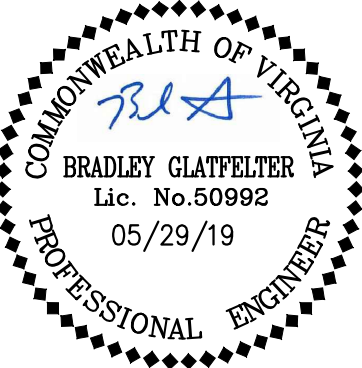
THE CERTIFIED LAND DISTURBER IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE PERMANENT VEGETATION UNTIL SUCH TIME AS THE VEGETATION IS DEEMED PERMANENTLY ESTABLISHED BY TOWN OF VIENNA INSPECTOR.

LAND CONSERVATION NOTES

- ALL EROSION AND SEDIMENT CONTROLS METHODS AND MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF FAIRFAX COUNTY.
- 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 (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
- A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT, IN THE OPINION OF THE LOCAL PROGRAM ADMINISTRATOR OR HIS DESIGNATED AGENT, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
- SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT SHALL BE CONSTRUCTED AS FIRST STEP IN ANY LAND DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
- WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, PROVISIONS SHALL BE MADE TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER. THIS PROVISION SHALL APPLY TO INDIVIDUAL SUBDIVISION LOTS AS WELL AS TO LARGER LAND DISTURBING ACTIVITIES.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE LOCAL PROGRAM ADMINISTRATOR. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

EROSION AND SEDIMENT CONTROL DETAIL
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
FAIRFAX COUNTY, VIRGINIA
TOWN OF VIENNA

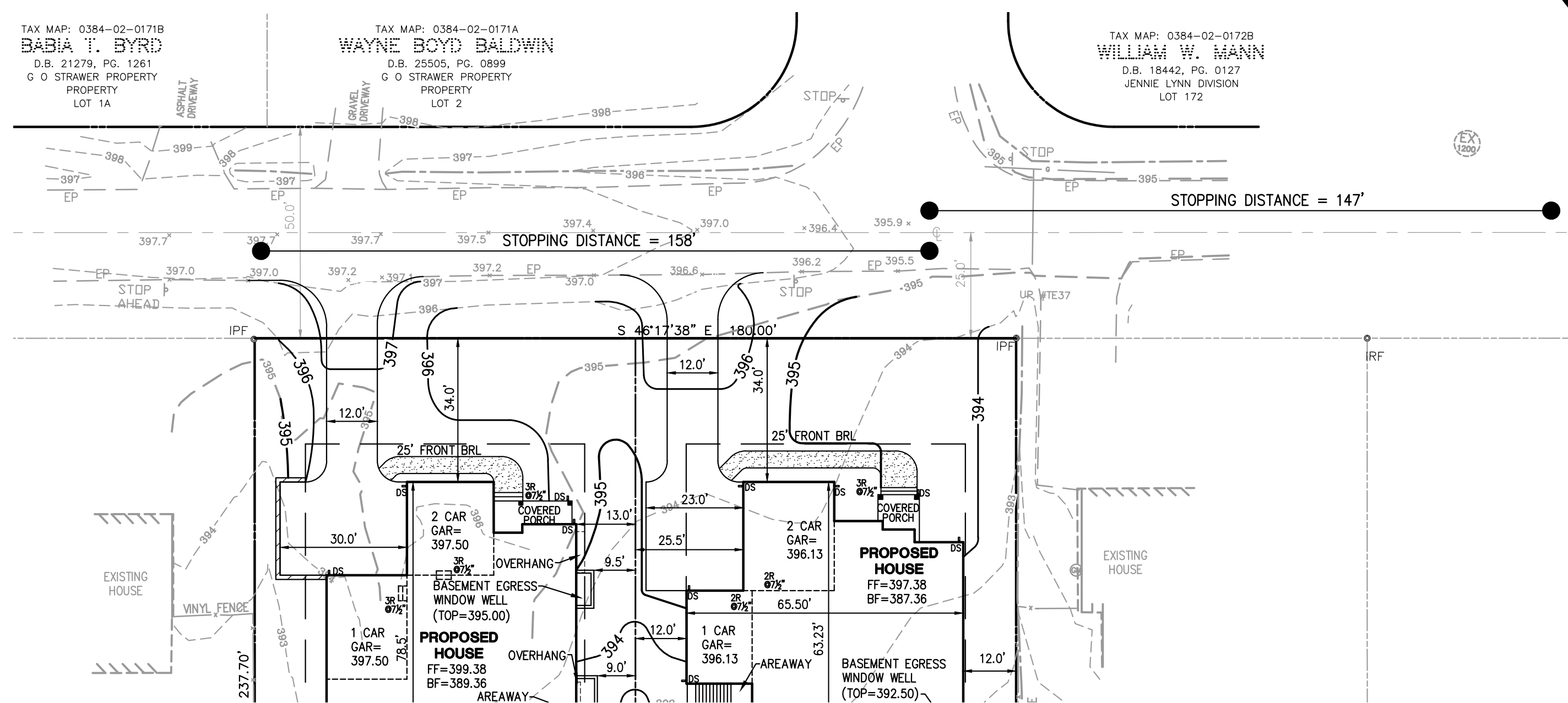
COUNTY PROJECT NUMBER



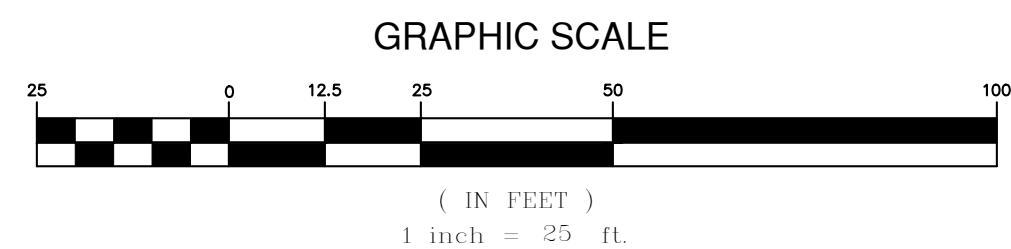
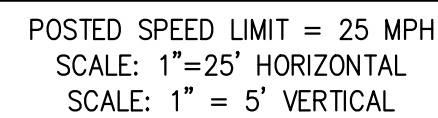
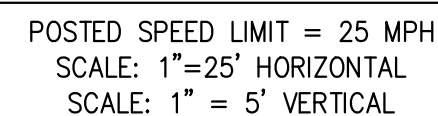
PLAN STATUS
05/29/19 REV PER COMMENTS

DATE	DESCRIPTION	
	KF	BG
DESIGN	DRAWN	CHKD
SCALE	H: 1" = 20'	V: N/A
JOB No.	030170-01-001	
DATE :	April, 2019	
FILE No.	030170-D-ZP-001	

Bowman
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LOT 3B ENTRANCE STOPPING SIGHT DISTANCE PLAN VIEW



VIRGINIA RUNOFF REDUCTION METHOD COMPUTATIONS:

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

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Summary

Project Title: 309 Glyndon St
Date: 4/31/84

Total Rainfall (in):	43
Total Disturbed Acreage:	0.98

Site Land Cover Summary

Pre-ReDevelopment Land Cover (acres)	A Soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.90	0.00	0.90	92
Impervious Cover (acres)	0.00	0.00	0.08	0.00	0.08	8
					0.98	100

Post-ReDevelopment Land Cover (acres)	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.48	0.00	0.48	49
Managed Turf (acres)	0.00	0.00	0.38	0.00	0.38	28
Impervious Cover (acres)	0.00	0.00	0.22	0.00	0.22	22
					0.98	100

* Forest/Open Space areas must be protected in accordance with the Virginia Runoff Reduction Method

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post- ReDevelopment (New Impervious)	Post- Development (New Impervious)	Adjusted Pre- ReDevelopment
Site Rv	0.30	0.19	0.95	0.29
Treatment Volume (ft ³)	1,050	567	483	883
TP Load (lb/yr)	0.66	0.36	0.30	0.55

Pre- ReDevelopment TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-ReDevelopment TP Load per acre (lb/acre/yr)
0.66	0.67	0.42

Total TP Load Reduction Required (lb/yr)	0.10	-0.14	0.25
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	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre- ReDevelopment
TN Load (lb/yr)	4.72	4.47

