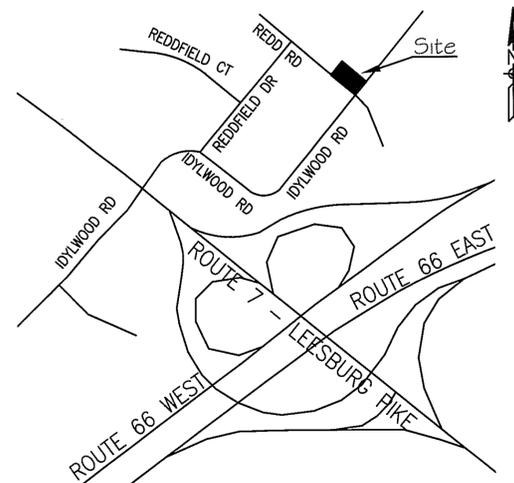


MID PIKE SUBDIVISION LOT 82 BLOCK 1 DRANESVILLE DISTRICT #1 FAIRFAX COUNTY, VIRGINIA GENERALIZED DEVELOPMENT PLAN REZONING & SUBDIVIDING RZ 2012-0147 7250 IDYLWOOD ROAD FALLS CHURCH, VA 22043

APPLICANT: CHRISTOPHER AND KAREN BARTH
7250 IDYLWOOD ROAD,
FALLS CHURCH, VA 22043

PREPARED BY: ADVANCE ENGINEERING GROUP, LLC
701 W BROAD ST, SUITE 306
FALLS CHURCH, VA 22046
703-533-1581

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Application No: RZ 2012-0147 Staff: M. Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)
 SEE PROFFERS DATED: 12/20/12
 Date of (BOS) (PC) Approval: 1/8/13
 Sheet: 1 of 14
 Comments: Option A (see proffer 1A)

RECEIVED
Department of Planning & Zoning
OCT 09 2012
Zoning Evaluation Division

Advance Engineering Group LLC.
Civil, Structural & Geotechnical Engineers / Planners
701 W Broad St Suite 306, Falls Church VA 22046
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MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3-(1) - 0062

PROJECT MANAGER	A.E.F.	APPLICANT NO.
PROJECT NO.	11-VA-824	
ENG. OF RECORD	A.E.F.	
ISSUE DATE	4-23-2012	



SEAL

REMARKS	BY	DATE	NO.
PER CITY COMMENTS	A.E.F.	8-07-12	△
PER CITY COMMENTS	A.E.F.	9-26-12	△

824
CO-1
SHEET 1 OF 7

GENERAL NOTES:

THE PROPERTY DELINEATED ON THESE PLANS IS LOCATED ON FAIRFAX COUNTY TAX ASSESSMENT MAP NUMBER 40-3 (011) 0082. THE SITE IS CURRENTLY ZONED R-2, THE PROPOSED ZONING IS R-3.

- BOUNDARY INFORMATION OBTAINED FROM CERTIFIED SURVEY BY DOMINION SURVEYS DATED NOV16-2010.
- TOPOGRAPHIC INFORMATION OBTAINED FROM FIELD RUN TOPOGRAPHIC SURVEY WITH TOTAL STATION PREPARED BY ADVANCE ENGINEERING GROUP, LLC. ON DEC-13-2011 TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 116.4, 302.4 AND 356; WASTE MANAGEMENT VR 672-10-1 - VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATION; AND /OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40 CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED, AND /OR DISPOSED OF ON SITE.
- THE PROPERTY IS LOCATED ON HC ZONING OVERLAY DISTRICT.
- THERE ARE NO AFFORDABLE DWELLING UNITS (ADU) REQUIRED OR PROPOSED FOR THIS PROJECT.
- NO DENSITY REDUCTIONS ARE REQUIRED BY ZONING SECTION 2-308.
- THERE ARE NO PROPOSED RECREATION FACILITIES PROPOSED FOR THIS DEVELOPMENT.

SITE TABULATIONS:

SITE AREA = 40,591.5 SF = 0.932 ACRES
 ADJUSTED SITE AREA = 36,341.5 SF = 0.830 ACRES
 EXISTING ZONE = R-2 RESIDENTIAL
 PROPOSED ZONE = R-3 RESIDENTIAL

BULK REGULATION (R-3 ZONING DISTRICT)

	REQUIRED	PROVIDED	
		LOT 1	LOT 2
NUMBER OF UNITS:		1 SFD DWELLING UNIT (EXIST)	1 SFD DWELLING UNIT (NEW)
DENSITY:	3 DU/AC (MAX)	2.42	2.15
MINIMUM LOT AREA:	10,500 SF	18045.5 SF	20,296.50 SF
AVERAGE LOT AREA:	11,500 SF	19170.75	
MINIMUM LOT WIDTH:	INTERIOR LOT - 80'	NA	135.3
	CORNER LOT - 105'	120.30	NA
MAX BUILDING HEIGHT:	35'	27' (EXIST)	30' (PROF)
SET BACKS:			
FRONT YD	30	37.61' TO REDD RD RAW 30.50' TO IDYLWOOD RAW	38.00' (PROF)
REAR YD	25	NA (CORNER LOT)	74.06' (PROF)
SIDE YD	12	30.50' (PROF)	16.00' TO LOT 20 + 44.94' TO LOT 1
OPEN SPACE:	NR	NA	NA
PARKING:	2 SPACES PER DU	2 SPCS	2 SPCS
LOT SHAPE FACTOR:		16.20	16.04

- *NOTES:
 1.- ADJUSTED AREA FOR LOT #1 SHOWN IS AFTER 2550.00 SF OF LAND DEDICATION FOR PUBLIC SIDEWALK
 2.- SETBACKS SHOWN FOR LOTS #1 AND #2 ARE RELATED TO THE PROPOSED NEW LOT LINE OR EXISTING AND AFTER LAND DEDICATION ALONG IDYLWOOD RD.

ADDITIONAL NOTES

- TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS WASTE EXISTS ON THIS SITE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CEMETERIES ON THIS PROPERTY.
- THIS SITE IS LOCATED WITHIN THE PIMMIT RUN WATERSHED SLOPES OVER 15%

R.P.A	[] YES	[X] NO
R.M.A	[] YES	[X] NO
OVERLAY DISTRICT (WATER SUPPLY)	[] YES	[X] NO
WETLANDS	[] YES	[X] NO
FLOODPLAIN	[] YES	[X] NO
- THE PROPERTY DELINEATED ON THIS PLAN IS NOT ON THE 100 YEARS FLOOD PLAIN.
- TO THE BEST OF OUR KNOWLEDGE THERE IS NO KNOWN ARCHEOLOGICAL SITES ON THIS PROPERTY.
- THE PROPERTY DELINEATED ON THIS PLAN IS NOT LOCATED WITHIN A RESOURCE PROTECTION AREA AS SHOWN ON CHESAPEAKE BAY PRESERVATION AREA MAP (MAP APA-2).
- THIS LOT RECORDED PRIOR TO AUGUST 1, 1978 AND AS SUCH IS NOT REQUIRED TO MEET CURRENT LOT WIDTH AND SIZE REQUIREMENTS UNDER FAIRFAX COUNTY ZONING ORDINANCE, ARTICLE 2-405.
- THIS PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.

PROFFERED OR CONDITIONED SITE:	[] YES	[] NO SPECIAL EXCEPTION
WATER SUPPLY	[X] PUBLIC	[] WELL
SEWER SERVICE	[X] PUBLIC	[] PRIVATE
- THE PROPOSED DEVELOPMENT CONFORMS WITH THE PROVISIONS OF ARTICLE 3, FOR R3 PROPOSED ZONING DISTRICT AND ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS. NO WAIVERS, VARIANCES, SPECIAL EXCEPTIONS, NOR PFM MODIFICATIONS ARE REQUESTED IN ASSOCIATION WITH THIS PROPOSED DEVELOPMENT
- THERE ARE NO PROPOSED PUBLIC IMPROVEMENT PLANS CONTEMPLATED FOR THIS DEVELOPMENT
- THE PROPOSED CHANGE FROM R2 TO R3 ZONING DISTRICT IS IN HARMONY WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN WHICH CALLS FOR THIS TYPE OF REDEVELOPMENT. THE PROPOSED PROJECT WILL COMPLY WITH ALL OTHER REQUIREMENTS OF THE COMPREHENSIVE PLAN

WATERSHED = PIMMIT RUN
 TOTAL LAND DISTURBANCE = 34700 SQ FT

GENERALIZED DEVELOPMENT PLAN SUBMISSION CHECKLIST:

- 20 TWENTY-THREE (23) COPIES OF A GENERALIZED DEVELOPMENT PLAN PROVIDED HEREIN WITH APPLICATION.
- ONE 8 1/2" X 11" REDUCTION OF THE PLAN PROVIDED HEREIN WITH APPLICATION.
- A GENERALIZED DEVELOPMENT PLAN, AT A SCALE OR NOT LESS THAN ONE INCH EQUALS ONE HUNDRED FEET (1"=100'), SHALL SHOW THE FOLLOWING:
 - SCALE AND NORTH ARROW, WITH NORTH, TO THE EXTENT FEASIBLE, ORIENTED TO THE TOP OF THE PLAN.
 - SCALE AND NORTH ARROW HAVE BEEN PROVIDED ON PLAN, SEE SHEET 3 OF 7.
 - EXCEPT FOR SINGLE FAMILY DETACHED DWELLINGS, THE APPROXIMATE LOCATION AND DIMENSIONS OF ALL PROPOSED STRUCTURES AND USES, TO INCLUDE THE MAXIMUM HEIGHT IN FEET OF ALL STRUCTURES AND PENTHOUSES, AND A GRAPHIC DEPICTION OF THE ANGLE OF BULK PLANE, IF APPLICABLE.
 - PROPOSED STRUCTURE AND USE INCLUDING MAXIMUM HEIGHT HAS BEEN PROVIDED ON PLANS. SEE SHEET 2 OF 7 (THIS SHEET).
 - THE PROPOSED TRAFFIC CIRCULATION PLAN INCLUDING MAJOR STREETS AND MAJOR PEDESTRIAN, BIKE AND/OR BRIDLE PATHS, AND THE LOCATION OF ALL TRAILS REQUIRED BY THE ADOPTED COMPREHENSIVE PLAN.

PROPOSED DRIVEWAY LOCATION HAS BEEN PROVIDED ON PLANS. TRAILS ARE REQUIRED PER THE FAIRFAX COUNTY TRAILS PLAN. A WAIVER FOR AN 10 FT TRAIL REQUIREMENT ALONG IDYLWOOD IS REQUESTED. THERE IS AN EXISTING JOGGING TRAIL ALONG IDYLWOOD ROAD AND A WIDENING TO 6 FT IS PROPOSED (SEE GENERAL DEVELOPMENT PLAN ON SHEET 3).

A WAIVER OF STREET FRONTAGE IMPROVEMENTS ALONG REDD RD IS REQUESTED.

ALL PROPOSED MAJOR OPEN SPACE AREAS AND THE APPROXIMATE LOCATION OF ALL PROPOSED COMMUNITY AND PUBLIC FACILITIES.
 THERE IS NO OPEN SPACE REQUIREMENT FOR SITE, THEREFORE NO MAJOR OPEN SPACE AREAS HAVE BEEN PROPOSED. THERE ARE NO PROPOSED COMMUNITY OR PUBLIC FACILITIES.

THE PROPOSED PLAN FOR ALL MAJOR SANITARY SEWER IMPROVEMENTS.
 NA NO SANITARY IMPROVEMENTS WITHIN THE RAW PROPOSED.

APPROXIMATE LOCATION, ESTIMATED SIZE OF FOOTPRINT IN ACRES AND TYPE OF ALL PROPOSED STORMWATER MANAGEMENT FACILITIES, INCLUDING THE FULL EXTENT OF SIDE SLOPES, EMBANKMENTS, SPILLWAYS, DAMS, AND APPROXIMATE WATER SURFACE ELEVATION FOR DESIGN STORMS, IF ATTACHABLE. IN ADDITION, A PRELIMINARY STORMWATER MANAGEMENT PLAN THAT INCLUDES INFORMATION ABOUT THE ADEQUACY OF DOWNSTREAM DRAINAGE, INCLUDING THE SUFFICIENCY OF CAPACITY OF ANY STORM DRAINAGE, PIPES, AND OTHER CONVEYANCES INTO WHICH STORMWATER RUNOFF WILL BE CONVEYED. WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY ON THE ENTIRE APPLICATION PROPERTY, IN ADDITION TO THE ABOVE, THE PRELIMINARY STORMWATER MANAGEMENT PLAN SHALL INCLUDE:

- A GRAPHIC DEPICTING INFORMATION AS DESCRIBED WITHIN DETAILED APPLICATION CHECKLIST.
- A PRELIMINARY STORMWATER MANAGEMENT NARRATIVE SETTING FORTH THE REQUIRED INFORMATION WITHIN THE DETAILED APPLICATION CHECKLIST.

STORM WATER OUTFALL ANALYSIS AND BMP CALCULATIONS FOR PROPOSED INFILTRATION TRENCHES HAVE BEEN PROVIDED, SEE SHEETS 4 OF 7 AND 5 OF 7 INCLUDING THE CHECKLIST.

THE LOCATION OF ALL EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE AND ALL MAJOR UNDERGROUND UTILITY EASEMENTS REGARDLESS OF WIDTH.

IN APPLICANTS KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH TWENTY-FIVE (25) FEET OR GREATER.

A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED BY THE PROVISIONS OR ARTICLE 11 OF THE ZONING ORDINANCE.

A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED HAS BEEN PROVIDED. SEE SHEET 2 OF 7 (THIS SHEET).

WHETHER IT IS AIR SURVEYOR FIELD RUN.

TOPOGRAPHIC INFORMATION PROVIDED ON SHEETS 3 OF 7 AS PREPARED BY A FIELD RUN SURVEY COMPLETED BY AEG GROUP, LLC (SEE NOTE ON THIS SHEET).

A DELINEATION OF THOSE GENERAL AREAS THAT HAVE SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION, AND A STATEMENT OF HOW SUCH WILL BE ACCOMPLISHED.

IN THE APPLICANTS OPINION. THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION.

A STATEMENT OR VISUAL PRESENTATION OF HOW ADJACENT AND NEIGHBORING PROPERTIES SHALL BE PROTECTED FROM ANY ADVERSE EFFECTS PROMPTED BY THE PROPOSED DEVELOPMENT, TO INCLUDE VEHICULAR ACCESS PLANS AND DIMENSIONS OF ALL PERIPHERAL YARDS THAT WILL BE PROVIDED.

ALL REQUIRED PERIPHERAL YARDS FOR PROPOSED STRUCTURES AND DRIVEWAYS HAVE BEEN PROVIDED IN ACCORDANCE WITH THE BULK REGULATIONS SET FORTH IN SECTION 3-207 OF THE FAIRFAX COUNTY ZONING ORDINANCE. SEE SHEET 3 OF 7.

A DELINEATION OF ALL EXISTING STRUCTURES, AND AN INDICATION OF THEIR DATE OF CONSTRUCTION IF KNOWN, AND WHETHER THEY WILL BE RETAINED OR DEMOLISHED.

EXISTING DWELLING CONSTRUCTED CIRCA 1940 IS TO REMAIN THE DETACHED GARAGE WILL BE DEMOLISHED..... SEE SHEET 3 OF 7.

A STATEMENT SETTING FORTH THE MAXIMUM GROSS FLOOR AREA AND FAR PROPOSED FOR ALL USES OTHER THAN RESIDENTIAL.

NA NO FAR REQUIREMENTS FOR RESIDENTIAL DEVELOPMENT.

A STATEMENT OR PRESENTATION SETTING FORTH THE MAXIMUM NUMBER OF DWELLING UNITS PROPOSED, AND THE DENSITY AND THE OPEN SPACE CALCULATIONS BASED ON THE PROVISIONS OF SECTIONS 2-308 (MAXIMUM DENSITY) AND 2-309 (OPEN SPACE) OF THE ZONING ORDINANCE.

A TABLE SHOWING MAXIMUM DWELLING UNITS PER ACRE IS SHOWN ON THIS SHEET.

A STATEMENT OF THOSE SPECIAL AMENITIES THAT ARE PROPOSED WITHIN THE DEVELOPMENT.

THERE ARE NO SPECIAL AMENITIES THAT ARE PROPOSED ON THIS PLAN.

A STATEMENT OF THE PUBLIC IMPROVEMENTS, BOTH ON AND OFF-SITE, THAT ARE PROPOSED FOR DEDICATION AND/OR CONSTRUCTION, AND AN ESTIMATE OF THE TIMING OF PROVIDING SUCH IMPROVEMENTS.

STREET FRONTAGE DEDICATION CAN BE PROVIDED IF REQUESTED.

A STATEMENT SETTING FORTH THE PROPOSED APPROXIMATE DEVELOPMENT SCHEDULE.

DEVELOPMENT IS ANTICIPATED TO COMMENCE UPON APPROVAL OF SITE PLAN.

APPROXIMATE DELINEATION OF ANY FLOODPLAIN DESIGNED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY, OR FAIRFAX COUNTY, THE APPROXIMATE DELINEATION OF ANY RESOURCE PROTECTION AREA AND RESOURCE.

MANAGEMENT ARE, AND THE APPROXIMATE DELINEATION OF ANY ENVIRONMENTAL QUALITY CORRIDOR AS DEFINED IN THE ADOPTED COMPREHENSIVE PLAN, AND, IF APPLICABLE, THE DISTANCE OF ANY EXISTING AND PROPOSED STRUCTURES FROM THE FLOODPLAIN, RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA, OR ENVIRONMENTAL QUALITY CORRIDOR.

IN ACCORDANCE WITH FEMA ISSUED FLOOD MAPS, THERE IS NO 100-YEAR FLOODPLAIN ON THE SITE, IN ACCORDANCE WITH FAIRFAX COUNTY GIS MAP #39-4, THERE ARE NO RESOURCE PROTECTION AREAS (RPA) OR ENVIRONMENTAL QUALITY CORRIDORS (EQC) ON THE SITE.

ANY PROPOSED IMPROVEMENTS TO THE PUBLIC RIGHTS-OF-WAY AND DELINEATION OF THE EXISTING CENTERLINE TO THE EDGE OF THE PAVEMENT AND TO THE EDGE OF THE RIGHT-OF-WAY.

A DEDICATION OF A 15 FT WIDE PARCEL PARALLEL TO IDYLWOOD RD TO EXTEND IDYLWOOD R.O.W TO 32 FT FROM THE CENTERLINE OF THE RD. TO THE EDGE OF THE PROPERTY. (SEE SHEET 3 OF 7).

A PLAN SHOWING LIMITS OF CLEARING, PROPOSED LANDSCAPING AND SCREENING IN ACCORDANCE WITH ARTICLE 13 OF THE ZONING ORDINANCE, A DELINEATION OR EXISTING VEGETATION, TO INCLUDE EXISTING VEGETATION TO BE PRESERVED, AND WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY, AN EXISTING VEGETATION MAP.

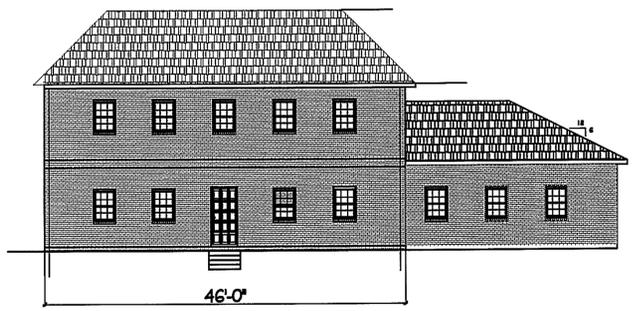
THE PROPOSED LIMITS OF CLEARING HAS BEEN PROVIDED. SEE SHEET 3 OF 7. AN EXISTING VEGETATION MAP AND TREE PRESERVATION PLAN HAVE BEEN PROVIDED. SEE SHEETS 6 OF 7 & SHEET 7 OF 7 RESPECTIVELY.

APPROXIMATE DELINEATION OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL IF KNOWN, AND A STATEMENT INDICATING HOW THE PROPOSED DEVELOPMENT WILL IMPACT THE BURIAL SITE.

TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES, MARKERS, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL.

THE PROPERTY HEREON IS IN THE OWNERSHIP OF MR. CHRISTOPHER D BARTH RECORDED IN DEED BOOK 21673 PAGE 0816 AMONG THE LAND RECORDS OF FAIRFAX COUNTY.

REQUESTED MODIFICATION/WAIVERS
 1. A WAIVER OF THE 10 FT TRAIL REQUIREMENT ALONG IDYLWOOD ROAD IS REQUESTED. A WIDENING OF THE EXISTING SIDEWALK IS BEING PROPOSED TO 5 FT OF ASPHALT OR 6 FT OF PAVEMENT, AND THE SIDEWALK WILL MADE ADA COMPLIANT.
 2. A WAIVER OF STREET FRONTAGE IMPROVEMENTS ALONG REDD ROAD IS REQUESTED.
 3.- A WAIVER OF DEDICATED OUTLOT FOR BMP FACILITIES. BMP FACILITIES ARE PROPOSED ON INDIVIDUAL LOTS



PROPOSED NEW HOUSE FOR LOT 2
 SCALE 1" = 10 FT APPROX

ADAPTED OUTFALL NARRATIVE
 FOR LOT 1, WHERE THE EXISTING HOUSE IS LOCATED, THE RE-DEVELOPMENT CONSISTS SIMPLY IN ADDING A NEW GARAGE. THIS AREA HAS BEEN GRADED BEFORE, WHEN THE EXISTING HOUSE WAS BUILT AND THE EXISTING DRAINAGE PATTERN DIRECTS THE RUNOFF IN ALL DIRECTIONS AWAY FROM THE HOUSE. NET RUNOFF INCREASE FOR LOT 1 IS ONLY 0.10 CFS ORIGINATED IN THE GARAGE AND IT WILL BE CONVEYED TO THE PROPOSED INFILTRATION TRENCH LOT 1.

FOR LOT 2, BUILDING A NEW HOUSE WILL ENTAIL A LARGER LAND DISTURBANCE. THE EXISTING DRAINAGE PATTERN IS FAIRLY UNIFORM SHOWING A MILD SLOPE FROM FRONT TO BACK OF THE LOT. THE RUNOFF FROM THE FRONT YARD WILL HAVE TO BE CONVEYED AROUND THE HOUSE TOWARD THE PROPOSED INFILTRATION TRENCHES. FOR THIS LOT THE NET INCREASE IN RUNOFF IS 0.10-0.40 CFS.

ONLY THE EXCESS OF RUNOFF OVERFLOWING THE 3 EACH INFILTRATION TRENCHES FOR THE TWO LOTS THROUGH THE SPILLWAYS WILL SHEETFLOW TOWARD THE BACK LOTS AT MODERATE AND CONTROLLED VELOCITY WITHOUT ANY CHANCE OF CAUSING ANY IMPACT UPON ADJACENT PROPERTIES.

ACCORDING TO SECTION 6-0202.2A, ADEQUATE OUTFALL ANALYSIS PER SECTION 6-0202.2 IS NOT REQUIRED SINCE THERE IS NO DIVERSION OF STORMWATER FROM ONE DRAINAGE AREA TO ANOTHER AND THE ASSOCIATED RUNOFF 0.10-0.415 CFS IS ENTIRELY SHEETFLOW SO IN ACCORDANCE TO THE PFM, SECTION 6-0202.1 IT IS THE OPINION OF THE ENGINEER, THAT THE DOWNSTREAM SYSTEM IS ADEQUATE AND THAT THE SCOPE OF THIS PROJECT HAS A MINIMUM EFFECT ON THE DISCHARGE VOLUME AS OUTLINED ABOVE.

