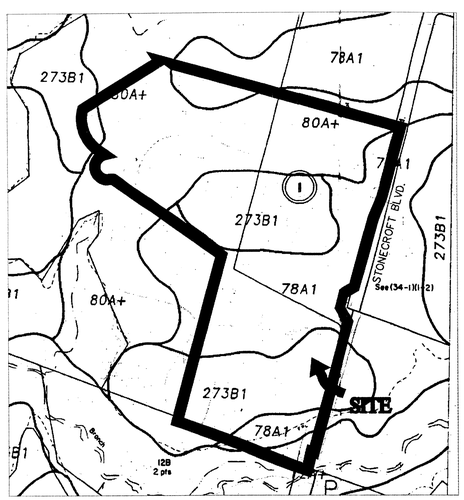
STONECROFT BUSINESS PARK

GENERALIZED DEVELOPMENT PLAN -RZ-2004-SU-028
SPECIAL EXCEPTION - SE-2004-SU-027
PROFFER CONDITION AMENDMENT -1999-SU-018

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA



SOILS MAP
SCALE: 1"=500'

TM NO. 33-4 ((1)) PARCEL 3B, 3G

SHEET INDEX

1. COVER SHEET
2. GDP/SE/PCA NOTES & TABULATIONS
3. SITE ZONING EXHIBIT
4. P.C.A. PLAT (ASSOCIATED WITH PCA 1999-SU-018)
5. GENERALIZED DEVELOPMENT/SE PLAN
6. CONCEPTUAL LANDSCAPE PLAN
7. ILLUSTRATIVE PLAN (TYPICAL)
8. CONCEPTUAL LIGHTING PLAN
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9A. SWM COMPUTATIONS
9B. SWM COMPUTATIONS
9C. SWM COMPUTATIONS
9D. SWM COMPUTATIONS
9E. SWM COMPUTATIONS
9F. SWM COMPUTATIONS
9G. SWM COMPUTATIONS
9H. SWM COMPUTATIONS
9I. CROSS SECTIONS AND COMPUTATIONS

APPLICANT

WEST*GROUP MANAGEMENT LLC (APPLICANT/AGENT)
1600 ANDERSON ROAD
MCLEAN, VIRGINIA 22102
(703) 356-2400

ENGINEER

VIKA INC.
8180 GREENSBORO DRIVE
SUITE 200
MCLEAN, VIRGINIA 22102
(703) 442-7800

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012

PCA 1999-SU-018

APPLICATION NO _____ STAFF KC

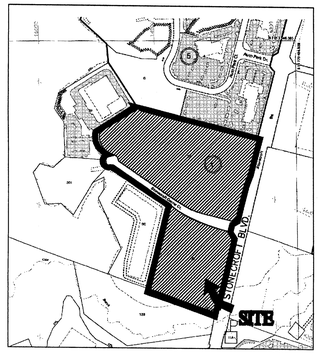
APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 1 OF 18



VICINITY MAP
SCALE: 1" = 1000'

TM NO. 33-4 ((1)) PARCEL 3B, 3G

RECEIVED
Department of Planning & Zoning
JAN 0 8 2005
Zoning Evaluation Division

JAN. 5, 2005
DEC. 27, 2004
DEC. 16, 2004
DEC. 9, 2004
NOV. 29, 2004
SEP. 07, 2004
AUG. 26, 2004
AUG. 6, 2004
JULY 1, 2004
APRIL 28, 2004

P:\LDD3\Projects\6278G\DWG\6278Gcvr.dwg

NOTES

1. THE PROPERTY THAT IS THE SUBJECT OF THIS GENERALIZED DEVELOPMENT PLAN (GDP), PROFFER CONDITION AMENDMENT (PCA) AND SPECIAL EXCEPTION (SE) IS LOCATED ON FAIRFAX COUNTY ASSESSOR'S MAP NO. 33-4((1))-3-B AND MAP 33-4 ((1))-3-G AND ENCOMPASSES APPROXIMATELY 26.77 ACRES.

2. THE RECORD OWNER AND APPLICANT OF THE SUBJECT PROPERTY IS WEST GROUP PROPERTIES LLC AS RECORDED AMONG THE LAND RECORDS OF FAIRFAX COUNTY AT DEED BOOK 11652 PAGE 1071 AND DEED BOOK 13660 PAGE 1083.

3. THIS GENERALIZED DEVELOPMENT PLAN (GDP), AND SPECIAL EXCEPTION PLAT ACCOMPANIES A REZONING APPLICATION TO REZONE THE PROPERTY FROM THE I-5, 'WS' AND 'AN' DISTRICTS TO THE C-8, 'WS' AND 'AN' DISTRICTS AND SPECIAL EXCEPTION APPLICATIONS TO ALLOW :

   A) THOSE USES PERMITTED BY SECT. 4-804-4(CAT 5)-S.E.) LIMITED TO VEHICLE SALE, RENTAL, AND ANCILLARY SERVICE ESTABLISHMENT

   B) AN INCREASE IN THE HEIGHT AND SIGN AREA OF THE PROPOSED FREESTANDING SIGN AS PERMITTED BY SECTION 9-620 OF THE Z.O.

4. ADDITIONAL SPECIAL EXCEPTION USES WHICH ARE NOT SPECIFIED ON THIS APPLICATION MAY BE THE SUBJECT OF FUTURE SPECIAL EXCEPTION OR SPECIAL PERMIT APPROVALS WITHOUT THE NEED FOR APPROVAL OF A P.C.A., IF SUCH USE DOES NOT IMPACT THE REMAINDER OF THE SITE.

5. SANITARY SEWER SERVICE WILL BE PROVIDED BY CONNECTION TO THE EXISTING 8" (INCH) SANITARY SEWER LINE LOCATED IN STONECROFT CENTER COURT AND THE 8" (INCH) SANITARY SEWER OUTFALL LINE LOCATED EAST OF PARCEL 3-F. WATER SERVICE WILL BE PROVIDED BY CONNECTION TO THE EXISTING 12" WATER MAIN LOCATED IN STONECROFT CENTER COURT.

6. BEST MANAGEMENT PRACTICES/STORMWATER MANAGEMENT WILL PROVIDED IN THE EXISTING STORMWATER MANAGEMENT FACILITY LOCATED ON PARCEL 3-D1, AND IN ACCORDANCE WITH FAIRFAX COUNTY ORDINANCES. SEE SHEETS 9A - 9I

7. SPECIAL AMENITIES SUCH AS LANDSCAPING TREATMENT, WALLS OR OTHER SITE FEATURES MAY BE PROVIDED AND WILL BE DETERMINED AT THE SITE PLAN.

8. THE LOCATION OF EASEMENTS/UTILITIES SHOWN HEREON IS BASED ON INFORMATION AVAILABLE FROM TAX MAPS AND/OR DEEDS OF RECORDS NOT FROM ACTUAL FIELD LOCATIONS OR TITLE SEARCH AND THUS SHOULD NOT BE REGARDED AS A CORRECT OR FINAL LOCATION.

9. THE OPEN SPACE PROVIDED IS BASED ON THE GROSS APPLICATION AREA AND AS PER THE PROVISIONS OF SECTION 2-309 OF THE ZONING ORDINANCE

10. GIVEN THE ADJACENT ZONED AND COMPREHENSIVE PLANNED USES, THERE ARE NO TRANSITIONAL SCREENING OR BARRIER REQUIREMENTS APPLICABLE TO THE PROPOSED USES FOR THIS APPLICATION. IF REQUIRED, WAIVERS OF SUCH WILL BE REQUESTED WITH FINL SITE PLAN APPROVAL

11. IN ACCORDANCE WITH PAR 4 AND 5 OF SECT. 18-204 OF THE ZONING ORDINANCE, DEVIATIONS TO THE SIZES, DIMENSIONS, FOOTPRINTS AND LOCATIONS OF THE FREESTANDING BUILDINGS MAY OCCUR WITH FINAL ENGINEERING DESIGN. IT IS TO BE UNDERSTOOD THAT THE EXACT FOOTPRINT AND LOCATION OF THE BUILDING MAY BE MODIFIED PROVIDED THE GROSS FLOOR AREA AND OPEN SPACE IS IN SUBSTANTIAL CONFORMANCE WITH PROFFERS.

12. THE NUMBER OF PARKING SPACES REPRESENTED IN THE TABULATION IS BASED ON PRELIMINARY ESTIMATES OF USES, EMPLOYEES, DISPLAY AREAS, ETC. AND MAY CHANGE AS A RESULT OF FINAL ENGINEERING AND FINAL TENNANT NEGOTIATIONS.

    THE FINAL NUMBER OF PARKING AND LOADING SPACES WILL BE DETERMINED AT THE TIME OF SITE PLAN APPROVAL AND WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 11 OF THE ZONING ORDINANCE.

    THE APPLICANT RESERVES THE RIGHT TO PROVIDE PARKING IN EXCESS OF THAT REQUIRED BY ARTICLE 11.

    THE APPLICANT RESERVES THE RIGHT TO PROVIDE INTERIM SURFACE PARKING IN AREAS RESERVED FOR FUTURE DEVELOPMENT AS THE PHASING OF DEVELOPMENT PROGRESSES.

13. PUBLIC UTILITIES FOR THE PROPOSED DEVELOPMENT ARE SHOWN HEREON. SANITARY SEWER, WATER, TELEPHONE AND ELECTRICITY ARE PRESENTLY AVAILABLE AND ACCESSIBLE TO THE SITE AND WILL BE EXTENDED AS MAY BE APPROPRIATE.

14. THERE ARE NO COMMUNITY OR PUBLIC FACILITIES PROPOSED WITH THIS APPLICATION.

15. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO HAZARDOUS OR TOXIC SUBSTANCES STORED ON THE SUBJECT PROPERTY.

16. FRONTAGE IMPROVEMENTS ALONG STONECROFT CENTER COURT HAVE BEEN PROVIDED AS PART OF THE DEVELOPMENT OF RZ-1999-SU-018 (AND SUBSEQUENT SITE PLAN APPLICATIONS). FRONTAGE IMPROVEMENTS ALONG STONECROFT BOULEVARD HAVE BEEN PROVIDED AS PART OF FAIRFAX COUNTY PROJECT # 064196. THERE ARE NO ADDITIONAL ROADWAY FRONTAGE IMPROVEMENTS PROPOSED WITH THIS APPLICATION.

17. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVE SITES LOCATED ON THE SUBJECT PROPERTY.

18. A STATEMENT WHICH CONFIRMS THE OWNERSHIP OF THE SUBJECT PROPERTY AND THE NATURE OF THE APPLICANT'S INTEREST IN SAME IS PROVIDED SEPARATELY IN THE AFFIDAVIT.

19. THE RESOURCE PROTECTION AREA (RPA) BOUNDARY SHOWN HEREON IS BASED ON THE CHESAPEAKE BAY PRESERVATION AREA MAPS AS ADOPTED BY THE BOARD OF SUPERVISORS IN 2003. THE RPA BOUNDARY IS SUBJECT TO ADJUSTMENT BASED ON AVAILABILITY OF MORE DETAILED INFORMATION AS MAY BE DETERMINED BY D.P.W.E.S.

20. THE APPROXIMATE LIMITS OF THE 100-YEAR FLOODPLAIN FOR THIS SITE, AS SHOWN, ARE BASED ON FEMA COMMUNITY PANEL #515525-0025-D. WHERE THE FLOODPLAIN EXISTS ON-SITE, IT SHALL BE PROTECTED WITH LIMITS OF CLEARING AND GRADING, EXCEPT THAT THE PLACEMENT/CONSTRUCTION OF ROADWAYS, UTILITIES, STORMWATER MANAGEMENT FACILITIES, TRAILS OR OTHER REQUIRED PUBLIC FACILITIES MAY BE LOCATED IN SUCH AREA SUBJECT TO APPLICABLE REGULATIONS.

21. APPLICANT RESERVES THE RIGHT TO SUBDIVIDE THE APPLICATION AREA IN THE FUTURE FOR THE PURPOSE OF CREATING POTENTIAL PARCELS FOR SALE.

    THE APPLICATION PROPERTY IS SUBJECT TO SUBDIVISION FOR THE PURPOSE OF SALE, JOINT VENTURE, OR PHASING AND PROPOSED SUBDIVISION SHOWN ON GDP/PRELIMINARY PLAN MAY BE MODIFIED ADMINISTRATIVELY BY THE DIRECTOR OF D.P.W.E.S. WITHOUT REQUIRING MODIFICATION OF THE GDP OR PRELIMINARY PLAN.

22. THE DEVELOPMENT OF THE PROPERTY AS SHOWN HEREON WILL BE PHASED AND IS EXPECTED TO COMMENCE WHEN ALL REQUIRED PERMITS HAVE BEEN OBTAINED, HOWEVER THE SPECIFIC DEVELOPMENT SCHEDULE IS CONTINGENT ON MARKET CONDITIONS.

23. TO THE BEST OF OUR KNOWLEDGE THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL REQUIRED APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS, EXCEPT AS NOTED HEREON FOR REQUESTED WAIVERS/MODIFICATIONS.

24. THE PROPOSED DEVELOPMENT ON THE SUBJECT PROPERTY WILL NOT POSE ANY ADVERSE EFFECT ON THE ADJACENT OR NEIGHBORING PROPERTIES.

25. SIGNAGE WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS OF ARTICLE 12 OF THE ZONING ORDINANCE, UNLESS WAIVED OR MODIFIED BY THE BOARD.

26. FINAL DEVELOPMENT DOCUMENTS ARE SUBJECT TO FINAL ENGINEERING DESIGN AND FAIRFAX COUNTY APPROVAL.

27. HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN FEDERAL REGULATIONS, OR HAZARDOUS WASTES AS SET FORTH IN COMMONWEALTH OF VIRGINIA DEPARTMENT OF WASTE MANAGEMENT REGULATIONS, OR PETROLEUM PRODUCTS AS DEFINED IN FEDERAL REGULATIONS, MAY BE UTILIZED AND/OR STORED ON-SITE.

28. LANDSCAPING AND SCREENING WILL BE PROVIDED IN ACCORDANCE WITH ARTICLE 13, UNLESS MODIFIED BY THE B.O.S. AND AS GENERALLY SHOWN HEREON. EXISTING VEGETATION WILL BE UTILIZED WHENEVER FINAL GRADING ALLOWS

29. THERE ARE NO EXISTING STRUCTURES LOCATED ON THE SUBJECT PROPERTY

30. THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY FIVE FEET OR MORE, NOR ANY MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THIS SITE.

31. THERE ARE NO SCENIC ASSETS OR NATURAL FEATURES ON SITE WORTHY OF DELINEATION OTHER THAN SHOWN HEREON.

32. THERE IS AN EXISTING SIX FOOT TRAIL ALONG THE STONECROFT BLVD FRONTAGE OF THIS SITE AS SHOWN ON THE FAIRFAX COUNTY COMPREHENSIVE PLAN.

33. THE FINAL GROSS FLOOR AREA THOSE BUILDINGS SHOWN ON THE PLAN SHALL BE DETERMINED AT THE TIME OF FINAL SITE PLAN, HOWEVER, THE TOTAL GROSS FLOOR AREA SHALL NOT EXCEED THE ALLOWABLE FLOOR AREA RATIO AS SHOWN

34. THE LIMITS OF CLEARING AND GRADING SHOWN ARE APPROXIMATE AND SUBJECT TO REVISION WITH FINAL ENGINEERING AND SITE PLAN. ANY INDIVIDUAL TREES DEPICTED ON THE PLAN THAT ARE OUTSIDE THE LIMITS OF CLEARING AND GRADING ARE SUBJECT TO REMOVAL BASED ON FINAL FIELD DETERMINATION, BUT IN SUBSTANTIAL CONFORMANCE W/ GDP. THE RIGHT TO SELECTIVELY CLEAR UNDERSTORY IN TREE SAVE LOCATIONS AND TO REMOVE DEAD AND/OR DYING VEGETATION

SOURCE NOTES

1. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED ON AN ACTUAL FIELD RUN BOUNDARY SURVEY PERFORMED ON THE GROUND BY VIKA INC.

2. THE TOPOGRAPHIC INFORMATION SHOWN HEREON IS COMPILED FROM AERIAL SURVEYS SUPPLEMENTED BY FIELD SURVEYS PERFORMED BY VIKA INC. USING ACCEPTED SURVEYING METHODS.

STONECROFT BUSINESS PARK

SITE TABULATION

AREA OF ORIGINAL REZONING :

(RZ-1999-SU-018 / SEA#94-Y-038) = 50.557 AC
EXISTING ZONE: I-5

AREA OF SUBSEQUENT SITE PLAN APPLICATIONS & AREA DEDICATIONS: **

STONECROFT BOULEVARD (RTE #607) (RIGHT OF WAY DEDICATION)	= 1.704 AC
STONECROFT CENTER COURT (#0312-SP-01) (RIGHT OF WAY DEDICATION)	= 1.879 AC
PARCEL 3C - STONECROFT BUSINESS PARK BLDG #1 (#0312-SP-02)	= 8.674 AC
PARCEL 3F - STONECROFT BUSINESS PARK BLDG #2 (#0312-SP-04)	= 7.539 AC
PARCEL 3D-1 - STONECROFT BUSINESS PARK SWM FACILITY (#0312-SP-03)	= 3.991 AC
TOTAL	= 23.787 AC

** (NOTE: REFER TO SHEET 4 FOR ADDITIONAL DEVELOPMENT INFORMATION OF PARCELS 3C, 3F, AND 3D-1 THAT ARE TO REMAIN)

RESIDUAL AREA : (AREA SUBJECT TO THIS REZONING APPLICATION)

(RZ-2004-SU-028) = 26.77 ACRES AC
SEE TABULATION DATA BELOW

AREA TABULATION

AREA OF THIS REZONING / SPECIAL EXCEPTION APPLICATION

AREA OF THIS APPLICATION REZONING : 26.77 AC

EXISTING ZONE: I-5
PROPOSED ZONE: C-8

MAX. PERMITTED F.A.R. = 0.50
MAX. PROPOSED F.A.R. = 0.30 OVERALL PROPERTY (INDIVIDUAL LOTS MAY DEVELOP UP TO 0.50)

MIN. LOT AREA = 40,000 SF
MIN LOT WIDTH = 200 FT

MAX BUILDING HEIGHT = 40FT
PROPOSED BUILDING HEIGHT = 40FT

YARD REQUIREMENTS
FRONT YARD MINIMUM: 45° ANGLE OF BULK PLANE (NOT LESS THAN 40 FEET)
SIDE YARD MINIMUM: NONE
REAR YARD MINIMUM: 20 FEET

APPLICATION NO. PCA 1999-SU-018 STAFF KC

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS)(PC) APPROVAL 2/7/05
SHEET 2 OF 18

OPEN SPACE
REQUIRED : 15% OF GROSS SITE AREA = (.15 x 26.77 AC) = 4.02 ACRES

PROPOSED: 23% OF GROSS SITE AREA = 6.16 ACRES (TO BE PROVIDED ON OVERALL APPLICATION AREA BASIS) (OPEN SPACE SHALL INCLUDE, BUT NOT BE LIMITED TO, RPA/FLOODPLAIN/WETLANDS, TREE SAVE AREA, 15' PLANTING STRIP, AND INTERNAL & PERIPHERAL PARKING LOT LANDSCAPING)**

** APPROXIMATE OPEN SPACE TABULATION (FINAL TABULATION TO BE DETERMINED AT FINAL SITE PLAN)

TREE SAVE AREA:	1.5 ACRES APPROXIMATE
WETLANDS AREA:	.64 ACRES APPROXIMATE
STONECROFT FRONTAGE PLANTING STRIP:	.39 ACRES APPROXIMATE
INTERIOR & PERIPHERAL PARKING LOT LANDSCAPING:	3.63 ACRES APPROXIMATE
TOTAL:	23%: 6.16 ACRES

TREE COVER
TREE COVER REQUIRED: 10%
TREE COVER PROVIDED: 15%***

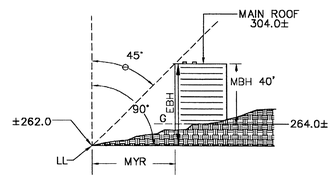
***PROVIDED TREE SAVE AREA IS GRANTED 2.0 CREDIT FACTOR PER PFM TABLE 12.11

PARKING (PER DEALERSHIP LOT)
REQUIRED : (VEHICLE SALES, RENTAL, AND ANCILLARY SERVICE ESTABLISHMENT (Z.O. ARTICLE 11)

1 SPACE / 500 SQ. FT. OF ENCLOSED SALES/RENTAL FLOOR AREA :	+/- 2500 SQ FT = 5 SPACES *
(+) 1 SPACE / 2500 SQ. FT. OF OPEN SALES/RENTAL DISPLAY LOT AREA :	+/- 100,000 SQ FT = 40 SPACES *
(+) 2 SPACE / SERVICE BAY :	40 BAYS = 80 SPACES *
(+) 1 SPACE / EMPLOYEE :	50 EMPLOYEES = 50 SPACES *
TOTAL REQUIRED :	= 175 SPACES *
PROVIDED : 175 SPACES *	

* NOTE: PARKING CALCULATION SHOWN IS INTENDED FOR THEORETICAL AND GENERALIZED DEVELOPMENT PURPOSES ONLY AND DOES NOT REFLECT ACTUAL FINAL DESIGN REQUIREMENTS. FINAL PARKING REQUIREMENTS AND PROVISIONS WILL BE BASED ON THOSE INDIVIDUAL LOT AREA DEVELOPMENTS AS PROPOSED AND APPROVED WITH FINAL SITE PLAN APPLICATIONS SEE PROFFER 5 FOR ADDITIONAL LIMITATIONS.

