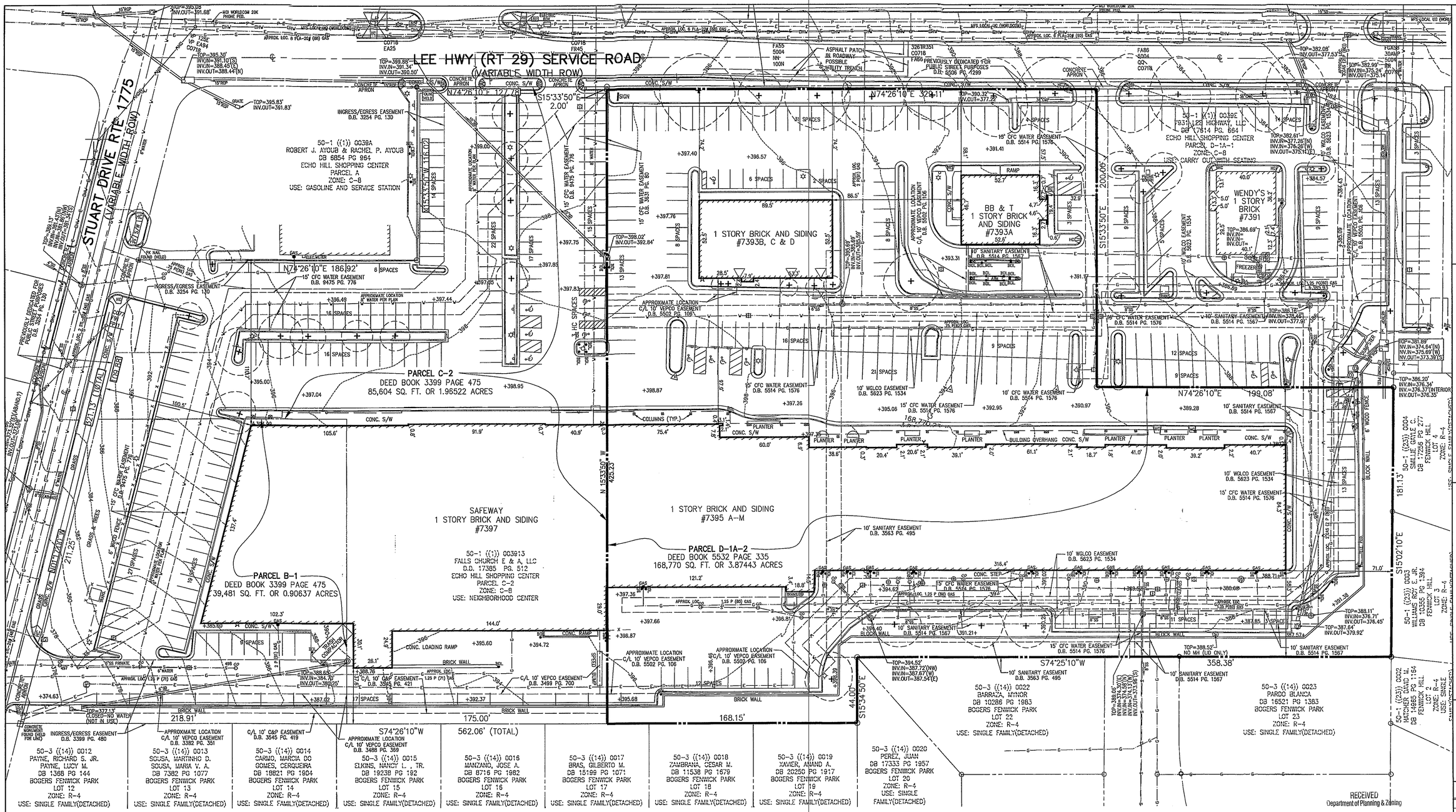

RECEIVED
Department of Planning & Zoning
JAN 05 2011
Zoning Evaluation Division

Application No. SEA 81-P-025 Staff S.Z.
APPROVED SE / SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of BOS (BZA) approval 3-8-2011

Sheet 1 of 8

SHEET INDEX

1. EXISTING CONDITIONS
2. SPECIAL EXCEPTION PLAT PROPOSED STRIPING
3. NOTES AND DETAILS
4-6. OUTFALL ANALYSIS
7. STORMWATER MANAGEMENT & BMP (FROM 9045-MSP-02)
8. LANDSCAPE PLAN (FROM 9045-MSP-02)

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA

ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES

VIKA INCORPORATED
8180 GREENSBORO DRIVE - SUITE 200 ■ McLEAN, VIRGINIA 22102
TOWN: (703) 442-7800 FAX: (703) 790-7767
McLEAN, VA
GERMANTOWN, MD

ECHO HILL SHOPPING CENTER

SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

EXISTING CONDITIONS

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS

MAY 10, 2010
AUG 13, 2010
JAN 5, 2011

DATE: APRIL, 2009
DES. SC DWN. RMC
SCALE: 1"=30'
PROJECT/FILE NO. V7107
SHEET NO. 1

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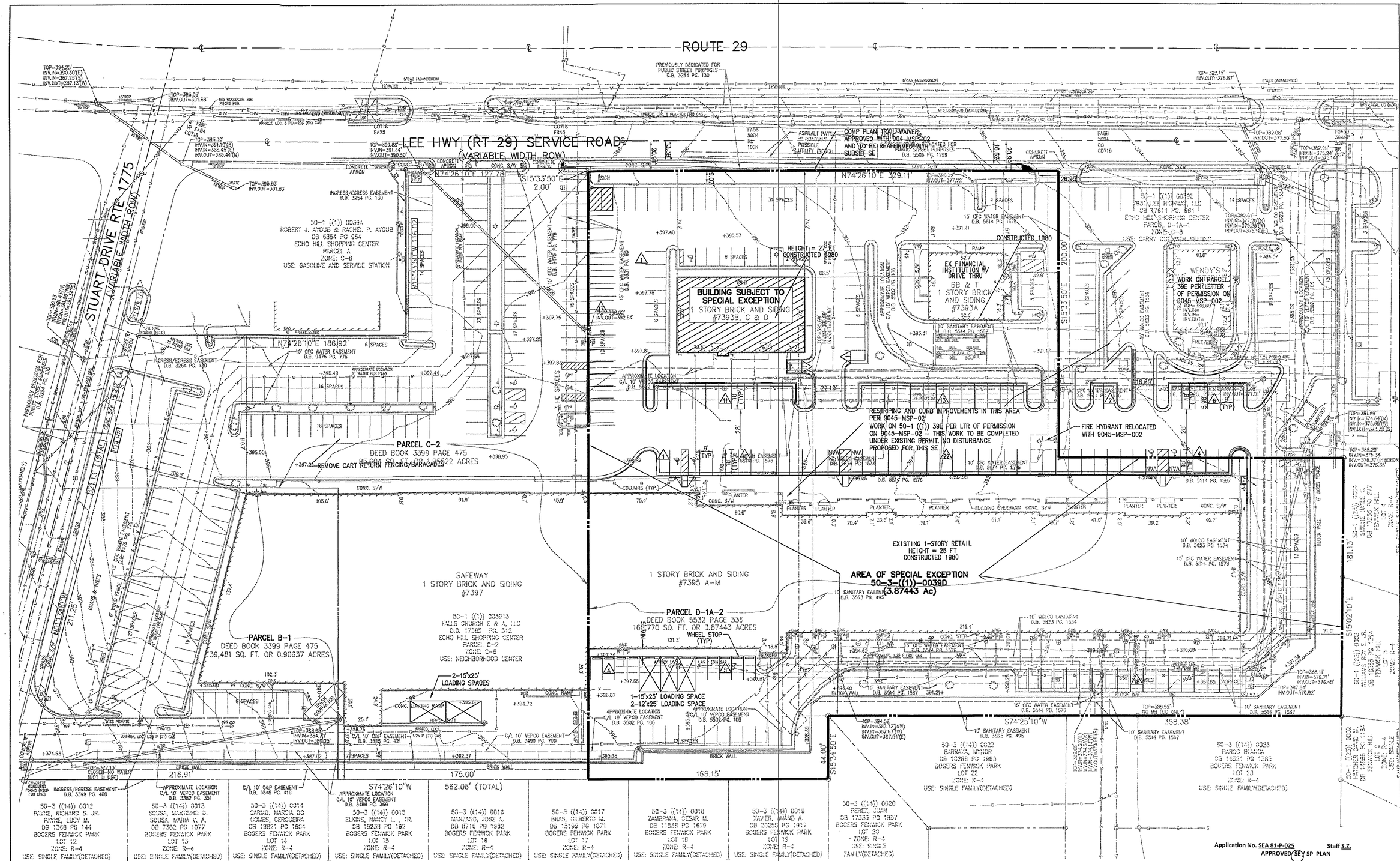

