THE POTOMAC SCHOOL

1301 POTOMAC SCHOOL ROAD, McLEAN, VA 22101

SEA # 85-D-097-5

1. THE TAX MAP NUMBER FOR THE SITE IS 31-1-((1)) PARCELS 5, 7, 8, 10A, 10B, 10C, AND 12A. TOTAL AREA OF ALL PARCELS = 89.99456 ACRES OR 3,920,163 SF
2. THE PROPERTY IS OWNED BY THE POTOMAC SCHOOL AND IS SHOWN IN DEED BOOKS 00736 PAGE 0095 (LOT 5), 10569 PAGE 0312 (LOT 7), 10569 PAGE 0312 (LOT 8), 15895 PAGE 0363 (LOT 10A), 15895 PAGE 0452 (LOT 10B), 18262 PAGE 1099 (LOT 10C) AND, 02025 PAGE 0365 (LOT 12).
3. THE SITE IS ZONED R-1.
4. THE PURPOSE OF THIS SPECIAL EXCEPTION AMENDMENT APPLICATION IS TO AMEND SEA 85-D-097-4 FOR A PRIVATE SCHOOL OF GENERAL EDUCATION AND PRE-KINDERGARTEN, TO PERMIT THE EXPANSION OF EXISTING SCHOOL FACILITIES, THE CONSTRUCTION OF ADDITIONAL NEW SCHOOL FACILITIES, INCLUDING FACULTY/STAFF HOUSING UNITS AND, THE DEMOLITION OF SOME EXISTING STRUCTURES AND OTHER SITE MODIFICATIONS.
5. THE PROPERTY SHALL BE DEVELOPED IN ACCORDANCE WITH THIS SPECIAL EXCEPTION AMENDMENT PLAT DATED NOVEMBER 1, 2006 AND SUBSEQUENTLY AMENDED AS INDICATED HEREON. THE PLAT CONSISTS OF FOURTEEN (14) SHEETS PREPARED BY VIKA, INC. AND IS SUBJECT TO THE PROVIDED NOTES AND TABULATIONS. HOWEVER, MINOR MODIFICATIONS TO BUILDING FOOTPRINTS, LANDSCAPING AND RETAINING WALLS SHOWN HEREON MAY BE PERMITTED WHEN NECESSITATED BY FINAL SITE DESIGN AND ENGINEERING CONSIDERATIONS AS MAY BE DETERMINED BY THE DIRECTOR OF THE DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES (DPW&ES).
6. BOUNDARY AND TOPOGRAPHIC INFORMATION ARE FROM AERIAL AND FIELD RUN SURVEY. THE SCALE IS 1" = 100'; AND DIMENSIONS SHOWN ARE IN ENGLISH, THE TOPOGRAPHY IS SHOWN IN METRIC AT 1/2 METER INTERVALS.
7. THE EXISTING UPPER SCHOOL, NORTH CAMPUS BUILDING, GYMNASIUM, PERFORMING ARTS BUILDING AND RESIDENCES ARE ALL SERVED BY PUBLIC SEWER AND WATER; THE EXISTING POOL BATH HOUSE IS SERVED BY A PRIVATE SEPTIC SYSTEM. THE RAMSEY HOUSE, SHAPIRO HOUSE AND THE POOL BATH HOUSE ARE SERVED BY PRIVATE WELLS. ALL OF THE PROPOSED ADDITIONS AND NEW STRUCTURES WILL BE SERVED BY PUBLIC SEWER AND WATER.
8. EXISTING BUILDING AREAS AND DATES OF CONSTRUCTIONS

NORTH CAMPUS SCHOOL BUILDING	122,135 SF	1950 WITH ADDITIONS IN 1951, 1958, 1959, 1960, 1962, 1978, 1982, 1991 AND 1993
UPPER SCHOOL BUILDING & TUNDRA BLDG	82,209 SF	1987 WITH ADDITION IN 1991, 2006
GYMNASIUM BUILDING & EAST BUILDING	56,191 SF	1987 WITH ADDITION 2006
HEADMASTER'S RESIDENCE	4,200 SF	1951
BATH HOUSE	970 SF	1973
STORAGE BUILDINGS	7,650 SF	UNKNOWN
FACULTY RESIDENCES (3)	10,000 SF	UNKNOWN
LEE FAMILY HOME	0,000 SF	1952 (DEMOLISHED 2006)
PERFORMING ARTS BLDG	29,700 SF	1998
SHAPIRO HOUSE	4,745 SF	1952 WITH ADDITION 1985
RAMSEY HOUSE	5,528 SF	1900
CENTRAL PLANT	4,053 SF	2005
TOTAL EXISTING BUILDING AREAS (SF):	327,381 SF	

EXISTING STRUCTURES MAY BE REMOVED/RECONSTRUCTED SUBJECT TO THE MAXIMUM HEIGHT AND FAR LIMITATIONS DESCRIBED IN THIS SEA.

9. TRANSITIONAL SCREENING 1 IS REQUIRED ON ALL BOUNDARIES PURSUANT TO SECTION 13-304 AND PARAGRAPH 12 OF 13-304 OF THE ZONING ORDINANCE. A REAFFIRMATION OF THE MODIFICATIONS GRANTED WITH SEA 85-D-097-4 TO THE TRANSITIONAL SCREENING REQUIREMENTS TO ALLOW EXISTING VEGATATION TO SERVE AS THE TRANSITIONAL SCREEN REQUIREMENTS, AND TO WAIVE THE BARRIER REQUIREMENTS ALONG THE WESTERN AND SOUTHERN SIDES OF THE SITE.
10. STORM WATER MANAGEMENT SHALL BE PROVIDED ON-SITE WITHIN THE LIMITS OF CLEARING AND GRADING UNLESS WAIVED BY DPWES. FINAL SIZE AND LOCATION OF FACILITIES MAY CHANGE DUE TO FINAL ENGINEERING AND IN ACCORDANCE WITH SECTION 9-004 OF THE FAIRFAX COUNTY ZONING ORDINANCE. IN ACCORDANCE WITH PREVIOUSLY APPROVED DEVELOPMENT CONDITIONS, THE APPLICANT SHALL PROVIDE BMP MEASURES AS REQUIRED BY THE DIRECTOR OF DPW&ES. ESRD OF DPW&ES HAS DETERMINED THAT NO UNDERGROUND WAIVER FOR STORM WATER MANAGEMENT FACILITIES IS REQUIRED FOR THE STRUCTURES SHOWN ON THIS APPLICATION.
11. TO THE BEST OF THE APPLICANTS KNOWLEDGE, THERE ARE NO KNOWN GRAVES, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL ON THE SITE.
12. OUTDOOR RECREATION AREA SHALL BE PROVIDED AS FOLLOWS:

K-3	44,000 SF
4-12	346,150 SF
TOTAL	390,150 SF

13. IN ACCORDANCE WITH THE PREVIOUS APPROVAL FOR THE SITE, THE EXISTING SWIMMING POOL/BATH HOUSE FACILITY WILL BE LIMITED TO A MAXIMUM OCCUPANCY OF 100 PERSONS.
14. APPLICANT RESERVES THE RIGHT TO MODIFY THE PROPOSED SCHOOL PARKING RATE LISTED HEREON, SO LONG AS THE PROVIDED PARKING MEETS THE MINIMUM REQUIRMENTS OF THE FAIRFAX COUNTY ZONING ORDINANCE. THE DEVELOPEMENT OF ANY ADDITIONAL PARKING ABOVE THAT WHICH IS REQUIRED BY THE FAIRFAX COUNTY ZONING ORDINANCE CAN EITHER BE PHASED OR CONSTRUCTED AS DEVELOPMENT OCCURS ON THIS PROPERTY.
15. THE SUBJECT PROPERTY CONTAINS COUNTY MAPPED RPA, EQC AND FLOODPLAIN LIMITS, AS SHOWN ON THE PLAT.
16. ALL EASEMENTS WITH A WIDTH OF 25 FEET OR MORE ARE SHOWN ON THE PLAT.
17. NO NEW TRAILS AREA REQUIRED BY THE COMPREHENSIVE PLAN.
18. THE BUILDING FOOTPRINTS SHOWN ON THIS SEA PLAT ARE CONCEPTUAL IN NATURE AND SUBJECT TO MODIFICATION AT THE TIME OF SITE PLAN REVIEW AND APPROVAL IN ACCORDANCE WITH SECTION 9-004 OF THE ZONING ORDINANCE PROVIDED THAT THE OVERALL AMOUNT OF OPEN SPACE AND THE DISTANCE FROM THE STRUCTURE TO THE PERIPHERAL LOT LINES SHALL NOT BE DIMINISHED FROM THE DIMENSIONS SHOWN ON THE SEA PLAT. THE BUILDING HEIGHTS AND OVERALL GROSS FLOOR AREAS SHALL NOT EXCEED THAT SHOWN ON THE SEA PLAT
19. THE PROPOSED BUILDINGS AND ASSOCIATED FACILITIES MAY BE PHASED. NEW LANDSCAPING AND PERIPHERAL BUFFERING SHALL BE INSTALLED CONCURRENTLY WITH THE DEVELOPMENT OF STRUCTURES OR FACILITIES PROXIMATE TO THE REQUIRED LANDSCAPING OR PERIPHERAL BUFFERING.
20. THE APPLICANT RESERVES THE RIGHT TO INSTALL TRAILS, STREAM CROSSINGS, PERFORM STREAM REHABILITATION AND STABILIZATION WORK AND REFORESTATION PROJECTS IN AREAS GENERALLY ADJACENT TO THE PIMMIT RUN STREAM CHANNEL LOCATED BOTH INSIDE AND OUTSIDE THE LIMITS OF CLEARING AND GRADING, AS SHOWN ON THIS APPLICATION, IN AREAS GENERALLY ADJACENT TO PORTIONS OF THE SOUTHERN BOUNDARY OF THE SITE. ALL WORK SHALL BE PERFORMED TO REASONABLY MINIMIZE DISRUPTION TO EXISTING VEGETATION. THE FINAL LOCATION OF ANY SUCH TRAIL(S) AND/OR CROSSING(S), STABILIZATION OR REFORESTATION SHALL BE FIELD LOCATED IN CONSULTATION WITH THE URBAN FORESTRY BRANCH AND DPWES. ANY TRAILS CONSTRUCTED ADJACENT TO THE STREAM SHALL BE OF A NATURAL PERVIOUS SURFACE, SUBJECT TO APPROVAL BY DPWES. ANY WORK WITHIN THE RPA SHALL BE PERMITTED AFTER THE APPROVAL OF A WQIA APPLICATION BY DPW&ES.
21. AREAS OUTSIDE THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THIS APPLICATION MAY BE DISTURBED TO ALLOW FOR THE CONSTRUCTION OF UNDERGROUND UTILITY EXTENSIONS AND THE RESURFACING OF EXISTING PAVEMENT AREAS UNDER REHABILITATION AND MAINTENANCE AS MAY BE PERMITTED WITH APPROVAL BY DPW&ES.
22. ALL EXISTING ON-SITE SIGNAGE TO REMAIN INCLUDING THE ENTRANCE WALL SIGN. ANY FUTURE SIGNAGE SHALL COMPLY WITH ARTICLE 12 – SIGNS, OF THE FAIRFAX COUNTY ZONING ORDINANCE.
23. IT IS THE APPLICANT'S INTENT TO PRESERVE ALL EXISTING VEGETATION TO THE GREATEST EXTEND POSSIBLE AS SHOWN ON SHEET 7 OF 13 "TREE PRESERVATION PLAN". HOWEVER, THE APPLICANT RESERVES THE RIGHT TO REQUEST REEVALUATION OF THE INDIVIDUAL TREES SHOWN ON THE "TREE PRESERVATION PLAN" WITH THE COUNTY ARBORIST AT THE TIME OF SITE PLAN FOR STRUCTURES OR DISTURBANCE BEING PROPOSED ADJACENT TO SAID TREES IN ORDER TO DETERMINE THE HEALTH AND CONDITIONS OF THE INDIVIDUAL TREES AT THAT TIME. IF AT THAT TIME IT IS DETERMINED THAT THE TREE IS HEALTHY AND IS TO BE PRESERVED, THE RECOMMENDATIONS OF THE COUNTY ARBORIST FOR TREE PROTECTION MEASURES SHALL BE INCORPORATED INTO THE SITE PLAN. HOWEVER, IF THE HEALTH OR CONDITION OF THE TREE IS DETERMINED TO POSE A THREAT TO THE HEALTH, SAFETY OR WELFARE OF THE STUDENTS OR THE GENERAL PUBLIC, THEN SAID TREE MAY BE REMOVED UPON CONCURRENCE OF THE COUNTY ARBORIST. AT THE TIME OF SITE PLAN SUBMISSION FOR STRUCTURES OR AREAS OF DISTURBANCE SHOWN HEREON, THE COUNTY ARBORIST SHALL BE CONSULTED TO DETERMINE IF ANY OF THE EXISTING VEGETATION TO BE DISTURBED BY SAID DEVELOPMENT MAY BE DEEMED SUITABLE FOR REMOVAL AND RELOCATION TO OTHER AREAS OF THE SITE. IF THE COUNTY ARBORIST DEEMS ANY VEGETATION SUITABLE FOR RELOCATION, THE SITE PLAN SHALL PROVIDE SPECIFIC DETAILS RECOMMENDED BY THE COUNTY ARBORIST TO PROTECT THE PLANTS DURING RELOCATED AND REPLANTING.
24. ALL INTERPRETIVE CLASSROOMS ARE INTENDED TO BE PAVILION STYLE STRUCTURES THAT ARE NOT FULLY ENCLOSED AND ARE RAISED ABOVE THE GROUND.
25. BUS PARKING SHALL BE PROHIBITED IN ANY PARKING LOT LOCATED WITHIN THE LIMITS OF THE EQC/RPA AS DEPICTED ON THE SPECIAL EXCEPTION AMENDMENT PLAT (SHEET 2).

TABULATIONS:

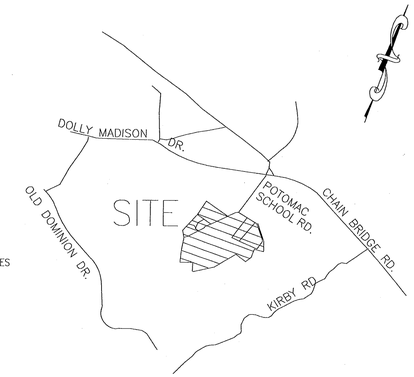
	EXISTING/APPROVED WITH SEA 85-D-097-4	PROPOSED
GROSS FLOOR AREA	327,381 SF/520,315 SF	478,315 SF
FLOOR AREA RATIO	.14 (MAXIMUM ALLOWED)	.122
ENROLLMENT	1075 (SUBJECT TO DEVELOPMENT CONDITIONS)	1075 (SUBJECT TO DEVELOPMENT CONDITIONS)

PARKING	REQUIRED	PROPOSED
STANDARD	299	559 (INCLUDES EXISTING TO REMAIN)
HANDICAP	8	28
TOTAL	307 (EXCLUDING BUS PARKING SPACES)	587 (EXCLUDES BUS PARKING SPACES)

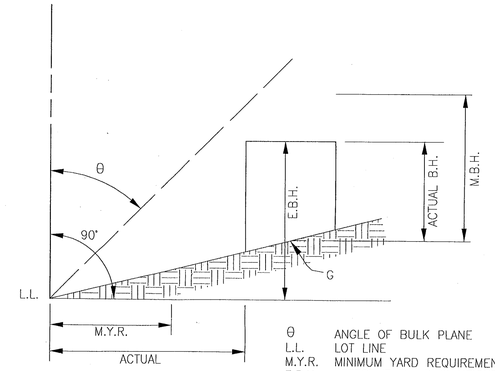
REQUIRED PARKING COMPUTATION BASED ON MAXIMUM ENROLLMENT AND STAFFING LEVELS ALLOWED.
PRIMARY SCHOOL – 175 FULL TIME EMPOLYEES PLUS 4 VISITOR SPACES = 179 SPACES
HIGH SCHOOL – 400 STUDENTS TIMES 0.3 SPACES PER STUDENT = 120 SPACES

SETBACKS		
FRONT	40' OR 50' ABP	AS SHOWN
SIDE	20' OR 45' ABP	ON SPECIAL EXCEPTION
REAR	25' OR 45' ABP	PLAT (SEE SHEET 2)

MINIMUM REQUIRED PARKING LOT TREE CANOPY COVERAGE – 5% OF THE TOTAL PARKING AREA = 5,265 SF +/-
MINIMUM TREE CANOPY COVERAGE FOR ENTIRE SITE – 20% OF SITE AREA = 784,033 SF +/-



VICINITY MAP



M.Y.R. = E.B.H. * tan θ

MINIMUM REQUIREMENTS:
FRONT YARD θ-50'
SIDE YARD θ-45'
REAR YARD θ-45'