NOTE
(THERE IS NO ADDITIONAL RIGHT OF WAY DEDICATION PROPOSED WITH THIS APPLICATION)



θ : ANGLE OF BULK PLANE = 45° (FRONT YARD) (MIN 40')
LL : LOT LINE (ELEV = ±262.0)
MYR : MINIMUM YARD REQUIREMENT (42'± FOR COMPARISON)
EBH : EFFECTIVE BUILDING HEIGHT (42'±)
MBH : MAXIMUM BUILDING HEIGHT (40'±)
G : GRADE FOR HEIGHT CALCULATIONS=

$MYR = EBH \tan\theta$ 264.0±

$EBH = \frac{MYR}{\tan\theta}$

C-8 FRONT YARD BULK PLANE ILLUSTRATION

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

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 GERMANTOWN, MD LEESBURG, VA

STONECROFT BUSINESS PARK
SULLY DISTRICT
FAIRFAX COUNTY
VIRGINIA

GDP/SE/PCA NOTES AND TABULATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
REV: DEC 9, 2004
REV: NOV. 29, 2004
REV: SEP 7, 2004
REV: AUG 26, 2004
REV: AUG 6, 2004
REV: JULY 1, 2004
DATE: APR. 28, 2004

DES. MJT/PB	DWN. MJT/PB

SCALE:

PROJECT/FILE NO. 6278G

SHEET NO. 2 of 9

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PCA 1999-SU-018

APPLICATION NO_____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 3 OF 18

= 50.557 ACRES
SUBJECT AREA FOR
(RZ-1999-SU-018)
(SEA # 94-Y-038)
(PCA # 94-Y-033)

AREA OF ROADWAY DEDICATION
BY SUBSEQUENT SITE PLANS
AFTER APPROVAL OF
RZ-1999-SU-018 = 3.583 AC.

= 20.204 ACRES
AREA OF P.C.A. 1999-SU-018
G.D.P./S.E./P.C.A. TO REMAIN

= 26.77 ACRES
AREA OF GENERAL DEVELOPMENT PLAN (GDP)
RZ-2004-SU-028
& SPECIAL EXCEPTION (SE)
SE-2004-SU-027

VIKA

ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ GPS SERVICES

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STONECROFT BUSINESS PARK

SULLY DISTRICT

FAIRFAX COUNTY
VIRGINIA

SITE ZONING EXHIBIT

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC. 27, 2004
REV: DEC. 16, 2004
REV: DEC. 9, 2004
REV: NOV. 29, 2004
REV: SEPT. 7, 2004
REV: AUG 26, 2004
REV: AUG 6, 2004
REV: JULY 1, 2004
DATE: APRIL 28, 2004

DES. MJT/PB	DWN. MJT/PB
SCALE: 1"=100'	
PROJECT/FILE NO. 6278G	
SHEET NO. 3 of 9	

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PARCELS 3C/3F/3D-1 (AND ASSOCIATED DEDICATIONS)

(PCA#-1999-SU-018)

DEVELOPMENT CALCULATIONS (FROM SITE PLAN RECORDS)

EXISTING ZONE : I-5

AREA OF EXISTING DEVELOPMENT & DEDICATION:

STONECROFT BLVD. (RTE #607) - DEDICATION = 1.704 AC
STONECROFT CENTER COURT - DEDICATION = 1.879 AC
PARCEL 3C - STONECROFT BUSINESS PARK BLDG #1 (SP#0312-SP-02) = 8.674 AC
PARCEL 3F - STONECROFT BUSINESS PARK BLDG #2 (SP#0312-SP-04) = 7.539 AC
PARCEL 3D-1 - STONECROFT BUSINESS PARK SWM FACILITY (SP#0312-SP-03) = 3.991 AC

TOTAL = 23.787 AC

- AREA OF PARCELS 3C / 3F / 3D-1 AND DEDICATION TO REMAIN = 23.8 ACRES
- F.A.R. APPROVED (WITH RZ-1999-SU-018) = 0.35 (362,855 SF)
- EXISTING F.A.R. TO REMAIN (EXISTING BUILDINGS) = 0.15 (154,876 SF)
- INDIVIDUAL LOTS MAY BE DEVELOPED AT AN INCREASED F.A.R. PER PROFFERS P.C.A. 1999-SU-018

- REQUIRED OPEN SPACE (PER RZ-1999-SU-018) = 20% OF NET AREA (.20x20.22 AC) = 4.04 AC
- PROVIDED OPEN SPACE (PER PARCELS 3C & 3F) = 6.36 AC

STONECROFT BUSINESS PARK BUILDING #1: PROVIDED 124,479 SF OR 32% (15% REQUIRED)
STONECROFT BUSINESS PARK BUILDING #2: PROVIDED 152,821 SF OR 46.58% (15% REQUIRED)
STONECROFT BUSINESS PARK SWM POND: N/A

- MAXIMUM BUILDING HEIGHT ALLOWED (PER Z.O. SECT 5-500)= 75 FT
  MAXIMUM BUILDING HEIGHT ALLOWED (PER RZ-1999-SU-018)= 60 FT
- EXISTING BUILDING HEIGHT = PARCEL 3F : 27 FT
  PARCEL 3C : 25 FT

TREE COVER:

STONECROFT BUSINESS PARK BUILDING #1: PROVIDED 1.071 ACRES OR 17.02% (17% REQUIRED)
STONECROFT BUSINESS PARK BUILDING #2: PROVIDED 1.074 ACRES OR 17.07% (17% REQUIRED)
STONECROFT BUSINESS PARK SWM POND: N/A

TOTAL TREE COVER: PROVIDED 2.145 ACRES

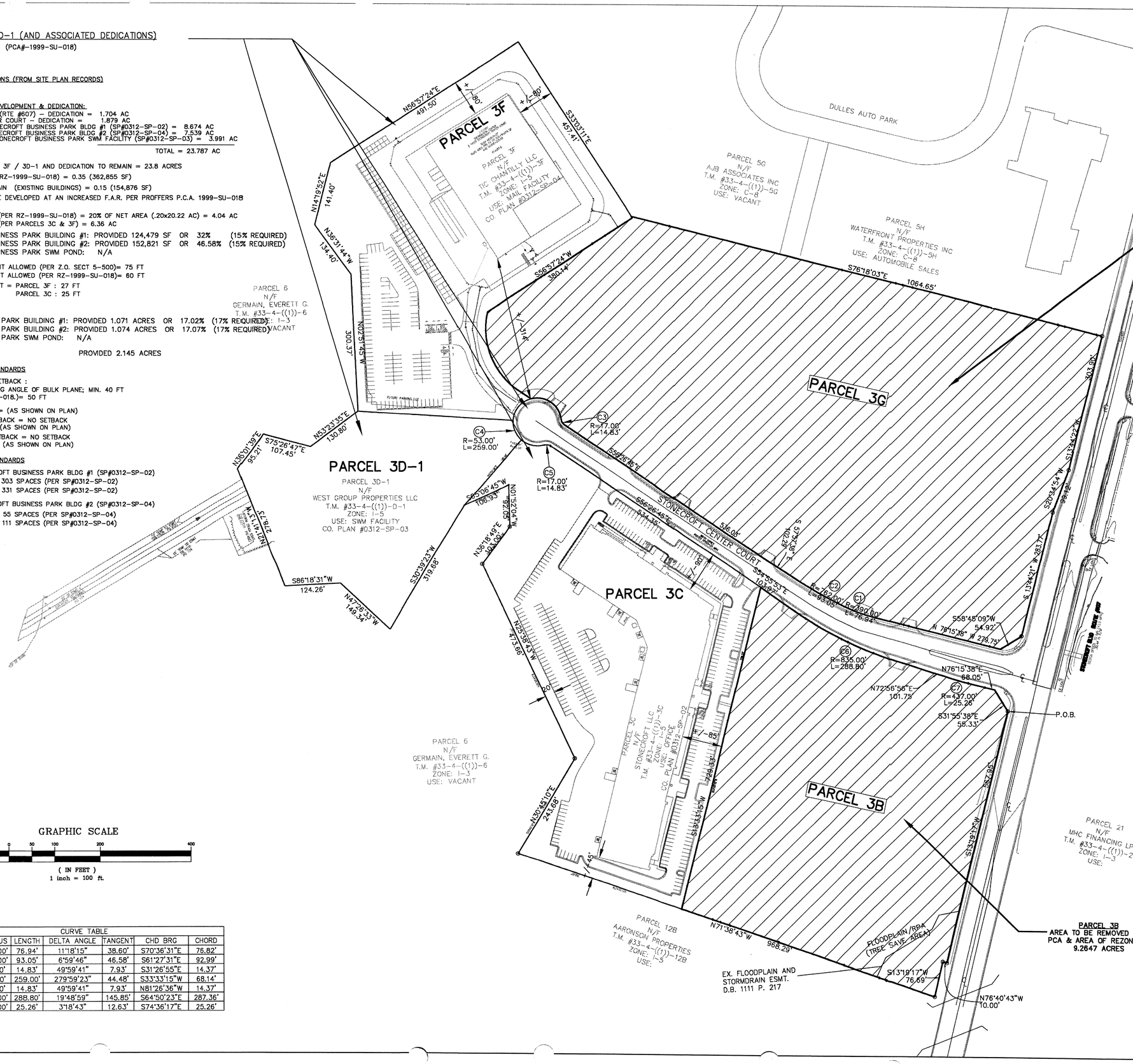
I-5 ZONE SETBACK STANDARDS

- MINIMUM FRONT YARD SETBACK :
  (PER Z.O.)= 45 DEG ANGLE OF BULK PLANE; MIN. 40 FT
  (PER RZ-1999-SU-018.)= 50 FT
- FRONT YARD PROVIDED = (AS SHOWN ON PLAN)
- MINIMUM SIDE YARD SETBACK = NO SETBACK
- SIDE YARD PROVIDED = (AS SHOWN ON PLAN)
- MINIMUM REAR YARD SETBACK = NO SETBACK
- REAR YARD PROVIDED = (AS SHOWN ON PLAN)

I-5 ZONE PARKING STANDARDS

PARCEL 3C - STONECROFT BUSINESS PARK BLDG #1 (SP#0312-SP-02)
PARKING REQUIRED: 303 SPACES (PER SP#0312-SP-02)
PARKING PROVIDED: 331 SPACES (PER SP#0312-SP-02)

PARCEL 3F - STONECROFT BUSINESS PARK BLDG #2 (SP#0312-SP-04)
PARKING REQUIRED: 55 SPACES (PER SP#0312-SP-04)
PARKING PROVIDED: 111 SPACES (PER SP#0312-SP-04)



GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

CURVE TABLE						
CURVE	RADIUS	LENGTH	DELTA ANGLE	TANGENT	CHD BRG	CHORD
C1	390.00'	76.94'	11°18'15"	38.60'	S70°36'31"E	76.82'
C2	762.00'	93.05'	6°59'46"	46.58'	S61°27'31"E	92.99'
C3	17.00'	14.83'	49°59'41"	7.93'	S31°26'55"E	14.37'
C4	53.00'	259.00'	279°59'23"	44.48'	S33°33'15"W	68.14'
C5	17.00'	14.83'	49°59'41"	7.93'	N81°26'36"W	14.37'
C6	835.00'	288.80'	19°48'59"	145.85'	S64°50'23"E	287.36'
C7	437.00'	25.26'	3°18'43"	12.63'	S74°36'17"E	25.26'

PCA 1999-SU-018

APPLICATION NO _____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 4 OF 18

COMMONWEALTH OF VIRGINIA
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No. 2012

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 GERMANTOWN, MD LEESBURG, VA

STONECROFT BUSINESS PARK

SULLY DISTRICT

FAIRFAX COUNTY
VIRGINIA

P.C.A.# 1999-SU-018

P.C.A. PLAT

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC. 27, 2004
REV: DEC. 16, 2004
REV: DEC. 9, 2004
REV: NOV. 29, 2004
REV: SEPT. 7, 2004
REV: AUG 26, 2004
REV: AUG 6, 2004
REV: JULY 1, 2004
DATE: APRIL 28, 2004

DES.	DWN.
MJT/PB	MJT/PB

SCALE: 1"=100'

PROJECT/FILE NO. 6278G

SHEET NO. 4 of 9

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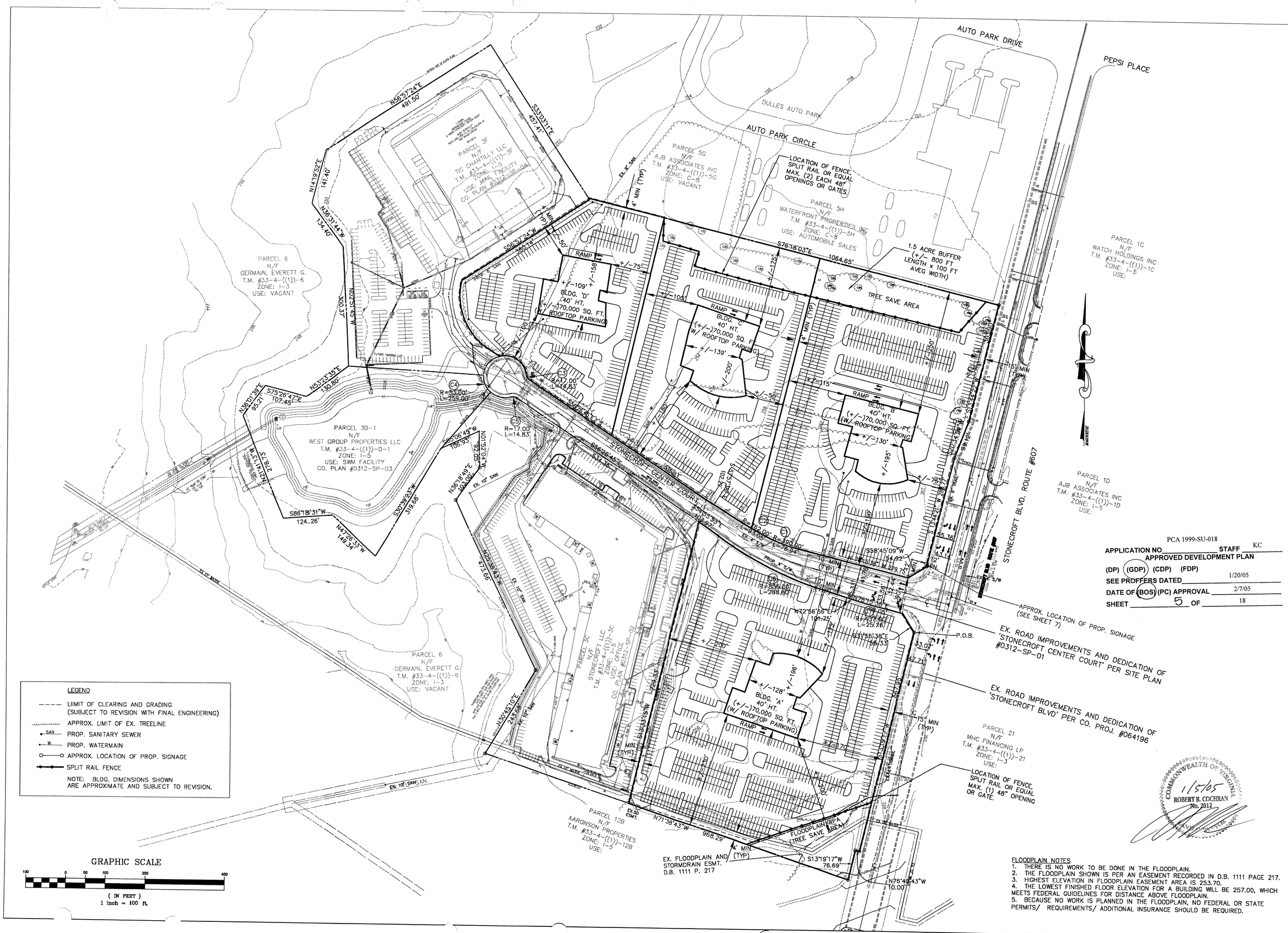

LEGEND

- LIMIT OF CLEARING AND GRADING (SUBJECT TO REVISION WITH FINAL ENGINEERING)
- APPROX. LIMIT OF EX. TREELINE
- SAN — PROP. SANITARY SEWER
- W — PROP. WATERMAIN
- APPROX. LOCATION OF PROP. SIGNAGE
- SPLIT RAIL FENCE

NOTE: BLDG. DIMENSIONS SHOWN ARE APPROXIMATE AND SUBJECT TO REVISION.

GRAPHIC SCALE

100 0 50 100 200 400

(IN FEET)
1 inch = 100 ft.

PCA 1999-SU-018

APPLICATION NO _____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 5 OF 18

FLOODPLAIN NOTES

1. THERE IS NO WORK TO BE DONE IN THE FLOODPLAIN.
2. THE FLOODPLAIN SHOWN IS PER AN EASEMENT RECORDED IN D.B. 1111 PAGE 217.
3. HIGHEST ELEVATION IN FLOODPLAIN EASEMENT AREA IS 253.70.
4. THE LOWEST FINISHED FLOOR ELEVATION FOR A BUILDING WILL BE 257.00, WHICH MEETS FEDERAL GUIDELINES FOR DISTANCE ABOVE FLOODPLAIN.
5. BECAUSE NO WORK IS PLANNED IN THE FLOODPLAIN, NO FEDERAL OR STATE PERMITS/ REQUIREMENTS/ ADDITIONAL INSURANCE SHOULD BE REQUIRED.