Application No: R2 2012-DR-017 Staff: M.Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRO) (CP)

SEE PROFFERS DATED: 12/20/12

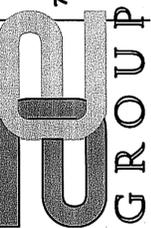
Date of (BOS) (PC) Approval: 1/8/13
 Sheet: 2 of 14

Comments: Option A

LEGEND

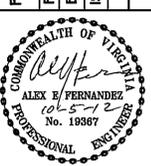
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- EXISTING INDEX CONTOUR: 32.5
- PROPOSED CONTOUR: 20
- EXISTING EDGE OF PAVEMENT: EX, EP
- PROPOSED EDGE OF PAVEMENT: PROP, EP
- EXISTING CURB AND GUTTER: EX, C & G
- PROPOSED CURB AND GUTTER: CG-6
- TRANSITION FROM CG-6 TO CG-6R: CG-6 @ CG-6R
- EXISTING UTILITY POLE: CO
- FENCELINE: X
- EXISTING WATER METER: W-M
- EXISTING STORM SEWER MANHOLE: D
- EXISTING SANITARY SEWER: S
- PROPOSED SANITARY SEWER: S
- EXISTING ELECTRIC SERVICE: E-E
- EXISTING GAS LINE: G-G
- EASEMENT LINE: ---
- CENTERLINE: ---
- PROPOSED SPOT ELEVATION: 12.5
- EXISTING TREE: 100 sf 375 mm (15) OAK
- EXISTING STOP SIGN: T
- TEMP.CONST. ENTRANCE: CE
- EXISTING LANDSCAPE TO REMAIN: LOD
- LIMITS OF DISTURBANCE: LOD
- EXISTING STREET LIGHT: S

Advance Engineering Group LLC.
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 701 W. Broad St Suite 306, Falls Church VA 22046
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MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3-(11) - 0082

PROJECT MANAGER	A.E.F
PROJECT NO.	11-VA-924
ENG. OF RECORD	A.E.F
ISSUE DATE	4-23-2012
APPLICAT. NO.	

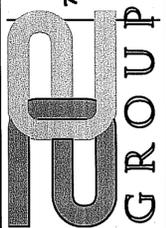


REMARKS	PER CITY COMMENTS	PER CITY COMMENTS
BY	A.E.F	A.E.F
DATE	8-07-12	9-26-12
NO.	1	2

824
 CO-2
 SHEET 2 OF 7

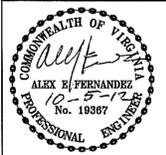
APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)
 SEE PROFFERS DATED: 12/20/12
 Date of (B)S (PC) Approval: 1/18/13
 Sheet: 3 of 14
 Comments: Option A

Advance Engineering Group LLC.
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MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRAINAGE DISTRICT #1
 TAX MAP 040-3-(1) - 0082

PROJECT MANAGER	A.E.F
PROJECT NO.	11-VA-924
ENG. OF RECORD	A.E.F
ISSUE DATE	4-23-2012
APPLICANT NO.	

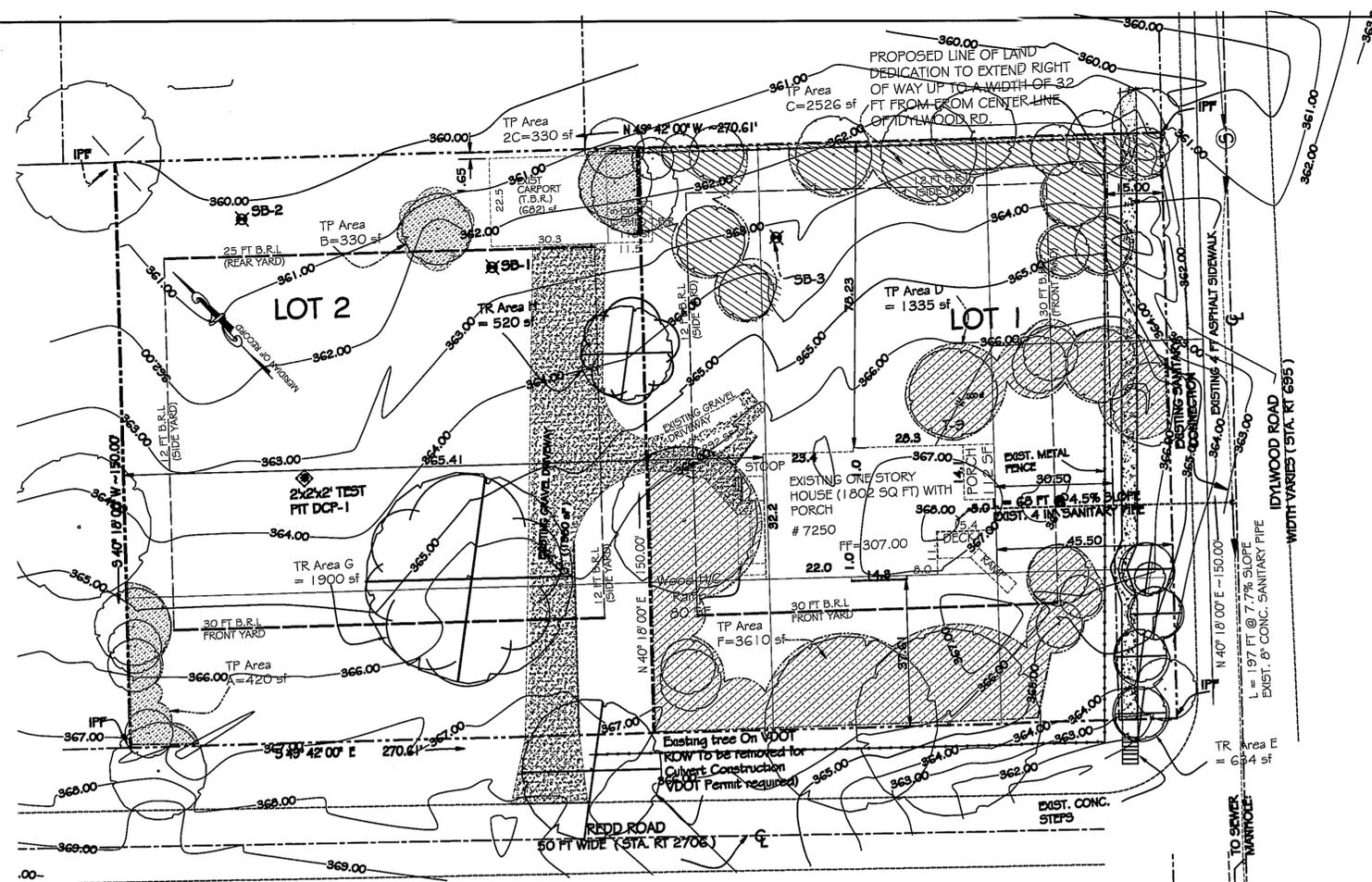


SEAL

REMARKS	BY
PER CITY COMMENTS	A.E.F
PER CITY COMMENTS	A.E.F

DATE	8-07-12
DATE	9-26-12

NO. 824
 GDP-1
 SHEET 3 OF 7



TOPOGRAPHY AND EXISTING CONDITIONS
 SCALE 1" = 20 FT

IMPERVIOUS AREA CALCULATIONS LOT 1

Description	Development Pre	Post
Existing House	1,690 sf	1,690 sf
Existing Driveway to be Removed	292 sf	
Existing Stoop & Steps	85 sf	85 sf
Existing Front Ramp To Stay	80 sf	80 sf
Existing Jogging Trail	604 sf	
Addition To Jogging Trail		302 sf
New Concrete Driveway		692 sf
New Garage		638 sf
New Front Conc Walk		124 sf
Total	2,895 sf	4,215 sf
Total lot area =	18,045 sf	0.433 AC
Increase in impervious	1,320 sf	
Percentage of imp.	23.36 %	> 18% BMP IS Req'd

IMPERVIOUS AREA CALCULATIONS LOT 2

Description	Development Pre	Post
New House	0.0 (Vacant)	2,810 sf
Existing and New Driveways	1,980 sf	2,893 sf
Carport to be Removed	682 sf	
Storage Shed To be Removed	80 sf	
New Concrete Patio		744 sf
Front Concrete Walk		302 sf
Total	2,748 sf	6,749 sf
Total lot area =	20255 sf	0.466 AC
Increase in impervious	4,001 sf	0.920 AC
Percentage of imp.	32.32 %	> 18% BMP IS Req'd
Total Disturbed Area	5,062 sf	

STORM WATER MANAGEMENT

Impervious C-factor =	0.9	Paved
Pervious C-factor =	0.25	Unpaved
Site area	20255 sf	0.466 AC

STORM WATER MANAGEMENT

Pre development Impervious Areas	2,748 sf	or	0.063 AC
Landscaped lawn	17,507 sf	or	0.402 AC
C Factor	(0.063*0.90 + 0.402*0.25) = 0.336		
Post development Impervious Areas	6,512 sf	or	0.149 AC
Landscaped lawn	13,743 sf	or	0.315 AC
C Factor	(0.149*0.90 + 0.315*0.25) = 0.459		

CHANGE IN RUNOFF

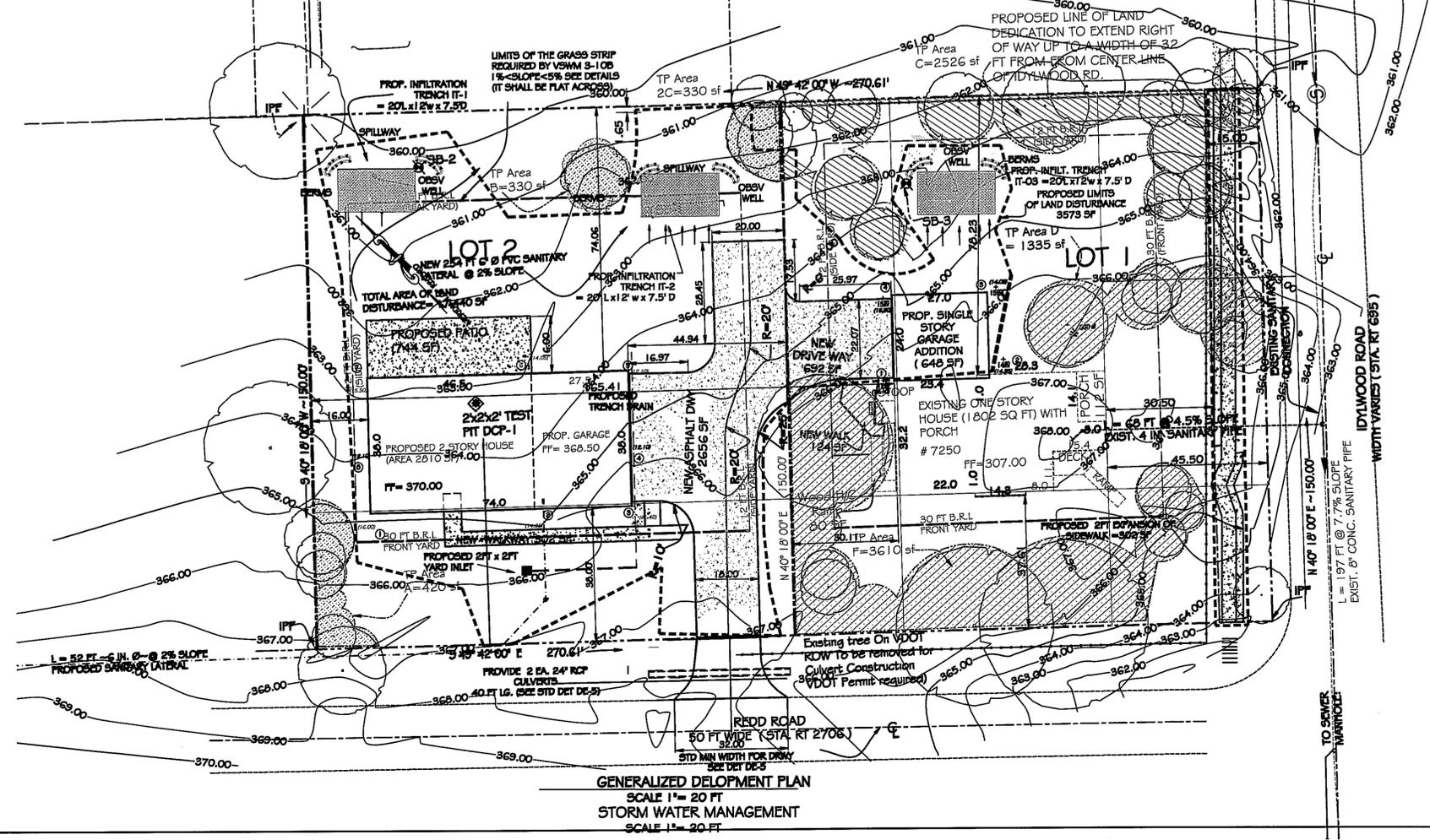
Pre development Q2 =	0.354	5.45	0.414	0.800 cfs
Q10 =	0.354	7.27	0.414	1.087 cfs
Post development Q2 =	0.402	5.45	0.414	0.907 cfs
Q10 =	0.402	7.27	0.414	1.210 cfs

CHANGE IN RUNOFF

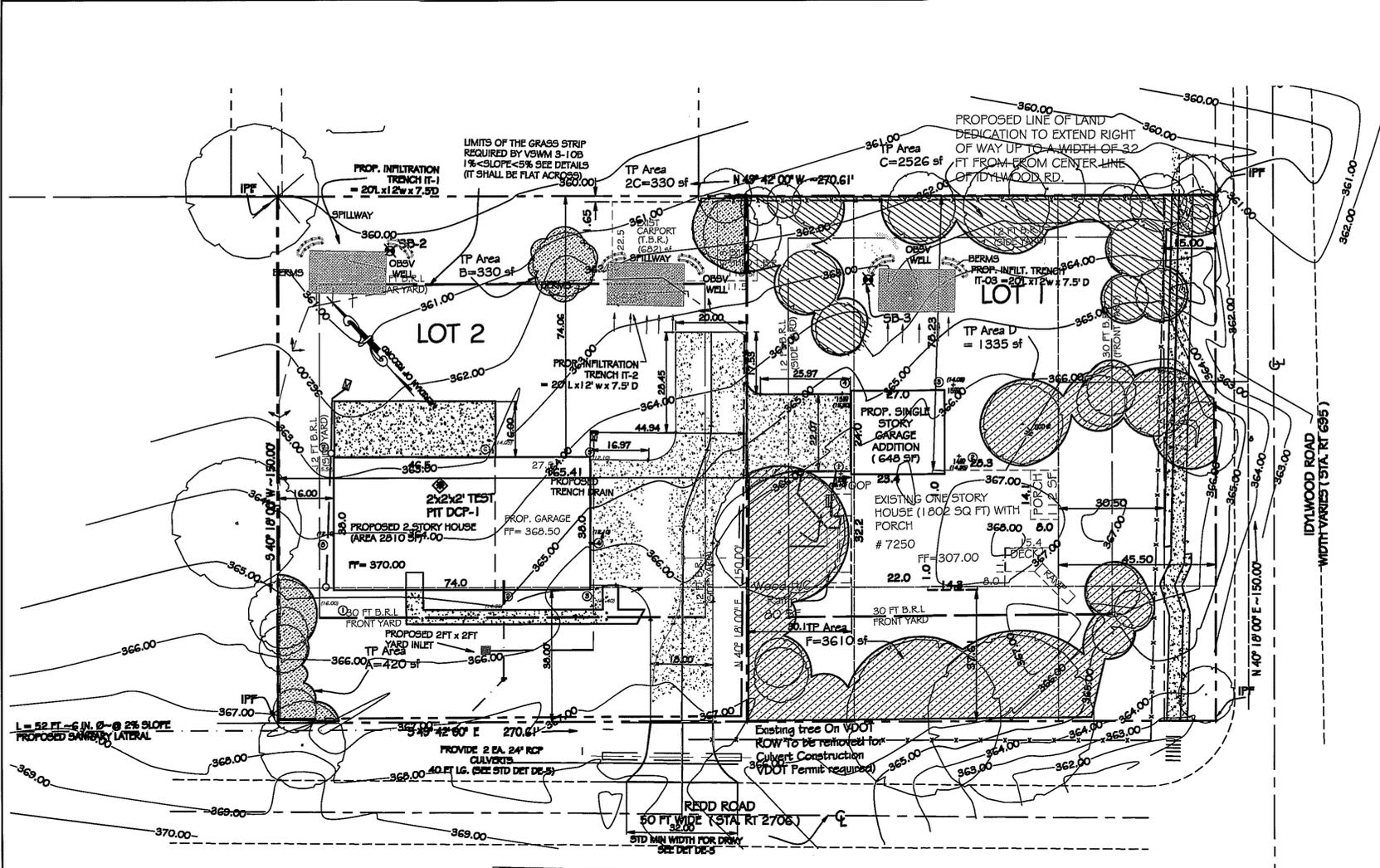
Pre development Q2 =	0.338	5.45	0.465	0.857 cfs
Q10 =	0.338	7.27	0.465	1.143 cfs
Post development Q2 =	0.459	5.45	0.465	1.163 cfs
Q10 =	0.367	7.27	0.291	1.552 cfs

CHANGE IN RUNOFF

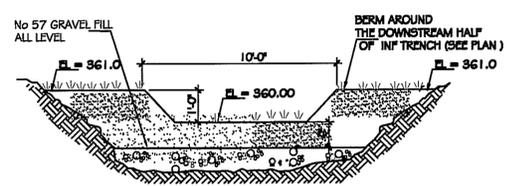
Q2 Inc =	0.107 cfs
Q10 Inc =	0.143 cfs



GENERALIZED DEVELOPMENT PLAN
 SCALE 1" = 20 FT
 STORM WATER MANAGEMENT
 SCALE 1" = 20 FT



STORM WATER MANAGEMENT SCALE 1" = 20 FT



INFILTRATION TRENCH DESIGN FOR IT-01 & IT-02 (LOT 2)

TOTAL RAINFALL ACCUMULATION = 3 IN
 DURATION OF STORM (2-YR AND 2-HR STORM) = 2 Hr
 [PFM, FAIRFAX COUNTY VA, 2003 G-1303.4A]
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr

IMPERVIOUS AREA TO BE TREATED = (3939 + 281) / 2 = 3374 SF
 INFILTRATION RATE AS MEASURED IN THE FIELD = 6.0 IN/Hr
 INFILTRATION RATE FOR DESIGN = 3.0 INCH/Hr
 [VIRGINIA STORMWATER MANAGEMENT HANDBOOK; 3.00 B-3]
 VOLUME IN = 3374 x 3/12 = 843.6 CF

TRENCH DIMENSIONS
 LENGTH = 20 FT
 WIDTH = 12 FT
 SURFACE AREA OF TRENCH = 20 x 12 = 240 SF
 MIN SURFACE AREA =
 = $S_{min} = (V) / ((3.0 \text{ in/hr}) \times 48 \text{ hrs}) / 12 =$
 = $(843.6 \text{ CF}) / (0.25 \text{ ft/hr} \times 48 \text{ hrs}) = 70.25 \text{ SF} < 240 \text{ OK}$
 VOLUME OUT = 3.0 IN/Hr x 2 Hr / 12 x 240 SF = 120.0 CF
 STORAGE VOL. REQUIRED = 843 - 120.0 = 723.6 CF
 USING # 57 STONE @ VOID 40%

DEPTH OF TRENCH = $V_s / (N_g A) = 723.6 \text{ CF} / (0.4 \times 240 \text{ SF}) = 7.5 \text{ FT}$
 USE 2 TRENCHES(S) OF EACH SIZE (20' L x 12' W x 7.5' D)

RATE OF DISCHARGE, $Q_{(out)} = 3.0 \times 1/12 \times 240 \text{ SF} = 60.0 \text{ CF/Hr}$
 INFILTRATION TIME REQUIRED = 723.6 CF / 60.0 = 12.0 Hrs
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr OK

SPILLWAY DESIGN
 $I = 9.8 \text{ in/hr}$
 $Q_{100} = 1.25 \text{ CL (Hr)} \sqrt{A_c} = 1.25 \text{ CL (Hr)} \sqrt{0.053 + 0.023 + 0.213} = 0.289 \text{ Ac}$
 $Q_{100} = 1.25 \text{ CL (Hr)} \sqrt{A_c} = 1.25 \text{ CL (Hr)} \sqrt{0.053 + 0.023 + 0.213} = 0.289 \text{ Ac}$
 $Q_{100} = 1.25 \times 0.37 \times 0.289 \text{ Ac} \times 9.8 \text{ in/hr} = 1.33 \text{ cfs}$
 $H_{rpy} = 0.15 \quad C = 3.3 \text{ (PFM G-1302.11)}$
 $L_{min} = (1.33 \text{ cfs} / 1.25) \times (3.3) \times (0.15)^{-0.5} = 1.66 \times 0.19 = 8.5 \text{ FT USE 9 FT}$

INFILTRATION TRENCH DESIGN FOR IT-03 (LOT 1)

TOTAL RAINFALL ACCUMULATION = 3 IN
 DURATION OF STORM (2-YR AND 2-HR STORM) = 2 Hr
 [PFM, FAIRFAX COUNTY VA, 2003 G-1303.4A]
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr

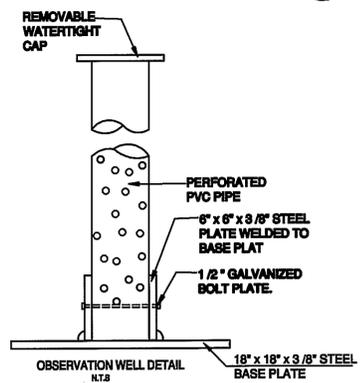
IMPERVIOUS AREA TO BE TREATED = 3309 SF
 INFILTRATION RATE AS MEASURED IN THE FIELD = 6.0 IN/Hr
 INFILTRATION RATE FOR DESIGN = 3.0 INCH/Hr
 [VIRGINIA STORMWATER MANAGEMENT HANDBOOK; 3.00 B-3]
 VOLUME IN = 3309 x 3/12 = 827 CF

TRENCH DIMENSIONS
 LENGTH = 20 FT
 WIDTH = 12 FT
 SURFACE AREA OF TRENCH = 20 x 12 = 240 SF
 MIN SURFACE AREA =
 = $S_{min} = (V) / ((3.0 \text{ in/hr}) \times 48 \text{ hrs}) / 12 =$
 = $(827.5 \text{ CF}) / (0.25 \text{ ft/hr} \times 48 \text{ hrs}) = 69.5 \text{ SF} < 240 \text{ OK}$
 VOLUME OUT = 0.25 FT/Hr x 2 Hr x 240 SF = 120 CF
 STORAGE VOL. REQUIRED = 827 - 120 = 707 CF
 USING # 57 STONE @ VOID 40%

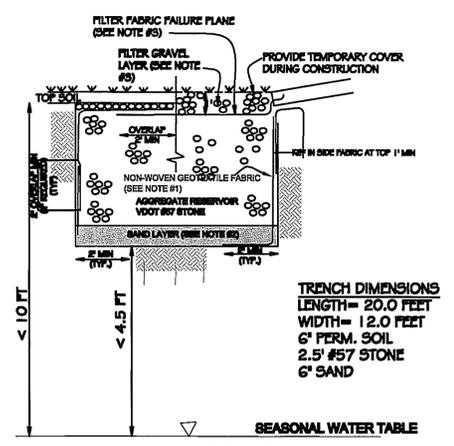
DEPTH OF TRENCH = $V_s / (N_g A) = 707 \text{ CF} / (0.4 \times 240 \text{ SF}) = 7.4 \text{ FT}$
 MAXIMUM DEPTH =
 = $(3.0 \text{ in/hr}) \times 48 \text{ hrs} = 144 \text{ in} = 12.0 \text{ FT OK}$
 USE IT-03 TRENCHES (20' L x 12' W x 7.4' D)

RATE OF DISCHARGE, $Q_{(out)} = 3.0 \times 1/12 \times 112 \text{ SF} = 28.0 \text{ CF/Hr}$
 INFILTRATION TIME REQUIRED = 722 CF / 24.0 = 9.25 Hrs
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr OK

SPILLWAY DESIGN
 $I = 9.8 \text{ in/hr}$
 $Q_{100} = 1.25 \text{ CL (Hr)} \sqrt{A_c} = 1.25 \text{ CL (Hr)} \sqrt{0.053 + 0.023 + 0.213} = 0.289 \text{ Ac}$
 $Q_{100} = 1.25 \text{ CL (Hr)} \sqrt{A_c} = 1.25 \text{ CL (Hr)} \sqrt{0.053 + 0.023 + 0.213} = 0.289 \text{ Ac}$
 $Q_{100} = 1.25 \times 0.37 \times 0.289 \text{ Ac} \times 9.8 \text{ in/hr} = 1.33 \text{ cfs}$
 $H_{rpy} = 0.15 \quad C = 3.3 \text{ (PFM G-1302.11)}$
 $L_{min} = (1.33 \text{ cfs} / 1.25) \times (3.3) \times (0.15)^{-0.5} = 1.66 \times 0.19 = 8.6 \text{ FT USE 9 FT}$



- NOTES:
- USE NON-WOVEN GEOTEXTILE FABRIC WITH AOS OF 70-100 US SIEVE OR 0.2 MM - 0.15 MM AS DETERMINED BY ASTM D4751 AND A TRAPEZOIDAL TEAR STRENGTH OF 45 LB OR 0.2 KN AS DETERMINED BY ASTM D4533.
 - AN 8-IN. DEEP BOTTOM SAND LAYER (VDOT FINE AGGREGATE, GRADING A OR B) IS REQUIRED.
 - FOR AN AGGREGATE SURFACE TRENCH, FILTER FABRIC SHALL SURROUND ALL OF THE AGGREGATE FILL MATERIAL EXCEPT THE TOP ONE FOOT. A SEPARATE PIECE OF FABRIC SHALL BE USED FOR THE TOP LAYER TO ACT AS A FAILURE PLANE. THIS TOP PIECE CAN THEN BE REPLACED AND REPLACED UPON CLOGGING.



MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTIONS, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

- | | |
|--|---|
| Special Permits (8-011 2J & 2L) | Special Exceptions (9-011 21 & 2L) |
| Cluster Subdivision (9-615 1G & 1N) | Commercial Revitalization Districts (9-622 2A (1) & (14)) |
| Development Plans PRC District (1G-302 2 & 4L) | PRC Plan (1G-303 IE & IO) |
| FDP P Districts (except PRC) 91G-502 IF & IQ) | Amendments (18-202 IOF & IOI) |

- Plan is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100). The Plan Scale is 1"= 20 ft (larger than minimum) OK
- A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 5 of 7. All above shown on sheets 4 OF 7 & 5 OF 7 No access road required, No Outlet protection required
- Provide:

Facility Name/ Type & No.	On-Site area served (acres)	Off-Site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf.)	If pond, dam height (ft.)
IT-01	0.077	0.0	0.077	240	724.0	
IT-02	0.077	0.0	0.077	240	724.0	
IT-03	0.076	0.0	0.076	112.0	707	

- Onsite drainage channels, outfalls and pipe systems are shown on Sheet 5 OF 7 (One Yard Inlet and Drain)
- Maintenance accesses (road) to stormwater management facility(ies) are shown on Sheet Not Required
- Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet Tree Preservation Canopy on Sheet 3 of 7 and Landscaping is shown on sheet 6 of 7
- A "stormwater management narrative" which contains a description of how detention and best management practices requirements will be met is provided on Sheet 5 of 7 (WATER QUANTITY AND WATER QUALITY)
- A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet No Concentrated Outfall Required. Excess runoff leaves the site as sheetflow
- A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet Not Required
- Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 2 of 7
- A submission waiver is requested for Not Required
- Stormwater management is not required because Not Applicable

TEST DATE: 2-23-2012 TIME: 2 HRS

Time	Depth		Infiltration rate
	Absolute	Relative	
3:00	15.00	0	0
3:30	15.00	2.00	4.00
4:00	17.00	2.00	4.00
4:30	25.00	6.00	8.00
5:00	25.00	2.00	8.00
Infiltration rate			6.00

Time	Depth		Infiltration rate
	Absolute	Relative	
3:00	10.00	0	0
3:30	14.00	4.0	5.00
4:00	19.00	5.0	9.00
4:30	25.00	4.0	9.00
5:00	25.00	2.0	6.00
Infiltration rate			6.00

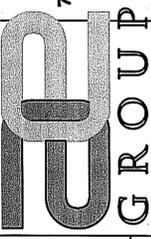
Time	Depth		Infiltration rate
	Absolute	Relative	
3:00	15.00	0	0
3:30	18.00	3.0	6.00
4:00	22.00	4.0	7.00
4:30	25.00	3.0	7.00
5:00	27.00	2.0	5.00
Infiltration rate			6.25

USE BORINGS #1 RESULTS FOR ALL (3) TRENCH LOCATIONS AND 3.0 IN/Hr FOR DESIGN.

NOTE: THE DIAMETER OF THE HOLES WAS 4 INCH, AND DEPTH 108 INCH. INFILTRATION TESTS PERFORMED FOLLOWING 24 HOURS SATURATION PERIOD.

NOTE: THE EXACT DEPTH OF THE OBSERVATION WELL SHALL BE PERMANENTLY MARKED ON THE WELL CAP.

Advance Engineering Group LLC.
 Civil, Structural & Geotechnical Engineers / Planners
 701 W. Broad St. Suite 306, Falls Church VA 22046
 703-533-1561 Fax: 703-533-1562
 info@advengroup.net
 www.advengroup.net



MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3-(11) - 0082
 INFILTRATION TRENCH DESIGN

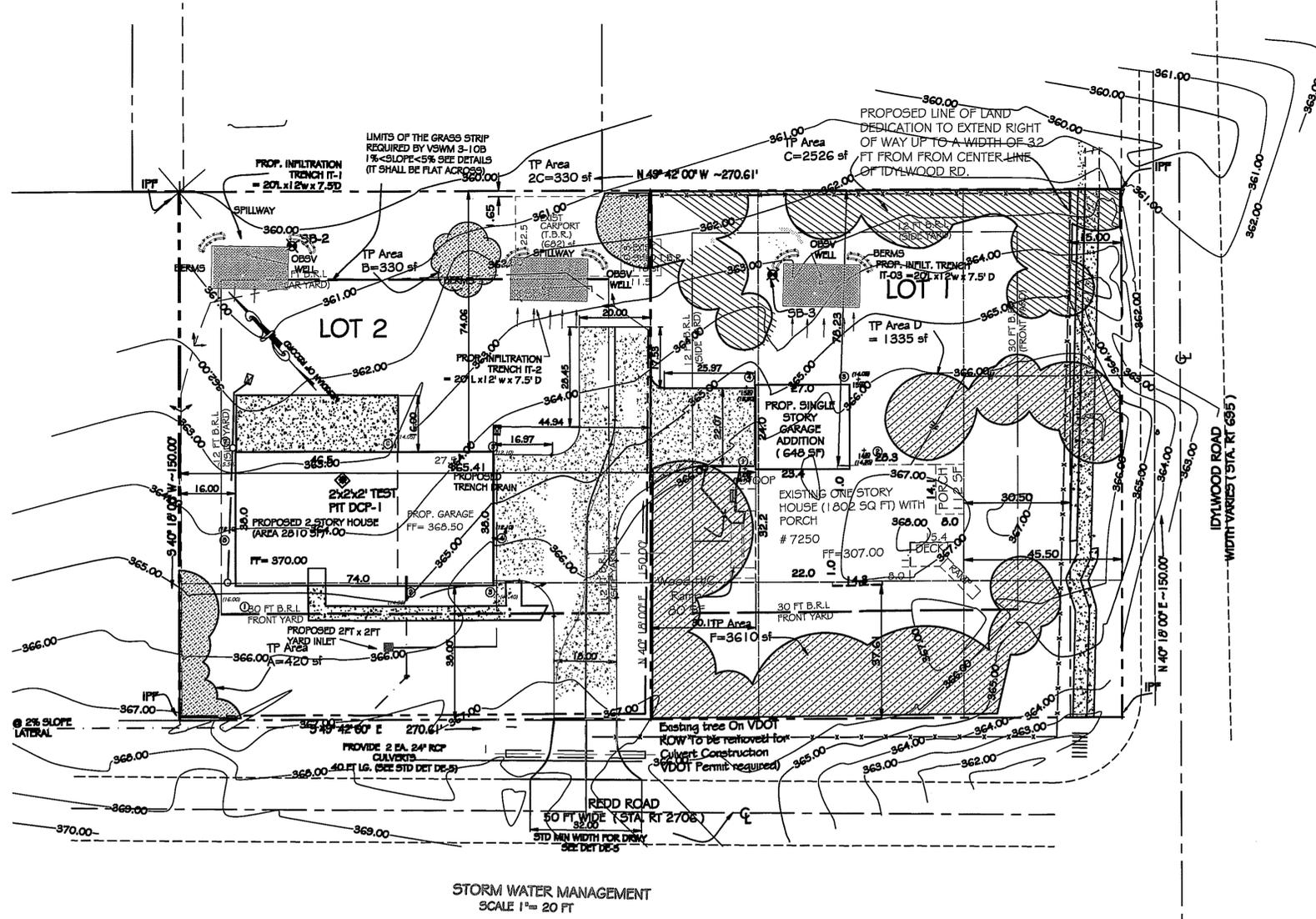
PROJECT MANAGER	A.E.F.
PROJECT NO.	11-VA-024
ENG. OF RECORD	A.E.F.
ISSUE DATE	4-23-2012
APPLICANT NO.	



REMARKS	BY	DATE
PER CITY COMMENTS	A.E.F.	8-07-12
PER CITY COMMENTS	A.E.F.	9-26-12

APPROVED DEVELOPMENT PLAN
 824
 GDP-2
 SHEET 4 OF 7

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WATER QUALITY NARRATIVE
THE PROPOSED INFILTRATION TRENCHES WILL PROVIDE WATER TREATMENT TO APPROXIMATELY 0.076 ACRE OF IMPERVIOUS AREA FOR EACH TRENCH (BUILDING AREA, OTHER IMPERVIOUS AREAS AND SOME PORTION OF THE PERVIOUS AREA). THE PHOSPHOROUS REMOVAL REQUIRED IS 36.2% FOR LOT 1 AND 40% FOR LOT 2 (REDEVELOPMENT PFM FAIRFAX VA, 2003 6-401.2B). THE PHOSPHOROUS REMOVAL REQUIREMENTS ARE EXCEEDED, 50.9% IS REMOVED FROM LOT 1 AND 62.7% FROM LOT 2. THE WATER QUALITY REQUIREMENT IS MET BY THE BMP FACILITIES (INFILTRATION TRENCHES) FOR THIS PROJECT. AFTER INSTALLATION OF INFILTRATION TRENCH, BOTH STORMWATER QUALITY AND QUANTITY WILL BE CONTROLLED.

STORM WATER MANAGEMENT NARRATIVE
FOR LOT 1 APPROXIMATELY 50% OF THE RUNOFF IS CONVEYED TO THE PROPOSED INFILTRATION TRENCH (IT-03), AND THIS WILL PROVIDE WATER TREATMENT TO APPROXIMATELY 0.076 ACRE OF IMPERVIOUS AREA (BUILDING AREA AND SOME PORTION OF THE PERVIOUS AREA). IT-03 IS REQUIRED TO HAVE 707 CUBIC FEET OF STORAGE VOLUME, AND 707 CUBIC FEET STORAGE CAPACITY IS PROVIDED. THE INFILTRATION RATE IS SUCH THAT THE TRENCH PROVIDES WATER DETENTION AND INFILTRATION AT THE SAME TIME A 100 YEAR STORM WITH NO OVERFLOW. THE OTHER 50% OF UNTREATED AREA IS SHEET FLOW NATURALLY FLOWING TOWARDS IDYWOOD AND REDD RD WITHOUT ANY CHANGES FROM EXISTING DRAINAGE PATTERN AND NO ADDITIONAL IMPERVIOUS AREA. EXISTING CONDITIONS SHOW NO CONCENTRATED FLOW ISSUES.

FOR LOT 2 APPROXIMATELY 90% OF THE RUNOFF IS CONVEYED TO THE 2 PROPOSED INFILTRATION TRENCHES ON LOT 2 (IT-01 AND IT-02), AND THIS WILL PROVIDE WATER TREATMENT AND DETENTION TO APPROXIMATELY 0.155 ACRE OF IMPERVIOUS AREA. EACH TRENCH ON LOT 2 REQUIRES 727 CUBIC FEET OF STORAGE, AND 727 FEET OF STORAGE IS PROVIDED.

PHOSPHOROUS REMOVAL CALCULATIONS -LOT 1 *OCOCOQUAN METHOD*

Impervious Area	Pre	Post	36.2 % Net Increase	
%P Removal	16%	23%	36.2 %	
Development	1-0.9*(0.14/0.19) =		36.2 %	
	Redev. W/O Exist BMP	[PFM, FAIRFAX COUNTY VA, 2003 6-401.2B1]		
%P Removal Required	36.2 %			
Area of the site - (A)	0.414 AC			
Surface area design (B)	Designation	C-Factor	Acres	Product
Building area (Controlled)	A1	0.9	0.053 AC	0.048
Paved area (Controlled)	A2	0.9	0.023 AC	0.020
Paved area (Uncontrolled)	A3	0.9	0.014 AC	0.012
Unpaved area (Controlled)	A4	0.25	0.213 AC	0.053
Unpaved area (Uncontrolled)	A5	0.25	0.112 AC	0.028
		Total	0.414 AC	0.162
Weighted average C-Factor	(C) = (B) / (A) = 0.391 AC			
%P Removal	1 Hr Detention	2 Year Storm		
Subarea Designation	BMP Type	Efficiency	Area Ratio	C-Factor Ratio %P Removal
A1	Infiltration Trench	70%	0.129 AC	2.302 20.8 %
A2	Infiltration Trench	70%	0.054 AC	2.302 8.8 %
A3	None	0%	0.033 AC	2.302 0.0%
A4	Infiltration Trench	65%	0.513 AC	0.639 21.3%
A5	None	0%	0.270 AC	0.639 0.0%
Total %P Removal	Required	33.4 %	Total	50.9%

The phosphorous removal is in compliance with Phosphorous Removal Requirement. Therefore, the design is acceptable.

PHOSPHOROUS REMOVAL CALCULATIONS -LOT 2 *OCOCOQUAN METHOD*

Impervious Area	Pre	Post	137.0 % Net Increase	
%P Removal	14%	33%	63.4 %	
Development	1-0.9*(0.14/0.33) =		63.4 %	
	Redev. W/O Exist BMP	[PFM, FAIRFAX COUNTY VA, 2003 6-401.2B1]		
%P Removal Required	40.0 %			
Area of the site - (A)	0.465 AC			
Surface area design (B)	Designation	C-Factor	Acres	Product
Building area (Controlled)	A1	0.9	0.065 AC	0.058
Paved area (Controlled)	A2	0.9	0.090 AC	0.081
Paved area (Uncontrolled)	A3	0.9	0.000 AC	0.000
Unpaved area (Controlled)	A4	0.25	0.221 AC	0.055
Unpaved area (Uncontrolled)	A5	0.25	0.089 AC	0.022
		Total	0.465 AC	0.217
Weighted average C-Factor	(C) = (B) / (A) = 0.459 AC			
%P Removal	1 Hr Detention	2 Year Storm		
Subarea Designation	BMP Type	Efficiency	Area Ratio	C-Factor Ratio %P Removal
A1	Infiltration Trench	70%	0.138 AC	1.961 19.0 %
A2	Infiltration Trench	70%	0.194 AC	1.961 25.1%
A3	None	0%	0.000 AC	1.961 0.0%
A4	Infiltration Trench	70%	0.474 AC	0.536 16.5%
A5	None	0%	0.192 AC	0.536 0.0%
Total %P Removal	Required	40.0 %	Total	62.7%

The phosphorous removal is in compliance with Phosphorous Removal Requirement. Therefore, the design is acceptable.

Application No: 22-2012-62-017 Staff: A. Prady

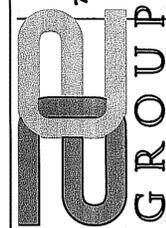
APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)

SEE PROFFERS DATED: 12/20/12

Date of (B)(3) (PC) Approval: 1/8/13
Sheet: 5 of 14

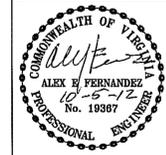
Comments: Option A

Advance Engineering Group LLC.
Civil, Structural & Geotechnical Engineers / Planners
701 W. Broad St. Suite 306, Falls Church VA 22046
703-533-1561 Fax: 703-533-1562
www.advancegroup.net info@advancegroup.net



MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-9-(11) - 0082

PROJECT MANAGER	A.E.F
PROJECT NO.	11-VA-924
ENG. OF RECORD	A.E.F
ISSUE DATE	4-23-2012
APPLICAT. NO.	

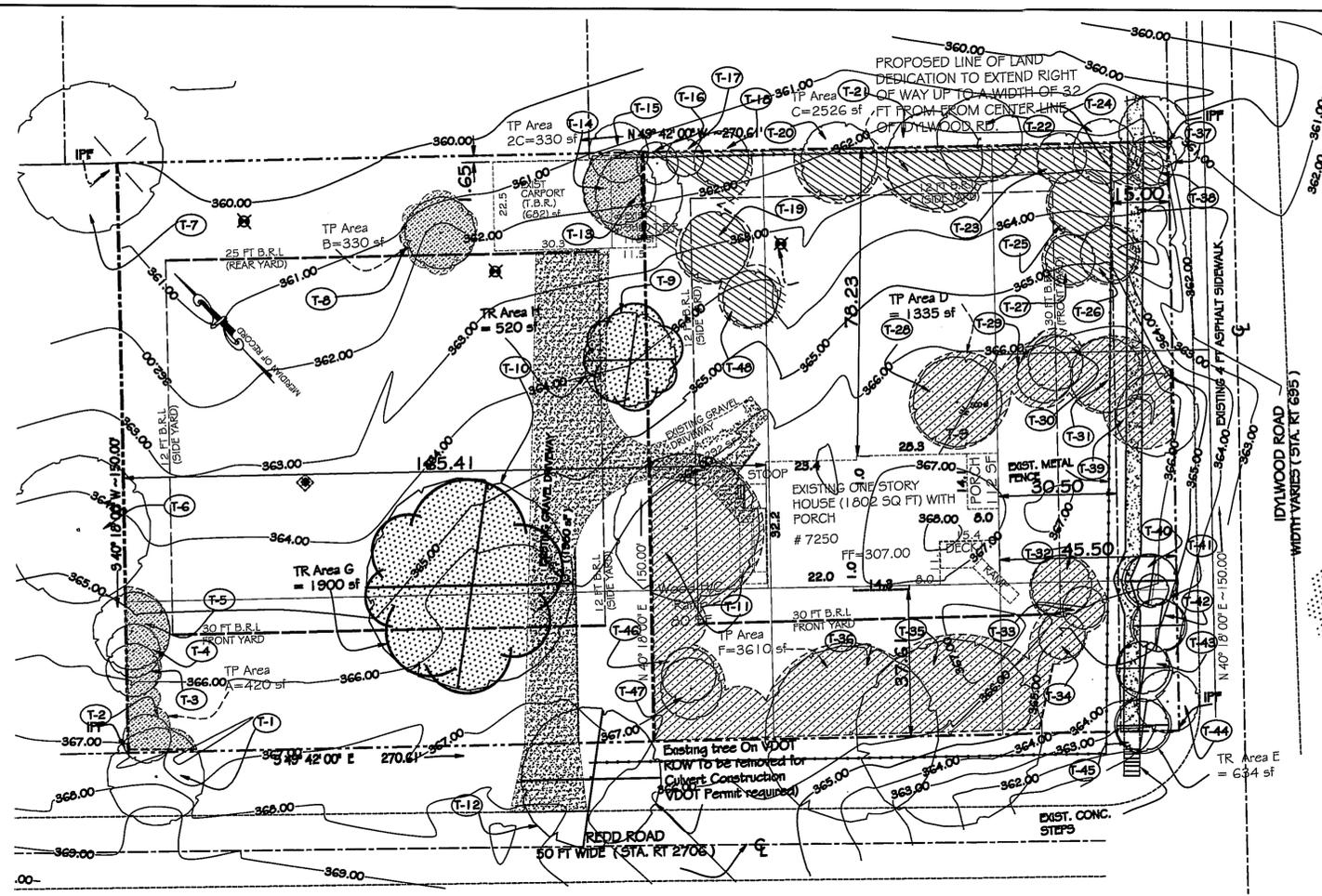


REMARKS	PER CITY COMMENTS	PER CITY COMMENTS
BY	A.E.F	A.E.F

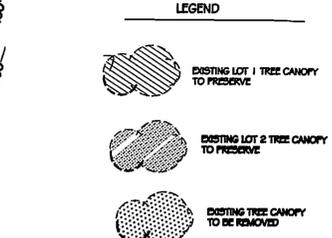
DATE	8-07-12	9-26-12
NO.	1	2

824
GDP-3
SHEET 5 OF 7

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EXISTING VEGETATION
SCALE = 1" = 20 FT



EXISTING VEGETATION
TP Area A = 420 SF
TP Area B = 330 SF
TP Area C = 2526 SF
TP Area D = 1335 SF
TR Area E = 634 SF
TR Area F = 3610 SF
TR Area G = 1900 SF
TR Area H = 520 SF
TOTAL EV = 11275 SF

VEGETATION TO BE REMOVED
TR Area E = 634 SF
TR Area G = 1900 SF
TR Area H = 520 SF
TOTAL TR = 3054 SF

VEGETATION TO PRESERVE
EXISTING - REMOVAL = 11275 - 3054 = 8221 SF

Application No: RZ 2012-DE-017 Staff: H. Brady

APPROVED DEVELOPMENT PLAN
 (DDP) (GDP) (CDP) (RDP) (PRC) (CF)

PROFFERS DATED: 12/20/12
Date of (DDP) (PC) Approval: 1/8/13
Sheet: 6 of 14
Comments: Option A

TREE INVENTORY
7250 IDYWOOD RD, FAIRFAX, VA
Date of site visit: April 20th, 2012
Certified Arborist: Alex E Fernandez PE

TREE #	BOTANIC NAME	COMMON NAME	CALIPER (DBH) (inches)	SPECIES RATING (0-100%)	CONDITION RATING (0-100%)	PRESERVE / REMOVE
T-1	Juglan nigra	Black Walnut	27	70	70	Preserve
T-2	Cercis canadensis	Redbud	4	50	60	Preserve
T-3	Juniperus Virginiana	Juniper	9	60	60	Preserve
T-4	Juniperus Virginiana	Juniper	10	60	65	Preserve
T-5	Juglan nigra	Walnut	18	70	65	Preserve
T-6	Prunus Serotina	Black Cherry	22	50	50	Out Of Prop.
T-7	Juglan nigra	Walnut	28	70	70	Out Of Prop.
T-8	Ulmus americana	American Elm	64	70	70	Preserve
T-9	Acer Saccarum	Silver Maple	20	55	70	Remove
T-10	Liriodendron Tulipifera	Tulip Poplar	48	80	75	Remove
T-11	Quercus Alba	White Oak	44	80	70	Preserve
T-12	Quercus Fumus	Chestnut Oak	20	80	65	In ROW(Removed)
T-13	Juglan nigra	Black Walnut	11	70	40	Preserve
T-14	Ulmus americana	American Elm	17	70	65	Preserve
T-15	Juglan nigra	Walnut	19	70	65	Preserve
T-16	Acer Platanoides	Norway Maple	8	60	65	Preserve
T-17	Cornus florida	Flowering Dogwood	6	50	60	Preserve
T-18	Cornus florida	Flowering Dogwood	6+4	50	60	Preserve
T-19	Quercus Rubra	Red Oak	11	80	70	Preserve
T-20	Cornus florida	Flowering Dogwood	6	50	70	Preserve
T-21	Prunus Serotina	Black Cherry	16	45	65	Preserve
T-22	Quercus Falcata	Southern Red Oak	25	80	70	Out Of Prop.
T-23	Cornus florida	Flowering Dogwood	2+4+2+3	50	65	Preserve
T-24	Robinia Pseudoacacia	Locust	16	50	70	Preserve
T-25	Robinia Pseudoacacia	Locust	8+6	50	65	Preserve
T-26	Prunus Serotina	Black Cherry	9	45	65	Preserve
T-27	Cornus florida	Flowering Dogwood	6	50	65	Preserve
T-28	Acer Platanoides	Norway Spruce	16	60	70	Preserve
T-29	Sassafras Albidum	Sassafras	8	60	70	Preserve
T-30	Sassafras Albidum	Sassafras	6+6	60	70	Preserve
T-31	Prunus Serotina	Black Cherry	10	45	65	Preserve
T-32	Picea abies	Norway Spruce	9	70	70	Preserve
T-33	Ilex opaca	American Holly	6+5+4+4	60	65	Preserve
T-34	Ilex opaca	American Holly	5+5	60	65	Preserve
T-35	Fagus Grandifolia	American Beech	42	80	80	Preserve
T-36	Fagus Grandifolia	American Beech	35	80	80	Preserve
T-37	Robinia Pseudoacacia	Locust	20	50	75	Preserve
T-38	Quercus Alba	White Oak	13	80	65	Preserve
T-39	Acer Platanoides	Norway Maple	15	50	70	Preserve
T-40	Acer Platanoides	Norway Maple	5	50	65	Remove
T-41	Acer Platanoides	Norway Maple	9	50	70	Remove
T-42	Acer Platanoides	Norway Maple	10	50	70	Remove
T-43	Acer Platanoides	Norway Maple	8	50	70	Dead (Remove)
T-44	Robinia Pseudoacacia	Locust	11	40	65	Preserve
T-45	Robinia Pseudoacacia	Locust	13	40	60	Remove
T-46	Koelreutera paniculata	Golden Rain Tree	6	60	70	Preserve
T-47	Koelreutera paniculata	Golden Rain Tree	5	60	60	Preserve
T-48	Cornus florida	Flowering Dogwood	8	50	70	Preserve

- Notes:
- Condition and Species Rating are based on formula provided by the Guide for Plant Appraisal published by the International Society of Arborists.
 - All trees indicated so, are to be cleared from the site due to construction impacts.
 - All trees with a minimum 6" D.B.H. were inventoried and evaluated.
 - Out Of Property Trees are included due to proximity to Project Land Disturbance Limits
 - Neither the Project Arborist or Advanced Engineering Group, LLC condone the implementing of any suggested tree preservation or removal techniques without the agreement/permission of the adjacent property owner or HOA, given the laws of border lines and boundary line trees.
 - Removal of tree on Redd Rd R.O.W will require the contractor to secure VDOT permit.