GENERAL NOTES:

1. THE SUBJECT OF THIS SPECIAL EXCEPTION IS TAX MAP #50-3-((1))-39D
2. THE PROPERTIES SHOWN HEREON ARE SHOWN ON FAIRFAX COUNTY TAX MAP 50-1 AS #'S 50-1-((1))-0039B, 50-1-((1))-0039B, 50-1-((1))-0039E, AND TAX MAP 50-3 AS 50-3-((1))-0010 AND ARE ZONED C-8 (HIGHWAY COMMERCIAL).
3. THE SUBJECT PROPERTY SHOWN HEREON IS CURRENTLY IN THE NAME OF THE PARTIES SHOWN IN THE TABLE ON THIS SHEET.
4. THIS PROPERTY IS LOCATED IN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOOD-PLAIN) AS SHOWN ON THE FEDERAL EMERGENCY MANAGEMENT AGENCY, FLOOD INSURANCE RATE MAP (FIRM) COMMUNITY PANEL NUMBER **515525 0079 D**, REVISED DATE OF **MARCH 5, 1990.**
5. TITLE REPORT FROM FIRSTAMERICAN MLE INSURANCE COMPANY COMMITMENT NO. NCS-153813W-ATL
6. THE HORIZONTAL DATUM IS REFERENCED TO RECORD NORTH BASED UPON A PLAT ENTITLED "ECHO HILL SHOPPING CENTER" AS RECORDED IN DEED BOOK 3254 AT PAGE 128 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA
7. THE VERTICAL DATUM HAS BEEN ESTABLISHED USING FAIRFAX COUNTY MANHOLE(S)
   SANITARY #050-3-350 (STUART DRIVE) TOP ELEV. =380.65'
   STORM (E.B. LEE HIGHWAY [SERVICE ROAD] APPROX. 191' E. C/L STUART DRIVE) TOP ELEV. =399.84'
8. NO SWM/WATER QUALITY PROPOSED AS NO DISTURBANCE OF EXISTING GROUND IS PROPOSED, NOR IS ANY INCREASE IN IMPERVIOUS SURFACE PROPOSED. SEE SHEETS 3 THRU 6 FROM 9045-MSP-02 FOR APPROVED SWM INFORMATION.

SPECIAL EXCEPTION (SE) NOTE:

THE ONLY PARCEL SUBJECT TO THE SPECIAL EXCEPTION WITH THIS APPLICATION IS 50-1 ((1)) 39D. HOWEVER, THE SUBJECT PARCELS IN THESE TABULATIONS CONSTITUTE A SINGLE SHOPPING CENTER AND SO FOR EASE OF REVIEW, OVERALL SHOPPING CENTER COMPLIANCE, ALL PARCELS HAVE BEEN TABULATED.

Application No. SEA 81-P-025 Staff S.Z.
APPROVED SE SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of BOS (BZA) approval 3-8-2011

Sheet 2 of 8

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
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VIKA INCORPORATED
8180 GREENSBORO DRIVE SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
MCLEAN, VA GERMANTOWN, MD

ECHO HILL SHOPPING CENTER

SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SPECIAL EXCEPTION PLAT PROPOSED STRIPING

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
AUG 13, 2010
JAN 5, 2011

DATE: APRIL, 2009
DES. SC DWN. RMC
SCALE: 1"=30'
PROJECT/FILE NO. V7107
SHEET NO. 2

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AREA TABULATION:

PARCEL D-1A-1 TM# 50-1 ((1)) 0039E 40,000 SF OR 0.91827 ACRES

PARCEL B-1 TM# 50-3 ((1)) 0010 39,481 SF OR 0.90657 ACRES

SEE SE NOTE ON SHEET 2 — PARCEL C-2 TM# 50-1 ((1)) 0039B 85,664 SF OR 1.96522 ACRES

PARCEL D-1A-2 TM# 50-1 ((1)) 0039D 168,770 SF OR 3.87443 ACRES

TOTAL AREA 293,915 SF OR 6.74622 ACRES

ZONE TABULATION:

EXISTING ZONE C-8

PARCEL D-1A-1 TM# 50-1 ((1)) 0039E 40,000 SF OR 0.91827 ACRES

PARCEL B-1 TM# 50-3 ((1)) 0010 39,481 SF OR 0.90657 ACRES

SEE SE NOTE ON SHEET 2 — PARCEL C-2 TM# 50-1 ((1)) 0039B 85,664 SF OR 1.96522 ACRES

PARCEL D-1A-2 TM# 50-1 ((1)) 0039D 168,770 SF OR 3.87443 ACRES

TOTAL AREA ZONE C-8 293,915 SF OR 6.74622 ACRES

PROPOSED ZONE C-8

PARCEL D-1A-1 TM# 50-1 ((1)) 0039E 40,000 SF OR 0.91827 ACRES

PARCEL B-1 TM# 50-3 ((1)) 0010 39,481 SF OR 0.90657 ACRES

SEE SE NOTE ON SHEET 2 — PARCEL C-2 TM# 50-1 ((1)) 0039B 85,664 SF OR 1.96522 ACRES

PARCEL D-1A-2 TM# 50-1 ((1)) 0039D 168,770 SF OR 3.87443 ACRES

TOTAL AREA ZONE C-8 293,915 SF OR 6.74622 ACRES

OPEN SPACE:

EXISTING OPEN SPACE = 50,365 SF (PER 9045-MSP-002)*

PROPOSED OPEN SPACE = 50,365 SF*
REQUIRED OPEN SPACE (15%) = 50,087.25 SF*

*THESE VALUES BASED ON ENTIRE SHOPPING CENTER, INCLUDING 40,000 SF FROM PARCEL 50-1 ((1)) 39E, NOT INCLUDED IN SE BUT IN SHOPPING CENTER, AS WELL AS 85,664 SF IN PARCEL 50-1 ((1)) 39B AND 39,481 SF IN PARCEL 50-1 ((1)) 10, BOTH IN SHOPPING CENTER BUT NOT IN SE.

**PARKING TABULATIONS:

EXISTING PARKING SPACES = 350
INCLUDING 14 HDCP

PROPOSED PARKING SPACES = 445
INCLUDING 16 HDCP
INCLUDING 4 VAN

PARKING REQUIRED PER 9045-PKS-02 = 444 SPACES
HDCP REQUIRED FOR 445 SPACES = 9
VAN REQUIRED FOR 16 HDCP = 3

**INCLUDES SPACES ON 50-1 ((1)) 39B, 39E & 50-3 ((1)) 10 IN SHOPPING CENTER BUT NOT IN SE

AREA SUBJECT TO SPECIAL EXCEPTION

168,770 SF OR 3.87443 AC
(ALL OF 50-1 ((1)) 39D)

NOTE:

ALL LIGHTING AND SIGNAGE ON-SITE TO REMAIN – NO NEW PROPOSED – SEE PICTURES INCLUDED WITH APPLICATION.