θ ANGLE OF BULK PLANE
L.L. LOT LINE
M.Y.R. MINIMUM YARD REQUIREMENT
E.B.H. EFFECTIVE BUILDING HEIGHT
M.B.H. MAXIMUM BUILDING HEIGHT
G GRADE (FINISHED)

DETAIL ANGLE OF BULK PLANE
(NOT TO SCALE)

Application No. SEA 85-D-097-5 Staff C. Luis
APPROVED BY SE / SP PLAN
SEE DEV CONDS DATED 7-26-07
Date of (BOS) (BZA) approval 8-6-07
Sheet 1 of 17

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2. SPECIAL EXCEPTION AMENDMENT PLAT
3. SPECIAL EXCEPTION AMENDMENT DETAIL SHEET
4. MINIMUM LANDSCAPE PLAN
5. CIRCULATION PLAN
6. EXISTING VEGETATION MAP
7. TREE PRESERVATION PLAN
7A. TREE PRESERVATION TABLE, NOTES AND DETAILS
8&8A. CONCEPTUAL SWM PLAN
9,9A&9B. BMP AND SWM NARRATIVES AND COUNTY SWM CHECKLIST
10. PRELIMINARY SWM CALCULATIONS
11. OUTFALL DESCRIPTION
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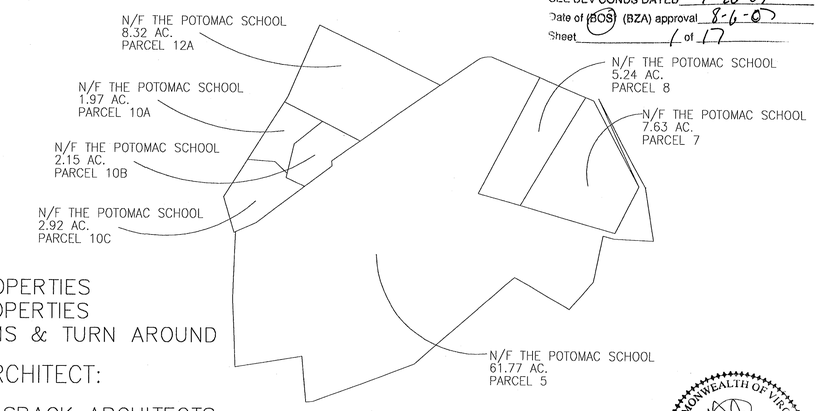
14. SPECIAL EXCEPTION PLAT EXHIBIT SHEET-TEMP. CLASSROOMS & TURN AROUND



PARCEL DELINEATION

APPLICANT:
THE POTOMAC SCHOOL
1301 POTOMAC SCHOOL ROAD
McLEAN, VA. 22101
CONTACT: PERRY SWOPE
703-749-6366

REPRESENTATIVE:
McGUIRE WOODS, LLP
1750 TYSONS BOULEVARD
SUITE 1800
McLEAN, VA. 22102
CONTACT: GREG RIEGLE
703 712-5000

ENGINEER:
VIKA, INC.
8180 GREENSBORO DRIVE
SUITE 200
McLEAN, VA. 22102
CONTACT: JOHN AMATETTI
703-442-7800

ARCHITECT:
COX GRAAE & SPACK ARCHITECTS
2909 M STREET NW
WASHINGTON, D.C. 20007
CONTACT: JOANNA SCHICKEL
202-965-7070

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

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VIKA INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 McLEAN, VIRGINIA 22102
(703) 442-7800 ■ FAX (703) 848-2687
McLEAN, VA FREDERICK, MD

THE POTOMAC SCHOOL PROPERTY
DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT COVER SHEET

VIKA REVISIONS

FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006	
DES. DWG	DWN. RJB
SCALE: 1" = 100'	
PROJECT/FILE NO. 6577-SEA	
SHEET NO. 1 OF 14	

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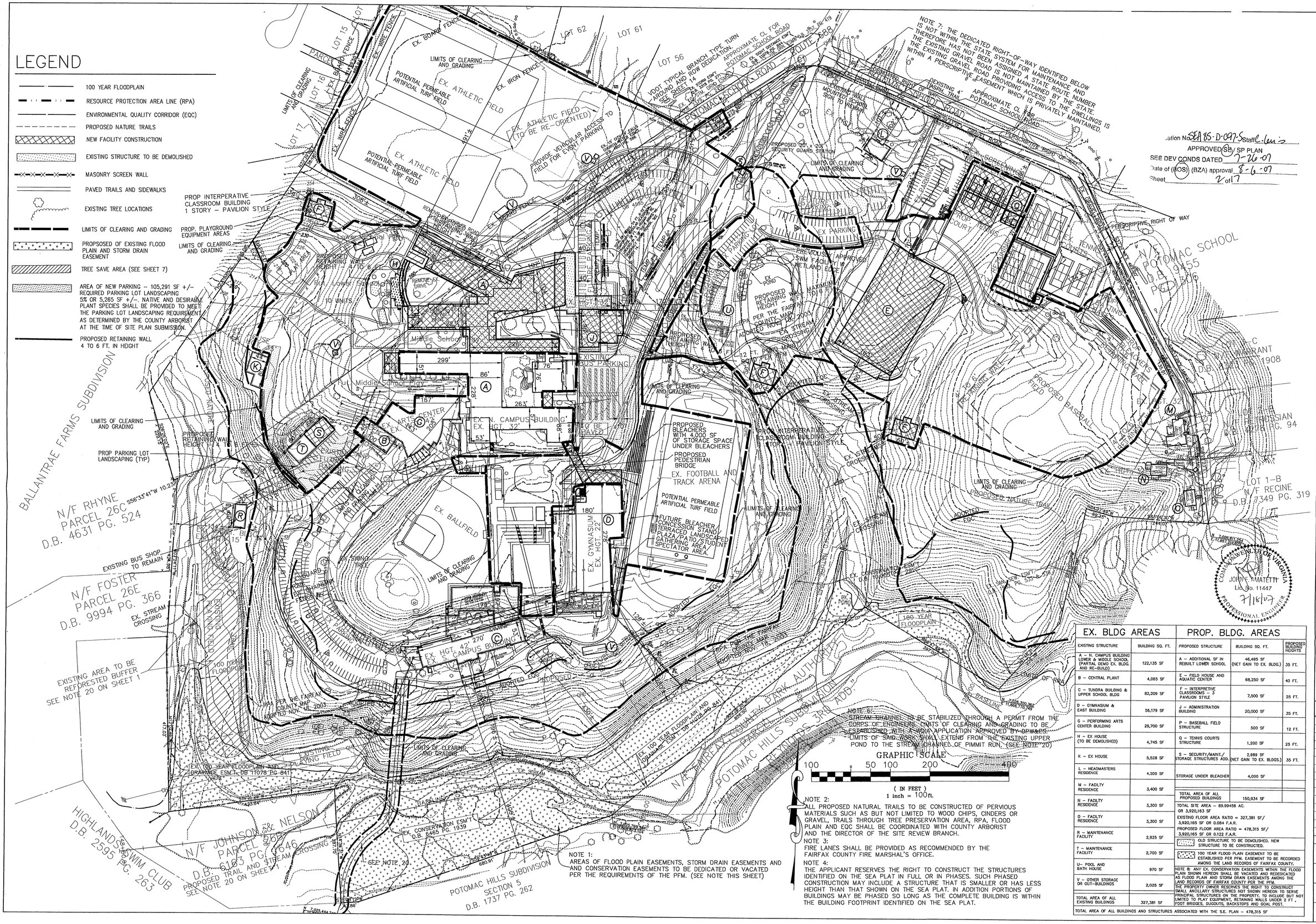

EX. BLDG AREAS		PROP. BLDG. AREAS		
EXISTING STRUCTURE	BUILDING SQ. FT.	PROPOSED STRUCTURE	BUILDING SQ. FT.	PROPOSED BUILDING HEIGHTS
A – N. CAMPUS BUILDING LOWER & MIDDLE SCHOOL (PARTIAL DEMO EX. BLDG. AND RE-BUILD)	122,135 SF	A – ADDITIONAL SF IN REBUILT LOWER SCHOOL	46,495 SF (NET GAIN TO EX. BLDG.)	35 FT.
B – CENTRAL PLANT	4,085 SF	E – FIELD HOUSE AND AQUATIC CENTER	68,250 SF	40 FT.
C – TUNDRA BUILDING & UPPER SCHOOL BLDG	82,209 SF	F – INTERPRETIVE CLASSROOMS – 3 PAVILION STYLE	7,500 SF	25 FT.
D – GYMNASIUM & EAST BUILDING	56,179 SF	J – ADMINISTRATION BUILDING	20,000 SF	35 FT.
G – PERFORMING ARTS CENTER BUILDING	29,700 SF	P – BASEBALL FIELD STRUCTURE	500 SF	12 FT.
H – EX HOUSE (TO BE DEMOLISHED)	4,745 SF	Q – TENNIS COURTS STRUCTURE	1,200 SF	25 FT.
K – EX HOUSE	5,528 SF	S – SECURITY/MAINT./ STORAGE STRUCTURES ADD.	2,989 SF (NET GAIN TO EX. BLDGS.)	35 FT.
L – HEADMASTERS RESIDENCE	4,200 SF	STORAGE UNDER BLEACHER	4,000 SF	
M – FACILTY RESIDENCE	3,400 SF			
N – FACILTY RESIDENCE	3,300 SF	TOTAL AREA OF ALL PROPOSED BUILDINGS	150,934 SF	
O – FACILTY RESIDENCE	3,300 SF	TOTAL SITE AREA – 89.99456 AC. OR 3,920,163 SF		
R – MAINTENANCE FACILITY	2,925 SF	EXISTING FLOOR AREA RATIO = 327,381 SF/ 3,920,165 SF OR 0.084 F.A.R.		
T – MAINTENANCE FACILITY	2,700 SF	PROPOSED FLOOR AREA RATIO = 478,315 SF/ 3,920,165 SF OR 0.122 F.A.R.		
U– POOL AND BATH HOUSE	970 SF	OLD STRUCTURE TO BE DEMOLISHED. NEW STRUCTURE TO BE CONSTRUCTED.		
V – OTHER STORAGE OR OUT-BUILDINGS	2,025 SF	100 YEAR FLOOD PLAIN EASEMENT TO BE ESTABLISHED PER PFM. EASEMENT TO BE RECORDED AMONG THE LAND RECORDS OF FAIRFAX COUNTY.		
TOTAL AREA OF ALL EXISTING BUILDINGS	327,381 SF	NOTE 6: ANY EX. CONSERVATION EASEMENTS WITHIN THE FLOOD PLAIN SHOWN HEREON SHALL BE VACATED AND REDEDICATED AS FLOOD PLAIN AND STORM DRAIN EASEMENTS AMONG THE LAND RECORDS OF FAIRFAX COUNTY PER THE PFM.		
		THE PROPERTY OWNER RESERVES THE RIGHT TO CONSTRUCT SMALL ANCILLARY STRUCTURES NOT SHOWN HEREON TO SERVE PRINCIPAL STRUCTURES ON THE PROPERTY, TO INCLUDE BUT NOT LIMITED TO PLAY EQUIPMENT, RETAINING WALLS UNDER 2 FT., FOOT BRIDGES, DUGOUTS, BACKSTOPS AND GOAL POST.		
TOTAL AREA OF ALL BUILDINGS AND STRUCTURES ASSOCIATED WITH THE S.E. PLAN – 478,315 SF				

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VIKA, INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)610-9213 ■ P.O. BOX 2787
MCLEAN, VA FREDERICK, MD

THE POTOMAC SCHOOL PROPERTY

DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
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DATE: NOV. 1, 2006
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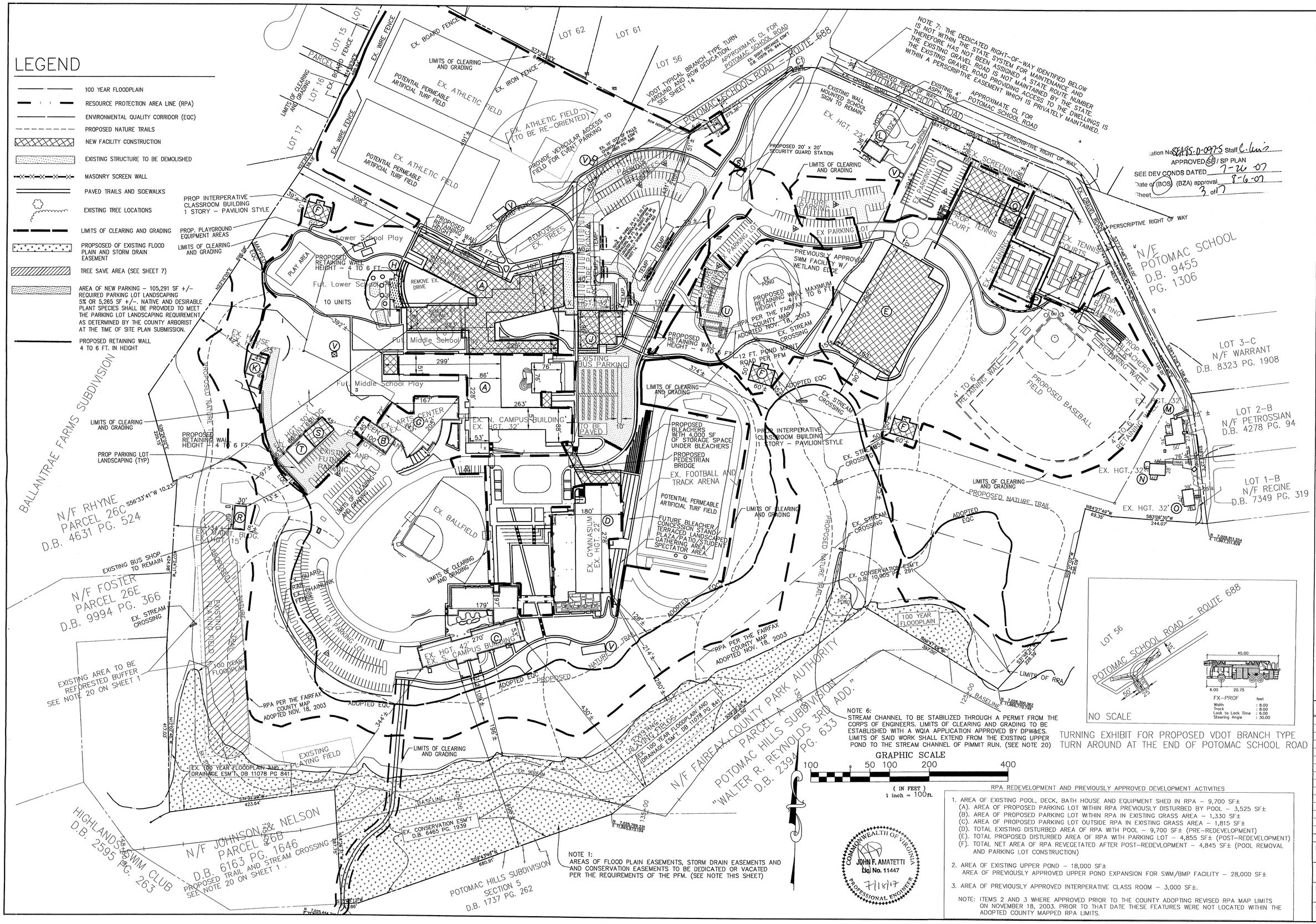
PROJECT/FILE NO. 6577-SE
SHEET NO. 2 OF 14

LEGEND

- 100 YEAR FLOODPLAIN
- RESOURCE PROTECTION AREA LINE (RPA)
- ENVIRONMENTAL QUALITY CORRIDOR (EQC)
- PROPOSED NATURE TRAILS
- NEW FACILITY CONSTRUCTION
- EXISTING STRUCTURE TO BE DEMOLISHED
- MASONRY SCREEN WALL
- PAVED TRAILS AND SIDEWALKS
- EXISTING TREE LOCATIONS
- LIMITS OF CLEARING AND GRADING
- PROPSOSED OF EXISTING FLOOD PLAIN AND STORM DRAIN EASEMENT
- TREE SAVE AREA (SEE SHEET 7)
- AREA OF NEW PARKING – 105,291 SF +/– REQUIRED PARKING LOT LANDSCAPING 5% OR 5,265 SF +/–. NATIVE AND DESIRABLE PLANT SPECIES SHALL BE PROVIDED TO MEET THE PARKING LOT LANDSCAPING REQUIREMENT AS DETERMINED BY THE COUNTY ARBORIST AT THE TIME OF SITE PLAN SUBMISSION.
- PROPOSED RETAINING WALL 4 TO 6 FT. IN HEIGHT



Application No(s) SE 95-D-097-5 Staff C. Lewis
APPROVED BS / SP PLAN
SEE DEV CONDS DATED 7-26-07
Date of (BOS) (BZA) approval 8-6-07
Sheet 3 of 7

RPA REDEVELOPMENT AND PREVIOUSLY APPROVED DEVELOPMENT ACTIVITIES

1. AREA OF EXISTING POOL, DECK, BATH HOUSE AND EQUIPMENT SHED IN RPA – 9,700 SF±
   (A). AREA OF PROPOSED PARKING LOT WITHIN RPA PREVIOUSLY DISTURBED BY POOL – 3,525 SF±
   (B). AREA OF PROPOSED PARKING LOT WITHIN RPA IN EXISTING GRASS AREA – 1,330 SF±
   (C). AREA OF PROPOSED PARKING LOT OUTSIDE RPA IN EXISTING GRASS AREA – 1,815 SF±
   (D). TOTAL EXISTING DISTURBED AREA OF RPA WITH POOL – 9,700 SF± (PRE-REDEVELOPMENT)
   (E). TOTAL PROPOSED DISTURBED AREA OF RPA WITH PARKING LOT – 4,855 SF± (POST-REDEVELOPMENT)
   (F). TOTAL NET AREA OF RPA REVEGETATED AFTER POST-REDEVLOPMENT – 4,845 SF± (POOL REMOVAL AND PARKING LOT CONSTRUCTION)
2. AREA OF EXISTING UPPER POND – 18,000 SF±
   AREA OF PREVIOUSLY APPROVED UPPER POND EXPANSION FOR SWM/BMP FACILITY – 28,000 SF±
3. AREA OF PREVIOUSLY APPROVED INTERPERATIVE CLASS ROOM – 3,000 SF±.