G.- TREES T-13, T-14, T-15 AND T-19 (WALNUTS, ELM AND A RED OAK) ARE BEING CLAIMED WITHIN THE TREE CONSERVATION PLANS FOR LOTS 1 AND 2. HOWEVER; DUE TO THE IMMEDIATE PROXIMITY TO THE DEMOLITION OF THE EXISTING CARPORT AND STORAGE SHED, PROBABLY IT IS NOT POSSIBLE TO INSTALL REGULAR TREE PROTECTION FENCE. THIS DEMO WORK WOULD NEED TO BE DONE WITH LIGHT EQUIPMENT AND AS MANUALLY AS POSSIBLE TO MINIMIZE ROOT ZONE DAMAGE

PRESERVATION & PROTECTION OF EXISTING VEGETATION

A.- TREES DESIGNATED FOR PROTECTION SHALL RECEIVE ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. SELECTIVE ROOT AND LIMBS PRUNING IN ANY EXCAVATION ENCROACHING THE CANOPY OF TREES TO PRESERVE IN ACCORDANCE WITH PFM PLATE 7-12. PROVIDE TREE PROTECTION FENCE WITHIN 10 FEET OF THE TRUNK OF PRESERVATION TREES BEHIND THE SILT FENCE.

B.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES MEASURING 12' OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE 'GUIDE FOR PLAT APPRAISAL' SHALL BE LABELED IN 'POOR CONDITION' AND SHALL BE CONSIDERED FOR REMOVAL BY THE COUNTY ARBORIST'S REQUEST

C.- LOCATION AND METHOD OF FOR PROTECTION AND PRESERVATION OF EXISTING TREES SHALL BE APPROVED BY THE COUNTY INSPECTOR PRIOR TO COMMENCEMENT OF GROUND DISTURBING ACTIVITY.

TREE INVENTORY AND CONSERVATION NARRATIVE

A.- EXISTING YARD VEGETATION COVER CONSISTS OF REMNANTS OF UPLAND FOREST MAINLY OAKS, AMERICAN BEECH AND YELLOW POPLAR OF REGULAR HEIGHT INTERMIXED WITH VEGETATION CORRESPONDING TO THE EARLY SUCCESSIONAL FOREST MAINLY NORWAY MAPLES, LOCUSTS, WALNUTS, DOGWOODS, AMERICAN HOLLY, REDBUDS, AMERICAN ELM AND OTHER UNDERSTORY TREES INTERMIXED WITH SOME LEVELS TURFGRASS, REMNANTS OF NATIVE HERBACEOUS PLANTS AND SUCH ORIGINAL LAND COVER. ALL TREES IN THE INVENTORY ARE NATIVE AND IN SATISFACTORY CONDITION

B.- IN LOT ONE BACK YARD, SOME LANDSCAPED NON NATIVE NURSERY STOCK TREES, AND SHRUBS WERE NOT CONSIDERED IN THE INVENTORY FOR BEING LESS THAN 4" IN CALIPER.

C.- FOUR TREES ON THE SURVEY ARE VALUABLE TREES. (No. T-10, 46 INCH CALIPER TULIP POPLAR, T-11, A 44" CALIPER WHITE OAK, T-34 AND T-35, A 42" AND A 35" CALIPER AMERICAN BEECH TREES) DUE TO LARGE DIAMETER AND CANOPY IN ADDITION TO A HIGH SPECIES RATING. VALUABLE FOR AIR QUALITY OR WILDLIFE SUPPORT. THE WHITE OAK (T-11) FALLS WITHIN THE DISTANCE AND NORTHWESTERN- SOUTHEASTERN RANGE TO SAVE ENERGY FOR LOT 1

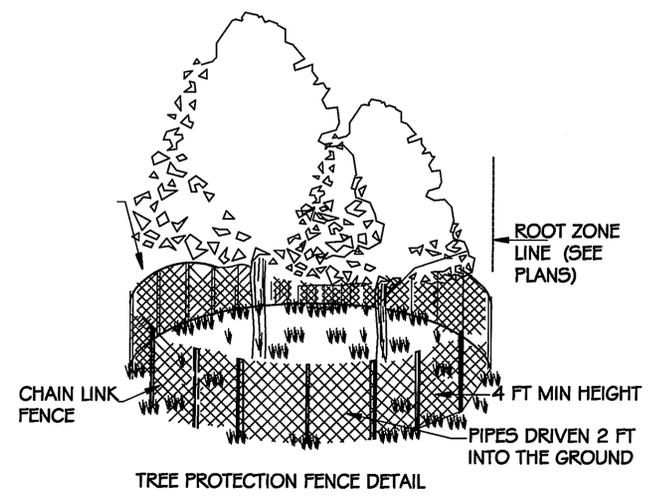
D.- FOR LOT 2 ONLY T-3, T-4 AND T-5 FALL WITHIN THE REQUIRED SIMILAR LOCATION FOR ENERGY CONSERVATION CREDIT IF THEY WERE NEW PLANTINGS, BUT IT IS RECOMMENDED TO SAVE THEM FOR THE PROPOSED DEVELOPMENT IN LOT 2

E.- TWO TREES IN THIS INVENTORY, CONSIDERED RARE OR ENDANGERED SPECIES WERE FOUND AT THE SITE. T-11 AND T-38 BOTH ARE QUERCUS ALBA. THEIR PRESERVATION IS ENCOURAGED..

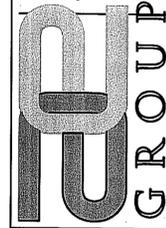
F.- SOME TREES ON THIS SURVEY ARE CONSIDERED MODERATELY INVASIVE SPECIES. TREES T-39 THROUGH T-45 CONSISTING OF HONEY LOCUSTS OR BLAK LOCUSTS AND NORWAY MAPLES ARE RATED AS SUCH. HOWEVER THEY ARE LOCATED PARALLEL TO IDYWOOD ROAD RIGHT OF WAY LINE AND FAR FROM THE PROPOSED RE-DEVELOPMENT IMPACT.

F.- NO CONSTRUCTION DEBRIS, FILL AND OR OTHER MATERIALS SHALL BE PLACED OR STORED BENEATH THE CANOPY COVER OF PROTECTED TREES OR OUTSIDE OF THE LIMITS OF DISTURBANCE ON APPROVED PLANS

G.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES MEASURING 12' OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE 'GUIDE FOR PLAT APPRAISAL' SHALL BE LABELED IN 'POOR CONDITION' AND SHALL BE CONSIDERED FOR REMOVAL AFTER APPROVAL OF THE COUNTY ARBORIST

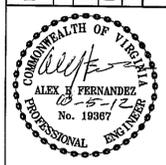


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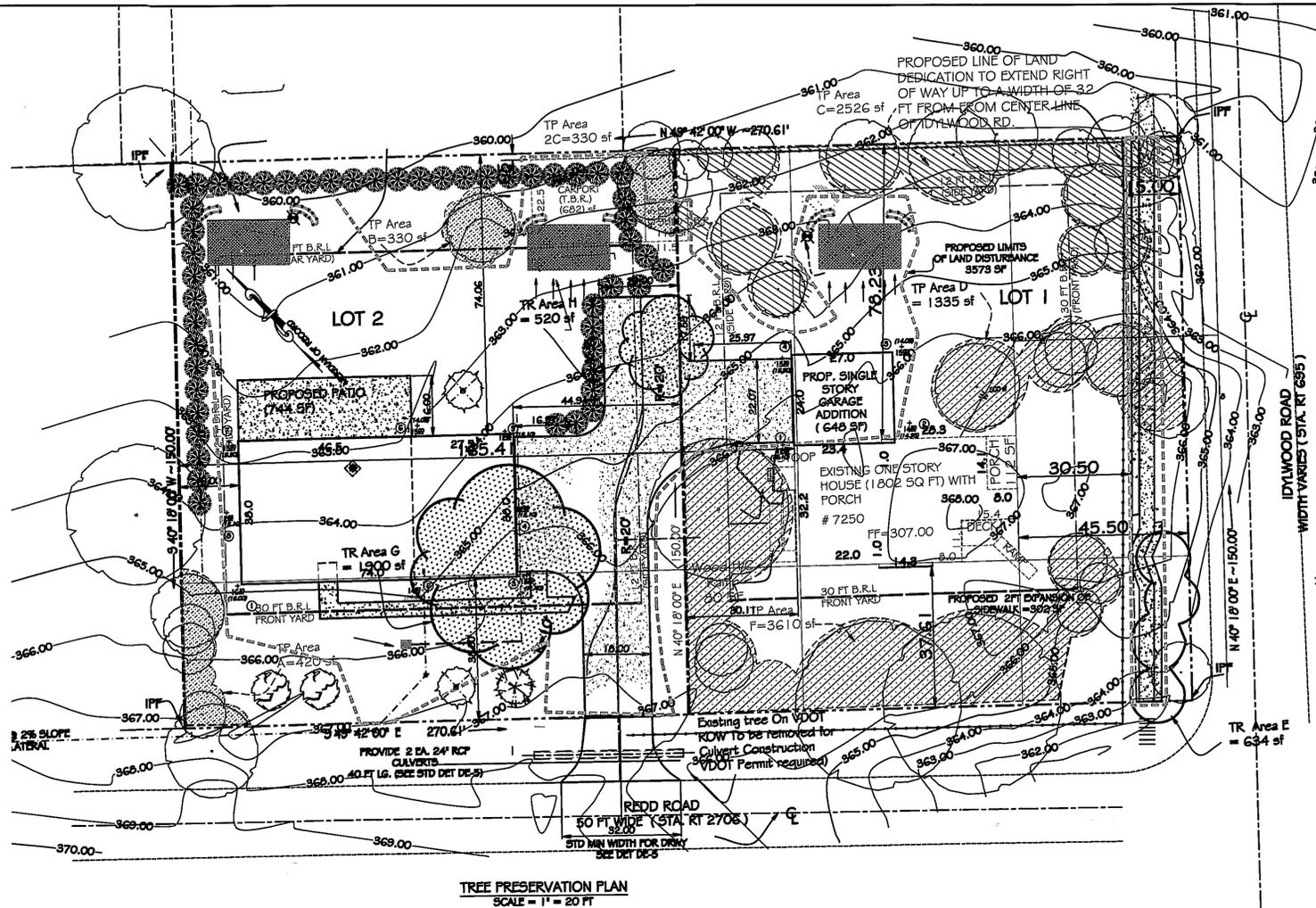
MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3(1) - 0082

PROJECT MANAGER	A.E.F
PROJECT NO.	11-VA-824
ENG. OF RECORD	A.E.F
ISSUE DATE	4-23-2012
APPLICANT NO.	



REMARKS	PER CITY COMMENTS	PER CITY COMMENTS
BY	A.E.F	A.E.F
DATE	8-07-12	9-26-12
NO.	1	2

824
GDP-4
SHEET 6 OF 7



TREE PRESERVATION PLAN
SCALE = 1" = 20 FT

ID	PLAN SYMB.	D	E	BOTANICAL NAME	COMMON NAME	CAT	CAL IN	10 YR CANOPY	CREDIT FACTOR	QTY (EA)	TOTAL SF
RM		LD		ACER RUBRUM	RED MAPLE	IV	2"	200 sf	1.50	WL	2 EA 600 sf
QR		LD		QUERCUS RUBRA	NORTHERN RED OAK	IV	2"	200 sf	1.50	EC	2 EA 600 sf
SY		LD		PLATANUS OCCIDENTALIS	SYCAMORE	IV	2"	200 sf	1.50	NAT	1 EA 300 sf
PV		LE		THUJA OCCIDENTALIS	AMERICAN ARBOVITAE	I	6 FT	40 sf	1.00		50 EA 2000 sf
TOTAL = 3500 SF											

LD = LARGE DECIDUOUS MD = MEDIUM DECIDUOUS SD = SMALL DECIDUOUS
LE = LARGE EVERGREEN ME = MEDIUM EVERGREEN SE = SMALL EVERGREEN
CREDIT CODES: WQ = WATER QUALITY AQ = AIR QUALITY EC = ENERGY CONSERVATION
WL = WILD LIFE NAT = VIRGINIA NATIVE

TREE PRESERVATION NARRATIVE

A.- THE SITE IS POPULATED WITH A RANGE OF NATIVE SPECIES OF VALUE. MANY SPECIES ON LOT ONE ARE VALUABLE FOR AIR QUALITY, WILD LIFE, WATER QUALITY, ENERGY CONSERVATION ETC.

B.- EVERY EFFORT SHALL BE MADE TO PROTECT THE TREE PRESERVATION CANOPY SHOWN HEREIN DURING CONSTRUCTION. NO CONSTRUCTION DEBRIS, FILL AND/OR OTHER MATERIALS SHALL BE PLACED OR STORED BENEATH THE CANOPY COVER OF PROTECTED TREES.

C.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES EASURING 12" OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE 'GUIDE FOR PLANT APPRAISAL' SHALL BE LABELED IN 'POOR CONDITION' AND SHALL BE CONSIDERED FOR REMOVAL BY THE COUNTY ARBORIST

D.- PROVIDE, IMPLEMENT AND FOLLOW A TREE CONSERVATION AND PROTECTION PROGRAM THAT IS DEVELOPED TO THE SATISFACTION OF THE COUNTY ARBORIST.

E.- LOCATION AND METHOD OF FOR PROTECTION AND PRESERVATION OF EXISTING TREES SHALL BE APPROVED BY THE COUNTY INSPECTOR PRIOR TO COMMENCEMENT OF GROUND DISTURBING ACTIVITY.

F.- APPLICANT MUST PROVIDE DOCUMENTATION OF COMMUNICATION WITH ADJACENT PROPERTY OWNERS VERIFYING NOTIFICATION OF CONSTRUCTION IMPACT, POTENTIAL FOR ROOT LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREES ON ADJACENT PROPERTIES AND WITHIN THE 25 FT LINE OUTSIDE OF THE LIMITS OF DISTURBANCE. FOR INSTANCE T-6, T-7 AND T-22

Application No: RZ 2012-08-017 Staff: N. Bish

APPROVED DEVELOPMENT PLAN

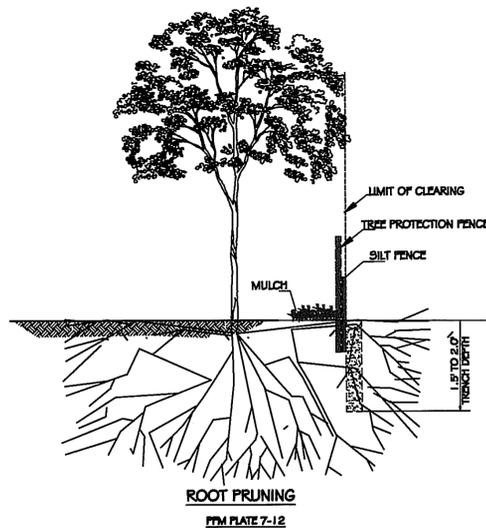
(DP) (GDP) (CDP) (FDP) (PRC) (CP)

SEE PROFFERS DATED: 12/20/12

Date of (B/S) (PC) Approval: 1/8/13

Sheet: 7 of 14

Comments: Option A



A. - Pre-development Area Of Existing Tree Canopy (From Existing Vegetation Map) =	11275
B. - Percentage Of Gross Site Area Covered By Existing Tree Canopy =	27.8%
C. - Percentage Of Ten Year Tree Canopy Required for Site (From Table 12.4) =	25.0%
D. - Percentage Of Ten Year Tree Canopy Requirement That Should Be Met Through Tree Preservation =	27.8%
E. - Proposed Percentage Of Tree Canopy Requirement That Will Be Met Through Tree Preservation =	81.0%
F. - Has The Tree Preservation Target Minimum been Met? =	YES
G. - If No; then a request to deviate from the Tree Preservation Target shall be provided on the plans that states one or more of the justifications listed on Art. 12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is provided =	
H. - If G requires a narrative it shall be prepared in accordance with Article 12-0507.4 =	
I. - Place this information prior to the Ten Year Canopy Calculations as per instructions on Table 12.12 =	8221

TREE CONSERVATION
7250 IDYWOOD RD, FARMAN, VA
Date of site visit: February, 2012

Step	Totals	Reference
A.- Tree Preservation Target and Statement:		
A1 Place the Tree Preservation Target Calculations and Statement here preceding the 10 year tree canopy calculations	8221	§ 12-0507.2
B. Tree Canopy Requirements		
B1 Identify Gross Site Area	40591	§12-0510.1.A
B2 Subtract area dedicated to parks, road frontage and	0	§12-0510.1.B
B3 Subtract area of Exemptions	40591	§12-0510.1.C(1) to §2-0510.1.C(6)
B4 Adjusted gross site Area (B1-B2) =	40591	
B5 Identify site Zoning and On/Use =	R3	
B6 Percentage of 10 year Canopy required =	25%	§ 12-0509.1 and table 12.4
B7 Area Of 10 Year Canopy required (B4xB5) =	10148	
B8 Modification of the 10 Year Canopy requested? =	NO	Yes Or No
B9 If Yes, then list plan sheet where modification is requested		Sheet Number

C. Tree Preservation		
C1 Tree Preservation Target Area	8221	
C2 Total Canopy Area Meeting standards §12-0200	8221	
C3 C2 x 1.25 =	10276	§ 12-0509.3B
C4 Total Canopy Area provided by unique or valuable forest or Woodland Communities	0.0	
C5 C4 x 1.5 =	0.0	§ 12-0509.3B(1)
C6 Total Canopy Area provided by "Heritage", "Memorial", "Specimen" or "Street" trees =	0	
C7 C6 x 1.5 to 3.0 =	0	§ 12-0509.3B(2)
C8 Canopy Area Of Trees within resource Protection area and 100 Yr floodplain	0	
C9 C8 x 1.0 =	0	§ 12-0509.3C(1)
C10 Total of C3, C5, C7 and C9 =	10276	

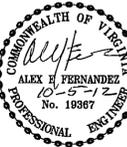
D1 Area Of Canopy to be Met By Tree Planting (B7-C10) =	0	
D2 Area Of Canopy planted for Air Quality benefits	0	
D3 x 1.5 =	0	§ 12-0510.4B(1)
D4 Area Of Canopy planted for Energy Conservation	400	
D5 x 1.5 =	600	§ 12-0510.4B(2)
D6 Area Of Canopy planted for Water Quality Benefits	0	
D7 x 1.25 =	0	§ 12-0510.4B(3)
D8 Area Of Canopy planted for Wildlife Benefits	400	
D9 x 1.5 =	600	§ 12-0510.4B(4)
D10 Area Of Canopy provided by Native Trees	200	
D11 x 1.5 =	300	§ 12-0510.4B(5)
D12 Area Of Canopy Provided By Improved Cultivars and Varieties	0	
D13 x 1.25 =	0	§ 12-0510.4B(6)
D14 Area Of Canopy Provided Through Seedlings x 1.0	0	§ 12-0510.4D(1)
D15 Area Of Canopy Provided Through Native Shrubs x 1.0	0	§ 12-0510.4D(1a)
D16 Percentage Of D14 represented by D15	0	Must Not Exceed 33% of D14
D17 Total Of Canopy Area Provide Through Tree Planting	3500	
D18 Is an Offsite Planting Relief Requested?	NO	Yes Or No?
D19 Tree Bank Or Tree Fund?	NO	Yes Or No?
D20 Canopy Area Requested To Be Provided Through Offsite Banking Or Tree Fund	0	
D21 Amount To Be deposited into the Tree Preservation and Planting Fund	0	
E		
E Total Of Ten Year Tree Canopy Provided		
E.1 Total Of Canopy Area Provided Through Tree Preservation = (C-10) =	10276	
E.2 Total Of Canopy Area Provided Through Tree Planting = (D-17) =	3500	
E.3 Total Of Canopy Area Provided Through Off-site Mechanism = (D-19) =	0	
E.4 Total Of Ten Year Canopy Provided = (E1 + E2 + E3) =	13776	

Advance Engineering Group LLC.
Civil, Structural & Geotechnical Engineers / Planners
701 W. Broad St Suite 306, Falls Church VA 22046
703-533-1561 Fax: 703-533-1562
www.advancegroup.net info@advancegroup.net



MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3-(1) - 0082

PROJECT MANAGER: A.E.F.
PROJECT NO.: 11-VA-824
ENG. OF RECORD: A.E.F.
ISSUE DATE: 4-23-2012
APPLICAT. NO.:



SEAL

REMARKS
BY: A.E.F.
DATE: 8-07-12
PER CITY COMMENTS: A.E.F.
PER CITY COMMENTS: A.E.F.

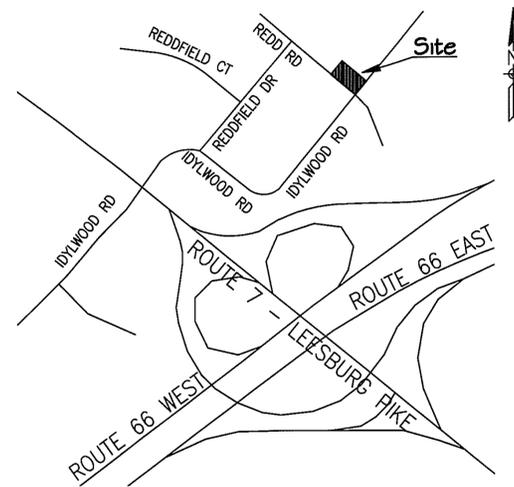
NO. 824
GDP-5
SHEET 7 OF 7

MID PIKE SUBDIVISION LOT 82 BLOCK 1 DRANESVILLE DISTRICT #1 FAIRFAX COUNTY, VIRGINIA GENERALIZED DEVELOPMENT PLAN REZONING & SUBDIVIDING RZ 2012-0147 7250 IDYLWOOD ROAD FALLS CHURCH, VA 22043

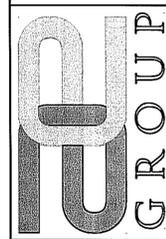
APPLICANT: CHRISTOPHER AND KAREN BARTH
7250 IDYLWOOD ROAD,
FALLS CHURCH, VA 22043

PREPARED BY: ADVANCE ENGINEERING GROUP, LLC
701 W BROAD ST, SUITE 306
FALLS CHURCH, VA 22046
703-533-1581

TABLE OF CONTENTS		
SHEET	NO.	LEGEND
CO-1	1_of_7	COVER SHEET
CO-2	2_of_7	PROJECT INFORMATION
GDP-1	3_of_7	EXISTING CONDITIONS AND GENERALIZED DEVELOPMENT PLAN
GDP-2	4_of_7	STORM WATER MANAGEMENT & INFILTRATION TRENCH DESIGN
GDP-3	5_of_7	WATER QUALITY REQUIREMENTS
GDP-4	6_of_7	EXISTING TREE COVER INVENTORY
GDP-5	7_of_7	TREE PRESERVATION PLAN

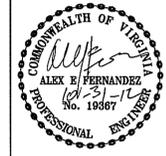


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MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3-(1) - 0082

PROJECT MANAGER	A.E.F.	APPLICAT. NO.
PROJECT NO.	11-VA-824	
ENG. OF RECORD	A.E.F.	
ISSUE DATE	4-23-2012	



SEAL

Application No: RZ 2012-02-017 Staff: M. Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)
 SEE PROFFERS DATED: 12/20/12
 Date of (R/S) (PC) Approval: 1/8/13
 Sheet: 8 of 14
 Comments: Option B (see proffer 18)

NO.	DATE	BY	REMARKS		
			PER CITY COMMENTS	PER CITY COMMENTS	INDIVIDUAL DRIVEWAYS ADJUSTED LOT SIZES
1	8-07-12	A.E.F.			
2	9-26-12	A.E.F.			
3	10-25-12	A.E.F.			