NOTE:

TOPOGRAPHY SHOWN HEREON IS FIELD RUN

OWNERSHIP DATA

	TAX ID	OWNER	DEED BOOK	PAGE
***	50-1 ((1)) 39B	FALLS CHURCH E&A, LLC	17385	0512
ONLY PARCEL SUBJECT TO SE	50-1 ((1)) 39D	FALLS CHURCH E&A, LLC	17385	0512
***	50-1 ((1)) 39E	7391 LEE HIGHWAY LLC	17614	0664
***	50-3 ((1)) 10	FALLS CHURCH E&A, LLC	17385	0512

*** NOT INCLUDED IN SE

NOTE:

TO THE BEST OF OUR KNOWLEDGE AND BELIEF NO GRAVE SITES EXIST ON THIS PROPERTY.

NOTE:

NO EXISTING ESMTS GREATER THAN 25' EXIST ON-SITE

SE AREA TABS (SEE ****)

OPEN SPACE = 25,350 SF (15.02%)
PARKING = PARKED AS PART OF OVERALL SHOPPING CENTER – SEE PARKING TABS THIS SHEET
FAR = 49,215 / 168,770 = 0.29

****ALL DATA SHOWN IN THESE TABS SHALL NOT BE TAKEN TO CHANGE THE FACT THAT THIS PARCEL IS PART OF AN OVERALL SHOPPING CENTER AND THAT REQUIREMENTS ARE MET ON THE SHOPPING CENTER AS A WHOLE AS MOST RECENTLY DEMONSTRATED IN 9045-MSP-02 (87,824 SF OF GFA IN SAID MSP)

TRAIL WAIVER

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

NOV 2 - 2009

RECEIVED NOV 1 2 2009

Stephen E. Crowell, P.E.
VIKA Incorporated
8180 Greensboro Drive, Suite 200
McLean, Virginia 22102

Subject: Echo Hill Shopping Center, Plan #9045-MSP-002-1, Tax Map #050-1-001-0039-D, Providence District

Reference: Trail Waiver #9045-WTL-001-1

Dear Mr. Crowell:

Your request to waive the requirement of Paragraph 2 of Section 17-201 of the Fairfax County Zoning Ordinance for the construction of a major paved trail along the subject site's entire frontage on Lee Highway (Route #29) is hereby approved.

This waiver shall automatically expire, without notice, twenty-four (24) months after the approval date of this letter, unless the subject construction plan has been approved.

If you have any questions or need additional information, please contact Leo Ratchford, Engineer III, Environmental and Site Review Division (ESRD) at 703-324-1720.

Sincerely,

Bruce G. Nassimbeni, Director
ESRD East

BGN/mw

cc: Sheng-Jieh Leu, County Trails Planner, Facilities Planning Branch, DPZ
Angela Kadar Rodeheaver, Chief, Site Analysis Section, FCDOT
Hani Fawaz, Chief Site Review Engineer, ESRD East, DPWES
Leo Ratchford, Engineer III, ESRD, DPWES
Waiver File

Department of Public Works and Environmental Services
Land Development Services, Environmental and Site Review Division
12055 Government Center Parkway, Suite 535
Fairfax, Virginia 22035-5503
Phone 703-324-1720 • TTY 711 • FAX 703-324-8359

Application No. SEA 81-P-025 Staff S.Z.
APPROVED (SE) / SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of (BOS) (BZA) approval 3-8-2011

Sheet 3 of 8

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

ECHO HILL SHOPPING CENTER

SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

NOTES AND DETAILS

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
AUG 13, 2010
JAN 5, 2011

DATE: APRIL, 2009
DES. SEC
DWN. SEC
SCALE: AS SHOWN
PROJECT/FILE NO. V7107
SHEET NO. 3

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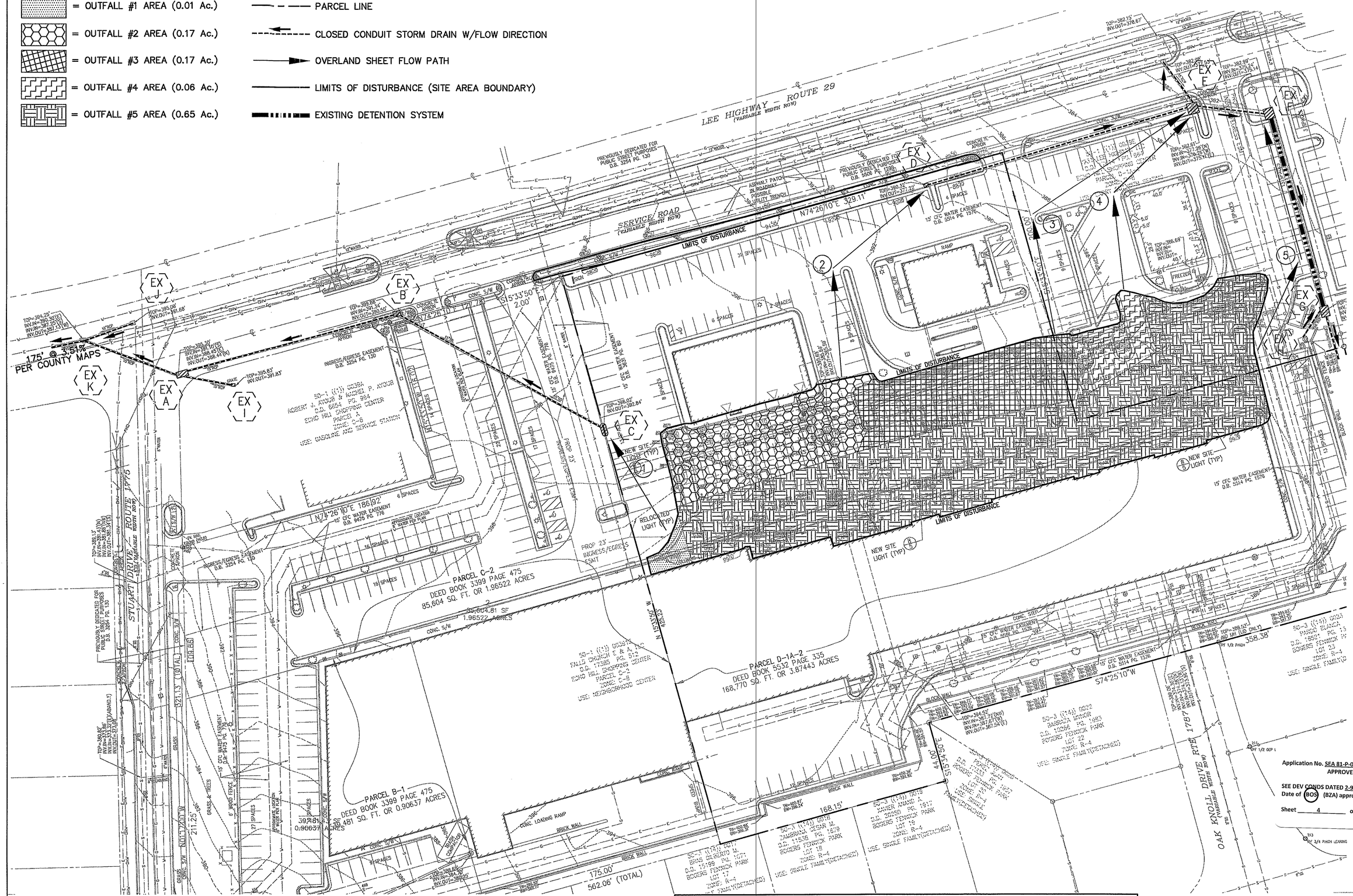
LEGEND

- = OUTFALL #1 AREA (0.01 Ac.)
- = OUTFALL #2 AREA (0.17 Ac.)
- = OUTFALL #3 AREA (0.17 Ac.)
- = OUTFALL #4 AREA (0.06 Ac.)
- = OUTFALL #5 AREA (0.65 Ac.)
- PARCEL LINE
- CLOSED CONDUIT STORM DRAIN W/FLOW DIRECTION
- OVERLAND SHEET FLOW PATH
- LIMITS OF DISTURBANCE (SITE AREA BOUNDARY)
- EXISTING DETENTION SYSTEM