Site Compliance Summary

Maximum % Reduction Required Below Pre-ReDevelopment Load	10%
--	-----

Total Runoff Volume Reduction (ft ³)	379
Total TP Load Reduction Achieved (lb/yr)	0.24
Total TN Load Reduction Achieved (lb/yr)	1.70
Remaining Post Development TP Load (lb/yr)	0.42
Remaining TP Load Reduction (lb/yr) Required	0.00

** TARGET TP REDUCTION EXCEEDED BY 0.13 LB/YEAR **

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.48	0.00	0.00	0.00	0.00	0.48
Managed Turf (acres)	0.28	0.00	0.00	0.00	0.00	0.28
Impervious Cover (acres)	0.22	0.00	0.00	0.00	0.00	0.22
Total Area (acres)	0.98	0.00	0.00	0.00	0.00	0.98

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	0.24	0.00	0.00	0.00	0.00	0.24
TN Load Reduced (lb/yr)	1.70	0.00	0.00	0.00	0.00	1.70

Drainage Area A Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.00	0.00	0.48	0.00	0.48	49
Managed Turf (acres)	0.00	0.00	0.28	0.00	0.28	28
Impervious Cover (acres)	0.00	0.00	0.22	0.00	0.22	22
					0.98	

BMP Selections

Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft ³)	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)		0.22	758.67	0.00	0.48	0.24	0.24	

Total Impervious Cover Treated (acres)	0.22
Total Turf Area Treated (acres)	0.00
Total TP Load Reduction Achieved in D.A. (lb/yr)	0.24
Total TN Load Reduction Achieved in D.A. (lb/yr)	1.70

Runoff Volume and CN Calculations

Target Rainfall Event (in)	1-year storm	2-year storm	10-year storm
	2.62	3.17	4.87

Drainage Areas	RV & CN	Drainage Area A	Drainage Area B	Drainage Area C	Drainage Area D	Drainage Area E
CN		77	0	0	0	0
RR (ft ³)		379	0	0	0	0
1-year return period	RV wo RR (ws-in)	0.82	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	0.71	0.00	0.00	0.00	0.00
	CN adjusted	75	0	0	0	0
2-year return period	RV wo RR (ws-in)	1.19	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	1.08	0.00	0.00	0.00	0.00
	CN adjusted	75	0	0	0	0
10-year return period	RV wo RR (ws-in)	2.51	0.00	0.00	0.00	0.00
	RV w RR (ws-in)	2.41	0.00	0.00	0.00	0.00
	CN adjusted	76	0	0	0	0

NUTRIENT CREDIT PRICING & AVAILABILITY LETTER

(FINAL CREDIT PURCHASE TO BE DEMONSTRATED WITH FINAL LOT GRADING PLANS)



Date: May 29, 2019

To: Jennifer Portillo, EIT
Engineer III
Bowman Consulting

From: Caitlan Parker
Credit Sales Coordinator
Resource Environmental Solutions

Subject: Potomac Watershed- Nutrient Credit Availability

Project Reference: 309 Glyndon Street SE; 0.10 Credits Requested; HUC 02070008

This letter is to confirm the availability of 0.10 authorized nutrient credits ("Nutrient Credits") from one or more of Resource Environmental Solutions' ("RES") Potomac nutrient bank facilities for use by permit applicants within the Potomac watershed, including HUC 02070008, to compensate for nutrient loadings in excess of state or local regulations, as per Virginia Code § 62.1-44.15:35 and § 62.1-44.19:14 and Virginia Administrative Code 9 VAC 25-820-10 et seq. These Nutrient Credits are generated and managed under the terms of the Banking Instruments known as the Licking Run Nutrient Reduction Implementation Plan ("NRIP"), the Ellerslie NRIP and/or the Stone Bridge NRIP.

Please feel free to contact me if you have any questions.

Sincerely,

Caitlan B. Parker

Caitlan B. Parker
Resource Environmental Solutions
cparker@res.us



Date: May 29, 2019

To: Jennifer Portillo, EIT
Engineer III
Bowman Consulting

From: Caitlan Parker
Credit Sales Coordinator
Resource Environmental Solutions

Subject: Potomac Watershed - Nutrient Credit Pricing

Project Reference: 309 Glyndon Street SE, Vienna, HUC 02070008

This letter is to confirm the pricing of Nutrient Credits to be sold and debited from one or more of Resource Environmental Solutions, LLC's nutrient bank facilities within the above-referenced watershed. Upon approval and release by DEQ, all such Nutrient Credits may be used by permit applicants within these watersheds to compensate for nutrient loadings in excess of state or local regulations, as per Virginia Code § 62.1-44.15:35 and § 62.1-44.19:14 and Virginia Administrative Code 9 VAC 25-820-10 et seq. We appreciate the opportunity to assist you with your project. Currently our Nutrient Credit price for your project is as follows:

- **0.10** pounds of Phosphorus Credits = **\$2,400.00**

This pricing is good for 60 days as of the date of this correspondence.

Please feel free to contact me if you have any questions.

Sincerely,

Caitlan B. Parker

Caitlan B. Parker
Resource Environmental Solutions
cparker@res.us

STORMWATER MANAGEMENT NARRATIVE:

FLOOD PROTECTION

WITH THE USE OF ROOFTOP DISCONNECTIONS AND COMPOST SOIL AMENDMENTS, THE POST-DEVELOPMENT STORMWATER PEAK FLOW DISCHARGE IS EQUAL TO THE PRE-DEVELOPMENT DISCHARGE. THE PRE-DEVELOPMENT PEAK FLOW AND THE POST-DEVELOPMENT PEAK FLOW IS 1.11 CFS FOR THE 10-YEAR 24-HOUR STORM, SEE THE WATER QUANTITY COMPUTATIONS ON THIS SHEET.

CHANNEL PROTECTION:

PURSUANT TO 9VAC25-870-66 SECTION B.1.b., THE MAXIMUM PEAK FLOW RATE FROM THE 1-YEAR 24-HOUR STORM SHALL BE CALCULATED IN ACCORDANCE WITH THE FOLLOWING METHODOLOGY:

Q DEVELOPED ≤ I.F. * (Q PRE-DEVELOPED * RV PRE-DEVELOPED)/ RV DEVELOPED
WHERE I.F. = 0.9 FOR SITES < 1 ACRE.

Q PRE DEVELOPED (1 YEAR) = 1.176 CFS
Q DEVELOPED (1 YEAR) = 1.105 CFS
RV PRE-DEVELOPED = (0.77 IN/12 IN) * (42,688 SF) = 2,739 CF
RV DEVELOPED = (0.71 IN/12 IN) * (42,688 SF) = 2,526 CF

Q DEVELOPED ≤ 0.9*(1.176 CFS * 2,739 CF)/(2,526 CF) = 1.148 CFS
Q DEVELOPED = 1.105 CFS ≤ 1.148 CFS

NOTE: ALL GENERATED STORMWATER RUNOFF IS RETURNED TO A SHEETFLOW CONDITION. THE GENERATED SHEETFLOW VOLUME IS LESS THAN OR EQUAL TO THE EXISTING RUNOFF VOLUME. AS SUCH, THE PROPOSED STORMWATER MANAGEMENT DESIGN IS IN COMPLIANCE WITH 9VAC25-870-66.D OF THE VIRGINIA CODE. AS SUCH, NO FURTHER STORMWATER QUANTITY MEASURES ARE REQUIRED.

WATER QUALITY / BMP NARRATIVE:

THE PROPOSED DEVELOPMENT IS SUBJECT TO THE RE-DEVELOPMENT CRITERIA OF THE VIRGINIA RUNOFF REDUCTION METHOD (VRRM). AS SUCH, THE SUBJECT SITE IS REQUIRED TO REMOVE 0.10 LB/YR OF TOTAL PHOSPHORUS (TP). THE PROPOSED DESIGN, AS SHOWN IN THE VRRM SUMMARY ON THIS SHEET, REMOVES 0.24 LB/YR OF TP. HOWEVER, COMPOST SOIL AMENDMENTS WILL NOT BE UTILIZED FOR WATER QUALITY PURPOSES. THE TP REDUCTION REQUIREMENTS WILL BE ACHIEVED THROUGH THE PURCHASE OF OF NUTRIENT CREDITS. REFER TO THIS SHEET FOR THE NUTRIENT CREDIT AVAILABILITY LETTER.