RECEIVED
Department of Planning & Zoning
NOV 01 2012
Zoning Evaluation Division

824
CO-1
SHEET 1 OF 7

GENERAL NOTES:

- THE PROPERTY DELINEATED ON THESE PLANS IS LOCATED ON FAIRFAX COUNTY TAX ASSESSMENT MAP NUMBER 40-3 (011) 0082. THE SITE IS CURRENTLY ZONED R-2, THE PROPOSED ZONING IS R-3.
- BOUNDARY INFORMATION OBTAINED FROM CERTIFIED SURVEY BY DOMINION SURVEYS DATED NOV016-2010.
 - TOPOGRAPHIC INFORMATION OBTAINED FROM FIELD RUN TOPOGRAPHIC SURVEY WITH TOTAL STATION PREPARED BY ADVANCE ENGINEERING GROUP, LLC. ON DEC-13-2011 TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 116.4, 302.4 AND 358; WASTE MANAGEMENT VR 672-10-1 - VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATION; AND/OR PETROLEUM PRODUCTS AS DEFINED IN TITLE 40 CODE OF FEDERAL REGULATIONS PART 280; TO BE GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON SITE.
 - THE PROPERTY IS LOCATED ON HC ZONING OVERLAY DISTRICT.
 - THERE ARE NO AFFORDABLE DWELLING UNITS (ADU) REQUIRED OR PROPOSED FOR THIS PROJECT.
 - NO DENSITY REDUCTIONS ARE REQUIRED BY ZONING SECTION 2-308.
 - THERE ARE NO PROPOSED RECREATION FACILITIES PROPOSED FOR THIS DEVELOPMENT.

SITE TABULATIONS:

SITE AREA = 40,591.5 SF = 0.932 ACRES
 ADJUSTED SITE AREA = 38,341.5 SF = 0.880 ACRES
 EXISTING ZONE = R-2 RESIDENTIAL
 PROPOSED ZONE = R-3 RESIDENTIAL

BULK REGULATION (R-3 ZONING DISTRICT)

	REQUIRED		PROVIDED	
	LOT 1	LOT 2	LOT 1	LOT 2
NUMBER OF UNITS:	3 DU/AC (MAX)	2.25	1 SFD DWELLING UNIT (EXIST)	1 SFD DWELLING UNIT (NEW)
DENSITY:	3 DU/AC (MAX)	2.25	1 SFD DWELLING UNIT (EXIST)	1 SFD DWELLING UNIT (NEW)
MINIMUM LOT AREA:	10,500 SF	19,215.00 SF	19,215.00 SF	19,215.00 SF
AVERAGE LOT AREA:	11,500 SF	19,170.75	19,170.75	19,170.75
MINIMUM LOT WIDTH:	INTERIOR LOT - 80'	NA	126.10	126.10
	CORNER LOT - 105'	127.51	NA	NA
MAX BUILDING HEIGHT:	35'	27' (EXIST)	30' (PROP)	30' (PROP)
SET BACKS:				
REAR YD	30	37.61' TO REDD RD RAW 30.50' TO IDYWOOD RAW	38.00 (PROP)	38.00 (PROP)
FRONT YD	25	NA (CORNER LOT)	74.06' (PROP)	74.06' (PROP)
REAR YD	25	NA (CORNER LOT)	74.06' (PROP)	74.06' (PROP)
SIDE YD	12	37.31' (PROP)	16.00' TO LOT 20 + 38.01' TO LOT 1	16.00' TO LOT 20 + 38.01' TO LOT 1
OPEN SPACE:	NR	NA	NA	NA
PARKING:	2 SPACES PER DU	2 SPACES	2 SPACES	2 SPACES
LOT SHAPE FACTOR:		16.20	16.03	16.03

*NOTES:
 1.- ADJUSTED AREA FOR LOT #1 SHOWN IS AFTER 2550.00 SF OF LAND DEDICATION FOR PUBLIC SIDEWALK
 2.- SETBACKS SHOWN FOR LOTS #1 AND #2 ARE RELATED TO THE PROPOSED NEW LOT LINE OR EXISTING AND AFTER LAND DEDICATION ALONG IDYWOOD RD.

ADDITIONAL NOTES

- TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS WASTE EXISTS ON THIS SITE.
- TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO KNOWN CEMETERIES ON THIS PROPERTY.
- THIS SITE IS LOCATED WITHIN THE PIMMIT RUN WATERSHED SLOPES OVER 15%

[] YES	[X] NO
[] R.P.A.	[X] NO
[] R.M.A.	[X] NO
[] OVERLAY DISTRICT (WATER SUPPLY)	[X] NO
[] WETLANDS	[X] NO
[] FLOODPLAIN	[X] NO
- THE PROPERTY DELINEATED ON THIS PLAN IS NOT ON THE 100 YEARS FLOOD PLAIN.
- TO THE BEST OF OUR KNOWLEDGE THERE IS NO KNOWN ARCHEOLOGICAL SITES ON THIS PROPERTY.
- THE PROPERTY DELINEATED ON THIS PLAN IS NOT LOCATED WITHIN A RESOURCE PROTECTION AREA AS SHOWN ON CHESAPEAKE BAY PRESERVATION AREA MAP (MAP APA-2).
- THIS LOT RECORDED PRIOR TO AUGUST 1, 1978 AND AS SUCH IS NOT REQUIRED TO MEET CURRENT LOT WIDTH AND SIZE REQUIREMENTS UNDER FAIRFAX COUNTY ZONING ORDINANCE, ARTICLE 2-405.
- THIS PROPERTY IS SERVED BY PUBLIC WATER AND SEWER.

PROFFERED OR CONDITIONED SITE:	[] YES	[] NO SPECIAL EXCEPTION
WATER SUPPLY	[X] PUBLIC	[] WELL
SEWER SERVICE	[X] PUBLIC	[] PRIVATE
- THE PROPOSED DEVELOPMENT CONFORMS WITH THE PROVISIONS OF ARTICLE 3, FOR R3 PROPOSED ZONING DISTRICT AND ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED STANDARDS. NO WAIVERS, VARIANCES, SPECIAL EXCEPTIONS, NOR PFM MODIFICATIONS ARE REQUESTED IN ASSOCIATION WITH THIS PROPOSED DEVELOPMENT
- THERE ARE NO PROPOSED PUBLIC IMPROVEMENT PLANS CONTEMPLATED FOR THIS DEVELOPMENT
- THE PROPOSED CHANGE FROM R2 TO R3 ZONING DISTRICT IS IN HARMONY WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN WHICH CALLS FOR THIS TYPE OF REDEVELOPMENT. THE PROPOSED PROJECT WILL COMPLY WITH ALL OTHER REQUIREMENTS OF THE COMPREHENSIVE PLAN

WATERSHED = PIMMIT RUN
 TOTAL LAND DISTURBANCE = 34700 SQ FT

GENERALIZED DEVELOPMENT PLAN SUBMISSION CHECKLIST:

- TWENTY-THREE (23) COPIES OF A GENERALIZED DEVELOPMENT PLAN PROVIDED HEREIN WITH APPLICATION.
- ONE 8 1/2" X 11" REDUCTION OF THE PLAN PROVIDED HEREIN WITH APPLICATION.
- A GENERALIZED DEVELOPMENT PLAN, AT A SCALE OR NOT LESS THAN ONE INCH EQUALS ONE HUNDRED FEET (1"=100'), SHALL SHOW THE FOLLOWING:
 - SCALE AND NORTH ARROW, WITH NORTH, TO THE EXTENT FEASIBLE, ORIENTED TO THE TOP OF THE PLAN.

~ SCALE AND NORTH ARROW HAVE BEEN PROVIDED ON PLAN, SEE SHEET 3 OF 7.

~ PROPOSED STRUCTURE AND USE INCLUDING MAXIMUM HEIGHT HAS BEEN PROVIDED ON PLANS. SEE SHEET 2 OF 7 (THIS SHEET)

~ ALL PROPOSED MAJOR OPEN SPACE AREAS AND THE APPROXIMATE LOCATION OF ALL PROPOSED COMMUNITY AND PUBLIC FACILITIES.

~ THERE IS NO OPEN SPACE REQUIREMENT FOR SITE, THEREFORE NO MAJOR OPEN SPACE AREAS HAVE BEEN PROPOSED. THERE ARE NO PROPOSED COMMUNITY OR PUBLIC FACILITIES.

~ THE PROPOSED PLAN FOR ALL MAJOR SANITARY SEWER IMPROVEMENTS.

~ NA NO SANITARY IMPROVEMENTS WITHIN THE RAW PROPOSED

~ APPROXIMATE LOCATION, ESTIMATED SIZE OF FOOTPRINT IN ACRES AND TYPE OF ALL PROPOSED STORMWATER MANAGEMENT FACILITIES, INCLUDING THE FULL EXTENT OF SIDE SLOPES, EMBANKMENTS, SPILLWAYS, DAMS, AND APPROXIMATE WATER SURFACE ELEVATION FOR DESIGN STORMS, IF APPLICABLE. IN ADDITION, A PRELIMINARY STORMWATER MANAGEMENT PLAN THAT INCLUDES INFORMATION ABOUT THE ADEQUACY OF DOWNSTREAM DRAINAGE, INCLUDING THE SUFFICIENCY OF CAPACITY OF ANY STORM DRAINAGE, PIPES, AND OTHER CONVEYANCES INTO WHICH STORMWATER RUNOFF WILL BE CONVEYED. WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY ON THE ENTIRE APPLICATION PROPERTY, IN ADDITION TO THE ABOVE, THE PRELIMINARY STORMWATER MANAGEMENT PLAN SHALL INCLUDE:

- A GRAPHIC DEPICTING INFORMATION AS DESCRIBED WITHIN DETAILED APPLICATION CHECKLIST.
- A PRELIMINARY STORMWATER MANAGEMENT NARRATIVE SETTING FORTH THE REQUIRED INFORMATION WITHIN THE DETAILED APPLICATION CHECKLIST.

~ STORM WATER OUTFALL ANALYSIS AND BMP CALCULATIONS FOR PROPOSED INFILTRATION TRENCHES HAVE BEEN PROVIDED, SEE SHEETS 4 OF 7 AND 5 OF 7 INCLUDING THE CHECKLIST

~ THE LOCATION OF ALL EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE AND ALL MAJOR UNDERGROUND UTILITY EASEMENTS REGARDLESS OF WIDTH.

~ IN APPLICANTS KNOWLEDGE, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH TWENTY-FIVE (25) FEET OR GREATER.

~ A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED BY THE PROVISIONS OR ARTICLE 11 OF THE ZONING ORDINANCE

~ A SCHEDULE SHOWING THE NUMBER OF PARKING SPACES PROVIDED AND THE NUMBER REQUIRED HAS BEEN PROVIDED. SEE SHEET 2 OF 7 (THIS SHEET)

WHETHER IT IS AIR SURVEYOR FIEL RUIN.

~ TOPOGRAPHIC INFORMATION PROVIDED ON SHEETS 3 OF 7 AS PREPARED BY A FIELD RUN SURVEY COMPLETED BY AEG GROUP, LLC (SEE NOTE ON THIS SHEET)

~ A DELINEATION OF THOSE GENERAL AREAS THAT HAVE SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION, AND A STATEMENT OF HOW SUCH WILL BE ACCOMPLISHED.

~ IN THE APPLICANTS OPINION. THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION.

~ A STATEMENT OR VISUAL PRESENTATION OF HOW ADJACENT AND NEIGHBORING PROPERTIES SHALL BE PROTECTED FROM ANY ADVERSE EFFECTS PROMPTED BY THE PROPOSED DEVELOPMENT, TO INCLUDE VEHICULAR ACCESS PLANS AND DIMENSIONS OF ALL PERIPHERAL YARDS THAT WILL BE PROVIDED.

~ ALL REQUIRED PERIPHERALS YARDS FOR PROPOSED STRUCTURES AND DRIVEWAYS HAVE BEEN PROVIDED IN ACCORDANCE WITH THE BULK REGULATIONS SET FORTH IN SECTION 3-207 OF THE FAIRFAX COUNTY ZONING ORDINANCE. SEE SHEET 3 OF 7

~ A DELINEATION OF ALL EXISTING STRUCTURES, AND AN INDICATION OF THEIR DATE OF CONSTRUCTION IF KNOWN, AND WHETHER THEY WILL BE RETAINED OR DEMOLISHED.

~ EXISTING DWELLING CONSTRUCTED CIRCA 1940 IS TO REMAIN THE DETACHED GARAGE WILL BE DEMOLISHED..... SEE SHEET 3 OF 7

~ A STATEMENT SETTING FORTH THE MAXIMUM GROSS FLOOR AREA AND FAR PROPOSED FOR ALL USES OTHER THAN RESIDENTIAL.

~ NA NO FAR REQUIREMENTS FOR RESIDENTIAL DEVELOPMENT

~ A STATEMENT OR PRESENTATION SETTING FORTH THE MAXIMUM NUMBER OR DWELLING UNITS PROPOSED, AND THE DENSITY AND THE OPEN SPACE CALCULATIONS BASED ON THE PROVISIONS OF SECTIONS 2-308 (MAXIMUM DENSITY) AND 2-309 (OPEN SPACE) OF THE ZONING ORDINANCE.

~ A TABLE SHOWING MAXIMUM DWELLING UNITS PER ACRE IS SHOWN ON THIS SHEET

~ A STATEMENT OF THOSE SPECIAL AMENITIES THAT ARE PROPOSED WITHIN THE DEVELOPMENT.

~ THERE ARE NO SPECIAL AMENITIES THAT ARE PROPOSED ON THIS PLAN.

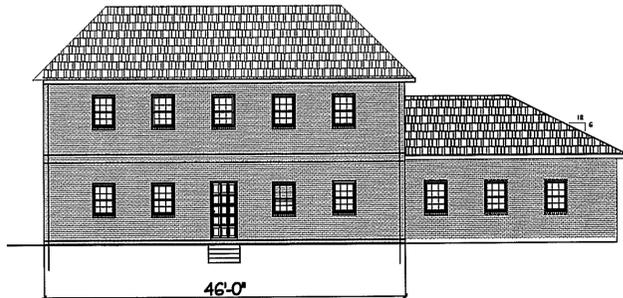
~ A STATEMENT OF THE PUBLIC IMPROVEMENTS, BOTH ON AND OFF-SITE, THAT ARE PROPOSED FOR DEDICATION AND/OR CONSTRUCTION, AND AN ESTIMATE OF THE TIMING OF PROVIDING SUCH IMPROVEMENTS.

~ STREET FRONTAGE DEDICATION CAN BE PROVIDED IF REQUESTED

~ A STATEMENT SETTING FORTH THE PROPOSED APPROXIMATE DEVELOPMENT SCHEDULE.

~ DEVELOPMENT IS ANTICIPATED TO COMMENCE UPON APPROVAL OF SITE PLAN.

~ APPROXIMATE DELINEATION OF ANY FLOODPLAIN DESIGNED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY, OR FAIRFAX COUNTY, THE APPROXIMATE DELINEATION OF ANY RESOURCE PROTECTION AREA AND RESOURCE



PROPOSED NEW HOUSE FOR LOT 2
 SCALE 1" = 10 FT APPROX

MANAGEMENT ARE, AND THE APPROXIMATE DELINEATION OF ANY ENVIRONMENTAL QUALITY CORRIDOR AS DEFINED IN THE ADOPTED COMPREHENSIVE PLAN, AND, IF APPLICABLE, THE DISTANCE OF ANY EXISTING AND PROPOSED STRUCTURES FROM THE FLOODPLAIN, RESOURCE PROTECTION AREA AND RESOURCE MANAGEMENT AREA, OR ENVIRONMENTAL QUALITY CORRIDOR.

~ IN ACCORDANCE WITH FEMA ISSUED FLOOD MAPS, THERE IS NO 100-YEAR FLOODPLAIN ON THE SITE, IN ACCORDANCE WITH FAIRFAX COUNTY GIS MAP #39-4. THERE ARE NO RESOURCE PROTECTION AREAS (RPA) OR ENVIRONMENTAL QUALITY CORRIDORS (EQC) ON THE SITE.

~ ANY PROPOSED IMPROVEMENTS TO THE PUBLIC RIGHTS-OF-WAY AND DELINEATION OF THE EXISTING CENTERLINE TO THE EDGE OF THE PAVEMENT AND TO THE EDGE OF THE RIGHT-OF-WAY.

~ A DEDICATION OF A 15 FT WIDE PARCEL PARALLEL TO IDYWOOD RD TO EXTEND IDYWOOD R.O.W TO 32 FT FROM THE CENTERLINE OF THE RD. TO THE EDGE OF THE PROPERTY. (SEE SHEET 3 OF 7).

~ A PLAN SHOWING LIMITS OF CLEARING, PROPOSED LANDSCAPING AND SCREENING IN ACCORDANCE WITH ARTICLE 13 OF THE ZONING ORDINANCE, A DELINEATION OF EXISTING VEGETATION, TO INCLUDE EXISTING VEGETATION TO BE PRESERVED, AND WHEN THERE IS 2500 SQUARE FEET OR MORE OF LAND DISTURBING ACTIVITY, AN EXISTING VEGETATION MAP.

~ THE PROPOSED LIMITS OF CLEARING HAS BEEN PROVIDED. SEE SHEET 3 OF 7. AN EXISTING VEGETATION MAP AND TREE PRESERVATION PLAN HAVE BEEN PROVIDED. SEE SHEETS 6 OF 7 & SHEET 7 OF 7 RESPECTIVELY.

~ APPROXIMATE DELINEATION OF ANY GRAVE, OBJECT OR STRUCTURE MARKING A PLACE OF BURIAL IF KNOWN, AND A STATEMENT INDICATING HOW THE PROPOSED DEVELOPMENT WILL IMPACT THE BURIAL SITE.

~ TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES, MARKERS, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL

~ A STATEMENT WHICH CONFIRMS THE OWNERSHIP OF THE SUBJECT PROPERTY, AND THE NATURE OF THE APPLICANTS INTEREST IN SAME.

~ THE PROPERTY HEREON IS IN THE OWNERSHIP OF MR. CHRISTOPHER D BARTH RECORDED IN DEED BOOK 21673 PAGE 0316 AMONG THE LAND RECORDS OF FAIRFAX COUNTY.

REQUESTED MODIFICATION/WAIVERS
 1. A WAIVER OF THE 10 FT TRAIL REQUIREMENT ALONG IDYWOOD ROAD IS REQUESTED. A WIDENING OF THE EXISTING SIDEWALK IS BEING PROPOSED TO 5 FT OF ASPHALT OR 6 FT OF PAVEMENT, AND THE SIDEWALK WILL MADE ADA COMPLIANT.
 2. A WAIVER OF STREET FRONTAGE IMPROVEMENTS ALONG REDD ROAD IS REQUESTED.
 3.- A WAIVER OF DEDICATED OUTLOT FOR BMP FACILITIES. BMP FACILITIES ARE PROPOSED ON INDIVIDUAL LOTS

ADEQUATE OUTFALL NARRATIVE

FOR LOT 1, WHERE THE EXISTING HOUSE IS LOCATED, THE RE-DEVELOPMENT CONSISTS SIMPLY IN ADDING A NEW GARAGE. THIS AREA HAS BEEN GRADED BEFORE. WHEN THE EXISTING HOUSE WAS BUILT AND THE EXISTING DRAINAGE PATTERN DIRECTS THE RUNOFF IN ALL DIRECTIONS AWAY FROM THE HOUSE. NET RUNOFF INCREASE FOR LOT 1 IS ONLY Q10=0.11 CFS ORIGINATED IN THE GARAGE AND IT WILL BE CONVEYED TO THE PROPOSED INFILTRATION TRENCH LOT 1

FOR LOT 2, BUILDING A NEW HOUSE WILL ENTAIL A LARGER LAND DISTURBANCE. THE EXISTING DRAINAGE PATTERN IS FAIRLY UNIFORM SHOWING A MILD SLOPE FROM FRONT TO BACK OF THE LOT. THE RUNOFF FROM THE FRONT YARD WILL HAVE TO BE CONVEYED AROUND THE HOUSE TOWARD THE PROPOSED INFILTRATION TRENCHES. FOR THIS LOT THE NET INCREASE IN RUNOFF IS Q10=0.404 CFS

ONLY THE EXCESS OF RUNOFF OVERFLOWING THE 3 EACH INFILTRATION TRENCHES FOR THE TWO LOTS THROUGH THE SPILLWAYS WILL SHEETFLOW TOWARD THE BACK LOTS AT MODERATE AND CONTROLLED VELOCITY WITHOUT ANY CHANCE OF CAUSING ANY IMPACT UPON ADJACENT PROPERTIES

ACCORDING TO SECTION 6-0202.2A, ADEQUATE OUTFALL ANALYSIS PER SECTION 6-0203.2 IS NOT REQUIRED SINCE THERE IS NO DIVERSION OF STORMWATER FROM ONE DRAINAGE AREA TO ANOTHER AND THE ASSOCIATED RUNOFF Q10=0.415 CFS IS ENTIRELY SHEETFLOW SO IN ACCORDANCE TO THE PFM, SECTION 6-0203.1 IT IS THE OPINION OF THE ENGINEER THAT THE DRAINAGE SYSTEM IS ADEQUATE AND THAT THE SCOPE OF THIS PROJECT HAS A MINIMUM EFFECT ON THE DISCHARGE VOLUME AS OUTLINED ABOVE.

Application No: RZ 2012-08-017 Staff: M. Brady

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDF) (FDP) (PRC) (CP)

SEE PROFFERS DATED: 12/20/12

Date of (GDP) (PC) Approval: 1/8/13

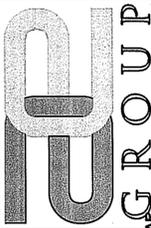
Sheet: 9 of 14

Comments: Option B

LEGEND

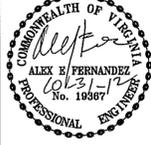
- EXISTING INTERMEDIATE CONTOUR: 31.3
- EXISTING INDEX CONTOUR: 32.5
- PROPOSED CONTOUR: 20
- EXISTING EDGE OF PAVEMENT: EX. EP
- PROPOSED EDGE OF PAVEMENT: PROP. EP
- EXISTING CURB AND GUTTER: EX. C+G
- PROPOSED CURB AND GUTTER: CG-6
- TRANSITION FROM CG-6 TO CG-GR: CG-6 CG-GR
- EXISTING UTILITY POLE: (Symbol)
- FENCELINE: X
- EXISTING WATER METER: (Symbol)
- EXISTING STORM SEWER MANHOLE: (Symbol)
- EXISTING SANITARY SEWER: (Symbol)
- PROPOSED SANITARY SEWER: (Symbol)
- EXISTING ELECTRIC SERVICE: (Symbol)
- EXISTING GAS LINE: (Symbol)
- EASEMENT LINE: (Symbol)
- CENTERLINE: (Symbol)
- PROPOSED SPOT ELEVATION: 12.5
- EXISTING TREE: 100 sf 375 mm (15") OAK
- EXISTING STOP SIGN: (Symbol)
- TEMP.CONST. ENTRANCE: (Symbol)
- EXISTING LANDSCAPE TO REMAIN: (Symbol)
- LIMITS OF DISTURBANCE: (Symbol)
- EXISTING STREET LIGHT: (Symbol)

Advance Engineering Group LLC.
 Civil, Structural & Geotechnical Engineers / Planners
 701 W. Broad St. Suite 306, Falls Church VA 22046
 703-593-1581 Fax: 703-593-1582
 info@advengr.com www.advengr.com



MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3-1(1) - 0082

PROJECT MANAGER	A.E.F.
PROJECT NO.	11-VA-824
ENG. OF RECORD	A.E.F.
ISSUE DATE	4-23-2012
APPLICANT NO.	