NOTE: ITEMS 2 AND 3 WHERE APPROVED PRIOR TO THE COUNTY ADOPTING REVISED RPA MAP LIMITS ON NOVEMBER 18, 2003. PRIOR TO THAT DATE THESE FEATURES WERE NOT LOCATED WITHIN THE ADOPTED COUNTY MAPPED RPA LIMITS.

VIKA
ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES
VIKA INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
McLEAN, VA FREDERICK, MD

THE POTOMAC SCHOOL PROPERTY

DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT DETAIL SHEET

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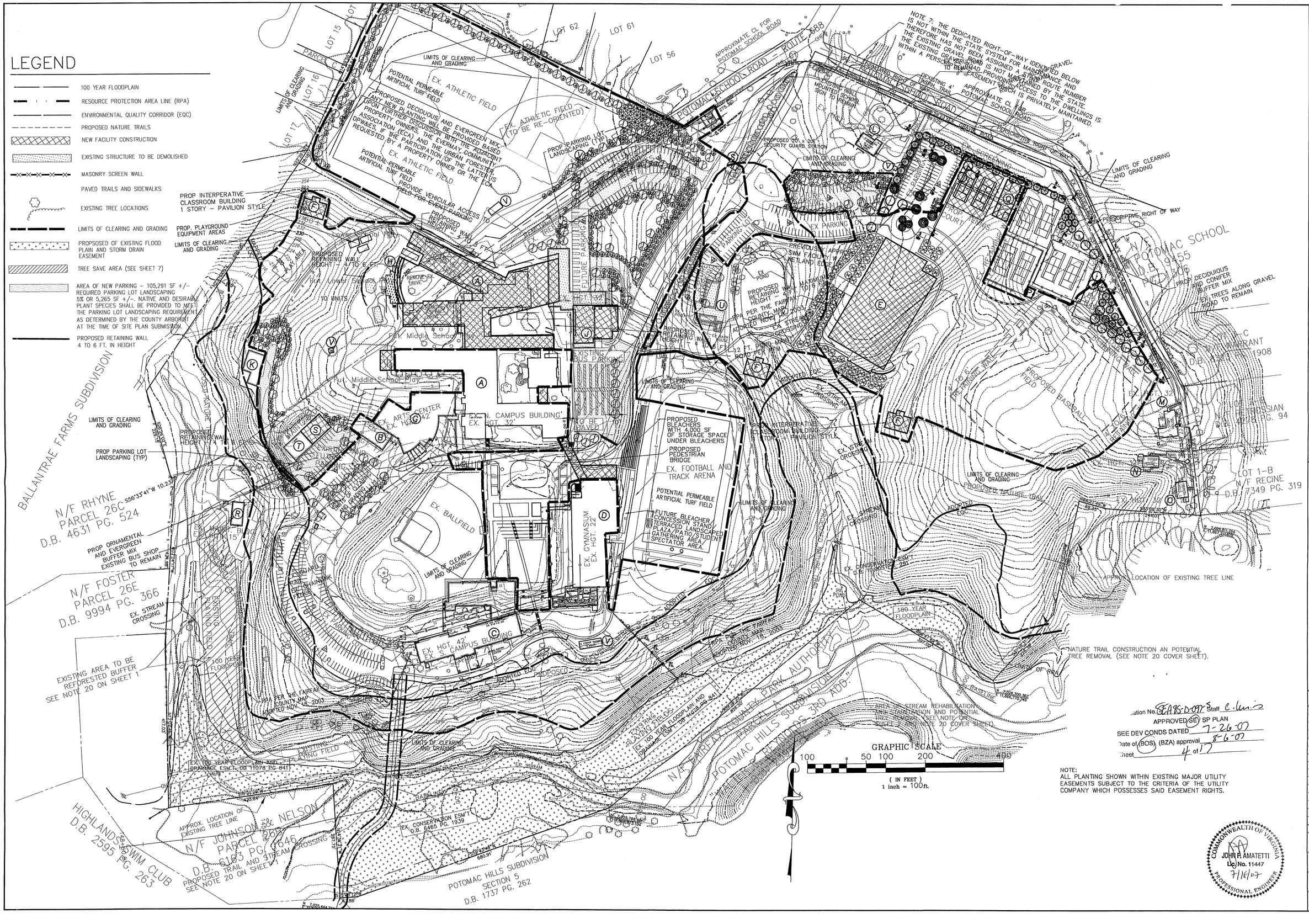
SHEET NO. 3 OF 14

LEGEND

- 100 YEAR FLOODPLAIN
- RESOURCE PROTECTION AREA LINE (RPA)
- ENVIRONMENTAL QUALITY CORRIDOR (EQC)
- PROPOSED NATURE TRAILS
- NEW FACILITY CONSTRUCTION
- EXISTING STRUCTURE TO BE DEMOLISHED
- MASONRY SCREEN WALL
- PAVED TRAILS AND SIDEWALKS
- EXISTING TREE LOCATIONS
- LIMITS OF CLEARING AND GRADING
- PROPSOSED OF EXISTING FLOOD PLAIN AND STORM DRAIN EASEMENT
- TREE SAVE AREA (SEE SHEET 7)
- AREA OF NEW PARKING – 105,291 SF +/- REQUIRED PARKING LOT LANDSCAPING 5% OR 5,265 SF +/- NATIVE AND DESIRABLE PLANT SPECIES SHALL BE PROVIDED TO MEET THE PARKING LOT LANDSCAPING REQUIREMENT AS DETERMINED BY THE COUNTY ARBORIST AT THE TIME OF SITE PLAN SUBMISSION.
- PROPOSED RETAINING WALL 4 TO 6 FT. IN HEIGHT



NOTE 7. THE DEDICATED RIGHT-OF-WAY IDENTIFIED BELOW IS NOT WITHIN THE STATE SYSTEM FOR MAINTENANCE AND THEREFORE HAS NOT BEEN ASSIGNED A ROUTE NUMBER. THE EXISTING GRAVEL ROAD IS NOT MAINTAINED BY THE STATE. THE EXISTING GRAVEL ROAD PROVIDING ACCESS TO THE DWELLINGS IS WITHIN A PERSCRIPTIVE RIGHT OF WAY WHICH IS PRIVATELY MAINTAINED. 0°

NOTE:
ALL PLANTING SHOWN WITHIN EXISTING MAJOR UTILITY EASEMENTS SUBJECT TO THE CRITERIA OF THE UTILITY COMPANY WHICH POSSESSES SAID EASEMENT RIGHTS.

...ation No. SE 98-D-097-5 Staff C. Lewis
APPROVED (SE) SP PLAN
SEE DEV CONDS DATED 7-26-07
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Sheet 4 of 17

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

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ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES
VIKA, INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
McLEAN, VA FREDERICK, MD

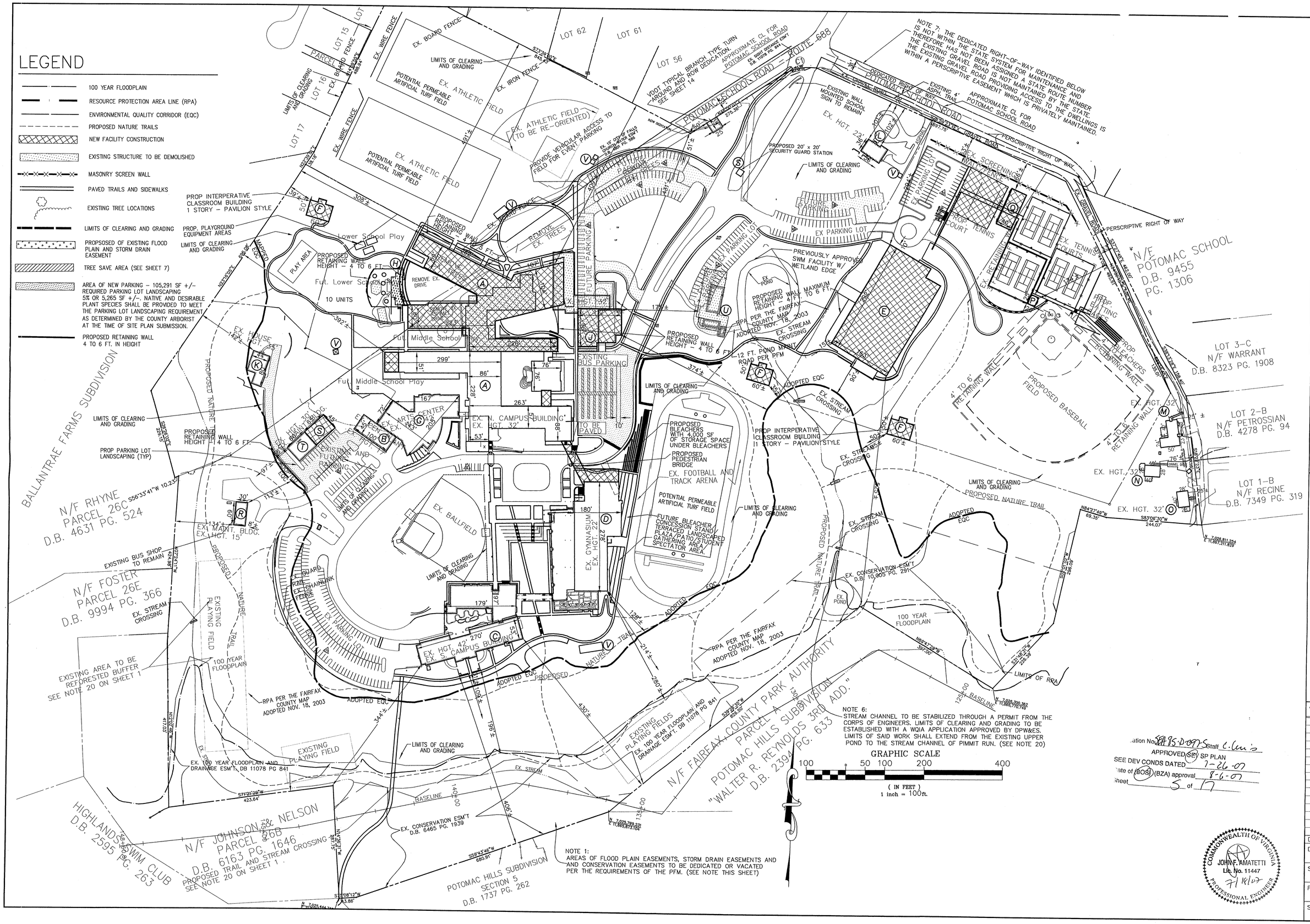
THE POTOMAC SCHOOL PROPERTY

DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT LANDSCAPE PLAN

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006	
DES. DWG	DWN. RJB
SCALE: 1" = 100'	
PROJECT/FILE NO. 6577-SE	
SHEET NO. 4 OF 14	



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VIKA INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ McLEAN, VIRGINIA 22102
TELEPHONE: 703-790-8050 ■ FAX: 703-848-2101
McLEAN, VA. FREDERICK, MD

THE POTOMAC SCHOOL PROPERTY

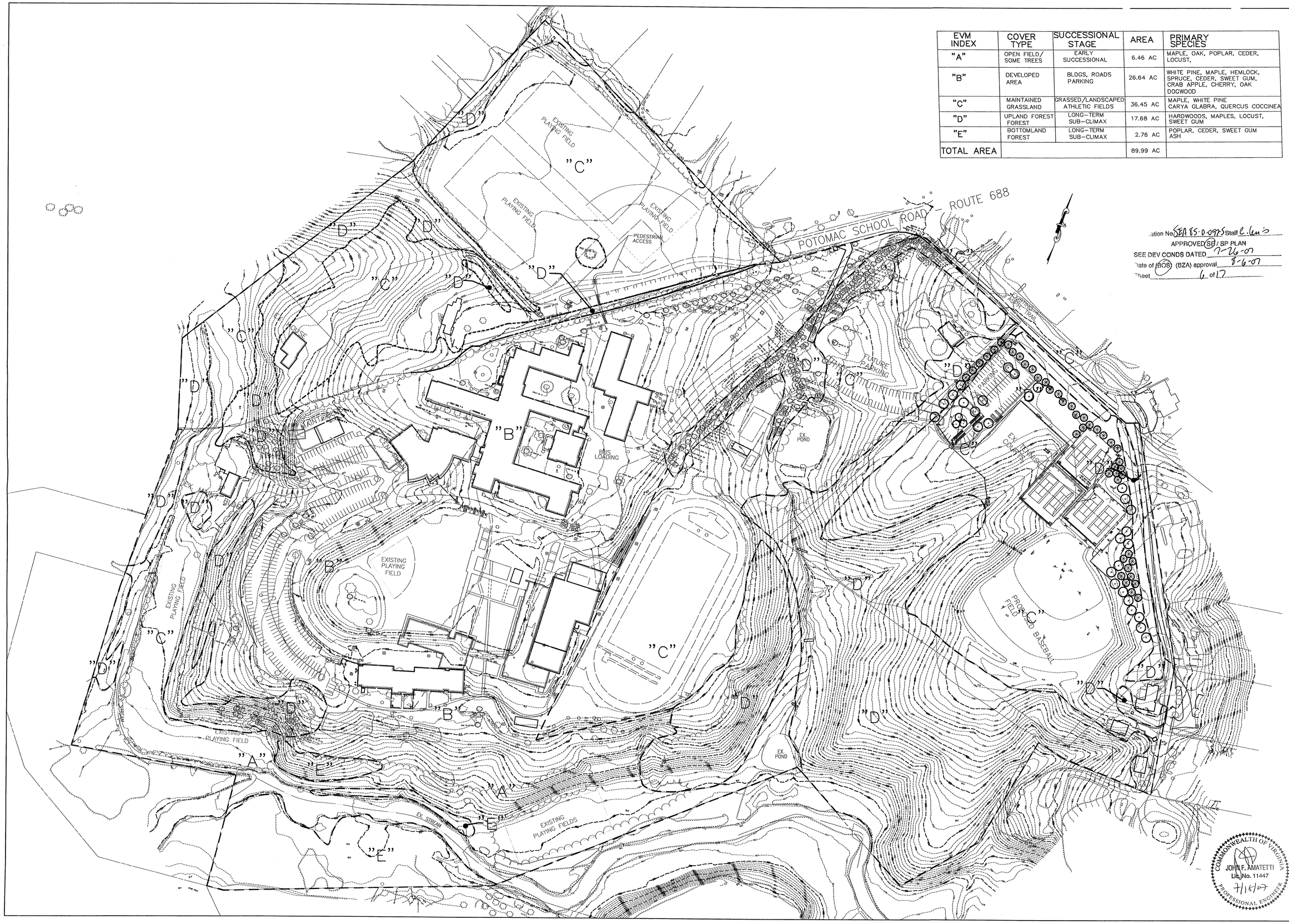
DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT CIRCULATION PLAN

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006	
DES. DWG	DWN. RJB
SCALE: 1" = 100'	
PROJECT/FILE NO. 6577-SE	
SHEET NO. 5 OF 14	

EVM INDEX	COVER TYPE	SUCCESSIONAL STAGE	AREA	PRIMARY SPECIES
"A"	OPEN FIELD/ SOME TREES	EARLY SUCCESSIONAL	6.46 AC	MAPLE, OAK, POPLAR, CEDER, LOCUST,
"B"	DEVELOPED AREA	BLDGS, ROADS PARKING	26.64 AC	WHITE PINE, MAPLE, HEMLOCK, SPRUCE, CEDER, SWEET GUM, CRAB APPLE, CHERRY, OAK DOGWOOD
"C"	MAINTAINED GRASSLAND	GRASSED/LANDSCAPED ATHLETIC FIELDS	36.45 AC	MAPLE, WHITE PINE CARYA GLABRA, QUERCUS COCCINEA
"D"	UPLAND FOREST FOREST	LONG-TERM SUB-CLIMAX	17.68 AC	HARDWOODS, MAPLES, LOCUST, SWEET GUM
"E"	BOTTOMLAND FOREST	LONG-TERM SUB-CLIMAX	2.76 AC	POPLAR, CEDER, SWEET GUM ASH
TOTAL AREA			89.99 AC	