THE APPLICANT PROPOSES TO DISCONNECT THE ROOF DRAINS AND PROPOSED IMPERVIOUS AREA AND ALLOW THE RUNOFF TO RETURN TO A SHEET FLOW CONDITION OVER STABILIZED COMPOST AMENDED SOILS TO IMPROVE THE HYDROLOGY OF THE EXISTING ONSITE SOILS. IN ACCORDANCE WITH TABLE 4.3 IN DEQ SPECIFICATION NO.4 - SOIL COMPOST AMENDMENT, THE APPLICANT WILL INCORPORATE 6" OF APPROVED COMPOST BY TILLER TO A DEPTH OF 12". THIS IS CONSISTENT WITH PROJECTS RECENTLY APPROVED BY THE TOWN OF VIENNA.

THE EXISTING CONDITIONS CURRENTLY HAS A CURVE NUMBER OF 76 FOR THE 1-, 2-, AND 10-YEAR STORM. IN THE PROPOSED CONDITIONS THE ADJUSTED SITE CURVE NUMBERS FOR THE 1-, 2-YEAR STORM IS 75 AND 76 FOR THE 10-YEAR STORM. THEREFORE, THE PROPOSED COMPOST AMENDED SOILS IMPROVE THE HYDROLOGY OF THE EXISTING ONSITE SOILS FOR THE 1- AND 2-YEAR STORM AND MAINTAIN THE EXISTING HYDROLOGY IN THE 10-YEAR STORM. REFER TO THE SITE CURVE NUMBER TABLE ON THIS SHEET.

IN PROPOSING THE ABOVE, THE APPLICANT ACHIEVES THE REQUIRED REDUCTION OF POLLUTANTS AND POST-DEVELOPMENT RUNOFF AND THEREFORE MEETS THE TOWN OF VIENNA STORMWATER REGULATIONS AND COMMONWEALTH OF VIRGINIA STORMWATER ACT.

SITE CURVE NUMBERS

Adjusted CN	1-Year Storm	2-Year Storm	10-Year Storm
Existing Conditions	76	76	76
Proposed Conditions (adjusted)	75	75	76

WATER QUANTITY COMPUTATIONS:

Pre-Development Site Conditions:		Post-Development Site Conditions (2-year):	
DA (acres) =	0.98	DA (acres) =	0.98
DA (mi^2) =	0.001531	DA (mi^2) =	0.001531
CN=	76	Adjusted CN(2 year)=	75
Tc=	0.083333	Tc=	0.083333
S = 1000/CN -10=	3.157895	S = 1000/CN -10=	3.333333
Ia = 0.25 =	0.631579	Ia = 0.25 =	0.666667

Q (1 year) = [(P-0.25)^2] / (P+0.85) = 0.768 in
Q (2 year) = [(P-0.25)^2] / (P+0.85) = 1.131 in
Q (10 year) = [(P-0.25)^2] / (P+0.85) = 2.429 in

Post-Development Peak Discharge:
q (2 year) = qu*Am*Q*Fp = 1.644 cfs
Post-Development Site Conditions (10-year):
DA (acres) = 0.98
DA (mi^2) = 0.001531
Adjusted CN(10 year)= 76

Tc= 0.083333
S = 1000/CN -10= 3.157895
Ia = 0.25 = 0.631579
Q (10 year) = [(P-0.25)^2] / (P+0.85) = 2.429 in

Post-Development Peak Discharge:
q (10 year) = qu*Am*Q*Fp = 3.719 cfs

Post-Development Peak Discharge:
q (1 year) = qu*Am*Q*Fp = 1.105 cfs

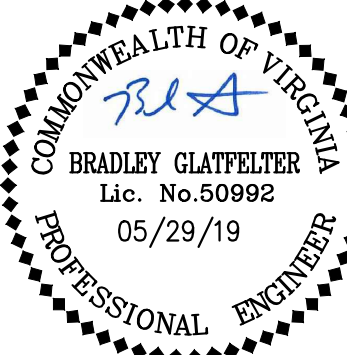
Rainfall Depth (P)	
1 Year	2.62
2 Year	3.17
10 Year	4.87

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STORMWATER MANAGEMENT NARRATIVE & COMPUTATIONS
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
FAIRFAX COUNTY, VIRGINIA

COUNTY PROJECT NUMBER

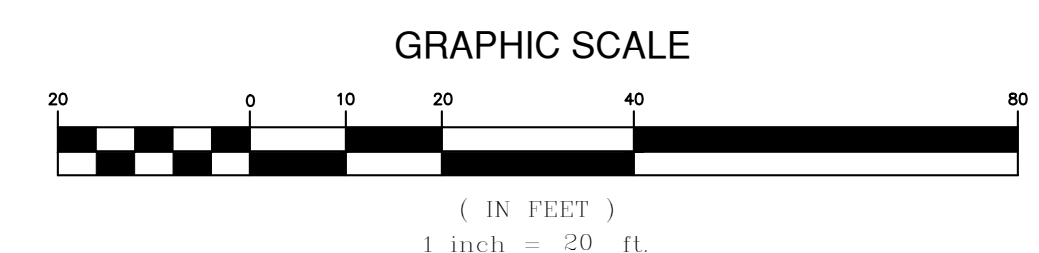
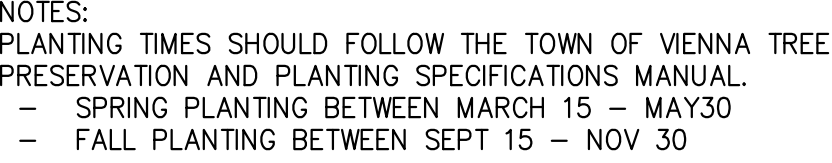


PLAN STATUS
05/29/19 REV PER COMMENTS

DATE	DESCRIPTION
KF	KF
DESIGN	DRAWN
SCALE	H: N/A V: N/A
JOB No.	030170-01-001

DATE : April, 2019
FILE No. 030170-D-ZP-001





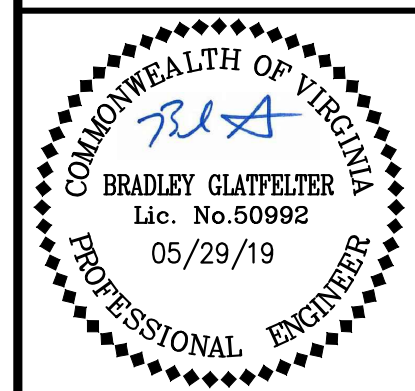
TOTAL TREE CANOPY: 4,300

SITE AREA:	21,397 S.F.
TREE COVER REQUIRED:	20% OR 4,279 S.F.
TREE PRESERVATION AREA:	0 S.F.
TREE COVER PROPOSED:	4,300 S.F.
TREE COVER PROVIDED:	20% OR 4,300 S.F.

TOTAL TREE CANOPY: 2500

SITE AREA:	21,427 S.F.
TREE COVER REQUIRED:	20% OR 4,285 S.F.
TREE COVER EXISTING:	1,911 S.F.
TREE COVER PROPOSED:	2,500 S.F.
TREE COVER PROVIDED:	20% OR 4,411 S.F.

EXISTING TREE COVER TO BE SAVED:
AREA= 1,911 S.F.



