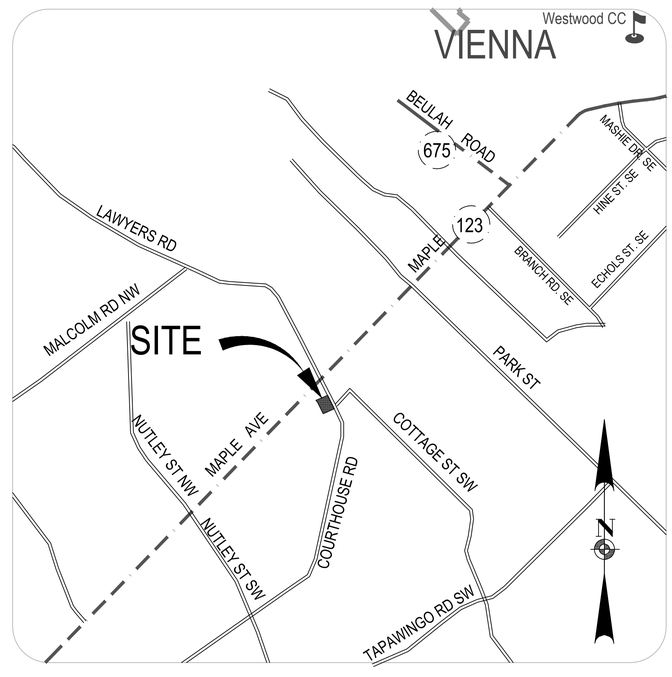
RESUBDIVISION PLAN SET FOR
117& 121 COURTHOUSE ROAD, SW
TAX MAP 38-4-2-32& 57

117 & 121 COURTHOUSE RD, SW
TOWN OF VIENNA, VIRGINIA

SUBMITTED ON OCTOBER 22, 2020

SHEET INDEX

1. COVER SHEET
2. NOTES
3. BOUNDARY
4. EXISTING CONDITIONS
5. DEMO PLAN
6. SOILS
7. LOT GEOMETRY PLAN
8. HEIGHT CALCULATIONS
9. EROSION SEDIMENT CONTROL NOTES
10. E&S CONTROL CHECKLIST
11. EROSION SEDIMENT CONTROL PLAN PH I
12. EROSION SEDIMENT CONTROL PLAN PH II
13. GRADING PLAN
14. ROAD GEOMETRICS
15. DRAINAGE DIVIDES
16. STORM SEWER
17. IMPERVIOUS AREA
18. VRRM COMPLIANCE COMPUTATIONS
19. VRRM COMPLIANCE COMPUTATIONS
20. VRRM COMPLIANCE BIORETENTION FACILITY
21. VRRM COMPLIANCE BIORETENTION NOTES
22. TREE PRESERVATION PLAN
23. TREE PRESERVATION PLAN
24. TREE PRESERVATION PLAN
25. TREE PRESERVATION PLAN



VICINITY MAP
SCALE 1=500'

PROPERTY OWNER

OWNER:
117 COURTHOUSE. LLC
PO BOX 1208
VIENNA, VA 22183

LEGAL
0384-02-0032, ZONE C-1A
038-4-02-0057, ZONE RS-10
117 COURTHOUSE ROAD , SW
DB12936/PG0029
117 COURTHOUSE RD, SW
12,932 SF

APPLICANT

JDA CUSTOM HOMES., INC
P.O. BOX 1208
VIENNA, VIRGINIA 22183
(703) 938-1119
email: Office@jdacustomhomes.com

MISS UTILITY
FOR LOCATION OF UTILITIES CALL 1-800-257-7777
48 HOURS IN ADVANCE OF ANY WORK IN THIS AREA

TOWN OF VIENNA PLAN
PF-32-20-CZ

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1208
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
18287 CHANVEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT, TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

COVER SHEET

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	1 OF 22
SCALE: N/A	

Oct 21, 2020 - 6:30pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

GENERAL NOTES:

1. THIS PLAN PROPOSES FOR APPROVAL IN THE RS–16 ZONE SUBDIVISION OF TWO (2) EXISTING LOTS INTO THREE (3) LOTS FOR SINGLE FAMILY DWELLINGS FRONTING ON EXISTING COURTHOUSE ROAD, SW. THESE LOTS WILL BE SERVED BY PUBLIC WATER AND SEWER.

2. THE PROPOSED PROPERTY DELINEATED HEREON IS LOCATED ON FAIRFAX COUNTY TAX MAP 38–4((2))32 (ZONED COMMERCIAL) & 38–4–((2))–32 (ZONED RS–10)
3. AREA TABULATION
   AVERAGE LOT AREA REQUIRED= N/A (PER RS–10 ZONE)
   MINIMUM LOT AREA REQUIRED= 10,000 OR 0.2296 ACRES.

4. LOT WIDTH
   MINIMUM REQUIRED LOT WIDTH = 45 FT./60 FT/ 75 FT (ST./BLDG./MID RS–10 ZONE)

5. PROPOSED USE: SINGLE FAMILY DWELLINGS

6. BUILDING HEIGHT
   MAXIMUM ALLOWABLE BUILDING HEIGHT= 2 ½ STORIES AND 35 FT(PER RS–16 ZONE)

7. REAL ESTATE ASSESSMENT RECORDS INDICATE A 1925 CONSTRUCTION DATE FOR THE SINGLE FAMILY DWELLING ON LOT 57. THIS DWELLING WILL BE REMOVED.

8. MINIMUM YARD REQUIREMENTS
   FRONT YARD 25' (PER RS–16 ZONE)
   SIDE YARD 12' (PER RS–16 ZONE)
   REAR YARD 35' (PER RS–16 ZONE)

9. TRANSITIONAL SCREENING AND BARRIERS
   TRANSITIONAL SCREENING AND BARRIERS

10. LANDSCAPE COVERAGE:
    REQUIRED TREE COVERAGE= 20% PER § 17–15.1 OF THE TOWN CODE.(RS–16 ZONE)

11. PARKING REQUIREMENTS:
    REQUIRED PARKING= 2 SPACES PER DWELLING UNIT, PLUS 1 ADDITIONAL PER BEDROOM OVER 3 BEDROOMS, MAXIMUM 4 PARKING SPACES. PROPOSED MAXIMUM 4 PARKING SPACES, 2 IN GARAGE, 2 IN DRIVEWAY FOR EACH LOT PROPOSED. ZONING SEC 18–130A

12. THIS PROPERTY IS SERVED BY PUBLIC WATER AND SEWER. THE PROPOSED LOTS WILL REQUIRE PUBLIC WATER AND SEWER FACILTIES.

13. MAXIMUM DENSITY
    MAXIMUM DENSITY ALLOWED= 4.356 DWELLING UNITS PER ACRE
    DENSITY PROPOSED= 3 DWELLING UNITS/60,910 SF= 2.145 UNITS PER ACRE

14. TOPOGRAPHY DELINEATED HEREON IS BASED ON A FIELD SURVEY BY RAMSEY SURVEYS, COMPLETED MAY, 2020. CONTOURS ARE 2 FOOT CONTOUR INTERVALS . THE BOUNDARY SURVEY IS BASED UPON A FIELD SURVEY BY RAMSEY SURVEYS DATED MAY 19, 2020 AND A TITLE SEARCH PREPARED BY NORTHERN VIRGINIA LAND TITLE.

15. THE PROPERTY IS LOCATED IN FLOOD ZONE 'X' (AREAS OF MINIMAL FLOODING) AS SHOWN ON FIRM MAP NUMBER 510059 C0145E, EFFECTIVE SEPT 17 2010.

16. THERE ARE NO VISIBLE GRAVESITES OR BURIAL GROUNDS LOCATED ON THE PROPERTY.

17. THERE ARE NO RPA'S ON–SITE.

18. THERE ARE NO ENVIRONMENTAL QUALITY CORRIDORS ON SITE.

19. THE PROPERTY IS NOT WITHIN A HISTORIC OVERLAY DISTRICT.

20. THE PROPERTY IS NOT WITHIN A NATURAL RESOURCE OVERLAY DISTRICT.

21. THE PROPERTY IS NOT WITHIN A AIRPORT NOISE IMPACT OVERLAY DISTRICT.

22. THE PROPERTY IS NOT WITHIN A SIGN CONTROL OVERLAY DISTRICT.

23. THE PROPERTY IS NOT WITHIN A HIGHWAY CORRIDOR OVERLAY DISTRICT.

24. THE PROPERTY IS NOT WITHIN A WATER SUPPLY PROTECTION OVERLAY DISTRICT.

25. NO TITLE REPORT FURNISHED. SITE IS SUBJECT TO ENCUMBRANCES OF RECORD.

26. TO THE BEST OF MY KNOWLEDGE AND BELIEF, THERE ARE NO HAZARDOUR/TOXIC SUBSTANCES OR WASTE AND/OR PETROLEUM PRODUCTS TO BE GENERATED, UTILIZED STORED, TREATED AND/OR DISPOSED OF ON–SITE.

27. MAXIMUM LOT COVERAGE= 25%

28. ANY SIGNS, IF PROVIDED, WILL MEET ALL APPLICABLE SECTIONS OF THE TOWN OF VIENNA TOWN CODE.

29. A HOMEOWNERS ASSOCIATION WILL NOT BE ESTABLISHED.

30. ANY AIR QUALITY PERMITS REQUIRED SHALL BE OBTIANED AND PRIOR TO ANY CLEARING, GRADING OR OTHER CONSTRUCTION ACTIVITY.

31. SOLID WASTE SHALL BE COLLECTED BY THE TOWN OF VIENNA. STORAGE SHALL BE IN 30 GAL. INDIVIDUAL HOUSEHOLD CONTAINERS.

32. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL IDENTIFIED TREES AND SHALL COORDINATE TREE PRESERVATION WITH THE OWNER PRIOR TO ANY CONSTRUCTION.

33. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN SUCH A MANNER TO PREVENT THE WASHING OF ANY TOPSOIL, SILT, OR DEBRIS ONTO ADJACENT PROPERTIES.

34. THE PERMITEE SHALL PROVIDE ADEQUATE MEANS OF CLEANING TRUCKS AND/OR OTHER EQUIPMENT OF MUD PRIOR TO ENTERING THE TOWN OR VDOT RIGHT–OF–WAY, AND IT IS THE PERMITEE'S RESPONSIBILITY TO CLEAN STREETS OF MUD AND/OR ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE STREETS ARE KEPT CLEAN AND DUST FREE AT ALL TIMES.

35. ALL CONSTRUCTION SHALL CONFORM TO THE TOWN OF VIENNA AND VDOT STANDARDS AND SPECIFICATIONS.

36. EROSION AND SEDIMENT CONTROLS SHALL BE INSTALLED PRIOR TO ANY CLEARING, GRADING OR CONSTRUCTION AS PER THE REQUIREMENTS OF THE COMMONWEALTH OF VIRGINIA AND APPLICABLE SECTIONS OF THE VIENNA TOWN CODE.

37. ALL PUBLIC STREETS SHOWN HEREON ARE SUBJECT TO REVISION DURING THE FINAL SUBDIVISION DESIGN. HOWEVER, THE TOTAL NUMBER OF BUILDING LOTS SHALL NOT EXCEED THREE (3).

38. TREE SAVE AREAS AND CLEARING AND GRADING LIMITS SHOWN HEREON ARE SUBJECT TO REVISION DURING THE FINAL SUBDIVISION DESIGN. HOWEVER, THE MINIMUM 20% TREE COVER SHALL BE MET WITH EXISTING VEGETATION AND/OR ADDITIONAL PLANTINGS.

39. IF A GEOTECHNICAL REPORT IS REQUIRED IT WILL BE SUBMITTED WITH THE FINAL SUBDIVISION PLAT. APPROPRIATE FOUNDATION DRAINAGE DETAILS WILL BE PROVIDED ON THE FINAL SUBDIVISION PLAT.

40. IT IS ANTCIPATED THAT THE CONSTRUCTION OF THE DEVELOPMENT WILL BEGIN AS SOON AS ALL NECESSARY TOWN AND COUNTY APPROVALS AND PERMITS ARE OBTAINED, SUBJECT TO MARKET CONDITIONS.

41. ALL EXISTING UTILITIES TO BE RELOCATED SHALL BE AT THE DEVELOPER'S EXPENSE, INCLUDING ALL UTILITY POLES. POLES TO BE RELOCATED PRIOR TO CONSTRUCTION.

42. THERE ARE NO UNDERGROUND UTILITY EASEMENTS OR UTILITY EASEMENTS 25' OR GREATER ON THE SITE.

43. ANY RETAINING WALLS GREATER THAN 24" IN HEIGHT WILL REQUIRE A SEPARATE REVIEW AND PERMIT.

44. 117 COURTHOUSE ROAD SW PARCEL WAS REZONED TO RS–10 ON AUGUST 31, 2020

LAND CONSERVATION NOTES – GENERAL

1. NO DISTURBED AREA SHALL REMAIN DENUDED FOR MORE THAN 14 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.

2. 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.

3. ELECTRIC POWER, TELEPHONE AND GAS SUPPLY TRENCHES ARE TO BE COMPACTED, SEEDED AND MULCHED WITHIN FIVE DAYS AFTER BACKFILL.

4. DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.

5. ANY DISTURBED AREA NOT COVERED BY NOTE No. 1 ABOVE AND NOT PAVED, SEEDED OR BUILT UPON BY NOV. 1, OR DISTURBED AFTER THAT DATE, IS TO BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF TWO TONS PER ACRE AND OVER–SEEDED NO LATER THAN MARCH 15.

6. AT THE COMPLETION OF THE CONSTRUCTION PROJECT AND PRIOR TO RELEASE OF THE BOND, ALL SEDIMENT AND EROSION CONTROLS SHALL BE REMOVED AND ALL DISTURBED AREAS SHALL BE STABILIZED.

7. THE CONTRACTOR SHALL CONFORM TO MODIFIED SILTATION/EROSION CONTROLS AS REQUIRED BY THE COUNTY INSPECTOR TO INCREASE EFFICIENCY OF THE SEDIMENT CONTROL PLAN DURING EITHER PHASE.

CONTRACTORS NOTES:

1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO AND/OR DURING CONSTRUCTION AND TO NOTIFY JORDAN LAND DESIGN LLC.(571/233–5830) IMMEDIATELY IF NOT IN CONFORMANCE WITH THE APPROVED PLAN. FURTHER, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY JORDAN LAND DESIGN LLC IF A FIELD DESIGN PROBLEM OCCURS.

2. CONTRACTOR SHALL NOTIFY "MISS UTILITY" AT (800) 257–7777 48 HOURS PRIOR TO THE START OF ANY EXCAVATION OR CONSTRUCTION FOR THE MARKING OF EXISTING UNDERGROUND UTILITIES.

3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL IDENTIFIED TREES AND SHALL COORDINATE TREE PRESERVATION WITH THE OWNER PRIOR TO ANY CONSTRUCTION.

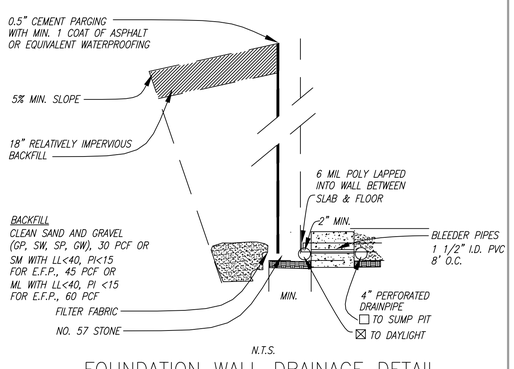
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN SUCH A MANNER AS TO PREVENT THE WASHING OF ANY TOPSOIL, SILT OR DEBRIS ONTO ADJACENT PROPERTIES.

LANDSCAPE NOTES:

1. ALL TREES PLANTED SHALL MEET THE SPECIFICATIONS OF THE AMERICAN ASSOCIATION OF NURSERYMEN AND THE TOWN SHALL MAINTAIN IN A WRITING A SYSTEM FOR RATING THE DESIRABILITY FOR PLANTING OF VARIOUS TREE SPECIES WHICH SHALL BE AVAILABLE IN THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS.

2. THE PLANTING OF TREES SHALL BE DONE IN ACCORDANCE WITH EITHER THE STANDARDISED LANDSCAPE SPECIFICATIONS JOINTLY ADOPTED BY THE VIRGINIA NURSERYMEN'S ASSOCIATION, THE VIRGINIA SOCIETY OF LANDSCAPE DESIGNERS AND THE VIRGINIA CHAPTER OF THE AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS, OR THE ROAD AND BRIDGE SPECIFICATIONS OF THE VIRGINIA DEPARTMENT OF TRANSPORTATION.

3. EXISTING TREES WHICH ARE TO BE PRESERVED AS OTHERWISE IN THIS CHAPTER MAY INCLUDE IN THE PLAN TO MEET ALL OR PART OF THE CANOPY REQUIREMENTS, AND MAY INCLUDE WOODED PRESERVES, IF THE SITE PLAN IDENTIFIES SUCH TREES AND THE TREES MEET STANDARDS OF DESIRABILITY AND LIFE EXPECTANCY ESTABLISHED BY THE TOWN.



FOUNDATION WALL DRAINAGE DETAIL

BASEMENT WALL BACKFILL:

BACKFILL MATERIAL FOR BASEMENT WALLS SHOULD CONSIST OF SOIL THAT WOULD CLASSIFY IN ACCORDANCE WITH UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) AS GW, GM, SW OR SM. THE MAXIMUM ALLOWABLE ROCK PARTICLE SIZE SHOULD BE FOUR INCHES. SUITABLE BACKFILL MATERIAL SHOULD HAVE A LIQUID LIMIT LESS THAN 40, A PLASTICITY INDEX LESS THAN 15, A MAXIMUM OF 45 PERCENT PASSING A STANDARD NO. 200 SIEVE AND MAXIMUM OF 30 PERCENT RETAINED ON A STANDARD 3/4 INCH SIEVE.

SILTATION AND EROSION CONTROLS MUST BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY. CALL 24 HOURS PRIOR TO START TO SCHEDULE AND INSPECTION OF THE SITE.

ALL DENUDED AREAS TO BE SEEDED, MULCHED, TACKED OR SODDED AND PEGGED WITHIN 14 DAYS AFTER START OF GRADING.

SANITARY SEWER NOTES

1. Applicant will line the existing sanitary sewer line if deemed necessary by Town during inspection.
2. 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.
3. 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.
4. 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.
5. Per Section 715.3 Seal, backwater valves shall be so constructed as to provide a mechanical seal against backflow.
6. 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.
7. Per Section 715.5 Location, backwater valves shall be installed so that access is provided to the working parts for service and repair.

WATER MAIN NOTES

1. Cut and crimp old service lines at the main.
2. Turn off all corporation stops.

RESPONSIBLE LAND DISTURBER INFORMATION

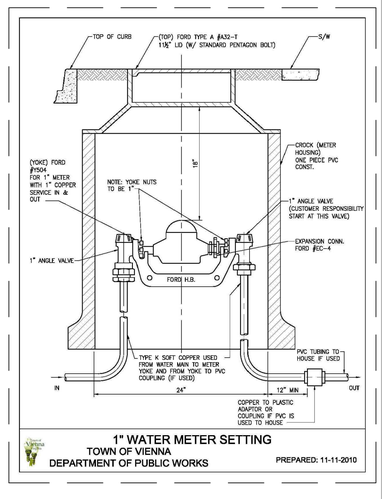
OWNER/ DEVELOPER/ PERMITEE INFORMATION

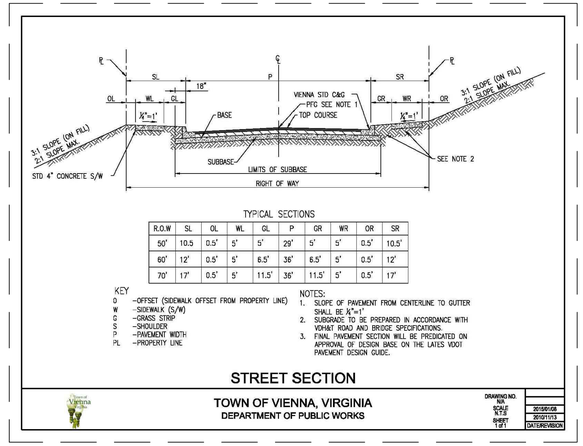
PROJECT NAME: RESUBDIVISION OF LOTS 32 & 57 117 & 121 COURTHOUSE ROAD
PROJECT # PF XX–XX
DISTRICT: HUNTER MILL TM # 038–4 ((2)) 32 &57
OWNER/ DEVELOPER/PERMITEE JDA CUSTOM HOMES INC PHONE 703 938 1119
ADDRESS PO BOX 1208 VIENNA, VA 22183

RESPONSIBLE LAND DISTURBER INFORMATION
CERTIFICATE/ LICENSE HOLDER NAME DENNIS RICE PHONE 703 938 1119
ADDRESS PO BOX 1208 VIENNA, VA 22183
TYPE CERTIFICATE LAND DISTURBER CERTIFICATE/ LICENSE 32491
APPLICANT/ AGENT SIGNATURE:

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 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 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 LATERAL BETWEEN THE TOWN OWNED SANITARY 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.





R.O.W	SL	OL	WL	GL	P	GR	WR	OR	SR
50'	10.5	0.5'	5'	5'	29'	5'	5'	0.5'	10.5'
60'	12'	0.5'	5'	6.5'	36'	6.5'	5'	0.5'	12'
70'	17'	0.5'	5'	11.5'	36'	11.5'	5'	0.5'	17'

KEY
O –OFFSET (SIDEWALK OFFSET FROM PROPERTY LINE)
W –SIDEWALK (S/W)
G –GRASS STRIP
S –SHOULDER
P –PAVEMENT WIDTH
PL –PROPERTY LINE

SECTION OF COURTHOUSE ROAD– COLLECTOR ROAD
SECTION OF COURTHOUSE ROAD FRONT OF THE PROPERTY.

VDOT GS–7 REQUIREMENTS

POSTED SPEED 25 MPH
DESIGN SPEED (ASSUMED) 35 MPH
LANE WIDTH MINIMUM 11 FEET
PROVIDED 14.5 FEET

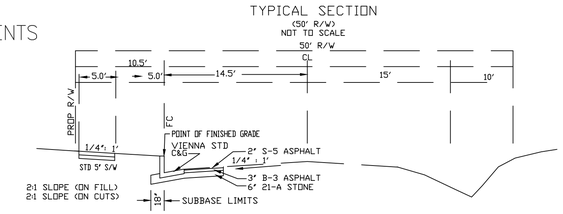
MINIMUM RADIUS 408 FEET
PROVIDED – STRAIGHT ALIGNMENT –N/A

CURB AND GUTTER
REQUIRED CG–6
PROVIDED MODIFIED CG–6 (TOV STANDARD)

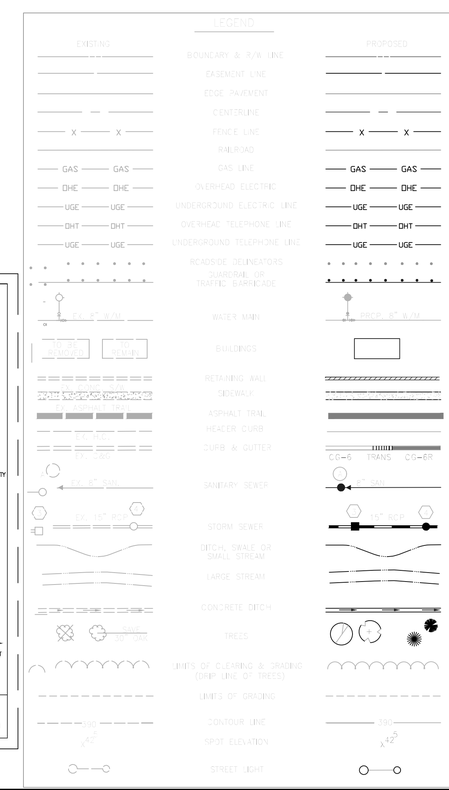
MINIMUM SIDEWALK
EXISTING–NONE
PROPOSED 5 FT SIDEWALK

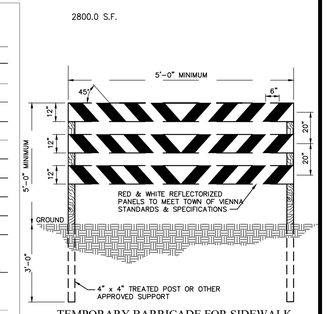
ROW REQUIRED 50 FEET
PROVIDED VARIES – APPROXIMATELY 50.3 FEET
.

TYPICAL SECTION
(50' R/W)
NOT TO SCALE



SUBGRADE TO BE PREPARED IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS
NOTE: APPLICANT WILL NEED TO MILL AND OVERLAY THE HALF SECTION OF COURTHOUSE ROAD FRONT OF THE PROPERTY.