Application No. SEA 85-D-097-5 Staff C. Lewis
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7-26-07
Date of (BOS) (BZA) approval 8-6-07
Sheet 6 of 17

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(703)442-7800 ■ FAX (703)761-2787
McLEAN, VA GERMANTOWN, MD LEESBURG, VA

THE POTOMAC SCHOOL PROPERTY

DRANESVILLE DISTRICT

FAIRFAX COUNTY, VIRGINIA

EXISTING VEGETATION MAP

VIKA REVISIONS
ADD LOTS 1, 2 & 3
TO EVM. 9/28/06
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006

DES.	DWN.
NPK	NPK

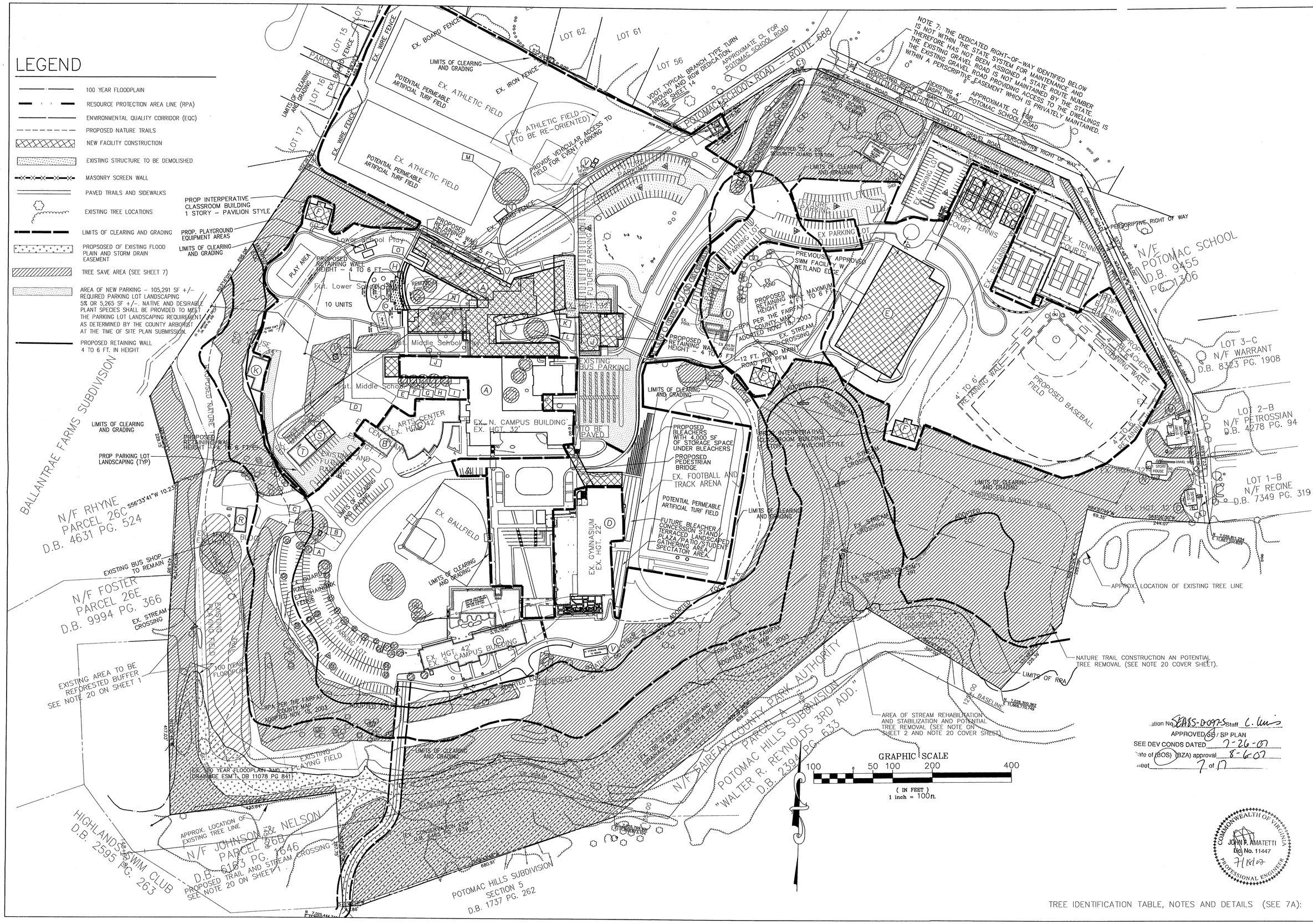
SCALE: 1"=100'

PROJECT/FILE NO. 6577B

SHEET NO. 6 OF 14

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

P:\Planning\Projects\6577 Potomac School\ACAD-6577EVM.dwg 7/18/07 7:46:18 AM EDT



TREE IDENTIFICATION TABLE, NOTES AND DETAILS (SEE 7A):

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VIKA, INCORPORATED
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McLEAN, VA FREDERICK, MD

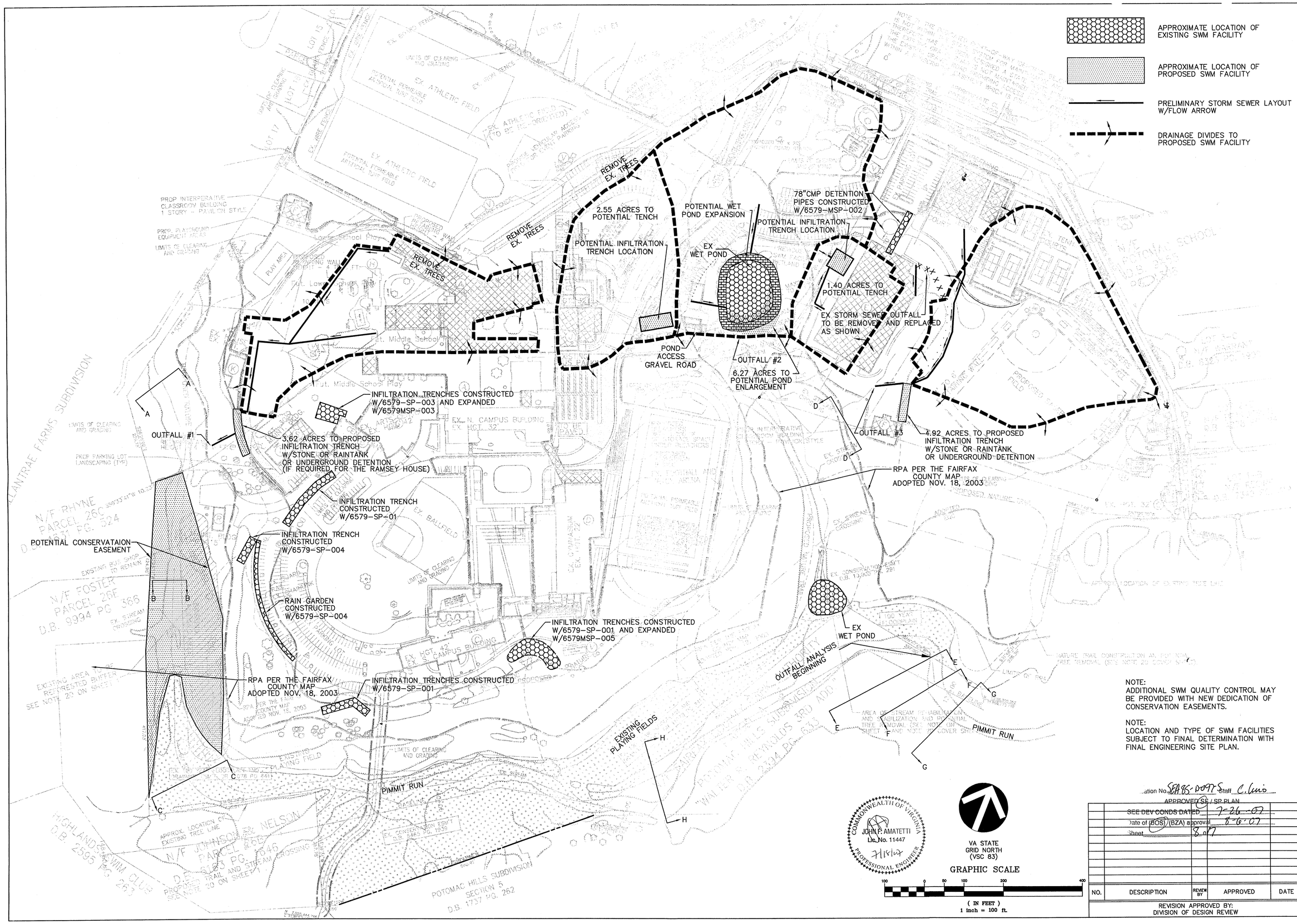
THE POTOMAC SCHOOL PROPERTY

DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION AMENDMENT PLAT TREE PRESERVATION

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006	
DES. DWG	DWN. RJB
SCALE: 1" = 100'	
PROJECT/FILE NO. 6577-SE	
SHEET NO. 7 OF 14	



NOTE:
ADDITIONAL SWM QUALITY CONTROL MAY BE PROVIDED WITH NEW DEDICATION OF CONSERVATION EASEMENTS.

NOTE:
LOCATION AND TYPE OF SWM FACILITIES SUBJECT TO FINAL DETERMINATION WITH FINAL ENGINEERING SITE PLAN.

Location No. SEA85-D097S Staff C. Lino

APPROVED SE / SP PLAN

SEE DEV CONDS DATED	7-26-07
Date of (BOS) (BZA) approval	8-6-07
Sheet	8 of 7

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

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McLEAN, VA GERMANTOWN, MD

THE POTOMAC SCHOOL PROPERTY

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

CONCEPTUAL SWM PLAN

VIKA REVISIONS

FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006

DES. BK | DWN. RMC

SCALE: 1"=100'

PROJECT/FILE NO. 6577-SE

SHEET NO. 8 OF 14

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OUTFALL ANALYSIS

THE SITE DESCRIPTION FOR THE SUBJECT PROPERTY IS THE SAME AS THAT LISTED IN THE ADEQUATE OUTFALL DESCRIPTION, AS ARE THE EXISTING CONDITIONS AND ADJACENT PROPERTIES. THE PURPOSE OF THIS NARRATIVE IS TO MAKE A PRELIMINARY DETERMINATION AS TO THE ADEQUACY OF THE THREE SITE OUTFALLS FOR THIS PROPERTY. BECAUSE THE ZONING ORDINANCE REQUIREMENTS REGARDING OUTFALL ADEQUACY REQUIRE ONLY A DESCRIPTION OF THE OUTFALL, THE OUTFALL ANALYSIS BELOW WILL MIMIC THE OUTFALL ANALYSIS REQUIREMENTS OF THE PUBLIC FACILITIES MANUAL (PFM).

BECAUSE ALL OF THE OUTFALLS FOR THIS PLAN ARE EXISTING NATURAL CHANNELS, THE 2-YEAR STORM WILL BE USED TO ANALYZE BOTH THE CAPACITY AND VELOCITIES IN SAID CHANNEL. IT SHOULD BE NOTED THAT OUTFALL #1 WILL CONVEY FLOW IN AN EXISTING NATURAL CHANNEL IN A SOUTHERLY DIRECTION, WHERE IT WILL INTERSECT WITH PIMMIT RUN. LIKEWISE, OUTFALL #2 AND OUTFALL #3 WILL DISCHARGE INTO AN EXISTING NATURAL CHANNEL WHICH WILL CONVEY FLOW IN A SOUTHERLY DIRECTION INTO PIMMIT RUN.

CROSS SECTIONS A-A, B-B, AND C-C ALL SHOW THE FLOWS FROM OUTFALL #1 IN THE ABOVE REFERENCED CHANNEL. PER THESE CROSS SECTIONS, THE FLOWS FROM THE SUBJECT PROPERTY IN THIS CHANNEL IN THE POST DEVELOPED CONDITION WILL NOT OVERTOP THE BANKS OF THE CHANNEL, NOR WILL THE FLOW CAUSE EROSIVE VELOCITIES IN THE CHANNEL. CROSS SECTION H-H SHOWS THE CAPACITY OF PIMMIT RUN BETWEEN THE CONFLUENCE POINTS WITH THE TWO OUTFALL CHANNELS REFERENCED ABOVE IS ADEQUATE, AND ALSO THAT THE FLOW IN PIMMIT RUN IN THIS AREA WILL BE NON-EROSIVE.

CROSS SECTION D-D SHOWS THAT THE CAPACITY AND VELOCITIES OF THE EXISTING CHANNEL FOR OUTFALL #2 AND OUTFALL #3 IS NOT ADEQUATE. THIS IS TO BE EXPECTED, AS THIS STREAM HAS ALREADY BEEN DESIGNATED TO NEED REVITALIZATION. A SEPARATE MINOR SITE PLAN TO STABILIZE AND REPAIR THE APPROPRIATE PORTIONS OF THIS STREAM IS TO BE SUBMITTED. AS REQUIRED, APPROVAL OF THIS MINOR SITE PLAN CAN BE MADE AN APPROVAL CONDITION FOR SUBSEQUENT SITE PLANS UNDER THIS REZONING APPLICATION TO ENSURE THE OUTFALL IS ADEQUATE AT THE TIME OF FUTURE DEVELOPMENT.

CROSS SECTIONS E-E, F-F, AND G-G ARE TAKEN IN PIMMIT RUN DOWNSTREAM OF THE LOCATION AT WHICH THE REFERENCED STREAM DEPARTS THE SUBJECT PROPERTY. AS IS SHOWN ON THE SWM MAPS IN THIS APPLICATION, THE TOTAL DRAINAGE AREA AT THIS POINT IS APPROXIMATELY 5,000 ACRES. THEREFORE, PER THE PFM, THE EXTENT OF OUTFALL ANALYSIS MAY BE 150 FEET DOWNSTREAM OF THIS POINT. THE THREE CROSS SECTIONS LISTED IN THIS PARAGRAPH REPRESENT THE REQUIRED 150 FEET OF STREAM ANALYSIS. AS IS SHOWN, PIMMIT RUN, WHICH IS AN EXISTING NATURAL STREAM, WILL NOT EXPERIENCE OVERTOPPING WATER SURFACE ELEVATIONS OR EROSIVE VELOCITIES AS A RESULT OF THE 2-YR PEAK FLOWS IN THE POST-DEVELOPED CONDITION.

THE DETERMINATION OF THE PEAK FLOW FOR THE SITE OUTFALLS WAS COMPUTED USING THE AREAS DESCRIBED IN THE OUTFALL DESCRIPTION, WITH THEIR ASSOCIATED C-FACTORS AND A RAINFALL INTENSITY ASSOCIATED WITH A 5 MINUTE TIME OF CONCENTRATION. FOR FURTHER INFORMATION SEE THE FLOW COMPUTATIONS ON THIS PAGE. THE PEAK FLOWS FOR PIMMIT RUN WERE COMPUTED USING DATA FROM THE FLOOD PLANE STUDY FOR THIS STREAM TO TAKE THE 25 YEAR FLOW WITH KNOW CONTRIBUTING AREA CHARACTERISTICS, AND CONVERT IT TO A 2-YR FLOW. FOR FURTHER INFORMATION ON THIS PROCESS, SEE THE FLOW COMPUTATIONS ON THIS PAGE.

BASED ON THE PRELIMINARY ANALYSIS CONDUCTED FOR THIS SITE, THE MAJORITY OF THE SITE OUTFALL APPEARS TO BE ADEQUATE. THE PORTION OF THE SITE OUTFALL WHICH IS CURRENTLY INADEQUATE IS TO BE STABILIZED/IMPROVED UNDER SEPARATE COVER. AT THE TIME OF FINAL ENGINEERING, IF REQUIRED, FURTHER ANALYSIS OF THE OUTFALL SHALL BE CONDUCTED. IF THE DETERMINATION OF THIS FURTHER ANALYSIS IS THAT THE OUTFALL IS ADEQUATE, AS IS CONCLUDED IN THIS PRELIMINARY ANALYSIS, THEN NO ADDITIONAL WORK WILL BE REQUIRED. IF THE ADDITIONAL ANALYSIS IS REQUIRED AND INDICATED THE OUTFALL IS INADEQUATE, THEN AN ADEQUATE OUTFALL SHALL BE INDUCED BY AN APPROVED METHODOLOGY FROM THE PFM, I.E. THE DETENTION METHOD OR THE CRITICAL SHEAR STRESS METHOD. THE POTENTIAL INFILTRATION FACILITIES SHOWN ON THIS APPLICATION WILL BE DESIGNED TO INFILTRATE A GREATER AMOUNT OF STORM WATER RUNOFF, THEREBY HAVING NO ADVERSE IMPACT ON THE SUBJECT OUTFALL, WHILE PROVIDING PROPORTIONAL IMPROVEMENTS TO THE OUTFALLS AS REQUIRED BY THE PFM.