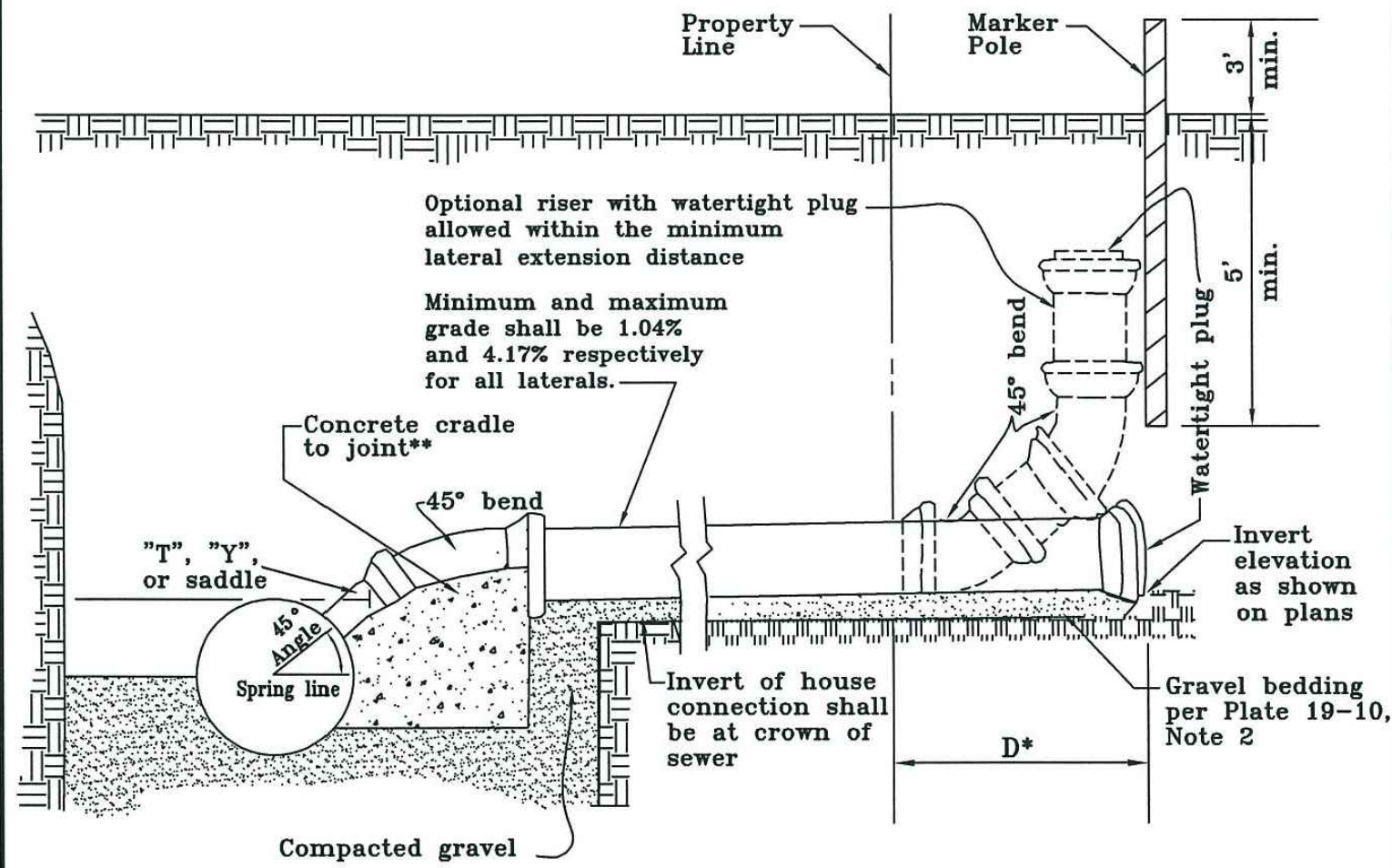
SHEET 10 OF 13

NOTES:

TO AVOID CONFLICTS WITH OTHER UNDERGROUND SERVICE UTILITIES, THE MINIMUM LATERAL EXTENSION DISTANCE (D)* SHALL BE:

Single-Family Detached: 20 ft beyond the property line or within 5 ft of the minimum yard requirement, whichever distance is less.
Single-Family Townhouse: 5 ft beyond the property line or sanitary sewer easement, whichever distance is greater.

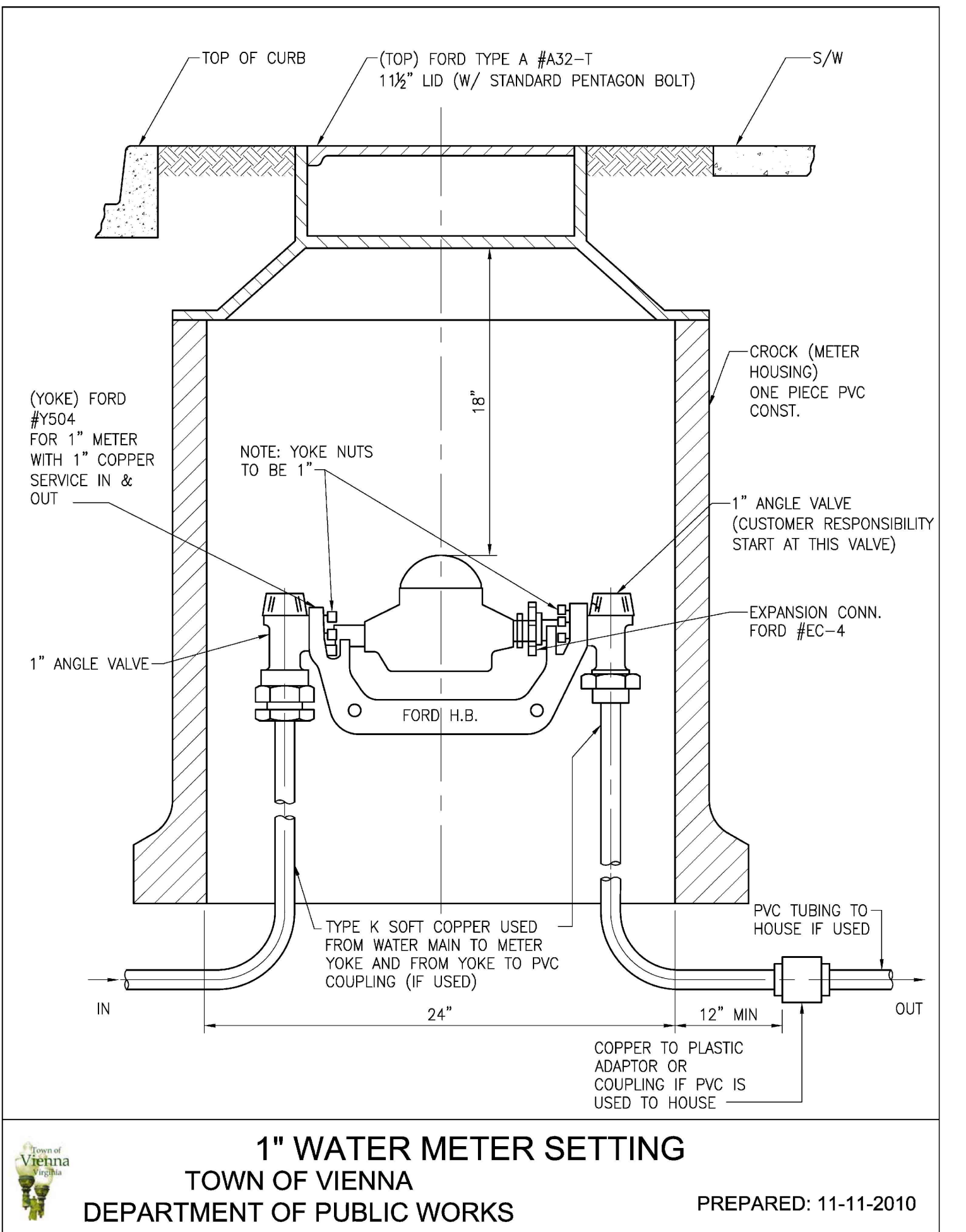
- Gravel bedding beyond the concrete cradle shall conform to Note 2 of Plate 19-10.
- Lateral pipe material shall be as specified in Section 10-0103.8 or in the International Plumbing Code.
- CI Saddles shall be as made by Richmond Foundry, Pioneer Foundry, or approved equal.
- A long sweep, 90-degree bend may be used as an alternate to two 45-degree bends.