TEMPORARY BARRICADE FOR SIDEWALK

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	APPR.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1208
VIENNA, VIRGINIA 22183
PHONE: (703) 938–1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1828? CHANEL RIDGE COURT
LEESBURG, VA 20175
PHONE: (571) 233–5830

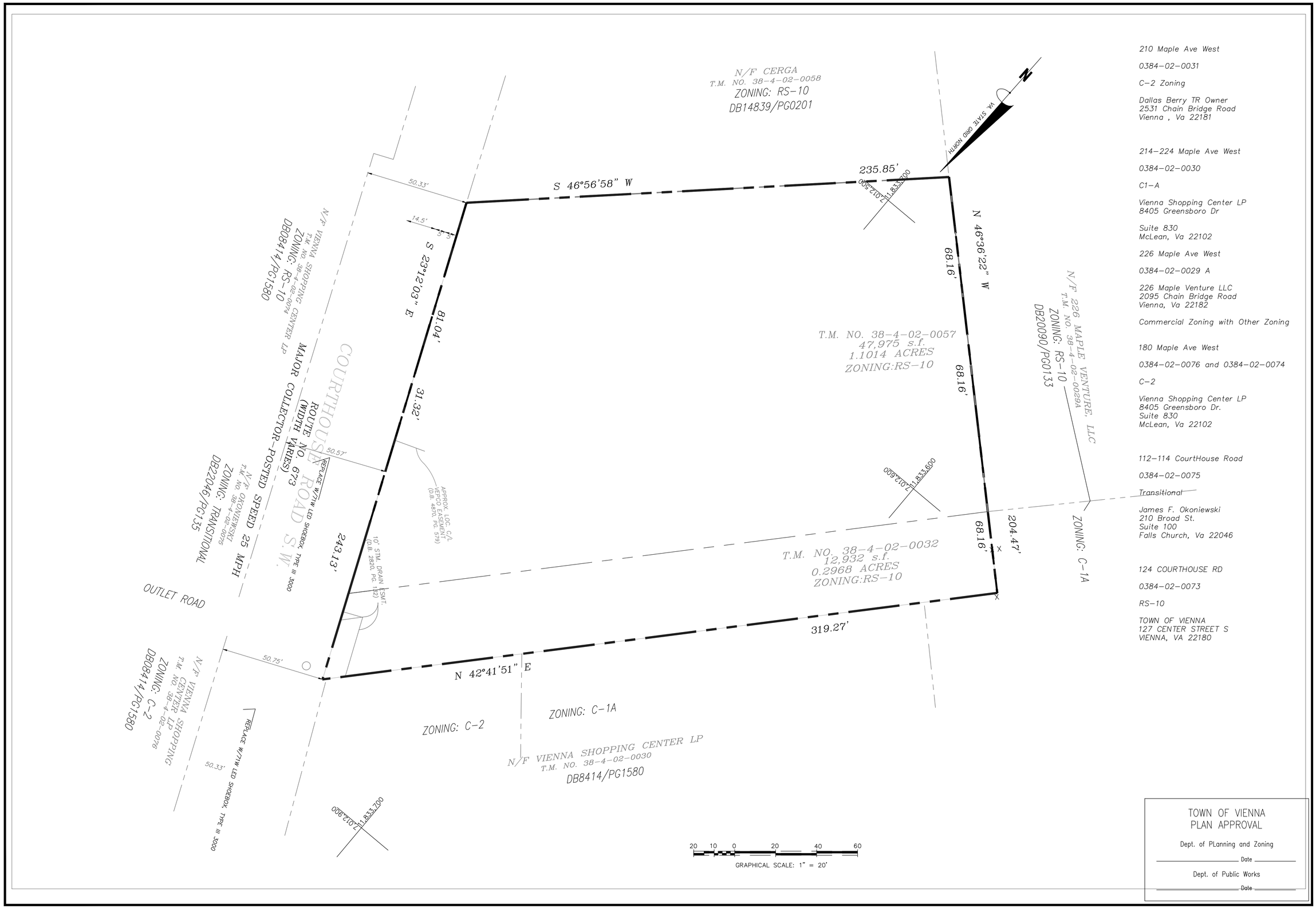
COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT: TOWN OF VIENNA–FAIRFAX COUNTY, VIRGINIA

NOTES

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	2 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:31pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



210 Maple Ave West

0384-02-0031

C-2 Zoning

Dallas Berry TR Owner
2531 Chain Bridge Road
Vienna , Va 22181

214-224 Maple Ave West

0384-02-0030

C1-A

Vienna Shopping Center LP
8405 Greensboro Dr

Suite 830
McLean, Va 22102

226 Maple Ave West

0384-02-0029 A

226 Maple Venture LLC
2095 Chain Bridge Road
Vienna, Va 22182

Commercial Zoning with Other Zoning

180 Maple Ave West

0384-02-0076 and 0384-02-0074

C-2

Vienna Shopping Center LP
8405 Greensboro Dr.
Suite 830
McLean, Va 22102

112-114 CourtHouse Road

0384-02-0075

Transitional

James F. Okoniewski
210 Broad St.
Suite 100
Falls Church, Va 22046

124 COURTHOUSE RD

0384-02-0073

RS-10

TOWN OF VIENNA
127 CENTER STREET S
VIENNA, VA 22180

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

Date

Dept. of Public Works

Date

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1 BASS CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

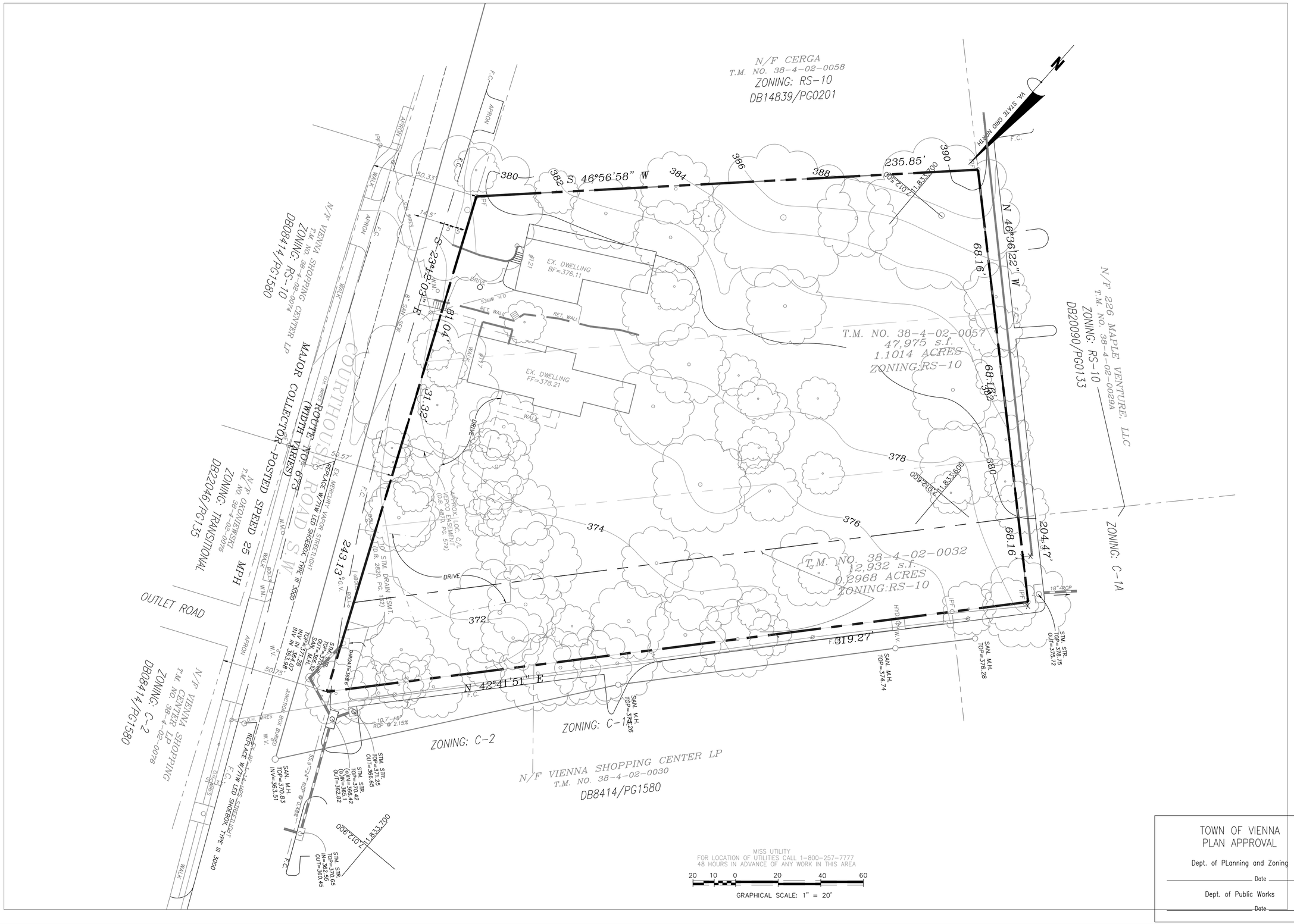
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

BOUNDARY

PROJ. NO.: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	3 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:33pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
18267 CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

ENGINEER'S SEAL & SIGNATURE

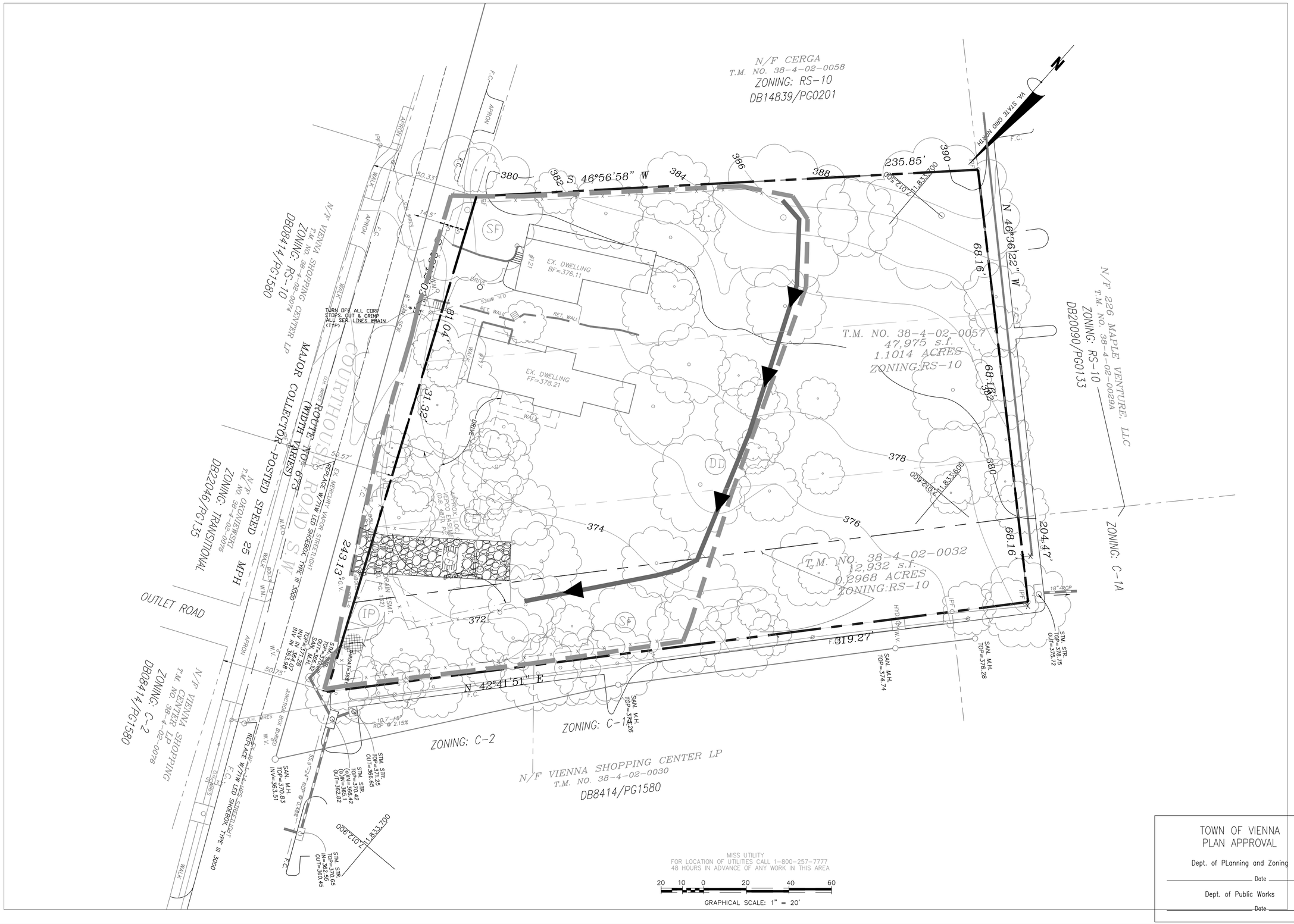
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT, TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

EXISTING CONDITIONS

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	4
SCALE: 1"=20'	OF 22

Oct 21, 2020 - 6:34pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

Date

Dept. of Public Works

Date

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1208
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
18287 CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

ENGINEER'S SEAL & SIGNATURE

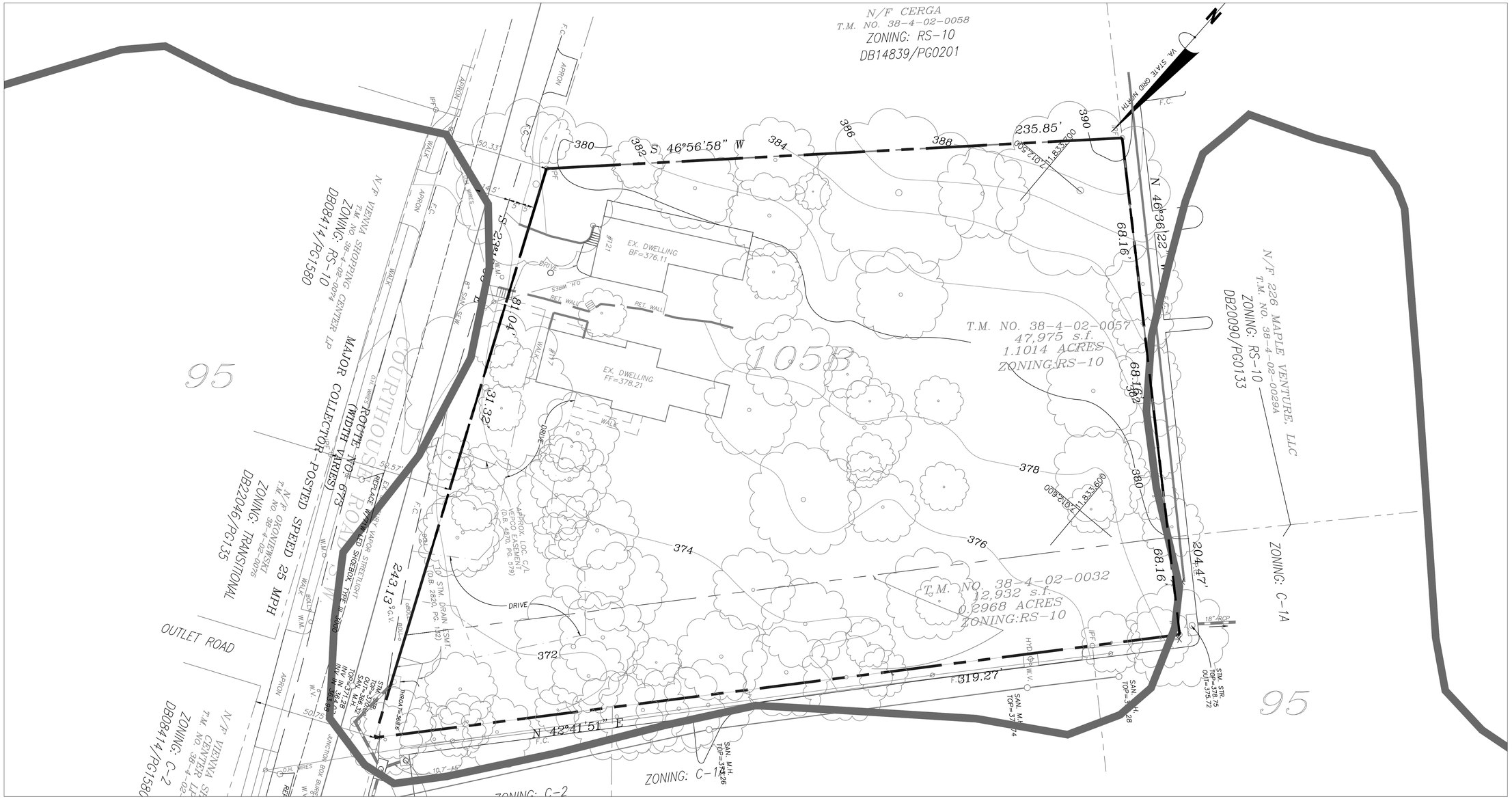
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT, TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

DEMO PLAN

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	5 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:34pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



MISS UTILITY
FOR LOCATION OF UTILITIES CALL 1-800-257-7777
48 HOURS IN ADVANCE OF ANY WORK IN THIS AREA

20 10 0 20 40 60

GRAPHICAL SCALE: 1" = 20'

SOILS DATA: (1"=20')

(105) Wheaton–Glenelg Complex – This complex is a mixture of the development–disturbed Wheaton soil and the natural Glenelg soil. The complex occurs in upland areas of the Piedmont with micaceous schist and phyllite bedrock that have been developed but retain a good portion of undisturbed soil. Wheaton soil will be clustered around foundations , streets, sidewalks, playing fields and other graded areas. Glenelg soil will be found under older vegetation in ungraded back and front yards and common areas. The two soils that make up this map unit, (102) Wheaton and (39) Glenelg ERODIBILITY–HIGH FOUNDATION SUPPORT–GOOD; HIGH WATER TABLE–>6 FT; SOIL DRAINAGE–GOOD.

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1083
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
12697 CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

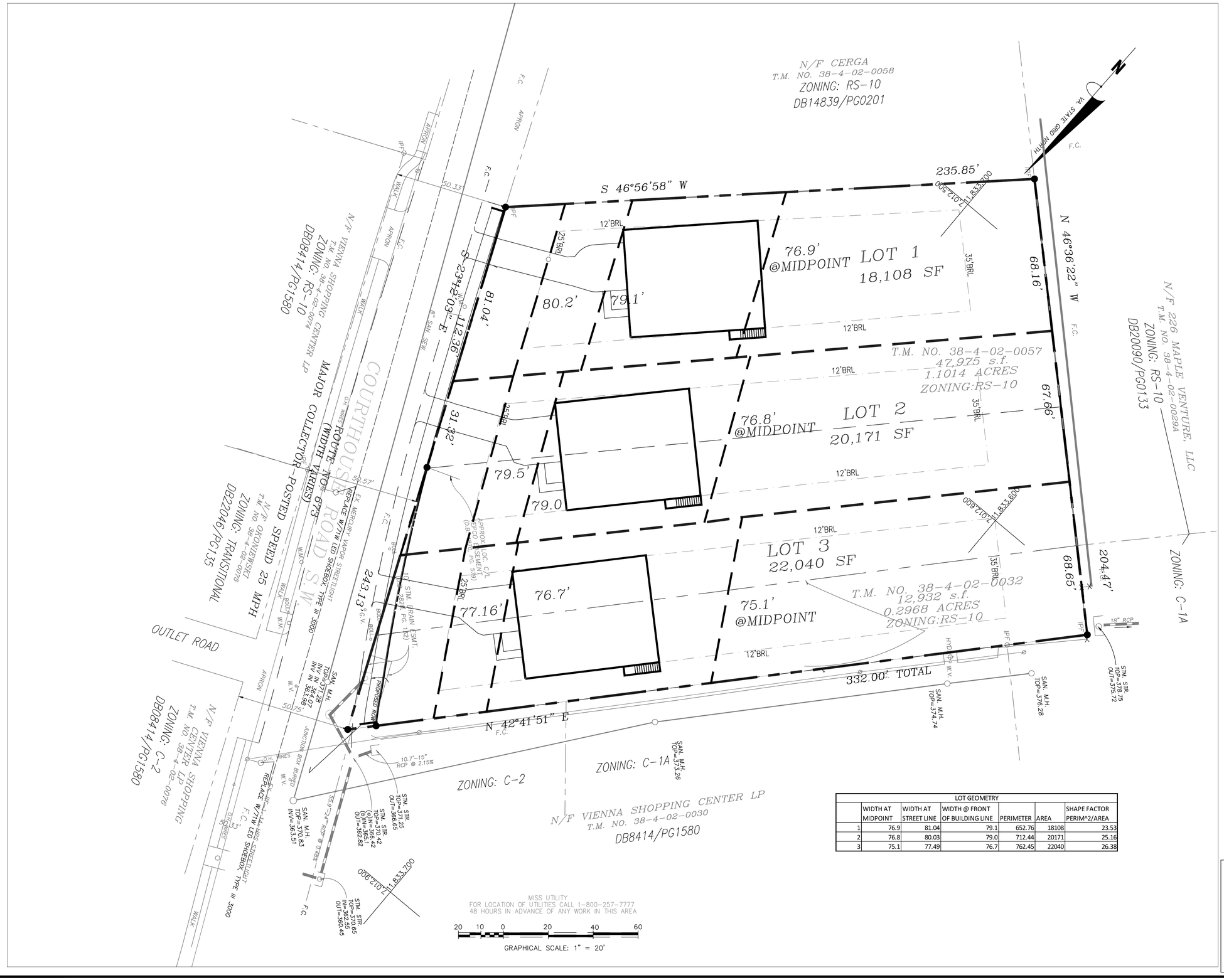
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

SOILS

PROJ. NO: 18041.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	6 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:35pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



LOT GEOMETRY						
	WIDTH AT MIDPOINT	WIDTH AT STREET LINE	WIDTH @ FRONT OF BUILDING LINE	PERIMETER	AREA	SHAPE FACTOR PERIM^2/AREA
1	76.9	81.04	79.1	652.76	18108	23.53
2	76.8	80.03	79.0	712.44	20171	25.16
3	75.1	77.49	76.7	762.45	22040	26.38

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
LB267 CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

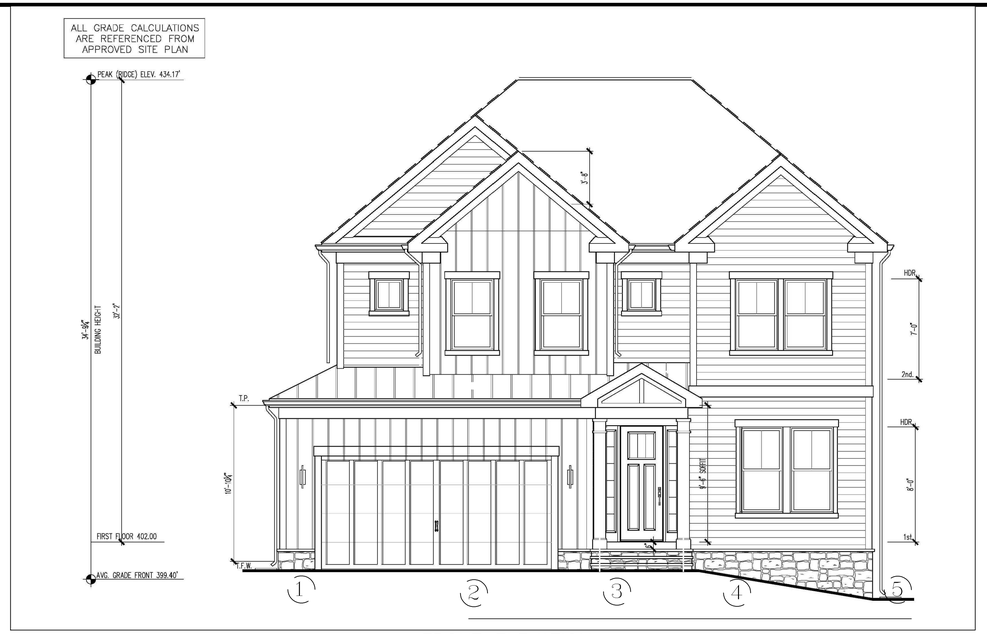
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

LOT GEOMETRY PLAN

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO: 7 OF 22
CHECK BY: DMJ	
SCALE: 1"=20'	

Oct 26, 2020 - 3:16pm
Z:\Job Files\Rice\Courthouse\10262020 COURTHOUSE BASE.dwg



FRONT ELEVATION

5 2.5 0 5 10 15

GRAPHICAL SCALE: 1" = 5'

BUILDING HEIGHT CALCULATION LOT 1			
POINT#	EX. ELEV.	PROP ELEV	DIFF
1	380.70	381.50	0.8
2	380.00	381.50	1.5
3	379.50	381.50	2.0
4	379.00	381.00	2.0
5	378.00	380.00	2.0
6	379.00	379.00	0.0
7	380.50	380.00	-0.5
8	382.30	381.50	-0.8
9	383.70	381.50	-2.2
10	382.00	380.50	-1.5
AVERAGE FRONT GRADE	379.44	380.80	
FIRST FLOOR(FF)=		383.80	
FF TO PEAK=		32.00	
PEAK ELEVATION=		415.80	
BUILDING HEIGHT=		35.00	

BUILDING HEIGHT CALCULATION LOT 2			
POINT#	EX. ELEV.	PROP ELEV	DIFF
1	375.00	376.50	1.5
2	374.80	376.50	1.7
3	374.60	376.50	1.9
4	374.20	376.50	2.3
5	374.20	375.50	1.3
6	375.00	374.50	-0.5
7	375.80	376.00	0.2
8	377.00	376.50	-0.5
9	378.20	376.50	-1.7
10	377.00	376.50	-0.5
AVERAGE FRONT GRADE		376.15	
FIRST FLOOR(FF)=		378.80	
FF TO PEAK=		32.00	
PEAK ELEVATION=		410.80	
BUILDING HEIGHT=		34.65	

BUILDING HEIGHT CALCULATION LOT 3			
POINT#	EX. ELEV.	PROP ELEV	DIFF
1	373.20	374.00	0.8
2	373.00	374.00	1
3	372.50	374.00	1.5
4	372.00	374.00	2
5	371.50	372.50	1
6	372.30	372.50	0.2
7	373.00	373.50	0.5
8	373.50	374.00	0.5
9	374.10	374.00	-0.1
10	373.50	374.00	0.5
AVERAGE FRONT GRADE		373.65	
FIRST FLOOR(FF)=		376.30	
FF TO PEAK=		32.00	
PEAK ELEVATION=		408.30	
BUILDING HEIGHT=		34.65	

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
LE267 CHANEL RIDGE COURT
LOVES PARK, IL 61132
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

HEIGHT CALCULATIONS

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	8 OF 22
SCALE: AS NOTED	

Oct 21, 2020 - 6:36pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

9VAC25-840-40. Minimum standards.

A VESCP must be consistent with the following criteria, techniques and methods:

1. Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

2. During construction of the project, soil stock piles 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 borrow areas and soil intentionally transported from the project site.

3. 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 is uniform, mature enough to survive and will inhibit erosion.

4. Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.

a. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.

b. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a 25-year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

7. Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

10. All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

11. Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

12. When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

13. When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

14. All applicable federal, state and local requirements pertaining to working in or crossing live watercourses shall be met.

15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:

a. No more than 500 linear feet of trench may be opened at one time.

b. Excavated material shall be placed on the uphill side of trenches.

c. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.

d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.

e. Restabilization shall be accomplished in accordance with this chapter.

f. Applicable safety requirements shall be complied with.

17. Where construction vehicle access routes intersect paved or 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 paved or public road surface, the road surface 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 development lots as well as to larger land-disturbing activities.

18. 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 VESCP authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

19. Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration in accordance with the following standards and criteria. Stream restoration and relocation projects that incorporate natural channel design concepts are not man-made channels and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels:

a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.

b. Adequacy of all channels and pipes shall be verified in the following manner:

(1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or

(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.

(b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and

(c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.

c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:

(1) Improve the channels to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel, the bed, or the banks; or

(2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances;

(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or

(4) Provide a combination of channel improvement, stormwater detention or other measures which is satisfactory to the VESCP authority to prevent downstream erosion.

d. The applicant shall provide evidence of permission to make the improvements.

e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project.

f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.

h. All on-site channels must be verified to be adequate.

i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.

j. In applying these stormwater management criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.

k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.

l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural or man-made channels if the practices are designed to (i) detain the water quality volume and to release it over 48 hours; (ii) detain and release over a 24-hour period the expected rainfall resulting from the one year, 24-hour storm; and (iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in a good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to § 62.1-44.15:54 or 62.1-44.15:65 of the Act.

m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of § 62.1-44.15:52 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (§ 62.1-44.15:24 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 9VAC25-870-48 of the Virginia Stormwater Management Program (VSMP) Regulations.

n. Compliance with the water quantity minimum standards set out in 9VAC25-870-66 of the Virginia Stormwater Management Program (VSMP) Regulations shall be deemed to satisfy the requirements of subdivision 19 of this subsection.

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 THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR-625-02-00 EROSION AND SEDIMENT CONTROL AND COUNTY REGULATIONS.

ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRECONSTRUCTION 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 OF 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 THOSE INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE OWNER SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY FAIRFAX COUNTY.

ES-6: THE OWNER IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY FAIRFAX COUNTY.

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 (IF REQUIRED), 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 REPAIRS OR CLEANUP REQUIRED TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

SODDING (OPTIONAL)

SODDING SHALL BE PERFORMED IN ACCORDANCE WITH VESCH SPECIFICATION 3.33.

1. PRIOR TO SOIL PREPARATION, AREAS TO BE SODDED SHALL BE BROUGHT TO FINAL GRADE IN ACCORDANCE WITH THE APPROVED PLAN.

2. SOIL TESTS SHOULD BE MADE TO DETERMINE THE EXACT REQUIREMENTS FOR LIME AND FERTILIZER. SOIL TEST MAY BE CONDUCTED BY THE STATE LABORATORY AT VPI & SU OR A REPUTABLE COMMERCIAL LABORATORY. INFORMATION ON STATE SOIL TESTS IS AVAILABLE FROM COUNTY OR CITY AGRICULTURE EXTENSION AGENTS.

3. PRIOR TO LAYING SOD, THE SOIL SURFACE SHALL BE CLEAR OF TRASH, DEBRIS, LARGE ROOTS, BRANCHES, STONES, AND CLODS IN EXCESS OF 1" IN LENGTH OR DIAMETER. SOD SHALL NOT BE APPLIED TO GRAVEL OR OTHER NON-SOIL SURFACES.

4. ANY IRREGULARITIES IN THE SOIL SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS SHALL BE FILLED OR LEVELED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER POCKETS.

5. AREA TO BE TOP SOILED AND TOPSOIL USED SHALL FULFILL THE REQUIREMENTS OF TOP SOILING, VESCH SPEC. 3.30. NO SOD SHALL BE SPREAD ON SOIL THAT HAS BEEN TREATED WITH SOIL STERILANTS OR ANY OTHER TOXIC HERBICIDES UNTIL ENOUGH TIME HAS ELAPSED TO PERMIT DISSIPATION OF TOXIC MATERIALS.