FLOW DEVELOPMENT

OUTFALL #1
- AREA = 3.62 ACRES
- C-FACTOR = 0.70
- INTENSITY = 5.45 IN/HR (2-YR)
- 2-YR FLOW = 0.70 x 5.45 x 3.62 = 13.81 CFS

OUTFALL #2
- AREA = 10.22 ACRES
- C-FACTOR = 0.70
- INTENSITY = 5.45 IN/HR (2-YR)
- 2-YR FLOW = 0.70 x 5.45 x 10.22 = 38.98 CFS

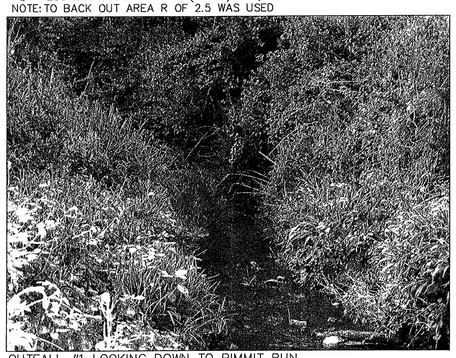
OUTFALL #3
- AREA = 4.92 ACRES
- C-FACTOR = 0.70
- INTENSITY =5.45 IN/HR (2-YR)
- 2-YR FLOW = 0.70 x 5.45 x 4.92 = 18.77

PIMMIT RUN

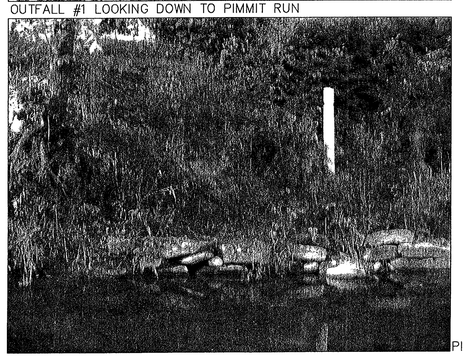
NOTE THE FLOW FROM THIS STREAM WAS DEVELOPED USING THE ANDERSON FORMULA DUE TO THE SIZE OF THE DRAINAGE AREA CONTRIBUTING TO IT. BASED ON THE 25-YR FLOW FROM THE FLOOD PLANE STUDY ON PIMMIT RUN IN THIS AREA (4,800 CFS), AND THE PERCENT IMPERVIOUS AREA IN THE FLOOD PLANE STUDY, THE CONTRIBUTING DRAINAGE AREA WAS DETERMINED TO BE 4,850 ACRES. THIS DRAINAGE AREA IS WITHIN 3% OF THE 5,000 ACRES APPROXIMATED ON THE DRAINAGE MAP, INDICATING THE ANDERSON FORMULA PRESENTS A GOOD FLOW DETERMINATION.

- A = 4,850 ACRES = 7.57 SQ. MI
- K = 1.6 {(1 + [0..015 x I]) -> I = 40 % IMPERVIOUS}
- R = 0.90 (FROM PFM PLATE 6-6)
- X = 0.82 (AREA ABOVE 1 SQ. MILE)
- T = 1.020 (FROM PFM PLATE 7-6)
- Q = 230 x K x R x A^X x T^(-0.48) = 1,726.64 CFS

NOTE: TO BACK OUT AREA R OF 2.5 WAS USED


OUTFALL #1 LOOKING DOWN TO PIMMIT RUN

PIMMIT RUN BETWEEN OUTFALLS #1 AND #2


PIMMIT RUN BETWEEN OUTFALLS #1 AND #2

PIMMIT RUN DOWNSTREAM OF OUTFALL #2

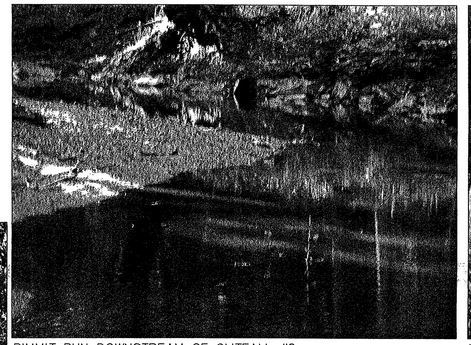
OUTFALL #2 – UPSTREAM OF PIMMIT RUN & OUTFALL #3

OUTFALL #1 – UPSTREAM OF PIMMIT RUN

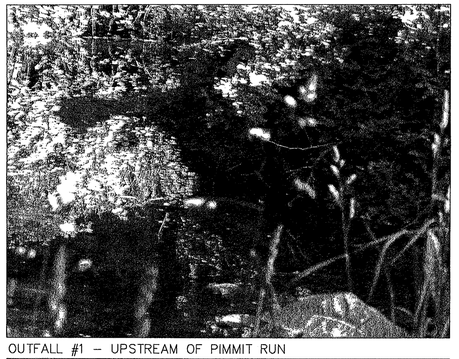
PIMMIT RUN DOWNSTREAM OF OUTFALL #2

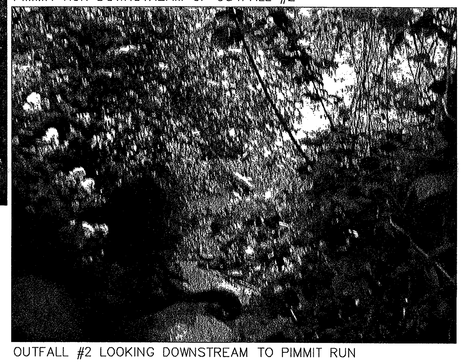
OUTFALL #2 – UPSTREAM OF PIMMIT RUN & OUTFALL #3

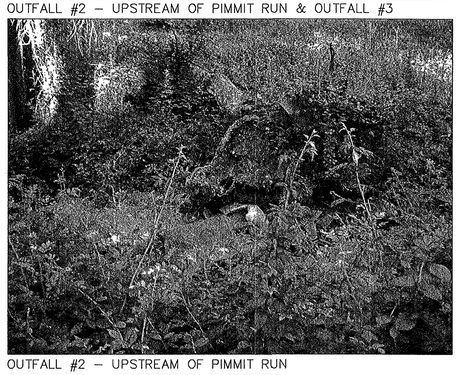
OUTFALL #1 – UPSTREAM OF PIMMIT RUN

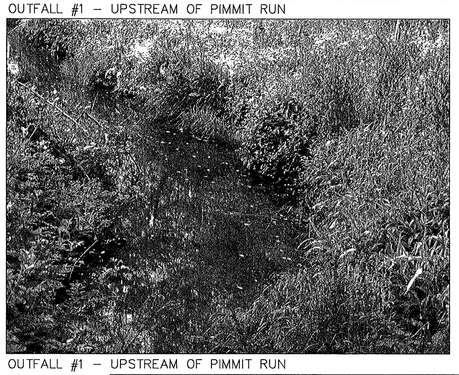

PIMMIT RUN DOWNSTREAM OF OUTFALL #2

OUTFALL #2 – UPSTREAM OF PIMMIT RUN & OUTFALL #3


OUTFALL #1 – UPSTREAM OF PIMMIT RUN


OUTFALL #2 LOOKING DOWNSTREAM TO PIMMIT RUN


OUTFALL #2 – UPSTREAM OF PIMMIT RUN


OUTFALL #1 – UPSTREAM OF PIMMIT RUN

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

...tion No. SEA 85-D-001-5 Staff C. Lewis				
APPROVED (SE/) SP PLAN				
SEE DEV CONDS DATED 7-26-07				
...ate of (BOS) (BZA) approval 8-6-07				
Sheet 9 of 17				
NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE
REVISION APPROVED BY: DIVISION OF DESIGN REVIEW				

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McLEAN, VA GERMANTOWN, MD

THE POTOMAC SCHOOL PROPERTY

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

CONCEPTUAL SWM PLAN

VIKA REVISIONS

FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006

DES.	DWN.
BK	RMC

SCALE: 1"=100'

PROJECT/FILE NO. 6577-SE

SHEET NO. **8A OF 14**

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Cross Section for SECTION A-A

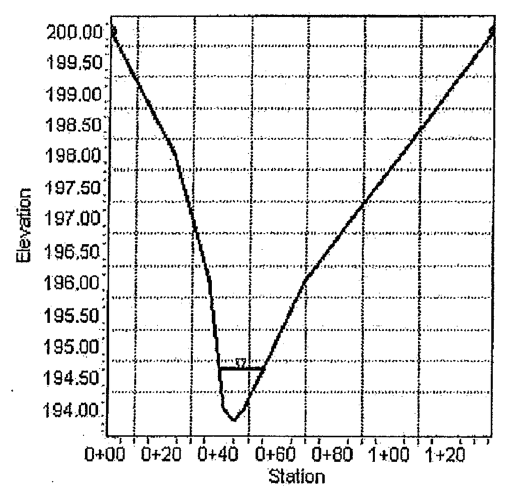
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.81	ft
Discharge	13.81	ft³/s

Cross Section Image



Worksheet for SECTION A-A

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Discharge	13.81	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	200.00
0+23	198.00
0+36	196.00
0+41	194.00
0+45	193.80
0+48	194.00
0+70	196.00
1+03	198.00
1+36	200.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 200.00)	(1+36, 200.00)	0.050

Results

Normal Depth	0.81	ft
Elevation Range	193.80 to 200.00 ft	
Flow Area	7.51	ft²
Wetted Perimeter	15.40	ft
Top Width	15.26	ft
Normal Depth	0.81	ft
Critical Depth	0.56	ft
Critical Slope	0.05237	ft/ft
Velocity	1.84	ft/s

Worksheet for SECTION A-A

Results

Velocity Head	0.05	ft
Specific Energy	0.86	ft
Froude Number	0.46	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.81	ft
Critical Depth	0.56	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.05237	ft/ft

Cross Section for SECTION B-B

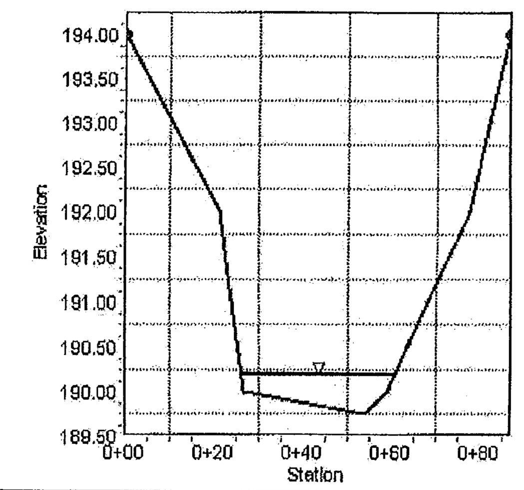
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	0.44	ft
Discharge	13.81	ft³/s

Cross Section Image



Worksheet for SECTION B-B

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Discharge	13.81	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	194.00
0+21	192.00
0+27	190.00
0+54	189.75
0+59	190.00
0+78	192.00
0+87	194.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 194.00)	(0+87, 194.00)	0.050

Results

Normal Depth	0.44	ft
Elevation Range	189.75 to 194.00 ft	
Flow Area	10.40	ft²
Wetted Perimeter	34.81	ft
Top Width	34.76	ft
Normal Depth	0.44	ft
Critical Depth	0.30	ft
Critical Slope	0.06513	ft/ft
Velocity	1.33	ft/s
Velocity Head	0.03	ft
Specific Energy	0.47	ft

Worksheet for SECTION B-B

Results

Froude Number	0.43	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	0.44	ft
Critical Depth	0.30	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.06513	ft/ft

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, 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 2J & 2L)
Cluster Subdivision (9-615 1G & 1N)	Commercial Revitalization Districts (9-622 2A (12) & (14))
Development Plans PRC District (16-302 3 & 4L)	PRC Plan (16-303 1E & 1O)
FDP P Districts (except PRC) (16-502 1F & 1Q)	Amendments (18-202 10F & 10I)

☑ 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

☑ 2. 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 8.

☑ 3. 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)
INF. TRENCH (#1) (e.g. dry pond A, infil. trench, underground vault, etc.)	3.62 AC	0.0 AC	3.62 AC	2,400 SF	16,320 CF	N/A
WET POND (#2)	10.22 AC	0.0 AC	10.22 AC	21,000 SF	62,600 CF	~10'
INF. TRENCH (#3)	4.92 AC	0.0 AC	4.92 AC	1,900 SF	11,210 CF	N/A
						Totals

☑ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 8. Pond inlet and oulet pipe systems are shown on Sheet 8.

☑ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 8. Type of maintenance access road surface noted on the plat is GRAVEL (asphalt, geoblock, gravel, etc.).

☑ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet X.

☑ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 9.

☑ 8. 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 11.

☑ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 9.

☑ 10. 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 1, 2.

☑ 11. A submission waiver is requested for UNDERGROUND DETENTION.

☒ 12. Stormwater management is not required because ____.

1/9 SPECIAL EXCEPTION SWM INFORMATION CHECKLIST

BMP NARRATIVE

PER PFM 6-0401.2A, THE BMP REQUIREMNT FOR THE SUBJECT PROPERTY IS 40% PHOSPHOROUS REMOVAL. THE CONCEPTUAL SWM PLAN ASSOICATED WITH THIS SPECIAL EXCEPTION AMENDMENT PROPOSES INFILTRATION TRENCHES AND A WET POND EXPANSION TO PROVIDE THE REQUIRED BMP. HOWEVER, THIS IS ONLY A CONCEPTUAL PLAN, AND THE ENGINEER/ DEVELOPER RESERVE THE RIGHT TO PROVIDE BMP IN OTHER WAYS. POSSIBLE BMP ALTERNATIVES INCLUDE UNDERGROUND STRUCTURAL BMP'S SUCH AS A STORMFILTER OR SAND FILTER, OR THE DEDICATION OF CONSERVATION EASEMENTS. THE ACTUAL TYPE OF BMP TO BE PROVIDED WILL BE DETERMINED AT THE TIME OF FINAL ENGINEERING. ULTIMATELY, BMP WILL BE PROVIDED FOR ON-SITE AND WILL MEET THE 40% PHOSPHOROUS REMOVAL REQUIREMENT FOR ALL DISTRUBED AREAS.

STORMWATER MANAGEMENT NARRATIVE

STORMWATER MANAGEMENT QUANTITY AND QUALITY CONTROL FOR THE SUBJECT SITE SHALL BE PROVIDED IN THE FOLLOWING MANNER:

OUTFALL #1:
THIS AREA IS 3.62 ACRES WITH A PROPOSED C-FACTOR OF 0.60. A PROPOSED INFILTRATION TRENCH WILL PROVIDE BOTH QUALITY AND QUANTITY CONTROL FOR THIS AREA.

OUTFALL #2:
THIS AREA IS 10.22 ACRES WITH A PROPOSED C-FACTOR OF 0.60. THREE POTENTIAL FACILITIES ARE PROPOSED FOR THIS AREA, ANY COMBINATION OF WHICH MAY BE PROVIDED AT THE TIME OF FINAL ENGINEERING. APPROXIMATE AREAS ARE 1.40 ACRES TO ONE OF THE POTENTIAL INFILTRATION TRENCHES, 2.55 ACRES TO THE OTHER POTENTIAL INFILTRATION TRENCH, AND 6.27 ACRES TO THE POTENTIAL POND EXPANSION. DETENTION/WATER QUALITY WOULD BE PROVIDED IN EACH OF THESE FACILITIES THAT IS PROVIDED AT THE TIME OF FINAL ENGINEERING. SEE SHEET 8.

OUTFALL #3:
THIS AREA IS 4.92 ACRES WITH A PROPOSED C-FACTOR OF 0.60. A PROPOSED INFILTRATION TRENCH WILL PROVIDE BOTH QUALITY AND QUANTITY CONTROL FOR THIS AREA.