FOR PLAN VIEW, SEE PLATE 23-10

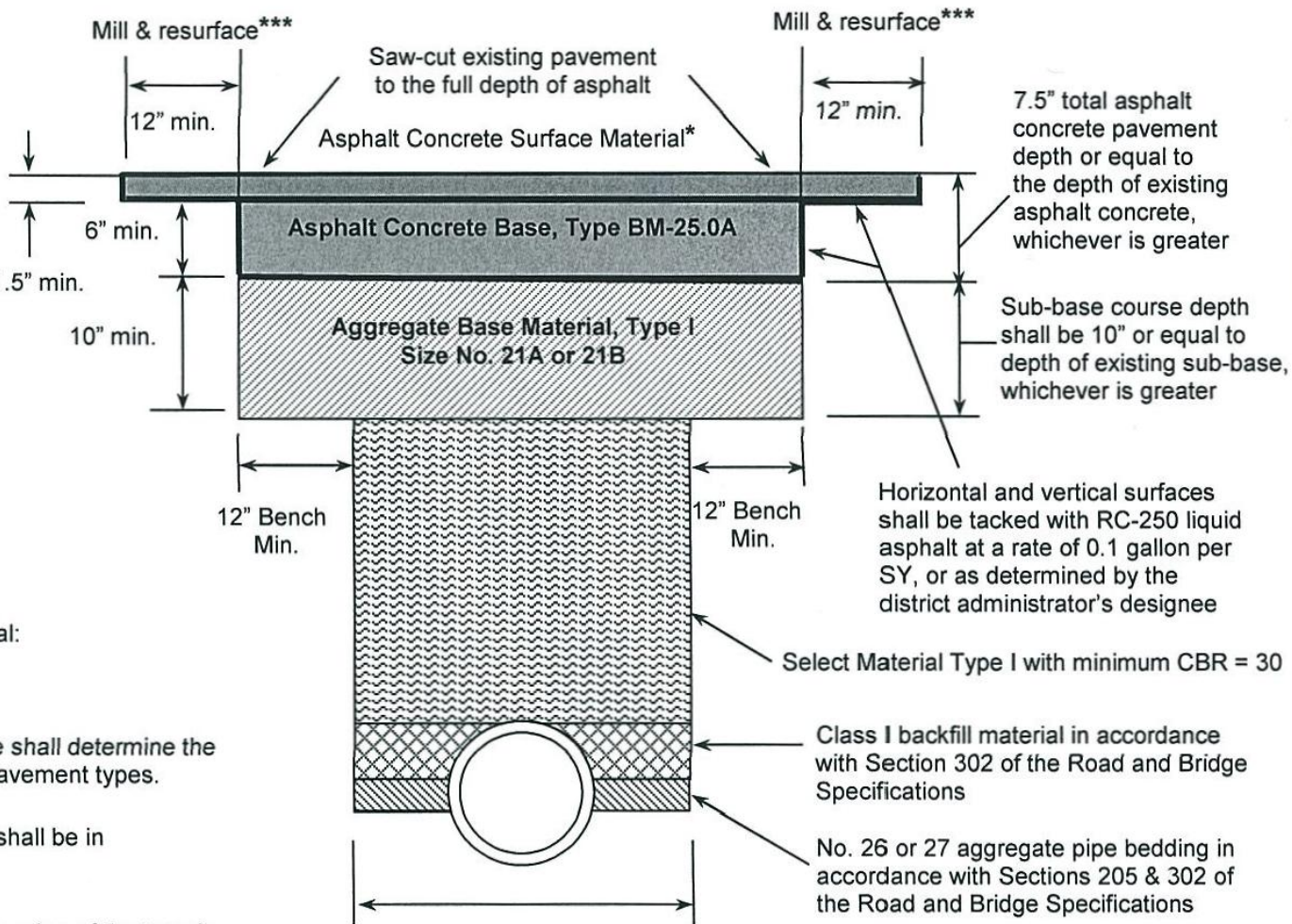
*Not applicable to Planned Development Districts
**Hand mixing allowed per VDOT specifications

Ref. Sec. 10-0104.5A, Plate 23-10	HOUSE LATERAL CONSTRUCTION DETAIL	PLATE NO.	STD. NO.
Rev. 1-00, 6-01, 2011 Reprint		24-10	DPW-11



1" WATER METER SETTING
TOWN OF VIENNA
DEPARTMENT OF PUBLIC WORKS
PREPARED: 11-11-2010

Asphalt Pavement Restoration Detail for Open Cut Utility Installations



NOTES:

* Asphalt Concrete Surface Material:
SM-9.5A for ADT < 10,000
SM-9.5D for ADT > 10,000

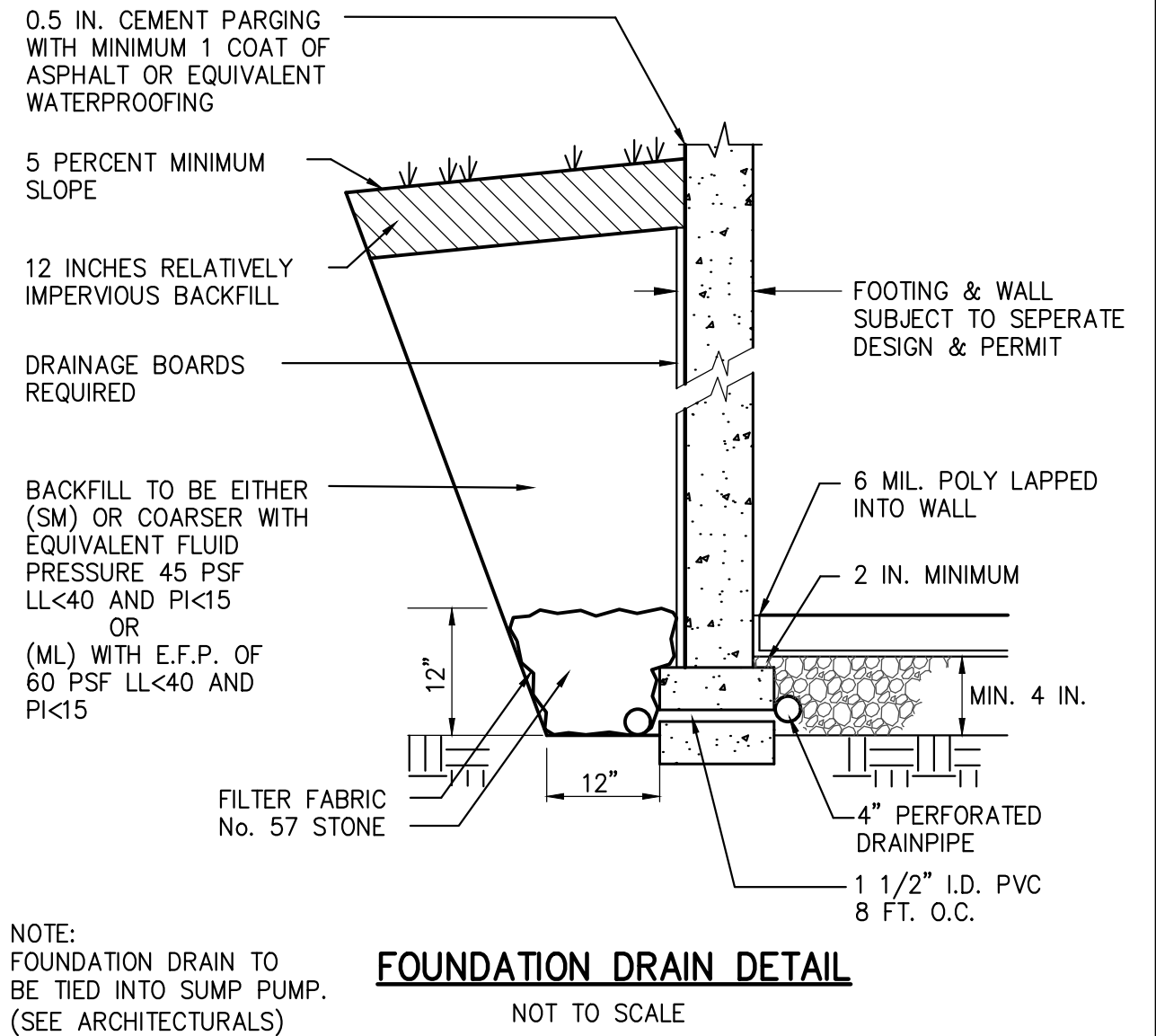
The district administrator's designee shall determine the restoration requirements for other pavement types.