6. SOD SHALL NOT BE LAID IN EXCESSIVELY WET OR DRY WEATHER AND SHOULD BE INSTALLED WITHIN 36 HOURS AFTER DELIVERY.

7. SOD SHOULD NOT BE LAID ON FROZEN SOIL SURFACES AND SHALL BE INSTALLED PER PLATE 3.33-1 OF VESCH.

8. QUALITY OF SOD SHALL BE STATE CERTIFIED TO ENSURE GENETIC PURITY AND HIGH QUALITY.

PERMANENT STABILIZATION

PERMANENT SEEDING SHALL BE PERFORMED IN ACCORDANCE WITH VESCH SPECIFICATION 3.32.
1. PERMANENT VEGETATION COVER MUST MEET THE REQUIREMENTS OF MINIMUM STANDARDS #3 (MS-3).
2. PLANT SELECTION SHALL BE BASED UPON TABLES 3.32 A&B DEPENDING ON CLIMATE, TOPOGRAPHY, SOILS, AND SITE CONDITIONS.
3. THE PLANTING SOIL MUST HAVE ENOUGH FINE GRAINED SOIL, SUFFICIENT PORE SPACE, SUFFICIENT DEPTH AND BE FREE FROM TOXIC OR EXCESSIVE QUANTITIES OF ROOTS AND SHALL BE APPLIED IN ACCORDANCE WITH VESCH STD 3.30.
4. THE SITE WILL BE PERMANENTLY STABILIZED BY MEANS OF PERMANENT SEEDING, TREE PLANTINGS, THE BUILDING AND ASHPALT DRIVEWAY.

EROSION AND SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

2. THIS PROJECT CONSISTS OF 60,910 SF OF WHICH APPROXIMATELY 39500 SF ARE DISTURBED WITH THIS PLAN. THE AREA BEING DISTURBED IS FOR THE CONSTRUCTION OF A THREE SINGLE FAMILY DETACHED HOUSES.
3. EXISTING SITE CONDITIONS
4. THE SITE IS VEGETATED WITH MOSTLY GRASSES AREA IN THE FRONT OF THE PROPERTY AND TREES AT THE REAR. TOPOGRAPHY OF MOST OF THE SITE SLOPES FROM 0 TO 10% AND SLOPES FROM THE SOUTHWEST TO NORTHEAST (TO COURTHOUSE ROAD).
5. SOILS
SEE SOILS INFORMATION SHEET 5.
6. ADJACENT AREAS
THE SITE IS BOUNDED BY SINGLE FAMILY RS-10 TO THE SOUTH AND WEST, COMMERCIAL TO THE NORTH AND EAST.
DATES OF CONSTRUCTION
7. CONSTRUCTION IS SCHEDULED TO BEGIN IN THE FALL 2020 AND COMPLETED BY WINTER 2021.

EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED ON THE DRAWINGS 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 HANDBOOK (VESCH) AND THE PUBLIC FACILITIES MANUAL OF FAIRFAX COUNTY. 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.

OFF-SITE AREAS:

NO OFF-SITE LAND DISTURBING ACTIVITIES ARE ANTICIPATED FOR THE DEMO, GRADING, AND CONSTRUCTION OF THIS LOT. ANY EXCESS MATERIAL FROM THE SITE SHALL BE COORDINATED BY THE CONTRACTOR. ANY OFF SITE LAND DISTURBING OR OFF SITE STOCKPILING TO OCCUR ON A PERMITTED SITE OR APPROVED LANDFILL OPERATION. THIS INCLUDES ANY MATERIAL HAULED FROM THIS SITE.

CRITICAL EROSION AREAS:

THERE ARE NO CRITICAL AREAS ON SITE

EROSION CONTROL PROGRAM

1. NO DISTURBED AREA IS TO REMAIN DENUDED FOR MORE THAN 7 DAYS UNLESS AUTHORIZED BY THE DIRECTOR OR HIS AGENT (SPECIFIC AREAS TO BE AUTHORIZED BY THE DIRECTOR OR HIS AGENT (SPECIFIC AREAS TO BE DETERMINED AT THE PRE-CONSTRUCTION MEETING).
2. NO MORE THAN 50 PERCENT SHALL BE DENUDED AT ONE TIME.
3. POWER, TELEPHONE, STORM, SANITARY, CABLE AND GAS SUPPLY TRENCHES
4. BACKFILLING. NO MORE THAN 500 FEET OF TRENCH IS TO BE OPEN AT ONE TIME.
5. TOPSOIL WHICH HAS BEEN STOCKPILED IS TO BE SURROUNDED BY SILT TEMPORARY VEGETATION IMMEDIATELY AFTER GRADING.
6. ALL TEMPORARY BERMS, DIVERSIONS, AND SEDIMENT TRAP EMBANKMENTS ARE TO BE MACHINE-COMPACTED, SEEDED, MULCHED AND/OR TEMPORARY VEGETATED IMMEDIATELY AFTER GRADING. STRAW OR HAY MULCH IS REQUIRED.
7. ALL FILLS ARE TO BE LEFT WITH A LIP AT THE TOP OF THE SLOPE AT THE END OF EACH DAYS OPERATION.
8. ALL CUT AND FILLS ARE TO BE SEEDED AND MULCHED IMMEDIATELY AFTER GRADING
9. ANY DISTURBED AREAS NOT SODDED BY NOVEMBER 1 ARE TO BE SEEDED WITHIN 15 DAYS WITH OATS, ABRUZZI RYE, OR EQUIVALENT AND MULCHED WITH STRAW OR HAY AT THE RATE OF TWO TONS PER ACRE.
10. DRAINAGE SWALES SHALL BE STABILIZED UNTIL VEGETATION HAS BEEN WELL ESTABLISHED.
11. EXISTING COURTHOUSE ROAD SW SHALL BE CLEAN OF SEDIMENT AND DEBRIS. ANY DISTURBED AREAS DRAINING TO COURTHOUSE ROAD SW HAVE SEDIMENT AND EROSION CONTROLS. E & S CONTROL INSPECTOR SHALL HAVE AUTHORITY TO ADD OR DELETE E&S CONTROL MEASURES TO ROADWAY.
12. E & S CONTROL INSPECTOR SHALL HAVE THE AUTHORITY TO ADD OR DELETE EROSION AND SEDIMENT CONTROLS AS NEEDED IN THE FIELD, AS SITE CONDITIONS WARRANT. IN ADDITION, SEDIMENT CONTROLS MAY NOT BE REMOVED WITHOUT PRIOR APPROVAL OF THE COUNTY INSPECTOR.
13. 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, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
14. WHEN SEDIMENT IS TRANSPORTED ON TO THE PAVED ROAD (COURTHOUSE ROAD SW) THE ROAD SURFACE SHALL BE THOROUGHLY CLEANED AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A CONTROL DISPENSE AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED ON THIS MANNER.

SEDIMENT CONTROL PROGRAM

PHASE I
1. INSTALL A TEMPORARY CONSTRUCTION ENTRANCE WITH A WASH RACK, IF REQUIRED. MUD AND DEBRIS SHALL BE WASHED FROM ALL CONSTRUCTION VEHICLES AND EQUIPMENT PRIOR TO LEAVING THE SITE. THE SEDIMENT LADEN WATER SHALL BE DIVERTED TO A SEDIMENT TRAP. WATER TRUCKS WILL BE USED IF PUBLIC METERED WATER IS NOT AVAILABLE.
2. INSTALL SILT FENCE AT THE LIMITS OF DISTURBANCE.
3. INSTALL TREE PROTECTION USING THE METHODS OUTLINED BY THE VIRGINIA STATE EROSION AND SEDIMENT CONTROL HANDBOOK
4. INSTALL SUPER SILT FENCE IN LOCATION OF INFILTRATION TRENCHES
5. CLEAR AND GRUB THE AREAS NECESSARY FOR THE CONSTRUCTION OF SILT FENCE.
6. CLEAR AND GRUB THE SITE WITHIN THE LIMITS OF CLEARING AND GRADING
PHASE II
1. STABILIZE IMMEDIATELY AFTER THE COMPLETION OF GRADING OPERATIONS.
2. HOUSE CONSTRUCTION, INSTALL STORM, SANITARY LATERAL AND WATER SERVICE.
3. INSTALLATION OF INFILTRATION TRENCH AFTER AREA UPSTREAM STABILIZED.
4. PHASE I E&S CONTROLS SHOULD REMAIN INTACT AS LONG AS THEY CAN REMAIN OPERABLE FOR THE STAGE OF CONSTRUCTION.
5. AFTER ALL INLET PROTECTION DEVICES HAVE BEEN COMPLETED AND ALL AREAS HAVE BEEN STABILIZED MECHANICAL SEDIMENT CONTROLS SHALL BE REMOVED AND THE GRADING PERMANENTLY STABILIZED WITH THE APPROVAL OF THE INSPECTOR. FOLLOW VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK, THIRD EDITION; STD & SPEC 3.32 FOR PERMANENT SEEDING; STD. & SPEC 3.31 FOR TEMPORARY SEEDING; STD AND SPEC 3.35 FOR MULCHING.
6. THE SITE SUPERINTENDENT SHALL INSPECT THE EROSION CONTROLS ON A DAILY BASIS, ESPECIALLY AFTER RAINFALL TO INSURE ADEQUACY OF THE CONTROLS.

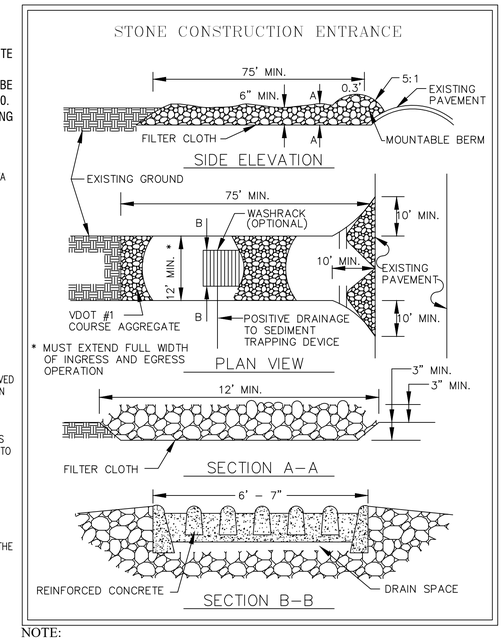
MAINTENANCE PROGRAM

IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSPECTED DAILY BY THE 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:

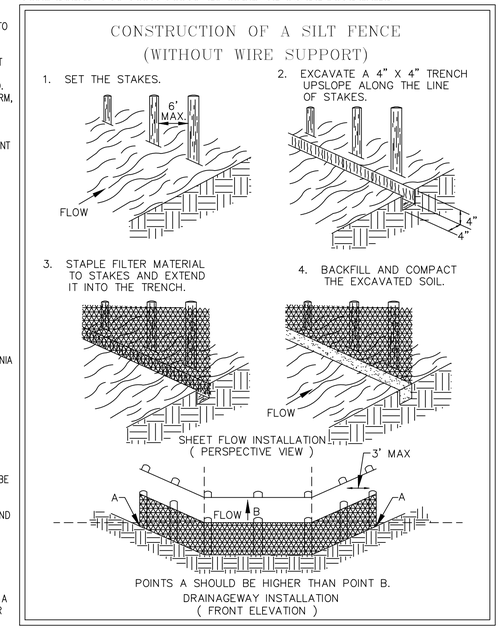
1. THE PERIMETER CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER EVERY MEASURABLE RAINFALL. THE SEDIMENT SHALL BE REMOVED FROM THE TRAPS AND RESTORED TO THE DESIGN DIMENSIONS AND VOLUMES WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF OF THE DESIGN VOLUME OF THE WET STORAGE. THE SEDIMENT REMOVED FROM THE CONTROLS SHALL BE SPREAD ON SITE IN A SUITABLE LOCATION ABOVE IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
2. THE CONTROLS SHALL BE INSPECTED REGULARLY FOR STRUCTURAL SOUNDNESS AND INTEGRITY AND DAMAGE BY CONSTRUCTION EQUIPMENT.
3. THE 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.
4. SEEDED AREAS SHALL BE INSPECTED DAILY DURING THE ESTABLISHMENT PERIOD TO ENSURE SEED GERMINATION
5. AFTER ESTABLISHMENT OF GOOD STAND OF VEGETATION IN THE SEEDED AREAS, INSPECTIONS SHALL BE CONDUCTED ON A WEEKLY BASIS TO ENSURE THAT THE SEEDED AREAS ARE NOT DAMAGED. ANY AREAS WHERE VEGETATION DIED, DRIED OR WAS OTHERWISE DAMAGED SHALL BE RESEEDED IMMEDIATELY.
6. EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED ONLY WITH THE APPROVAL OF THE INSPECTOR.

Silt Fence:

SILT FENCE SHALL COMPLY WITH VESCH CHAPTER 3 PAGES 21-22.
1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER, OR ETHYLENE YARN AND SHALL BE CERTIFIED BY MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS NOTED IN TABLE 3.05-B OF THE VESCH.
2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF SIX MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF 0 DEGREES FAHRENHEIT TO 120 DEGREES FAHRENHEIT.
3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2" WHEN OAK IS USED AND 4" WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM LENGTH OF 5'.
4. IF STEEL POSTS (STANDARD "U" AND "T" SECTION) ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH OF 5'.



NOTE:
DEPENDING ON THE ACTUAL SITE CONDITIONS AND LIMITATIONS, IN THE FIELD THE SITE INSPECTOR MAY ALLOW AN EXISTING DRIVEWAY TO BE USED AS A CONSTRUCTION ENTRANCE, OR THE LENGTH OF THE STANDARD CONSTRUCTION ENTRANCE TO BE MODIFIED.



TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 2043
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
12257 CHANEL RIDGE COURT
LAKE RIDGE, VA 22192
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT- TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

EROSION & SEDIMENT CONTROL NOTES

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO: 9
CHECK BY: DMJ	OF 22
SCALE: N/A	

Oct 21, 2020 - 6:37pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

PLAN SUBMITTER'S CHECKLIST

FOR EROSION AND SEDIMENT CONTROL PLANS

NARRATIVE
Please reference plan sheet numbers where the information may be found.

✓ Project description - Briefly describe the nature and purpose of the land-disturbing activity. Provide the area (acres) to be disturbed.

✓ Existing site conditions - A description of the existing topography (% slopes), ground cover, and drainage (on-site and receiving channels).

✓ Adjacent areas - A description of all neighboring areas such as residential developments, agricultural areas, streams, lakes, roads, etc., that might be affected by the land disturbance.

✓ Off-site areas - Describe any off-site land-disturbing activities that may occur (borrow sites, disposal areas, easements, etc.). Identify the Owner of the off-site area and the entity responsible for plan review. Include a statement that any off-site land-disturbing activity associated with the project must have an approved ESC Plan. Submit documentation of the approved ESC Plan for each of these sites.

✓ Soils - Provide a description of the soils on the site, giving such information as soil name, mapping unit, erodibility, permeability, surface runoff, and a *brief* description of depth, texture and soil structure. Show the site location on the Soil Survey, if it is available. Include a plan showing the boundaries of each soil type on the development site.

✓ Critical areas - A description of areas on the site that have potentially serious erosion problems or that are sensitive to sediment impacts (e.g., steep slopes, watercourses, wet weather / underground springs, etc.).

✓ Erosion and sediment control measures - A description of the structural and vegetative methods that will be used to control erosion and sedimentation on the site. Controls should satisfy applicable minimum standards and specifications in Chapter 3 of the 1992 *Virginia Erosion and Sediment Control Handbook* (VESCH) or more stringent local requirements.

✓ Management strategies / Sequence of construction - Address management strategies, the sequence of construction, and any phasing of installation of ESC measures.

✓ Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed.

✓ Maintenance of ESC measures - A schedule of regular inspections, maintenance, and repair of erosion and sediment control structures should be set forth.

N/A Calculations for temporary erosion and sediment control measures - For each temporary ESC measure, provide the calculations required by the standards and specifications.

✓ Stormwater management considerations - Will the development of the site cause an increase in peak runoff rates? Will the increase in runoff cause flooding or channel degradation downstream? Describe the strategy to control stormwater runoff, including during construction.

✓ Specifications / Detail Drawings for erosion and sediment control measures - For each erosion and sediment control measure employed in the plan, include, at a minimum, the detail from the standard and specification in the VESCH or more stringent local requirements. Include any approved variances or revisions to the standards and specifications.

✓ Specifications for stormwater and stormwater management structures - Provide specifications for stormwater and stormwater management structures, i.e., pipe materials, pipe bedding, stormwater structures.

SITE PLAN
Please reference plan sheet numbers where the information may be found.

✓ Vicinity map - A small map locating the site in relation to the surrounding area. Include any landmarks that might assist in locating the site.

✓ Indicate north - The direction of north in relation to the site.

__ Off-site areas - Include any off-site land-disturbing activities (e.g., borrow sites, disposal areas, etc.) not covered by a separate approved ESC Plan.

✓ Legend - Provide a complete listing of all ESC measures used, including the VESCH uniform code symbol and the standard and specification number. Include any other items necessary to identify pertinent features in the plan.

✓ Property lines and easements - Show all property and easement lines. For each adjacent property, list the deed book and page number and the property owner's name and address.

✓ Existing vegetation – Show the existing tree lines, grassed areas, or unique vegetation.

✓ Limits of clearing and grading – Delineate all areas that are to be cleared and graded.

N/A Protection of areas not being cleared - Fencing or other measures to protect areas that are not to be disturbed on the site.

N/A Critical areas – Note all critical areas on the plan.

✓ Existing contours – Show the existing contours of the site.

✓ Final contours and elevations – Show changes to the existing contours, including final drainage patterns.

✓ Site development – Show all improvements such as buildings, parking lots, access roads, utility construction, etc. Show all physical items that could affect or be affected by erosion, sediment, and drainage.

✓ Location of practices - The locations of erosion and sediment control and stormwater management practices used on the site. Use the standard symbols and abbreviations in Chapter 3 of the VESCH.

✓ Adequate Conveyances – Ensure that stormwater conveyances with adequate capacity and adequate erosion resistance have been for provided all on-site concentrated stormwater runoff. Off-site channels that receive runoff from the site, including those receiving runoff from stormwater management facilities, must be adequate. Increased volumes of sheet flows must be diverted to a stable outlet, adequate channel, pipe or pipe system, or a stormwater management facility.

☐ Provide exhibits showing the drainage divides, the direction of flow, and the size (acreage) of each of the site drainage areas that discharge runoff off-site, both existing and proposed.
☐ Provide calculations for pre- and post-development runoff from these drainage areas.
☐ Ensure that Minimum Standard 19 is satisfied for each off-site receiving channel, including those that receive runoff from stormwater management facilities.
☐ Provide calculations for the design of each permanent stormwater management facility.
☐ Ensure that increased volumes of sheet flows are diverted to a stable outlet, to an adequate channel, pipe or pipe system, or to a stormwater management facility.
☐ Provide adequacy calculations for all on-site stormwater conveyances.

✓ Calculations for permanent stormwater conveyances - For each permanent stormwater conveyance or structure, provide the following design calculations, as applicable:

☐ Drainage area map with time of concentration (T_c) path shown
☐ T_c calculation/nomograph
☐ Locality IDF curve
☐ Composite runoff coefficient or RCN calculation
☐ Peak runoff calculations
☐ Stormwater conveyance channel design calculations
☐ Storm drain and storm sewer system design calculations
☐ Hydraulic Grade Line if any pipe in the system is more than 90% full for a 10-year storm
☐ Culvert design calculations
☐ Drop inlet backwater calculations
☐ Curb inlet length calculations

✓ Direction of Flow for Conveyances - Indicate the direction of flow for all stormwater conveyances (storm drains, stormwater conveyance channels).

✓ Storm Drain Profiles - Provide profiles of all storm drains except roof drains. If the type of pipe (RCP, CMP, HDPE, etc.) is not called out on the profiles, then the most conservative pipe material that may be specified for the project must be used in the adequacy calculations.

MINIMUM STANDARDS
Plan Sheet #

✓ **Minimum Standards - All Minimum Standards must be addressed.**

Yes	No	NA		
X	[]	[]	MS-1	Have temporary and permanent stabilization been addressed in the narrative?
X	[]	[]		Are practices shown on the plan?
X	[]	[]		Temporary and permanent seed specifications?
[]	[]	X		Lime and fertilizer?
[]	[]	X		Mulching?
[]	[]	X		Blankets/Matting?
[]	[]	X		Pavement/Construction Road Stabilization?
X	[]	[]	MS-2	Has stabilization of soil stockpiles, borrow areas, and disposal areas been addressed in the narrative and on the plan?
[]	[]	X		Have sediment trapping measures been provided?
X	[]	[]	MS-3	Has the establishment and maintenance of permanent vegetative stabilization been addressed?
X	[]	[]	MS-4	Does the plan specifically state that sediment-trapping facilities shall be constructed as a first step in land-disturbing activities?
[]	[]	X	MS-5	Does the plan specifically state that stabilization of earthen structures is required immediately after installation? Is this noted for each measure on the plan?
[]	[]	X	MS-6	Are sediment traps and sediment basins specified where needed and designed to the standard and specification?
[]	[]	X	MS-7	Have the design and temporary/permanent stabilization of cut and fill slopes been adequately addressed? Is Surface Roughening provided for slopes steeper than 3:1?
[]	[]	X	MS-8	Have adequate temporary or permanent conveyances (paved flumes, channels, slope drains) been provided for concentrated stormwater runoff on cut and fill slopes?
[]	[]	X	MS-9	Has water seeping from a slope face been addressed (e.g., subsurface drains)?
X	[]	[]	MS-10	Is adequate inlet protection provided for all operational storm drain and culvert inlets?
[]	[]	X	MS-11	Are adequate outlet protection and/or channel linings provided for all stormwater conveyance channels and receiving channels? Is there a schedule indicating:
[]	[]	X		Dimensions of the outlet protection? Lining? Size of riprap?
[]	[]	X		Cross section and slope of the channels? Type of lining? Size of riprap, if used?
[]	[]	X	MS-12	Are in-stream protection measures required so that channel impacts are minimized?
[]	[]	X	MS-13	Are temporary stream crossings of non-erodible material required where applicable?
[]	[]	X	MS-14	Are all applicable federal, state and local regulations pertaining to working in or crossing live watercourses being followed?
[]	[]	X	MS-15	Has immediate restabilization of areas subject to in-stream construction (bed and banks) been adequately addressed?
X	[]	[]	MS-16	Have disturbances from underground utility line installations been addressed?
X	[]	[]		No more than 500 linear feet of trench open at one time?
X	[]	[]		Effluent from dewatering filtered or passed through a sediment-trapping device?
X	[]	[]		Proper backfill, compaction, and restabilization?
X	[]	[]	MS-17	Is the transport of soil and mud onto public roadways properly controlled? (i.e., Construction Entrances, wash racks, transport of sediment to a trapping facility, cleaning of roadways at the end of each day, no washing before sweeping and shoveling)
X	[]	[]	MS-18	Has the removal of temporary practices been addressed?
X	[]	[]		Have the removal of accumulated sediment and the final stabilization of the resulting disturbed areas been addressed?
X	[]	[]	MS-19	Are properties and waterways downstream from development adequately protected from sediment deposition, erosion, and damage due to increases in volume, velocity and peak flow rate of stormwater runoff? Have adequate channels been provided on-site?

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1826B CHANEL RIDGE COURT
LEESBURG, VA. 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

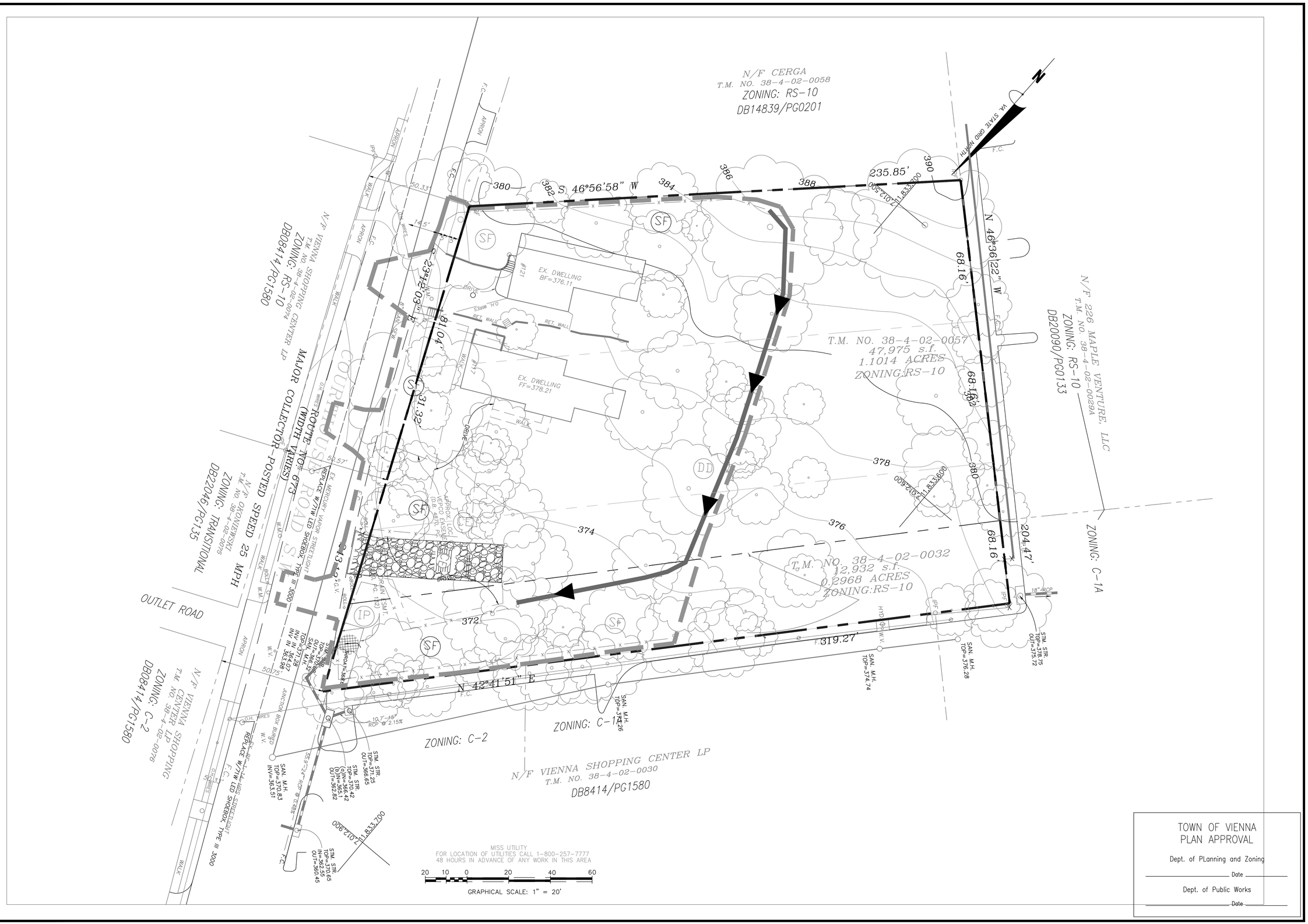
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT. TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

EROSION & SEDIMENT CONTROL CHECKLIST

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	10
SCALE: N/A	OF 22

Oct 21, 2020 - 6:37pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

Date

Dept. of Public Works

Date

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
18287 CHANVEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