FOR INFORMATION ONLY
(SAME AS SHEET 16 OF APPROVED PLAN 9045-MSP-02)

SEE SHEET 6 FOR NARRATIVE/COMPUTATIONS

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VIKA INCORPORATED
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SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

OUTFALL ANALYSIS

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
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APPROVED SE / SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of BOS (BZA) approval 3-8-2011

Sheet 4 of 8

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PROJECT/FILE NO. V7107	
SHEET NO. 4	

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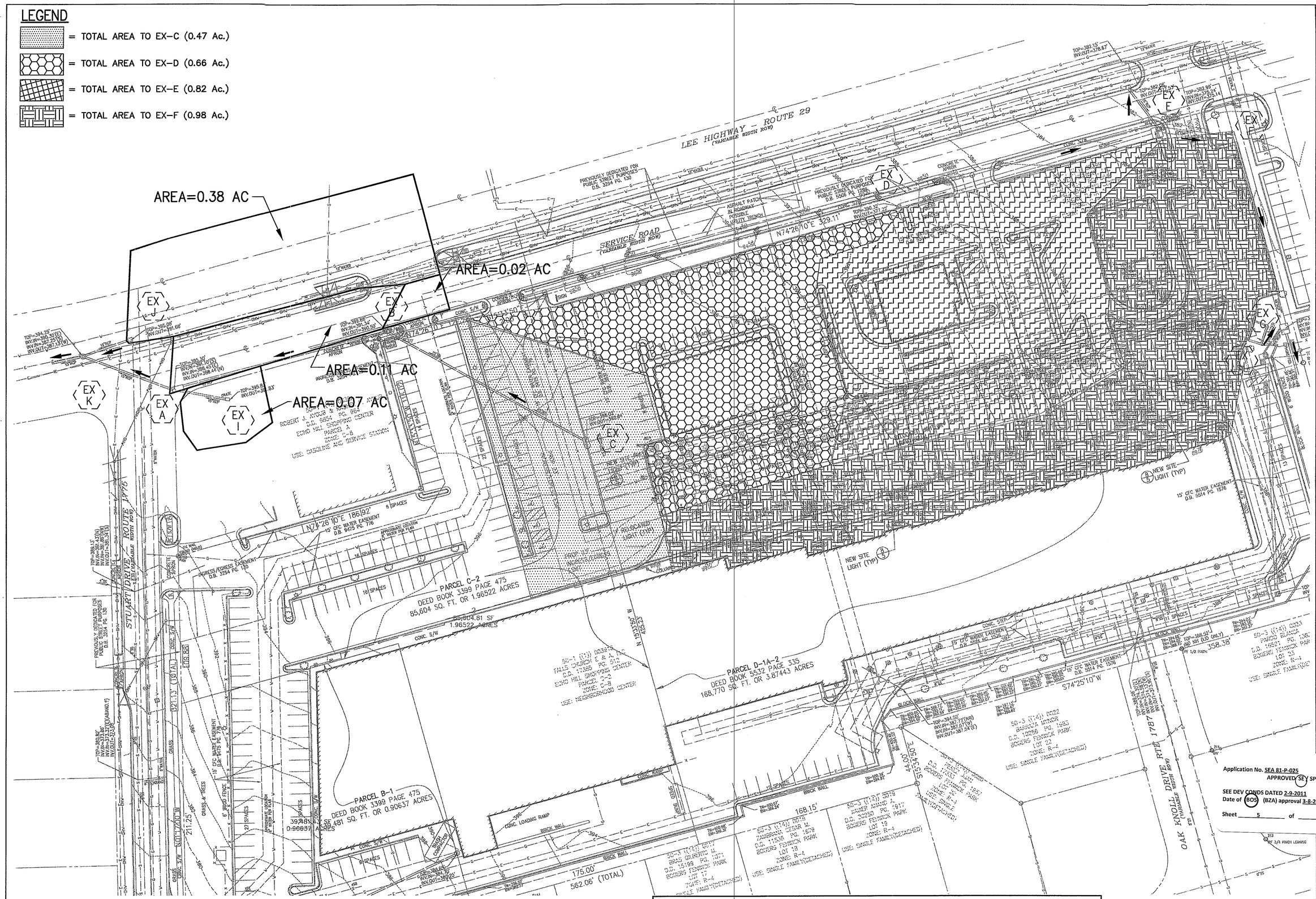
LEGEND

- = TOTAL AREA TO EX-C (0.47 Ac.)
- = TOTAL AREA TO EX-D (0.66 Ac.)
- = TOTAL AREA TO EX-E (0.82 Ac.)
- = TOTAL AREA TO EX-F (0.98 Ac.)



FOR INFORMATION ONLY
(SAME AS SHEET 17 OF APPROVED PLAN 9045-MSP-02)

SEE SHEET 6 FOR NARRATIVE/COMPUTATIONS

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SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

OUTFALL ANALYSIS

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
JAN 5, 2011

DATE: APRIL, 2009	
DES. SEC	DWN. SEC
SCALE: 1"=30'	
PROJECT/FILE NO. V7107	
SHEET NO. 5	

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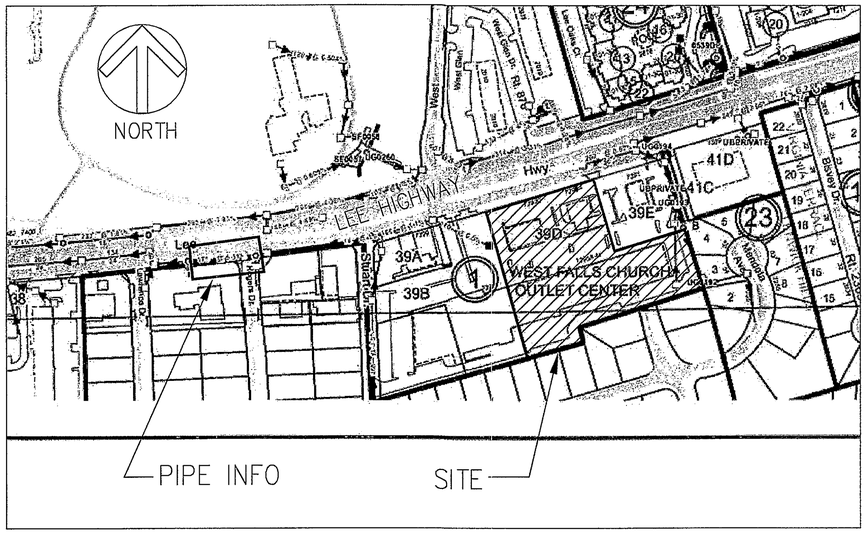
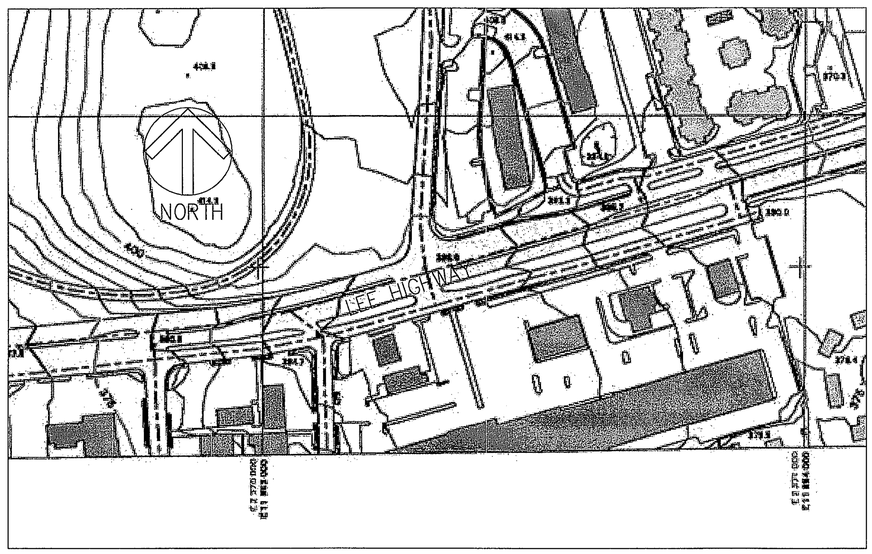


STORM SEWER PIPE EXHIBIT

N.T.S.