** Trench width and pipe bedding shall be in accordance with VDOT Std. PB-1

*** 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 district administrator's designee.

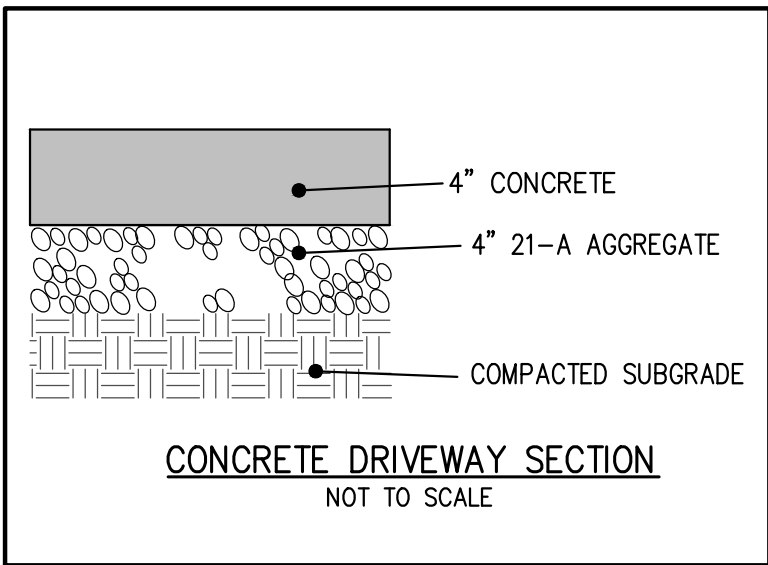
Date: August 27, 2014

Not to Scale



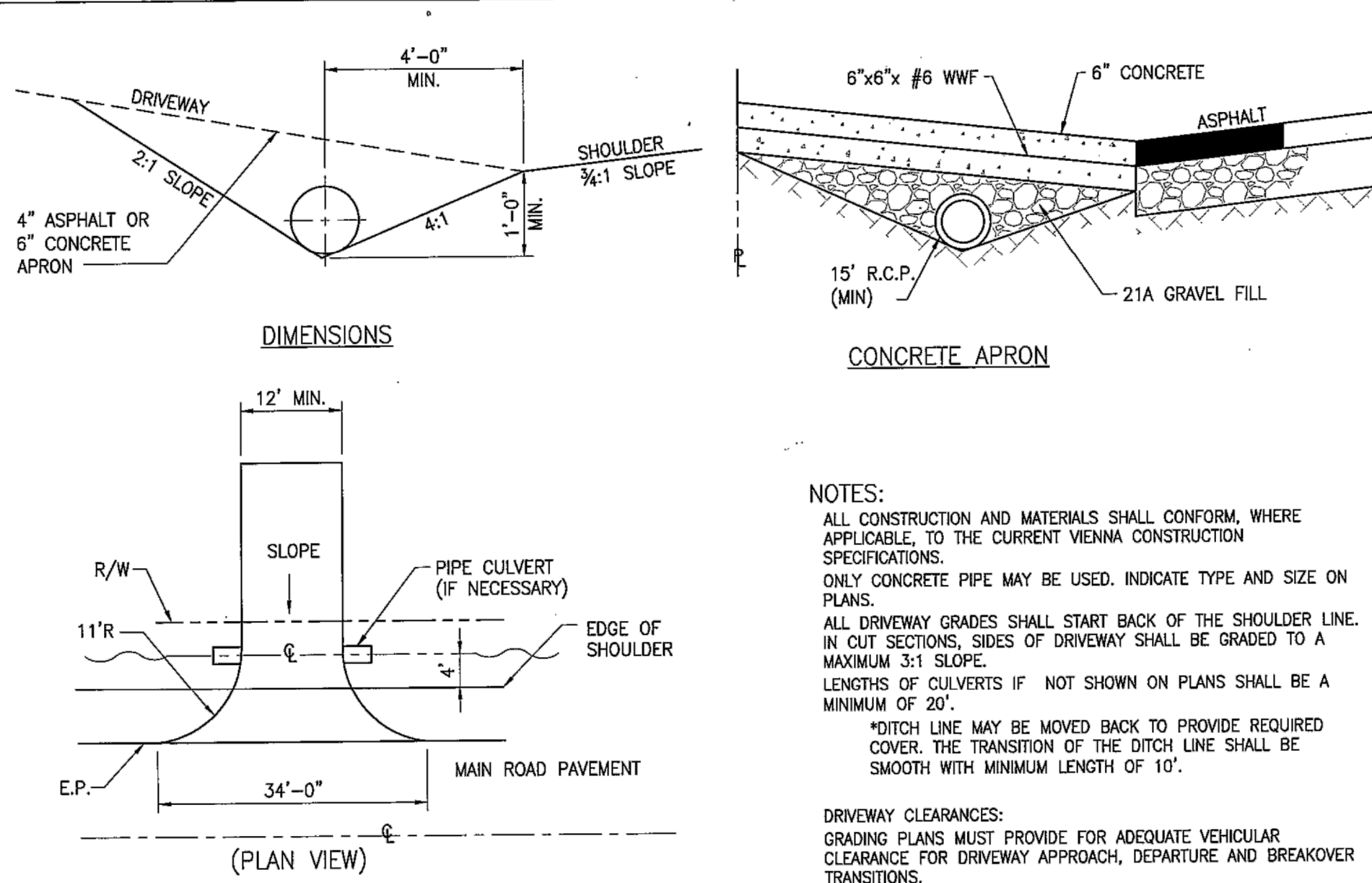
FOUNDATION DRAIN DETAIL

NOT TO SCALE



CONCRETE DRIVEWAY SECTION

NOT TO SCALE



NOTES:

ALL CONSTRUCTION AND MATERIALS SHALL CONFORM, WHERE APPLICABLE, TO THE CURRENT VIENNA CONSTRUCTION SPECIFICATIONS.

ONLY CONCRETE PIPE MAY BE USED. INDICATE TYPE AND SIZE ON PLANS.

ALL DRIVEWAY GRADES SHALL START BACK OF THE SHOULDER LINE. IN CUT SECTIONS, SIDES OF DRIVEWAY SHALL BE GRADED TO A MAXIMUM 3:1 SLOPE.

LENGTHS OF CULVERTS IF NOT SHOWN ON PLANS SHALL BE A MINIMUM OF 20'.

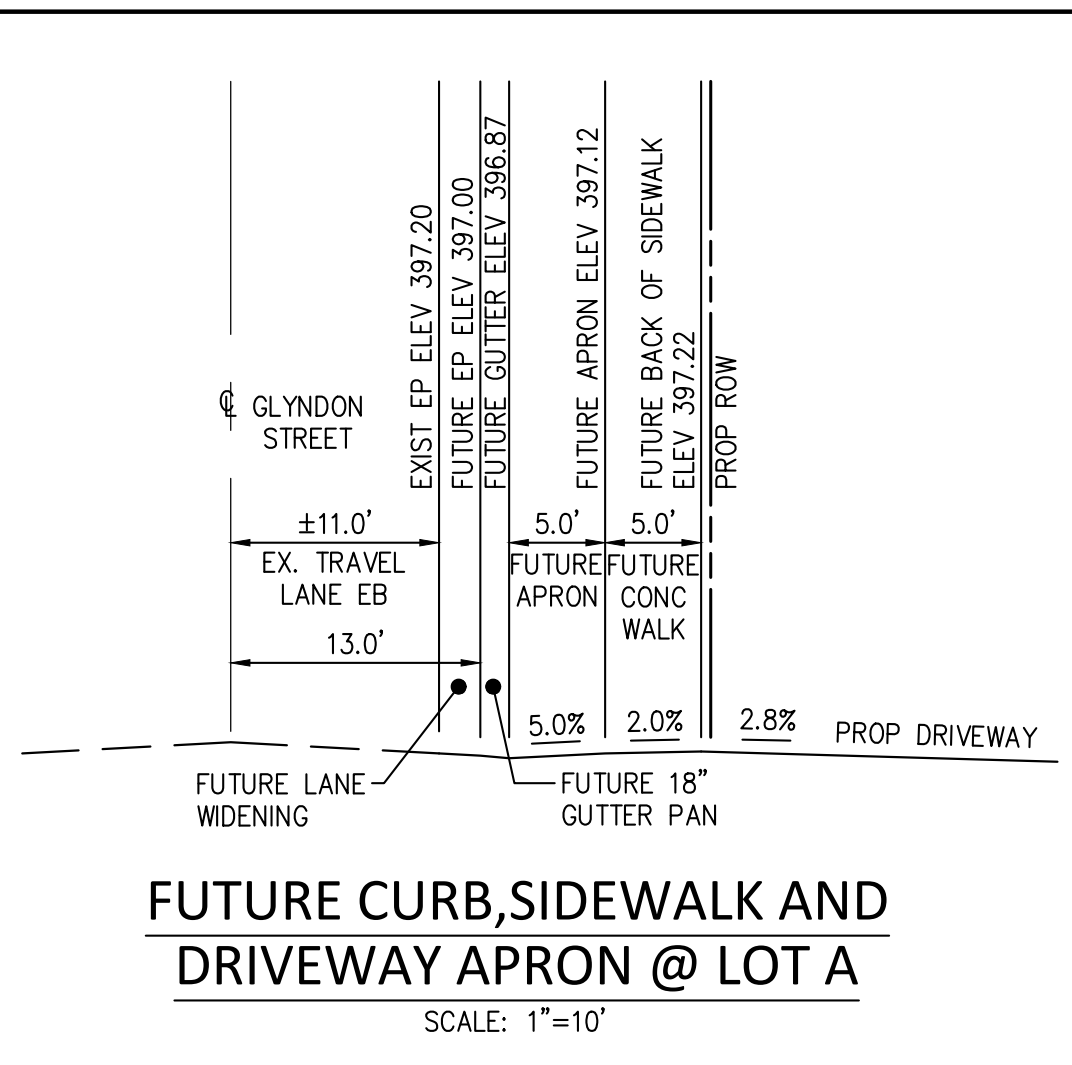
*DITCH LINE MAY BE MOVED BACK TO PROVIDE REQUIRED COVER. THE TRANSITION OF THE DITCH LINE SHALL BE SMOOTH WITH MINIMUM LENGTH OF 10'.