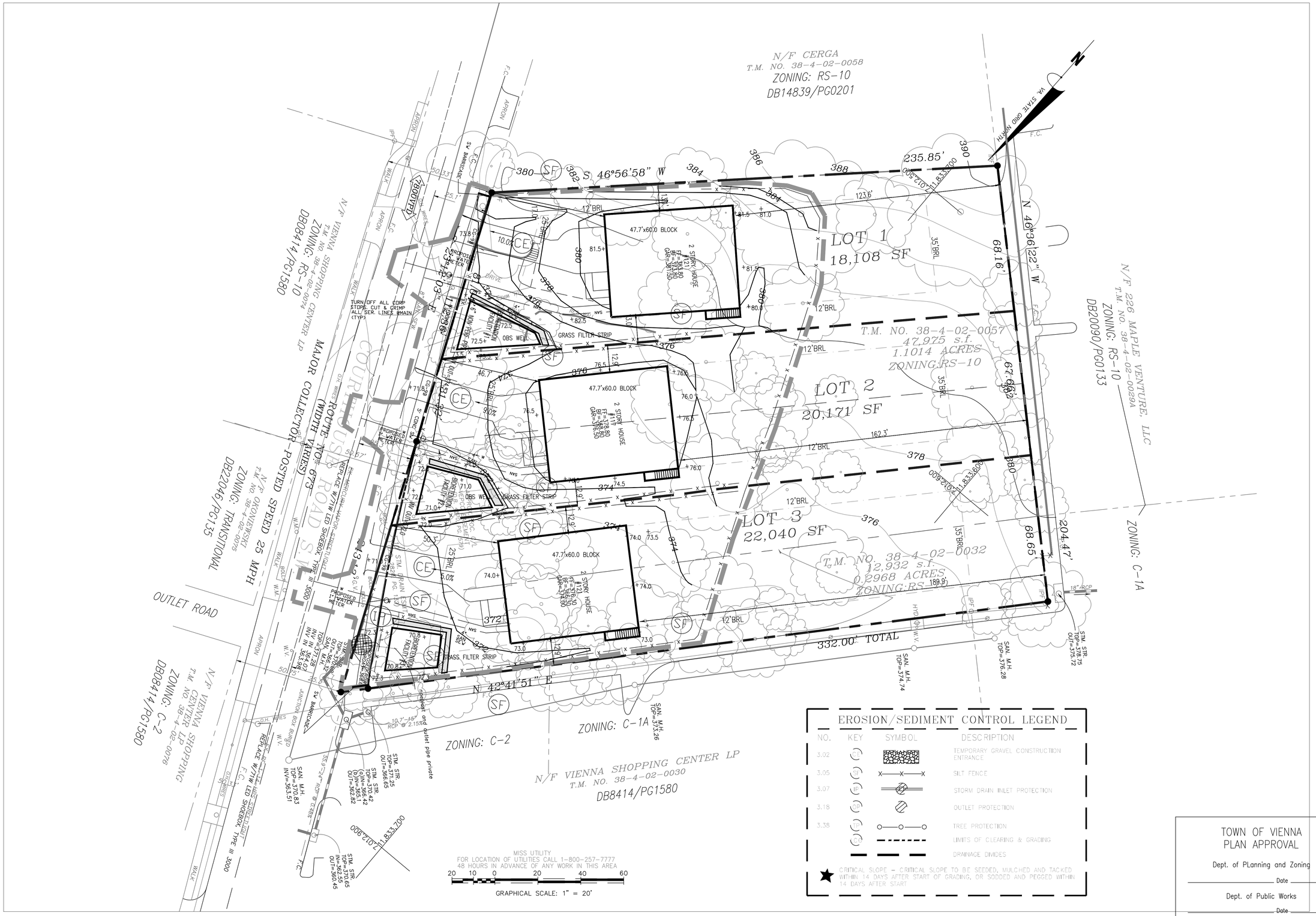
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT, TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

EROSION & SEDIMENT CONTROL PLAN PH I

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO: 11 OF 22
CHECK BY: DMJ	
SCALE: 1"=20'	

Oct 21, 2020 - 6:38pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



EROSION/SEDIMENT CONTROL LEGEND

NO.	KEY	SYMBOL	DESCRIPTION
3.02			TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
3.05			SILT FENCE
3.07			STORM DRAIN INLET PROTECTION
3.18			OUTLET PROTECTION
3.38			TREE PROTECTION
			LIMITS OF CLEARING & GRADING
			DRAINAGE DIVIDES

★ CRITICAL SLOPE – CRITICAL SLOPE TO BE SEEDED, MULCHED AND TACKED WITHIN 14 DAYS AFTER START OF GRADING, OR SODDED AND PEGGED WITHIN 14 DAYS AFTER START

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
12257 CHANNEL RIDGE COURT
LAKE RIDGE, VA 22192
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

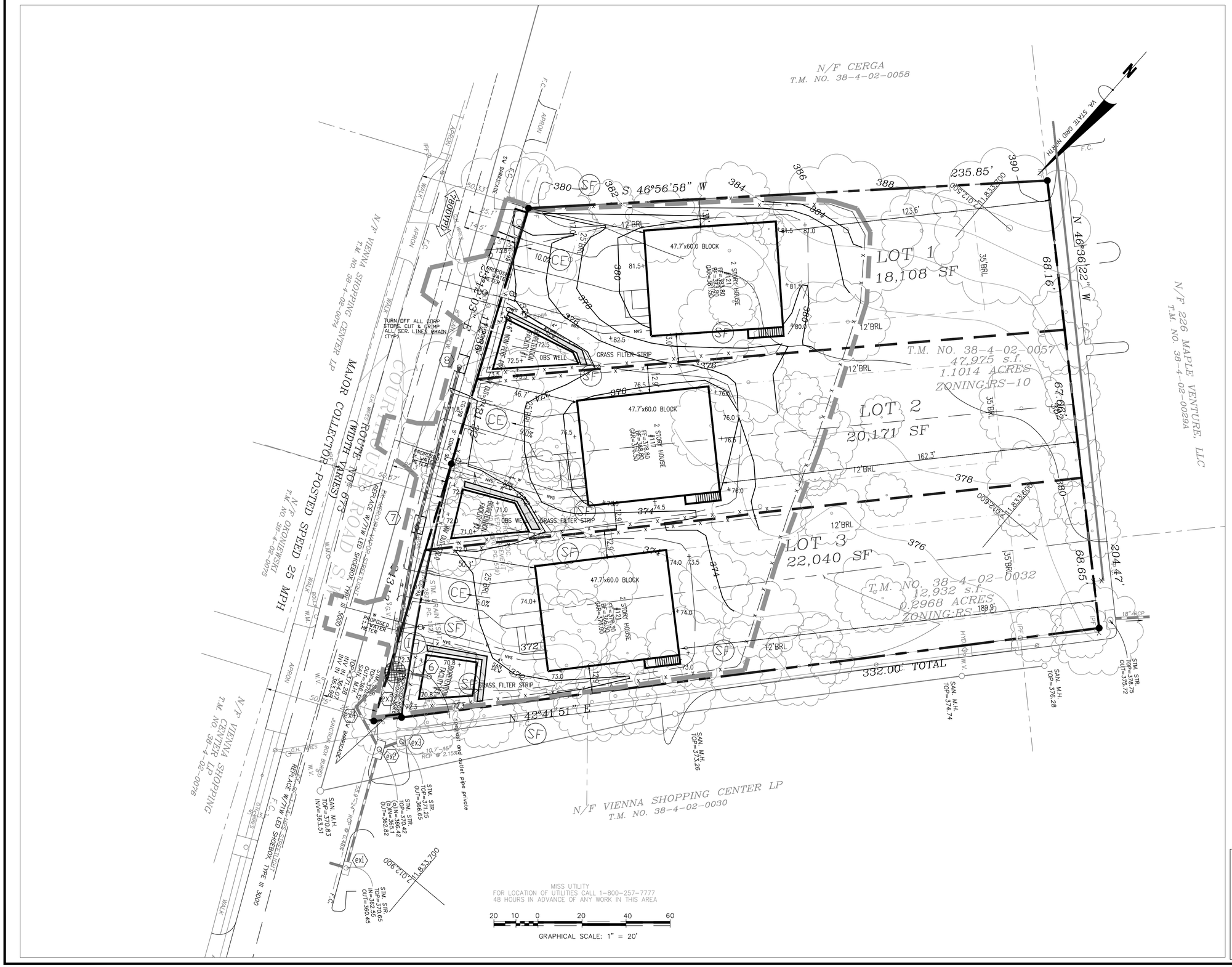
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

EROSION & SEDIMENT CONTROL PLAN PH II

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	12 OF 22
SCALE: 1"=20'	

Oct 26, 2020 - 3:17pm
Z:\Job Files\Rice\Courthouse\10262020 COURTHOUSE BASE.dwg



TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1206
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
12687 CHANNEL RIDGE COURT
LUSSLEY, VA. 22193
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

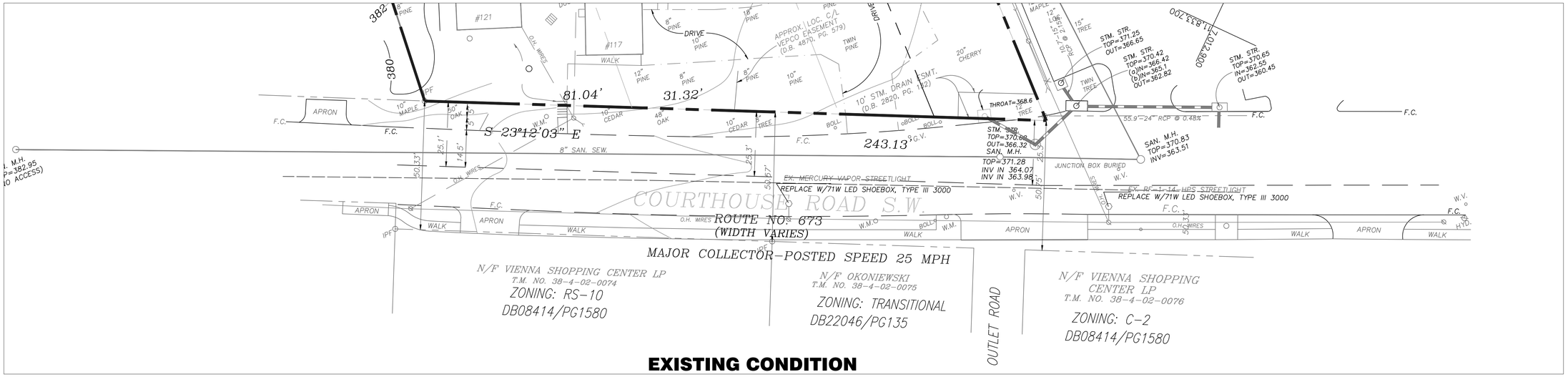
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

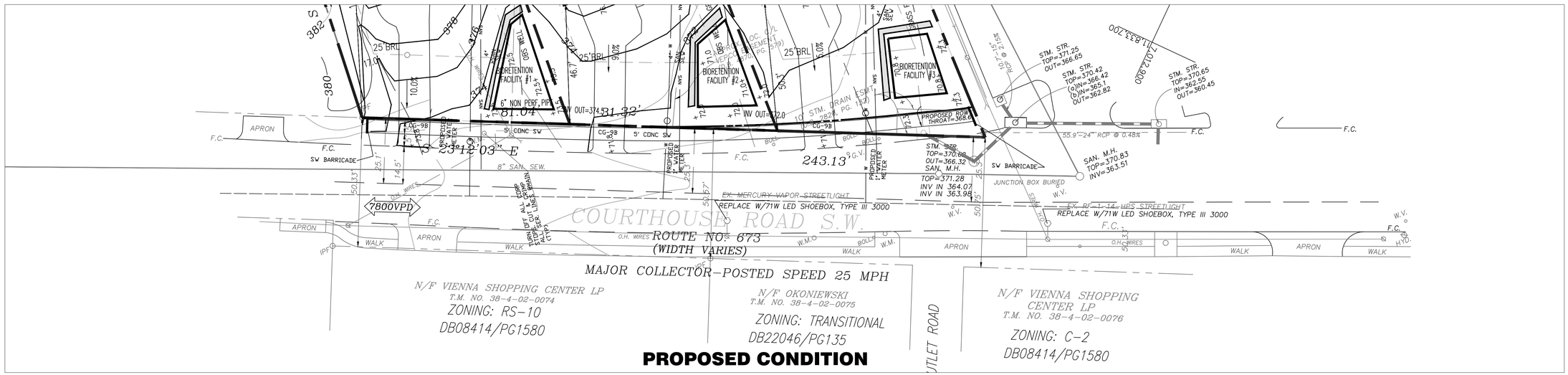
PROPOSED LOT GRADING PLAN

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	13 OF 22
SCALE: 1"=20'	

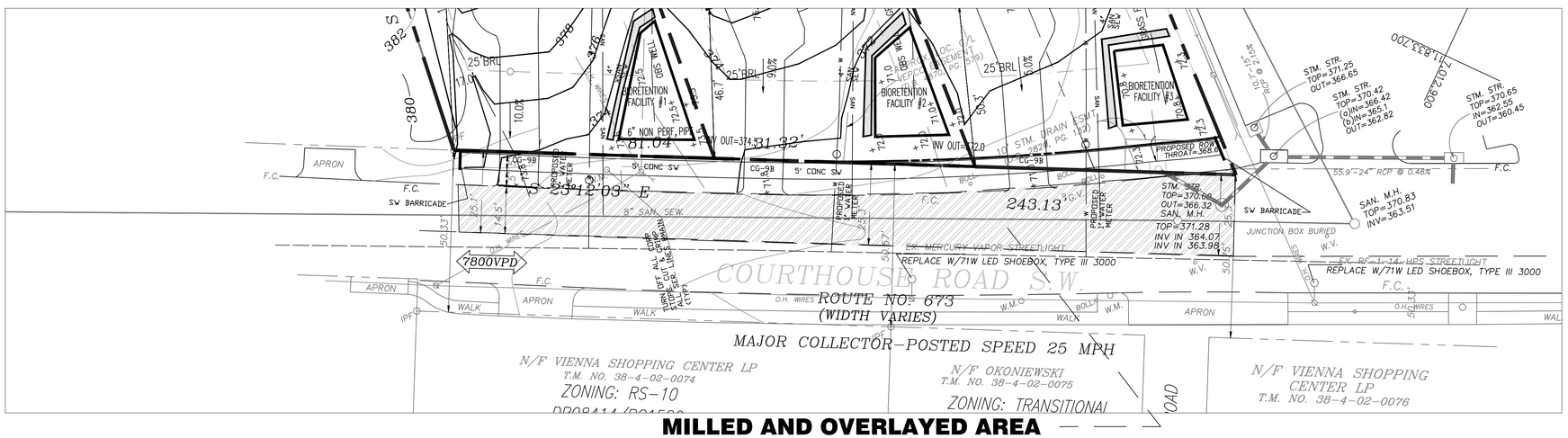
Oct 26, 2020 - 3:18pm
Z:\Job Files\Rice\Courthouse\10262020 COURTHOUSE BASE.dwg



EXISTING CONDITION



PROPOSED CONDITION



MILLED AND OVERLAYED AREA

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1209
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1 EAGLE CHANNEL RIDGE COURT
LEESBURG, VIRGINIA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

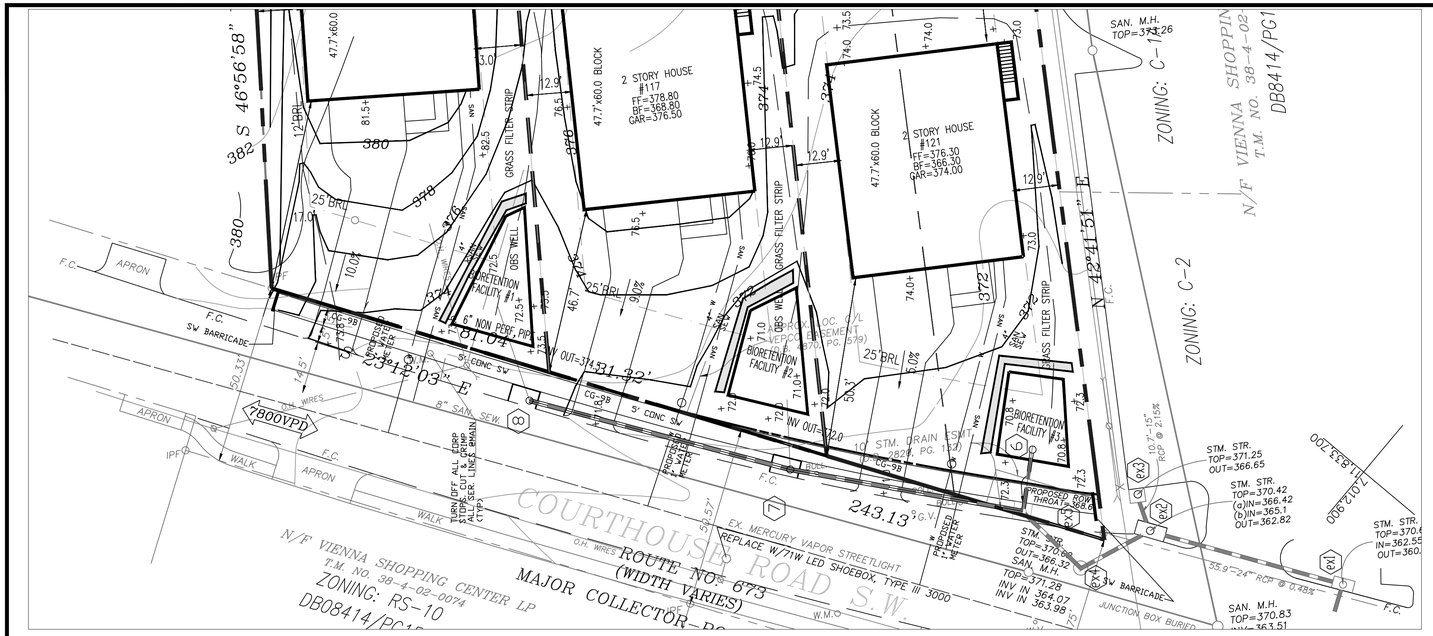
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

ROAD GEOMETRIC PLAN

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	14 OF 22
SCALE: 1"=20'	

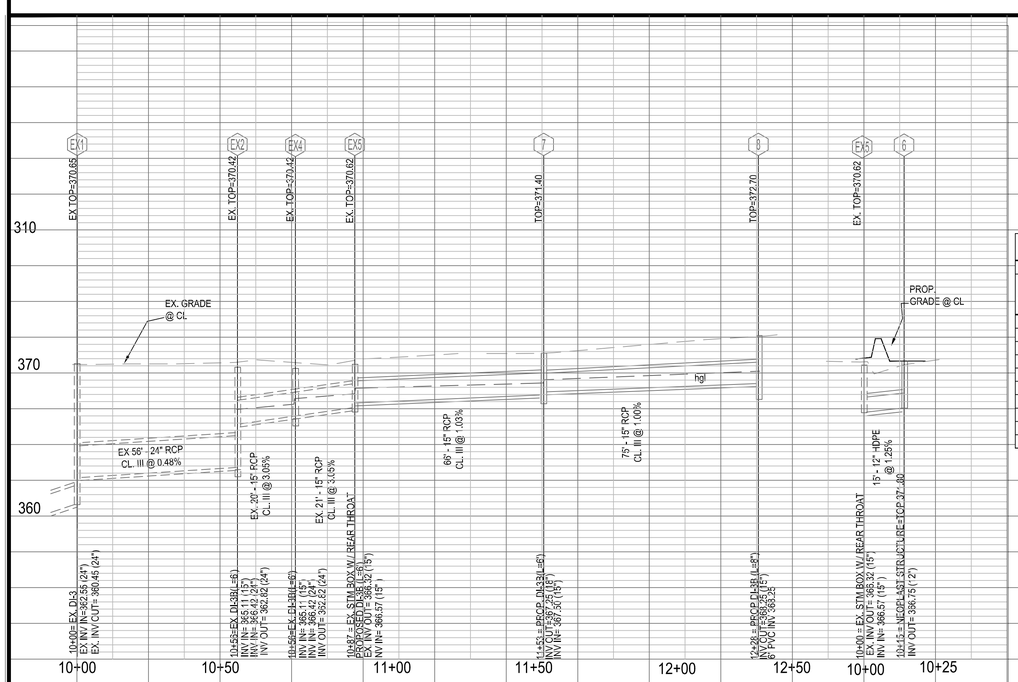
Oct 21, 2020 - 6:39pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

CRITICAL POINT
GRADE AT CORNER
379.0/HOUSE 381.5 SWALE
2.5'>2.7" FLOW DEPTH
100 YR FLOW PATH
.24X.35X9.8=.83
CFS d=2.7"
CRITICAL POINT
GRADE AT CORNER
376.5/HOUSE 375.0 SWALE
1.5'>2.5" FLOW DEPTH
100 YR FLOW PATH
.22X.35X9.8=.68
CFS d=2.5"
CRITICAL POINT
GRADE AT CORNER
374.0 HOUSE 373.0 SWALE
1.0'>2.5" FLOW DEPTH
100 YR FLOW PATH
.18X.4X9.8=.70
CFS d=2.5"
CRITICAL POINT
GRADE AT CORNER
373.0 HOUSE 372.3 BERM
0.7' > 3.9" FLOW DEPTH
100 YR FLOW PATH
.62X.35X9.8=2.1
CFS d=3.9"
ZONING: RS-10
DB20090/PG033
ZONING: C-1A
ZONING: C-2
DB8414/PG158
T.M. NO. 38-4-02-0057
18,108 SF
20,249 SF
21,957 SF
MAJOR COLLECTOR-POSTED SPEED 25 MPH
ROUTE NO. 673
(NORTH MASON)
ZONING: TRANSITIONAL
DB220646/PG135
ZONING: RS-10
DB20841/PG1580
S 46°56'58" W
N 46°36'22" W
N 42°41'51" E
S 29°12'09" E
235.85'
68.16'
204.47'
319.27'
243.13'
31.32'
81.04'
EX. DWELLING
EX. DWELLING
DRIVE
SAN. M.H.
SAN. M.H.
STM. STR.
SAN. M.H.
SAN. M.H.
SAN. M.H



STORM INLET COMPUTATIONS

NUMBER	TYPE	LENGTH (ft)	DRAINAGE AREA (ac.)	C	CA	I (in/hr)	INCRE. Q (cfs)	Q CARRYOVER (cfs)	Qt GUTTER FLOW (ft/ft)	St GUTTER SLOPE (ft/ft)	Sx CROSS SLOPE (ft/ft)	W (ft)	Sw (ft./ft.)	Sw/Sx	a	Sw (a/(12*w))	d (ft.)	h	Q Intercepted CFS	d/h	Qb Carryover CFS	T SPREAD (ft.)	REMARKS
7	DI-3B	8	1.00	0.45	0.45	4.00	1.80	0	1.80	0.0300	0.0208	1.5	0.083	4.00	3.13	0.174	0.30	0.46		0.65		7.50	DESIGN STORM
8	DI-3B	6	0.29	0.50	0.15	4.00	0.58	0	0.58	0.0160	0.0208	1.5	0.083	0.00	3.50	0.174	0.20	0.46		0.43		5.20	DESIGN STORM
curb@prop corner	na- @ curb	0	0.06	0.60	0.04	4.00	0.14	0	0.14	0.0068	0.0208	1.5	0.083	0.00	3.50	0.194	0.15	0.46		0.33		2.50	DESIGN STORM



STORM SEWER COMPUTATIONS

FROM	TO POINT	DRAINAGE AREA acres	RUNOFF COEFFICIENT	CA INCREMENT	CA ACCUM.	STORM TIME min	RAINFALL (in/hr)	RUNOFF (cfs)	INVERT ELEVATIONS UPPER END	INVERT ELEVATIONS LOWER END	LENGTH (feet)	SLOPE	DIAMETER inches	CAPACITY cfs	VELOCITY fps	FLOW TIME minutes	ACTUAL VELOCITY fps	REMARKS
8	7	1.00	0.45	0.45	0.45	5.00	6.75	3.04	368.25	367.50	75.0	1.00%	15	6.48	5.28	0.24	6.1	" " " " " " "
7	EX5	0.29	0.50	0.15	0.60	5.00	6.75	4.02	367.25	366.57	66.0	1.03%	15	6.57	5.36	0.21	6.2	" " " " " " "
6	EX5	0.79	0.45	0.36	0.36	5.00	6.75	2.40	367.05	366.72	47.0	0.70%	12	2.99	3.81	0.21	3.1	" " " " " " "
EX5	EX4	0.18	0.90	0.00	0.95	5.00	6.75	6.42	366.32	365.82	21.0	2.38%	15	9.99	8.15	0.04	5.3	storm box covere-assumed
EX4	EX2	0.00	0.00	0.00	0.95	5.00	6.75	6.42	365.57	365.10	20.0	2.35%	15	9.93	8.09	0.04	5.3	storm box covere-assumed

HGL COMPUTATIONS

INVERT ELEVATION	FROM INLET NUMBER	TO INLET NUMBER	OUTLET W.S.E.	Do in.	Qo cfs	Lo ft.	Sfo %	Hf ft.	Vo fps	Ho ft.	Di in.	Qi cfs	Vi fps	QiVi	Vi 2g	JUNCTION LOSS Hi ft.	Angle Deg.	K	H delta ft.	Ht ft.	1.3 Ht ft.	0.5 Ht ft.	Final Ht ft.	INLET W.S.E.	RIM ELEV	TOP ELEV	FREE BOARD
368.25	8	7	369.25	15	3.04	75	0.0022	0.17	6.10	0.14										0.14	0.19	0.09	0.26	369.25	372.03	372.70	2.78
367.50	7	EX5	368.50	15	4.02	66	0.0039	0.26	6.20	0.15	15	3.04	6.1	18.54	0.58	0.20	0	0	0.00	0.35	0.46	0.23	0.48	368.50	371.40	371.40	2.90
366.57	EX5	EX4	367.57	15	6.42	21	0.0099	0.21	5.30	0.11	15	4.02	6.2	24.92	0.60	0.21	40	0.4	0.24	0.56	0.72	0.36	0.57	367.57	371.00	371.00	3.43
365.82	EX4	EX2	363.82	15	6.42	20	0.0099	0.20	5.30	0.11	15	6.42	5.3	34.03	0.44	0.15	40	0.4	0.17	0.44	0.57	0.28	0.48	366.82	369.95	370.62	3.13

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

____ ____ ____ Date ____ ____

Dept. of Public Works

____ ____ ____ Date ____ ____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
CONTACT: DONNIE RICE
PO BOX 1208
VIENNA, VIRGINIA, 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
18267 CHANNEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/16/20
PROFESSIONAL ENGINEER
ENGINEERS SEAL & SIGNATURE

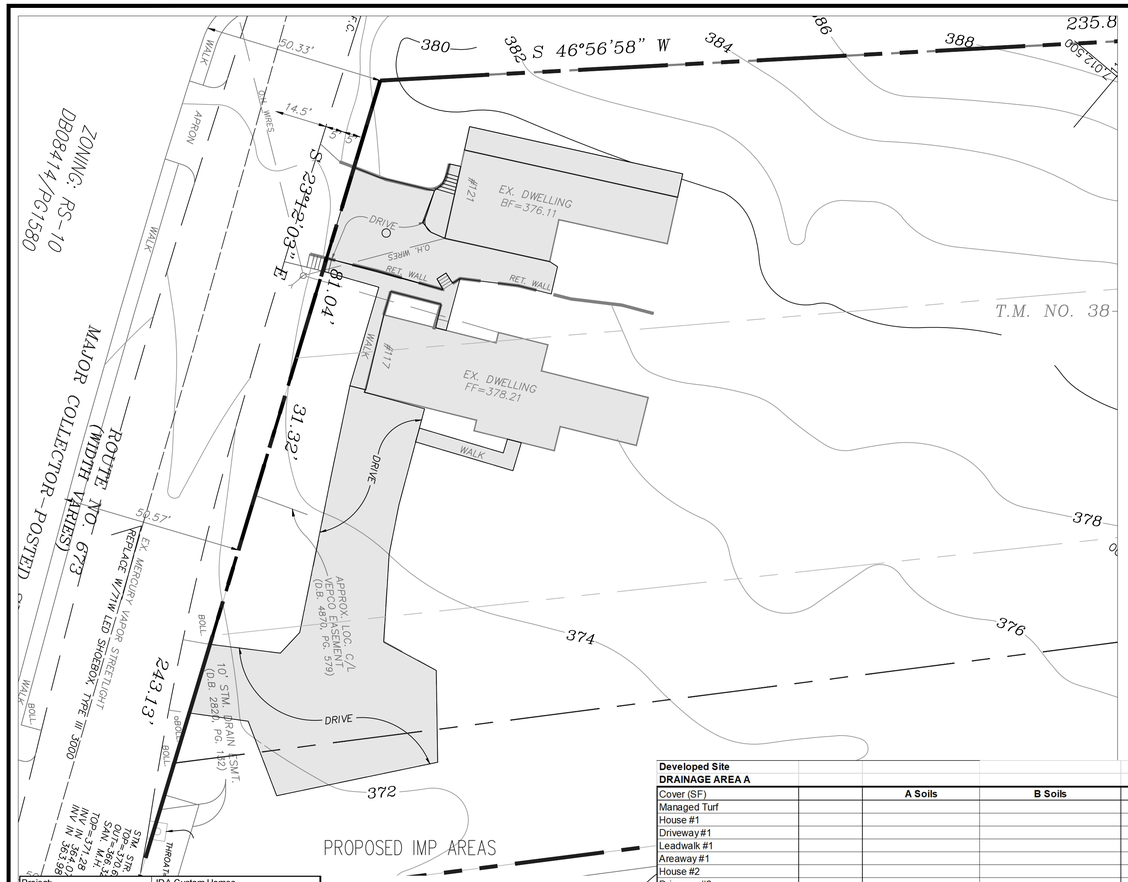
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