COMMONWEALTH OF VIRGINIA
11/5/05
ROBERT R. COCHRAN
No. 2012

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SULLY DISTRICT

FAIRFAX COUNTY
VIRGINIA

GENERALIZED DEVELOPMENT/S.E. PLAN

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
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DATE: APRIL 28, 2004

DES.	DWN.
MJT/PB	MJT/PB

SCALE: 1"=100'

PROJECT/FILE NO. 6278G

SHEET NO. 5 of 9

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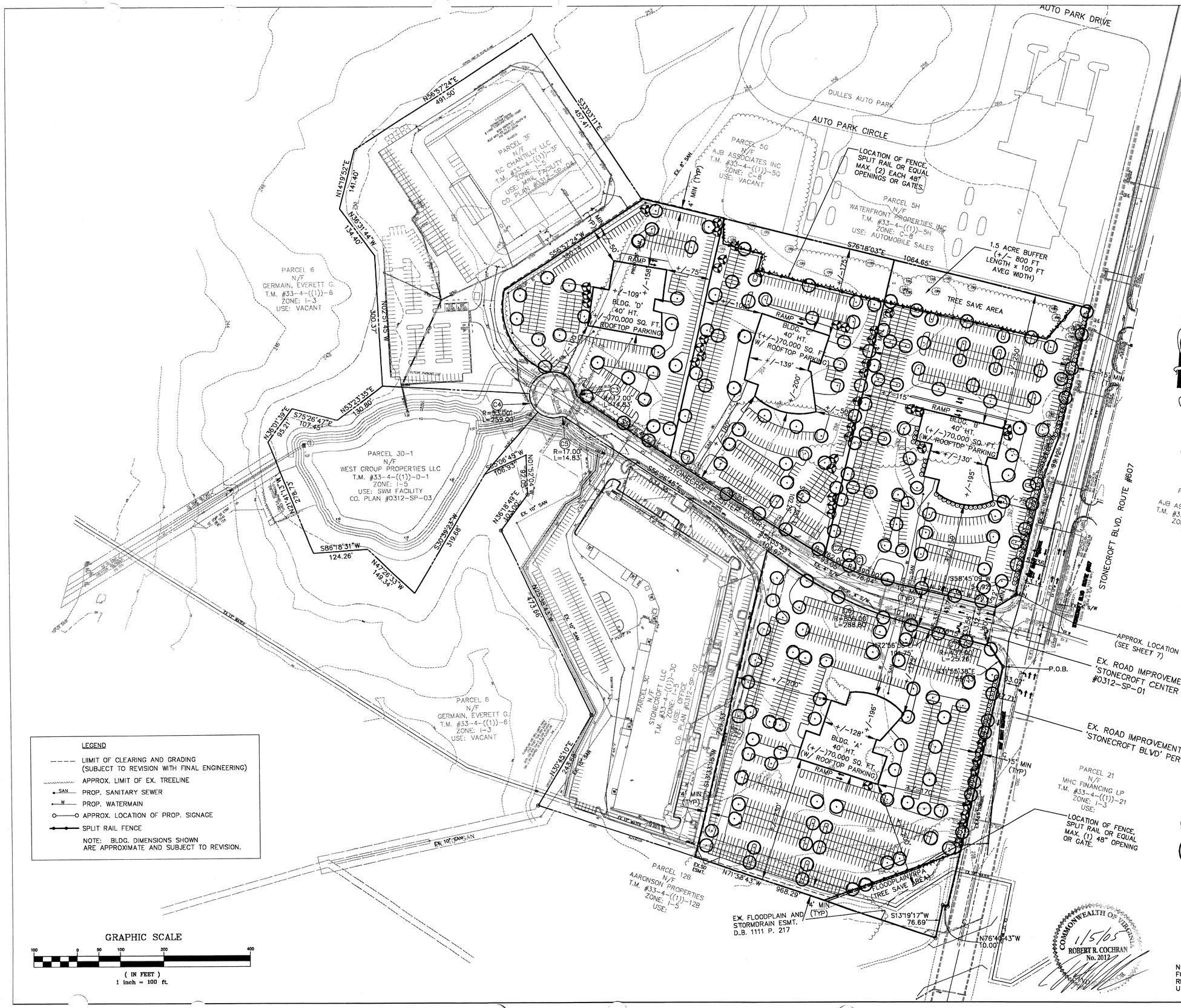

PCA 1999-SU-018

APPLICATION NO_____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 6 OF 18

CONCEPTUAL PLANT LEGEND

- MED – LARGE DECIDUOUS SHADE TREE
- MED – LARGE EVERGREEN OR FLOWERING TREE
- SHRUB AND FOUNDATION PLANTING
- LIMIT OF PROP TREELINE

NOTE: TREES SHOWN IN PARKING LOT ARE INTENDED FOR CONCEPT PURPOSES ONLY AND ARE SUBJECT TO RELOCATION BASED ON FINAL ENGINEERING AND UTILITY DESIGN.

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CONCEPTUAL LANDSCAPE PLAN

VIKA REVISIONS

REV: JAN. 5, 2005
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REV: DEC 16, 2004
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DES.	DWN.
MJT/PB	MJT/PB

SCALE: 1"=100'

PROJECT/FILE NO. 6278G

SHEET NO. 6 of 9

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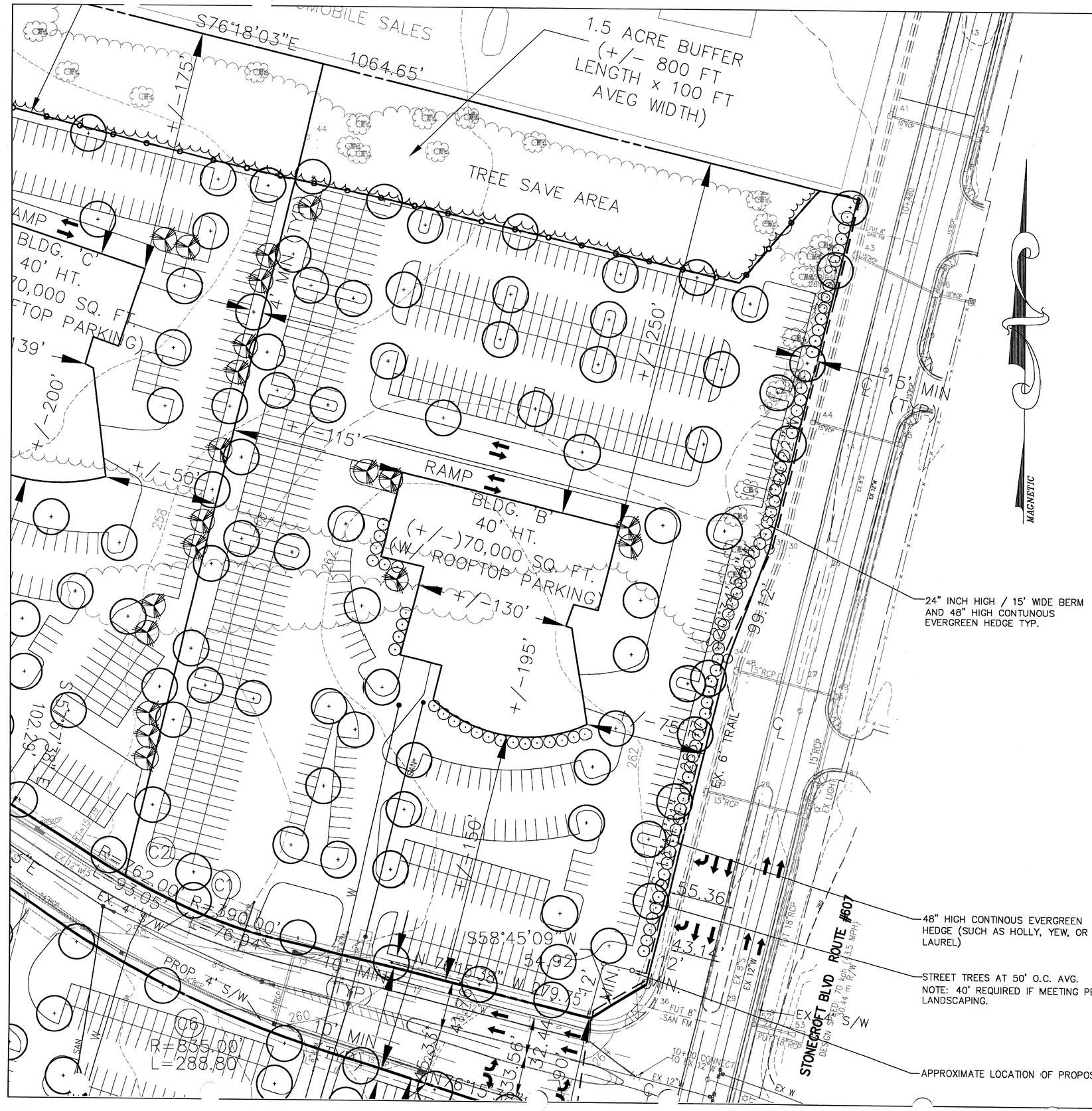
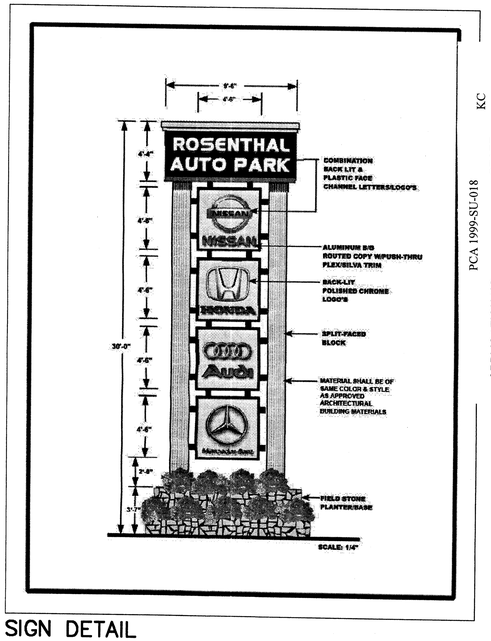


CONCEPTUAL PLANT LEGEND

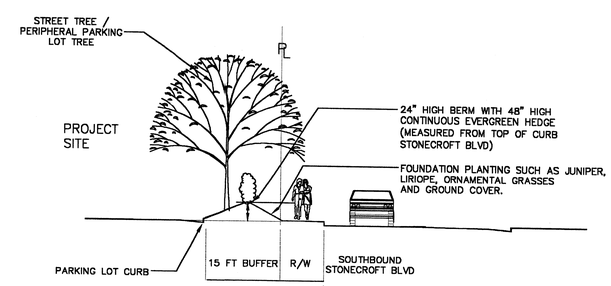
- MED – LARGE DECIDUOUS SHADE TREE
- MED – LARGE EVERGREEN OR FLOWERING TREE
- 48" HIGH CONTINUOUS EVERGREEN HEDGE SUPPLEMENTED W/ FOUNDATION PLANTING SUCH AS JUNIPER, LIRIOPE, ORNAMENTAL GRASSES, & GROUND COVER.

NOTE: TREES SHOWN IN PARKING LOT ARE INTENDED FOR CONCEPT PURPOSES ONLY AND ARE SUBJECT TO RELOCATION BASED ON FINAL ENGINEERING AND UTILITY DESIGN.



SIGN DETAIL

NOTE: MINOR ADJUSTMENTS TO FINAL SIGN DESIGN, COLOR, ETC. MAY BE APPROVED AS LONG AS IN SUBSTANTIAL CONFORMANCE WITH THESE DETAILS.



STONECROFT BLVD BUFFER-SECTION

NOT TO SCALE

GRAPHIC SCALE

40 0 20 40 80 160

(IN FEET)
1 inch = 40 ft.

COMMONWEALTH OF VIRGINIA
ROBERT R. COCHRAN
No. 2012
1/5/05

VIKA, INCORPORATED
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SULLY DISTRICT

FAIRFAX COUNTY
VIRGINIA

ILLUSTRATIVE PLAN (TYPICAL)

PCA 1999-SU-018 KC

APPLICATION NO. STAFF
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP) 1/20/05
SEE PROFFERS DATED
DATE OF (BOS)(PC) APPROVAL 2/7/05
SHEET 7 OF 18

VIKA REVISIONS

REV: JAN. 5, 2005
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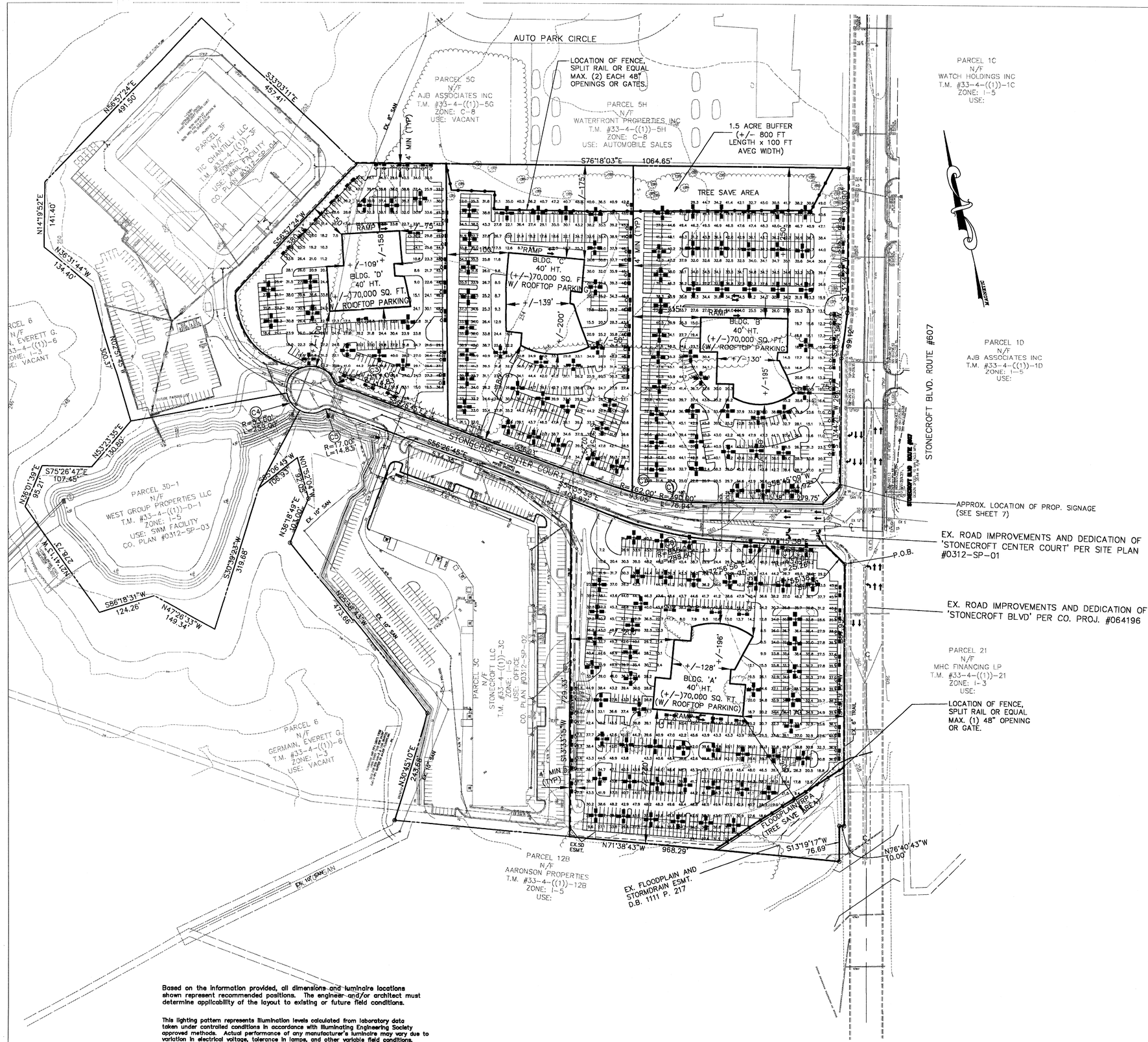
REV: AUG 6, 2004
REV: JULY 1, 2004
DATE: APRIL 28, 2004

DES.	DWN.
MJT/PB	MJT/PB

SCALE: 1"=40'

PROJECT/FILE NO. 6278G

SHEET NO. 7 of 9



WLS-FVR5-1000-MHR
25' pole 3' base
Mounting Height= 28 feet. 4 units per pole.
From Pole to Photometric Center= 2 feet.
IES Candela File: gfr5
Initial Lumens per Lamp= 110000.
Light Loss Factor (LLF) = 0.75
Number Poles this type = 137

WLS-FVRFP-1000-MHR
25' POLE 3' BASE
Mounting Height= 28 feet. 2 units per pole.
From Pole to Photometric Center= 2 feet.
IES Candela File: GFRFP
Initial Lumens per Lamp= 110000.
Light Loss Factor (LLF) = 0.75
Number Poles this type = 61

ILLUMINANCE IS IN HORIZONTAL FOOTCANDLES.
TARGET PLANE AT Z = 0 FEET.

Summary

# POINTS	1350
AVERAGE	33.7
MAXIMUM	49.7
MINIMUM	6.3
AVG/MIN	5.35
MAX/MIN	7.89
STD DEV	9.23
COEF VAR	0.27

PCA 1999-SU-018
APPLICATION NO_____ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 8 OF 18

GRAPHIC SCALE
100 0 50 100 200 400
(IN FEET)
1 inch = 100 ft.

WLS LIGHTING SYSTEMS
PO BOX 100519
FORT WORTH, TEXAS 76185
1-800-633-8711 FAX 817-735-4824

LIGHTING PROPOSAL FOR
CONCEPTUAL SITEPLAN
FAIRFAX, VA

SCALE: 1"= 100' WL-68273
DATE: 7/6/04
BY: PAUL SHEET 1 OF 1

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012

Based on the information provided, all dimensions and luminaire locations shown represent recommended positions. The engineer and/or architect must determine applicability of the layout to existing or future field conditions.

This lighting pattern represents illumination levels calculated from laboratory data taken under controlled conditions in accordance with Illuminating Engineering Society approved methods. Actual performance of any manufacturer's luminaire may vary due to variation in electrical voltage, tolerance in lamps, and other variable field conditions.