DRIVEWAY CLEARANCES:
GRADING PLANS MUST PROVIDE FOR ADEQUATE VEHICULAR CLEARANCE FOR DRIVEWAY APPROACH, DEPARTURE AND BREAKOVER TRANSITIONS.

DRIVEWAY PROFILES ARE REQUIRED WHERE SLEEP GRADES PREVAIL.

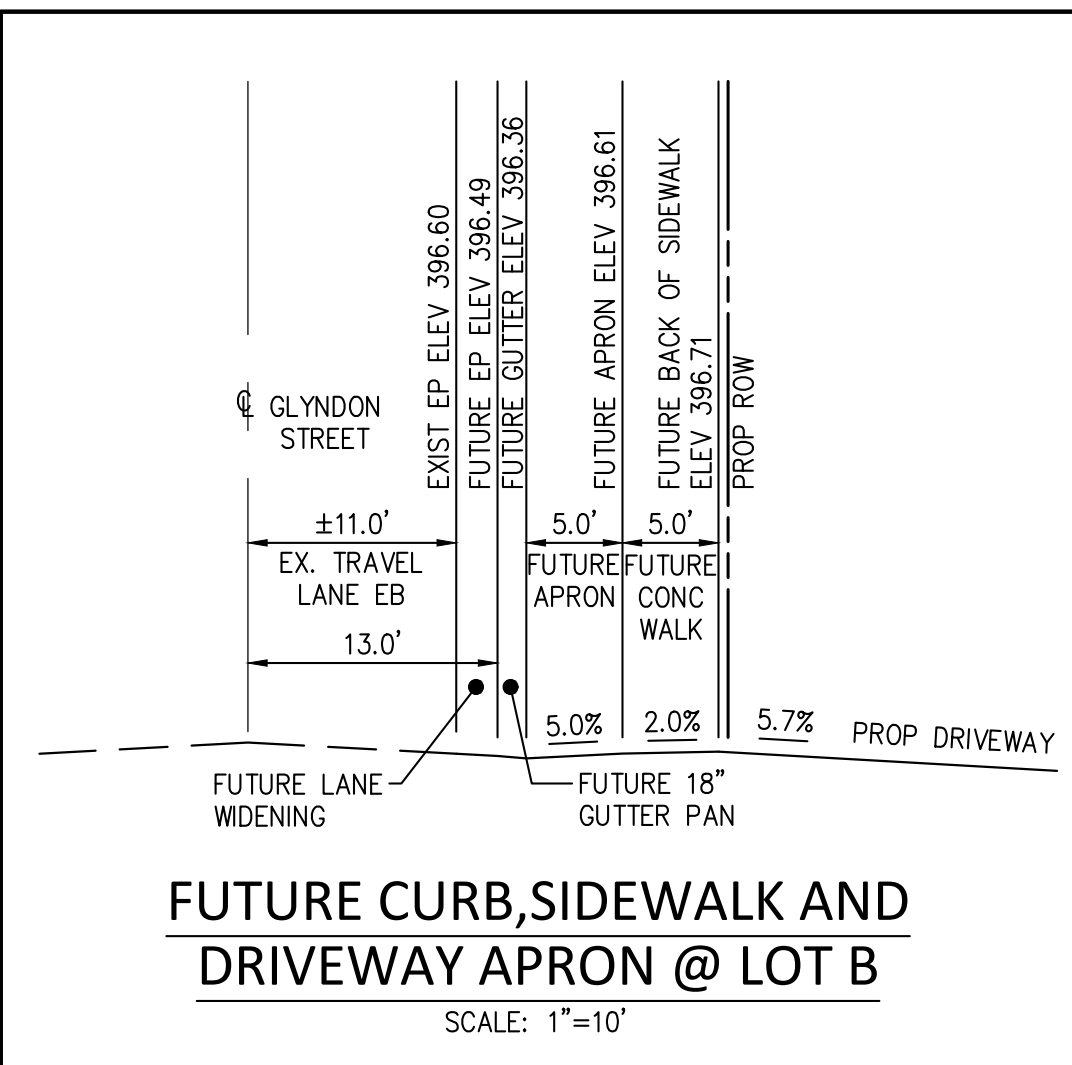
STANDARD DRIVEWAY APRON-NO CURB AND GUTTER
TOWN OF VIENNA
DEPARTMENT OF PUBLIC WORKS
PREPARED: 7-27-2010

PREPARED: 7-27-2010



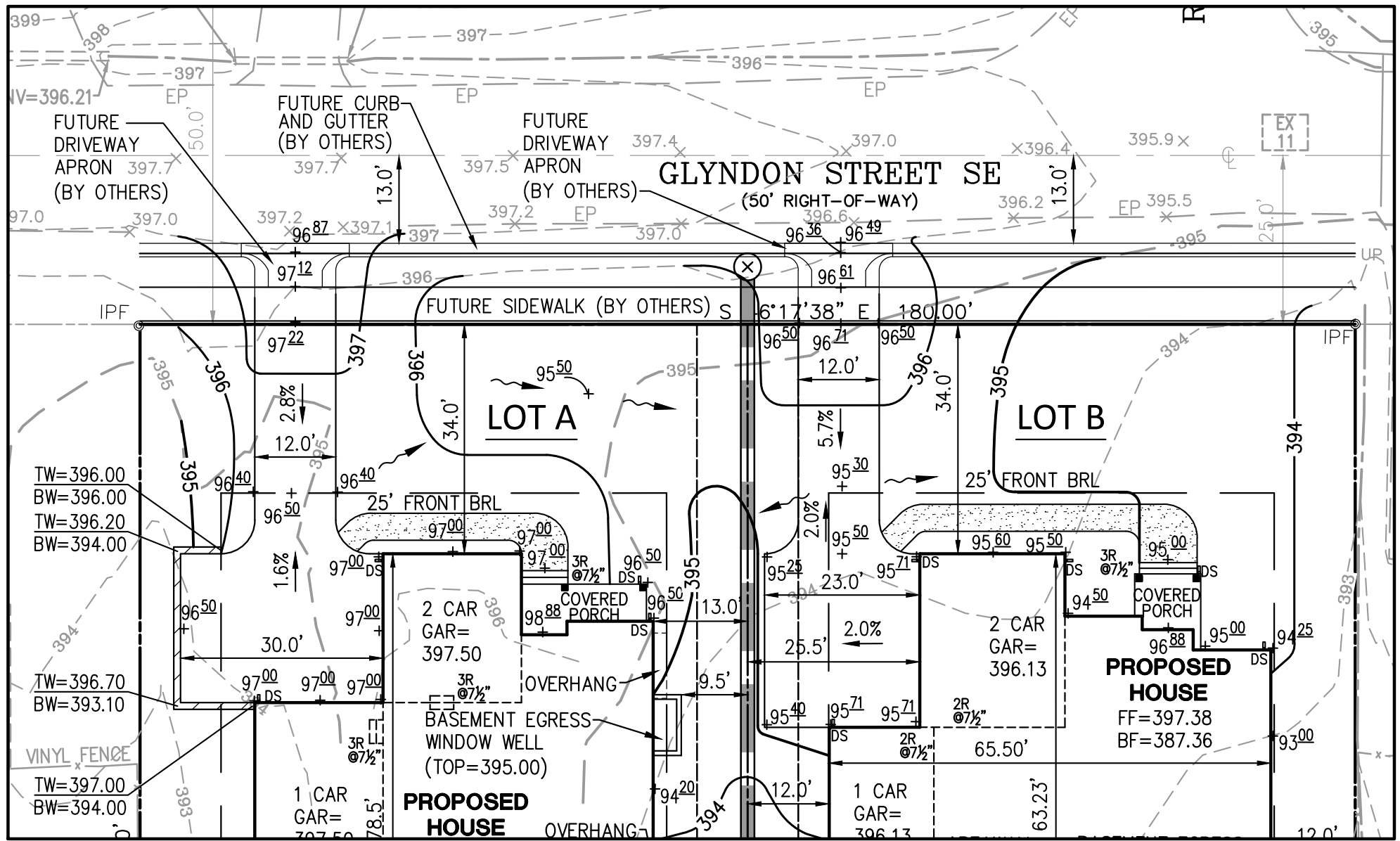
FUTURE CURB, SIDEWALK AND DRIVEWAY APRON @ LOT A

SCALE: 1"=10'