STORM SEWER

PROJ. NO: 170414.01	COUNTY NUMBER:
DATE: APRIL 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	SHEET NO:
DESIGN BY: DMJ	16 OF 22
CHECK BY: DMJ	
SCALE: 1"=20'	

Oct 21, 2020 - 6:40pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



Project:	JDA Custom Homes
Address:	Courthouse Road
Project #:	R170024.00
Date	8/15/2020

Pre-Developed Site
DRAINAGE AREA A

Cover (SF)		A Soils	B Soils	C Soils	D Soils
Managed Turf					23528.2
House #1					1609.5
House #2					1171.3
Driveway #1					3636
Driveway #2					811.4
Walk #1					130
Walk #2					307
Walk #3					105
Walk #4					408.6
Total		0.0	0.0	0.0	31707.0

DRAINAGE AREA A (ACRES) 0.73 IMP AREA A (SF) 8178.8

		A Soils	B Soils	C Soils	D Soils
Forest/Open Space	Area (SF)	0.0	0.0	0.0	0.0
	Area (Acres)	0.000	0.000	0.000	0.000
	Curve No.	30	55	70	77
Managed Turf	Area (SF)	0.0	0.0	0.0	23528.2
	Area (Acres)	0.000	0.000	0.000	0.540
	Curve No.	39	61	74	80
Impervious Cover	Area (SF)	0.0	0.0	0.0	8178.8
	Area (Acres)	0.000	0.000	0.000	0.188
	Curve No.	98	98	98	98
				Weighted CN	84.643

DRAINAGE AREA B

Cover (SF)		A Soils	B Soils	C Soils	D Soils
Managed Turf					29000
House #1					0
House #2					0
Driveway #1					0
Driveway #2					200
Walk #1					0
Walk #2					0
Walk #3					0
Walk #4					0
Total		0.0	0.0	0.0	29200.0

DRAINAGE AREA B (ACRES) 0.67 IMP AREA B (SF) 200

		A Soils	B Soils	C Soils	D Soils
Forest/Open Space	Area (SF)	0.0	0.0	0.0	0.0
	Area (Acres)	0.000	0.000	0.000	0.000
	Curve No.	30	55	70	77
Managed Turf	Area (SF)	0.0	0.0	0.0	29000.0
	Area (Acres)	0.000	0.000	0.000	0.666
	Curve No.	39	61	74	80
Impervious Cover	Area (SF)	0.0	0.0	0.0	200.0
	Area (Acres)	0.000	0.000	0.000	0.005
	Curve No.	98	98	98	98
				Weighted CN	80.123

Site Area (AC)	1.398

Developed Site
DRAINAGE AREA A

Cover (SF)		A Soils	B Soils	C Soils	D Soils
Managed Turf					20872
House #1					3000
Driveway #1					1000
Leadwalk #1					70
Areaway #1					125
House #2					3000
Driveway #2					1000
Leadwalk #2					70
Areaway #2					125
House #3					1500
Driveway #3					945
Leadwalk #3					0
Areaway #3					0
Total		0.0	0.0	0.0	31707.0

DRAINAGE AREA A (ACRES) 0.73 IMP AREA A (SF) 0.25

		A Soils	B Soils	C Soils	D Soils
Forest/Open Space	Area (SF)	0.0	0.0	0.0	0.0
	Area (Acres)	0.000	0.000	0.000	0.000
	Curve No.	30	55	70	77
Managed Turf	Area (SF)	0.0	0.0	0.0	20872.0
	Area (Acres)	0.000	0.000	0.000	0.479
	Curve No.	39	61	74	80
Impervious Cover	Area (SF)	0.0	0.0	0.0	10835.0
	Area (Acres)	0.000	0.000	0.000	0.249
	Curve No.	98	98	98	98
				Weighted CN	86.151
			Adjusted CN	1YR	10 YR
				84	85

DRAINAGE AREA B

Cover (SF)		A Soils	B Soils	C Soils	D Soils
Managed Turf					27450
House #1					0
Driveway #1					0
Leadwalk #1					0
Areaway #1					0
House #2					0
Driveway #2					0
Leadwalk #2					0
Areaway #2					0
House #3					1500
Driveway #3					55
Leadwalk #3					70
Areaway #3					125
Total		0.0	0.0	0.0	29200.0

DRAINAGE AREA B (ACRES) 0.67 IMP AREA B (SF) 0.04

		A Soils	B Soils	C Soils	D Soils
Forest/Open Space	Area (SF)	0.0	0.0	0.0	0.0
	Area (Acres)	0.000	0.000	0.000	0.000
	Curve No.	30	55	70	77
Managed Turf	Area (SF)	0.0	0.0	0.0	27450.0
	Area (Acres)	0.000	0.000	0.000	0.630
	Curve No.	39	61	74	80
Impervious Cover	Area (SF)	0.0	0.0	0.0	1750.0
	Area (Acres)	0.000	0.000	0.000	0.040
	Curve No.	98	98	98	98
				Weighted CN	81.079
			Adjusted CN	1YR	10 YR
				79	80

Site Area	1.398
Disturbed Area	0.91

	Pre	Post
Compute Potential Abstraction (S)	1.81	1.61
Compute Initial Abstraction (I_a)	0.36	0.32

	1 Year	2 Year	5 Year	10 Year
Rainfall (Inches)	2.61	3.15	4.05	4.84
Rv_{pre}	1.24	1.69	2.47	3.19
Rv_{dev}	1.34	1.80	2.61	3.33

SWM Water Quantity Energy Balance Worksheet DA A

SITE AREA (acre) 0.73

	1-year		10-year	
	PRE	POST (ADJUSTED)	PRE	POST (ADJUSTED)
P	2.61	2.61	4.84	4.84
CN	84.643	86	84.643	86
S=1000/CN-10	1.81	1.63	1.81	1.63
0.2S	0.36	0.33	0.36	0.33
$RV=(P-0.2S)^2/(P-0.2S)+S$	1.24	1.33	3.19	3.32

POST (adjusted) from RRM 'Channel and Flood Protection' tab; PRE CN can be computed using same computations on this tab

QPost Development <= I.F.* (Qpre-development* RVpre-development)/RVDeveloped)

I.F 0.9

ENERGY BALANCE COMPUTATIONS		
Qpre-development	0.44	From TR55 (Table 2-1)
QPost Development	0.41	From TR55 (Table 2-1)
RVPost Development (with runoff reduction)	1.3	From RRM
Qallowable	0.38	

FLOOD CONTROL		
Qpre-development	4.17	From TR55 (Table 2-1)
QPost Development	4.32	From TR55 (Table 2-1)
RVPost Development (with runoff reduction)	3.28	From RRM
Qallowable	4.17	

Qallowable/QPost Development	0.92	Fig 11.7 of DEQ Manual
Vs/Vr	0.18	
Vs	0.23	
Storage required (cf)	618	

Qallowable/QPost Development	0.97	Fig 6-1 of TR-55 User Manual
Vs/Vr	0.18	
Vs	0.59	
Storage required (cf)	1560.0	

SWM Water Quantity Energy Balance Worksheet DA B

SITE AREA (acre) 0.67

	1-year		10-year	
	PRE	POST (ADJUSTED)	PRE	POST (ADJUSTED)
P	2.61	2.61	4.84	4.84
CN	80.123	79	80.123	80
S=1000/CN-10	2.48	2.66	2.48	2.50
0.2S	0.50	0.53	0.50	0.50
$RV=(P-0.2S)^2/(P-0.2S)+S$	0.97	0.91	2.76	2.75

POST (adjusted) from RRM 'Channel and Flood Protection' tab; PRE CN can be computed using same computations on this tab

QPost Development <= I.F.* (Qpre-development* RVpre-development)/RVDeveloped)

I.F 0.9

ENERGY BALANCE COMPUTATIONS		
Qpre-development	1.21	From TR55 (Table 2-1)
QPost Development	1.13	From TR55 (Table 2-1)
RVPost Development (with runoff reduction)	0.91	From RRM
Qallowable	1.16	

FLOOD CONTROL		
Qpre-development	3.38	From TR55 (Table 2-1)
QPost Development	3.38	From TR55 (Table 2-1)
RVPost Development (with runoff reduction)	2.73	From RRM
Qallowable	3.38	

Qallowable/QPost Development	1.03	Fig 11.7 of DEQ Manual
Vs/Vr	0.18	
Vs	0.16	
Storage required (cf)	399	

Qallowable/QPost Development	1.00	Fig 6-1 of TR-55 User Manual
Vs/Vr	N/A	
Vs	#VALUE!	
Storage required (cf)	#VALUE!	USE 2 YR

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	APPR.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 2283
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
15257 CHANEL RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT- TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

IMPERVIOUS AREA

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	17 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:41pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

Drainage Area B

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.63	0.63	0.25
Impervious Cover (acres)				0.04	0.04	0.95
				Total	0.67	

Total Phosphorus Available for Removal in D.A. B (lb/yr)	0.45
Post Development Treatment Volume in D.A. B (ft^3)	709

Stormwater Best Management Practices (RR = Runoff Reduction)

–Select from dropdown lists–

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
1.a. Vegetated Roof #1 (Spec #5)	45				0	0	0	0		0.00	0.00	0.00	
1.b. Vegetated Roof #2 (Spec #5)	60				0	0	0	0		0.00	0.00	0.00	
2.a. Simple Disconnection to A/B Soils (Spec #1)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.b. Simple Disconnection to C/D Soils (Spec #1)	25			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.d. To Dry Well or French Drain #1, Micro-Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.e. To Dry Well or French Drain #2, Micro-Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.f. To Rain Garden #1, Micro-Bioretention #1 (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.g. To Rain Garden #2, Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	
2.h. To Rainwater Harvesting (Spec #6)	0			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.i. To Stormwater Planter, Urban Bioretention (Spec #9, Appendix A)	40		0.00	0	0	0	0	25	0.00	0.00	0.00	0.00	
3.a. Permeable Pavement #1 (Spec #7)	45			0	0	0	0	25	0.00	0.00	0.00	0.00	
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	
4.a. Grass Channel A/B Soils (Spec #3)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
4.b. Grass Channel C/D Soils (Spec #3)	10			0	0	0	0	15	0.00	0.00	0.00	0.00	
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
5.a. Dry Swale #1 (Spec #10)	40			0	0	0	0	20	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00	
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.62	0.03	0	272	408	680	25	0.00	0.43	0.23	0.19	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	
7.a. Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
8.a. ED #1 (Spec #15)	0			0	0	0	0	15	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	15			0	0	0	0	15	0.00	0.00	0.00	0.00	
9.a. Sheetflow to Conservation Area, A/B Soils (Spec #2)	75			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.b. Sheetflow to Conservation Area, C/D Soils (Spec #2)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.c. Sheetflow to Vegetated Filter Strip, A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
10.a. Wet Swale #1 (Spec #11)	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
10.b. Wet Swale #2 (Spec #11)	0			0	0	0	0	40	0.00	0.00	0.00	0.00	
11.a.Filtering Practice #1 (Spec #12)	0			0	0	0	0	60	0.00	0.00	0.00	0.00	
11.b. Filtering Practice #2 (Spec #12)	0			0	0	0	0	65	0.00	0.00	0.00	0.00	
12.a.Constructed Wetland #1 (Spec #13)	0			0	0	0	0	50	0.00	0.00	0.00	0.00	
12.b. Constructed Wetland #2 (Spec #13)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	
13.a. Wet Pond #1 (Spec #14)	0			0	0	0	0	50	0.00	0.00	0.00	0.00	
13.b. Wet Pond #1 (Coastal Plain) (Spec #14)	0			0	0	0	0	45	0.00	0.00	0.00	0.00	
13.c. Wet Pond #2 (Spec #14)	0			0	0	0	0	75	0.00	0.00	0.00	0.00	
13.d. Wet Pond #2 (Coastal Plain) (Spec #14)	0			0	0	0	0	65	0.00	0.00	0.00	0.00	
14.a. Manufactured Treatment Device-Hydrodynamic	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
14.b. Manufactured Treatment Device-Filtering	0			0	0	0	0	20	0.00	0.00	0.00	0.00	
14.c. Manufactured Treatment Device-Generic	0			0	0	0	0	20	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.03	AREA CHECK: OK.
TOTAL TURF AREA TREATED (ac)	0.62	AREA CHECK: OK.
TOTAL RUNOFF REDUCTION IN D.A. B (ft^3)	272	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. B (lb/yr)	0.45	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.23	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.21	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

TOTAL IMPERVIOUS COVER TREATED (ac)	0.03	AREA CHECK: OK.
TOTAL MANAGED TURF AREA TREATED (ac)	0.62	AREA CHECK: OK.
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	0.28	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. B (lb/yr)	0.45	
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.00	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.23	
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. B (lb/yr)	0.23	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. B (lb/yr)	0.21	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	1.95
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. B (lb/yr)	0.00
TOTAL NITROGEN REMOVED IN D.A. B (lb/yr)	1.95

Site Results (Water Quality Compliance)

Area Checks	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	AREA CHECK
FOREST/OPEN SPACE (ac)	0.00	0.00	0.00	0.00	0.00	OK.
IMPERVIOUS COVER (ac)	0.24	0.04	0.00	0.00	0.00	OK.
IMPERVIOUS COVER TREATED (ac)	0.08	0.03	0.00	0.00	0.00	OK.
MANAGED TURF AREA (ac)	0.48	0.63	0.00	0.00	0.00	OK.
MANAGED TURF AREA TREATED (ac)	0.39	0.62	0.00	0.00	0.00	OK.
AREA CHECK	OK.	OK.	OK.	OK.	OK.	

Site Treatment Volume (ft^3) 2,003

Runoff Reduction Volume and TP By Drainage Area

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	TOTAL
RUNOFF REDUCTION VOLUME ACHIEVED (ft^3)	255	272	0	0	0	527
TP LOAD AVAILABLE FOR REMOVAL (lb/yr)	0.79	0.45	0.00	0.00	0.00	1.24
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.22	0.23	0.00	0.00	0.00	0.45
TP LOAD REMAINING (lb/yr)	0.57	0.21	0.00	0.00	0.00	0.78
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	1.83	1.95	0.00	0.00	0.00	3.78

Total Phosphorus

FINAL POST-DEVELOPMENT TP LOAD (lb/yr)	1.26
TP LOAD REDUCTION REQUIRED (lb/yr)	0.28
TP LOAD REDUCTION ACHIEVED (lb/yr)	0.45
TP LOAD REMAINING (lb/yr):	0.80
REMAINING TP LOAD REDUCTION REQUIRED (lb/yr):	**0.00** **

**** TARGET TP REDUCTION EXCEEDED BY 0.18 LB/YEAR ****

Total Nitrogen (For Information Purposes)

POST-DEVELOPMENT LOAD (lb/yr)	9.00
NITROGEN LOAD REDUCTION ACHIEVED (lb/yr)	3.78
REMAINING POST-DEVELOPMENT NITROGEN LOAD (lb/yr)	5.22

Runoff Volume and Curve Number Calculations

Enter design storm rainfall depths (in):

1-year storm	2-year storm	10-year storm
2.61	3.15	4.84

***Notes (see below):**

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

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

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

Drainage Area Curve Numbers and Runoff Depths*

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

Drainage Area A		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.48
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.24
	CN	98	98	98	98

Total Area (acres):	0.72
Runoff Reduction Volume (ft^3):	255

$CN_{(D.A. A)}$ **86**

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.33	1.79	3.32
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	1.24	1.69	3.22
Adjusted CN*	**84**	**85**	**85**

See Notes above

Drainage Area B		A Soils	B Soils	C Soils	D Soils
Forest/Open Space -- undisturbed, protected forest/open space or reforested land	Area (acres)	0.00	0.00	0.00	0.00
	CN	30	55	70	77
Managed Turf -- disturbed, graded for yards or other turf to be mowed/managed	Area (acres)	0.00	0.00	0.00	0.63
	CN	39	61	74	80
Impervious Cover	Area (acres)	0.00	0.00	0.00	0.04
	CN	98	98	98	98

Total Area (acres):	0.67
Runoff Reduction Volume (ft^3):	272

$CN_{(D.A. B)}$ **81**

	1-year storm	2-year storm	10-year storm
$RV_{Developed}$ *(watershed-inch)* with no Runoff Reduction*	1.02	1.43	2.84
$RV_{Developed}$ *(watershed-inch)* with Runoff Reduction*	0.91	1.32	2.73
Adjusted CN*	**79**	**79**	**80**

See Notes above

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1084
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
12257 CHANEL RIDGE COURT
LUSSUM, VIRGINIA 23803
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT- TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

VRRM COMPLIANCE COMPUTATIONS

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	18 OF 22
SCALE: NA	

Oct 21, 2020 - 6:41pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

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

☐ 2011 BMP Standards and Specifications ☑ 2013 Draft BMP Standards and Specifications

Project Name:	**117 & 121 COURTHOUSE ROAD SW**
Date:	**9/18/2020**
Linear Development Project?	No

(Ctrl+Shift+R)

final results

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area *(acres)* → 0.69

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, protected forest/open space or reforested					0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				1.21	1.21
Impervious Cover (acres)				0.19	0.19
					1.40

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				1.11	1.11
Impervious Cover (acres)				0.29	0.29
Area Check	OK.	OK.	OK.	OK.	1.40

Constants

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

Runoff Coefficients (Rv)

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

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre

Pre-ReDevelopment	Listed	Adjusted[1]
Forest/Open Space Cover (acres)	0.00	0.00
Weighted Rv(forest)	0.00	0.00
% Forest	0%	0%
Managed Turf Cover (acres)	1.21	1.11
Weighted Rv(turf)	0.25	0.25
% Managed Turf	86%	85%
Impervious Cover (acres)	0.19	0.19
Rv(impervious)	0.95	0.95
% Impervious	14%	15%
Total Site Area (acres)	**1.40**	**1.30**
Site Rv	**0.35**	**0.35**

Treatment Volume and Nutrient Load

Pre-ReDevelopment Treatment Volume (acre-ft)	0.0403	0.0383
Pre-ReDevelopment Treatment Volume (cubic feet)	1,757	1,669
Pre-ReDevelopment TP Load (lb/yr)	**1.10**	**1.05**
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	0.79	0.81
Baseline TP Load (lb/yr) (**0.41 lbs/acre/yr** applied to pre-redevelopment area excluding pervious land proposed for new impervious cover)		*0.53*

[1] *Adjusted Land Cover Summary:*
Pre ReDevelopment land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

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

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

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)

Post ReDev. & New Impervious	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.11
Weighted Rv (turf)	0.25
% Managed Turf	79%
Impervious Cover (acres)	0.29
Rv(impervious)	0.95
% Impervious	21%
Final Site Area (acres)	**1.40**
Final Post Dev Site Rv	**0.39**

Land Cover Summary-Post

Post-ReDevelopment	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(forest)	0.00
% Forest	0%
Managed Turf Cover (acres)	1.11
Weighted Rv (turf)	0.25
% Managed Turf	85%
ReDev. Impervious Cover (acres)	0.19
Rv(impervious)	0.95
% Impervious	15%
Total ReDev. Site Area (acres)	**1.30**
ReDev Site Rv	**0.35**

Land Cover Summary-Post

Post-Development New Impervious	
New Impervious Cover (acres)	0.10
Rv(impervious)	0.95

Treatment Volume and Nutrient Load

Final Post-Development Treatment Volume (acre-ft)	0.0460
Final Post-Development Treatment Volume (cubic feet)	2,003
Final Post-Development TP Load (lb/yr)	**1.26**
Final Post-Development TP Load per acre (lb/acre/yr)	0.90

Post-ReDevelopment Treatment Volume (acre-ft)	0.0383
Post-ReDevelopment Treatment Volume (cubic feet)	1,669
Post-ReDevelopment Load (TP) (lb/yr)*	**1.05**
Post-ReDevelopment TP Load per acre (lb/acre/yr)	0.81
Max. Reduction Required (Below Pre-ReDevelopment Load)	**10%**
TP Load Reduction Required for Redeveloped Area (lb/yr)	**0.10**

Post-Development Treatment Volume (acre-ft)	0.0077
Post-Development Treatment Volume (cubic feet)	335
Post-Development TP Load (lb/yr)	**0.21**
TP Load Reduction Required for New Impervious Area (lb/yr)	**0.17**

TP Load Reduction Required (lb/yr)	**0.28**
Linear Project TP Load Reduction Required (lb/yr):	**N/A**

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	7.90
Final Post-Development TN Load (Post-ReDevelopment & New Impervious) (lb/yr)	9.00

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.00	0.00
Managed Turf (acres)				0.48	0.48	0.25
Impervious Cover (acres)				0.24	0.24	0.95
				Total	0.72	

Total Phosphorus Available for Removal in D.A. A (lb/yr)	0.79
Post Development Treatment Volume in D.A. A (ft^3)	1,263

Stormwater Best Management Practices (RR = Runoff Reduction)

--Select from dropdown lists--

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft^3)	Runoff Reduction (ft^3)	Remaining Runoff Volume (ft^3)	Total BMP Treatment Volume (ft^3)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed By Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
1.a. Vegetated Roof #1 (Spec #5)	45				0	0	0	0		0.00	0.00	0.00	
1.b. Vegetated Roof #2 (Spec #5)	60				0	0	0	0		0.00	0.00	0.00	
2.a. Simple Disconnection to A/B Soils (Spec #1)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.b. Simple Disconnection to C/D Soils (Spec #1)	25			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.c. To Soil Amended Filter Path as per specifications (existing C/D soils) (Spec #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.d. To Dry Well or French Drain #1, Micro-Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.e. To Dry Well or French Drain #2, Micro-Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.f. To Rain Garden #1, Micro-Bioretention #1 (Spec #9)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	
2.g. To Rain Garden #2, Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	
2.h. To Rainwater Harvesting (Spec #6)	0			0	0	0	0	0	0.00	0.00	0.00	0.00	
2.i. To Stormwater Planter, Urban Bioretention (Spec #9, Appendix A)	40			0	0	0	0	25	0.00	0.00	0.00	0.00	None
3.a. Permeable Pavement #1 (Spec #7)	45			0	0	0	0	25	0.00	0.00	0.00	0.00	
3.b. Permeable Pavement #2 (Spec #7)	75				0	0	0	25		0.00	0.00	0.00	
4.a. Grass Channel A/B Soils (Spec #3)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
4.b. Grass Channel C/D Soils (Spec #3)	10			0	0	0	0	15	0.00	0.00	0.00	0.00	
4.c. Grass Channel with Compost Amended Soils as per specs (see Spec #4)	20			0	0	0	0	15	0.00	0.00	0.00	0.00	
5.a. Dry Swale #1 (Spec #10)	40			0	0	0	0	20	0.00	0.00	0.00	0.00	
5.b. Dry Swale #2 (Spec #10)	60			0	0	0	0	40	0.00	0.00	0.00	0.00	
6.a. Bioretention #1 or Micro-Bioretention #1 or Urban Bioretention (Spec #9)	40	0.39	0.08	0	255	382	637	25	0.00	0.40	0.22	0.18	
6.b. Bioretention #2 or Micro-Bioretention #2 (Spec #9)	80			0	0	0	0	50	0.00	0.00	0.00	0.00	
7.a. Infiltration #1 (Spec #8)	50			0	0	0	0	25	0.00	0.00	0.00	0.00	
7.b. Infiltration #2 (Spec #8)	90			0	0	0	0	25	0.00	0.00	0.00	0.00	
8.a. ED #1 (Spec #15)	0			0	0	0	0	15	0.00	0.00	0.00	0.00	
8.b. ED #2 (Spec #15)	15			0	0	0	0	15	0.00	0.00	0.00	0.00	
9.a. Sheetflow to Conservation Area, A/B Soils (Spec #2)	75			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.b. Sheetflow to Conservation Area, C/D Soils (Spec #2)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	
9.c. Sheetflow to Vegetated Filter Strip, A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	50			0	0	0	0	0	0.00	0.00	0.00	0.00	

TOTAL IMPERVIOUS COVER TREATED (ac)	0.08	**AREA CHECK: OK.**
TOTAL MANAGED TURF AREA TREATED (ac)	0.39	**AREA CHECK: OK.**
TOTAL RUNOFF REDUCTION IN D.A. A (ft^3)	255	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	0.79	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.22	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.57	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

10.a. Wet Swale #1 (Spec #11)	0	0 0 0 0 20 0.00 0.00 0.00 0.00
10.b. Wet Swale #2 (Spec #11)	0	0 0 0 0 40 0.00 0.00 0.00 0.00
11.a Filtering Practice #1 (Spec #12)	0	0 0 0 0 60 0.00 0.00 0.00 0.00
11.b. Filtering Practice #2 (Spec #12)	0	0 0 0 0 65 0.00 0.00 0.00 0.00
12.a.Constructed Wetland #1 (Spec #13)	0	0 0 0 0 50 0.00 0.00 0.00 0.00
12.b. Constructed Wetland #2 (Spec #13)	0	0 0 0 0 75 0.00 0.00 0.00 0.00
13.a. Wet Pond #1 (Spec #14)	0	0 0 0 0 50 0.00 0.00 0.00 0.00
13.b. Wet Pond #1 (Coastal Plain) (Spec #14)	0	0 0 0 0 45 0.00 0.00 0.00 0.00
13.c. Wet Pond #2 (Spec #14)	0	0 0 0 0 75 0.00 0.00 0.00 0.00
13.d. Wet Pond #2 (Coastal Plain) (Spec #14)	0	0 0 0 0 65 0.00 0.00 0.00 0.00
14.a. Manufactured Treatment Device-Hydrodynamic	0	0 0 0 0 20 0.00 0.00 0.00 0.00
14.b. Manufactured Treatment Device-Filtering	0	0 0 0 0 20 0.00 0.00 0.00 0.00
14.c. Manufactured Treatment Device-Generic	0	0 0 0 0 20 0.00 0.00 0.00 0.00

TOTAL IMPERVIOUS COVER TREATED (ac)	0.08	**AREA CHECK: OK.**
TOTAL MANAGED TURF AREA TREATED (ac)	0.39	**AREA CHECK: OK.**
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)	0.28	
TOTAL PHOSPHORUS AVAILABLE FOR REMOVAL IN D.A. A (lb/yr)	0.79	
TOTAL PHOSPHORUS REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00	
TOTAL PHOSPHORUS REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.22	
TOTAL PHOSPHORUS LOAD REDUCTION ACHIEVED IN D.A. A (lb/yr)	0.22	
TOTAL PHOSPHORUS REMAINING AFTER APPLYING BMP LOAD REDUCTIONS IN D.A. A (lb/yr)	0.57	

SEE WATER QUALITY COMPLIANCE TAB FOR SITE COMPLIANCE CALCULATIONS

NITROGEN REMOVED WITH RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	1.83
NITROGEN REMOVED WITHOUT RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)	0.00
TOTAL NITROGEN REMOVED IN D.A. A (lb/yr)	1.83

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1068
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1827F CHANEL RIDGE COURT
VIENNA, VIRGINIA 22182
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