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

Application No. SEA85-D-097-5 Staff C. Lewis
APPROVED SE/SP PLAN
SEE DEV CONDS DATED 7-26-07
Date of (BOS) (BZA) approval 8-6-07
Sheet 10 of 17

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VIKA INCORPORATED
8180 GREENSBORO DRIVE SUITE 200 ■ McLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
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SCALE: AS SHOWN
PROJECT/FILE NO. 6577N
SHEET NO. 9 OF 14

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Cross Section for SECTION C-C

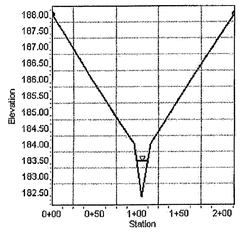
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Normal Depth	1.11	ft
Discharge	13.81	ft³/s

Cross Section Image



Worksheet for SECTION C-C

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.01000	ft/ft
Discharge	13.81	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	188.00
0+46	186.00
0+96	184.00
1+05	182.35
1+15	184.00
1+64	186.00
2+14	188.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 188.00)	(2+14, 188.00)	0.050

Results

Normal Depth	1.11	ft
Elevation Range	182.35 to 188.00 ft	
Flow Area	6.94	ft²
Wetted Perimeter	12.67	ft
Top Width	12.46	ft
Normal Depth	1.11	ft
Critical Depth	0.82	ft
Critical Slope	0.05002	ft/ft
Velocity	1.99	ft/s
Velocity Head	0.06	ft
Specific Energy	1.17	ft

Worksheet for SECTION C-C

Results

Froude Number	0.47	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.11	ft
Critical Depth	0.82	ft
Channel Slope	0.01000	ft/ft
Critical Slope	0.05002	ft/ft

Cross Section for SECTION D-D

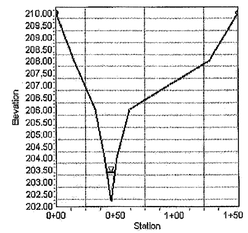
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.05000	ft/ft
Normal Depth	1.19	ft
Discharge	18.77	ft³/s

Cross Section Image



Worksheet for SECTION D-D

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.05000	ft/ft
Discharge	18.77	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	210.00
0+16	208.00
0+33	206.00
0+41	204.00
0+46	202.20
0+51	204.00
0+62	206.00
1+30	208.00
1+55	210.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 210.00)	(1+55, 210.00)	0.050

Results

Normal Depth	1.19	ft
Elevation Range	202.20 to 210.00 ft	
Flow Area	4.14	ft²
Wetted Perimeter	7.35	ft
Top Width	6.95	ft
Normal Depth	1.19	ft
Critical Depth	1.21	ft
Critical Slope	0.04641	ft/ft
Velocity	4.53	ft/s

Worksheet for SECTION D-D

Results

Velocity Head	0.32	ft
Specific Energy	1.51	ft
Froude Number	1.04	
Flow Type	Supercritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.19	ft
Critical Depth	1.21	ft
Channel Slope	0.05000	ft/ft
Critical Slope	0.04641	ft/ft

Cross Section for SECTION E-E

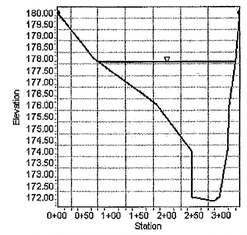
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Normal Depth	6.03	ft
Discharge	1726.64	ft³/s

Cross Section Image



Worksheet for SECTION E-E

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Discharge	1726.64	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	180.00
0+68	178.00
1+81	176.00
2+44	174.00
2+46	172.00
2+68	171.80
2+96	172.00
3+12	174.00
3+14	176.00
3+26	178.00
3+34	180.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 180.00)	(3+34, 180.00)	0.050

Results

Normal Depth	6.03	ft
Elevation Range	171.80 to 180.00 ft	
Flow Area	671.60	ft²
Wetted Perimeter	249.64	ft
Top Width	247.66	ft
Normal Depth	6.03	ft
Critical Depth	3.26	ft

Worksheet for SECTION E-E

Results

Critical Slope	0.02910	ft/ft
Velocity	2.57	ft/s
Velocity Head	0.10	ft
Specific Energy	6.14	ft
Froude Number	0.28	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.03	ft
Critical Depth	3.26	ft
Channel Slope	0.00200	ft/ft
Critical Slope	0.02910	ft/ft

COMMONWEALTH OF VIRGINIA
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7/18/07
PROFESSIONAL ENGINEER

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SEE DEV CONDS DATED 7-16-07
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BRK	BRK

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Cross Section for SECTION F-F

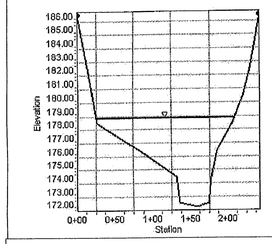
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Normal Depth	6.69	ft
Discharge	1726.64	ft³/s

Cross Section Image



Worksheet for SECTION F-F

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Discharge	1726.64	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	186.00
0+07	184.00
0+13	182.00
0+20	180.00
0+27	178.00
0+82	176.00
1+31	174.00
1+36	172.00
1+60	171.71
1+75	172.00
1+78	174.00
1+85	176.00
2+06	178.00
2+19	180.00
2+29	182.00
2+36	184.00
2+42	186.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 186.00)	(2+42, 186.00)	0.050

Results

Normal Depth	6.69	ft

Worksheet for SECTION F-F

Results

Elevation Range	171.71 to 186.00 ft		
Flow Area		595.32	ft²
Wetted Perimeter		184.66	ft
Top Width		183.15	ft
Normal Depth		6.69	ft
Critical Depth		3.93	ft
Critical Slope		0.02848	ft/ft
Velocity		2.90	ft/s
Velocity Head		0.13	ft
Specific Energy		6.83	ft
Froude Number		0.28	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.69	ft
Critical Depth	3.93	ft
Channel Slope	0.00200	ft/ft
Critical Slope	0.02848	ft/ft

Cross Section for SECTION G-G

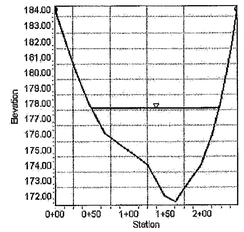
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Normal Depth	6.06	ft
Discharge	1726.64	ft³/s

Cross Section Image



Worksheet for SECTION G-G

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00200	ft/ft
Discharge	1726.64	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	184.00
0+15	182.00
0+29	180.00
0+46	178.00
0+68	176.00
1+25	174.00
1+48	172.00
1+64	171.60
1+68	172.00
1+98	174.00
2+14	176.00
2+25	178.00
2+33	180.00
2+41	182.00
2+48	184.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 184.00)	(2+48, 184.00)	0.050

Results

Normal Depth	6.06	ft
Elevation Range	171.60 to 184.00 ft	
Flow Area	581.84	ft²

Worksheet for SECTION G-G

Results

Wetted Perimeter		174.39	ft
Top Width		173.83	ft
Normal Depth		6.06	ft
Critical Depth		3.71	ft
Critical Slope		0.02977	ft/ft
Velocity		2.97	ft/s
Velocity Head		0.14	ft
Specific Energy		6.19	ft
Froude Number		0.29	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.06	ft
Critical Depth	3.71	ft
Channel Slope	0.00200	ft/ft
Critical Slope	0.02977	ft/ft

Cross Section for SECTION H-H

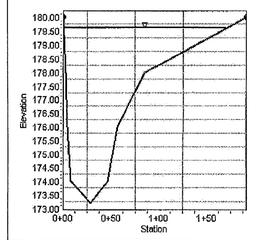
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Normal Depth	6.40	ft
Discharge	1726.64	ft³/s

Cross Section Image



Worksheet for SECTION H-H

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Channel Slope	0.00500	ft/ft
Discharge	1726.64	ft³/s

Section Definitions

Station (ft)	Elevation (ft)
0+00	180.00
0+03	178.00
0+04	176.00
0+08	174.00
0+28	173.20
0+46	174.00
0+56	176.00
0+85	178.00
1+91	180.00

Roughness Segment Definitions

Start Station	Ending Station	Roughness Coefficient
(0+00, 180.00)	(1+91, 180.00)	0.050

Results

Normal Depth	6.40	ft
Elevation Range	173.20 to 180.00 ft	
Flow Area	438.73	ft²
Wetted Perimeter	171.17	ft
Top Width	168.67	ft
Normal Depth	6.40	ft
Critical Depth	4.15	ft
Critical Slope	0.02724	ft/ft
Velocity	3.94	ft/s

Worksheet for SECTION H-H

Results

Velocity Head		0.24	ft
Specific Energy		6.64	ft
Froude Number		0.43	
Flow Type	Subcritical		

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.40	ft
Critical Depth	4.15	ft
Channel Slope	0.00500	ft/ft
Critical Slope	0.02724	ft/ft

COMMONWEALTH OF VIRGINIA
JOHN P. AMATETTI
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7/18/07
PROFESSIONAL ENGINEER

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BRK	BRK

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SHEET NO. 9B OF 14

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INFILTRATION TRENCH DESIGN

1. Given the infiltration rate, calculate the design infiltration rate:
fd = 0.5 * f

f =	**2.5**	in/hr
fd =	0.104	ft/hr

2. Calculate the maximum ponding depth for the infiltration trench:
dmax = fd * Tmax / Vr

Tmax =	**48**	hr
Vr =	**0.4**	
dmax =	12.5	ft

3. Calculate the water quality volume requirements for the trench:
VOLwq = ImpArea * first flush depth

Drainage Area =	**2.55**	Ac
C-Value =	**0.6**	
First Flush Depth =	**1.0**	in
VOLwq =	4628.3	cf

4. Calculate the minimum surface area for the bottom of the infiltration trench:
SAmin = VOLwq / (fd * Tmax)

SAmin =	**926**	**sf**
Design Length =	**80**	ft
Design Width =	**35**	ft
Design SA =	2800	sf
Actual Depth of Trench =	4.1	ft

INFILTRATION TRENCH DESIGN

1. Given the infiltration rate, calculate the design infiltration rate:
fd = 0.5 * f

f =	**2.5**	in/hr
fd =	0.104	ft/hr

2. Calculate the maximum ponding depth for the infiltration trench:
dmax = fd * Tmax / Vr

Tmax =	**48**	hr
Vr =	**0.4**	
dmax =	12.5	ft

3. Calculate the water quality volume requirements for the trench:
VOLwq = ImpArea * first flush depth

Drainage Area =	**1.4**	Ac
C-Value =	**0.6**	
First Flush Depth =	**1.0**	in
VOLwq =	2541.0	cf

4. Calculate the minimum surface area for the bottom of the infiltration trench:
SAmin = VOLwq / (fd * Tmax)

SAmin =	**508**	**sf**
Design Length =	**50**	ft
Design Width =	**50**	ft
Design SA =	2500	sf
Actual Depth of Trench =	2.5	ft

4/10 POTENTIAL INFILTRATION TRENCHES CALCULATIONS FOR OUTFALL #2

SUMMARY / RESULTS:
120' LONG X 20' WIDE X 6.8' DEEP INFILTRATION TRENCH TO TREAT 3.62 ACRES WITH A C-FACTOR OF 0.60.

ASSUMPTIONS:
1. A PERCOLATION RATE OF 2.5"/HR WAS ASSUMED FOR THE SIZING OF THIS INFILTRATION TRENCH. SOIL BORINGS SHALL BE PERFORMED PRIOR TO FINAL ENGINEERING TO DETERMINE THE ACTUAL PERCOLATION RATE.

2. THIS INFILTRATION TRENCH CALCULATION ASSUMES THAT THE FIRST 1" OF RUNOFF WILL BE TREATED, RESULTING IN A 65% PHOSPHOROUS REMOVAL EFFICIENCY. AT THE TIME OF FINAL ENGINEERING, THE ENGINEER MAY CHOOSE TO ONLY TREAT THE FIRST 1/2" OF RUNOFF, WHICH RESULTS IN ONLY 50% PHOSPHOROUS REMOVAL EFFICIENCY.

3. THE ACTUAL DRAINAGE AREA AND C-FACTOR MAY CHANGE AT THE TIME OF FINAL ENGINEERING.

4. INFILTRATION TRENCH SIZE MAY BE ADJUSTED IN SIZE TO PROVIDE STORMWATER DETENTION, AS WELL AS QUALITY CONTROL.

5. DETAILS AND SPECIFICATIONS SHALL BE PROVIDED AT TIME OF FINAL ENGINEERING.

1. Given the infiltration rate, calculate the design infiltration rate:
fd = 0.5 * f

f =	**2.5**	in/hr
fd =	0.104	ft/hr

2. Calculate the maximum ponding depth for the infiltration trench:
dmax = fd * Tmax / Vr

Tmax =	**48**	hr
Vr =	**0.4**	
dmax =	12.5	ft

3. Calculate the water quality volume requirements for the trench:
VOLwq = ImpArea * first flush depth

Drainage Area =	**3.62**	Ac
C-Value =	**0.6**	
First Flush Depth =	**1.0**	in
VOLwq =	6570.3	cf

4. Calculate the minimum surface area for the bottom of the infiltration trench:
SAmin = VOLwq / (fd * Tmax)

SAmin =	**1314**	**sf**
Design Length =	**120**	ft
Design Width =	**20**	ft
Design SA =	2400	sf
Actual Depth of Trench =	6.8	ft

1/10 INFILTRATION TRENCH CALCULATIONS FOR OUTFALL #1

SUMMARY / RESULTS:
95' LONG X 20' WIDE X 5.9' DEEP INFILTRATION TRENCH TO TREAT 4.92 ACRES WITH A C-FACTOR OF 0.60.

ASSUMPTIONS:
1. A PERCOLATION RATE OF 2.5"/HR WAS ASSUMED FOR THE SIZING OF THIS INFILTRATION TRENCH. SOIL BORINGS SHALL BE PERFORMED PRIOR TO FINAL ENGINEERING TO DETERMINE THE ACTUAL PERCOLATION RATE.

2. THIS INFILTRATION TRENCH CALCULATION ASSUMES THAT THE FIRST 1/2" OF RUNOFF WILL BE TREATED, RESULTING IN A 50% PHOSPHOROUS REMOVAL EFFICIENCY. AT THE TIME OF FINAL ENGINEERING, THE ENGINEER MAY CHOOSE TO TREAT THE FIRST 1" OF RUNOFF, WHICH RESULTS IN 65% PHOSPHOROUS REMOVAL EFFICIENCY.

3. THE ACTUAL DRAINAGE AREA AND C-FACTOR MAY CHANGE AT THE TIME OF FINAL ENGINEERING.

4. INFILTRATION TRENCH MAY BE ADJUSTED IN SIZE TO PROVIDE STORMWATER DETENTION, AS WELL AS QUALITY CONTROL.

5. DETAILS AND SPECIFICATIONS SHALL BE PROVIDED AT TIME OF FINAL ENGINEERING.

1. Given the infiltration rate, calculate the design infiltration rate:
fd = 0.5 * f

f =	**2.5**	in/hr
fd =	0.104	ft/hr

2. Calculate the maximum ponding depth for the infiltration trench:
dmax = fd * Tmax / Vr

Tmax =	**48**	hr
Vr =	**0.4**	
dmax =	12.5	ft

3. Calculate the water quality volume requirements for the trench:
VOLwq = ImpArea * first flush depth

Drainage Area =	**4.92**	Ac
C-Value =	**0.6**	
First Flush Depth =	**0.5**	in
VOLwq =	4464.9	cf

4. Calculate the minimum surface area for the bottom of the infiltration trench:
SAmin = VOLwq / (fd * Tmax)

SAmin =	**893**	**sf**
Design Length =	**95**	ft
Design Width =	**20**	ft
Design SA =	1900	sf
Actual Depth of Trench =	5.9	ft

3/10 INFILTRATION TRENCH CALCULATIONS FOR OUTFALL #3

POND SIZING CALCULATION

BASED ON THE "NORTHERN VIRGINIA BMP HANDBOOK", A WET POND IS SIZED WITH THE FOLLOWING EQUATION:

DESIGN #2: WET STORAGE = 4.0 X (Vr, VOLUME OF RUNOFF FROM MEAN STORM)

Vr=1452 X C FACTOR
Vr=1452 X 0.60 = 871 CF/AC

WET STORAGE = 4.0 * 871 CF/AC X 10.22 AC
WET STORAGE = 35,600 CF

ASSUME EXISTING POND IS 4 FEET DEEP.
SURFACE AREA OF EXISTING POND IS 12,700 SF.

APPROXIMATE EXISTING WET POND STORAGE CAPACITY = 50,800 CF
APPROXIMATE TOTAL WET POND STORAGE REQUIRED = 35,600 CF
APPROXIMATE TOTAL DRY STORAGE REQUIRED = 27,000 CF
TOTAL REQUIRED STORAGE = 62,600 CF

APPROXIMATE VOLUME OF POND EXPANSION = TOTAL – EXISTING
APPROXIMATE VOLUME OF POND EXPANSION = 62,600 CF – 50,800 CF = 11,800 CF

WET POND NOTES

1. EXPANDED WET POND SHALL UTILIZE A RISER STRUCTURE THAT MEETS FAIRFAX COUNTY STANDARDS.

2. THERE SHALL BE AN EMERGENCY SPILLWAY OR THE RISER STRUCTURE SHALL BE APPROPRIATELY SIZED TO CONVEY THE SPILLWAY DESIGN FLOOD.

3. ACTUAL POND EXPANSION, POND ACCESS ROAD, OUTLET STRUCUTRE, DAM HEIGHT, AND EMERGENCY SPILLWAY TO BE DESIGNED DURING FINAL ENGINEERING.