TOPOGRAPHY EXHIBIT

N.T.S.

ADEQUATE OUTFALL ANALYSIS:

THE SUBJECT SPECIAL EXCEPTION (SE) PROPOSES A REALLOCATIONOF USE WITHIN AN EXISTING BUILDING AND STRIPING IN AN EXISTING PARKING AREA. THE SE DOES NOT PROPOSE AN INCREASE IN THE TOTAL IMPERVIOUS AREA WITHIN THE SHOPPING CENTER. THE PURPOSE OF THIS SE IS TO INCREASE THE AMOUNT OF USE ALLOWED IN ONE OF THE OUTBUILDINGS.

THE "SITE AREA" FOR THE PURPOSES OF THE OUTFALL ANALYSIS WILL BE LIMITED TO THE AREA DISTURBED AS IS THE CASE FOR BOTH THE STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICE DESIGN. THEREFORE, AS SHOWN ON SHEET 3, THE TOTAL SITE AREA IS 46,131 SF. FROM THIS SITE AREA THERE WILL BE FIVE (5) OUTFALLS – AS SHOWN ON SHEET 3. ALL OF THESE OUTFALLS WILL BE IN THE FORM OF SHEET FLOW ACROSS THE EXISTING PARKING LOT. ALL FIVE (5) OF THE SITE OUTFALLS WILL CONVEY WATER AS SHEET FLOW TO EXISTING STORM DRAIN INLETS ALONG THE SHOPPING CENTER PERIMETER. THESE EXISTING INLETS (AS SHOWN ON SHEETS 3 AND 4) WILL ALLOW FLOW TO ENTER INTO AN EXISTING CLOSED CONDUIT SYSTEM WHICH WILL THEN CONVEY THE FLOW AWAY FROM THE SHOPPING CENTER. FOR EACH OUTFALL ANALYSIS, SECTION 6-0203.2A OF THE PFM WILL GOVERN AND THE EXTENT OF ANALYSIS WILL BE TO A POINT 150' DOWNSTREAM OF A 90% CONTRIBUTING DRAINAGE AREA CONFLUENCE POINT. SEE BELOW FOR AN ANALYSIS OF EACH OUTFALL:

OUTFALL #1 – THE AREA CONTRIBUTING TO FLOW AT THIS OUTFALL FROM THE SITE AREA IS 0.01 ACRES. FLOW WILL BE CONVEYED AS SHEET FLOW ACROSS THE EXISTING PARKING LOT TO AN EXISTING INLET LABELED AS EX-C. THE TOTAL DRAINAGE AREA TO EX-C IS 0.47 ACRES. AT EX-C, FLOW WILL ENTER AN EXISTING CLOSED CONDUIT SYSTEM. FROM EX-C, FLOW WILL BE CONVEYED IN A NORTH-WESTERLY DIRECTION TO AN EXISTING INLET ON THE PROJECT SIDE OF THE SERIVCE ROAD FOR LEE HIGHWAY (EX-B). AT THIS POINT, FLOW WILL THEN BE CONVEYED IN A WESTERLY DIRECTION TO EX-A WHERE AN ADDITIONAL 0.07 ACRES WILL ENTER THE SYSTEM FROM AN EXISTING CLOSED CONDUIT SYSTEM CONVEYING FLOW FROM EX-I AND 0.11 ACRES WILL ENTER THE SYSTEM AS EX-A IS AN EXISITNG INLET. THIS COMBINED FLOW WILL THEN BE CONVEYED NORTH-WESTERLY IN THE EXISTING CLOSED CONDUIT SYSTEM TO EX-K. AT EX-K, AN ADDITIONAL 0.38 ACRES WILL ENTER THE SYSTEM FROM AN EXISTING CLOSED CONDUIT SYSTEM CONVEYING FLOW FROM EX-J. BASED ON THE FAIRFAX COUNTY DIGITAL TAX MAP VIEWER, THE OUTLET PIPE FROM EXISTING K TO THE WEST IS 175' IN LENGTH AT A SLOPE OF 5.31%. THUS, AS EX-K CONSTITUTES A POINT OF 90% CONFLUENCE, AND THE OUTLET PIPE FROM EX-K IS 175' IN LENGTH, THE EXTENT OF REVIEW OCCURS WITHIN THE OUTLET PIPE FROM EX-K. REFER TO THE EXHIBITS ON THIS SHEET FOR THE EXCERPTS FROM THE DIGITAL MAP VIEWER (BOTH STORM DRAIN AND TOPOGRAPHY) USED TO SUPPLEMENT MSP BASE IN PREPARING THIS OUTFALL ANALYSIS. BASED ON THE COMPUTATIONS ON THIS SHEET, THE EXISTING CLOSED CONDUIT SYSTEM IS ADEQUATE FROM THE OUTFALL POINT TO THE EXTENT OF REVIEW.

OUTFALL #2 – THE SITE AREA CONTRIBUTING TO FLOW AT THIS OUTFALL IS 0.17 ACRES. FLOW WILL BE CONVEYED AS SHEET FLOW ACROSS THE EXISTING PARKING LOT TO AN INLET NORTH-EAST OF THE OUTFALL AREA ON THE PROJECT SIDE OF THE ISLAND ADJACENT TO THE LEE HIGHWAY SERVICE DRIVE – MARKED AS EX-D ON THE OUTFALL ANALYSIS MAPS. THE TOTAL AREA CONTRIBUTING TO FLOW AT THIS INLET WILL BE 0.66 ACRES. ONCE FLOW IS COLLECTED IN THIS INLET IT WILL BE CONVEYED VIA EXISTING CLOSED CONDUIT TO THE EAST. AT STRUCTURE EX-E (FURTHER DISCUSSION BELOW) THEEXISTING CLOSED CONDUIT SYSTEM IS DIRECTED SOUTH-EAST INTO AN EXISTING DETENTION SYSTEM (EX-F TO EX-G). AT STRUCTURE EX-E, ADDITIONAL FLOW FROM OVERLAND DRAINAGE WILL ENTER THE CLOSED CONDUIT SYSTEM FROM 0.82 ACRES – THUS EXCEEDING THE 90% CONFLUENCE REQURIEMENT. THEREFORE, THE EXTENT OF ANALYSIS IS 150' DOWNSTREAM OF EX-E, WHICH OCCURS WITHIN THE AFOREMENTIONED DETENTION STRUCTURE. AS IS SHOWN ON THIS SHEET, THE EXISTING CLOSED CONDUIT SYSTEM IS SUFFICIENTLY SIZED TO CONVEY THE FLOWS FROM THE SITE OUTFALL TO THE EXTENT OF ANALYSIS. FURTHERMORE, THE PROPOSED CONDITION IN THE MSP PROVIDES LESS IMPERVIOUS SURFACE THAN THE EXISTING CONDITION, FOR WHICH THE DETENTION SYSTEM WAS DESIGNED AND CURRENTLY DETAINS. THEREFORE, THE EXISTING DETENTION SYSTEM IS ADEQUATE TO ACCOMODATE RUNOFF FROM THIS SITE OUTFALL.