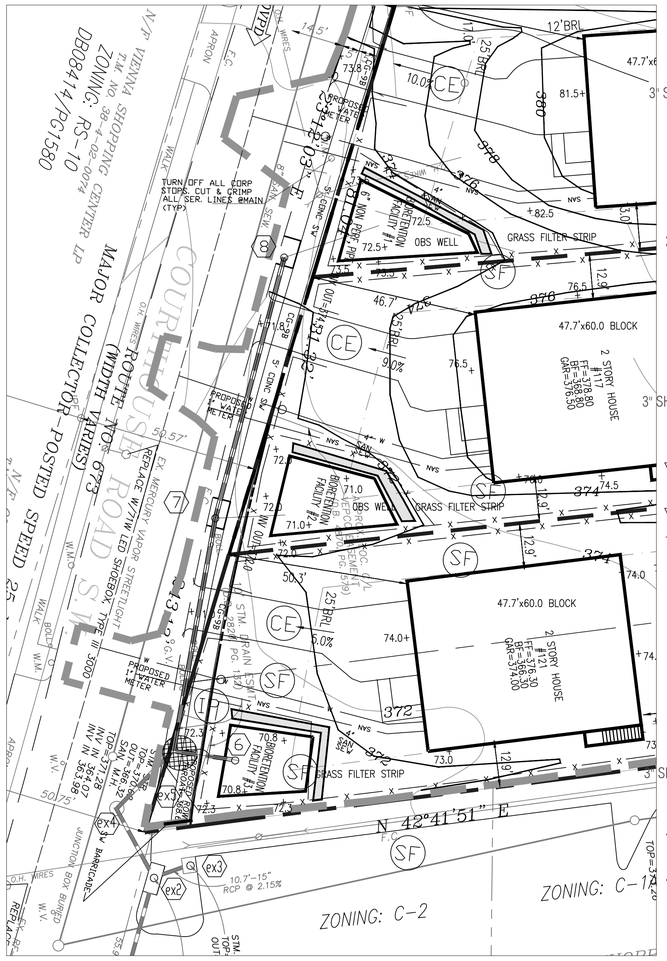
ENGINEER'S SEAL & SIGNATURE

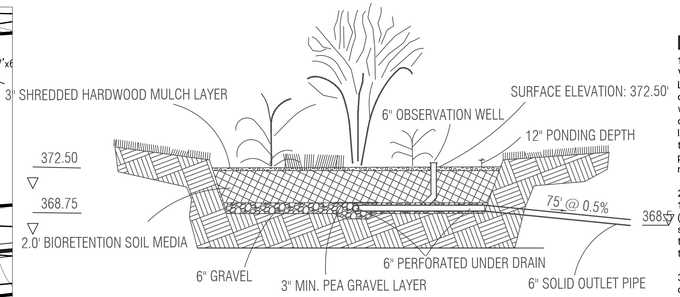
RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

VRRM COMPLIANCE COMPUTATIONS

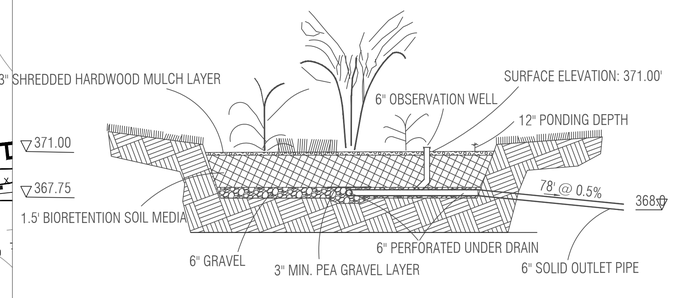
PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	19 OF 22
SCALE: NA	

Oct 21, 2020 - 6:42pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

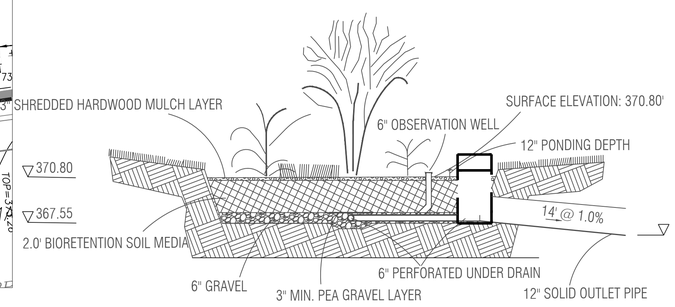




BIOFILTER #1



BIOFILTER #2



BIOFILTER #3

PLANTER NUMBER	PLANTER AREA (SF)	PONDING DEPTH	SOIL THICKNESS	GRAVEL THICKNESS	TOTAL FACILITY DEPTH	BOTTOM ELEVATION	TOP OF BERM ELEVATION
	A(SF)	C(FT)	D(FT)	E(FT)	F(FT)	G	H
1	475	1.00	2.00	0.50	3.75	368.75	372.50
2	480	1.00	1.50	0.50	3.25	367.75	371.00
3	420	1.00	2.00	0.50	3.75	367.05	370.80

PLANTER DEPTH INCLUDES 3" PEA GRAVEL, 2" MULCH LAYER AND 2" FROM OVERFLOW PIPE TO TOP OF WALL

BIO-RETENTION #1			
AREA TO URBAN BIORETENTION STORMWATER		11300	SF
TREAT 1" STORM RUNOFF PER DEQ SPEC. #9			
TvBMP= 0.25x	9500	SF x 0.0833'=	198 CF
TvBMP= 0.95x	1800	SF x 0.0833'=	142
			340
BIORETENTION AREA =			475.0 SF
V1 (PONDING DEPTH)= PLANTER AREA X C =			475.0 CF
V2 (SOIL MEDIA) = PLANTER AREA X D X 0.25 (VOIDS) =			237.5 CF
V3 (GRAVEL MEDIA) = PLANTER AREA x E x0.40 (VOIDS)=			95.0 CF
TOTAL VOLUME =			807.5 CF PROVIDED

BIO-RETENTION #2			
AREA TO URBAN BIORETENTION STORMWATER		9100	SF
TREAT 1" STORM RUNOFF PER DEQ SPEC. #9			
TvBMP= 0.25x	7300	SF x 0.0833'=	152 CF
TvBMP= 0.95x	1800	SF x 0.0833'=	142
			294
BIORETENTION AREA =			480.0 SF
V1 (PONDING DEPTH)= PLANTER AREA X C =			480.0 CF
V2 (SOIL MEDIA) = PLANTER AREA X D X 0.25 (VOIDS) =			180.0 CF
V3 (GRAVEL MEDIA) = PLANTER AREA x E x0.40 (VOIDS)=			96.0 CF
TAL VOLUME =			756.0 CF PROVIDED

BIO-RETENTION #3			
AREA TO URBAN BIORETENTION STORMWATER		29000	SF
TREAT 1" STORM RUNOFF PER DEQ SPEC. #9			
TvBMP= 0.25x	27500	SF x 0.0833'=	573 CF
TvBMP= 0.95x	1500	SF x 0.0833'=	119
			691
BIORETENTION AREA =			420.0 SF
V1 (PONDING DEPTH)= PLANTER AREA X C =			420.0 CF
V2 (SOIL MEDIA) = PLANTER AREA X D X 0.25 (VOIDS) =			210.0 CF
V3 (GRAVEL MEDIA) = PLANTER AREA x E x0.40 (VOIDS)=			84.0 CF
TOTAL VOLUME =			714.0 CF PROVIDED

BIO-RETENTION FACILITY NOTES:

1. Underdrains. Underdrains shall consist of pipe ≥ 6 inch in diameter placed in a layer of double washed VDOT #57 stone. There shall be a minimum of 2 inches (51 mm) of gravel above and below the pipe. Laterals shall be a minimum of 6 inches in diameter. Main collector lines and mainifolds shall be a minimum of 6 inches in diameter. Underdrains shall be laid at a minimum slope of 0.5%. Underdrains shall extend to within 10 feet (3 m) of the boundary of the facility and have a maximum internal spacing of 20 feet (6 m) on center. Underdrains shall be separated from the soil media by geotextile fabric or a 2-3 inch (51-76 mm) layer of double washed VDOT #8 stone or 1/8-3/8 inch (3.2-9.5 mm) pea gravel. Underdrains not terminating in an observation well/clean-out shall be capped. The portion of underdrain piping beneath the planting soil bed must be perforated. All remaining underdrain piping, including cleanouts, must be nonperforated.

2. Observation Wells and Cleanouts. There shall be a minimum of one observation well or cleanout per 1,000 square feet (93 m2) of surface area. Observation wells and cleanouts shall be a minimum of 6 inches (152 mm) in diameter with a lockable cap extending above the 10-yr water surface elevation. Cleanouts shall be provided at the end of all pipe runs. Cleanouts and observation wells shall be solid pipe except for the portion below the planting soil bed which must be perforated. Observation wells that are not connected to underdrain piping shall be anchored to a footplate at the bottom of the facility.

3. The bioretention soil media shall be composed of a mixture of 50-60% washed sand, 20-30% leaf compost, and 20-30% topsoil. Topsoil shall be a sandy loam, loamy sand, or loam per USDA textural classification. The textural class of the topsoil shall be verified by a laboratory analysis. Topsoil shall be of uniform composition, containing no more than 5% clay, free of stones, stumps, brush, roots, or similar objects larger than 2 inches. Topsoil shall be free of Bermuda Grass, Quackgrass, Johnson Grass, Mugwort, Nutsedge, Poison Ivy, Canadian Thistle, Tearthub, or other noxious weeds. Sand shall meet AASHTO M-6, ASTM C-33, or VDOT Section 202 Grade "A" Fine Aggregate specifications. Sand shall be clean and free of deleterious materials. The final soil mixture shall not contain any material or substance that may be harmful to plant growth, or a hindrance to plant growth or maintenance. The final soil mixture shall meet the requirements in Table 6-37.
pH5.5-6.5Total Organic Matter by Loss on Ignition (ASTM F1647, Method A)1.5 - 3.0% (dry weight)Soluble Salts≤ 500 ppm

4. Each bioretention area shall have a minimum of one soil test performed on the final soil mixture. Test results and materials certifications shall be submitted to DPWES prior to inspection.
9B Mulch shall be double shredded hardwood mulch, well aged, uniform in color, and free of foreign material including plant material. Well aged mulch is mulch that has been stockpiled or stored for 6-12 months.

5. Underdrains. Underdrains shall be PVC pipe conforming to the requirements of ASTM F758, Type PS 28 or ASTM F949 or approved equivalent pipe. Underdrains meeting ASTM F758 shall be perforated with 4 rows of 3/8 inch (9.5 mm) holes with a hole spacing of 3.25 ± 0.25 inches (82.5 ± 6.4 mm) or a combination of hole size and spacing that provides a minimum inlet area ≥ 1.76 square inches per linear foot (37.2 cm2/m) of pipe. Underdrains meeting ASTM F949 shall be perforated with slots 0.125 inches (3.2 mm) in width that provides a minimum inlet area ≥ 1.5 square inches per linear foot (31.8 mm) of pipe.

6. Filter fabric. Filter fabric shall be a needled, non-woven, polypropylene geotextile meeting the requirements listed. Heat-set or heat-calendared fabrics are not permitted
Filter Fabric Specifications: Grab Tensile Strength (ASTM D4632)≥ 120 lbs (533 N)Mullen Burst Strength (ASTM D3786)≥ 225 lbs/in2 (1550 kPa)UV Resistance (ASTM D4355)70% strength after 500 hoursFlow Rate (ASTM D4491)≥ 125 gal/min/ft2 (5093 l/min/m2)Apparent Opening Size (AOS) (ASTM D4751)US #70 or #80 sieve (0.212 or 0.180 mm)

7. Bioretention planting plans and specifications shall be prepared by a certified landscape architect, horticulturalist, or other qualified individual who has knowledge of the environmental tolerance, ecological functions, and ecological impacts of plant species. Planting plans shall be prepared in accordance with the requirements of § 12-0700.

8. Depending on the bioretention planting plan type and application as detailed in § 6-1311.10F, a mixture of trees, shrubs, and perennial herbaceous plants with a high density of fibrous roots is required. Selected plants must be able to tolerate highly variable moisture conditions, generally dry with brief periods of inundation. Depending on site conditions, selected plants also must be able to tolerate exposure to wind and sun, as well as salt and toxins in runoff from roads, parking lots, and driveways. The use of native plant species is preferred. The acceptability of proposed plant materials will be determined by the Director. Guidance on the use and selection of plants for bioretention facilities is available from the Urban Forest Management Division.

9. All plants shall conform to the latest version of American Standard for Nursery Stock published by the American Nursery and Landscape Association (ANSI Z60.1) for quality and sizing. Trees and shrubs shall be nursery grown unless otherwise approved and shall be healthy and vigorous, free from defects, decay, disfiguring roots, sun-scald, injuries, abrasions, diseases, insects pests, and all forms of infestations or objectionable disfigurements as determined by the Director.

10.Trees shall be a minimum of 1 inch (25.4 mm) caliper. Shrubs shall be a minimum of 2 gallon (7.58 L) container size and herbaceous plants shall be a minimum of 6 inch (152 mm) diameter container size. Variations in size may be approved by the Director, based on the requirements of the specific plants listed in the schedule.

11. The planting plan shall provide for plant community diversity and should consider aesthetics from plant form, color, and texture year-round. The bioretention facility design and selection of plant material shall serve to visually link the facility into the surrounding landscape. If trees and shrubs are part of the design, woody plant species shall not be placed directly within the inflow section of the bioretention facility.

12. Wooded planting plans. Wooded bioretention facilities are appropriate where the facility is located at wooded edges, in the rear of residential lots, or where a wooded buffer is required. Design guidelines include: A density of ten (10) trees per 1,000 square feet of basin shall be used. A minimum of three species of trees and three species of shrubs shall be planted, with trees located on the perimeter to maximize shading of the bioretention area; Of the three species of trees, at a minimum one shall be a mid or understory species; 30-50% of the total quantity of trees planted shall be mid or understory trees; Two to three shrubs shall be planted for each tree (2:1 to 3:1 ratio of shrubs to trees); At least 3 species of perennial herbaceous ground cover shall be planted;

Where the basin is planted at the specified density, interior and peripheral parking lot landscaping and tree cover credit.

Trees planted in wooded bioretention facilities may also fulfill the requirements of transitional screening if the planting conforms to the provisions of Article 13-300 of the Zoning Ordinance.

Ornamental garden planting plans. Ornamental garden bioretention facilities are appropriate on commercial sites, as a focal point within residential developments or located in the front yard of an individual residential lot. Design guidelines include:

The facility should be considered as a mass planting bed with plants that have ornamental characteristics linking it to the surrounding landscape;

The facility should contain a variety of plant species which will add interest to the facility with each changing season;

A mixture of trees, shrubs and perennial herbaceous groundcover at an approximate ratio of 10% trees, 20% shrubs and 70% perennials shall be planted;

When the size or location of the facility precludes the use of large shade trees, use of small ornamental trees shall be considered. Alternatively a mixture of shrubs and perennials at an approximate ratio of 40% shrubs, 60% perennials may be used;

Spacing of plant material is species specific and will be subject to review and approval of the Director. In general the facility shall be planted at a density that the vegetation will cover 80-90% of the facility after the second growing season.

Meadow garden planting plans. Meadow garden bioretention facilities lack woody material and are appropriate for small facilities, either on commercial or residential sites.
Design guidelines include:Plant material shall consisits of a variety of grasses and wildflowers. Other groundcovers, rushes and sedges may be part of the mixture as well; Species of different heights, texture, as well as flowering succession shall be selected; Spacing of plant material is species specific and will be subject to review and approval of the Director. In general the facility shall be planted at a density that the perennial herbaceous vegetation will cover 80-90% of the facility after the second growing season.

Construction Specifications.

Bioretention facilities shall be constructed after the drainage area to the facility is completely stabilized. Erosion and sediment controls for construction of the facility shall be installed as specified in the erosion and sediment control plan.

All materials shall be inspected by the contractor and compared to the plan specifications prior to installation. Any materials not meeting plan specifications shall be rejected and replaced with suitable materials.

The components of the soil media shall be thoroughly mixed until a homogeneous mixture is obtained. It is preferable that the components of the soil media be mixed at a batch facility prior to deliver to the site. The soil media shall be moistened, as necessary, to prevent separation during installation.

The soil media shall be tested for pH, organic matter, and soluble salts prior to installation. If the results of the tests indicate that the required specifications are not met, the soil represented by such tests shall be amended or corrected as required and retested until the soil meets the required specifications. If the pH is low, it may be raised by adding lime. If the pH is too high, it may be lowered by adding iron sulfate plus sulfur.

For bioretention basins, the floor of the facility shall be scarified or tilled to reduce soil compaction and raked to level it before the filter fabric, stone, and soil media are placed.

The soil media may be placed by mechanical methods with minimal compaction in order to maintain the porosity of the media. Spreading shall be by hand. The soil media shall be placed in 8-12 inch (205-305 mm) lifts with no machinery allowed over the soil media during or after construction. The soil media should be overfilled above the proposed surface elevation as needed to allow for natural settlement. Lifts may be lightly watered to encourage settlement. After the final lift is placed, the soil media shall be raked to level it, saturated, and allowed to settle for at least one week prior to installation of plant materials.

Fill for the berm and overflow weir shall consist of clean material free of organic matter, rubbish, frozen soil, snow, ice, particles with sizes larger than 3 inches (75 mm), or other deleterious material. Fill shall be placed in 8-12 inch (205-305 mm) lifts and compacted to prevent settlement. Compaction equipment shall not be allowed within the facility on the soil bed. The top of the berm and the invert of the overflow weir shall be constructed level at the design elevation.

OUTFALL AND BMP ANALYSIS;

THIS PLAN IS FOR THREE SINGLE FAMILY DETACHED HOUSES BUILT AT THE RESUBDIVISION OF 117&121 COURTHOUSE ROAD, SW. APPROXIMATELY HALF THE ROOF DRAINAGE FROM THE SIDE OF THE HOUSE AND GRASS AREAS FROM THE REAR OF THE HOUSE IS CONVEYED TO BIORETENTION FACILITIES AT THE FRONT PROPERTY.

THE EXISTING HOUSES AND DRIVEWAYS ARE TO BE REMOVED. THE EXISTING IMPERVIOUS AREA OF 8377 SF OR 0.19 ACRES WILL BE REMOVED. IT IS ASSUMED THAT 4200 SF PER HOUSE OR A TOTAL OF 0.29 ACRES OF IMPERVIOUS ACRES IS ADDED (0.10 AC INCREASE) WITH THIS PROPOSAL.

THE REQUIRED PHOSPHORUS LOAD REMOVED IS 0.28 LBS.

LOT FLOW IS CONVEYED TO THE RIGHT OF WAY (COURTHOUSE ROAD SW) TO THE RIGHT OF WAY BY SWALE RIGHT SIDE TO BIORETENTION FACILITIES AND RIGHT SIDE WITH DRIVEWAY TO ROW. LOT IS ADEQUATE BY VIRTUE OF THE ENERGY BALANCE METHOD.

A COMBINATION OF THREE BIORETENTION FACILITIES PROVIDES THE REQUIRED TvBMP. PLANTER BOX PROVIDED TO MEET WATER QUALITY REQUIREMENTS. TvBMP OF 340/294/691 CF REQUIRED (WITH 1 FOOT PONDING).

PHOSPHORUS LOAD REQUIREMENT HAS BEEN MET WITH THREE BIORETNETION FACILITIES – AND EXCEEDS PHOSPHORUS BY 0.18 ALSO PROVIDES STORAGE TO MEET OUTFALL.

WITH MODIFIED CURVE NUMBER AND VOLUME WITH REDUCED FLOW TO BELOW EXISTING.

PRETREATMENT SHALL BE PROVIDED WITH A GRASS FILTER STRIP

STORAGE ANALYSIS;

THE QPOST CALCULATED USING ADJUSTED CURVE NUMBER (ALLOWED WITH DETENTION PROVIDED WITH BIORETENTION FACILITIES

FOR DRAINAGE AREA A; STORAGE REQUIRED TO MEET 10 YEAR DETENTION (CONTROLLING FACTOR) IS 1560 FOR BIO FACILITIES 1& 2, STORAGE PROVIDED WITH BIORETENTION FACILITIES 1&2 IS 807+756=1563>1560 CF.

THE PROVIDED CHART ALSO SHOWS THAT EACH FACILITY IS COLLECTING ENOUGH STORMWATER RUNOFF VOLUME Rv BASE UPON 0.95 PER IMPERVIOUS AREA AND 0.25 PER GRASS AREA.

THE TEN YEAR STORM IS DETAINED ASSUMING 0.18 (SINCE THE TR–55 CHART ENDS AT Vr/Vs OF 0.90).

FOR DRAINAGE AREA B; THE BIORETENTION FACILITY WAS SIZED BASED ON THE REQUIRED TREATMENT VOLUME. BY VIRTUE OF THAT THE ADJUSTED CURVE NUMBER (WITH TREATED VOLUME) IS LOWER IN THE POST, THE TEN YEAR DETENTION HAS BEEN PROVIDED WHEN SIZING FOR THE TREATMENT VOLUME.

Q ALLOWABLE CALCULATED USING RVPOST FROM VRRM – SHEET 16 AND EQUATION ABOVE.

SIZE OF FACILITIES MAY CHANGE BASED UPON FINAL DESIGN AND SIZE OF PROPOSED HOUSES.

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	AUTH.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1083
VIENNA, VIRGINIA 22183
PHONE: (703) 938–1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
13287 CHANEL RIDGE COURT
LAKE RIDGE, VA 22192
PHONE: (571) 233–5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW

HUNTER MILL DISTRICT: TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

VRRM COMPLIANCE BIORETENTION FACILITY

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	20 OF 22
SCALE: 1"=20'	

Oct 21, 2020 - 6:42pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg

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

BMP Design Specifications List: **2013 Draft Stds & Specs**

Update Summary Sheet

Print Preview | Print

Site Summary

Total Rainfall (in):	43
Total Disturbed Acreage:	0.69

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	0.00	1.21	1.21	86
Impervious Cover (acres)	0.00	0.00	0.00	0.19	0.19	14
					1.40	100

Post-ReDevelopment Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	1.11	1.11	79
Impervious Cover (acres)	0.00	0.00	0.00	0.29	0.29	21
					1.40	100

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post-ReDevelopment	Post-Development (New Impervious)	Adjusted Pre-ReDevelopment
Site Rv	0.39	0.35	0.95	0.35
Treatment Volume (ft^3)	2,003	1,669	335	1,669
TP Load (lb/yr)	1.26	1.05	0.21	1.05

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)
0.81	0.90	0.81

Total TP Load Reduction Required (lb/yr)	0.28	0.10	0.17

	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre-ReDevelopment
TN Load (lb/yr)	9.00	7.90

Site Compliance Summary

Maximum % Reduction Required Below Pre-ReDevelopment Load	10%

Total Runoff Volume Reduction (ft^3)	527
Total TP Load Reduction Achieved (lb/yr)	0.45
Total TN Load Reduction Achieved (lb/yr)	3.78
Remaining Post Development TP Load (lb/yr)	0.80
Remaining TP Load Reduction (lb/yr) Required	0.00

**** TARGET TP REDUCTION EXCEEDED BY 0.18 LB/YEAR ****

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres)	0.48	0.63	0.00	0.00	0.00	1.11
Impervious Cover (acres)	0.24	0.04	0.00	0.00	0.00	0.28
Total Area (acres)	0.72	0.67	0.00	0.00	0.00	1.39

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)	0.22	0.23	0.00	0.00	0.00	0.45
TN Load Reduced (lb/yr)	1.83	1.95	0.00	0.00	0.00	3.78

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	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.48	0.48	67
Impervious Cover (acres)	0.00	0.00	0.00	0.24	0.24	33
					0.72	

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

Total Impervious Cover Treated (acres)	0.08
Total Turf Area Treated (acres)	0.39
Total TP Load Reduction Achieved in D.A. (lb/yr)	0.22
Total TN Load Reduction Achieved in D.A. (lb/yr)	1.83

Drainage Area B Summary

Land Cover Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.00	0.00	0.00	0.00	0.00	0
Managed Turf (acres)	0.00	0.00	0.00	0.63	0.63	94
Impervious Cover (acres)	0.00	0.00	0.00	0.04	0.04	6
					0.67	

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

Total Impervious Cover Treated (acres)	0.03
Total Turf Area Treated (acres)	0.62
Total TP Load Reduction Achieved in D.A. (lb/yr)	0.23
Total TN Load Reduction Achieved in D.A. (lb/yr)	1.95

Material Specifications. Below is the table of material specifications for urban bioretention.

Material	Specification	Notes
Waterproofing	Watertight shell or impermeable liner	Use a thirty mil (minimum) PVC Geomembrane liner or equivalent.
Filter Media Composition	Filter Media to contain: • 80%-90% sand with >75% being coarse to very coarse • 10%-20% soil fines • 3%-5% organic matter in the form of plant based compost meeting Clearinghouse Design Specification #4, Section 6.5	The volume of filter media based on 110% of the plan volume, to account for settling or compaction.
Filter Media Testing	Plant available P within Low+ (L+) to Medium (M) and CEC >5	The media must be procured from approved filter media vendors.
Mulch Layer	Use aged, shredded hardwood bark mulch	Lay a 2 to 3 inch layer on the surface of the filter bed.
Choking Layer	3 inch layer of pea gravel which is laid over the underdrain stone.	
Stone Jacket for Underdrain and/or Storage Layer	1 inch stone should be double-washed and clean and free of all fines (e.g., VDOT #57 stone).	12 inches for the underdrain; 12 to 18 inches for the stone storage layer, if needed
Underdrains and Overflows	Use 4 inch rigid schedule 40 PVC pipe with 3/8-inch perforations at 6 inches on center; position each underdrain on a 1% or 2% slope.	Lay the perforated pipe under the length of the planter box, and install non-perforated pipe as needed to connect with the storm drain system. Install T's and Y's as needed, depending on the underdrain configuration. Extend overflow pipes to the surface with vented caps.
Plant Materials	1 quart-sized perennial installed per 1-2 sf and/or 1 gallon shrub installed per 7.5 sf over entire ponding area	For Level 1 designs – choose either herbaceous and/or shrubs For Level 2 designs – choose any 2 of herbaceous, shrubs, or trees

Maintenance	Frequency
• Spot weeding, erosion repair, trash removal, and mulch raking	Twice during growing season
• Add reinforcement planting to maintain the desired vegetation density • Remove invasive plants using recommended control methods • Stabilize the contributing drainage area to prevent erosion	As needed
• Spring inspection and cleanup • Supplement mulch to maintain a 2-3 inch layer • Prune trees and shrubs • Examine for the ponding depth and adjust accordingly • Inspect inflows and overflow for erosion • Inspect for structural deficiencies and repair	Annually
• Remove sediment in pre-treatment cells and inflow points	Once every 2 to 3 years
• Replace the mulch layer	Every 3 years
• Inspected and certified by a professional licensed in the State of Virginia	Once every 5 years

Routine operation and maintenance are essential to gain public acceptance of highly visible urban bioretention areas. Weeding, pruning, and trash removal should be done as needed to maintain the aesthetics necessary for community acceptance. During drought conditions, it may be necessary to water the plants, as would be necessary for any landscaped area.
To ensure proper performance, inspectors should check that stormwater infiltrates properly into the soil within 24 hours after a storm. If excessive surface ponding is observed, corrective measures include inspection for soil compaction and underdrain clogging.

VA DEQ STORMWATER DESIGN SPECIFICATION NO. 9 **BIORETENTION**

Table 9.4. Popular Native Plant Materials for Bioretention

Perennials/Herbaceous	Shrubs	Trees
Virginia Wild Rye *(Elymus virginicus)*	Common Winterberry *(Ilex verticillatta)*	River Birch *(Betula nigra)*
Redtop Grass *(Agrostis alba)*	Inkberry *(Ilex glabra)*	Red Maple *(Acer rubrum)*
Swamp Milkweed *(Asclepias incarnata)*	Sweet Pepperbush *(Clethra ainifolia)*	Pin Oak *(Quercus palustris)*
Switchgrass *(Panicum virgatum)*	Wax Myrtle *(Myrica cerifera)*	Willow Oak *(Quercus phellos)*
Cardinal Flower *(Lobelia cardinalis)*	Virginia Sweetspire *(Itea virginica)*	Sweetgum *(Liquidambar styraciflua)*
Common Three Square *(Scirpus americanus)*	Swamp Azaela *(Azaeala viscosum)*	Black Willow *(Salix nigra)*
Sensitive Fern *(Onoclea sensibilis)*	Button Bush *(Cephalanthus occidentalis)*	Grey Birch *(Betula populifolia)*
Blue Flag *(Iris versicolor)*	Black Haw *(Viburnum prunifolium))*	Black Gum *(Nyassa sylvatica)*
Woolgrass *(Scirpus cyperninus)*	Indigo Bush *(Amorpha fruticosa)*	Sycamore *(Platanus occidentalis)*
Indian Grass *(Sorghastrum nutans)*	Arrowwood *(Virburum dentatum)*	Green Ash *(Fraxinus pennsylvanica*
Marsh Marigold *(Caltha palustris)*		Sweetbay Magnolia* *(Magnolia virginiana)*
Joe Pye Weed *(Eupatorium purpureum)*		Atlantic White Cedar* *(Chamaecyparis thyoides)*
Turk's cap lily (*Lilium superbum*)		Bald Cypress* *(Taxodium distichum)*
Bee Balm *(Monarda didyma)*		Grey Dogwood *(Cornus racemosa)*
Northern Sea Oats *(Chasmanthium latifolium)*		Smooth Alder *(Alnus serrulata))*
		Serviceberry *(Amelanchier canadensis)*
		Redbud *(Cercis candensis)*
		Box Elder *(Acer negundo)*
		Fringe Tree *(Chionanthus virginicus)*

Note: Prior to selection, please consult bioretention plant lists for more detailed information regarding inundation, drought and salt tolerance for each species.
* most applicable to the coastal plain

Version 1.9, March 1, 2011 Page 28 of 54

Plantings:

AS STATED ABOVE 1 QUART SIZE PERENNIAL PER 1-2 SF AND/OR 1 GALLON SHRUB PER 7.5 SF OVER ENTIRE PONDING AREA (45 SF);
4-1 GALLON SHRUBS;
10-1 QUART SIZE PERENNIAL FROM LIST (TABLE 9.4)

TOWN OF VIENNA
PLAN APPROVAL

Dept. of PLanning and Zoning

_____ Date _____

Dept. of Public Works

_____ Date _____

NO.	DATE	DESCRIPTION	BY	APPR.