4. ROUTINGS OF THE 2–, 10–, 100– AND FBH STORMS WILL BE PERFORMED DURING FINAL ENGINEERING.

DETENTION ANALYSIS
1) PRE-DEVELOPMENT RUNOFF

A=	6.27	Ac.		
C_2 =	0.15			
C_{10} =	0.30			
Tc=	5.00	min.	I_2= 5.45	in/hr
			I_{10}= 7.27	in/hr
Q=	CIA	cfs		
Q_{2pre} =	5.13	cfs		
Q_{10post} =	13.67	cfs		

2) POST-DEVELOPMENT (ONSITE AREA TO DETENTION)

A=	6.27	Ac.		
C_W=	0.60			
Tc=	5.00	min.	I_2= 5.45	in/hr
			I_{10}= 7.27	in/hr
Q=	CIA	cfs		
Q_{2post} =	20.50	cfs		
Q_{10post}=	27.35	cfs		

3) POST-DEVELOPMENT (ONSITE UNDETAINED)

A=	0.00	Ac.		
C_W=	0.45			
Tc=	5.00	min.	I_2= 5.45	in/hr
			I_{10}= 7.27	in/hr
Q=	CIA	cfs		
Q_{2post} =	0.00	cfs		
Q_{10post}=	0.00	cfs		

4) OFFSITE TO DETENTION FACILITY

A=	0.00	Ac.		
C_W=	0.00			
Tc=	5.00	min.	I_2= 5.45	in/hr
			I_{10}= 7.27	in/hr
Q=	CIA	cfs		
Q_{2post} =	0.00	cfs		
Q_{10post}=	0.00	cfs		

5- ALLOWABLE RELEASE (Q_{Allow})

Q_{Allow}= (PREDEVELOPED FLOW)+(FLOW FROM OFFSITE AREA)-(FLOW FROM UNDETAINED ONSITE AREAS)

Q_{2Allow}=	5.13	+	0.00	-	0.00
Q_{2Allow}=	5.13	cfs			
$Q_{10Allow}$ =	13.67	+	0.00	-	0.00
$Q_{10Allow}$ =	13.67	cfs			

2/10 PRELIMINARY POND SIZING CALCULATIONS FOR OUTFALL #2

ation No. SEA95-D-005 Staff C. Lewis
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 7-26-07
ate of (BOS) (BZA) approval 8-6-07
heet 13 of 17

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ CONSTRUCTION INSPECTORS
8180 GREENSBORO DRIVE ■ SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703) 442-7800 ■ FAX (703) 848-2679
MCLEAN, VA. GERMANTOWN, MD.

THE POTOMAC SCHOOL PROPERTY
DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

PRELIMINARY SWM CALCULATIONS

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006
DES. BRK | DWN. BRK
SCALE: AS SHOWN
PROJECT/FILE NO. 6577N
SHEET NO. 10 OF 14

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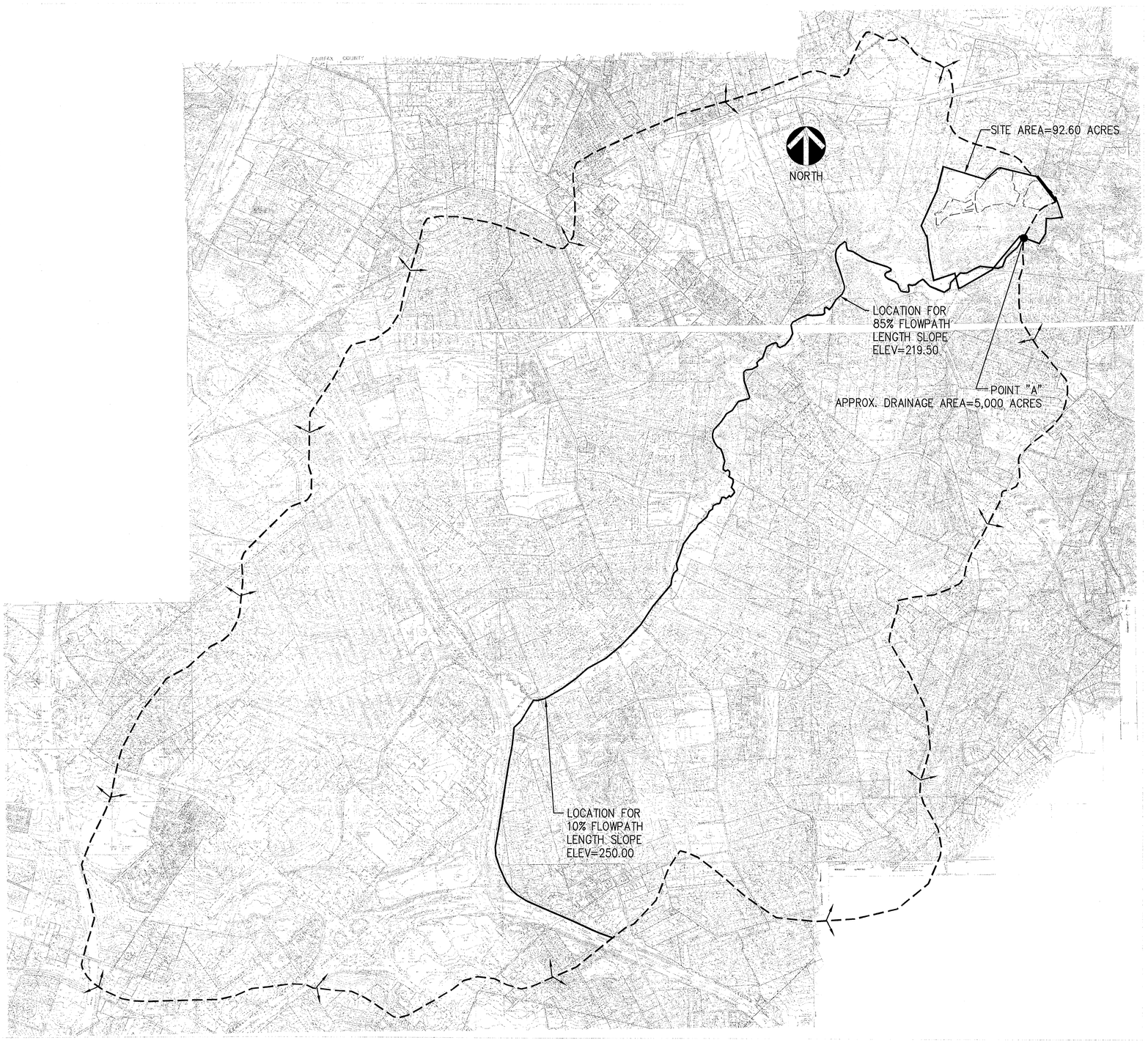


1/11 OVERALL OUTFALL MAP

SCALE: 1"=1000'

OUTFALL DESCRIPTION

THE SUBJECT PROPERTY IS IDENTIFIED ON THE FAIRFAX COUNTY TAX ASSESSMENT MAP AS 031-1-((1))-5, 7, 8, 10A, 10B, 10C, AND 12 AND IS LOCATED IN THE MCLEAN AREA. THE SUBJECT PROPERTY IS BORDERED BY THE PIMMIT RUN 100-YEAR FLOOD PLAIN TO THE SOUTH, AND SINGLE FAMILY HOMES TO THE NORTH, EAST AND WEST. VEHICULAR ACCESS TO THE SUBJECT PROPERTY IS PROVIDED FROM POTOMOAC SCHOOL ROAD VIA AN EXSITING DRIVE AISLE. THE PRESENT DEVELOPMENT ON THE SITE CONSISTS OF THE UPPER SCHOOL, LOWER SCHOOL, GYMNASIUM, PERFORMING ARTS BUILDING, CENTRAL PLANT, VARIOUS BALL FIELDS, TENNIS COURTS, SURFACE PARKING, AND OTHER MAINTENANCE/MISCELLANEOUS BUILDINGS.

THERE ARE THREE OUTFALLS ASSOCIATED WITH THIS SPECIAL EXCEPTION AMENDMENT. OUTFALL #1 CONSISTS OF 3.62 ACRES AND LEAVES THE SITE ALONG THE WESTERN PROPERTY LINE INTO AN EXISTING STREAM. OUTFALL #2 CONSISTS OF 10.22 ACRES AND LEAVES THE PROPERTY THROUGH AN EXISTING WET POND LOCATED GENERALLY IN THE MIDDLE OF THE SITE. OUTFALL #3 CONSISTS OF 4.92 ACRES AND AND LEAVES THE SITE IN THE SAME CHANNEL AS OUTFALL #2.

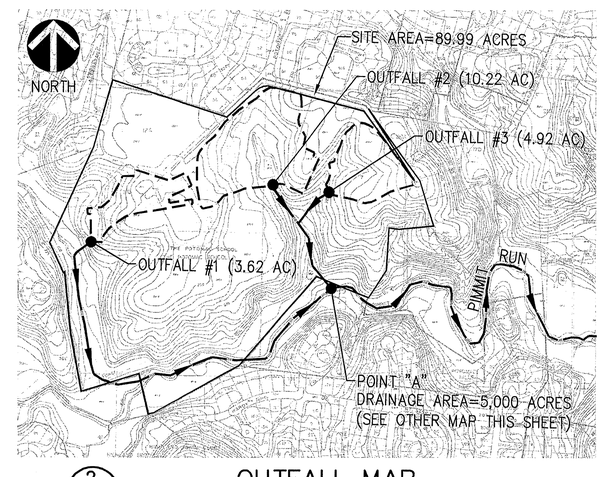
PER THE "MINIMUM STORMWATER INFORMATION FOR REZONING APPLICATIONS" WORKSHEET, EACH OF THESE OUTFALLS MUST BE DESCRIBED TO A POINT WHICH IS AT LEAST 100 TIMES THE SITE AREA OR WHICH HAS A DRAINAGE AREA OF ONE SQUARE MILE. THE SUBJECT SITE IS 89.99 ACRES, SO THE OUTFALL DESCRIPTION SHALL EXTEND TO A POINT WHERE THE DRAINAGE AREA IS AT LEAST ONE SQUARE MILE (640 ACRES). SEE BELOW FOR THIS DETAILED DESCRIPTION OF EACH OF THE THREE OUTFALLS ASSOCIATED WITH THIS SITE. SEE THE OUTFALL MAP ON THIS SHEET FOR LOCATION AND EXTENT OF THE OUTFALL DESCRIPTIONS.

THE STORMWATER IN OUTFALL #1 WILL LEAVE A PROPOSED UNDERGROUND SWM FACILITY AND TRAVEL WESTERLY FOR APPROXIMATELY 300 FEET INTO AN EXISTING STREAM WHICH IS A TRIBUTARY OF PIMMIT RUN. THE CONDITION OF THIS PORTION OF THE OUTFALL CAN BE DESCRIBED AS STABLE, WITH WELL ESTABLISHED VEGETATION. FURTHERMORE, NO SIGNS OF SIGNIFICANT EROSION OR CHANNEL OVERTOPPING ARE PRESENT. THE STREAM IS EARTH LINED WITH STONE. STORMWATER IN THIS STREAMBED THEN CONTINUES FOR APPROXIMATELY 2,200 FEET IN A SOUTHERLY DIRECTION WHERE IT JOINS PIMMIT RUN. STORMWATER CONTINUES IN PIMMIT RUN ALONG THE SOUTHERN PROPERTY LINE OF THE SUBJECT SITE FOR APPROXIMATELY 3,500 FEET TO POINT "A". THE CONDITION OF PIMMIT RUN IN THIS AREA CAN BE DESCRIBED AS WELL ESTABLISHED AND BROAD BED AND BANKS, WITH VEGETATION ON THE SLOPES. THE STREAM IS EARTH LINED WITH STONE, AND IS IN GOOD CONDITION. THE DRAINAGE AREA AT POINT "A" SHOWN ON THE OUTFALL MAP ON THIS SHEET IS 5,000 ACRES, WHICH IS MORE THAN ONE SQUARE MILE. THEREFORE, THE OUTFALL DESCRIPTION FOR OUTFALL #1 SHALL CEASE HERE, AND IS SUFFICIENT TO MEET THE REQUIREMENT OF THE "MINIMUM STORMWATER INFORMATION FOR REZONING APPLICATIONS" WORKSHEET.

THE STORMWATER IN OUTFALL #2 LEAVES THE EXISTING WET POND IN A SOUTHERLY DIRECTION INTO AN EXISTING CHANNEL. THE CONDITION OF THIS CAHNNEL EARTH LINED CHANNEL DOES NOT INDICATE OVERTOPPING ISSUES, BUT EROSIVE PROBLEMS ARE READILY VISIBLE. AS DESCRIBED IN THE OUTFALL NARRATIVE, SUBSEQUENT PLANS SHALL ADDRESS THE CONDITION OF THIS STREAM. STORMWATER CONTINUES IN THIS CHANNEL FOR APPROXIMATELY 1,300 FEET WHERE IT ENTERS ANOTHER EXISTING WET POND. STORMWATER LEAVES THIS WET POND AND TRAVELS SOUTH EASTERLY FOR APPROXIMATELY 300 FEET WHERE IT ENTERS PIMMIT RUN AT POINT "A" THE CONDITION OF THIS STREAM IS AS DESCRIBED ABOVE FOR THIS OUTFALL. THE CONDITION OF PIMMIT RUN DOWNSTREAM OF THIS CONFLUENCE IS AS DESCRIBED FOR OUTFALL #1. THE DRAINAGE AREA AT POINT "A" SHOWN ON THE OUTFALL MAP ON THIS SHEET IS 5,000 ACRES, WHICH IS MORE THAN ONE SQUARE MILE. THEREFORE, THE OUTFALL DESCRIPTION FOR OUTFALL #2 SHALL CEASE HERE, AND IS SUFFICIENT TO MEET THE REQUIREMENT OF THE "MINIMUM STORMWATER INFORMATION FOR REZONING APPLICATIONS" WORKSHEET.

THE STORMWATER IN OUTFALL #3 WILL LEAVE A PROPOSED UNDERGROUND SWM FACILITY AND TRAVEL IN A SOUTH WESTERLY DIRECTION FOR APPROXIMATELY 600 FEET IN AN EXISTING CHANNEL. THE CONDITION OF THIS CAHNNEL IS FAILY GOOD, WITH NO SIGNIFICANT SIGNS OF EROSION OR OVERTOPPING. THE VEGETATION IN THIS EARTH LINED CHANNEL APPEARS TO BE WELL ESTABLISHED. AT THIS POINT, THE STORMWATER JOINS INTO THE SAME CHANNEL AS DESCRIBED WITH OUTFALL #2, APPROXIMATELY 700 FEET DOWNSTREAM OF OUTFALL #2'S ORIGIN POINT. THEREFORE THE REMAINDER OF THE OUTFALL DESCRIPTION IS IDENTICAL TO THAT OF OUTFALL #2, TO WHERE IT REACHES POINT "A". THE DRAINAGE AREA AT POINT "A" SHOWN ON THE OUTFALL MAP ON THIS SHEET IS 5,000 ACRES, WHICH IS MORE THAN ONE SQUARE MILE. THEREFORE, THE OUTFALL DESCRIPTION FOR OUTFALL #3 SHALL CEASE HERE, AND IS SUFFICIENT TO MEET THE REQUIREMENT OF THE "MINIMUM STORMWATER INFORMATION FOR REZONING APPLICATIONS" WORKSHEET.

THE CONDITION OF THE OUTFALLS DESCRIBED IN THIS NARRATIVE ARE BASED ON FIELD VISITS. PHOTOGRAPHS FROM SAID FIELD VISITS ARE PROVIDED ON SUBSEQUENT PAGES OF THIS PLAN FOR REFERENCE.



2/11 OUTFALL MAP

SCALE: 1"=500'

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

Application No(s): SE 98-D-097-5 Staff: C. Ciris			
APPROVED SE / SP PLAN			
SEE DEV CONDS DATED 7-26-07			
Date of (BOS) (BZA) approval 8-6-07			
Sheet 14 of 17			
NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

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ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ CONSTRUCTION INSPECTORS
VIKA INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
McLEAN, VA GERMANTOWN, MD.