OUTFALL #3 – THE SITE AREA CONTRIBUTING TO FLOW AT THIS OUTFALL IS 0.17 ACRES. FLOW FROM THIS OUTFALL WILL BE CONVEYED AS SHEET FLOW ACROSS THE EXISTING PARKING LOT TO AN EXISTING INLET LABELED AS EX-E ON THE ANALYSIS MAPS. THE TOTAL AREA CONTRIBUTING TO FLOW AT EX-E IS 0.82 ACRES. AT EX-E, FLOW WILL ENTER INTO THE EXISTING CLOSED CONDUIT SYSTEM DESCRIBED FOR OUTFALL #2 AND BE CONVEYED TO THE EXISTING DETENTION SYSTEM (EX-F TO EX-G). AT THE POINT WHERE THE FLOW ENTERS THE EXISTING DETENTION SYSTEM, IT WILL BE AT A CONFLUENCE WITH THE TOTAL DRAINAGE AREA TO THE DETNETION FACILITY, WHICH PER FAIRFAX COUNTY PLAN #3381-SP-01 IS 4.82 ACRES. THEREFORE, AT THE POINT WHERE THE SITE OUTFALL FLOW ENTERS THE EXISTING DETNETION SYSTEM (EX-F), THE 90% CONFLUECNE REQURIEMENT HAS BEEN MET. THE 150' DOWNSTREAM EXTENT OCCURES WITHIN THE DETENTION PIPE. AS IS SHOWN IN THE COMPUTATIONS ON THIS SHEET, AND PER THE DETERMINATION IN THE OUTFALL #2 ANALYSIS REGARDING THE ADEQUACY OF HTE DETNETION SYSTEM, THE EXISTING CLOSED CONDUIT SYSTEM AND DETENTION SYSTEM ARE ADEQUATELY SIZED FOR RUNOFF FROM OUTFALL #3.

OUTFALL #4 – THE SITE AREA CONTRIBUTING TO THIS OUTFALL IS 0.06 ACRES. FLOW FROM OUTFALL #4 WILL BE CONVEYED OVERLAND AS SHEET FLOW ACROSS THE EXISTING PARKING LOT TO STRUCTURE EX-E. AT THIS POINT, FLOW WILL ENTER THE EXISTING CLOSED CONDUIT SYSTEM AS REFERENCED IN THE OUTFALL #3 ANALYSIS. FROM THIS POINT, THE ANALYSIS AND DETERMINATION FOR OUTFALL #3 ALSO APPLIES FOR OUTFALL #4.

OUTFALL #5 – THE SITE AREA CONTRIBUTING TO THIS OUTFALL IS 0.65 ACRES. FROM THIS OUTFALL POINT, FLOW WILL BE CONVEYED VIA OVERLAND SHEET FLOW ACROSS THE EXISTING PARKING LOT TO AN INLET LABELED AS STRUCTURE EX-F (THE UPSTREAM END OF THE ABOVE REFERENCED DETENTION SYSTEM). THE TOTAL AREA CONTRIBUTING TO FLOW AT EX-F IS 0.98 ACRES. AT THIS POINT THE OUTFALL FLOWS WILL ENTER THE EXISTING CLOSED CONDUIT SYSTEM DIRECTLY INTO THE EXISTING DETENTION SYSTEM. AS DESCRIBED FOR OUTFALL #3, THE TOTAL AREA TO THE DETENTION SYSTEM IS 4.82 ACRES. THUS, THIS POINT SATISFIES THE REQUIREMENT FOR A 90% CONFLUENCE, AND THE 150' DOWNSTREAM EXTENT OCCURS WITHIN THE DETENTION SYSTEM. AS DESCRIBED ABOVE FOR OUTFALL #2, THE EXISTING DETNETION SYSTEM IS ADEQUATELY SIZED TO HANDLE FLOWS FROM THE PROPSOED SE SITE CONDITIONS.

BASED ON THE ABOVE ANALYSIS AND THE COMPUTATIONS/EXHIBITS CONTAINED ON THE OUTFALL ANALYSIS SHEETS OF THIS SE, IT IS THE OPINION OF VIKA, INC. THAT THE OUTFALLS DESCRIBED ABOVE (EXISTING CLOSED CONDUIT SYSTEMS) CONSTITUTE ADEQUATE OUTFALLS AS DEFINED IN THE PUBLIC FACILITIES MANUAL.

STORMWATER COMPUTATIONS FOR OUTFALL ANALYSIS

X:\DATA\7000-9000\v7107c\SWM\[OUTFALL COMPS.XLS]STORM — ECHO HILL SHOPPING CENTER MSP — 29-Jul-09

FROM	TO	INC. AREA ACRES	TOTAL AREA ACRES	C	A*C	ACUM. A*C	Tc MIN	I 10 YR IN/HR	Q CFS	MIN SLOPE %	ACT SLOPE %	n	PIPE SIZE IN	F.F. VEL FPS	ACT VEL FPS	LENGTH FEET	TIME IN PIPE MIN-SEC	Q CAPACITY CFS
EX - C	EX - B	0.47	0.47	0.87	0.41	0.41	5.00	7.27	2.97	0.21	0.89	0.013	15	4.97	4.92	169.00	0.57	6.09
EX - B	EX - A	0.02	0.49	0.90	0.02	0.43	5.57	7.09	3.02	0.22	1.30	0.013	15	6.00	5.63	162.00	0.48	7.37
EX - I	EX - A	0.07	0.07	0.90	0.90	0.90	5.00	7.27	6.55	1.03	2.00	0.013	15	7.44	8.08	35.00	0.07	9.14
EX - A	EX - K	0.11	0.67	0.87	0.10	1.42	6.05	6.91	9.83	2.31	5.20	0.013	15	12.00	12.84	72.00	0.09	14.73
EX - J	EX - K	0.38	0.38	0.85	0.32	0.32	5.00	7.27	2.35	0.13	3.94	0.013	15	10.45	7.88	36.00	0.08	12.82
EX - K	OUTFALL	0.00	1.05	0.00	0.00	1.75	6.15	6.87	12.00	3.45	5.31	0.013	15	12.13	13.44	175.00	0.22	14.89
EX - E	EX - F	0.82	0.82	0.80	0.66	0.66	5.00	7.27	4.77	0.00	0.25	0.013	48	5.72	3.21	51.00	0.26	71.82
EX - F	EX - G	0.98	4.82	0.80	0.78	1.44	5.26	7.18	10.35	0.01	0.33	0.013	48	6.57	4.47	150.00	0.56	82.52

Application No. SEA 81-P-025 Staff S.Z.
APPROVED SEV SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of BOS (BZA) approval 3-8-2011

Sheet 6 of 8

FOR INFORMATION ONLY
(SAME AS SHEET 18 OF APPROVED PLAN 9045-MSP-02)

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VIKA, INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
(703)442-7800 ■ FAX (703)761-2787
McLEAN, VA GERMANTOWN, MD