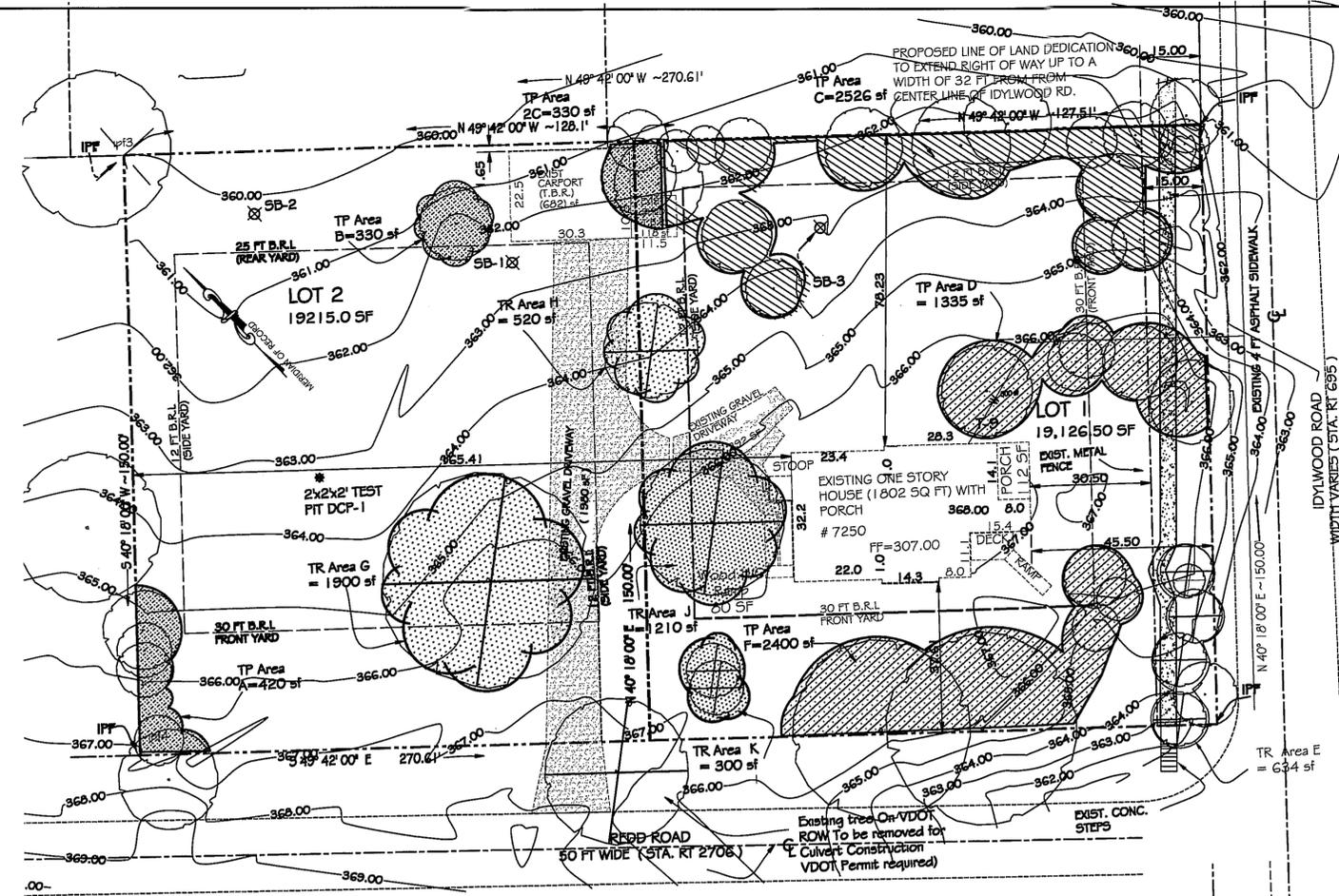


SEAL

REMARKS	PER CITY COMMENTS	PER CITY COMMENTS	INDIVIDUAL DRIVEWAYS ADJUSTED LOT SIZES
BY	A.E.F.	A.E.F.	A.E.F.
DATE	8-07-12	9-26-12	10-25-12
NO.	1	2	3

824
 CO-2
 SHEET 2 OF 7

P:\024_1dlywood\March_Deliverables_2\New_Topo_2\Resurvey_2\dwg\GDP_01_R2.dwg, 1/11/2012 10:45:45 AM, AEGDNG To PDF.pct



TOPOGRAPHY AND EXISTING CONDITIONS
SCALE 1" = 20 FT

IMPERVIOUS AREA CALCULATIONS LOT 1

Description	Development Pre	Post
Existing House	1,690 sf	1,690 sf
Existing Dway to be Removed	292 sf	
Existing Stoop & Steps	85 sf	85 sf
Existing Front Ramp To Stay	80 sf	80 sf
Existing Jogging Trail	604 sf	
Addition To Jogging Trail		302 sf
New Concrete Driveway		2544 sf
New Garage		648 sf
New Front Conc Walk		124 sf
Total	2,895 sf	6,077 sf
Total lot area=	19,215 sf	0.441 AC
Increase in impervious	3,182 sf	
Percentage of imp.	31.63 %	> 18% BMP IS Req'd

STORM WATER MANAGEMENT

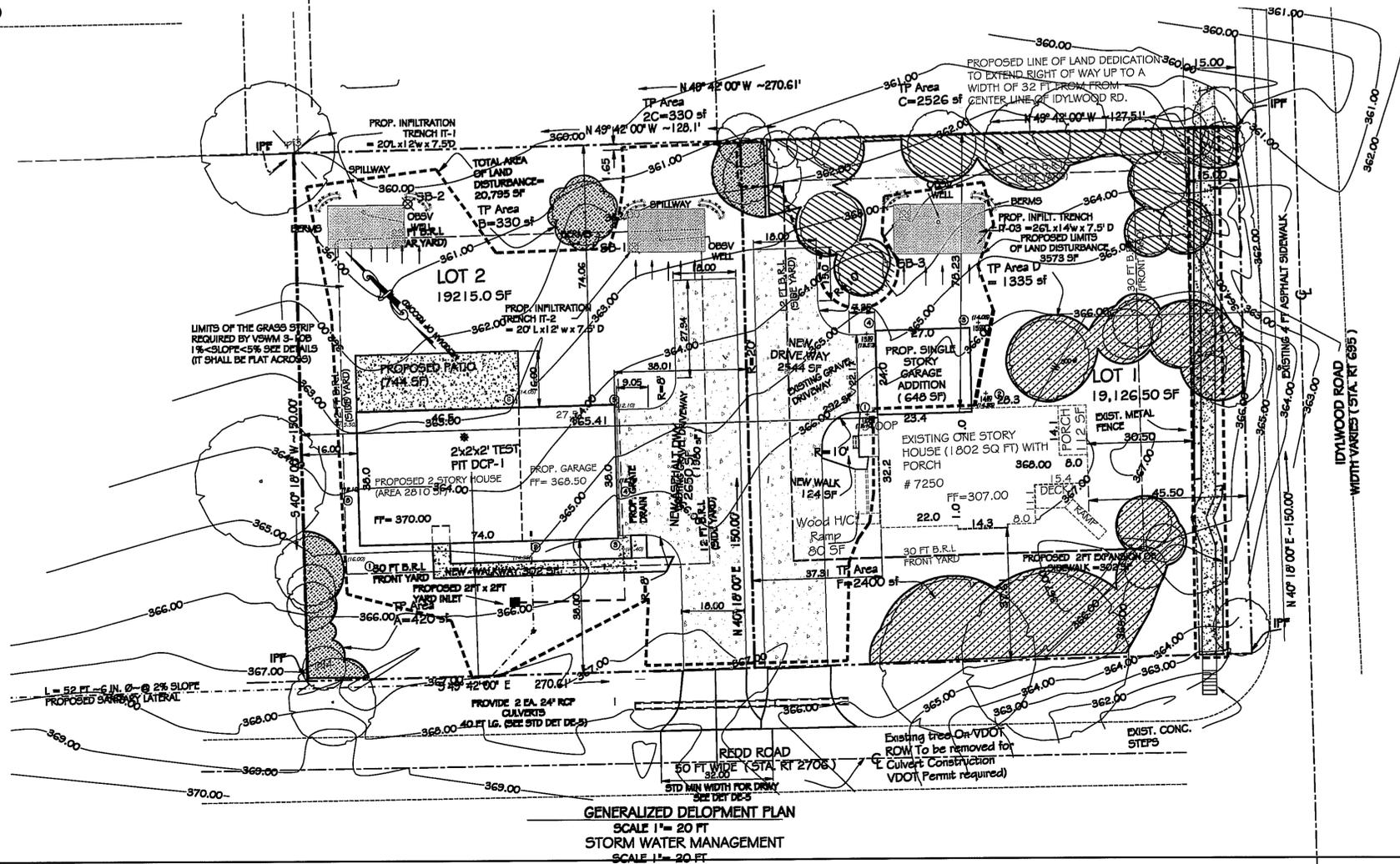
Impervious C-factor=	0.9	Paved		
Pervious C-factor=	0.25	Unpaved		
Site area	18,045 sf	0.433 AC		
Pre development Impervious Areas	2,895 sf	or 0.066 AC		
Landscaped lawn=	16,320 sf	or 0.375 AC		
C Factor	(0.066*0.90 + 0.375*0.25) = 0.348			
Post development Impervious Areas	6,077 sf	or 0.140 AC		
Landscaped lawn C Factor	13,138 sf	or 0.302 AC		
	(0.140*0.90 + 0.302*0.25) = 0.458			
Pre development Q2=	0.348	5.45	0.441	0.836 cfs
Q10=	0.348	7.27	0.441	1.116 cfs
Post development Q2=	0.456	5.45	0.441	1.095 cfs
Q10=	0.456	7.27	0.441	1.461 cfs
CHANGE IN RUNOFF				
Q2 Inc =	0.259 cfs			
Q10 Inc =	0.345 cfs			

IMPERVIOUS AREA CALCULATIONS LOT 2

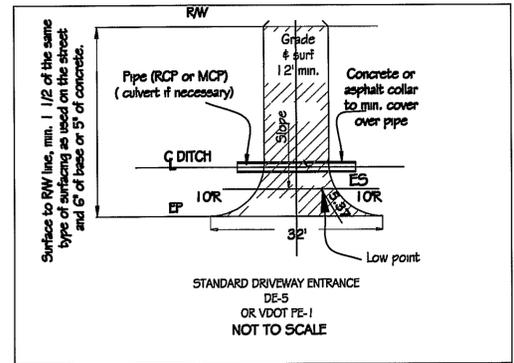
Description	Development Pre	Post
New House	0.0 (Vacant)	2,810 sf
Existing and New Driveways	1,980 sf	2,650 sf
Carport to be Removed	682 sf	
Storage Shed To Be Removed	86 sf	
New Concrete Patio		744 sf
Front Concrete Walk		302 sf
Total	2,748 sf	6,506 sf
Total lot area=	19,126.5 sf	0.439 AC
Increase in impervious	3,758 sf	0.086 AC
Percentage of imp.	34.02 %	> 18% BMP IS Req'd

STORM WATER MANAGEMENT

Impervious C-factor=	0.9	Paved		
Pervious C-factor=	0.25	Unpaved		
Site area	19,126.50 sf	0.439 AC		
Pre development Impervious Areas	2,748 sf	or 0.063 AC		
Landscaped lawn=	16,378.50 sf	or 0.376 AC		
C Factor	(0.063*0.90 + 0.376*0.25) = 0.343			
Post development Impervious Areas	6,506 sf	or 0.149 AC		
Landscaped lawn C Factor	12,620.5 sf	or 0.290 AC		
	(0.149*0.90 + 0.290*0.25) = 0.471			
Pre development Q2=	0.343	5.45	0.439	0.822 cfs
Q10=	0.343	7.27	0.439	1.096 cfs
Post development Q2=	0.471	5.45	0.439	1.127 cfs
Q10=	0.471	7.27	0.439	1.504 cfs
CHANGE IN RUNOFF				
Q2 Inc =	0.306 cfs			
Q10 Inc =	0.408 cfs			



GENERALIZED DEVELOPMENT PLAN
SCALE 1" = 20 FT
STORM WATER MANAGEMENT
SCALE 1" = 20 FT



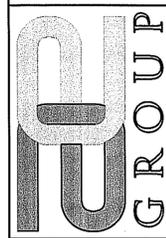
PROPOSED NEW DRIVEWAY ENTRANCE

Application No: RZ 2012-DR-017 Staff: M. Prosky

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CF)

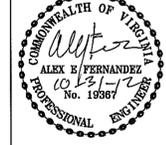
SEE PROFFERS DATED: 12/20/12
 Date of (BOS) (PC) Approval: 1/8/13
 Sheet: 10 of 14
 Comments: Option 6

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MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3(1) - 0082

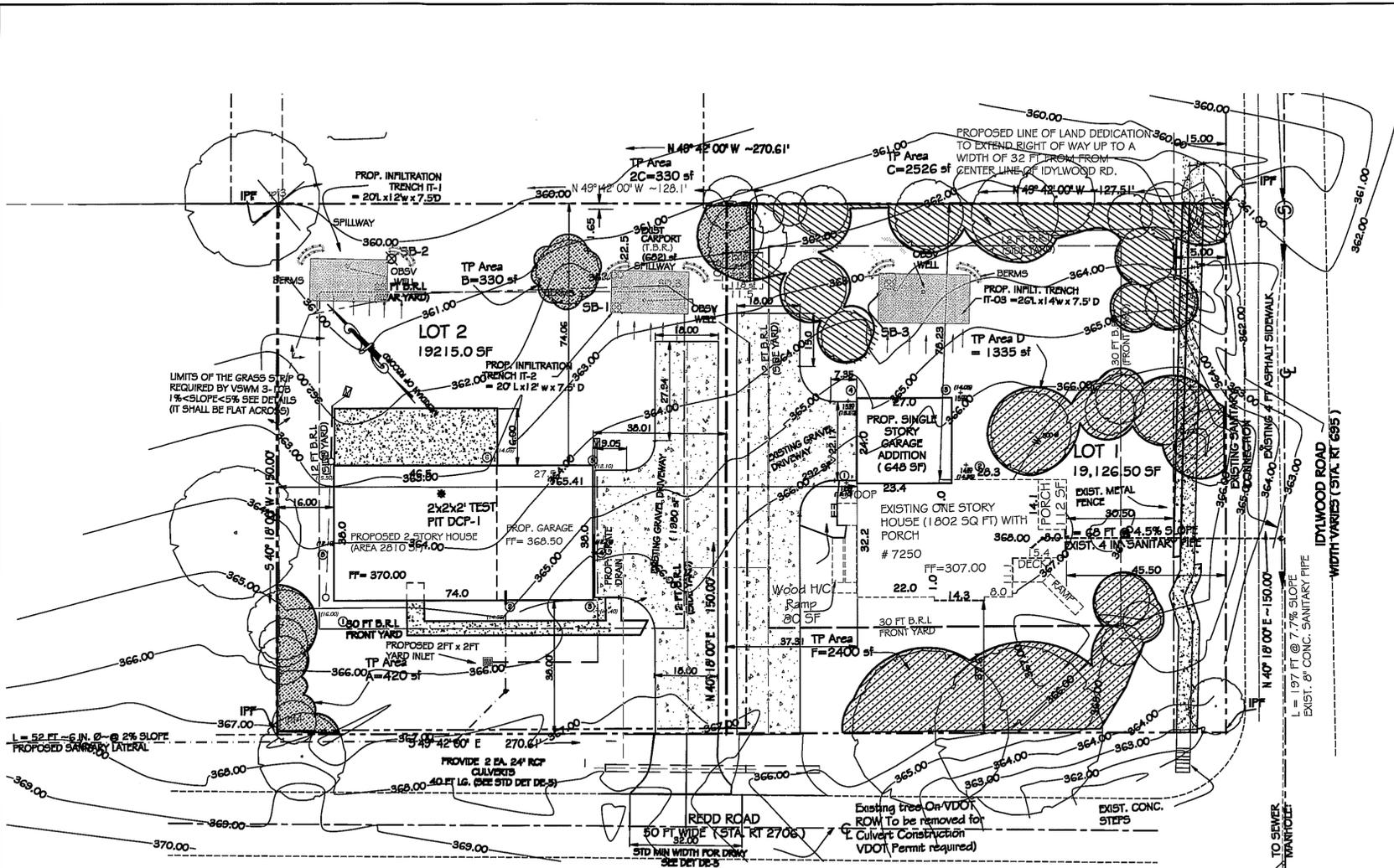
PROJECT MANAGER	A.E.F.
PROJECT NO.	11-VA-024
ENG. OF RECORD	A.E.F.
ISSUE DATE	4-25-2012
APPLICANT NO.	



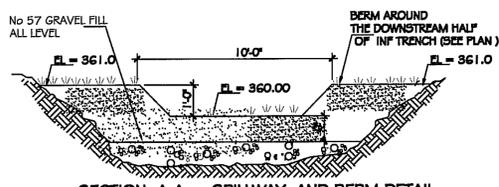
SEAL

REMARKS	BY	DATE
PER CITY COMMENTS	A.E.F.	8-07-12
PER CITY COMMENTS	A.E.F.	9-26-12
INDIVIDUAL DRIVEWAYS ADJUSTED LOT SIZES	A.E.F.	10-25-12

824
 GDP-1
 SHEET 3 OF 7



STORM WATER MANAGEMENT
SCALE 1" = 20 FT



SECTION A-A SPILLWAY AND BERM DETAIL
NOT TO SCALE

TEST DATE: 2-23-2012 TIME: 2 HRS

FIELD TEST RESULTS Boring 1			
Time	Depth	Absolute	Infiltration rate
Hr	m	m	in/hr
3:00	13.00	0	0
3:30	15.00	2.00	4.00
4:00	17.00	2.00	4.00
4:30	23.00	6.00	8.00
5:00	25.00	2.00	8.00
Infiltration rate			6.00

FIELD TEST RESULTS Boring 2			
Time	Depth	Absolute	Infiltration rate
Hr	m	m	in/hr
3:00	10.00	0	0
3:30	14.00	4.00	8.00
4:00	19.00	5.00	9.00
4:30	23.00	4.00	9.00
5:00	25.00	2.00	6.00
Infiltration rate			8.00

FIELD TEST RESULTS Boring 3			
Time	Depth	Absolute	Infiltration rate
Hr	m	m	in/hr
3:00	15.00	0	0
3:30	18.00	3.00	6.00
4:00	22.00	4.00	7.00
4:30	25.00	3.00	7.00
5:00	27.00	2.00	5.00
Infiltration rate			6.25

USE BORINGS #1 RESULTS FOR ALL (3) TRENCH LOCATIONS AND 3.0 IN/HR FOR DESIGN.

NOTE: THE DIAMETER OF THE HOLES WAS 4 INCH. AND DEPTH 108 INCH. INFILTRATION TESTS PERFORMED FOLLOWING 24 HOURS SATURATION PERIOD.

NOTE: THE EXACT DEPTH OF THE OBSERVATION WELL SHALL BE PERMANENTLY MARKED ON THE WELL CAP.

INFILTRATION TRENCH DESIGN FOR IT-01 & IT-02 (LOT 2)

TOTAL RAINFALL ACCUMULATION = 3 IN
 DURATION OF STORM (2-YR AND 2-HR STORM) = 2 Hr
 [PFM, FAIRFAX COUNTY VA, 2003 G-1303.4A]
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr

IMPERVIOUS AREA TO BE TREATED = (3939+2610)/2 = 3374 SF
 INFILTRATION RATE AS MEASURED IN THE FIELD = 6.0 IN/HR
 INFILTRATION RATE FOR DESIGN = 3.0 INCH/HR
 [VIRGINIA STORMWATER MANAGEMENT HANDBOOK: 3.00 B-3]
 VOLUME IN = 3374 x 3/12 = 843.6 CF

TRENCH DIMENSIONS

LENGTH = 20 FT
 WIDTH = 12 FT
 SURFACE AREA OF TRENCH = 20 x 12 = 240 SF
 MIN SURFACE AREA = 240 SF
 $= S_{Amin} = (V) / ((3.0 \text{ in/hr}) \times (48 \text{ hrs}) / 12) = (843.6 \text{ CF}) / (0.25 \text{ ft/hr}) = 70.25 \text{ SF} < 240 \text{ SF}$
 VOLUME OUT = 3.0 IN/HR x 2 Hr / 12 x 240 SF = 120.0 CF
 STORAGE VOL. REQUIRED = 843 - 120.0 = 723.6 CF
 USING # 57 STONE @ VOID 40%

DEPTH OF TRENCH = $V_s / (N_g A) = 723.6 \text{ CF} / (0.4 \times 240 \text{ SF}) = 7.5 \text{ FT}$
 USE 2 TRENCHES(S) OF EACH SIZE (20' L x 12' W x 7.5' D)

RATE OF DISCHARGE, $Q_{(out)} = 3.0 \times 1/12 \times 240 \text{ SF} = 60.0 \text{ CF/HR}$
 INFILTRATION TIME REQUIRED = 723.6 CF / 60.0 = 12.0 Hrs
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr OK

SPILLWAY DESIGN

$l = 9.8 \text{ in/hr} \quad c = 0.471 \quad A_c = 0.065 + 0.085 + 0.223 = 0.373$
 $Q_{100} = 1.25 \text{ CL} (H_{prv})^{1.5}$
 $Q_{100} = 1.25 \times 0.471 \times (0.373 \text{ Ac})^{1.5} \times 9.8 \text{ in/hr} = 1.08 \text{ cfs}$
 $H_{prv} = 0.15 \quad C = 3.3 \text{ (PFM G-1302.11)}$
 $L_{min} = (1.08 \text{ cfs} / (1.25)(3.3)(0.15)^{1.5})^{0.5} = 1.080 \text{ FT} \quad \text{USE } 6 \text{ FT}$

INFILTRATION TRENCH DESIGN FOR IT-03 (LOT 1)

TOTAL RAINFALL ACCUMULATION = 3 IN
 DURATION OF STORM (2-YR AND 2-HR STORM) = 2 Hr
 [PFM, FAIRFAX COUNTY VA, 2003 G-1303.4A]
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr

IMPERVIOUS AREA TO BE TREATED = 2338+2753 = 5091 SF
 INFILTRATION RATE AS MEASURED IN THE FIELD = 6.0 IN/HR
 INFILTRATION RATE FOR DESIGN = 3.0 INCH/HR
 [VIRGINIA STORMWATER MANAGEMENT HANDBOOK: 3.00 B-3]
 VOLUME IN = 5091 x 3/12 = 1272 CF

TRENCH DIMENSIONS

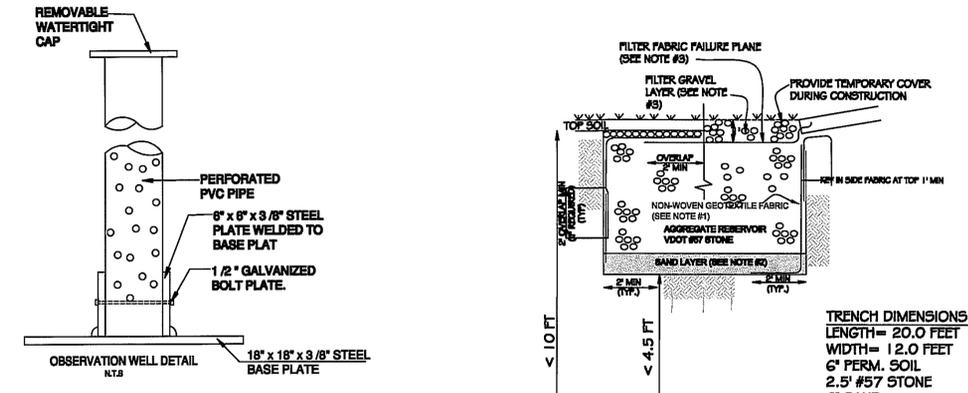
LENGTH = 26 FT
 WIDTH = 14 FT
 SURFACE AREA OF TRENCH = 26 x 14 = 364 SF
 MIN SURFACE AREA = 364 SF
 $= S_{Amin} = (V) / ((3.0 \text{ in/hr}) \times (48 \text{ hrs}) / 12) = (1272 \text{ CF}) / (1.44 \text{ ft/hr}) = 106 \text{ SF} < 364 \text{ SF}$
 VOLUME OUT = 0.25 FT/HR x 2 Hr x 364 SF = 182 CF
 STORAGE VOL. REQUIRED = 1272 - 182 = 1090 CF
 USING # 57 STONE @ VOID 40%

DEPTH OF TRENCH = $V_s / (N_g A) = 1090 \text{ CF} / (0.4 \times 364 \text{ SF}) = 7.5 \text{ FT}$
 MAXIMUM DEPTH = 10.0 FT
 USE IT-03 TRENCH (26' L x 14' W x 7.5' D)

RATE OF DISCHARGE, $Q_{(out)} = 3.0 \times 1/12 \times 364 \text{ SF} = 91.0 \text{ CF/HR}$
 INFILTRATION TIME REQUIRED = 1090 CF / 91.0 = 12.0 Hrs
 MAXIMUM ALLOWABLE DRAIN TIME = 48 Hr OK

SPILLWAY DESIGN

$l = 9.8 \text{ in/hr} \quad c = 0.053 + 0.063 + 0.192 = 0.309 \text{ Ac}$
 $Q_{100} = 1.25 \text{ CL} (H_{prv})^{1.5}$
 $Q_{100} = 1.25 \times 0.456 \times (0.309 \text{ Ac})^{1.5} \times 9.8 \text{ in/hr} = 1.73 \text{ cfs}$
 $H_{prv} = 0.15 \quad C = 3.3 \text{ (PFM G-1302.11)}$
 $L_{min} = (1.73 \text{ cfs} / (1.25)(3.3)(0.15)^{1.5})^{0.5} = 1.73(1.25)(3.3)(0.058) = 1.73 \text{ FT} \quad \text{USE } 2 \text{ FT} \quad \text{OK}$



- NOTES:**
- USE NON-WOVEN GEOTEXTILE FABRIC WITH AOS OF 70-100 US SIEVE OR 0.2 MM - 0.15 MM AS DETERMINED BY ASTM D4751 AND A TRAPEZOIDAL TEAR STRENGTH OF 45 LB OR 0.2 KN AS DETERMINED BY ASTM D4533.
 - AN 8-IN. DEEP BOTTOM SAND LAYER (VDOT FINE AGGREGATE, GRADING A OR B) IS REQUIRED.
 - FOR AN AGGREGATE SURFACE TRENCH, FILTER FABRIC SHALL SURROUND ALL OF THE AGGREGATE FILL MATERIAL EXCEPT THE TOP ONE FOOT. A SEPARATE PIECE OF FABRIC SHALL BE USED FOR THE TOP LAYER TO ACT AS A FAILURE PLANE. THIS TOP PIECE CAN THEN BE REPLACED AND REPLACED UPON CLOGGING.