THE POTOMAC SCHOOL PROPERTY

DRANESVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

OUTFALL DESCRIPTION

VIKA REVISIONS

FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006

DES.	DWN.
BRK	BRK

SCALE: AS SHOWN

PROJECT/FILE NO. 6577N

SHEET NO. 11 OF 14

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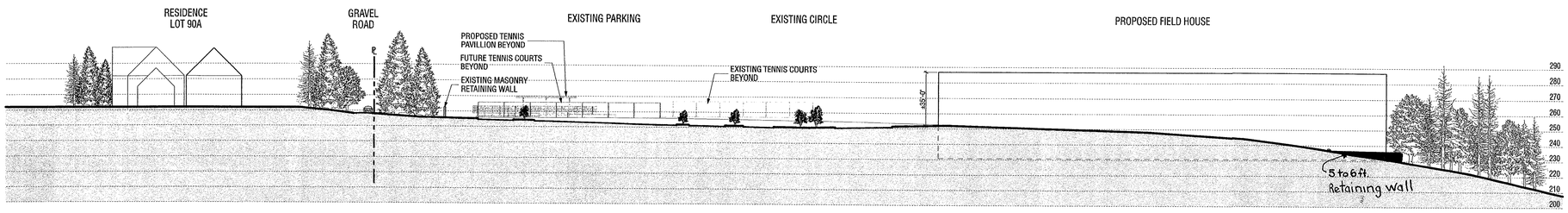

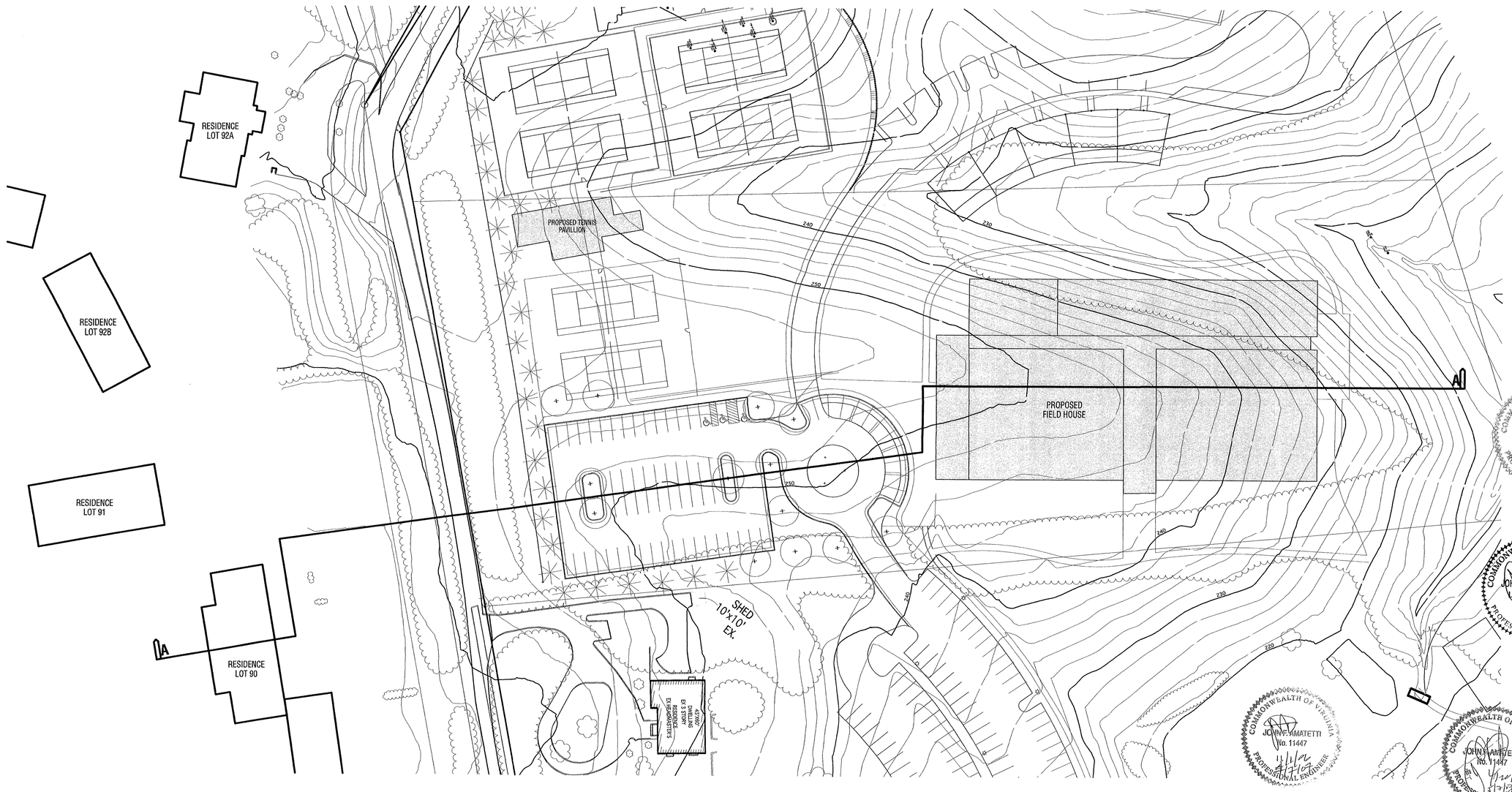

The Potomac School

1301 Potomac School Road
McLean, VA 22101
703.356.4101

cox graae + spack architects
2909 M Street NW
Washington DC 20007
202–965–7070
fax 202–965–7144

JFW, Inc.

Project Manager
19650 Club House Road, Suite 203
Montgomery Village, MD 20886
301.330.3220
fax: 301.330.3487

VIKA, Inc.

Civil
8180 Greensboro Drive, Suite 200
McLean, VA 22102
703.442.7800
fax: 703.761.2787

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/7/07
PROFESSIONAL ENGINEER

Seal

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
No. 11447
7/7/07
PROFESSIONAL ENGINEER

No:	Date:	Issue / Revision:
1	11.28.06	SEA Submission
2.	Rev. 2/14/07	
3.	Rev. 4/20/07	
4.	Rev. 5/07/07	
5.	REV 6/8/07	

Drawing Title: 6. REV 6/25/07
CROSS SECTION EXHIBIT A-A

Graphic Scale: 1"=40' SCALE

0 10' 20' 40' 80'

Drawn By:	Checked By:
DB	JS
Project No:	Date:
2411	11.28.06

Drawing No:
12

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Application No. SEA 85-D-017-5 Staff C. Lewis
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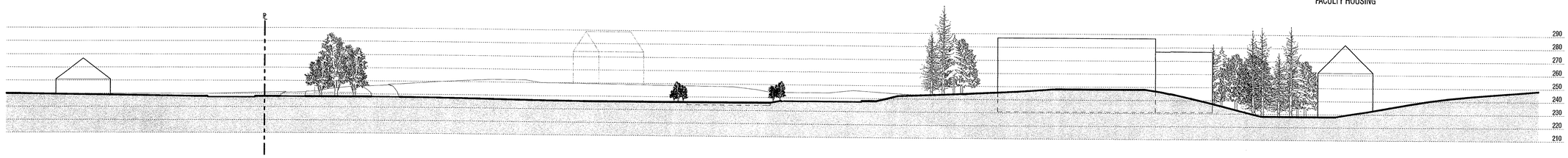
SEE DEV CONDS DATED 7-26-07
Date of (BOS) (BZA) approval 8-6-07
Sheet 15 of 17



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cox graae + spack architects

2909 M Street NW
Washington DC 20007
202–965–7070
fax 202–965–7144

JFW, Inc.

Project Manager
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Montgomery Village, MD 20886
301.330.3220
fax: 301.330.3487

VIKA, Inc.

Civil
8180 Greensboro Drive, Suite 200
McLean, VA 22102
703.442.7800
fax: 703.761.2787

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
Lic. No. 11447
7/7/07
PROFESSIONAL ENGINEER

Seal

COMMONWEALTH OF VIRGINIA
JOHN F. AMATETTI
No. 11447
2/14/07
PROFESSIONAL ENGINEER

No:	Date:	Issue / Revision:
1	11.28.06	SEA Submission
2.	Rev. 2/14/07	
3.	Rev. 4/20/07	
4.	Rev. 5/07/07	
5.	REV 6/8/07	

Drawing Title: 6. REV 6/25/07

CROSS SECTION EXHIBIT B-B

Graphic Scale: 1"=40' SCALE

0 10' 20' 40' 80'

Drawn By:	Checked By:
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Project No:	Date:
2411	11.28.06

Drawing No:

13

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Application No. SEA 85-D-097-5 Staff C. Lewis
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SEE DEV CONDS DATED 7-26-07
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Sheet 16 of 17

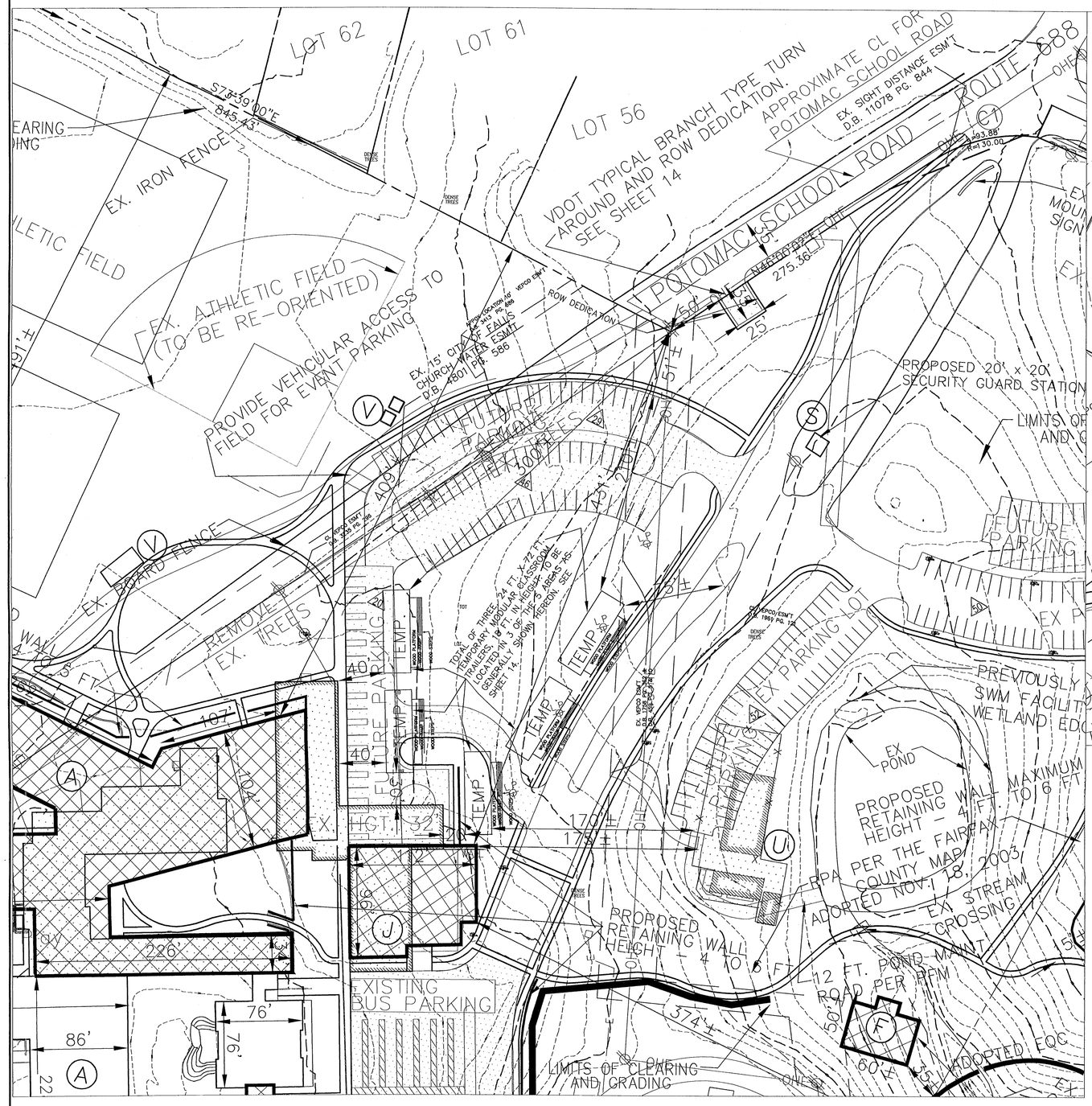

EXHIBIT – A

EXHIBIT – A SHOWS FIVE (5) ESTIMATED LOCATIONS FOR A MAXIMUM OF THREE (3) TEMPORARY MODULAR CLASSROOMS. SAID CLASSROOMS TO BE UTLIZED DURING THE CONSTRUCTION OF THE LOWER AND MIDDLE SCHOOL IMPROVEMENTS. UPON THE GRANTING OF OCCUPANCY FOR THE NEW LOWER AND MIDDLE SCHOOL IMPROVEMENTS THE TEMPORARY MODULAR CLASSROOMS SHALL BE REMOVED AND ANY DISTURBED AREA OCCUPIED BY SAID CLASSROOMS SHALL BE RESTORED AND/OR REVEGETATED. THE FINAL LOCATION OF THE THREE (3) TEMPORARY CLASSROOMS SHALL BE AS SHOWN ON A SITE PLAN APPROVED BY THE DIRECTOR OF DPW&ES.

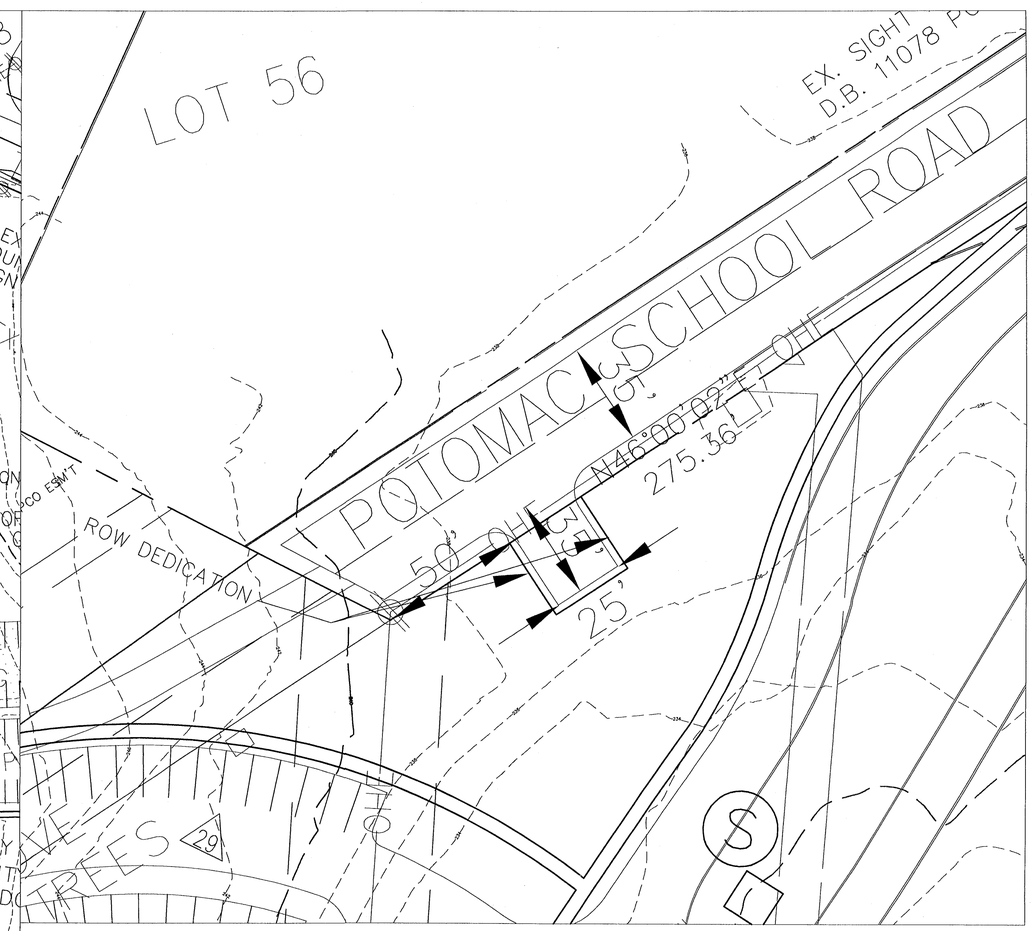

EXHIBIT – B

EXHIBIT – B SHOWS A PROPOSED VDOT STANDARD BRANCH TYPE TURN AROUND ON POTOMAC SCHOOL ROAD WHICH SERVES THREE (3) EXISTING SINGLE FAMILY DETACHED DWELLINGS. A RIGHT-OF-WAY DEDICATION OF 1,200 SF FROM THE POTOMAC SCHOOL WILL BE REQUIRED TO CONSTRUCT SAID TURN AROUND. CONSTRUCTION OF THE PROPOSED IMPROVEMENT SHALL SUBJECT TO THE APPROVAL OF VDOT AND DOMINION VIRGINIA POWER TO ALLOW ENCROACHMENT INTO AN EXISTING EASEMENT FOR THE OVERHEAD UTILITY LINES. UPON CONSTRUCTION AND WITH THE APPROVAL OF THE FAIRFAX COUNTY FIRE MARSHAL THE TURN AROUND SHALL BE POSTED AS A FIRE LANE IN ORDER TO PROHIBIT PUBLIC PARKING WITHIN THE TURN AROUND .

ation No. SE 05-D-041 Staff C. Lewis
APPROVED (SE) SP PLAN
SEE DEV CONDS DATED 7-26-07
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Sheet 11 of 11

COMMONWEALTH OF VIRGINIA
JOHN P. AMATETTI
Lic. No. 11447
7/18/07
PROFESSIONAL ENGINEER

VIKA
ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES
VIKA, INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
MCLEAN, VA FREDERICK, MD

THE POTOMAC SCHOOL PROPERTY

DRANSVILLE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION PLAT EXHIBIT SHEET

VIKA REVISIONS
FEB. 14, 2007
APR. 20, 2007
MAY 07, 2007
JUNE 08, 2007
JUNE 25, 2007
JULY 07, 2007
JULY 18, 2007

DATE: NOV. 1, 2006

DES. DWG	DWN. RJB

SCALE:
EXHIBIT A – 1" = 50'
EXHIBIT B – 1" = 25'

PROJECT/FILE NO. 6577-SE

SHEET NO. 14 OF 14