ECHO HILL SHOPPING CENTER
SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

OUTFALL ANALYSIS

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
JAN 5, 2011

DATE: APRIL, 2009
DES. SEC | DWN. SEC
SCALE: AS SHOWN
PROJECT/FILE NO. V7107
SHEET NO. 6

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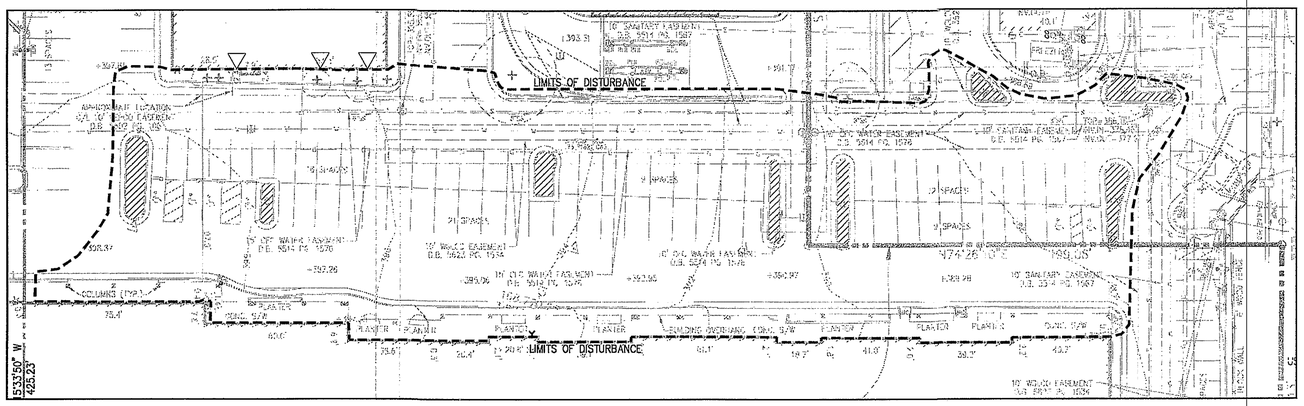
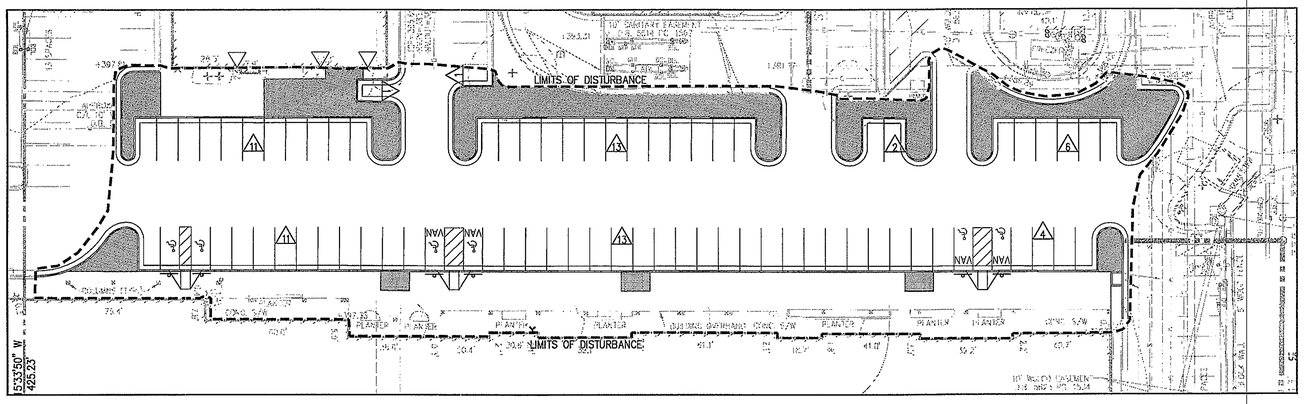


C-FACTOR=[(1,619x0.3)+(44,512x0.9)]/46,131=0.88

EXISTING CONDITION

EXISTING PERVIOUS AREA = 1,204 S.F.

PER SWM/BMP NARRATIVES "SITE AREA" DEFINED AS AREA WITHIN LIMITS OF DISTURBANCE=46,131 S.F.



PROPOSED CONDITION

PROPOSED PERVIOUS AREA = 5,841 S.F.

SWM FACILITY WAIVER REQUEST PURSUANT TO LTI #21-88

BASED ON A DETAILED DRAINAGE STUDY PREPARED IN CONJUNCTION WITH APPROVED MINOR SITE PLAN 9045-MSP-02, THERE IS AN EXISTING SWM FACILITY WHICH SERVES THE SUBJECT PROPERTY.

THERE WILL BE NO INCREASE IN IMPERVIOUS AREA OR STORMWATER RUNOFF FROM THE APPROVED MINOR SITE PLAN DUE TO THE PROPOSED SPECIAL EXCEPTION FOR USE REQUESTED IN THIS APPLICATION.

ADDITIONALLY, IT IS THE OPINION OF VIKA, INC. THAT THE PROPOSED SPECIAL EXCEPTION FOR USE REQUESTED IN THIS APPLCIATION WILL HAVE NO ADVERSE IMPACT ON DOWNSTREAM PROPERTIES AS IT RELATES TO STORMWATER RUNOFF.

BMP NARRATIVE FOR SPECIAL EXCEPTION

PER SECTION 118-3-2(f) OF THE FAIRFAX COUNTY CODE,

"For any development or redevelopment, stormwater runoff shall be controlled by the use of best management practices (BMPs) as follows:...

(3) For redevelopment of any property not currently served by one or more BMPs, the total phosphorus runoff pollution load from the property shall be reduced by at least ten percent from the phosphorus runoff pollution load prior to redevelopment.

(4) For redevelopment of any property that is currently and adequately served by one or more BMPs, the projected phosphorus runoff pollution load after redevelopment shall not exceed the existing phosphorus runoff pollution load."

PER THE BEST MANAGEMENT PRACTICES NARRATIVE AND COMPUTATIONS FROM 9045-MSP-02 (THIS SHEET) THE REQUIRED PHOSPHOROUS REMOVAL TO COMPLY WITH THE PUBLIC FACILITIES MANUAL (AND THEREBY THE CODE OF THE COUNTY OF FAIRFAX) WAS PROVIDED WITH THE REFERENCED MINOR SITE PLAN. FURTHERMORE, THE SUBJECT SPECIAL EXCEPTION PROPOSES NO INCREASE IN IMPERVIOUS AREA AND THEREFORE NO INCREASE IN ANTICIPATED PHOSPHOROUS LOADING FROM SAID MINOR SITE PLAN – THEREFORE THE SUBJECT SE IS IN COMPLAINCE WITH THE AFOREMENTIONED SECTION OF THE COUNTY CODE.

FOR INFORMATION ONLY
(SAME AS SHEET 14 OF APPROVED PLAN 9045-MSP-02)
WITH UPDATED FORMS AND NARRATIVE

STORMWATER MANAGEMENT (SWM) NARRATIVE:

THE RUNOFF GENERATED FROM THE SUBJECT SITE WAS DECREASED IN THE POST DEVELOPED CONDITION PER 9045-MSP-002 AND WILL NOT BE INCREASED WITH THIS SPECIAL EXCEPTION.. AS SHOWN ON THE EXHIBITS ON THIS SHEET, THERE WAS MORE PERVIOUS AREA PER 9045-MSP-02.

AS SHOWN ON THE OUTFALL ANALYSIS SHEET, RUNOFF FROM THE SE SITE WILL BE COLLECTED IN EXISTING INLETS AND CONVEYED VIA EXISTING CLOSED CONDUITS TO AN EXISTING UNDERGROUND DETENTION STRUCTURE ON THE ADJACENT PROPERTY. BECAUSE THE EXISTING DETENTION SYSTEM IS ADEQUATELY DESIGNED FOR THE SITE AS IT EXISTS AND NO INCREASE IN IMPERVIOUS AREA IS PROPOSED, THE EXISTING FACILITY WILL CONTINUE TO BE ADEQUATE.

BEST MANAGEMENT PRACTICE (BMP) NARRATIVE (FROM 9045-MSP-02):

PER SECTION 6-0401.2D OF THE PFM, THE PROPOSED MINOR SITE PLAN (MSP) CONSTITUTES A REDEVELOPMENT. THEREFORE, THE REQUIRED PHOSPHOROUS REMOVAL EFFICIENCY OF THE MSP IS COMPUTED BY THE EQUATION IN SECTION 6-0401.2B OF THE PFM:

REMOVAL REQ'D=1-([% IMP. PRE./% IMP. POST] x 0.9) x 100

THE SITE AREA FOR THE PURPOSES OF BMP CALCULATIONS IS TO BE DEFINED AS THE DISTURBED AREA FOR THIS MSP. THIS IS 46,131 S.F.

THE AMOUNT OF PERVIOUS SURFACE IN THE EXISTING CONDITION IS 1,204 S.F. AND THE AMOUNT OF PERVIOUS SURFACE IN THE PROPOSED CONDITION IS 5,841 S.F. (SEE EXHIBITS ON THIS SHEET).