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTIONS, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

- Special Permits (8-011 2J & 2L) Cluster Subdivision (9-615 1G & 1N) Development Plans PRC District (1G-302 2 & 4L) FDP P Districts (except PRC) 916-502 IF & IQ)
- Special Exceptions (9-011 21 & 2L) Commercial Revitalization Districts (9-622 2A (12) & (14)) PRC Plan (1G-303 IE & IO) Amendments (18-202 IOF & IOI)

- Flat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100). The Plat Scale is 1"= 20 ft (larger than minimum) OK
- A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet

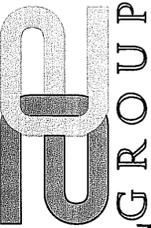
Facility Name/ Type # No.	On-Site area served (acres)	Off-Site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf.)	If pond, dam height (ft.)
Infilt. Trench, underground vault, etc.)						
IT-01	0.186	0.0	0.186	240	724.0	
IT-02	0.186	0.0	0.186	240	724.0	
IT-03	0.309	0.0	0.309	364	1090.0	

- Onsite drainage channels, outfalls and pipe systems are shown on Sheet 5 OF 7 (One Yard Inlet and Drain)
- Maintenance accesses (road) to stormwater management facility(ies) are shown on Sheet Not Required
- Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet Tree Preservation Canopy on Sheet 3 of 7 and Landscaping is shown on sheet 6 of 7
- A "stormwater management narrative" which contains a description of how detention and best management practices requirements will be met is provided on Sheet 5 of 7 (WATER QUANTITY AND WATER QUALITY)
- A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet No Concentrated Outfall Required. Excess runoff leaves the site as sheetflow
- A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet Not Required
- Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 2 of 7
- A submission waiver is requested for Not Required
- Stormwater management is not required because Not Applicable

Application No: RZ 2012-22-017 Staff: M. Brady

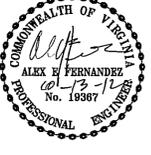
APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)
 SEE PROFFERS DATED: 12/20/12
 Date of (R/O) (PC) Approval: 1/8/13
 Sheet: 11 of 14
 Comments: Option B

Advance Engineering Group LLC.
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 701 W. Broad St Suite 306, Falls Church VA 22046
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MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3-(11) - 0082

PROJECT MANAGER	A.E.F.
PROJECT NO.	11-VA-324
ENG. OF RECORD	A.E.F.
ISSUE DATE	4-23-2012
APPLICANT NO.	

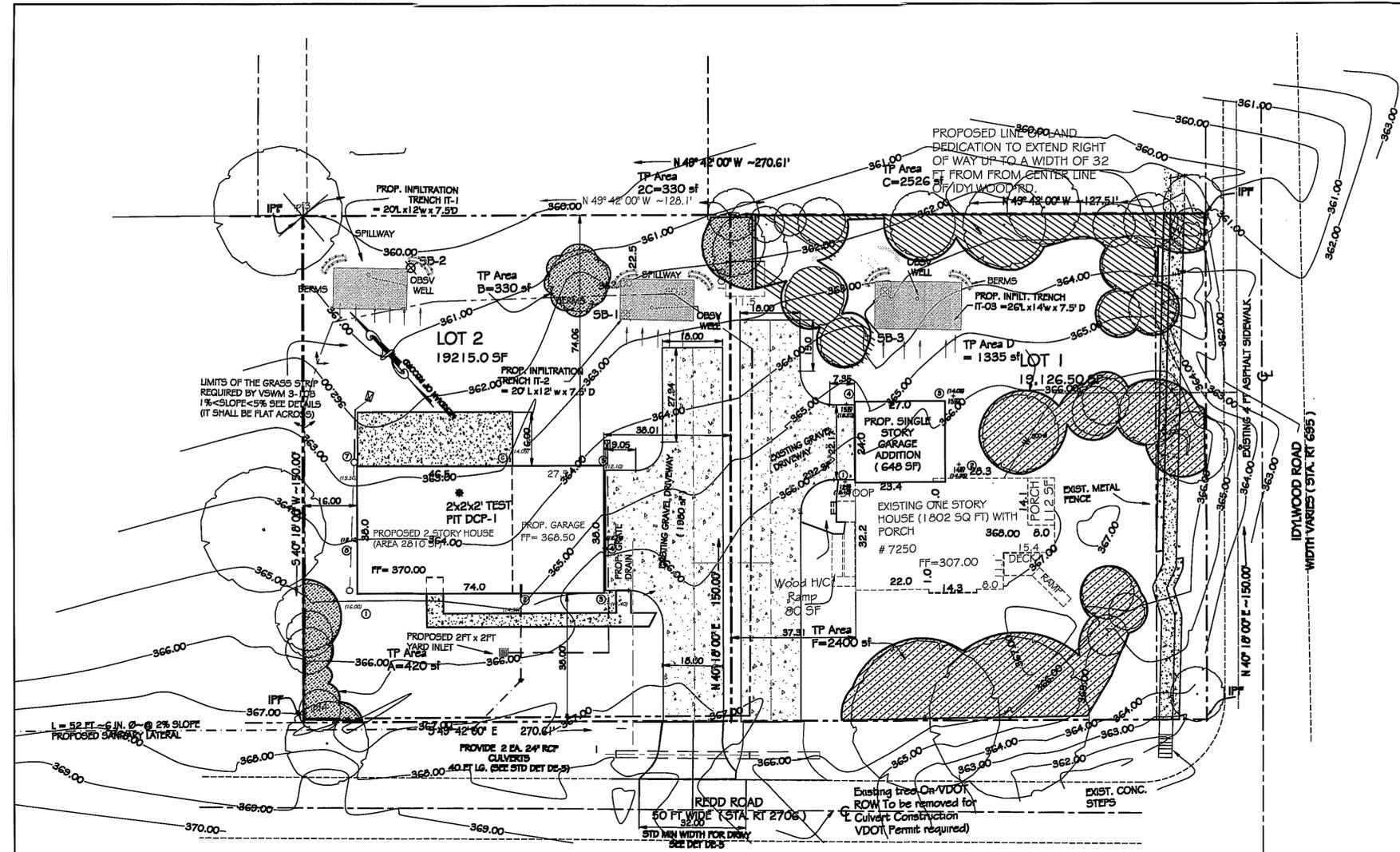


SEAL

REMARKS	BY	DATE	NO.
PER CITY COMMENTS	A.E.F.	8-07-12	1
PER CITY COMMENTS	A.E.F.	9-26-12	2
INDIVIDUAL DRIVWAYS ADJUSTED LOT SIZES	A.E.F.	10-25-12	3

824
 GDP-2
 SHEET 4 OF 7

P:\824_Ldywood\March_Deliverables_2\New_Topo_2\Resurvey_2\dwg\GDP_02_03_R2.dwg, 11/11/2012 10:32:08 AM, AEGDNG To PDF.pcs



STORM WATER MANAGEMENT
SCALE 1" = 20 FT

LEGEND

- A1 - BUILDING AREA (CONTROLLED)
(AREA= 2360 sq ft = 0.054 AC.)
- A2 - PAVED AREA (CONTROLLED)
(AREA= 353 + 184 = 537 sq ft = 0.012 AC.)
- A3 - PAVED AREA (UNCONTROLLED)
(AREA= 293 sq ft + 175 sq ft = 468 sq ft = 0.011 AC.)
- A4 - UNPAVED AREA (CONTROLLED)
(AREA= 2627 sq ft = 0.060 AC.)
- A5 - UNPAVED AREA (UNCONTROLLED)
(AREA= 2882+2910+575=6367 sq ft = 0.308 AC.)
- DRAINAGE DIVIDE

WATER QUALITY NARRATIVE
THE PROPOSED INFILTRATION TRENCHES WILL PROVIDE WATER TREATMENT TO APPROXIMATELY 0.186 ACRES OF IMPERVIOUS AND PERVIOUS AREA FOR EACH TRENCH ON LOT 2 (IT-01 AND IT-02); AND 0.309 ACRES IN LOT 1. BUILDING AREA, OTHER IMPERVIOUS AREAS AND TRIBUTARY PORTION OF THE PERVIOUS AREA. THE PHOSPHORUS REMOVAL REQUIRED IS 40% FOR LOT 1 AND 40% FOR LOT 2 (REDEVELOPMENT PFM FAIRFAX VA, 2003 6-401.2B). THE PHOSPHORUS REMOVAL REQUIREMENTS ARE EXCEEDED, 53.7% IS REMOVED FROM LOT 1 AND 64.4% FROM LOT 2. THE WATER QUALITY REQUIREMENT IS MET BY THE BMP FACILITIES (INFILTRATION TRENCHES) FOR THIS PROJECT. AFTER INSTALLATION OF INFILTRATION TRENCH, BOTH STORMWATER QUALITY AND QUANTITY WILL BE CONTROLLED.

STORM WATER MANAGEMENT NARRATIVE
FOR LOT 1 APPROXIMATELY 0.309 ACRES OF THE RUNOFF IS CONVEYED TO THE PROPOSED INFILTRATION TRENCH (IT-03), AND THIS WILL PROVIDE WATER TREATMENT TO APPROXIMATELY 0.309 ACRES OF IMPERVIOUS AREA (BUILDING AREA AND TRIBUTARY PORTION OF THE PERVIOUS AREA). IT-03 IS REQUIRED TO HAVE 1090 CUBIC FEET OF STORAGE VOLUME, AND SAME CUBIC FEET STORAGE CAPACITY IS PROVIDED. THE INFILTRATION RATE IS SUCH THAT THE TRENCH PROVIDES WATER DETENTION AND INFILTRATION AT THE SAME TIME. A 100 YEAR STORM WITH NO OVERFLOW. THE OTHER 50% OF UNTREATED AREA IS SHEET FLOW NATURALLY FLOWING TOWARDS IDYWOOD AND REDD ROAD WITHOUT ANY CHANGES FROM EXISTING DRAINAGE PATTERN AND NO ADDITIONAL IMPERVIOUS AREA. EXISTING CONDITIONS SHOW NO CONCENTRATED FLOW ISSUES.

FOR LOT 2 APPROXIMATELY 0.373 ACRES OF THE RUNOFF IS CONVEYED TO THE 2 PROPOSED INFILTRATION TRENCHES ON LOT 2 (IT-01 AND IT-02), AND THIS WILL PROVIDE WATER TREATMENT AND DETENTION TO APPROXIMATELY 0.373 ACRES OF IMPERVIOUS AREA. EACH TRENCH ON LOT 2 REQUIRES 724 CUBIC FEET OF STORAGE, AND SAME CUBIC FEET OF STORAGE IS PROVIDED. THEREFORE, WATER DETENTION FOR 3" ON RUNOFF REQUIREMENT IS MET

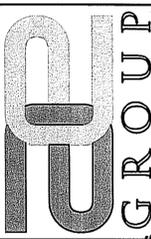
PHOSPHOROUS REMOVAL CALCULATIONS -LOT 1 "OCOCOQUAN METHOD"

Impervious Area	Pre	Post	136.7 % Net Increase	
%P Removal Development	1-0.9*(0.14/0.19) =	Redev. W/O Exist BMP	57.1 %	
%P Removal Required	40 %			
Area of the site - (A)	0.441 AC			
Surface area design (B)	Designation	C-Factor	Acres	Product
Building area (Controlled)	A1	0.9	0.054 AC	0.046
Paved area (Controlled)	A2	0.9	0.063 AC	0.057
Paved area (Uncontrolled)	A3	0.9	0.021 AC	0.019
Unpaved area (Controlled)	A4	0.25	0.192 AC	0.048
Unpaved area (Uncontrolled)	A5	0.25	0.111 AC	0.028
Weighted average C-Factor	Total	0.441 AC 0.200		
		(C) = (B) / (A) = 0.471 AC		
%P Removal Subarea Designation	1 Hr Detention	2 Year Storm		
A1	Infiltration Trench	70%	0.122 AC	1.987
A2	Infiltration Trench	70%	0.143 AC	1.987
A3	None	0%	0.047 AC	1.987
A4	Infiltration Trench	70%	0.435 AC	0.552
A5	None	0%	0.252 AC	0.552
Total %P Removal	Required	40.0 %	Total	53.7 %
The phosphorus removal is in compliance with Phosphorus Removal Requirement. Therefore, the design is acceptable.				

PHOSPHOROUS REMOVAL CALCULATIONS -LOT 2 "OCOCOQUAN METHOD"

Impervious Area	Pre	Post	137.0 % Net Increase	
%P Removal Development	1-0.9*(0.14/0.33) =	Redev. W/O Exist BMP	62.4 %	
%P Removal Required	40.0 %			
Area of the site - (A)	0.439 AC			
Surface area design (B)	Designation	C-Factor	Acres	Product
Building area (Controlled)	A1	0.9	0.065 AC	0.058
Paved area (Controlled)	A2	0.9	0.090 AC	0.076
Paved area (Uncontrolled)	A3	0.9	0.000 AC	0.000
Unpaved area (Controlled)	A4	0.25	0.223 AC	0.056
Unpaved area (Uncontrolled)	A5	0.25	0.067 AC	0.017
Weighted average C-Factor	Total	0.439 AC 0.207		
		(C) = (B) / (A) = 0.471 AC		
%P Removal Subarea Designation	1 Hr Detention	2 Year Storm		
A1	Infiltration Trench	70%	0.147 AC	1.910
A2	Infiltration Trench	70%	0.193 AC	1.910
A3	None	0%	0.000 AC	1.910
A4	Infiltration Trench	70%	0.508 AC	0.531
A5	None	0%	0.152 AC	0.531
Total %P Removal	Required	40.0 %	Total	64.4%
The phosphorus removal is in compliance with Phosphorus Removal Requirement. Therefore, the design is acceptable.				

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www.advengroup.net info@advengroup.net



MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3-(1) - 0082

PROJECT MANAGER	A.E.F.	11-VA-824	A.E.F.	4-23-2012	APPLICANT NO.
PROJECT NO.	ENG. OF RECORD	ISSUE DATE			



SEAL

REMARKS	PER CITY COMMENTS	PER CITY COMMENTS	INDIVIDUAL DRIVEWAYS ADJUSTED LOT SIZES
BY	A.E.F.	A.E.F.	A.E.F.

Application No: RZ 2012-08-017 Staff: M. Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDF) (FDP) (PRC) (CP)

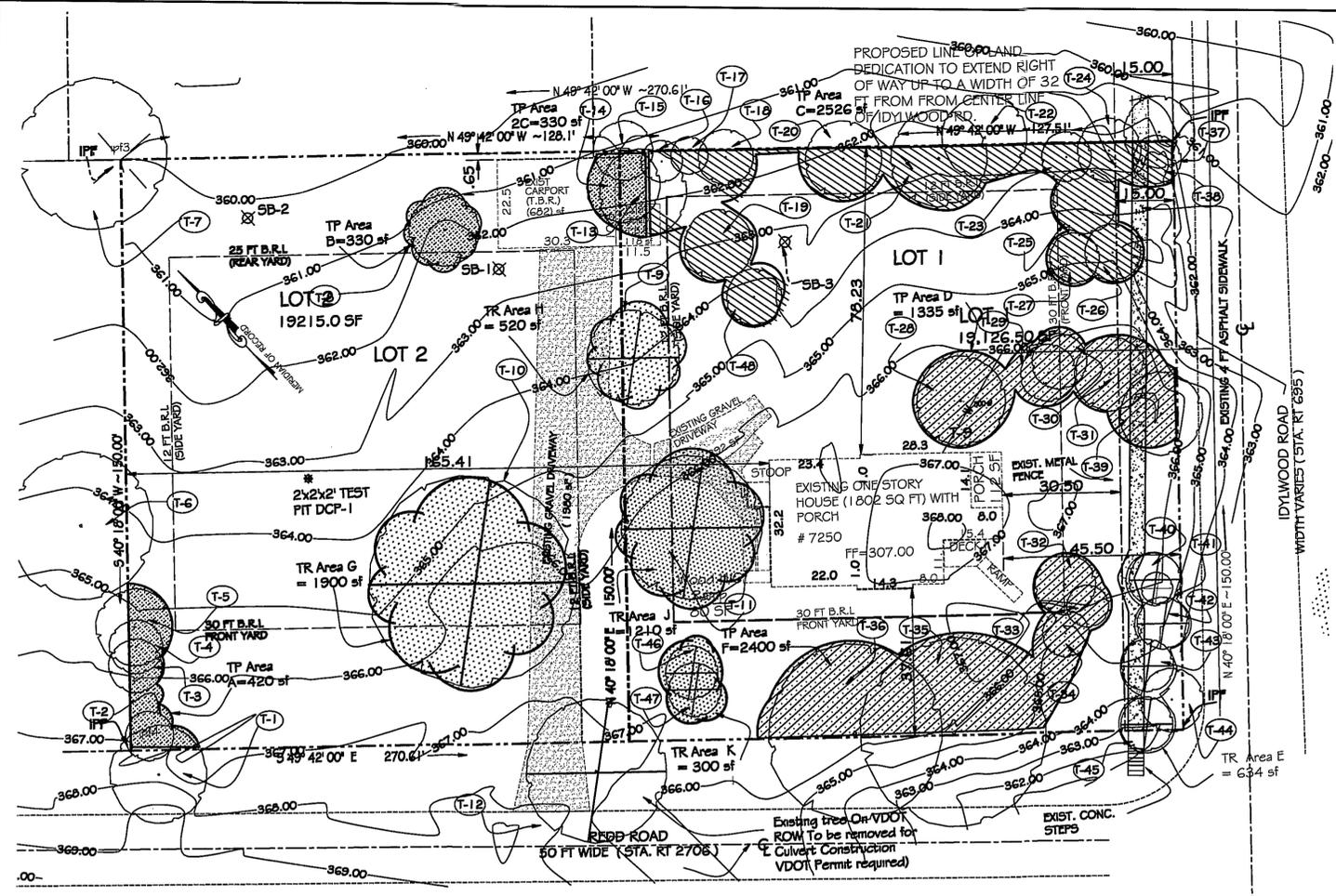
SEE PROFFERS DATED: 12/20/12

Date of (BOS) (PC) Approval: 1/8/13
Sheet: 12 of 14

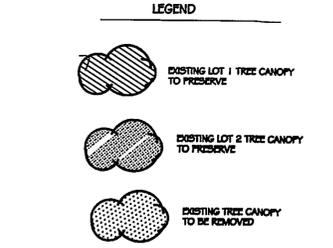
Comments: Option B

824
GDP-3
SHEET 5 OF 7

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EXISTING VEGETATION
SCALE = 1" = 20 FT



EXISTING VEGETATION
 TP Area A = 420 SF
 TP Area B = 330 SF
 TP Area C = 2526 SF
 TP Area D = 1335 SF
 TR Area E = 634 SF
 TP Area F = 2100 SF
 TR Area G = 1900 SF
 TR Area H = 520 SF
 TR Area J = 1210 SF
 TR Area K = 300 SF
 TOTAL EV = 11275 SF

VEGETATION TO BE REMOVED
 TR Area E = 634 SF
 TR Area G = 1900 SF
 TR Area H = 520 SF
 TR Area J = 1210 SF
 TR Area K = 300 SF
 TOTAL TR = 4564 SF

VEGETATION TO PRESERVE
 EXISTING - REMOVAL = 11275 - 4564 = 6711 SF
 Application No: R-2 2012-02-01 Staff: P. Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CPC)
 SEE PROFFERS DATED: 12/20/12
 Date of (RGS) (PC) Approval: 1/8/13
 Sheet: 13 of 14
 Comments: Option B

TREE INVENTORY AND CONSERVATION NARRATIVE

A.- EXISTING YARD VEGETATION COVER CONSISTS OF REMNANTS OF UPLAND FOREST MAINLY OAKS, AMERICAN BEECH AND YELLOW POPLAR OF REGULAR HEIGHT INTERMIXED WITH VEGETATION CORRESPONDING TO THE EARLY SUCCESSIONAL FOREST MAINLY NORWAY MAPLES, LOCUSTS, WALNUTS, DOGWOODS, AMERICAN HOLLY, REDBUDS, AMERICAN ELM AND OTHER UNDERSTORY TREES INTERMIXED WITH SOME LEVELS TURFGRASS, REMNANTS OF NATIVE HERBACEOUS PLANTS AND SUCH ORIGINAL LAND COVER. ALL TREES IN THE INVENTORY ARE NATIVE AND IN SATISFACTORY CONDITION

B.- IN LOT ONE BACK YARD, SOME LANDSCAPED NON NATIVE NURSERY STOCK TREES, AND SHRUBS WERE NOT CONSIDERED IN THE INVENTORY FOR BEING LESS THAN 4" IN CALIPER.