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VIRGINIA

CONCEPTUAL LIGHTING PLAN

VIKA REVISIONS

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DATE: APRIL 28, 2004

DES. MJT/PB	DWN. MJT/PB
SCALE: 1"=100'	
PROJECT/FILE NO. 6278G	
SHEET NO. 8 of 9	

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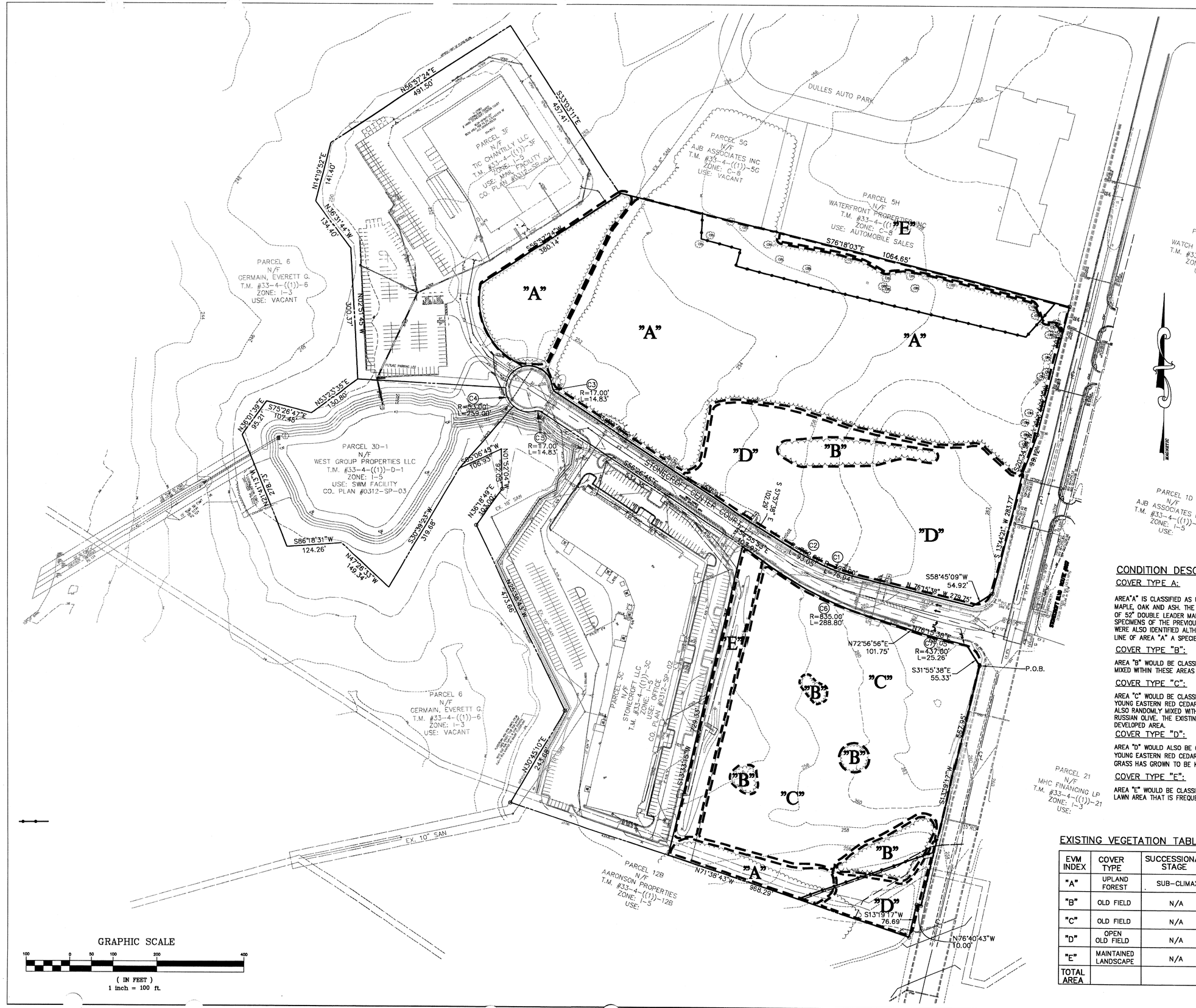

PCA 1999-SU-018

APPLICATION NO _____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 9 OF 18

COMMONWEALTH OF VIRGINIA
ROBERT R. COCHRAN
No. 2012
1/5/05

CONDITION DESCRIPTIONS:

COVER TYPE A:

AREA"A" IS CLASSIFIED AS UPLAND FOREST AND CONSISTS OF UPLAND HARDWOODS SUCH AS MAPLE, OAK AND ASH. THE CALIPER SIZE VARY FROM 10" – 14" TO 28" AND SOME OCCURANCE OF 52" DOUBLE LEADER MAPLE. THE UNDERSTORY PLANT MATERIAL IS PRIMARILY YOUNGER SPECIMENS OF THE PREVIOUSLY NOTED SPECIES. HOWEVER, SOME DOGWOOD AND HOLLY SPECIES WERE ALSO IDENTIFIED ALTHOUGH IN MUCH FEWER OCCURRENCE. ON THE FRINGE OF THE TREE LINE OF AREA "A" A SPECIES OF RUSSIAN OLIVE WAS RANDOMLY IDENTIFIED.

COVER TYPE "B":

AREA "B" WOULD BE CLASSIFIED AS EASTERN RED CEDAR LOCATED WITHIN OLD FIELD. OCCASIONLY MIXED WITHIN THESE AREAS ARE AGAIN A SPECIES OF RUSSIAN OLIVE.

COVER TYPE "C":

AREA "C" WOULD BE CLASSIFIED AS OPEN OLD FIELD WITH AN OCCASSIONAL LOCATION OF A YOUNG EASTERN RED CEDAR SPECIES.
ALSO RANDOMLY MIXED WITHIN THIS AREA ARE VERY YOUNG HARDWOODS AND AN OCCASSIONAL RUSSIAN OLIVE. THE EXISTING MEADOW GRASS IS VERY LOW CUT ALTHOUGH NOT MAINTAINED AS A DEVELOPED AREA.

COVER TYPE "D":

AREA "D" WOULD ALSO BE CLASSIFIED AS OPEN OLD FIELD WITH AN OCCASSIONAL LOCATION OF A YOUNG EASTERN RED CEDAR SPECIES AS IDENTIFIED IN AREA"C". HOWEVER THE EXISTING MEADOW GRASS HAS GROWN TO BE KNEE-HIGH TALL (18"-24") AND HAS BEEN LEFT UNMAINTAINED.

COVER TYPE "E":

AREA "E" WOULD BE CLASSIFIED MAINTAINED LANDSCAPE
LAWN AREA THAT IS FREQUENTLY MAINTAINED.

EXISTING VEGETATION TABLE

EVM INDEX	COVER TYPE	SUCCESSIONAL STAGE	AREA	COVER CONDITION	PRIMARY SPECIES	COMMENTS
"A"	UPLAND FOREST	SUB-CLIMAX	12.513 AC	GOOD	MAPLE OAK	SEE DESCRIPTIONS
"B"	OLD FIELD	N/A	1.249 AC	SEE COMMENTS	RED CEDAR R. OLIVE	SEE DESCRIPTIONS
"C"	OLD FIELD	N/A	6.631 AC	SEE COMMENTS	RED CEDAR R. OLIVE	SEE DESCRIPTIONS
"D"	OPEN OLD FIELD	N/A	5.454 AC	SEE COMMENTS	RED CEDAR R. OLIVE	SEE DESCRIPTIONS
"E"	MAINTAINED LANDSCAPE	N/A	0.952 AC	GOOD	LAWN	SEE DESCRIPTIONS
TOTAL AREA			26.799 AC			

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STONECROFT BUSINESS PARK

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FAIRFAX COUNTY
VIRGINIA

EXISTING VEGETATION MAP

VIKA REVISIONS

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DES. NPK | DWN. NPK

SCALE: 1"=100'

PROJECT/FILE NO. 6278G

SHEET NO. 9 of 9

P:\LDD3\Projects\6278G\DWG\6278G105.dwg

BMP FACILITY DESIGN FORMAT

PLAN NAME: STONECROFT BUSINESS PARK DATE:5/10/00

PLAN NUMBER: ENGINEER: VIKA INC.

WATER QUALITY CONTROL NARRATIVE

THE SITE CONSISTS OF 48.85 ACRES OF MIXED OFFICE/WAREHOUSE DEVELOPMENT (AREAS A,C,D,&E). FOR PURPOSES OF SWM QUALITY CONTROLS, 48.15 ACRES WILL BE CONSIDERED AS BEING DISTURBED. 46.57 ACRES OF THE ONSITE-DISTURBED AREA WILL DRAIN INTO THE NEW STORMWATER MANAGEMENT POND. OFFSITE AREAS (AREA B) DRAINING TO THE POND WILL BE CONTROLLED TO ACCOUNT FOR THE 1.58 ACRES OF ONSITE UNCONTROLLED AREA.THE FACILITY WILL BE PRIVATELY MAINTAINED.THE SITE LIES WITHIN THE WATER SUPPLY OVERLAY DISTRICT, AND HAS A PHOSPHOROUS REMOVAL REQUIREMENT OF 50%. PHOSPHOROUS REMOVAL PROVIDED IS 51.44%.

WATERSHED DATA

PART 1 LIST ALL OF THE SUBAREAS AND "C" FACTORS USED IN THE BMP COMPUTATIONS

SUBAREA DESIGNATION & DESCRIPTION (1)	"C" (2)	ACRES (3)
A) CONTROLLED ONSITE	0.85	46.57
B) CONTROLLED OFFSITE	0.85	2.83 X 0.2=0.57
C) UNCONTROLLED ONSITE	0.30	0.70
D) UNCONTROLLED ONSITE	0.30	1.08
E) UNCONTROLLED ONSITE	0.30	0.50

NOTE: RATIONAL FORMULA "C" FACTORS ARE TAKEN FROM THE GENERAL ZONING VALUES LISTED IN TABLE 6.6

PART 2 COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR THE SITE.

(A) AREA OF SITE (A) 48.85 ACRES

(B) SUBAREA DESIGNATION (1)	"C" (2)	X	ACRES (3)	=	PRODUCT (4)
A) CONTROLLED ONSITE	0.85	X	46.57	=	39.58
C) UNCONTROLLED ONSITE	0.30	X	0.70	=	0.21
D) UNCONTROLLED ONSITE	0.30	X	1.08	=	0.32
E) UNCONTROLLED ONSITE	0.30	X	0.50	=	0.15
			(B) TOTAL	=	40.26

(C) WEIGHTED AVERAGE "C" FACTOR (B)/(A) = 0.82

PART 3 COMPUTE THE TOTAL PHOSPHORUS REMOVAL FOR THE SITE

SUBAREA DESIGNATION (1)	BMP TYPE (2)	REMOVAL EFF. (%) (3)	AREA RATIO (4)	"C" FACTOR RATIO (5)	PRODUCT (6)
A)	WET POND	50	X 46.57/48.85	X 0.85/0.82	= 49.41
B)	WET POND	50	X 0.57/48.85	X 0.85/0.82	= 0.60
C)	UNCONTROLLED	–	X –	X –	= 0.00
D)	UNCONTROLLED	–	X –	X –	= 0.00
E)	UNCONTROLLED	–	X –	X –	= 0.00

(A) SELECT REQUIREMENT (A) TOTAL = 50.01

PART 4 DETERMINE COMPLIANCE WITH PHOSPHORUS REMOVAL REQUIREMENT

(A) SELECT REQUIREMENT (A) 50%

WATER SUPPLY OVERLAY DISTRICT 50%

(NEW DEVELOPMENT)
CHESAPEAKE BAY RESOURCE PRESERVATION AREA %

(REDEVELOPMENT) %

(B) IF LINE 3(A)50.01 ≥OR EQUAL TO LINE 4(A)50, THEN PHOSPHOROUS REMOVAL REQUIREMENT IS SATISFIED. SITE COVERAGE

PART 5 DETERMINE COMPLIANCE WITH SITE COVERAGE REQUIREMENT.

SUM ALL THE UNCONTROLLED ONSITE AREAS AND COMPUTE A WEIGHTED AVERAGE "C" FACTOR. DO NOT INCLUDE QUALIFYING OPEN SPACE.

(B) SUBAREA DESIGNATION (1)	"C" (2)	X	ACRES (3)	=	PRODUCT (4)
D) UNCONTROLLED ONSITE	0.30	X	1.08	=	0.32
E) UNCONTROLLED ONSITE	0.30	X	0.50	=	0.15
			(B) TOTAL	=	0.47

(A) TOTAL EQUIVALENT UNCONTROLLED AREA (A) 0.47

(B) TOTAL UNCONTROLLED AREA (B) 1.58

(C) WEIGHTED AVERAGE "C" FACTOR (A)/(B) = (C) 0.30

(D) IF LINE 5(B) < 20% OF LINE 2(A), THEN THE SITE COVERAGE REQUIREMENT IS SATISFIED. LINE 5(A) IS THE EQUIVALENT OFFSITE AREA FOR WHICH COVERAGE MAY BE REQUIRED.

100 X *LINE* 5(B)0/ LINE 2(A) = (D) 0%

PART 6 DETERMINE THE OFFSITE AREAS FOR WHICH COVERAGE IS REQUIRED

(A) FOR THE OFFSITE AREAS LISTED IN PART 1 WHICH FLOW TO PROPOSED ONSITE BMPS, COMPUTE THE EQUIVALENT AREAS.

(B) SUBAREA DESIGNATION (1)	"C" (2)	X	ACRES (3)	=	PRODUCT (4)
B) CONTROLLED OFFSITE	0.85	X	2.83	=	2.41
			TOTAL	=	2.41

IF THE EQUIVALENT OFFSITE AREA, LINE 6(A), DRAINING TO ALL PROPOSED BMP FACILITIES IS GREATER THAN THE EQUIVALENT UNCONTROLLED AREA OF THE SITE SHOWN IN LINE 5(A), THEN THE OFFSITE AREA CONTROLLED BY THE PROPOSED BMP FACILITIES MAY BE REDUCED UNTIL THE TWO ARE EQUAL. OTHERWISE, ALL UNCONTROLLED OFFSITE AREAS DRAINING TO THE PROPOSED BMP FACILITIES MUST BE INCLUDED. ALL OFFSITE AREAS THUS REDUCED SHOULD BE MARKED WITH AN "*" WHEREVER THEY APPEAR IN THE COMPUTATIONS.?STORAGE

PART 7 COMPUTE THE WEIGHTED AVERAGE "C" FACTOR FOR EACH PROPOSED BMP FACILITY

(A) LIST THE AREAS TO BE CONTROLLED BY THE PROPOSED BMP.

(B) SUBAREA DESIGNATION (1)	"C" (2)	X	ACRES (3)	=	PRODUCT (4)
A) CONTROLLED ONSITE	0.85	X	46.57	=	39.58
B) CONTROLLED OFFSITE	0.85	X	2.83	=	2.41
			(B) TOTAL	=	41.99

(C) WEIGHTED AVERAGE "C" FACTOR (B)/(A) = 41.99/50.10 = 0.84

PART 8

(A) EXTENDED DETENTION
CHART A6-40 VALUE FOR BMP STORAGE PER ACRE
[(4375 X "C") – 875] OR [31.25 X % IMP.] = (A) 2800 CF/AC

DESIGN 1 (48 HOUR DRAWDOWN)
LINE 7(A) 49.4 X LINE 8(A) 2800 = 138320 CF

(B) WET POND
VOLUME OF RUNOFF PER ACRE FROM MEAN STORM
[1452 X "C"] – 1452 X LINE 7(C) = (B) 1220 CF/AC

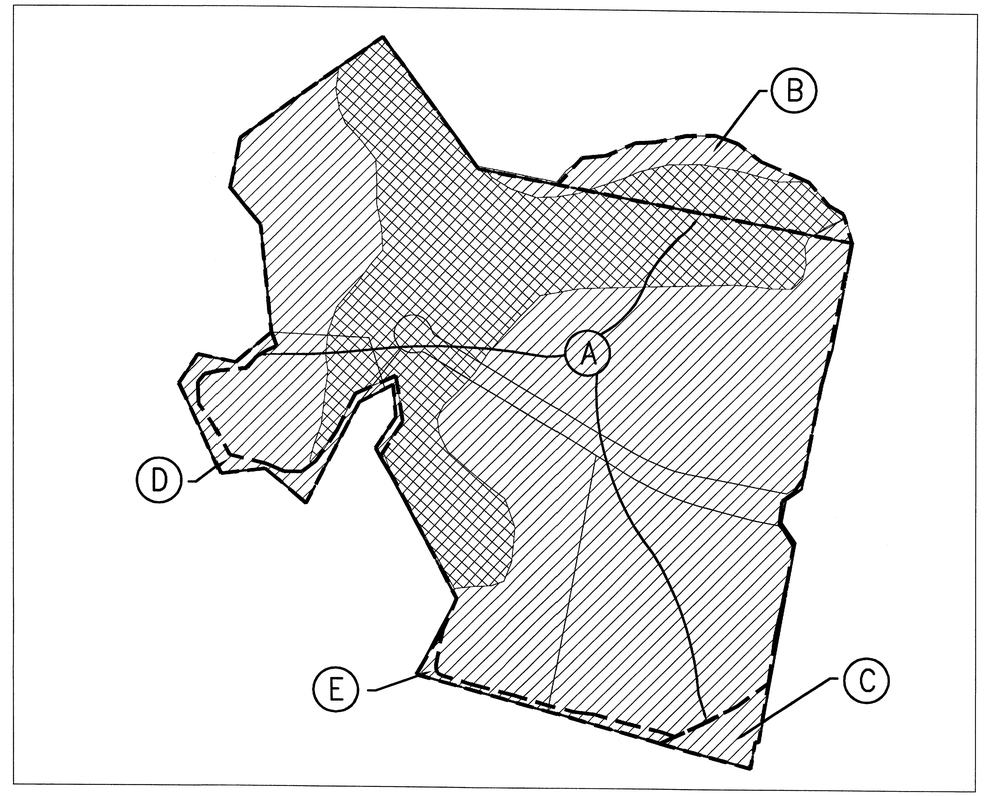
DESIGN ii (2.5 X VOLUME OF RUNOFF FROM MEAN STORM IN WEST STORAGE WITH EXTENDED DETENTION ABOVE THE PERMANENT POOL)

WET STORAGE
2.5 X LINE 7(A) X LINE 8(B) = 150670 CF
EXTENDED DETENTION
LINE 7(A) X LINE 8(A) = 60268 CF

DESIGN i (4.0 X VOLUME OF RUNOFF FROM MEAN STORM)
4.0 X LINE 7(A) X LINE 8(B) = 241072 CF

(C) INFILTRATION NOT APPLICABLE

DESIGN 1 (0.50 INCH PER IMPERVIOUS ACRE)
0.50 X 36.30 X (% IMP.) X LINE 7(A) = CF
DESIGN 2 (1.0 INCH PER IMPERVIOUS ACRE)
1.0 X 36.30 X (% IMP.) X LINE 7(A) = CF
DESIGN 3 (2 YEAR–2 HOUR STORM)
2.0/12 X 43560 X "C" X LINE 7)A) = CF



AREA (A) = 46.57 Ac @ C = 0.185
AREA (B) = 2.83 Ac @ C = 0.85
AREA (C) = 0.70 Ac @ C = 0.30
AREA (D) = 1.08 Ac @ C = 0.30
AREA (E) = 0.50 Ac @ C = 0.30

BMP/DETENTION MAP

SCALE: 1"=200'

C SOILS

D SOILS

PCA 1999-SU-018
APPLICATION NO. STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 10 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
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

STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM COMPUTATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
DATE: DEC , 1999

DES. DHH | DWN. CADD

SCALE: NONE

PROJECT/FILE NO. 6278

SHEET NO. 9–A

6278924.dwg 10-19-00 9:32:58 am EST

PRE-DEVELOPED CONDITIONS

RUNOFF CURVE NUMBER COMPUTATION — Version 2.00

Project : Stonecroft — User: DHH — Date:
County : FAIRFAX — State: VA — Checked: ____ — Date: _____
Subtitle:

COVER DESCRIPTION		Hydrologic Soil Group A	B	C	D
		Acres (CN)			
OTHER AGRICULTURAL LANDS					
Woods	fair	-	-	33.8(73)	15.6(79)
Total Area (by Hydrologic Soil Group)				33.8 ====	15.6 ====

TOTAL DRAINAGE AREA: 49.4 Acres — WEIGHTED CURVE NUMBER: 75*

* - Generated for use by GRAPHIC method

TIME OF CONCENTRATION AND TRAVEL TIME — Version 2.00

Project : Stonecroft — User: DHH — Date:
County : FAIRFAX — State: VA — Checked: ____ — Date: _____
Subtitle:

Flow Type	2 year rain	Length (ft)	Slope (ft/ft)	Surface code	n	Area (sq/ft)	Wp (ft)	Velocity (ft/sec)	Time (hr)
Sheet	3.2	190	.0078	H					0.872
Shallow Concent'd		800	.008	U					0.154
Shallow Concent'd		400	.009	U					0.073
								Time of Concentration =	1.10* =====

--- Sheet Flow Surface Codes ---
A Smooth Surface — F Grass, Dense
B Fallow (No Res.) — G Grass, Burmuda
C Cultivated < 20 % Res. — H Woods, Light
D Cultivated > 20 % Res. — I Woods, Dense
E Grass-Range, Short — J Range, Natural

--- Shallow Concentrated --- Surface Codes ---
P Paved
U Unpaved

* - Generated for use by GRAPHIC method

POST-DEVELOPED CONDITIONS

RUNOFF CURVE NUMBER COMPUTATION — Version 2.00

Project : Stonecroft — User: DHH — Date:
County : FAIRFAX — State: VA — Checked: ____ — Date: _____
Subtitle:

COVER DESCRIPTION		Hydrologic Soil Group A	B	C	D
		Acres (CN)			
FULLY DEVELOPED URBAN AREAS (Veg Estab.)					
Urban Districts	Avg % Imperv				
Commercial & business	85	-	-	30.3(94)	15.6(95)
OTHER AGRICULTURAL LANDS					
Woods	fair	-	-	3.5(73)	-
Total Area (by Hydrologic Soil Group)				33.8 ====	15.6 ====

TOTAL DRAINAGE AREA: 49.4 Acres — WEIGHTED CURVE NUMBER: 93*

* - Generated for use by GRAPHIC method

TIME OF CONCENTRATION AND TRAVEL TIME — Version 2.00

Project : Stonecroft — User: DHH — Date:
County : FAIRFAX — State: VA — Checked: ____ — Date: _____
Subtitle:

Flow Type	Length (ft)	Slope (ft/ft)	Surface code	n	Area (sq/ft)	Wp (ft)	Velocity (ft/sec)	Time (hr)
Shallow Concent'd	280	.015	P					0.031
Open Channel	1686						6.3	0.074
Open Channel	307						9.5	0.009
							Time of Concentration =	0.11* =====

--- Sheet Flow Surface Codes ---
A Smooth Surface — F Grass, Dense
B Fallow (No Res.) — G Grass, Burmuda
C Cultivated < 20 % Res. — H Woods, Light
D Cultivated > 20 % Res. — I Woods, Dense
E Grass-Range, Short — J Range, Natural

--- Shallow Concentrated --- Surface Codes ---
P Paved
U Unpaved

* - Generated for use by GRAPHIC method

STORAGE VOLUME FOR DETENTION BASINS — Version 2.00

Project : Stonecroft — User: DHH — Date:
County : FAIRFAX — State: VA — Checked: ____ — Date: _____
Subtitle:

Drainage Area: 49.4 Acres — Rainfall Frequency: 2 years
Rainfall-Type: II
Runoff: 2.4 inches
Peak Inflow: 185.4048 cfs
Peak Outflow: 26 cfs
Detention Basin Storage Volume: 1.25 inches or 5.2 acre feet

PERMANENT POOL STAGE VS. STORAGE

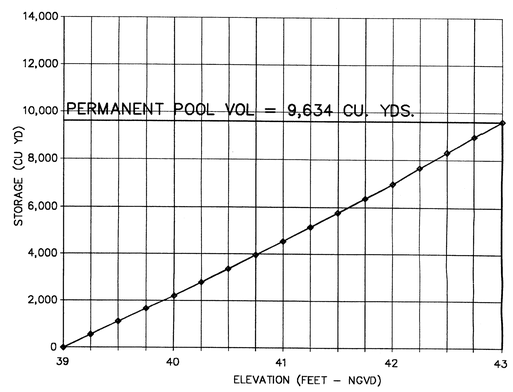
VIKA INCORPORATED — PROJECT: STONECROFT SWM PLAN
8180 GREENSBORO DRIVE — COMPUTED BY: DHH
SUITE 200
McLEAN VIRGINIA 22102 — SHEET

SCALE: 40 — ELEV INTERVAL: .

STAGE VS STORAGE

ELEV FT	AREA SQ IN	AREA SQ FT	AREA SQ FT	H FT	VOL CU FT	TOT VOL CU FT	TOT VOL AC-FT	TOT VOL CU YD
39.00	36.48	58368			0	0	0	0
			59858.5	1.00				
40.00	38.34	61349			59858.5	59858.5	1.37416	2217.0
			62902.3	1.00				
41.00	40.29	64456			62902.3	122761	2.81820	4546.7
			66009.7	1.00				
42.00	42.23	67563			66009.7	188771	4.33357	6991.5
			71338.3	1.00				
43.00	46.95	75113			71338.3	260109	5.97128	9633.7

ELEVATION VS STORAGE



EXTENDED DETENTION STAGE VS. STORAGE

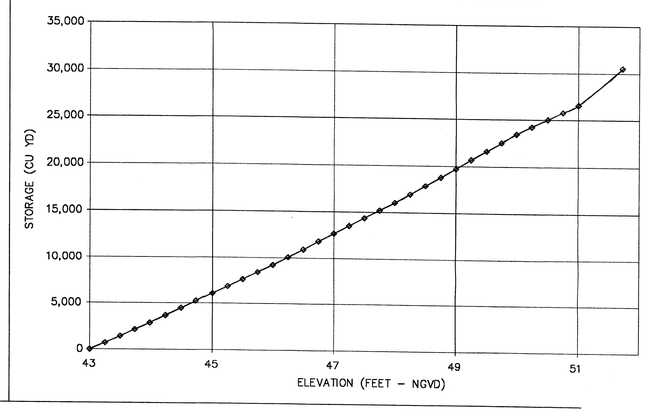
VIKA INCORPORATED — PROJECT: STONECROFT SWM PLAN
8180 GREENSBORO DRIVE — COMPUTED BY: DHH
SUITE 200
McLEAN VIRGINIA 22102 — SHEET

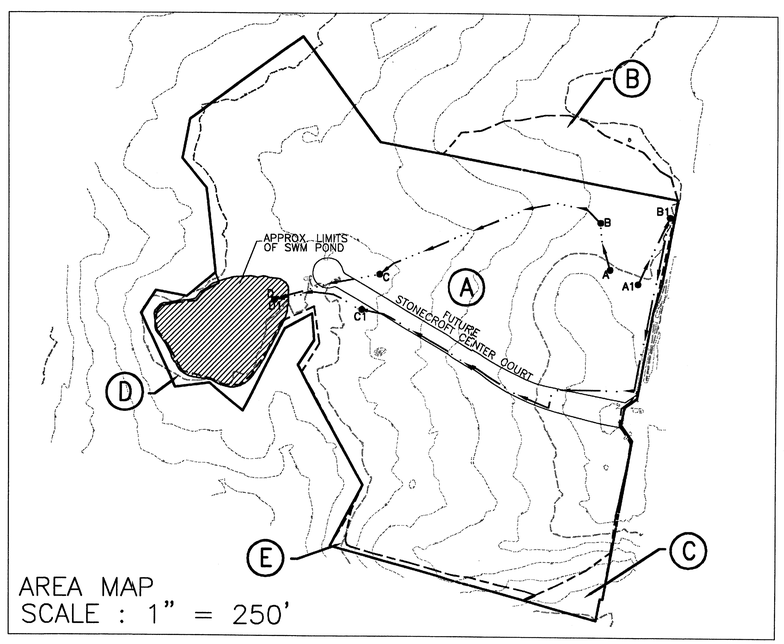
SCALE = 40 — ELEV INTERVAL: .

STAGE VS STORAGE

ELEV FT	AREA SQ IN	AREA SQ FT	AREA SQ FT	H FT	VOL CU FT	TOT VOL CU FT	TOT VOL AC-FT	TOT VOL CU YD
43.00	46.95	75113			0	0	0.00000	0.0
			78475.7	1.00				
44.00	51.15	81838			78475.7	78475.7	1.80155	2906.5
			85314.1	2.00				
46.00	55.49	88790			170628	249104	5.71864	9226.1
			92390.9	2.00				
48.00	59.99	95992			184782	433886	9.96065	16069.8
			99695.5	2.00				
50.00	64.62	103399			199391	633277	14.53803	23454.7
			106802	1.80				
51.80	68.88	110205			192244	825521	18.95135	30464.9

ELEVATION VS STORAGE





AREA MAP
SCALE : 1" = 250'

PCA 1999-SU-018
APPLICATION NO _____ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 11 OF 18

EX. FLOWPATH FOR Tc - SITE
A-B 190 FT SHEET FLOW @ S = 0.78%
B-C 800 FT SHALLOW CONCENT'D FLOW @ S = 0.8%
C-D 400 FT SHALLOW CONCENT'D FLOW @ S = 0.9%
NEW FLOW PATH FOR Tc - TO SWM POND
A1-B1 280 FT SHALLOW CONCENT'D FLOW @ S = 1.50%
B1-C1 1686 FT PIPE FLOW @ V = 6.3 FPS
C1-D1 307 OPEN CHANNEL FLOW @ V = 9.5 FPS

NEW DRAINAGE FLOW PATH FOR TC COMPUTATIONS TO POND C
EX. DRAINAGE FLOW PATH FOR TC COMPUTATIONS TO POND C

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2017
LAND SURVEYOR

				DATE

REVISION APPROVED BY:
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VIKA REVISIONS

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DES. DHH — DWN. CADD
SCALE: N/A
PROJECT/FILE NO. 6278
SHEET NO. 9-B

6278922.dwg 11900 33628

VIKA INCORPORATED
8180 GREENSBORO DRIVE
SUITE 200
McLEAN VIRGINIA 22102

SHEET _____ OF _____
PROJECT: STONECROFT SWM PLAN
COMPUTED BY: XXX

	ORIF 1	ORIF 2			BOX 1	BOX 2			WEIR 1	WEIR 2	
ELEVATION	0.0	0.0	FEET	ELEVATION	43.0	44.75	FT	ELEVATION	47.5	0.0	FT
DIAMETER	0.0	0.0	IN	Height	54.0	33.0	IN	LENGTH	12.5	0.0	FT
C	0.6	0.6		Width	20.0	10.0	IN	C	3.1	3.1	
AR	0.0	0.0	SQ. FT.	C	0.6	0.6					
				AR	7.5000	2.2917	SF				

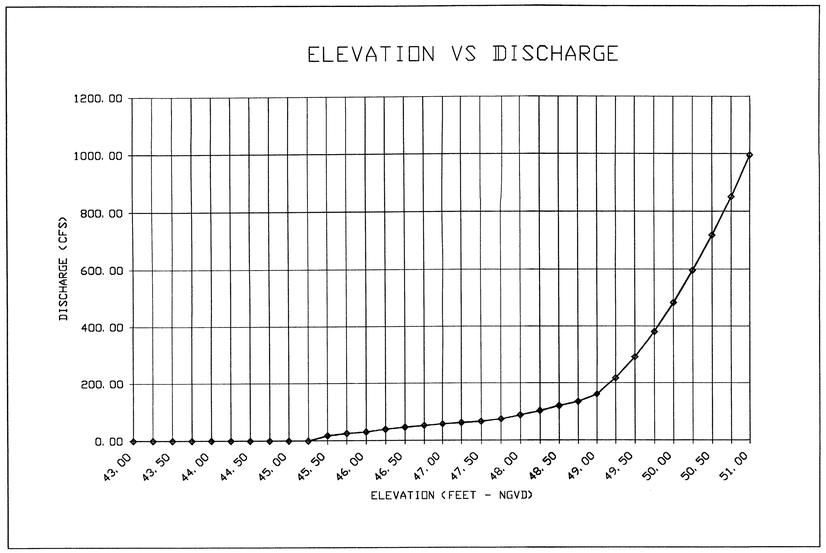
OUTLET STRUCTURE

ELEV. INCRIMENT = =
0.25

OUT ELEV. ---------- 42 FEET
PIPE DIA. ---------- 48 INCHES
Km ---------- 0.65
n ---------- 0.013
L ---------- 200 FEET
(Km = 0.65 RCP, 1.0 CMP)
(n = .013 RCP, .025 CMP)

E. SPILLWAY

ELEVATION = 48.8
LENGTH = 100
SIDE SLOPE = 2 : 1
C= 0.8



STRUCTURE EQUATIONS

INLET CONTROL

ORIFICE, BOX(1):

$$Q = CA\sqrt{2gH}$$

Q = DISCHARGE (CFS)
A = AREA OF ORIFICE (SQ.FT.)
g = GRAVITY = 32.2 (SQ.FT/SEC)
H = WATER SURFACE TO CENTROID OF ORIFICE (FT)

WEIR(1):

$$Q = CLH^{1.5}$$

Q = DISCHARGE (CFS)
C = WEIR COEFFICIENT
L = LENGTH OF WEIR (FT)
H = WATER SURFACE TO WEIR SURFACE

OUTLET CONTROL

BARREL: (1)

$$Q = A\sqrt{\frac{2gh}{1+Km+\frac{(29n^2L)}{R^{4/3}}}}$$

Q = DISCHARGE (CFS)
A = AREA OF BARREL(SQ.FT.)
h = WATER SURFACE TO CENTROID OF BARREL @ THE OUTLET (FT) OR TAILWATER
Km = ENTRANCE COEFFICIENT
n = MANNING'S "n" VALUE
L = LENGTH OF PIPE(FT)
R = HYDRAULIC RADIUS(FT)

EMERGENCY SPILLWAY

EMERGENCY SPILLWAY: (2)

$$Q = 8.03C\sqrt{Hv(H-Hv)[B+Z(H-Hv)]}$$

$$Hv = \frac{3(2ZH+B)-\sqrt{(16Z^2H^2+16ZBH+9B^2)}}{10Z}$$

Q = DISCHARGE (CFS)
C = ENTRANCE COEFFICIENT (0.8 – 1.0)
H = WATER SURFACE TO EMERGENCY SPILLWAY SURFACE CREST (FT)
B = BOTTOM WIDTH OF EMERGENCY SPILLWAY CREST (FT)
Z = SIDE SLOPE (Z:1 [HORIZ.: VERT.])

(1) SCS ENGINEERING FIELD MANUAL
(2) WATER AND WASTEWATER ENGINEERING – VOLUME I: WATER SUPPLY AND WASTEWATER REMOVEL – FAIR, GEYER AND OKUN

COMBINED SPILLWAY JUSTIFICATION

THE RPA IS AT AN ELEVATION OF 48.60 AND THE 10 WSE OF THE POND IS 47.37. DESIGNING AN EMERGENCY SPILLWAY AT THIS ELEVATION WOULD REQUIRE EXTENSIVE GRADING INSIDE THE RPA. TO AVOID THIS, A COMBINATION SPILLWAY IS UTILIZED TO ROUTE THE 2, 10 AND 100 YR. STORMS. A SEPARATE EMERGENCY SPILLWAY HAS BEEN DESIGNED AT AN ELEVATION OF 48.80, WHICH ALLOWS FOR GRADING OUTSIDE OF THE RPA AND WILL BE UTILIZED TO HELP ROUTE THE 100 YR AND 1.5x100 YR. STORM EVENT IN THE EVENT STRUCTURE D1 BECOMES CLOGGED.

STORMWATER DETENTION NARRATIVE

STORMWATER DETENTION WILL BE PROVIDED FOR THE ENTIRE 49.4 ACRES SHED DRAINING TO THE STUDY POINT BELOW THE SWM POND (AREAS A,B,C,D AND E) AREAS A,B,D AND E WILL BE DEVOLOPED FOR COMMERCIAL USE AND AREA C WILL BE SET ASIDE AS UNDEVELOPED OPEN SPACE.

1) PRE-DEVELOPED CONDITIONS:
   Q = 25 CFS (2 YEAR) – SEE SHEET 13
   Q = 66 CFS (10 YEAR) – SEE SHEET 13

2) POST-DEVELOPED CONDITIONS
   Q = 170 CFS (2 YEAR) – SEE SHEET 15
   Q = 306 CFS (10 YEAR) – SEE SHEET 15

3) INCREASED RUNOFF
   Q_2= 170 CFS – 25 CFS = 145 CFS
   Q_{10}= 302 CFS – 66 CFS = 236 CFS

4) POND INFLOW
   Q_2= 170 CFS
   Q_{10}= 302 CFS

5) ALLOWABLE OUTFLOW
   Q_2= 170 CFS – 145 CFS = 25 CFS
   Q_{10}= 302 CFS – 236 CFS = 66 CFS

6) ACTUAL RELEASE RATE FROM THE POND
   Q_2= 22 CFS – SEE SHEET 15
   Q_{10}= 65 CFS – SEE SHEET 15

7) THE 2 & 10 YEARS ACTUAL RELEASE RATES ARE LESS THAN OR EQUAL TO THE 2 & 10 YEAR ALLOWABLE RELEASE RATES. THEREFORE, DESIGN IS OK.

8) THE PRINCIPAL AND EMERGENCY SPILLWAYS ARE COMBINED. THE LOW FLOW WEIR CONTROLLING THE 2 YEAR AND 10 YEAR FLOWS IS ASSUMED CLOGGED AND THE THE NORMAL POOL IS RAISED TO 249.47 TO ROUT THE 100 & 1.5x100 YEAR FLOWS THROUGH THE SPILLWAY. THE TOP OF DAM IS SET 2 FEET HIGHER THAN THE 100 YEAR ELEVATION.

NOTE: SEE SHEET 11 FOR Tc AND CN COMPUTATIONS.

STAGE VS DISCHARGE

W. S. E. ELEV. FEET	ORIF 1 FLOW CFS	ORIF 2 FLOW CFS	BOX 1 FLOW CFS	BOX 2 FLOW CFS	WEIR 1 FLOW CFS	WEIR 2 FLOW CFS	INLET FLOW CFS	OUTLET FLOW CFS	EMERGENCY SPILLWAY CFS	STR. FLOW	TOTAL FLOW
43.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
43.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
43.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
43.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
44.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.0	0.00	0.00
44.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	31.09	0.0	0.00	0.00
44.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.97	0.0	0.00	0.00
44.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.85	0.0	0.00	0.00
45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	62.18	0.0	0.00	0.00
45.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	69.52	0.0	0.00	0.00
45.50	0.00	0.00	18.06	0.00	0.00	0.00	18.06	76.16	0.0	18.06	18.06
45.75	0.00	0.00	25.54	0.00	0.00	0.00	25.54	82.26	0.0	25.54	25.54
46.00	0.00	0.00	31.27	0.00	0.00	0.00	31.27	87.94	0.0	31.27	31.27
46.25	0.00	0.00	36.11	3.90	0.00	0.00	40.01	93.27	0.0	40.01	40.01
46.50	0.00	0.00	40.37	6.76	0.00	0.00	47.13	98.32	0.0	47.13	47.13
46.75	0.00	0.00	44.23	8.72	0.00	0.00	52.95	103.12	0.0	52.95	52.95
47.00	0.00	0.00	47.77	10.32	0.00	0.00	58.09	107.70	0.0	58.09	58.09
47.25	0.00	0.00	51.07	11.70	0.00	0.00	62.77	112.10	0.0	62.77	62.77
47.50	0.00	0.00	54.17	12.94	0.00	0.00	67.11	116.33	0.0	67.11	67.11
47.75	0.00	0.00	57.10	14.07	4.84	0.00	76.01	120.41	0.0	76.01	76.01
48.00	0.00	0.00	59.89	15.11	13.70	0.00	88.70	124.36	0.0	88.70	88.70
48.25	0.00	0.00	62.55	16.09	25.17	0.00	103.80	128.19	0.0	103.80	103.80
48.50	0.00	0.00	65.10	17.01	38.75	0.00	120.86	131.91	0.0	120.86	120.86
48.75	0.00	0.00	67.56	17.88	54.15	0.00	139.59	135.52	0.0	135.52	135.52
49.00	0.00	0.00	69.93	18.71	71.19	0.00	159.83	139.04	22.2	139.04	161.22
49.25	0.00	0.00	72.22	19.51	89.71	0.00	181.44	142.47	75.1	142.47	217.56
49.50	0.00	0.00	74.45	20.27	109.60	0.00	204.32	145.83	146.2	145.83	291.99
49.75	0.00	0.00	76.61	21.01	130.78	0.00	228.40	149.11	231.9	149.11	380.96
50.00	0.00	0.00	78.70	21.72	153.17	0.00	253.60	152.31	330.2	152.31	482.56
50.25	0.00	0.00	80.75	22.41	176.71	0.00	279.87	155.45	440.1	155.45	595.55
50.50	0.00	0.00	82.74	23.08	201.35	0.00	307.17	158.53	560.5	158.53	719.06
50.75	0.00	0.00	84.69	23.73	227.04	0.00	335.46	161.55	690.9	161.55	852.43
51.00	0.00	0.00	86.59	24.36	253.73	0.00	364.69	164.52	830.6	164.52	995.14