DEVELOPER:
JDA CUSTOM HOMES
CONTACT: DENNIS RICE
P.O. BOX 1084
VIENNA, VIRGINIA 22183
PHONE: (703) 938-1119

ENGINEER:
Jordan Land Design LLC
CONTACT: DAVID M. JORDAN
1825 B CHAINS RIDGE COURT
LEESBURG, VA 20176
PHONE: (571) 233-5830

COMMONWEALTH OF VIRGINIA
DAVID M. JORDAN
Lic. NO. 23297
09/30/20
PROFESSIONAL ENGINEER

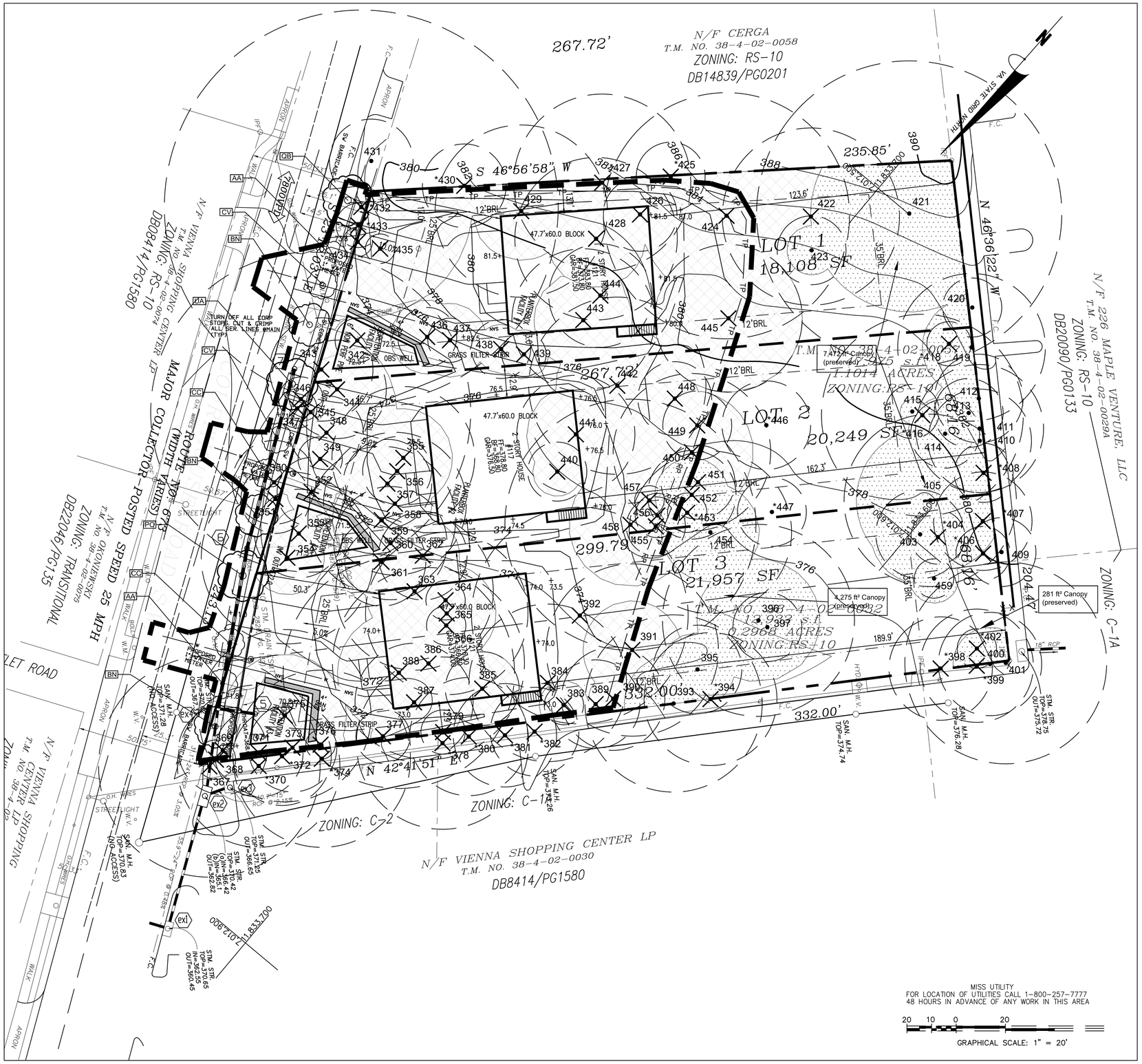
ENGINEER'S SEAL & SIGNATURE

RESUBDIVISION OF 117 & 121 COURTHOUSE ROAD, SW
HUNTER MILL DISTRICT. TOWN OF VIENNA-FAIRFAX COUNTY, VIRGINIA

VRRM COMPLIANCE BIO RETENTION NOTES

PROJ. NO: 180414.01	COUNTY NUMBER:
DATE: AUG 18 2020	TOWN OF VIENNA #: N/A
DWG. BY: DMJ	
DESIGN BY: DMJ	SHEET NO:
CHECK BY: DMJ	21 OF 22
SCALE: N/A	

Oct 21, 2020 - 6:43pm
Z:\Job Files\Rice\Courthouse\10212020 COURTHOUSE BASE.dwg



TREE CONSERVATION PLAN LEGEND

Existing tree to be preserved. Dashed circle represents typical root zone	
Existing tree to be removed	
Limits of Clearing and Grading	
Tree protection fencing (see tree protection fencing detail).	TP — TP
Root pruning (see root pruning detail)	RP — RP — RP
Existing tree canopy to be preserved = 12,028 ft² X 1.25 = 15,035 ft²	
Existing tree canopy to be removed = 30,928 ft²	
Proposed Landscape Tree (see planting schedule)	AR

TREE PROTECTION PLAN NOTES - TOWN OF VIENNA, VA

1. A pre-construction meeting with the Town of Vienna's Urban Arborist shall be held onsite prior to establishing perimeter controls so that the Arborist can explain protection measures to operators, construction supervisors, and/or contractor's representatives.
2. Contractor shall stake clearing limits onsite in order to facilitate location for trenching and fencing installation for tree protection.
3. No clearing or grading shall begin in areas where tree preservation measures have not been completed.
4. The use of heavy equipment is strictly prohibited within tree preservation areas, including for the purpose of removing unwanted trees, structures, pads grading, sodden, etc. Any structure within the tree preservation area shall be removed by hand.
5. The sequence of tree preservation measures, if required, shall be in this order: root pruning, tree protection fencing, tree pruning and chemical treatment, aeration systems installed. These measures shall be directed in the field by construction supervisor.
6. Tree protection fencing shall be maintained by the contractor through duration of construction. No alteration shall occur without prior approval by a Town representative.
7. Critical root zone shall be defined as 1.5' radius per 1" of DBH (diameter at breast height), which shall be measured at a height of 4.5' from the highest point of ground at base of trunk.
8. For a tree to count for canopy coverage credits, no more than 30% of the respective tree's critical root zone shall be impacted by construction activities, including but not limited to: trenching, grading, digging, cutting, filling, etc.
9. Protection provided shall consist of fencing around the tree to the drip line, and enclosed areas shall be kept free of all soil, equipment, and construction material storage, which includes final grading and landscape efforts.
10. Root Pruning Requirements: Unless otherwise directed by the Town's Arborists, root pruning MUST be performed within limits of disturbance fall within critical root zone of trees to be saved. Roots shall be pruned to a minimum depth of 12" at or before the limits of disturbance by using a root pruning machine or vibratory plow.
11. When applicable, trenchless silt fencing shall be used for erosion and sediment control in order to better protect and preserve adjacent-neighboring trees that may be impacted by construction activities.
12. Trees that are determined by the Town Arborist to be in "poor" condition shall not count toward canopy coverage calculations.
13. All pruning shall be done in accordance with current American National Standards Institute (ANSI) A300 pruning standards. Spikes shall not be used to climb live trees unless the tree in being removed.
14. Trees designated for "hand removal" are trees located on or just outside the limits of clearing and grading or within tree save areas. Tree designated as such shall be removed using a chainsaw as to avoid damage to surrounding trees and understory vegetation to be preserved within the tree save area. Motorized equipment may not enter tree save areas to assist with removal. If a stump must be removed, this shall be done using a stump-grinding machine in a manner that causes as little disturbance as possible to adjacent trees, vegetation and soil conditions.
15. Demolition Operations: Buildings, concrete pads, asphalt paths and driveways or roadways, debris and junk within or adjacent to tree preservation areas shall be removed in such a way that trees to be preserved are not damaged. Equipment shall at all times remain within limits of disturbance rather than positioning on undisturbed soil or vegetation. Buildings near trees to be saved shall be pulled away from trees, rather than pushed over with equipment. Concrete and debris within tree preservation areas shall be pulled up and loaded onto equipment without the equipment leaving the limits of clearing and grading.

20-Yr CANOPY COVER CALCULATIONS - 117 Courthouse Rd SW	
Total parcel area = ft² (47,975 ft² + 12,932 ft²)	60910
Total existing tree canopy pre-development = ft²	42956
Percentage existing tree canopy pre-development = ft²	71%
Total existing tree canopy to be removed/no credit per condition/species = ft²	30928
Total existing tree canopy to be preserved = ft²	12028
Total existing tree canopy to be preserved (bonus multiplier) = 12028 ft² X 1.25	15035
Existing preseved tree canopy post-development = %	25%
Town required tree canopy percentage post development = %	20%
Town required tree canopy = ft²	12182
Tree canopy requirement met =	YES
Planting required =	NO
SUMMARY	
Total tree canopy required - 60910 ft² x 20% = ft²	12182
Total tree canopy provided through tree preservation = 12028 ft² X 1.25	15035
Total tree canopy provided through tree planting = ft²	2100
Total tree canopy provided = ft²	17135
Tree canopy requirement met =	YES

TREE PRESERVATION CONSULTANTS, LLC
(O)703.349.6608 ● (C)540.631.4417 ● (F)703.652.2524
61 CRICKETS LANE ● LINDEN VA, 22642
www.treepreservationconsultants.com

117 Courthouse Rd SW

117 Courthouse Rd SW
Vienna, VA 22180
Town of Vienna Hunter Mill District

Tree Protection Plan/Notes
20-Year Canopy Exhibit/Table
Tree Planting Plan

TREE PRESERVATION CONSULTANTS
BRIAN A. HOWARD
ISA CERTIFIED ARBORIST
MA 4677A
CONSULTING ARBORIST

SHEET: 15 OF 18

SCALE: 1" = 20'

DATE: October 2020

DRAWN BY: TPC LLC

BASELAYER INFO BY:
DM Jordan

TREE INVENTORY - 117 Courthouse Rd SW

Tree #	Species	Size	CRZ	SRZ	Condition	Canopy Position	Crown Radius	Crown Density					Status	Activities						Root Problems	Trunk Problems	Scaffold Branch Problems	Small Branch and Twig Problems	TRZ impacts (typical root zone)	Notes
		dbh	Critical Root Zone (radius ft)	Structural Rooting Zone (radius ft)	%		Avg. Radius (ft)	%	* Dead Tree	* Poor Condition	*Assessment obscured	* Off Site/Co-Owned		*Tree Protection Fence	*Root Prune	* Prune	* Remove vines	*Monitor/Risk Assess	*Hand Removal						
342	Norway spruce	6	9	1.98	75	Intermediate	10	40					REMOVE								asymmetric crown	dead twigs		Inside LOD	
343	eastern red cedar	14	21	4.62	75	Intermediate	15	70			X		REMOVE							heavy vines	deadwood, broken branch, heavy vines			Inside LOD	
344	Norway spruce	13	19.5	4.29	80	Intermediate	20	70			X		REMOVE							heavy vines	deadwood			Inside LOD	
345	white oak	43	64.5	14.19	50	Dominant	35	80		X			REMOVE							decay, cavities, unsound wood	major branch decay, deadwood	poor vigor, dieback	dieback	Inside LOD	Severe decline. Significant trunk decay and root flare decay approx. 50% of circumference of trunk. Possible elevated risk tree. Removal is recommended.
346	American elm	6	9	1.98	65	Understory	10	40			X	X	***REMOVE**							heavy vines	asymmetric crown, poor distribution, heavy vines			Inside LOD	Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
347	sweet cherry	5	7.5	1.65	65	Suppressed	10	40				X	***REMOVE**							poor form	asymmetric crown, poor distribution, heavy vines			Inside LOD	
348	Norway spruce	10	15	3.3	80	Intermediate	15	80			X		REMOVE							heavy vines		dead twigs		Inside LOD	
349	Norway spruce	6	9	1.98	80	Intermediate	5	80			X		REMOVE							heavy vines		dead twigs		Inside LOD	
350	eastern red cedar	11	16.5	3.63	75	Intermediate	15	70			X	X	***REMOVE**							heavy vines	heavy vines	dead twigs		Inside LOD	Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
351	blackgum	9	13.5	2.97	70	Intermediate	15	50			X	X	***REMOVE**							heavy vines	asymmetric crown, poor distribution, poor form, heavy vines			Inside LOD	Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
352	Norway spruce	9	13.5	2.97	75	Intermediate	10	60			X		REMOVE							heavy vines	asymmetric crown, poor distribution	dead twigs		Inside LOD	
353	Norway spruce	12	18	3.96	75	Intermediate	10	70			X		REMOVE							heavy vines, poor form		dead twigs		Inside LOD	
354	Norway spruce	17,16	34.5	7.59	75	Intermediate	15	80			X		REMOVE							multiple leaders, included bark, heavy vines	deadwood	dead twigs		Inside LOD	
355	Norway spruce	19	28.5	6.27	75	Codominant	20	70			X		REMOVE							heavy vines, lean				Inside LOD	
356	Norway spruce	9	13.5	2.97	65	Codominant	10	30			X		REMOVE							heavy vines		dead twigs, poor vigor, dieback	dieback	Inside LOD	Decline. Small crown.
357	Norway spruce	12	18	3.96	75	Codominant	10	60			X		REMOVE							heavy vines	asymmetric crown	dead twigs		Inside LOD	
358	Norway spruce	19	28.5	6.27	75	Codominant	15	70			X		REMOVE							heavy vines	deadwood	dead twigs		Inside LOD	
359	Norway spruce	20	30	6.6	75	Codominant	20	60			X		REMOVE							heavy vines	asymmetric crown, deadwood	dead twigs		Inside LOD	
360	Norway spruce	15	22.5	4.95	75	Codominant	15	60			X		REMOVE							heavy vines	deadwood	dead twigs		Inside LOD	
361	Norway spruce	12	18	3.96	75	Codominant	15	60			X		REMOVE							heavy vines	deadwood, asymmetric crown	dead twigs		Inside LOD	
362	apple species	10,4,4,3,3	18	3.96	70	Understory	15	60			X		REMOVE							multiple leaders, included bark, heavy vines	asymmetric crown, poor distribution, deadwood			Inside LOD	
363	Norway spruce	21	31.5	6.93	80	Codominant	20	80			X		REMOVE							heavy vines	deadwood, heavy vines			Inside LOD	
364	American holly	5	7.5	1.65	80	Understory	5	70			X		REMOVE							heavy vines	heavy vines			Inside LOD	
365	black locust	22	33	7.26	75	Codominant	20	70			X		REMOVE							heavy vines	major branch decay, deadwood, heavy vines			Inside LOD	
366	red maple	5			0				X				REMOVE											Inside LOD	Dead.
367	black locust	22,21	45	9.9	45	Intermediate	15	30		X		X	***REMOVE**						*X	decay, cavities, unsound wood, multiple leaders, weak crotch	major branch decay, deadwood, topped, heavy vines			21%	Severe decline, impact within SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
368	white mulberry	5	7.5	1.65	40	Suppressed	5	10		X	X		REMOVE						X	heavy vines, poor form	asymmetric crown, heavy vines, poor form, poor structure	poor vigor, dieback	dieback	On/Inside LOD	Severe decline, impact within SRZ. Removal is recommended.
369	eastern hemlock	12	18	3.96	45	Intermediate	10	20		X	X		REMOVE							heavy vines, poor form	asymmetric crown, heavy vines, poor form, poor structure	poor vigor, dieback	dieback	Inside LOD	Severe decline.
370	black locust	22	33	7.26	35	Intermediate	10	20		X		X	***REMOVE**						*X	decay, cavities	heavy vines, major branch decay, topped	poor vigor		40%	Severe decline, impact within SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
371	eastern white pine	12	18	3.96	45	Intermediate	10	30		X	X		REMOVE							heavy vines	asymmetric crown, poor form, topped, heavy vines, deadwood	poor vigor		Inside LOD	Severe decline.
372	black locust	13	19.5	4.29	35	Intermediate	5	20		X		X	***REMOVE**						*X	topped	topped			43%	Severe decline, impact within SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
373	Norway maple	12	18	3.96	50	Intermediate	15	70		X	X		REMOVE							heavy vines	heavy vines, asymmetric crown, poor form, poor structure, topped	poor vigor		Inside LOD	Severe decline.
374	white mulberry	24	36	7.92	60	Intermediate	20	60			X	X	***REMOVE**						*X	heavy vines, multiple leaders, included bark, weak crotch	asymmetric crown, poor structure, multiple weak crotches, heavy vines, deadwood	poor vigor		40%	Decline, impact within SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
375	pecan	23	34.5	7.59	75	Dominant	25	80			X		REMOVE							heavy vines, lean	heavy vines			Inside LOD	
376	apple species	4	6	1.32	70	Intermediate	10	60			X		REMOVE							heavy vines	asymmetric crown, poor distribution, heavy vines			Inside LOD	
377	sweet cherry	7	10.5	2.31	50	Intermediate	5	20		X	X		REMOVE							heavy vines, poor form	asymmetric crown, topped, heavy vines	poor vigor		Inside LOD	Severe decline.
378	black walnut	23	34.5	7.59	45	Codominant	15	30		X		X	***REMOVE**						*X	decay, cavities, unsound wood, topped	asymmetric crown, major branch decay, deadwood, topped	poor vigor		41%	Severe decline, impact within SRZ. Significant trunk decay cavity, heavily weighted toward off site parking lot. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
379	Japanese yew	6	9	1.98	80	Understory	5	80					REMOVE											On/Inside LOD	
380	black cherry	16	24	5.28	30	Codominant	5	10		X	X	X	***REMOVE**						*X	decay, cracks, unsound wood, topped, heavy vines	asymmetric crown, major branch decay, topped, heavy vines			39%	Severe decline, impact within SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
381	black cherry	14	21	4.62	30	Codominant	5	10		X	X	X	***REMOVE**						*X	heavy vines, topped	asymmetric crown, major branch decay, topped, heavy vines			33%	Severe decline, impact just outside SRZ. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
382	white mulberry	12			0				X			X	***REMOVE**						*X	topped	topped			31%	Dead. Removal is recommended. Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
383	American holly	5	7.5	1.65	70	Intermediate	10	70			X		REMOVE							heavy vines	heavy vines			Inside LOD	
384	pecan	21			0				X				REMOVE											Inside LOD	Dead.
385	black walnut	10	15	3.3	65	Intermediate	15	60					REMOVE								asymmetric crown, topped, poor form			Inside LOD	
386	red maple	19,13,12	39	8.58	50	Codominant	20	60		X			REMOVE							decay, cavities, unsound wood, multiple weak crotches	asymmetric crown, major branch decay, deadwood	poor vigor, dieback	dieback	Inside LOD	Decline.
387	pecan	16	24	5.28	75	Codominant	20	40					REMOVE								asymmetric crown, physical damage			Inside LOD	
388	black locust	31	46.5	10.23	55	Codominant	25	40			X		REMOVE							heavy vines	asymmetric crown, major branch decay, broken branch, deadwood	poor vigor		Inside LOD	Severe decline, main leader dead.
389	black locust	10,6	18	3.96	25	Suppressed	0	0		X	X		REMOVE							heavy vines	topped			Inside LOD	Dead.
390	American elm	14	21	4.62	30	Suppressed	10	10		X	X		REMOVE							heavy vines, topped	topped			Inside LOD	Severe decline.
391	red maple	23	34.5	7.59	55	Codominant	20	30					REMOVE						X	poor form	asymmetric crown, major branch decay, deadwood	poor vigor, dieback	dieback	47%	Decline, impact within SRZ. Removal is recommended.
392	pin oak	29			0				X				REMOVE											Inside LOD	Dead.
393	black walnut	24	36	7.92	70	Codominant	20	60			X	X	PRESERVE	X			X	X		heavy vines	weak crotch, poor structure, deadwood			9%	Co-dominant stems, leader leans out over offsite property. Co-owned tree, see footnote. RP is not recommended, no cut-grading proposed.
394	black cherry	17,7			0				X			X	***REMOVE**						*X	topped				No impact	Dead. Removal is recommended. Co-owned tree , see footnote. **DO NOT REMOVE** without co-owner permission.
395	pecan	12	18	3.96	65	Codominant	15	30			X		PRESERVE	X			X			heavy vines	asymmetric crown, poor distribution, poor form, heavy vines, deadwood			No impact	
396	southern catalpa	20,17	39	8.58	70	Codominant	25	70			X		PRESERVE	X						multiple leaders, weak crotch, heavy vines	asymmetric crown, poor distribution			No impact	Dead hanging branches.
397	southern catalpa	9	13.5	2.97	65	Intermediate	10	70			X		PRESERVE	X						heavy vines	asymmetric crown, poorly pruned			No impact	
398	black walnut	14	21	4.62	25		0			X		X	***REMOVE**						*X					No impact	Severe decline, near dead, topped. Removal is recommended. Co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission.
399	black cherry	15			0				X			X	***REMOVE**						*X	topped				No impact	Dead. Removal is recommended. Co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission.
400	pin oak	14	21	4.62	70	Codominant	15	60				X	PRESERVE	X							asymmetric crown, poor form			No impact	Co-owned tree, see footnote.
401	pin oak	27	40.5	8.91	65	Codominant	25	70			X	X	PRESERVE	X				X		wire in trunk, decay, cavities, fungus, heavy vines	asymmetric crown, heavy vines, deadwood			No impact	Off site tree, see footnote. Black woody decay fungus observed. Internal decay detected through sounding, extent could not be determine with Level 2 assessment. Off site owner should be notified of tree condition.
402	Norway maple	5	7.5	1.65	50	Intermediate	5	20		X			*OPTION	X					*X		asymmetric crown, poor structure, topped, poorly pruned			No impact	Decline. *Option to remove at applicant discretion.
403	tulip tree	12	18	3.96	70	Codominant	20	50			X		PRESERVE				X			heavy vines	asymmetric crown, poor distribution, heavy vines			No impact	
404	sweet cherry	7	10.5	2.31	40	Intermediate	5	20		X	X		*OPTION						*X	heavy vines	asymmetric crown, heavy vines			No impact	Severe decline, near dead. *Option to remove at applicant discretion.
405	pecan	23	34.5	7.59	70	Codominant	30	70			X		PRESERVE	X			X			heavy vines	heavy vines, major branch decay, deadwood			No impact	
406	sweet cherry	7			0				X				*OPTION						*X					No impact	Dead. *Option to remove at applicant discretion.
407	black locust	13	19.5	4.29	25	Suppressed	10	40		X			*OPTION						*X	lean, decay, cavities, unsound wood	asymmetric crown, heavy vines, major branch decay			No impact	Severe decline. Tree uprooted and leaning on tree #405. Leans toward interior of site. *Option to remove at applicant discretion.
408	northern catalpa	8	12	2.64	25	Intermediate	5	30		X			*OPTION						*X	topped	topped			No impact	Severe decline, near dead. *Option to remove at applicant discretion.
409	black walnut	9	13.5	2.97	70	Intermediate	10	70				X	PRESERVE	X							heavy vines, broken branch			No impact	Off site tree, see footnote.
410	black walnut	14	21	4.62	70	Codominant	20	60			X		PRESERVE	X			X			heavy vines	asymmetric crown, heavy vines			No impact	
411	black walnut	17	25.5	5.61	70	Codominant	20	60			X		PRESERVE	X			X			heavy vines	asymmetric crown, heavy vines			No impact	
412	black cherry	12	18	3.96	65	Codominant	15	50			X	X	PRESERVE	X			X			heavy vines	asymmetric crown, heavy vines			No impact	Co-owned tree, see footnote.
413	white mulberry	8,5	13.5	2.97	70	Intermediate	15	70					PRESERVE	X			X			multiple leaders, weak crotch	heavy vines			No impact	

TREE PRESERVATION CONSULTANTS, LLC
(O)703.349.6608 ● (C)540.631.4417 ● (F)703.652.2524
61 CRICKETS LANE ● LINDEN VA, 22642
www.treepreservationconsultants.com

117 Courthouse Rd SW

117 Courthouse Rd SW
Vienna, VA 22180
Town of Vienna Hunter Mill District

Tree Protection Plan/Notes
20-Year Canopy Exhibit/Table
Tree Planting Plan

TREE PRESERVATION CONSULTANTS
BRIAN A. HOWARD
ISA CERTIFIED ARBORIST
MA 4677A
CONSULTING ARBORIST

SHEET: 16 OF 18

SCALE: 1" = 20'