C.- FOUR TREES ON THE SURVEY ARE VALUABLE TREES, (No. T-10, 48 INCH CALIPER TULIP POPLAR, T-11, A 44" CALIPER WHITE OAK, T-34 AND T-35, A 42" AND A 35" CALIPER AMERICAN BEECH TREES) DUE TO LARGE DIAMETER AND CANOPY IN ADDITION TO A HIGH SPECIES RATING. VALUABLE FOR AIR QUALITY OR WILDLIFE SUPPORT. THE WHITE OAK (T-11) FALLS WITHIN THE DISTANCE AND NORTHWESTERN- SOUTHEASTERN RANGE TO SAVE ENERGY FOR LOT 1

D.- FOR LOT 2 ONLY T-3, T-4 AND T-5 FALL WITHIN THE REQUIRED SIMILAR LOCATION FOR ENERGY CONSERVATION CREDIT IF THEY WERE NEW PLANTINGS, BUT IT IS RECOMMENDED TO SAVE THEM FOR THE PROPOSED DEVELOPMENT IN LOT 2

E.- TWO TREES IN THIS INVENTORY, CONSIDERED RARE OR ENDANGERED SPECIES WERE FOUND AT THE SITE. T-11 AND T-38 BOTH ARE QUERCUS ALBA., THEIR PRESERVATION IS ENCOURAGED..

F.- SOME TREES ON THIS SURVEY ARE CONSIDERED MODERATELY INVASIVE SPECIES. TREES T-39 THROUGH T-45 CONSISTING OF HONEY LOCUSTS OR BLAK LOCUSTS AND NORWAY MAPLES ARE RATED AS SUCH. HOWEVER THEY ARE LOCATED PARALLEL TO IDYLWOOD ROAD RIGHT OF WAY LINE AND FAR FROM THE PROPOSED RE-DEVELOPMENT IMPACT.

G.- NO CONSTRUCTION DEBRIS, FILL AND OR OTHER MATERIALS SHALL BE PLACED OR STORED BENEATH THE CANOPY COVER OF PROTECTED TREES OR OUTSIDE OF THE LIMITS OF DISTURBANCE ON APPROVED PLANS

H.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES MEASURING 12' OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE "GUIDE FOR FLAT APPRAISAL" SHALL BE LABELED IN "POOR CONDITION" AND SHALL BE CONSIDERED FOR REMOVAL AFTER APPROVAL OF THE COUNTY ARBORIST

TREE INVENTORY

7250 IDYLWOOD RD, FAIRFAX, VA
 Date of site visit: April 28th, 2012
 Certified Arborist: Alex E Fernandez PE

TREE #	BOTANIC NAME	COMMON NAME	CALIPER (DBH) (inches)	SPECIES RATING (0-100%)	CONDITION RATING (0100%)	PRESERVE / REMOVE
T-1	Juglan nigra	Black Walnut	27	70	70	Preserve
T-2	Cercis canadensis	Redbud	4	50	60	Preserve
T-3	Juniperus Virginiana	Juniper	9	60	60	Preserve
T-4	Juniperus Virginiana	Juniper	10	60	65	Preserve
T-5	Juglan nigra	Walnut	18	70	65	Preserve
T-6	Prunus Serotina	Black Cherry	22	50	50	Out Of Prop.
T-7	Juglan nigra	Walnut	28	70	70	Out Of Prop.
T-8	Ulmus americana	American Elm	64	70	70	Preserve
T-9	Acer Saccharum	Silver Maple	20	55	70	Remove
T-10	Liriodendron Tulipifera	Tulip Poplar	48	80	75	Remove
T-11	Quercus Alba	White Oak	44	80	70	Remove
T-12	Quercus Prinus	Chestnut Oak	20	80	65	In ROW(Remove)
T-13	Juglan nigra	Black Walnut	11	70	40	Preserve
T-14	Ulmus americana	American Elm	17	70	65	Preserve
T-15	Juglan nigra	Walnut	19	70	65	Preserve
T-16	Acer Platanoides	Norway Maple	8	60	65	Preserve
T-17	Cornus florida	Flowering Dogwood	6	50	60	Preserve
T-18	Cornus florida	Flowering Dogwood	6+4	50	60	Preserve
T-19	Quercus Rubra	Red Oak	11	80	70	Preserve
T-20	Cornus florida	Flowering Dogwood	6	50	70	Preserve
T-21	Prunus Serotina	Black Cherry	16	45	65	Preserve
T-22	Quercus Falcata	Southern Red Oak	25	80	70	Out Of Prop.
T-23	Cornus florida	Flowering Dogwood	2+4+2+3	50	65	Preserve
T-24	Robinia Pseudoacacia	Locust	16	50	70	Preserve
T-25	Robinia Pseudoacacia	Locust	8+6	50	65	Preserve
T-26	Prunus Serotina	Black Cherry	9	45	65	Preserve
T-27	Cornus florida	Flowering Dogwood	6	50	65	Preserve
T-28	Acer Platanoides	Norway Spruce	16	60	70	Preserve
T-29	Sassafras Albium	Sassafras	8	60	70	Preserve
T-30	Sassafras Albium	Sassafras	6+6	60	70	Preserve
T-31	Prunus Serotina	Black Cherry	10	45	65	Preserve
T-32	Picea abies	Norway Spruce	9	70	70	Preserve
T-33	Ilex opaca	American Holly	6+5+4+4	60	65	Preserve
T-34	Ilex opaca	American Holly	5+5	60	65	Preserve
T-35	Fagus Grandifolia	American Beech	42	80	80	Preserve
T-36	Fagus Grandifolia	American Beech	35	80	80	Preserve
T-37	Robinia Pseudoacacia	Locust	20	50	75	Preserve
T-38	Quercus Alba	White Oak	13	80	65	Preserve
T-39	Acer Platanoides	Norway Maple	15	50	70	Preserve
T-40	Acer Platanoides	Norway Maple	5	50	65	Remove
T-41	Acer Platanoides	Norway Maple	9	50	70	Remove
T-42	Acer Platanoides	Norway Maple	10	50	70	Remove
T-43	Acer Platanoides	Norway Maple	8	50	70	Dead (Remove)
T-44	Robinia Pseudoacacia	Locust	11	40	65	Preserve
T-45	Robinia Pseudoacacia	Locust	13	40	60	Remove
T-46	Koelreutena paniculata	Golden Rain Tree	6	60	70	Remove
T-47	Koelreutena paniculata	Golden Rain Tree	5	60	60	Remove
T-48	Cornus florida	Flowering Dogwood	8	50	70	Preserve

- Notes:
- Condition and Species Rating are based on formula provided by the Guide for Plant Appraisal published by the International Society Of Arborists.
 - All trees indicated so, are to be cleared from the site due to construction impacts.
 - All trees with a minimum 8" D.B.H. were inventoried and evaluated.
 - Out Of Property Trees are included due to proximity to Project Land Disturbance Limits
 - Neither the Project Arborist or Advanced Engineering Group, LLC condone the implementing of any suggested tree preservation or removal techniques without the agreement/permission of the adjacent property owner or HOA, given the laws of border lines and boundary line trees.
 - Removal of trees on Redd Rd R.O.W will require the contractor to secure VDOT permit.

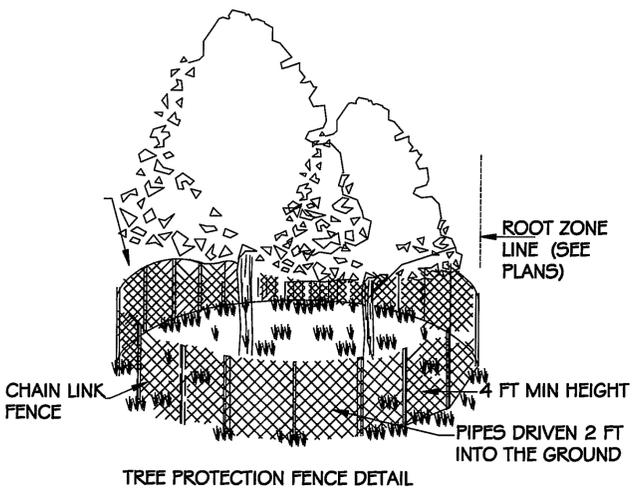
G.- TREES T-13, T-14, T-15 AND T-19 (WALNUTS, ELM AND A RED OAK) ARE BEING CLAIMED WITHIN THE TREE CONSERVATION PLANS FOR LOTS 1 AND 2. HOWEVER; DUE TO THE IMMEDIATE PROXIMITY TO THE DEMOLITION OF THE EXISTING CARPORT AND STORAGE SHED, PROBABLY IT IS NOT POSSIBLE TO INSTALL REGULAR TREE PROTECTION FENCE. THIS DEMO WORK WOULD NEED TO BE DONE WITH LIGHT EQUIPMENT AND AS MANUALLY AS POSSIBLE TO MINIMIZE ROOT ZONE DAMAGE

PRESERVATION & PROTECTION OF EXISTING VEGETATION

A.- TREES DESIGNATED FOR PROTECTION SHALL RECEIVE ENHANCED LEVEL OF MAINTENANCE THROUGHOUT THE ENTIRE CONSTRUCTION PERIOD. SELECTIVE ROOT AND LIMBS PRUNING IN ANY EXCAVATION ENCROACHING THE CANOPY OF TREES TO PRESERVE IN ACCORDANCE WITH PFM PLATE 7-12. PROVIDE TREE PROTECTION FENCE WITHIN 10 FEET OF THE TRUNK OF PRESERVATION TREES BEHIND THE SILT FENCE.

B.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES MEASURING 12' OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE "GUIDE FOR FLAT APPRAISAL" SHALL BE LABELED IN "POOR CONDITION" AND SHALL BE CONSIDERED FOR REMOVAL BY THE COUNTY ARBORIST'S REQUEST

C.- LOCATION AND METHOD OF FOR PROTECTION AND PRESERVATION OF EXISTING TREES SHALL BE APPROVED BY THE COUNTY INSPECTOR PRIOR TO COMMENCEMENT OF GROUND DISTURBING ACTIVITY.



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 www.advancegroup.net info@advancegroup.net

ADV GROUP

MID PIKE
 LOT 82 BLK 1
 FAIRFAX COUNTY
 DRANESVILLE DISTRICT #1
 TAX MAP 040-3-(1) - 0092

EXISTING VEGETATION

PROJECT MANAGER	A.E.F	PROJECT NO.	11-VA-824	ENG. OF RECORD	A.E.F	ISSUE DATE	4-29-2012	APPLICANT NO.	
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REMARKS

BY

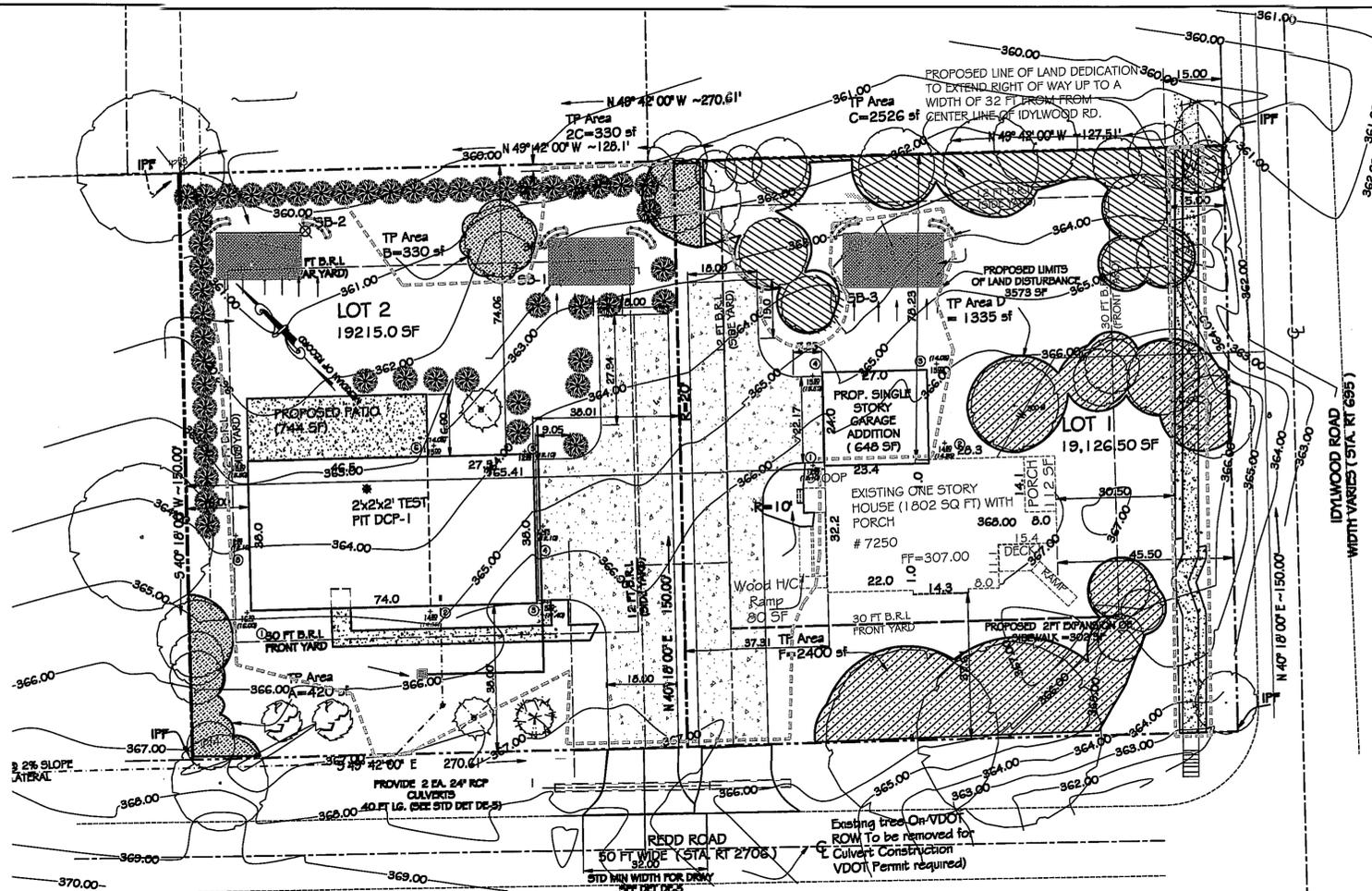
DATE

NO.

		8-07-12	9-26-12	10-25-12
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824
GDP-4

SHEET 6 OF 7



GENERALIZED DEVELOPMENT PLAN
TREE PRESERVATION PLAN
SCALE = 1" = 20 FT

ID	PLAN SYMB.	D	E	BOTANICAL NAME	COMMON NAME	CAT	CAL IN	10 YR CANOPY	CREDIT FACTOR	QTY (EA)	TOTAL SF
RM		LD		ACER RUBRUM	RED MAPLE	IV	2"	200 sf	1.50	WL	2 EA 600 sf
QR		LD		QUERCUS RUBRA	NORTHERN RED OAK	IV	2"	200 sf	1.50	EC	2 EA 600 sf
SY		LD		PLATANUS OCCIDENTALIS	SYCAMORE	IV	2"	200 sf	1.50	NAT	1 EA 300 sf
PV		LE		THUJA OCCIDENTALIS	AMERICAN ARBOVITAE	I	6 FT	40 sf	1.00		50 EA 2000 sf

LD = LARGE DECIDUOUS MD = MEDIUM DECIDUOUS SD = SMALL DECIDUOUS
LE = LARGE EVERGREEN ME = MEDIUM EVERGREEN SE = SMALL EVERGREEN
CREDIT CODES: WQ = WATER QUALITY AQ = AIR QUALITY EC = ENERGY CONSERVATION
WL = WILD LIFE NAT = VIRGINIA NATIVE

TREE PRESERVATION NARRATIVE

A.- THE SITE IS POPULATED WITH A RANGE OF NATIVE SPECIES OF VALUE. MANY SPECIES ON LOT ONE ARE VALUABLE FOR AIR QUALITY, WILD LIFE, WATER QUALITY, ENERGY CONSERVATION ETC.

B.- EVERY EFFORT SHALL BE MADE TO PROTECT THE TREE PRESERVATION CANOPY SHOWN HEREIN DURING CONSTRUCTION. NO CONSTRUCTION DEBRIS, FILL AND OR OTHER MATERIALS SHALL BE PLACED OR STORED BENEATH THE CANOPY COVER OF PROTECTED TREES.

C.- VEGETATION TO BE REMOVED SHALL BE APPROVED BY THE COUNTY ARBORIST. TREES MEASURING 12' OR MORE IN DIAMETER WITHIN THE 25 FT OF THE PROPOSED LIMITS OF CLEARING THAT DO NOT MEET THE STANDARDS OF STRUCTURAL INTEGRITY BY THE 'GUIDE FOR PLANT APPRAISAL' SHALL BE LABELED IN 'POOR CONDITION' AND SHALL BE CONSIDERED FOR REMOVAL BY THE COUNTY ARBORIST

D.- PROVIDE, IMPLEMENT AND FOLLOW A TREE CONSERVATION AND PROTECTION PROGRAM THAT IS DEVELOPED TO THE SATISFACTION OF THE COUNTY ARBORIST.

E.- LOCATION AND METHOD OF FOR PROTECTION AND PRESERVATION OF EXISTING TREES SHALL BE APPROVED BY THE COUNTY INSPECTOR PRIOR TO COMMENCEMENT OF GROUND DISTURBING ACTIVITY.

F.- APPLICANT MUST PROVIDE DOCUMENTATION OF COMMUNICATION WITH ADJACENT PROPERTY OWNERS VERIFYING NOTIFICATION OF CONSTRUCTION IMPACT, POTENTIAL FOR ROOT LOSS, AND AGREED UPON REMEDIAL MEASURES PERTAINING TO THE EXISTING TREES ON ADJACENT PROPERTIES AND WITHIN THE 25 FT LINE OUTSIDE OF THE LIMITS OF DISTURBANCE. FOR INSTANCE T-6, T7 AND T-22

Application No: RZ 2012-02-017 Staff: H. Brady

APPROVED DEVELOPMENT PLAN
 (DP) (GDP) (CDP) (FDP) (PRC) (CP)
SEE PROFFERS DATED: 12/20/12
Date of (HOB) (PC) Approval: 1/8/13
Sheet: 14 of 14
Comments: Option B

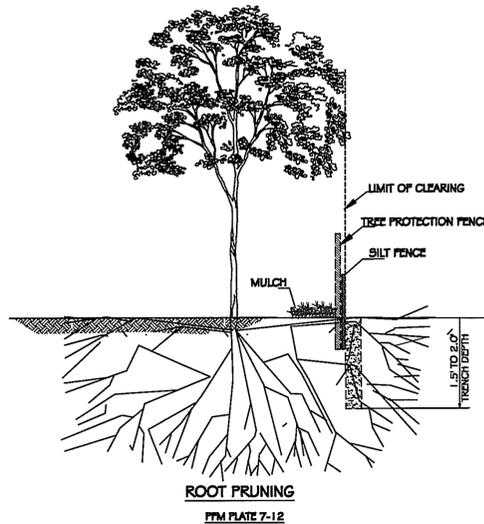


Table 12.3 - Tree Preservation Target Calculation And Statement	
A. - Pre-development Area Of Existing Tree Canopy (From Existing Vegetation Map) =	11275
B. - Percentage Of Gross Site Area Covered By Exist. Tree Canopy =	28 %
C. - Percentage Of Ten Year Tree Canopy Required for Site (From Table 12.4) =	25.0 %
D. - Percentage Of Ten Year Tree Canopy Requirement That Should Be Met Through Tree Preservation =	28 %
E. - Proposed Percentage Of Tree Canopy Requirement That Will Be Met Through Tree Preservation =	83 %
F. - Has The Tree Preservation Target Minimum Been Met ?	YES
G. - If No; ten a request to deviate from the Tree Preservation Target shall be provided on the plans that states one or more of the justifications listed on Art. 12-0507.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is provided =	
H. - If G requires a narrative it shall be prepared in accordance with Article 12-0507.4	
I. - Place this information prior to the Ten Year Canopy Calculations as per instructions on Table 12.12	2019

TREE CONSERVATION
7250 IDYWOOD RD, FAIRFAX, VA
Date of site visit: February, 2012

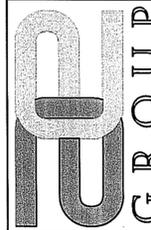
Step	Table 12.12 10-Year Tree Canopy Calculation Worksheet	Totals	Reference
A. - Tree Preservation Target and Statement			
A1	Place the Tree Preservation Target Calculations and Statement here preceding the 10 year tree canopy calculations	0221	§ 12-0507.2
B. Tree Canopy Requirements			
B1	Identify Gross Site Area	40591	§ 12-0510.1.A
B2	Subtract area dedicated to parks, road frontage and	0	§ 12-0510.1.B
B3	Subtract area of Exemptions	40591	§ 12-0510.1.C(1) to § 12-0510.1.C(6)
B4	Adjusted gross site Area (B1-B2) =	40591	
B5	Identify site Zoning and OrUse =	R3	
B6	Percentage of 10 year Canopy required =	25 %	§ 12-0509.1 and table 12.4
B7	Area Of 10 Year Canopy required (B4xB5) =	10148	
B8	Modification of the 10 Year Canopy requested ?	NO	Yes Or No
B9	If Yes, then list plan sheet where modification is requested		Sheet Number

C. Tree Preservation			
C1	Tree Preservation Target Area	0221	
C2	Total Canopy Area Meeting standards § 12-0200	0221	
C3	C2 x 1.25 =	10276	§ 12-0509.3B
C4	Total Canopy Area provided by unique or valuable forest or Woodland Communities	0.0	
C5	C4 x 1.5 =	0.0	§ 12-0509.3B(1)
C6	Total Canopy Area provided by 'Heritage', 'Memorial', 'Specimen' or 'Street' trees =	0	
C7	C6 x 1.5 to 3.0 =	0	§ 12-0509.3B(2)
C8	Canopy Area Of Trees within resource Protection area and 100 Yr floodplain	0	
C9	C8 x 1.0 =	0	§ 12-0509.3C(1)
C10	Total of C3, C5, C7 and C9 =	10276	

D1	Area Of Canopy to be Met By Tree Planting (B7-C10) =	0	
D2	Area Of Canopy planted for Air Quality benefits	0	
D3	x 1.5 =	0	§ 12-0510.4B(1)
D4	Area Of Canopy planted for Energy Conservation	400	
D5	x 1.5 =	600	§ 12-0510.4B(2)
D6	Area Of Canopy planted for Water Quality Benefits	0	
D7	x 1.25 =	0	§ 12-0510.4B(3)
D8	Area Of Canopy planted for Wildlife Benefits	400	
D9	x 1.5 =	600	§ 12-0510.4B(4)
D10	Area Of Canopy provided by Native Trees	200	
D11	x 1.5 =	300	§ 12-0510.4B(5)
D12	Area Of Canopy Provided By Improved Cultivars and Vanes	0	
D13	x 1.25 =	0	§ 12-0510.4B(6)
D14	Area Of Canopy Provided Through Seedlings x 1.0	0	§ 12-0510.4D(1)
D15	Area Of Canopy Provided Through Native Shrubs x 1.0	0	§ 12-0510.4D(1)a
D16	Percentage Of D14 represented by D15	0	Must Not Exceed 33% of D14
D17	Total Of Canopy Area Provide Through Tree Planting	3500	
D18	Is an Offsite Planting Relief Requested ?	NO	Yes Or No?
D19	Tree Bank Or Tree Fund ?	NO	Yes Or No?
D20	Canopy Area Requested To Be Provided Through Offsite Banking Or Tree Fund	0	
D21	Amount To Be Provided into the Tree Preservation and Planting Fund	0	

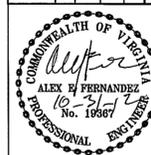
E	Total Of Ten Year Tree Canopy Provided	
E.1	Total Of Canopy Area Provided Through Tree Preservation = (C-10) =	10276
E.2	Total Of Canopy Area Provided Through Tree Planting = (D-17) =	3500
E.3	Total Of Canopy Area Provided Through Off-site Mechanism = (D-19) =	0
E.4	Total Of Ten Year Canopy Provided = (E1 + E2 + E3) =	13776

Advance Engineering Group LLC.
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703-533-1581 Fax: 703-533-1582
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MID PIKE
LOT 82 BLK 1
FAIRFAX COUNTY
DRANESVILLE DISTRICT #1
TAX MAP 040-3(1) - 0082

PROJECT MANAGER: A.E.F.
PROJECT NO.: 11-VA-824
ENG. OF RECORD: A.E.F.
ISSUE DATE: 4-29-2012
APPLICANT NO.:



SEAL

REMARKS: PER CITY COMMENTS
BY: A.E.F.
DATE: 8-07-12
NO.:

824
GDP-5
SHEET 7 OF 7