PCA 1999-SU-018

APPLICATION NO_____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 12 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

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PROJECT/FILE NO.	6278
SHEET NO.	9–C

6278922.dwg 11900 33628

EXISTING CONDITIONS

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*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20                    FULLPRINT            SUMMARY
TITLE     STONECROFT SWM POND
TITLE     FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT
 6 RUNOFF 1 001        1    0.0771875        75.0      1.10  1 1      1
   ENDATA
 7 INCREM 6                     .1
 7 COMPUT 7 001    001                       3.2  1.0        2 2  01  02
   ENDCMP 1
 7 COMPUT 7 001    001                       5.3  1.0        2 2  01  10
   ENDCMP 1
 7 COMPUT 7 001    001                       7.3  1.0        2 2  01  99
   ENDCMP 1
   ENDJOB 2

*******************************END OF 80-80 LIST*******************************
```

1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
05/17/** FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT 2.04TEST
11:13:07 PASS 1 JOB NO. 1 PAGE 2

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .100 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1
STARTING TIME = .00 RAIN DEPTH = 3.20 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 75. TIME OF CONCENTRATION = 1.10 HOURS
COMPUTED INTERNAL TIME INCREMENT = .1015 HOURS

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.60 25.3 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .08 SQ. MI.

11.60 CFS	.50	.81	1.50	2.98	5.61	9.38	14.01	18.71
12.40 CFS	22.43	24.63	25.33	24.75	23.19	20.96	18.47	16.19
13.20 CFS	14.30	12.73	11.39	10.24	9.25	8.42	7.70	7.08
14.00 CFS	6.54	6.08	5.67	5.31	5.00	4.72	4.48	4.27
14.80 CFS	4.09	3.93	3.79	3.66	3.54	3.43	3.33	3.24
15.60 CFS	3.17	3.09	3.02	2.95	2.88	2.82	2.75	2.69
16.40 CFS	2.62	2.57	2.51	2.46	2.42	2.37	2.34	2.30
17.20 CFS	2.27	2.24	2.21	2.19	2.16	2.14	2.11	2.09
18.00 CFS	2.06	2.04	2.01	1.99	1.97	1.94	1.92	1.90
18.80 CFS	1.87	1.85	1.82	1.80	1.78	1.75	1.73	1.70
19.60 CFS	1.68	1.65	1.63	1.61	1.58	1.56	1.53	1.51
20.40 CFS	1.49	1.46	1.45	1.43	1.41	1.40	1.39	1.38
21.20 CFS	1.37	1.36	1.35	1.35	1.34	1.34	1.33	1.32
22.00 CFS	1.32	1.31	1.31	1.30	1.30	1.30	1.29	1.29
22.80 CFS	1.28	1.28	1.27	1.27	1.26	1.26	1.25	1.25
23.60 CFS	1.25	1.24	1.24	1.23	1.23	1.21	1.19	1.14
24.40 CFS	1.06	.95	.83	.70	.58	.47		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
1.09 WATERSHED INCHES; 54 CFS-HRS; 4.5 ACRE-FEET.

--- XSECTION 1, ALTERNATE 1, STORM 2, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1
1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
05/17/** FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT 2.04TEST
11:13:07 PASS 2 JOB NO. 1 PAGE 3

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1
STARTING TIME = .00 RAIN DEPTH = 5.30 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 75. TIME OF CONCENTRATION = 1.10 HOURS
COMPUTED INTERNAL TIME INCREMENT = .1015 HOURS

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.57 66.4 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .08 SQ. MI.

9.70 CFS	.45	.52	.59	.67	.76	.86	.97	1.09
10.50 CFS	1.22	1.37	1.53	1.72	1.93	2.17	2.43	2.74
11.30 CFS	3.10	3.51	4.02	4.74	5.95	8.30	12.76	20.00
12.10 CFS	29.93	41.53	52.74	61.19	65.66	66.28	63.71	58.80
12.90 CFS	52.43	45.66	39.57	34.57	30.45	26.97	24.00	21.49
13.70 CFS	19.37	17.57	16.02	14.69	13.55	12.57	11.71	10.96
14.50 CFS	10.30	9.73	9.23	8.81	8.44	8.11	7.81	7.53
15.30 CFS	7.27	7.04	6.85	6.68	6.52	6.36	6.21	6.06
16.10 CFS	5.91	5.77	5.63	5.49	5.37	5.25	5.14	5.04
16.90 CFS	4.95	4.87	4.80	4.73	4.66	4.60	4.54	4.48
17.70 CFS	4.43	4.37	4.32	4.27	4.22	4.16	4.11	4.06
18.50 CFS	4.01	3.96	3.91	3.86	3.81	3.75	3.70	3.65
19.30 CFS	3.60	3.55	3.50	3.45	3.40	3.34	3.29	3.24
20.10 CFS	3.19	3.14	3.09	3.04	2.99	2.95	2.92	2.88
20.90 CFS	2.86	2.83	2.81	2.79	2.77	2.76	2.75	2.73
21.70 CFS	2.72	2.71	2.70	2.68	2.67	2.66	2.65	2.64
22.50 CFS	2.63	2.62	2.61	2.60	2.59	2.58	2.57	2.56
23.30 CFS	2.55	2.54	2.53	2.52	2.51	2.50	2.49	2.48
24.10 CFS	2.45	2.39	2.29	2.13	1.92	1.68	1.42	1.18
24.90 CFS	.95	.76	.60	.47				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.69 WATERSHED INCHES; 134 CFS-HRS; 11.1 ACRE-FEET.

--- XSECTION 1, ALTERNATE 1, STORM 10, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2
1

TR20 -- SCS -
STONECROFT SWM POND — VERSION
05/17/** FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT 2.04TEST
11:13:07 PASS 3 JOB NO. 1 PAGE 4

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO XSECTION 1
STARTING TIME = .00 RAIN DEPTH = 7.30 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .100 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 75. TIME OF CONCENTRATION = 1.10 HOURS
COMPUTED INTERNAL TIME INCREMENT = .1015 HOURS

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.55 110.6 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .100 hr, DRAINAGE AREA = .08 SQ. MI.

8.20 CFS	.48	.55	.62	.69	.77	.86	.95	1.05
9.00 CFS	1.17	1.28	1.41	1.54	1.68	1.82	1.96	2.10
9.80 CFS	2.24	2.38	2.54	2.70	2.89	3.09	3.32	3.58
10.60 CFS	3.87	4.19	4.55	4.95	5.40	5.91	6.48	7.14
11.40 CFS	7.91	8.84	10.12	12.22	16.18	23.70	35.91	52.45
12.20 CFS	71.72	90.12	103.46	109.91	110.02	104.93	96.14	85.06
13.00 CFS	73.43	63.31	55.13	48.39	42.71	37.85	33.77	30.35
13.80 CFS	27.42	24.92	22.78	20.96	19.39	18.02	16.82	15.78
14.60 CFS	14.88	14.10	13.43	12.85	12.33	11.85	11.40	11.00
15.40 CFS	10.65	10.36	10.09	9.84	9.60	9.37	9.14	8.91
16.20 CFS	8.69	8.48	8.27	8.08	7.90	7.73	7.58	7.44
17.00 CFS	7.32	7.21	7.10	7.00	6.91	6.81	6.73	6.64
17.80 CFS	6.56	6.48	6.40	6.32	6.24	6.16	6.08	6.00
18.60 CFS	5.92	5.85	5.77	5.69	5.61	5.54	5.46	5.38
19.40 CFS	5.30	5.23	5.15	5.07	4.99	4.91	4.84	4.76
20.20 CFS	4.68	4.61	4.53	4.47	4.40	4.35	4.30	4.26
21.00 CFS	4.22	4.19	4.16	4.13	4.11	4.09	4.07	4.05
21.80 CFS	4.03	4.01	3.99	3.98	3.96	3.94	3.93	3.91
22.60 CFS	3.90	3.88	3.87	3.85	3.84	3.82	3.81	3.79
23.40 CFS	3.78	3.76	3.74	3.73	3.71	3.70	3.68	3.64
24.20 CFS	3.55	3.40	3.17	2.85	2.49	2.11	1.75	1.41
25.00 CFS	1.12	.88	.70	.55	.44			

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.41 WATERSHED INCHES; 220 CFS-HRS; 18.2 ACRE-FEET.

--- XSECTION 1, ALTERNATE 1, STORM 99, HYDROGRAPH ADDED TO READHD FILE ---

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 3
1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
05/17/** FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT 2.04TEST
11:13:07 PASS 4 JOB NO. 1 PAGE 5
1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
05/17/** FILE NAME: D:\PROJECTS\6278\SWMEXIST.DAT 2.04TEST
11:13:07 SUMMARY, JOB NO. 1 PAGE 6

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID		STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 3.20 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs. RAINTABLE NUMBER 2, ARC 2 MAIN TIME INCREMENT .100 HOURS								
ALTERNATE 1 STORM 2								
XSECTION	1	RUNOFF	.08	1.09	---	12.60	25	312.5
RAINFALL OF 5.30 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.								
ALTERNATE 1 STORM 10								
XSECTION	1	RUNOFF	.08	2.69	---	12.57	66	825.0
RAINFALL OF 7.30 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.								
ALTERNATE 1 STORM 99								
XSECTION	1	RUNOFF	.08	4.41	---	12.55	111	1387.5

1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
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11:13:07 SUMMARY, JOB NO. 1 PAGE 7

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.......... 2	10	99
XSECTION 1	.08			
ALTERNATE 1		25	66	111

1
TR20 -- SCS -
STONECROFT SWM POND — VERSION
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END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = d:\projects\6278\swmexist.dat , GIVEN DATA FILE
OUTPUT = d:\projects\6278\swmexist.OUT , DATED 05/17/**, 11:13:07

FILES GENERATED - DATED 05/17/**, 11:13:07

FILE d:\projects\6278\swmexist.TRD CONTAINS READHD INFORMATION

FILE d:\projects\6278\swmexist.TMG CONTAINS MESSAGE + WARNING INFORMATION

TOTAL NUMBER OF WARNINGS = 0, MESSAGES = 0

*** TR-20 RUN COMPLETED ***

PCA 1999-SU-018
APPLICATION NO ____ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS)(PC) APPROVAL 2/7/05
SHEET 13 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
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 BETHESDA, MD

STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM
COMPUTATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
DATE: FEB, 2000
DES. DHH DWN. CADD
SCALE: N/A
PROJECT/FILE NO. 6278
SHEET NO. 9-D

6278922.dwg 11900 33628

PROPOSED 2, 10 & 100 YR ROUTING

*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20 FULLPRINT SUMMARY
TITLE STONECROFT SWM POND
TITLE FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT
3 STRUCT 01

8	43.00	0.00	0.00000
8	45.50	18.06	4.73937
8	45.75	25.54	5.22901
8	46.00	31.27	5.71864
8	46.25	40.01	6.24889
8	46.50	47.13	6.77914
8	47.00	58.09	7.83699
8	47.25	62.77	8.3699
8	47.50	67.11	8.90015
8	47.75	76.01	9.4304
8	48.00	88.70	9.96065
8	48.25	103.80	10.5328
8	48.50	120.86	11.105
8	48.75	135.52	11.6772
8	49.00	161.22	12.2493
8	49.50	291.99	13.3937
8	50.00	482.56	14.5380
8	50.50	719.06	15.7686
8	51.00	995.14	16.9992

9 ENDTBL
6 RUNOFF 1 001 1 0.0771875 93.0 0.11 1 1 1
6 RESVOR 2 01 1 2 43.00 1 1 1
ENDATA
7 INCREM 6 .05
7 COMPUT 7 001 01 3.2 1.0 2 2 01 02
ENDCMP 1
7 COMPUT 7 001 01 5.3 1.0 2 2 01 10
ENDCMP 1
7 COMPUT 7 001 01 7.3 1.0 2 2 01 99
ENDCMP 1
ENDJOB 2

********************************END OF 80-80 LIST********************************

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
05/18/** FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT 2.04TEST
16:05:19 PASS 1 JOB NO. 1 PAGE 1

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 3.20 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. = 2 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 93. TIME OF CONCENTRATION = .11 HOURS
COMPUTED INTERNAL TIME INCREMENT = .0189 HOURS

PEAK TIME(HRS) 11.94 PEAK DISCHARGE(CFS) 170.2 PEAK ELEVATION(FEET) (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

5.60 CFS	.49	.50	.52	.54	.56	.57	.59	.61
6.00 CFS	.63	.65	.67	.68	.70	.72	.74	.76
6.40 CFS	.78	.80	.82	.83	.86	.87	.89	.91
6.80 CFS	.93	.95	.97	.99	1.01	1.03	1.05	1.07
7.20 CFS	1.09	1.11	1.13	1.15	1.17	1.19	1.22	1.24
7.60 CFS	1.26	1.28	1.30	1.32	1.34	1.36	1.38	1.40
8.00 CFS	1.42	1.45	1.49	1.52	1.57	1.62	1.67	1.72
8.40 CFS	1.78	1.83	1.89	1.94	2.00	2.05	2.11	2.17
8.80 CFS	2.23	2.29	2.35	2.41	2.47	2.52	2.57	2.61
9.20 CFS	2.64	2.66	2.68	2.70	2.73	2.75	2.77	2.81
9.60 CFS	2.86	2.93	3.02	3.11	3.21	3.30	3.40	3.50
10.00 CFS	3.61	3.71	3.84	3.96	4.11	4.25	4.41	4.55
10.40 CFS	4.71	4.85	5.02	5.19	5.40	5.61	5.87	6.10
10.80 CFS	6.37	6.62	6.90	7.15	7.44	7.77	8.21	8.68
11.20 CFS	9.30	9.87	10.54	11.13	11.82	12.44	13.17	16.89
11.60 CFS	24	34	49	66	87	117	161	170
12.00 CFS	152	118	66	40	30	26	23	21
12.40 CFS	19.21	17.65	15.86	14.58	13.37	12.66	12.14	11.74
12.80 CFS	11.32	10.97	10.55	10.20	9.79	9.47	9.14	8.90
13.20 CFS	8.66	8.46	8.24	8.05	7.83	7.63	7.41	7.23
13.60 CFS	7.04	6.88	6.72	6.58	6.42	6.28	6.12	5.98
14.00 CFS	5.83	5.71	5.60	5.52	5.45	5.40	5.35	5.30
14.40 CFS	5.24	5.19	5.14	5.09	5.03	4.98	4.94	4.89
14.80 CFS	4.83	4.78	4.73	4.68	4.62	4.57	4.52	4.47
15.20 CFS	4.41	4.36	4.31	4.26	4.20	4.15	4.10	4.05
15.60 CFS	3.99	3.94	3.89	3.84	3.78	3.73	3.68	3.63
16.00 CFS	3.57	3.53	3.49	3.47	3.44	3.42	3.40	3.39
16.40 CFS	3.36	3.35	3.33	3.31	3.29	3.27	3.26	3.24
16.80 CFS	3.22	3.20	3.18	3.16	3.14	3.12	3.11	3.09
17.20 CFS	3.07	3.05	3.03	3.01	2.99	2.97	2.96	2.94
17.60 CFS	2.92	2.90	2.88	2.86	2.84	2.82	2.81	2.79

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
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18.00 CFS	2.77	2.75	2.73	2.71	2.69	2.67	2.66	2.64
18.40 CFS	2.62	2.60	2.58	2.56	2.54	2.52	2.51	2.49
18.80 CFS	2.47	2.45	2.43	2.41	2.39	2.37	2.36	2.34
19.20 CFS	2.31	2.30	2.28	2.26	2.24	2.22	2.20	2.19
19.60 CFS	2.16	2.15	2.13	2.11	2.09	2.07	2.05	2.03
20.00 CFS	2.01	2.00	1.99	1.98	1.97	1.97	1.97	1.96
20.40 CFS	1.96	1.95	1.95	1.95	1.94	1.94	1.94	1.93
20.80 CFS	1.93	1.92	1.92	1.92	1.91	1.91	1.91	1.90
21.20 CFS	1.90	1.89	1.89	1.89	1.88	1.88	1.88	1.87
21.60 CFS	1.87	1.86	1.86	1.86	1.85	1.85	1.85	1.84
22.00 CFS	1.84	1.83	1.83	1.83	1.82	1.82	1.82	1.81
22.40 CFS	1.81	1.80	1.80	1.80	1.79	1.79	1.79	1.78
22.80 CFS	1.78	1.77	1.77	1.77	1.76	1.76	1.76	1.75
23.20 CFS	1.75	1.74	1.74	1.74	1.73	1.73	1.73	1.72
23.60 CFS	1.72	1.71	1.71	1.71	1.70	1.70		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.43 WATERSHED INCHES; 121 CFS-HRS; 10.0 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH 1 OUTPUT HYDROGRAPH 2
SURFACE ELEVATION = 43.00

PEAK TIME(HRS) 12.32 PEAK DISCHARGE(CFS) 22.3 PEAK ELEVATION(FEET) 45.64

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM = 2
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

4.35 CFS	.00	.01	.01	.01	.01	.01	.02	.02
4.75 CFS	.02	.02	.03	.03	.03	.04	.04	.05
5.15 CFS	.05	.06	.06	.07	.07	.08	.08	.09
5.55 CFS	.09	.10	.10	.11	.12	.12	.13	.14
5.95 CFS	.15	.15	.16	.17	.18	.18	.19	.20
6.35 CFS	.21	.22	.23	.24	.25	.25	.26	.27
6.75 CFS	.28	.29	.30	.31	.32	.34	.35	.36
7.15 CFS	.37	.38	.39	.40	.41	.43	.44	.45
7.55 CFS	.46	.47	.49	.50	.51	.52	.54	.55
7.95 CFS	.56	.58	.59	.60	.62	.63	.65	.66
8.35 CFS	.68	.70	.71	.73	.75	.77	.79	.81
8.75 CFS	.83	.85	.87	.89	.92	.94	.97	.99
9.15 CFS	1.02	1.04	1.07	1.09	1.12	1.14	1.17	1.19
9.55 CFS	1.22	1.24	1.27	1.29	1.32	1.35	1.38	1.41
9.95 CFS	1.44	1.48	1.51	1.54	1.58	1.62	1.66	1.70
10.35 CFS	1.74	1.79	1.84	1.89	1.94	1.99	2.04	2.10
10.75 CFS	2.16	2.22	2.29	2.36	2.43	2.51	2.59	2.67
11.15 CFS	2.76	2.86	2.97	3.08	3.20	3.33	3.47	3.61
11.55 CFS	3.79	4.05	4.44	5.03	5.85	6.95	8.43	10.47
11.95 CFS	12.89	15.20	17.08	18.81	20.91	21.77	22.14	22.26
12.35 CFS	22.24	22.11	21.89	21.57	21.18	20.74	20.27	19.79
12.75 CFS	19.31	18.83	18.36	18.02	17.90	17.78	17.65	17.52

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
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13.15 CFS	17.38	17.25	17.11	16.98	16.84	16.70	16.56	16.42
13.55 CFS	16.28	16.13	15.99	15.85	15.70	15.56	15.42	15.27