THE PERCENT IMPERVIOUS SURFACE VALUES ARE THEN:

% IMP. PRE = 44,927 / 46,131 = 97.4%

% IMP. POST = 40,290 / 46,131 = 87.3%

THE REQUIRED PHOSPHOROUS REMOVAL RATE IS THEN:

REMOVAL REQ'D = 1-([97.4 / 87.3] x 0.9) = -0.4%

THEREFORE, THE BMP REQUIREMENTS FOR THE SITE AREA MET ENTIRELY THROUGH IMPERVIOUS SURFACE REMOVAL AS IS EVIDENCED BY THE NEGATIVE REMOVAL EFFICIENCY COMPUTED ABOVE.

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)
Cluster Subdivision (9-615 1G & 1N)
Development Plans PRC District (16-302 3 & 4L)
PDP P Districts (except PRC) (16-502 1F & 1Q)
Special Exceptions(8-011 2J & 2L)
Commercial Revitalization Districts (9-622 2A (12) & (14))
PRC Plan (16-303 1E & 1O)
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 N/A.

☑ 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)
N/A	N/A	N/A	N/A	N/A	N/A	N/A
(e.g. dry pond A, FSL 250ft, underground vault, etc.)						
					Totals	

☑ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 1
Pond inlet and outlet pipe systems are shown on Sheet N/A.

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

☑ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 8.

☑ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 6.

☑ 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 4 & 5.

☑ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 4 & 5.

☑ 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 SWM PER LTI #21-88

☑ 12. Stormwater management is not required because THERE IS AN EXISTING FACILITY AND IMPERVIOUS AREA IS UNCHANGED

NOTE:
NO DISTURBANCE PROPOSED WITH THIS SE – AS SUCH NO REQUIREMENT SUBORDINATE TO THE 2,500 SQUARE FOOT DISTURBANCE TRIGGER APPLIES.

NEW INFORMATION FOR SE IS BOXED ABOVE

Application No. SEA 81-P-025 Staff S.Z.
APPROVED SE / SP PLAN

SEE DEV CONDS DATED 2-9-2011
Date of BOS (BZA) approval 3-8-2011

Sheet 7 of 8

GRAPHIC SCALE
30 0 15 30 60 120
(IN FEET)
1 inch = 30 ft.

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

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ECHO HILL SHOPPING CENTER

SPECIAL EXCEPTION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

STORMWATER MANAGEMENT

COMMONWEALTH OF VIRGINIA
STEPHEN E. CROWELL
Lic. No. 045781
1/5/11
PROFESSIONAL ENGINEER

VIKA REVISIONS
MAY 10, 2010
AUG 13, 2010
JAN 5, 2011

DATE: APRIL, 2009
DES. SC DWN. RMC
SCALE: 1"=30'
PROJECT/FILE NO. V7107
SHEET NO. 7

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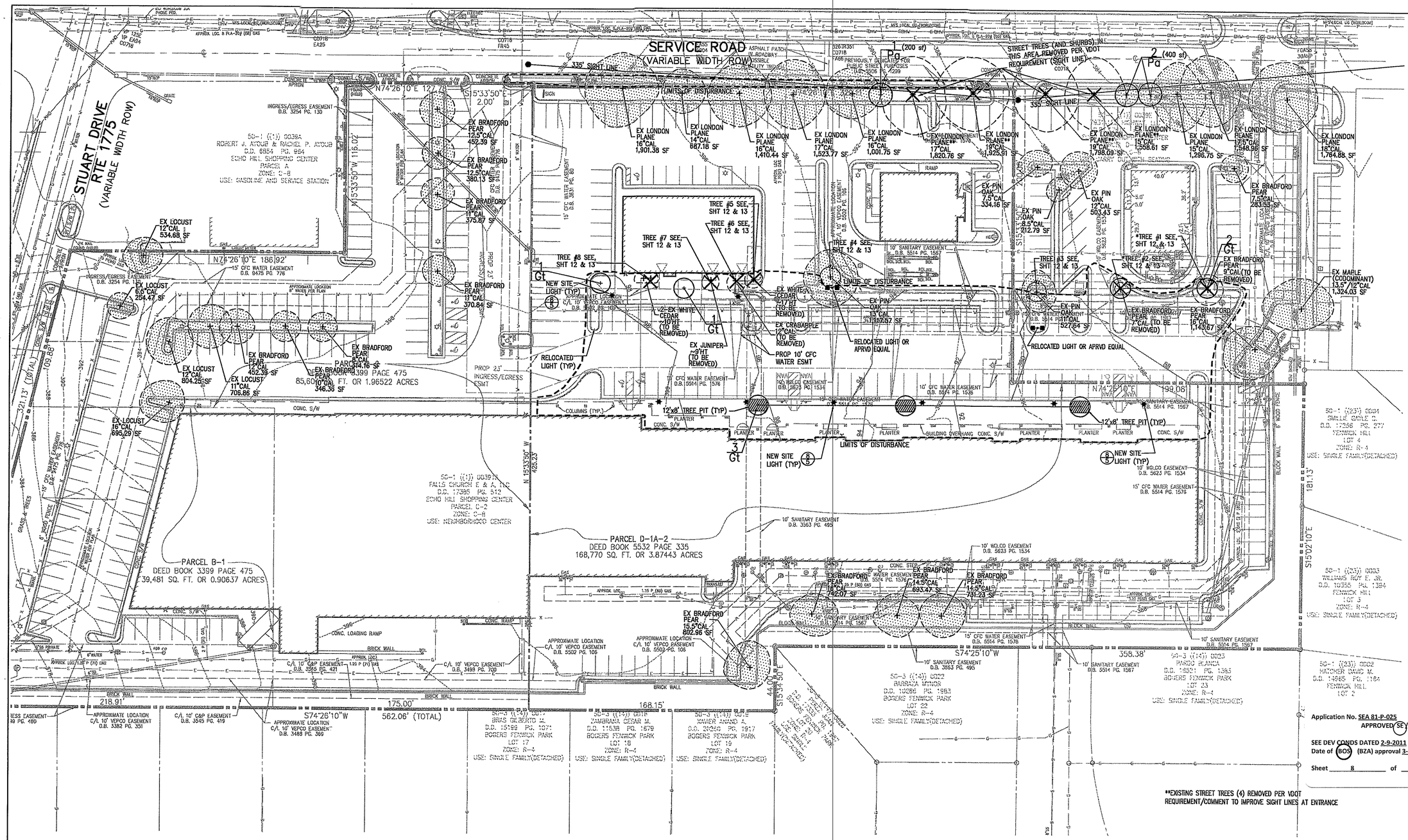

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APPROVED SEV SP PLAN

SEE DEV CONDS DATED 2-9-2011

Date of BOS (BZA) approval 3-8-2011

Sheet 8 of 8

NOTE:

REFER TO SHEETS 12 AND 13 FOR LANDSCAPE NARRATIVE AND PICTURES/DETAILS–TREE NUMBERS ON THIS SHEET CORRESPOND TO THE PICTURES/TABLE ON SHEETS 12 AND 13.

*EXISTING TREES #1 & #2 TO BE REMOVED & REPLACED.

THIS SHEET IS FOR LANDSCAPE PURPOSES ONLY.

FOR INFORMATION ONLY
(SAME AS SHEET 11 OF APPROVED PLAN 9045–MSP–02)

Table 12.13 Interior Parking Lot Landscaping Calculations

			Remarks
Area to be counted (SF) =	170,123	SF	
Interior Landscaping Required (5%) =	8506.15	SF	
Total Shade tree Canopy Provided			
Existing Tree Canopy to be Preserved=	25,239	SF	(SEE SHT 11)
(7 trees) 150 ft² ea. & (3 Tree) 200 ft² ea.	1,650	SF	(SEE SHT 11 & 13)
Total Area Required (SF) =	8,506	5%	
Total Area Provided (SF)=	26,889	16%	

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
1 inch = 30 ft.

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FAIRFAX COUNTY, VIRGINIA

LANDSCAPE PLAN

COMMONWEALTH OF VIRGINIA
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