FUTURE CURB, SIDEWALK AND DRIVEWAY APRON @ LOT B

SCALE: 1"=10'



FUTURE FRONTAGE IMPROVEMENTS GRADING COORDINATION EXHIBIT

SCALE: 1"=20'

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SITE DETAILS
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

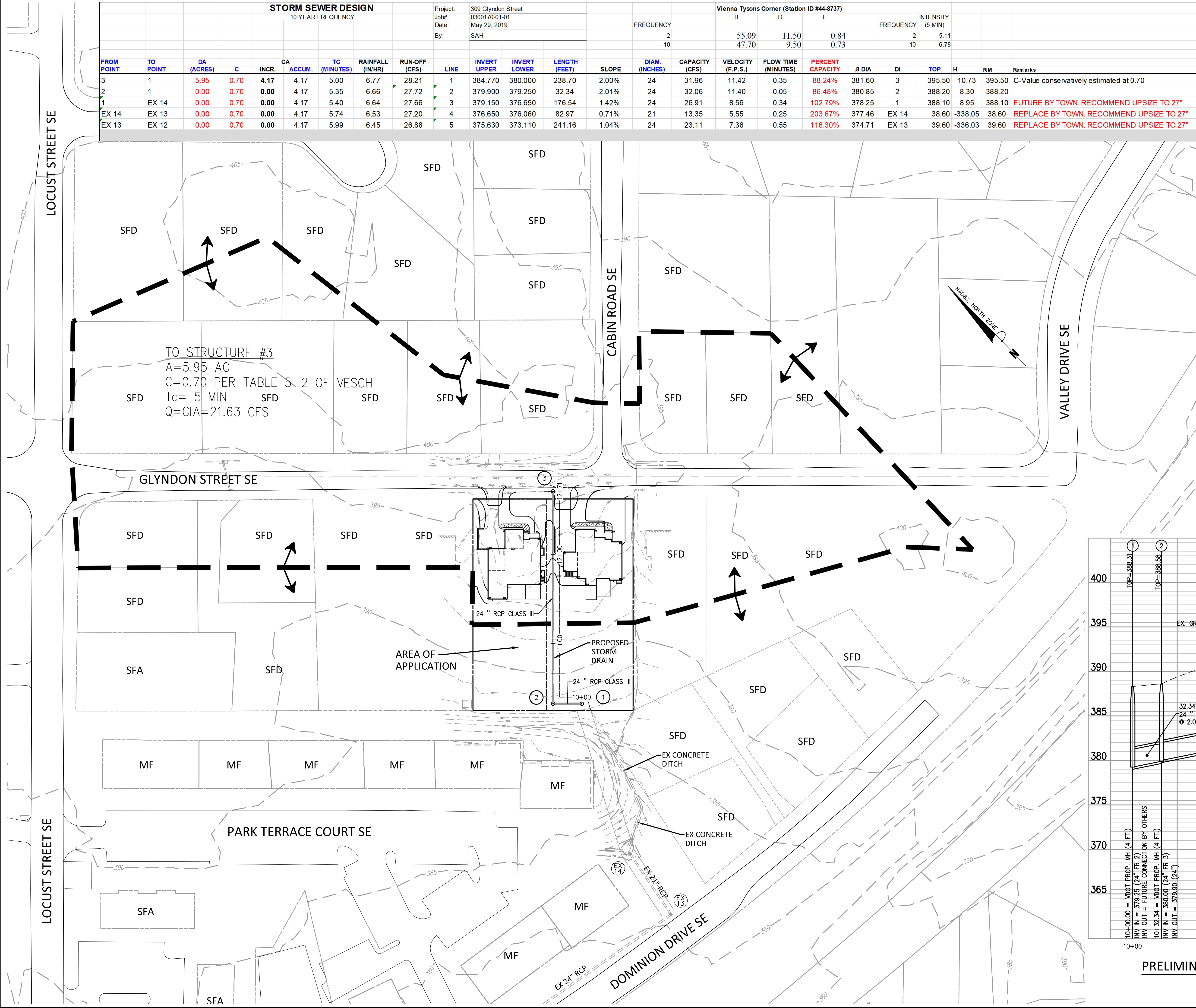
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
BRADLEY GLATFELTER
Lic. No. 50992
05/29/19
PROFESSIONAL ENGINEER

PLAN STATUS
05/29/19 REV PER COMMENTS

DATE	DESCRIPTION
KF	KF
DESIGN	DRAWN
SCALE	H: N/A
	V: N/A
JOB No.	030170-01-001
DATE	April, 2019
FILE No.	030170-D-ZP-001

SHEET 11 OF 13



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VICINITY STORM SEWER ANALYSIS
SUB-DIVISION PLAN
ADDITION TO THE
KATRINA HINE ECHOLS DIVISION
TOWN OF VIENNA
FAIRFAX COUNTY, VIRGINIA

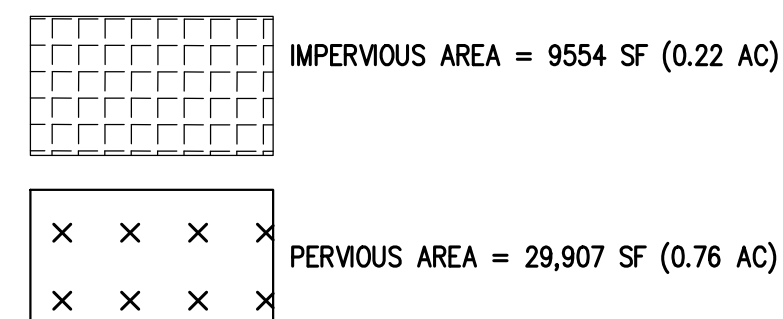
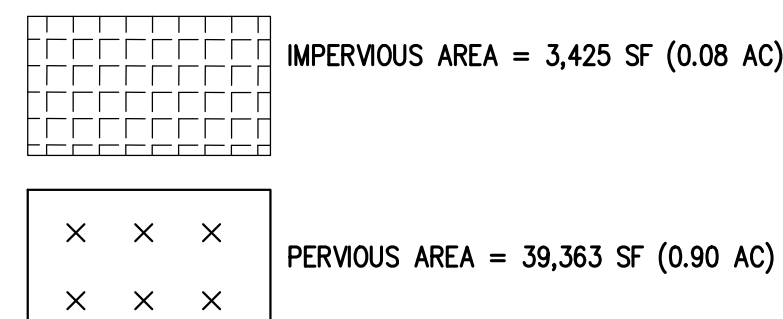
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
BRADLEY GLATFELTER
Lic. No. 50992
05/29/19
PROFESSIONAL ENGINEER

PLAN STATUS
05/29/19 REV PER COMMENTS

DATE	DESCRIPTION
KF	KF
DESIGN	DRAWN
SCALE	H: 1"=60' V: N/A
JOB No.	030170-01-001
DATE :	April, 2019
FILE No.	030170-D-ZP-001

SHEET 12 OF 13



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STORMWATER MANAGEMENT PLAN

SUB-DIVISION PLAN

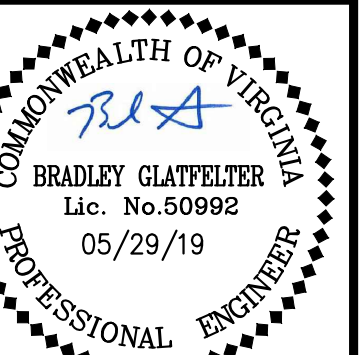
ADDITION TO THE

KATRINA HINE ECHOLS DIVISION

TOWN OF VIENNA

FAIRFAX COUNTY, VIRGINIA

COUNTY PROJECT NUMBER



PLAN STATUS	
29/19	REV PER COMMENTS

DATE	DESCRIPTION	
KF SIGN	KF DRAWN	BG CHKD
SCALE	H: 1"=10' V: N/A	
B No.	030170-01-001	
DATE	April, 2019	
E No.	030170-D-ZP-001	
HEET	13 OF 13	