13.95 CFS	15.13	14.98	14.84	14.70	14.55	14.41	14.27	14.13
14.35 CFS	14.00	13.86	13.72	13.59	13.46	13.33	13.20	13.07
14.75 CFS	12.94	12.81	12.69	12.56	12.44	12.32	12.20	12.08
15.15 CFS	11.96	11.84	11.73	11.61	11.50	11.38	11.27	11.16
15.55 CFS	11.05	10.94	10.83	10.72	10.62	10.51	10.40	10.30
15.95 CFS	10.19	10.09	9.99	9.89	9.79	9.69	9.59	9.49
16.35 CFS	9.40	9.31	9.21	9.12	9.03	8.94	8.85	8.76
16.75 CFS	8.68	8.59	8.51	8.43	8.34	8.26	8.18	8.10
17.15 CFS	8.03	7.95	7.87	7.80	7.72	7.65	7.58	7.50
17.55 CFS	7.43	7.36	7.29	7.22	7.16	7.09	7.02	6.96
17.95 CFS	6.89	6.83	6.76	6.70	6.64	6.58	6.52	6.46
18.35 CFS	6.40	6.34	6.28	6.22	6.16	6.11	6.05	6.00
18.75 CFS	5.94	5.89	5.83	5.78	5.73	5.68	5.63	5.57
19.15 CFS	5.52	5.47	5.42	5.38	5.33	5.28	5.23	5.18
19.55 CFS	5.14	5.09	5.05	5.00	4.95	4.91	4.87	4.82
19.95 CFS	4.78	4.74	4.69	4.65	4.61	4.57	4.53	4.49
20.35 CFS	4.45	4.41	4.37	4.33	4.30	4.26	4.22	4.19
20.75 CFS	4.15	4.12	4.08	4.05	4.02	3.98	3.95	3.92
21.15 CFS	3.89	3.86	3.83	3.80	3.77	3.74	3.71	3.68
21.55 CFS	3.65	3.62	3.60	3.57	3.54	3.51	3.49	3.46
21.95 CFS	3.44	3.41	3.39	3.36	3.34	3.32	3.29	3.27
22.35 CFS	3.25	3.22	3.20	3.18	3.16	3.14	3.12	3.10
22.75 CFS	3.08	3.06	3.04	3.02	3.00	2.98	2.96	2.94
23.15 CFS	2.92	2.90	2.88	2.87	2.85	2.83	2.81	2.80
23.55 CFS	2.78	2.76	2.75	2.73	2.72	2.70	2.68	

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
2.26 WATERSHED INCHES; 113 CFS-HRS; 9.3 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

1
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EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 5.30 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =10 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 93. TIME OF CONCENTRATION = .11 HOURS
COMPUTED INTERNAL TIME INCREMENT = .0189 HOURS

PEAK TIME(HRS) 11.94 PEAK DISCHARGE(CFS) 302.1 PEAK ELEVATION(FEET) (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

3.45 CFS	.48	.51	.54	.57	.59	.63	.65	.68
3.85 CFS	.71	.74	.76	.79	.82	.85	.88	.91
4.25 CFS	.94	.97	1.00	1.04	1.07	1.10	1.13	1.17
4.65 CFS	1.20	1.23	1.26	1.30	1.33	1.36	1.40	1.43
5.05 CFS	1.46	1.50	1.53	1.57	1.60	1.64	1.67	1.71
5.45 CFS	1.74	1.78	1.81	1.85	1.88	1.92	1.95	1.99
5.85 CFS	2.02	2.06	2.09	2.13	2.16	2.20	2.23	2.27
6.25 CFS	2.31	2.35	2.38	2.42	2.45	2.49	2.52	2.56
6.65 CFS	2.60	2.64	2.67	2.71	2.74	2.78	2.82	2.86
7.05 CFS	2.89	2.93	2.96	3.00	3.04	3.08	3.11	3.15
7.45 CFS	3.18	3.22	3.26	3.30	3.33	3.37	3.40	3.44
7.85 CFS	3.48	3.52	3.55	3.59	3.64	3.71	3.79	3.90
8.25 CFS	3.99	4.11	4.21	4.32	4.43	4.55	4.65	4.77
8.65 CFS	4.88	5.00	5.11	5.24	5.35	5.48	5.59	5.72
9.05 CFS	5.81	5.90	5.95	5.99	6.02	6.05	6.08	6.11
9.45 CFS	6.14	6.17	6.22	6.32	6.45	6.63	6.80	7.00
9.85 CFS	7.17	7.38	7.55	7.76	7.96	8.20	8.44	8.73
10.25 CFS	8.99	9.29	9.56	9.87	10.14	10.46	10.77	11.16
10.65 CFS	11.55	12.04	12.48	13.00	13.45	13.97	14.43	14.96
11.05 CFS	15.57	16.38	17.27	18.44	19.49	20.72	21.81	23.07
11.45 CFS	24	26	33	46	65	93	122	160
11.85 CFS	212	287	301	268	207	115	69	52
12.25 CFS	44.15	39.50	36.26	33.13	30.43	27.30	25.09	23.03
12.65 CFS	21.79	20.88	20.20	19.47	18.84	18.14	17.52	16.81
13.05 CFS	16.26	15.69	15.27	14.86	14.52	14.14	13.80	13.42
13.45 CFS	13.09	12.70	12.39	12.06	11.79	11.51	11.27	10.99
13.85 CFS	10.75	10.48	10.24	9.97	9.77	9.58	9.45	9.32
14.25 CFS	9.24	9.15	9.06	8.96	8.88	8.79	8.71	8.60
14.65 CFS	8.52	8.43	8.35	8.24	8.16	8.07	7.99	7.89
15.05 CFS	7.80	7.72	7.63	7.53	7.44	7.36	7.27	7.17
15.45 CFS	7.08	7.00	6.91	6.81	6.72	6.64	6.55	6.45
15.85 CFS	6.36	6.28	6.19	6.09	6.02	5.95	5.91	5.86
16.25 CFS	5.83	5.80	5.77	5.73	5.70	5.68	5.65	5.61
16.65 CFS	5.58	5.55	5.52	5.48	5.45	5.42	5.39	5.35

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17.05 CFS	5.32	5.29	5.26	5.22	5.19	5.16	5.13	5.09
17.45 CFS	5.06	5.03	5.00	4.96	4.93	4.91	4.88	4.84
17.85 CFS	4.81	4.78	4.75	4.71	4.68	4.65	4.62	4.58
18.25 CFS	4.55	4.52	4.49	4.45	4.42	4.39	4.36	4.32
18.65 CFS	4.29	4.26	4.23	4.19	4.16	4.13	4.10	4.06
19.05 CFS	4.03	4.00	3.97	3.93	3.90	3.88	3.84	3.81
19.45 CFS	3.78	3.75	3.72	3.68	3.65	3.62	3.59	3.55
19.85 CFS	3.52	3.49	3.46	3.42	3.39	3.38	3.36	3.35
20.25 CFS	3.34	3.34	3.33	3.32	3.32	3.31	3.31	3.30
20.65 CFS	3.29	3.29	3.28	3.27	3.27	3.26	3.26	3.25
21.05 CFS	3.24	3.24	3.23	3.22	3.21	3.21	3.21	3.19
21.45 CFS	3.19	3.19	3.18	3.17	3.16	3.16	3.15	3.14
21.85 CFS	3.14	3.14	3.13	3.12	3.11	3.11	3.10	3.09
22.25 CFS	3.09	3.08	3.08	3.07				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.38 WATERSHED INCHES; 218 CFS-HRS; 18.0 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH 1 OUTPUT HYDROGRAPH 2
SURFACE ELEVATION = 43.00

PEAK TIME(HRS) 12.17 PEAK DISCHARGE(CFS) 64.8 PEAK ELEVATION(FEET) 47.37

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =10
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

2.80 CFS	.00	.01	.01	.01	.01	.02	.02	.03
3.20 CFS	.03	.04	.04	.05	.05	.06	.07	.07
3.60 CFS	.08	.09	.10	.11	.11	.12	.13	.14
4.00 CFS	.15	.16	.17	.18	.19	.21	.22	.23
4.40 CFS	.24	.25	.27	.28	.29	.31	.32	.34
4.80 CFS	.35	.37	.38	.40	.41	.43	.45	.46
5.20 CFS	.48	.50	.51	.53	.55	.57	.59	.61
5.60 CFS	.63	.64	.66	.68	.70	.72	.74	.77
6.00 CFS	.79	.81	.83	.85	.87	.89	.92	.94
6.40 CFS	.96	.99	1.01	1.03	1.06	1.08	1.10	1.13
6.80 CFS	1.15	1.18	1.20	1.23	1.25	1.28	1.30	1.33
7.20 CFS	1.35	1.38	1.41	1.43	1.46	1.49	1.51	1.54
7.60 CFS	1.57	1.59	1.62	1.65	1.68	1.70	1.73	1.76
8.00 CFS	1.79	1.82	1.85	1.88	1.91	1.94	1.97	2.01
8.40 CFS	2.04	2.08	2.12	2.15	2.19	2.24	2.28	2.32
8.80 CFS	2.37	2.41	2.46	2.51	2.56	2.61	2.66	2.71
9.20 CFS	2.76	2.81	2.86	2.91	2.96	3.01	3.06	3.11
9.60 CFS	3.16	3.21	3.26	3.31	3.37	3.43	3.49	3.55
10.00 CFS	3.61	3.68	3.75	3.82	3.89	3.97	4.05	4.14
10.40 CFS	4.22	4.31	4.41	4.50	4.61	4.71	4.82	4.94
10.80 CFS	5.06	5.19	5.32	5.46	5.60	5.75	5.91	6.09
11.20 CFS	6.27	6.47	6.68	6.91	7.15	7.41	7.68	8.02
11.60 CFS	8.50	9.24	10.32	11.84	13.86	16.55	26.18	41.47

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12.00 CFS	52.92	60.27	63.78	64.72	64.59	64.03	63.30	62.43
12.40 CFS	61.44	60.38	59.26	58.08	56.65	55.22	53.80	52.40
12.80 CFS	51.04	49.70	48.39	47.11	45.49	43.93	42.42	40.96
13.20 CFS	39.47	37.84	36.29	34.82	33.42	32.09	30.95	30.08
13.60 CFS	29.24	28.42	27.63	26.86	26.12	25.36	24.46	23.60
14.00 CFS	22.77	21.98	21.23	20.51	19.83	19.18	18.57	18.04
14.40 CFS	17.90	17.76	17.62	17.48	17.35	17.21	17.07	16.94
14.80 CFS	16.80	16.67	16.53	16.40	16.27	16.14	16.01	15.88
15.20 CFS	15.75	15.62	15.49	15.36	15.23	15.11	14.98	14.86
15.60 CFS	14.73	14.61	14.48	14.36	14.24	14.11	13.99	13.87
16.00 CFS	13.75	13.63	13.51	13.39	13.27	13.16	13.04	12.93
16.40 CFS	12.82	12.71	12.60	12.49	12.38	12.28	12.17	12.07
16.80 CFS	11.97	11.86	11.76	11.66	11.57	11.47	11.37	11.28
17.20 CFS	11.18	11.09	11.00	10.91	10.81	10.73	10.64	10.55
17.60 CFS	10.46	10.38	10.29	10.21	10.12	10.04	9.96	9.88
18.00 CFS	9.80	9.72	9.64	9.56	9.48	9.40	9.33	9.25
18.40 CFS	9.18	9.10	9.03	8.96	8.89	8.81	8.74	8.67
18.80 CFS	8.60	8.53	8.47	8.40	8.33	8.26	8.20	8.13
19.20 CFS	8.07	8.00	7.94	7.87	7.81	7.75	7.69	7.62
19.60 CFS	7.56	7.50	7.44	7.38	7.32	7.26	7.20	7.15
20.00 CFS	7.09	7.03	6.97	6.92	6.86	6.81	6.75	6.70
20.40 CFS	6.65	6.59	6.54	6.49	6.44	6.39	6.34	6.30
20.80 CFS	6.25	6.20	6.16	6.11	6.07	6.02	5.98	5.94
21.20 CFS	5.89	5.85	5.81	5.77	5.73	5.69	5.65	5.61
21.60 CFS	5.58	5.54	5.50	5.46	5.43	5.39	5.36	5.32
22.00 CFS	5.29	5.25	5.22	5.19	5.15	5.12	5.09	5.06
22.40 CFS	5.03							

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
4.06 WATERSHED INCHES; 202 CFS-HRS; 16.7 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
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EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 7.30 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 93. TIME OF CONCENTRATION = .11 HOURS
COMPUTED INTERNAL TIME INCREMENT = .0264 HOURS

PEAK TIME(HRS) 11.94 PEAK DISCHARGE(CFS) 419.5 PEAK ELEVATION(FEET) (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

2.45 CFS	.46	.51	.56	.60	.65	.70	.74	.79
2.85 CFS	.83	.88	.93	.97	1.01	1.06	1.11	1.15
3.25 CFS	1.19	1.24	1.28	1.33	1.37	1.41	1.46	1.50
3.65 CFS	1.54	1.59	1.63	1.67	1.71	1.75	1.79	1.83
4.05 CFS	1.87	1.92	1.96	2.01	2.06	2.11	2.16	2.21
4.45 CFS	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60
4.85 CFS	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00
5.25 CFS	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40
5.65 CFS	3.45	3.50	3.55	3.61	3.65	3.71	3.76	3.81
6.05 CFS	3.86	3.91	3.96	4.01	4.06	4.11	4.16	4.21
6.45 CFS	4.26	4.32	4.36	4.42	4.47	4.52	4.57	4.62
6.85 CFS	4.67	4.72	4.77	4.82	4.87	4.92	4.97	5.02
7.25 CFS	5.07	5.12	5.17	5.22	5.27	5.32	5.37	5.42
7.65 CFS	5.47	5.52	5.57	5.62	5.67	5.72	5.77	5.82
8.05 CFS	5.89	5.99	6.11	6.27	6.42	6.58	6.74	6.91
8.45 CFS	7.06	7.24	7.40	7.57	7.73	7.91	8.07	8.25
8.85 CFS	8.42	8.60	8.76	8.95	9.08	9.20	9.27	9.32
9.25 CFS	9.36	9.39	9.42	9.45	9.48	9.51	9.59	9.72
9.65 CFS	9.91	10.16	10.41	10.69	10.95	11.24	11.50	11.79
10.05 CFS	12.09	12.43	12.78	13.19	13.58	14.01	14.40	14.84
10.45 CFS	15.23	15.67	16.13	16.68	17.26	17.94	18.59	19.31
10.85 CFS	19.97	20.70	21.37	22.11	23.00	24.13	25.44	27.04
11.25 CFS	28.58	30.33	31.91	33.66	35.29	37.57	47.85	66.19
11.65 CFS	94	132	174	228	302	399	418	374
12.05 CFS	287	165	100	74	63	55	51	46
12.45 CFS	42.37	38.24	35.03	32.18	30.41	29.12	28.13	27.13
12.85 CFS	26.23	25.27	24.38	23.43	22.63	21.86	21.26	20.69
13.25 CFS	20.20	19.68	19.19	18.68	18.20	17.69	17.24	16.78
13.65 CFS	16.40	16.01	15.66	15.29	14.95	14.58	14.24	13.87
14.05 CFS	13.58	13.32	13.13	12.96	12.84	12.72	12.59	12.45
14.45 CFS	12.33	12.22	12.10	11.95	11.83	11.72	11.60	11.46
14.85 CFS	11.34	11.22	11.10	10.96	10.84	10.72	10.60	10.46
15.25 CFS	10.34	10.22	10.10	9.96	9.84	9.72	9.60	9.45
15.65 CFS	9.34	9.22	9.10	8.96	8.84	8.72	8.60	8.45

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16.05 CFS	8.35	8.27	8.20	8.14	8.10	8.06	8.01	7.96
16.45 CFS	7.92	7.88	7.83	7.78	7.74	7.70	7.66	7.60
16.85 CFS	7.56	7.52	7.48	7.42	7.38	7.34	7.30	7.25
17.25 CFS	7.20	7.16	7.12	7.07	7.03	6.98	6.94	6.89
17.65 CFS	6.85	6.81	6.76	6.71	6.67	6.63	6.58	6.53
18.05 CFS	6.49	6.45	6.40	6.35	6.31	6.27	6.23	6.17
18.45 CFS	6.13	6.09	6.05	5.99	5.95	5.91	5.87	5.82
18.85 CFS	5.77	5.73	5.69	5.64	5.59	5.55	5.51	5.46
19.25 CFS	5.42	5.37	5.33	5.28	5.24	5.20	5.15	5.10
19.65 CFS	5.06	5.02	4.97	4.92	4.88	4.84	4.79	4.74
20.05 CFS	4.71	4.68	4.66	4.64	4.63	4.63	4.62	4.61
20.45 CFS	4.60	4.60	4.59	4.57	4.56	4.56	4.55	4.53
20.85 CFS	4.53	4.52	4.51	4.50	4.49	4.49	4.48	4.46
21.25 CFS	4.46	4.45	4.44	4.43	4.42	4.42	4.41	4.39
21.65 CFS	4.38	4.38	4.37					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.25 WATERSHED INCHES; 311 CFS-HRS; 25.7 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH 1 OUTPUT HYDROGRAPH 2
SURFACE ELEVATION = 43.00

PEAK TIME(HRS) 12.12 PEAK DISCHARGE(CFS) 134.9 PEAK ELEVATION(FEET) 48.74

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

2.10 CFS	.00	.01	.01	.01	.02	.02	.03	.03
2.50 CFS	.04	.05	.06	.07	.08	.09	.10	.11
2.90 CFS	.12	.13	.14	.16	.17	.19	.20	.22
3.30 CFS	.23	.25	.26	.28	.30	.32	.33	.35
3.70 CFS	.37	.39	.41	.43	.45	.47	.49	.51
4.10 CFS	.53	.56	.58	.60	.63	.65	.67	.70
4.50 CFS	.72	.75	.77	.80	.82	.85	.88	.90
4.90 CFS	.93	.96	.99	1.02	1.05	1.08	1.11	1.14
5.30 CFS	1.17	1.20	1.23	1.26	1.29	1.32	1.35	1.39
5.70 CFS	1.42	1.45	1.49	1.52	1.55	1.59	1.62	1.66
6.10 CFS	1.69	1.73	1.76	1.80	1.83	1.87	1.90	1.94
6.50 CFS	1.98	2.01	2.05	2.09	2.13	2.16	2.20	2.24
6.90 CFS	2.28	2.32	2.36	2.39	2.43	2.47	2.51	2.55
7.30 CFS	2.59	2.63	2.67	2.71	2.75	2.79	2.83	2.87
7.70 CFS	2.92	2.96	3.00	3.04	3.08	3.12	3.16	3.21
8.10 CFS	3.25	3.29	3.34	3.38	3.43	3.48	3.54	3.59
8.50 CFS	3.65	3.70	3.76	3.82	3.89	3.95	4.02	4.08
8.90 CFS	4.15	4.22	4.29	4.37	4.44	4.52	4.59	4.67
9.30 CFS	4.74	4.81	4.89	4.96	5.03	5.10	5.17	5.24
9.70 CFS	5.32	5.39	5.48	5.56	5.65	5.73	5.83	5.92
10.10 CFS	6.02	6.12	6.23	6.34	6.46	6.58	6.71	6.84
10.50 CFS	6.97	7.11	7.26	7.41	7.57	7.73	7.91	8.09

TR20 -- SCS -
STONECROFT SWM POND VERSION
05/18/** FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT 2.04TEST
16:05:19 PASS 3 JOB NO. 1 PAGE 9

10.90 CFS	8.28	8.48	8.69	8.91	9.14	9.38	9.64	9.93
11.30 CFS	10.23	10.56	10.91	11.27	11.67	12.15	12.85	13.90
11.70 CFS	15	18	27	41	55	69	97	123
12.10 CFS	134	134	129	123	116	108	102	96
12.50 CFS	90.07	84.91	80.07	75.63	72.56	69.61	66.96	65.62
12.90 CFS	64.29	62.98	61.60	60.22	58.87	57.44	55.92	54.43
13.30 CFS	52.98	51.58	50.21	48.88	47.58	46.08	44.51	43.01
13.70 CFS	41.56	40.17	38.58	37.04	35.57	34.17	32.85	31.59
14.10 CFS	30.64	29.82	29.03	28.27	27.53	26.83	26.16	25.50
14.50 CFS	24.69	23.92	23.19	22.50	21.85	21.22	20.63	20.06
14.90 CFS	19.53	19.01	18.52	18.06	17.95	17.83	17.72	17.60
15.30 CFS	17.49	17.37	17.26	17.14	17.03	16.91	16.80	16.68
15.70 CFS	16.57	16.45	16.34	16.22	16.10	15.99	15.87	15.75
16.10 CFS	15.64	15.52	15.41	15.29	15.18	15.07	14.96	14.85
16.50 CFS	14.74	14.63	14.53	14.42	14.32	14.21	14.11	14.01
16.90 CFS	13.91	13.81	13.71	13.61	13.51	13.41	13.32	13.22
17.30 CFS	13.13	13.03	12.94	12.85	12.76	12.67	12.58	12.49
17.70 CFS	12.40	12.31	12.23	12.14	12.05	11.97	11.88	11.80
18.10 CFS	11.72	11.63	11.55	11.47	11.39	11.31	11.23	11.15
18.50 CFS	11.07	10.99	10.91	10.84	10.76	10.68	10.61	10.53
18.90 CFS	10.46	10.39	10.31	10.24	10.17	10.09	10.02	9.95
19.30 CFS	9.88	9.81	9.74	9.67	9.60	9.53	9.46	9.39
19.70 CFS	9.32	9.26	9.19	9.12	9.05	8.99	8.92	8.86
20.10 CFS	8.79	8.73	8.66	8.60	8.54	8.48	8.42	8.36
20.50 CFS	8.30	8.24	8.18	8.13	8.07	8.02	7.96	7.91
20.90 CFS	7.86	7.80	7.75	7.70	7.65	7.60	7.55	7.50
21.30 CFS	7.46	7.41	7.36	7.32	7.27	7.23	7.18	7.14
21.70 CFS	7.10	7.05						

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
5.80 WATERSHED INCHES; 289 CFS-HRS; 23.9 ACRE-FEET.

CONTINUED ON SHEET 9-F

PCA 1999-SU-018
APPLICATION NO ________ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 14 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

DATE
REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
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 BETHESDA, MD

STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM COMPUTATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
DATE: FEB, 2000
DES. DHH DWN. CADD
SCALE: N/A
PROJECT/FILE NO. 6278
SHEET NO. 9-E

6278922.dwg 11900 33628