DATE: October 2020

DRAWN BY: TPC LLC

BASELAYER INFO BY:
DM Jordan

TREE INVENTORY - 117 Courthouse Rd SW

Tree #	Species	Size	CRZ	SRZ	Condition	Canopy Position	Crown Radius	Crown Density	* Dead Tree	* Poor Condition	*Assessment obscured	* Off Site/Co-Owned	Status	*Tree Protection Fence	*Root Prune	* Prune	* Remove vines	*Monitor/Risk Assess	*Hand Removal	Root Problems	Trunk Problems	Scaffold Branch Problems	Small Branch and Twig Problems	TRZ impacts (typical root zone)	Notes
		dbh	Critical Root Zone (radius ft)	Structural Rooting Zone (radius ft)	%		Avg. Radius (ft)	%																	
414	boxelder	9	13.5	2.97	70	Intermediate	15	60					PRESERVE	X							asymmetric crown, poor form			No impact	
415	northern catalpa	7	10.5	2.31	60	Intermediate	5	40					PRESERVE	X						poor form	asymmetric crown, poor distribution, poorly pruned			No impact	
416	Siberian elm	27	40.5	8.91	55	Codominant	15	30			X		*OPTION						*X	decay, heavy vines	asymmetric crown, poor distribution, major branch decay, deadwood, heavy vines	poor vigor, dieback	dieback	No impact	Decline. *Option to remove at applicant discretion.
418	sweet cherry	6	9	1.98	60	Intermediate	10	60			X		*OPTION						*X	decay, unsound wood, heavy vines	asymmetric crown, poor distribution, major branch decay, heavy vines			No impact	Decline. *Option to remove at applicant discretion.
419	sassafras	20	30	6.6	70	Codominant	20	60			X		PRESERVE	X			X			heavy vines	asymmetric crown, poor distribution, heavy vines, decay			No impact	
420	blackgum	8	12	2.64	50	Intermediate	15	40		X		X	PRESERVE	X						decay, cavities, unsound wood	asymmetric crown, poor distribution, heavy vines	poor vigor		No impact	Decline. Off site tree, see footnote.
421	black walnut	41	61.5	13.53	80	Intermediate	40	80					PRESERVE	X						multiple leaders	major branch decay, deadwood			No impact	
422	Siberian elm	24	36	7.92	45	Codominant	20	20		X			REMOVE						X	multiple leaders	major branch decay, deadwood	poor vigor, dieback	dieback	No impact	Severe decline. Removal is recommended.
423	apple species	7,6	13.5	2.97	65	Intermediate	10	40					PRESERVE	X						basal decay, decay, unsound wood	asymmetric crown, poor distribution	dead twigs		No impact	
424	black walnut	33	49.5	10.89	85	Codominant	35	80					REMOVE								deadwood			Inside LOD	
425	sweet cherry	9	13.5	2.97	80	Intermediate	10	80			X	X	***REMOVE**						*X	heavy vines				41%	Impact within SRZ. Removal is recommended. Co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission.
426	pear	10	15	3.3	60	Intermediate	10	60					REMOVE							basal decay	asymmetric crown, major branch decay, deadwood	dead twigs, poor vigor, dieback	dieback	Inside LOD	Decline.
427	Norway spruce	24	36	7.92	80	Codominant	20	70			X	X	***REMOVE**						*X	heavy vines	heavy vines, deadwood			48%	Impact within SRZ. Removal is recommended. Possible, co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission or final determination of ownership.
428	red maple	22	33	7.26	80	Codominant	20	80					REMOVE							multiple leaders, included bark		dead twigs		Inside LOD	
429	pecan	18,14	34.5	7.59	75	Codominant	20	80					REMOVE							multiple leaders, included bark	deadwood	dead twigs		Inside LOD	
430	eastern white pine	11	16.5	3.63	65	Intermediate	10	80			X	X	***REMOVE**						*X	basal decay, fungus, heavy vines				44%	Impact within SRZ. Removal is recommended. Co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission.
431	red maple	11	16.5	3.63	75	Intermediate	20	70			X	X	PRESERVE	X						heavy vines	asymmetric crown			5%	Off site tree, see footnote. RP not recommended.
432	white oak	53	79.5	17.49	60		45	80				X	***REMOVE**							decay, cavities, unsound wood, metal in trunk	major branch decay, deadwood, conflicting branches			Inside LOD	Significant trunk decay cavity observed through sounding and probing. Open cavity is 10% of trunk circumference, cavity extends at least 4' into trunk and is extensive. Total extent of decay not determined with Level 2 inspection. Possible elevated risk tree. Removal is recommended. Co-owned tree, see footnote. **DO NOT REMOVE** without co-owner permission.
433	American elm	6	9	1.98	75	Intermediate	15	50			X	X	***REMOVE**							heavy vines	asymmetric crown, poor distribution			Inside LOD	Off site tree, see footnote. **DO NOT REMOVE** without off site owner permission.
434	flowering dogwood	4	6	1.32	50	Understory	5	30		X	X		REMOVE							heavy vines, poor form	asymmetric crown, poor distribution, heavy vines	poor vigor		Inside LOD	Decline.
435	flowering dogwood	4	6	1.32	70	Understory	10	50			X		REMOVE							heavy vines	asymmetric crown, poor distribution, heavy vines			Inside LOD	
436	flowering dogwood	8	12	2.64	85	Intermediate	15	80					REMOVE									dead twigs		Inside LOD	
437	flowering dogwood	6	9	1.98	80	Intermediate	15	70					REMOVE								asymmetric crown	dead twigs		Inside LOD	
438	flowering dogwood	8	12	2.64	75	Intermediate	10	70					REMOVE							lean, poor form	deadwood			Inside LOD	
439	flowering dogwood	6	9	1.98	75	Intermediate	10	70					REMOVE							decay, cavities	asymmetric crown			Inside LOD	
440	American holly	8	12	2.64	80	Intermediate	10	80			X		REMOVE							heavy vines	heavy vines			Inside LOD	
441	magnolia species	12,11	24	5.28	80	Intermediate	20	70			X		REMOVE							multiple leaders, included bark, sapsucker, heavy vines	asymmetric crown			Inside LOD	
442	weeping cherry	15,14,12	36	7.92	60	Codominant	25	70					REMOVE							decay, cavities, multiple leaders, included bark, unsound wood	major branch decay, deadwood	dead twigs, poor vigor, dieback	dieback	Inside LOD	Decline.
443	pear	19	28.5	6.27	60	Codominant	20	70					REMOVE							multiple leaders, multiple weak crotches	major branch decay, deadwood, multiple weak crotches	poor vigor, dieback	dieback	Inside LOD	Decline.
444	pear	14	21	4.62	50	Codominant	10	30		X			REMOVE							multiple leaders, multiple weak crotches	asymmetric crown, major branch decay, deadwood	poor vigor, dieback	dieback	Inside LOD	Decline.
445	black walnut	20	30	6.6	80	Codominant	30	70					REMOVE								deadwood			Inside LOD	
446	apple species	9,8	18	3.96	45	Isolated	5	20		X			*OPTION						*X	decay, unsound wood	major branch decay, deadwood	poor vigor, dieback	dieback	No impact	Severe decline. *Option to remove at applicant discretion.
447	apple species	7,4,4	13.5	2.97	45	Isolated	5	60		X			*OPTION						*X	decay, unsound wood	major branch decay, deadwood	poor vigor, dieback	dieback	No impact	Severe decline. *Option to remove at applicant discretion.
448	American holly	10	15	3.3	85	Intermediate	10	80					REMOVE											Inside LOD	
449	eastern white pine	9			0				X				REMOVE						X					On/Inside LOD	Dead.
450	eastern white pine	21	31.5	6.93	70	Codominant	25	70			X		REMOVE						X	heavy vines	asymmetric crown, poor structure, heavy vines, broken branch, deadwood			45%	Impact within SRZ. Removal is recommended.
451	green ash	10			0				X				REMOVE						X						Dead.
452	eastern white pine	12	18	3.96	70	Intermediate	15	60					REMOVE						X	poor form	asymmetric crown, deadwood, poor form			39%	Impact within SRZ. Removal is recommended.
453	eastern white pine	5	7.5	1.65	50	Suppressed	5	20		X	X		*OPTION						*X	heavy vines, poor form	heavy vines, asymmetric crown, poor distribution	poor vigor, dieback	dieback	No impact	Severe decline. *Option to remove at applicant discretion.
454	eastern white pine	22	33	7.26	70	Codominant	20	60			X		PRESERVE	X	X		X			heavy vines, poor structure	asymmetric crown, poor distribution, heavy vines			16%	
455	eastern white pine	8	12	2.64	65	Intermediate	10	50			X		REMOVE							heavy vines	asymmetric crown, poor distribution, heavy vines				
456	eastern white pine	6	9	1.98	65	Intermediate	5	40			X		REMOVE							heavy vines	asymmetric crown, poor distribution, heavy vines				
457	flowering dogwood	4	6	1.32	65	Understory	10	70					REMOVE							decay, cavities	asymmetric crown				
458	pecan	34	51	11.22	50	Dominant	25	30		X	X		REMOVE							decay, unsound wood, unsound bark, heavy vines	major branch decay, deadwood, heavy vines, multiple defects	poor vigor	dieback		Severe decline.
459	black locust	5	7.5	1.65	70	Intermediate	10	60			X		PRESERVE				X			heavy vines	asymmetric crown, poor distribution, heavy vines			No impact	

dbh = Diameter at Breast Height (measured 4.5 feet above ground).

CRZ = Critical Root Zone = 1.5 foot radius per inch of tree diameter. TRZ values for trees with multiple stems were calculated using the diameter of a tree with the basal area equivalent to the sum of the basal areas for all stems.

SRZ = Structural Rooting Zone = dbh (inches) x 0.33. Estimated area containing tree roots that must be protected to ensure tree structural stability. Impact/root loss within SRZ may result in severe decline, compromised structure or whole tree failure.

* CONDITION RATING - provided as percentages based on methods outlined in the 9th edition of the Guide for Plant Appraisal, published by the International Society of Arboriculture.

* DEAD TREE - tree is dead or near dead and will likely not survive long term. No tree canopy credit taken.

* POOR CONDITION TREE - Tree has been assessed with condition of < 40 or Arborist has determined that tree will likely not survive long term due to poor health, structure or other contributing factors.

*ASSESSMENT OBSCURED - Proper assessment of root flare, trunk, scaffold branches and leaf/twigs obscured by presence of heavy vines, limited access, or similar obstacle. Condition of these trees is estimated and if preserved may require additional assessment or arboricultural treatments.

* OFF SITE/CO-OWNED TREE - Tree is either off site or co-owned or definitive ownership could not be determined during initial tree inventory. Ownership shall be determined during pre-construction phase of development. Removal or arboricultural treatment of off site or co-owned trees is prohibited without written permission from landowner. TPC LLC is not responsible for final ownership determination. Location and diameter measurements are "estimated" and the trees condition "assessed visually" from proposed development site.

TREE PRESERVATION ACTIVITES

*TREE PROTECTION FENCING - see tree preservation notes and tree protection fencing details.

* ROOT PRUNING - Trees shall be root pruned where indicated on plan sheets. See tree preservation notes and root pruning detail.

* MULCHING - Chips or shredded hardwood mulch from clearing operation may be used. Mulch to be spread where root pruning has occurred to a depth of 4 inches extending 10 feet into the tree save area. See tree preservation notes and mulching detail.

* PRUNE - Prune tree for health & maintenance. Deadwood prune dead, dying or diseased branches 2" in diameter or greater. All pruning work performed shall meet or exceed industry standards as most recently published by American National standards institute (ANSI A300).

* VINE REMOVAL - Removal of vines that impact roots, trunk, or canopy. Vines impacting roots/trunk shall be cut at base of tree and 4' section removed from trunk. Vines impacting tree canopy shall be cut free of canopy. Care shall be taken not to damage tree trunk, bark or crown branches. Vines remaining on trunk or tangled in crown should be left in place to die naturally.

* MONITOR/RISK ASSESSMENT - Tree to be impacted by construction or exhibits pre-existing condition that may present elevated risk of decline or failure in the future. Tree should be evaluated by certified Arborist post construction and inspected long term on a bi-annual basis.

* HAND REMOVAL - Trees to be removed within tree save areas or directly adjacent to but within the limits of clearing and grading shall be felled by hand with a chain saw. Stumps shall remain in place or shall be ground out. See tree preservation notes.

*RISK ASSESSMENTS - No formal risk assessment were performed on trees included within this tree inventory or any other trees located on or adjacent to the subject property.

Tree Survey Information Completed by Tree Preservation Consultants, LLC - Arborist Brian Howard - ISA #MA-4677A

TREE PRESERVATION CONSULTANTS, LLC
(O)703.349.6608 ● (C)540.631.4417 ● (F)703.652.2524
61 CRICKETS LANE ● LINDEN VA, 22642
www.treepreservationconsultants.com

117 Courthouse Rd SW

117 Courthouse Rd SW
Vienna, VA 22180
Town of Vienna Hunter Mill District

Tree Protection Plan/Notes
20-Year Canopy Exhibit/Table
Tree Planting Plan

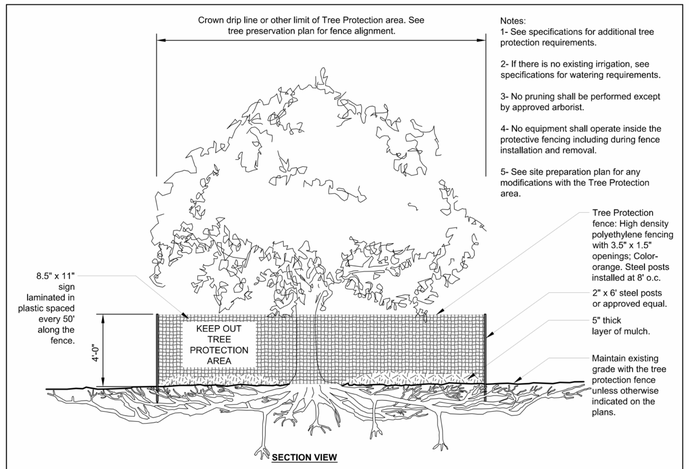
TREE PRESERVATION CONSULTANTS
BRIAN A. HOWARD
ISA CERTIFIED ARBORIST
MA 4677A
CONSULTING ARBORIST

SCALE: 1" = 20'

DATE: October 2020

DRAWN BY: TPC LLC

BASELAYER INFO BY:
DM Jordan



Notes:
1- See specifications for additional tree protection requirements.

2- If there is no existing irrigation, see specifications for watering requirements.

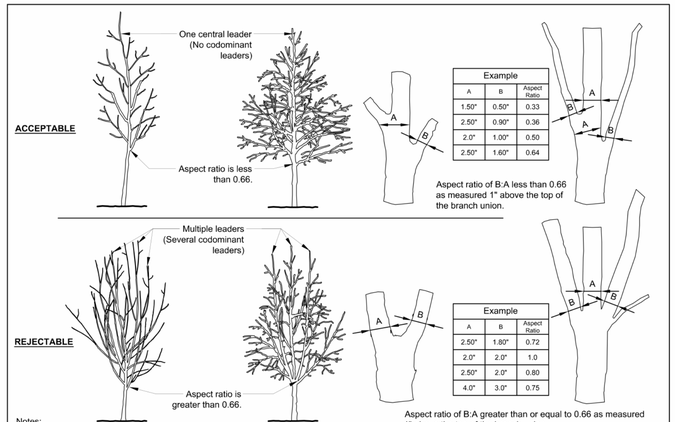
3- No pruning shall be performed except by approved arborist.

4- No equipment shall operate inside the protective fencing including during fence installation and removal.

5- See site preparation plan for any modifications with the Tree Protection area.

S-X TREE PROTECTION

URBAN TREE FOUNDATION © 2014
OPEN SOURCE FREE TO USE



Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64

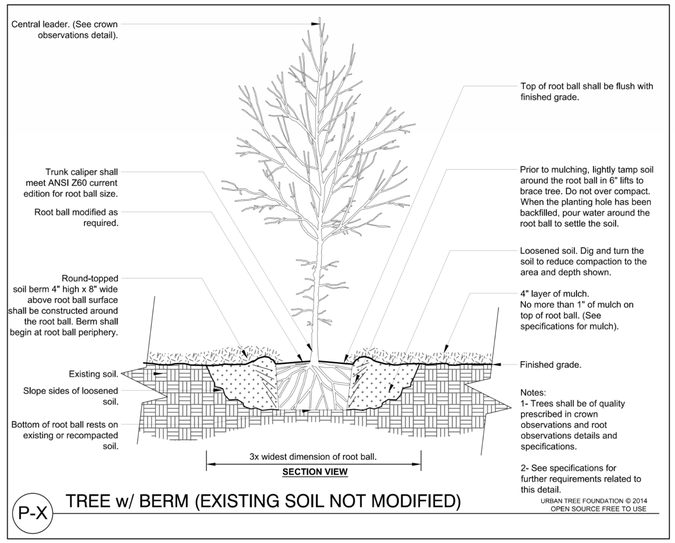
Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75

Notes:
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.

P-X CROWN OBSERVATIONS - HIGH BRANCHED

URBAN TREE FOUNDATION © 2014
OPEN SOURCE FREE TO USE



Notes:
1- Tree shall be of quality prescribed in crown observations and root observations details and specifications.

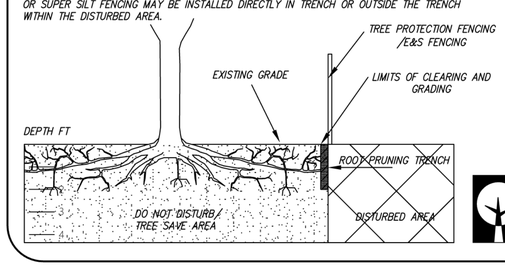
2- See specifications for further requirements related to this detail.

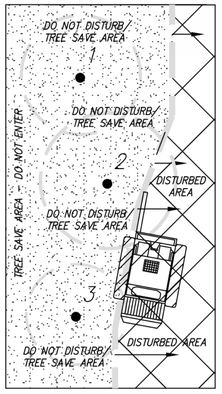
P-X TREE w/ BERM (EXISTING SOIL NOT MODIFIED)

URBAN TREE FOUNDATION © 2014
OPEN SOURCE FREE TO USE

ROOT PRUNING DETAIL:

1. ROOT PRUNING SHALL BE COMPLETED PRIOR TO: TREE PROTECTION FENCING INSTALLATION, E&S CONTROL INSTALLATION OR GRUBBING OF STUMPS ALONG THE LIMITS OF CLEARING & GRADING. IF VEGETATION MUST BE REMOVED TO GAIN ACCESS TO TRENCHING LOCATIONS ALL CLEARING SHALL BE DONE BY HAND UNDER SUPERVISION OF PROJECT ARBORIST.
2. FINAL TRENCH LOCATION SHALL BE FIELD LOCATED BY PROJECT ARBORIST. MINOR ADJUSTMENTS MAY BE MADE AT THIS TIME TO INCREASE SURVIVABILITY OF TREES TO BE PRESERVED.
3. METHOD OF EXCAVATION SHALL BE DETERMINED ON SITE BY PROJECT ARBORIST.
4. TRENCH MAY BE EXCAVATED USING A SINGLE OR COMBINATION OF THE FOLLOWING METHODS: AIR EXCAVATION, HAND DIGGING, WALK BEHIND TRENCHER (see note 5) OR RUBBER TRACK BOBCAT WITH TRENCHER ATTACHMENT (see note 5).
5. WALK BEHIND TRENCHER OR BOBCAT SHALL OPERATE WITHIN THE APPROVED LIMITS OF CLEARING AND GRADING AT ALL TIMES (see overhead diagram).
6. TRENCH SHALL BE 4 – 6 INCHES WIDE AND 18–24 INCHES DEEP.
7. EXPOSED ROOTS 1" DIAMETER AND GREATER WILL BE CUT CLEAN AT THE SOIL LINE WITH A SHARP HAND PRUNER ALONG ENTIRE TRENCH.
8. TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL IMMEDIATELY. IF REQUIRED, SILT FENCING OR SUPER SILT FENCING MAY BE INSTALLED DIRECTLY IN TRENCH OR OUTSIDE THE TRENCH WITHIN THE DISTURBED AREA.





TREE PRESERVATION CONSULTANTS, LLC
(O)703.349.6608 • (C)540.631.4417 • (F)703.652.2524
61 CRICKETS LANE • LINDEN VA, 22642
www.treepreservationconsultants.com

Planting Schedule, 20-Yr Canopy Credits - 117 Courthouse Rd SW

Qty	Key	Genus	Species	Variety	Common Name	Planting Size Caliper (in.)	Spacing	Remarks	Canopy Coverage Allowance (ft^2)	Total Canopy Provided (ft^2)	
1	QB	*Quercus*	*bicolor*		Swamp white oak	2- 2.5"	30' min. o.c.	B&B	300		300
1	UA	*Ulmus*	*americana*	'Princeton', 'Liberty', 'Valley Forge', 'Delaware #2', 'New Harmony', 'Washington'	American Elm	2- 2.5"	30' min. o.c.	B&B	300		300
1	PO	*Plantanus*	*occidentalis*		American Sycamore	2- 2.5"	30' min. o.c.	B&B	300	Bloodgood, Columbia, Liberty	300
3	BN	*Betula*	*nigra*	'Dura-heat', 'Heritage'	River Birch	2- 2.5"	20' min. o.c.	B&B	200		600
2	AA	*Amelanchier*	*arborea*		Downy Serviceberry	2- 2.5"	15' min. o.c.	B&B	100		200
2	CC	*Cercis*	*canadensis*		Eastern Redbud	2- 2.5"	15' min. o.c.	B&B	100		200
2	CV	*Chionanthus*	*virginicus*		White Fringe Tree	2- 2.5"	15' min. o.c.	B&B	100		200
										Total canopy proposed (planting) = ft²	2100
										Total canopy proposed (tree preservation) = ft²	15035
										Total canopy provided (planting + preservation) = ft²	17135

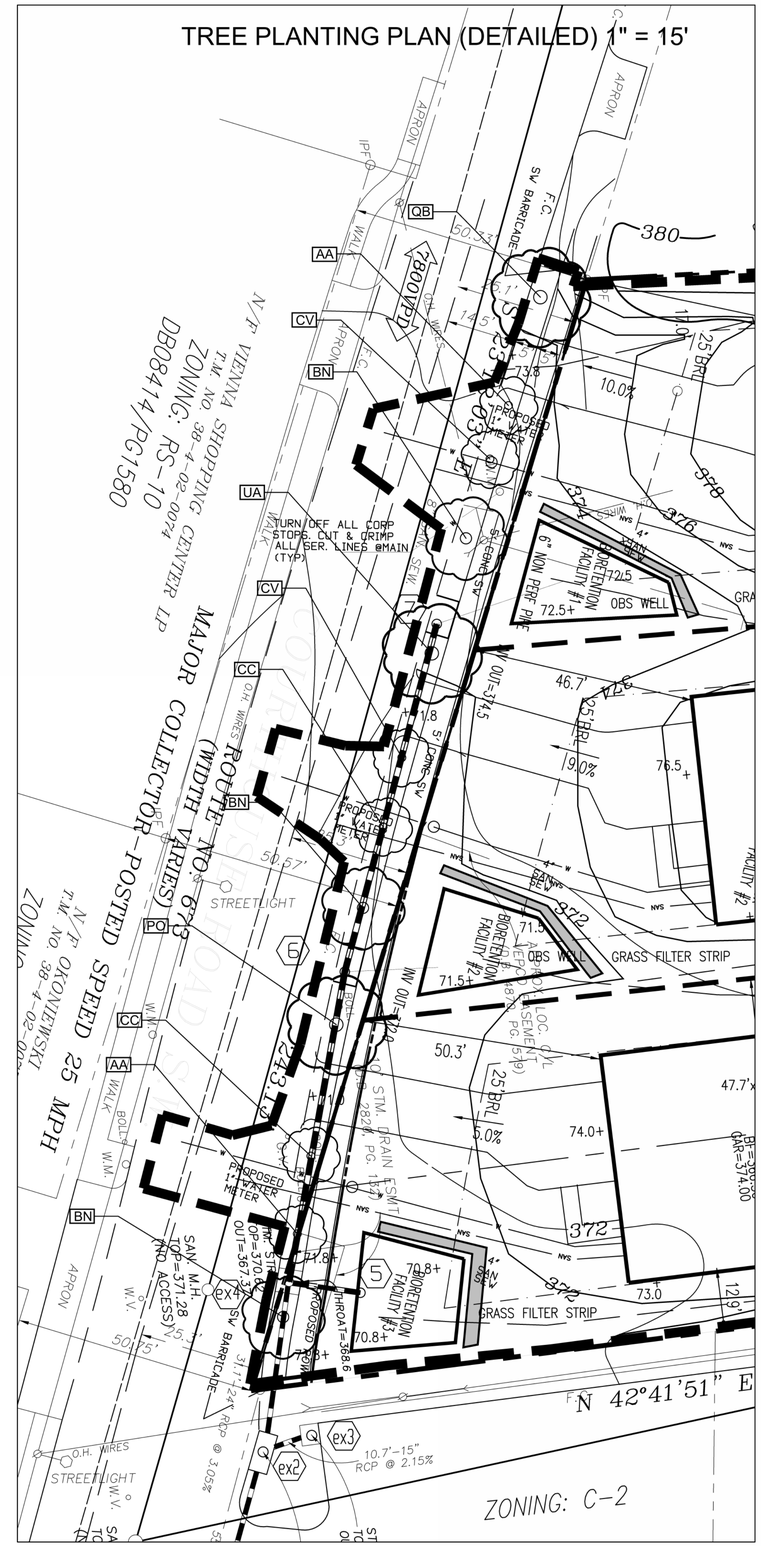
GENERAL PLANTING NOTES:

1. No plantings shall be installed until all grading is completed.
2. Landscape contractor to verify all utilities on property and to protect all utilities during planting operations. Call utility location service before digging.
3. Landscape materials shall be generally located as depicted on the tree planting plan.
4. The sizes specified in planting schedule are the minimum acceptable sizes. Tree and shrub crowns shall be well branched with form typical of the species.
5. Planting holes shall be back filled with native soil resulting from planting operations following removal of all stones, roots, and other debris greater than 40mm (1-1/1") diameter.
6. Plants shall be free from disease, defects and insect infestations.
7. The landscaping contractor shall be responsible for the replacement of non-surviving/dead tree and shrubs during the care and replacement period of (12 months from the substantial completion of the planting work, unless otherwise specified in the contract) or until final acceptance by client.
8. All soil excavation and installation adjacent to existing forest conditions "i.e. tree save areas" shall not disturb or damage existing tree root systems.
9. Staking and guying should only be implemented where site conditions warrant their use. Planted trees should be assessed individually and staking and guying installed only as required. Conditions where staking and guying may be necessary to ensure stability include: windy locations, steep slopes, or where vandalism may be a concern. All staking and guying material must be removed within one year of plant installation.
10. Tree shall be planted per provided "tree with berm (existing soil not modified).

TOWN OF VIENNA, VA PLANTING NOTES:

1. Newly planted trees shall be healthy and vigorous, and meet ANSI Z60.1 "American Standard for Nursery Stock". All newly installed trees that are required by the Tree Conservation Plan, which in the opinion of the Town Arborist are dead or are not healthy, shall be replaced by the contractor.
2. New plantings shall be a minimum of 2.0"-2.5" caliper for deciduous trees and 6'-8' height for evergreens.
3. Deer protection fencing shall be installed around newly planted trees.
4. A minimum of TWO different tree species is required when planting 3-5 new trees on site. A minimum of THREE different tree species is required for 6-9 new trees installed on site. A minimum of FOUR different tree species is required for 10+ new tree planting.
5. Large shade trees shall be installed no closer than 30' on center. Medium shade trees and medium evergreen trees shall be installed no closer than 20' on center. Small ornamental and small evergreen trees shall be installed no closer than 15' on center.
6. Plantings shall be installed only within the following listed planting seasons. Any tree planted outside these dates will be rejected by the Town Arborist upon inspection.
   - Spring Planting Season: March 15 – May 30
   - Fall Planting Season: September 15 - November 30
7. A planting season waiver is required for trees/shrubs that must be installed outside of the accepted planting season to meet canopy coverage or other requirements as specified in the approved plans for final occupancy. Consideration and approval of a planting season waiver shall be at the discretion of the Town Arborist of his/her designee.
8. If a planting season waiver is granted, the applicant shall post a bond (cash or surety) that covers any tree plantings required for canopy coverage on the site.
   - Applicant shall use the current Town of Vienna Tree Preservation and planting Specifications Manual to compute the cost for proposed trees for canopy coverage.
   - If required tree planting are not provided within the following planting season, the owner/applicant will be notified and the entire bond will be forfeited to the Town of Vienna.
   - The Town will use the bond money to complete required tree planting. Any additional charges for completing the plantings shall be borne by the applicant. Bond will be released upon a passing inspection by the Town Arborist.

TREE PLANTING PLAN (DETAILED) 1" = 15'



TREE PLANTING PLAN (DETAILED) 1" = 15'

TREE PRESERVATION CONSULTANTS, LLC
(O)703.349.6608 • (C)540.631.4417 • (F)703.652.2524
61 CRICKETS LANE • LINDEN VA, 22642
www.treepreservationconsultants.com

117 Courthouse Rd SW

117 Courthouse Rd SW
Vienna, VA 22180
Town of Vienna Hunter Mill District

Tree Protection Plan/Notes
20-Year Canopy Exhibit/Table
Tree Planting Plan

BRIAN A. HOWARD
ISA CERTIFIED ARBORIST
MA 4677A
TREE PRESERVATION CONSULTANTS
CONSULTING ARBORIST

SHEET: 18 OF 18
SCALE: 1" = 20'
DATE: October 2020
DRAWN BY: TPC LLC
BASELAYER INFO BY:
DM Jordan