```
EXECUTIVE CONTROL ENDCMP     COMPUTATIONS COMPLETED FOR PASS  3
1
TR20 ------------------------------------------------------------------------ SCS -
                          STONECROFT SWM POND                              VERSION
05/18/**              FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT              2.04TEST
16:05:19                   SUMMARY, JOB NO.    1                           PAGE  10

                          SUMMARY TABLE 1
                          ---------------

   SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
   A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH    T-TRUNCATED HYDROGRAPH    R-RISING TRUNCATED HYDROGRAPH

XSECTION/  STANDARD                                   PEAK DISCHARGE
STRUCTURE   CONTROL   DRAINAGE   RUNOFF   ----------------------------------
   ID       OPERATION   AREA    AMOUNT   ELEVATION   TIME    RATE    RATE
                       (SQ MI)   (IN)      (FT)      (HR)    (CFS)   (CSM)

RAINFALL OF   3.20 inches AND  24.00 hr DURATION, BEGINS AT    .0 hrs.
RAINTABLE NUMBER  2,      ARC 2
MAIN TIME INCREMENT   .050 HOURS

   ALTERNATE    1    STORM    2
   ---------------------------------
XSECTION   1  RUNOFF      .08     2.43       ---      11.94     170   2125.0
STRUCTURE  1  RESVOR      .08     2.26     45.64      12.32T    22T    275.0

RAINFALL OF   5.30 inches AND  24.00 hr DURATION, BEGINS AT    .0 hrs.

   ALTERNATE    1    STORM   10
   ---------------------------------
XSECTION   1  RUNOFF      .08     4.38       ---      11.94     302   3775.0
STRUCTURE  1  RESVOR      .08     4.06     47.37      12.17      65    812.5

RAINFALL OF   7.30 inches AND  24.00 hr DURATION, BEGINS AT    .0 hrs.

   ALTERNATE    1    STORM   99
   ---------------------------------
XSECTION   1  RUNOFF      .08     6.25       ---      11.94     420   5250.0
STRUCTURE  1  RESVOR      .08     5.80     48.74      12.12     135   1687.5
1
TR20 ------------------------------------------------------------------------ SCS -
                          STONECROFT SWM POND                              VERSION
05/18/**              FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT              2.04TEST
16:05:19                   SUMMARY, JOB NO.    1                           PAGE  11

                          SUMMARY TABLE 3
                          ---------------

   STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
   QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/          DRAINAGE
STRUCTURE           AREA      STORM NUMBERS.........
   ID              (SQ MI)      2        10        99

STRUCTURE   1        .08
---------------------------------
   ALTERNATE    1                22        65       135

XSECTION    1        .08
---------------------------------
   ALTERNATE    1               170       302       420
1
TR20 ------------------------------------------------------------------------ SCS -
                          STONECROFT SWM POND                              VERSION
05/18/**              FILE NAME: D:\PROJECTS\6278\SCPOND7.DAT              2.04TEST

END OF  1 JOBS IN THIS RUN


                    SCS   TR-20,   VERSION 2.04TEST
                                     FILES

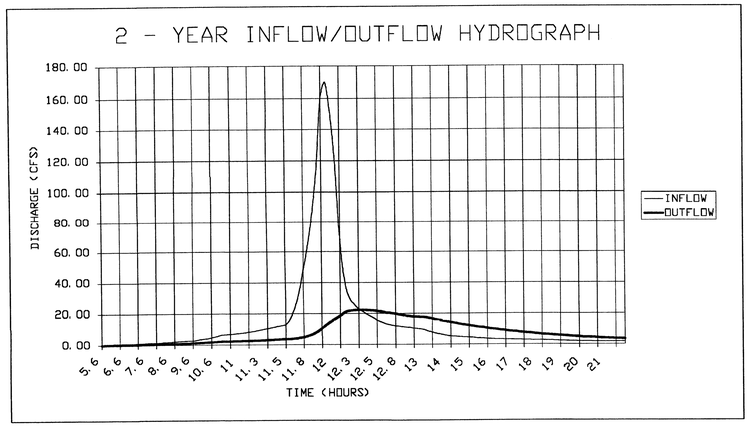
INPUT  = d:\projects\6278\scpond7.dat          , GIVEN DATA FILE
OUTPUT = d:\projects\6278\scpond7.OUT          , DATED 05/18/**, 16:05:19

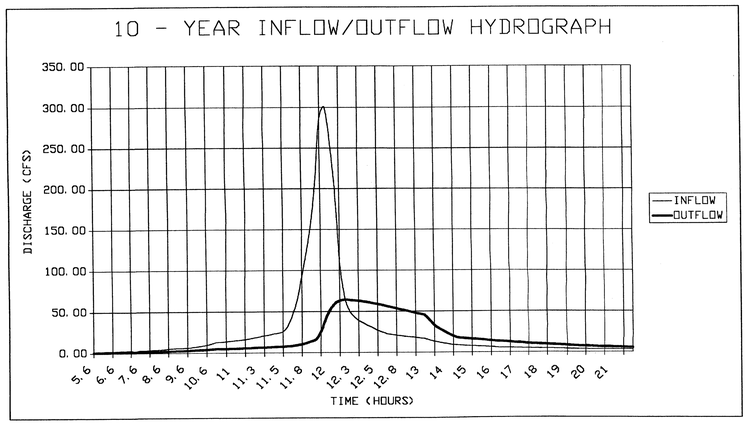
              FILES GENERATED - DATED 05/18/**, 16:05:19

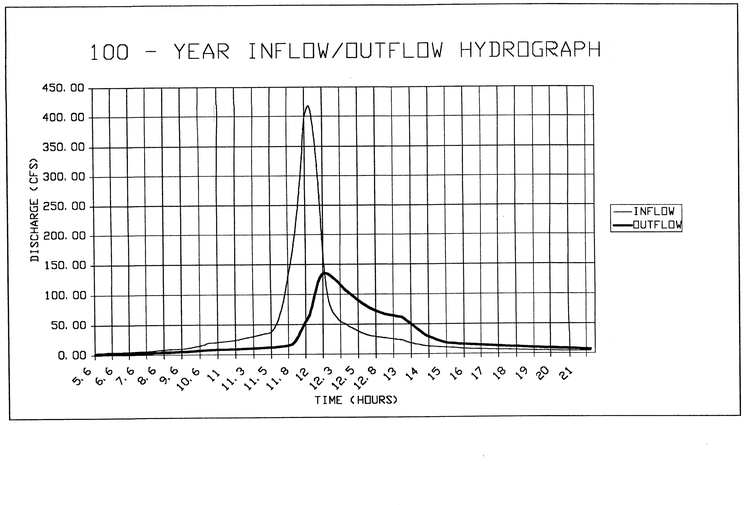
FILE d:\projects\6278\scpond7.TMG CONTAINS MESSAGE + WARNING INFORMATION


          TOTAL NUMBER OF WARNINGS =   0,   MESSAGES =   0

                    *** TR-20 RUN COMPLETED ***
```







PCA 1999-SU-018

APPLICATION NO _____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 15 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

				DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

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ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ CONSTRUCTION INSPECTORS

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8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
TOLL-FREE: 800-624-8334 ■ (703) 442-7787
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STONECROFT BUSINESS PARK SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM COMPUTATIONS

VIKA REVISIONS

REV:	JAN. 5, 2005
REV:	DEC 27, 2004
REV:	DEC 16, 2004
DATE:	FEB, 2000
DES. DHH	DWN. CADD
SCALE:	N/A
PROJECT/FILE NO.	6278
SHEET NO.	9-F

6278922.dwg 11900 33628

100 & 1.5 X 100 YR ROUTING WITH CLOGGED ORIFICES

```
*****************80-80 LIST OF INPUT DATA FOR TR-20 HYDROLOGY*****************

JOB TR-20                      FULLPRINT              SUMMARY
TITLE      STONECROFT SWM POND
TITLE      FILE NAME: D:  \PROJECTS\6278\SCCLOGA.DAT
 3 STRUCT       01
 8                              47.50        0.00       0.00000
 8                              47.75        4.84       0.5457
 8                              48.00       13.70       1.09139
 8                              48.25       25.17       1.66357
 8                              48.50       38.75       2.23574
 8                              48.75       54.15       2.80791
 8                              49.00       93.39       3.38008
 8                              49.50      255.80       4.52443
 8                              50.00      482.56       5.66878
 8                              50.50      719.06       6.8901
 8                              51.00      995.14       8.11142
 9 ENDTBL
 6 RUNOFF 1 001       1     0.0771875       93.0       0.11  1 1        1
 6 RESVOR 2    01 1   2         43.00                          1 1        1
   ENDATA
 7 INCREM 6                .05
 7 COMPUT 7 001       01                     7.3   1.0      2 2   01   99
   ENDCMP 1
 7 COMPUT 7 001       01                   10.95   1.0      2 2   01   15
   ENDCMP 1
   ENDJOB 2

********************************END OF 80-80 LIST********************************
```

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
06/01/** FILE NAME: D: \PROJECTS\6278\SCCLOGA.DAT 2.04TEST
11:24:07 PASS 1 JOB NO. 1 PAGE 2

EXECUTIVE CONTROL INCREM MAIN TIME INCREMENT = .050 HOURS

EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 7.30 RAIN DURATION = 11.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =99 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 93. TIME OF CONCENTRATION = .11 HOURS
COMPUTED INTERNAL TIME INCREMENT = .0264 HOURS

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
11.94 419.5 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

2.45 CFS	.46	.51	.56	.60	.65	.70	.74	.79
2.85 CFS	.83	.88	.93	.97	1.01	1.06	1.11	1.15
3.25 CFS	1.19	1.24	1.28	1.33	1.37	1.41	1.46	1.50
3.65 CFS	1.54	1.59	1.63	1.67	1.71	1.75	1.79	1.83
4.05 CFS	1.87	1.92	1.96	2.01	2.06	2.11	2.16	2.21
4.45 CFS	2.25	2.30	2.35	2.40	2.45	2.50	2.55	2.60
4.85 CFS	2.65	2.70	2.75	2.80	2.85	2.90	2.95	3.00
5.25 CFS	3.05	3.10	3.15	3.20	3.25	3.30	3.35	3.40
5.65 CFS	3.45	3.50	3.55	3.61	3.65	3.71	3.76	3.81
6.05 CFS	3.86	3.91	3.96	4.01	4.06	4.11	4.16	4.21
6.45 CFS	4.26	4.32	4.36	4.42	4.47	4.52	4.57	4.62
6.85 CFS	4.67	4.72	4.77	4.82	4.87	4.92	4.97	5.02
7.25 CFS	5.07	5.12	5.17	5.22	5.27	5.32	5.37	5.42
7.65 CFS	5.47	5.52	5.57	5.62	5.67	5.72	5.77	5.82
8.05 CFS	5.89	5.99	6.11	6.27	6.42	6.58	6.74	6.91
8.45 CFS	7.06	7.24	7.40	7.57	7.73	7.91	8.07	8.25
8.85 CFS	8.42	8.60	8.76	8.95	9.08	9.20	9.27	9.32
9.25 CFS	9.36	9.39	9.42	9.45	9.48	9.51	9.59	9.72
9.65 CFS	9.91	10.16	10.41	10.69	10.95	11.24	11.50	11.79
10.05 CFS	12.09	12.43	12.78	13.19	13.58	14.01	14.40	14.84
10.45 CFS	15.23	15.67	16.13	16.68	17.26	17.94	18.59	19.31
10.85 CFS	19.97	20.70	21.37	22.11	23.00	24.13	25.44	27.04
11.25 CFS	28.58	30.33	31.91	33.66	35.29	37.57	47.85	66.19
11.65 CFS	94	132	174	228	302	399	418	374
12.05 CFS	287	165	100	74	63	55	51	46
12.45 CFS	42.37	38.24	35.03	32.18	30.41	29.12	28.13	27.13
12.85 CFS	26.23	25.27	24.38	23.43	22.63	21.86	21.26	20.69
13.25 CFS	20.20	19.68	19.19	18.68	18.20	17.69	17.24	16.78
13.65 CFS	16.40	16.01	15.66	15.29	14.95	14.58	14.24	13.87
14.05 CFS	13.58	13.32	13.13	12.96	12.84	12.72	12.59	12.45
14.45 CFS	12.33	12.22	12.10	11.95	11.83	11.72	11.60	11.46

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
06/01/** FILE NAME: D: \PROJECTS\6278\SCCLOGA.DAT 2.04TEST
11:24:07 PASS 1 JOB NO. 1 PAGE 3

14.85 CFS	11.34	11.22	11.10	10.96	10.84	10.72	10.60	10.46
15.25 CFS	10.34	10.22	10.10	9.96	9.84	9.72	9.60	9.45
15.65 CFS	9.34	9.22	9.10	8.96	8.84	8.72	8.60	8.45
16.05 CFS	8.35	8.27	8.20	8.14	8.10	8.06	8.01	7.96
16.45 CFS	7.92	7.88	7.83	7.78	7.74	7.70	7.66	7.60
16.85 CFS	7.56	7.52	7.48	7.42	7.38	7.34	7.30	7.25
17.25 CFS	7.20	7.16	7.12	7.07	7.03	6.98	6.94	6.89
17.65 CFS	6.85	6.81	6.76	6.71	6.67	6.63	6.58	6.53
18.05 CFS	6.49	6.45	6.40	6.35	6.31	6.27	6.23	6.17
18.45 CFS	6.13	6.09	6.05	5.99	5.95	5.91	5.87	5.82
18.85 CFS	5.77	5.73	5.69	5.64	5.59	5.55	5.51	5.46
19.25 CFS	5.42	5.37	5.33	5.28	5.24	5.20	5.15	5.10
19.65 CFS	5.06	5.02	4.97	4.92	4.88	4.84	4.79	4.74
20.05 CFS	4.71	4.68	4.66	4.64	4.63	4.63	4.62	4.61
20.45 CFS	4.60	4.60	4.59	4.57	4.56	4.56	4.55	4.53
20.85 CFS	4.53	4.52	4.51	4.50	4.49	4.49	4.48	4.46
21.25 CFS	4.46	4.45	4.44	4.43	4.42	4.42	4.41	4.39
21.65 CFS	4.38	4.38	4.37					

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
6.25 WATERSHED INCHES; 311 CFS-HRS; 25.7 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH 1 OUTPUT HYDROGRAPH 2
SURFACE ELEVATION = 43.00

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.00 372.5 49.76

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =99
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

6.40 CFS	-.07	.09	.24	.38	.53	.67	.81	.94
6.80 CFS	1.07	1.20	1.33	1.45	1.57	1.69	1.80	1.92
7.20 CFS	2.03	2.14	2.24	2.35	2.45	2.55	2.65	2.75
7.60 CFS	2.84	2.94	3.03	3.12	3.21	3.30	3.38	3.47
8.00 CFS	3.55	3.63	3.72	3.80	3.89	3.97	4.07	4.16
8.40 CFS	4.26	4.35	4.45	4.56	4.66	4.77	4.91	5.11
8.80 CFS	5.31	5.51	5.70	5.89	6.09	6.28	6.46	6.64
9.20 CFS	6.82	6.98	7.13	7.28	7.42	7.55	7.68	7.80
9.60 CFS	7.92	8.04	8.17	8.31	8.46	8.61	8.77	8.94
10.00 CFS	9.12	9.30	9.49	9.69	9.91	10.13	10.37	10.62
10.40 CFS	10.88	11.15	11.43	11.72	12.02	12.34	12.69	13.05
10.80 CFS	13.43	13.86	14.38	14.91	15.45	16.02	16.62	17.27
11.20 CFS	17.98	18.76	19.61	20.53	21.50	22.54	23.64	25.16
11.60 CFS	28	33	41	53	87	163	248	339
12.00 CFS	372	348	277	207	153	114	91	82
12.40 CFS	73.45	66.22	59.79	54.10	51.94	49.77	47.66	45.65
12.80 CFS	43.76	41.96	40.25	38.64	37.26	35.93	34.65	33.43
13.20 CFS	32.26	31.16	30.11	29.11	28.16	27.25	26.38	25.55
13.60 CFS	24.81	24.16	23.53	22.91	22.32	21.75	21.19	20.65

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
06/01/** FILE NAME: D: \PROJECTS\6278\SCCLOGA.DAT 2.04TEST
11:24:07 PASS 1 JOB NO. 1 PAGE 4

14.00 CFS	20.13	19.62	19.13	18.66	18.21	17.79	17.39	17.01
14.40 CFS	16.66	16.32	16.00	15.69	15.40	15.12	14.85	14.60
14.80 CFS	14.36	14.12	13.89	13.68	13.51	13.34	13.17	13.01
15.20 CFS	12.85	12.69	12.53	12.38	12.23	12.07	11.93	11.78
15.60 CFS	11.63	11.49	11.34	11.20	11.06	10.92	10.78	10.64
16.00 CFS	10.51	10.37	10.24	10.11	9.98	9.86	9.74	9.63
16.40 CFS	9.53	9.42	9.32	9.23	9.14	9.05	8.96	8.88
16.80 CFS	8.80	8.72	8.64	8.57	8.49	8.42	8.35	8.29
17.20 CFS	8.22	8.16	8.09	8.03	7.97	7.91	7.85	7.79
17.60 CFS	7.74	7.68	7.63	7.57	7.52	7.46	7.41	7.36
18.00 CFS	7.31	7.25	7.20	7.15	7.10	7.05	7.00	6.95
18.40 CFS	6.90	6.86	6.81	6.76	6.71	6.66	6.62	6.57
18.80 CFS	6.52	6.47	6.43	6.38	6.33	6.29	6.24	6.20
19.20 CFS	6.15	6.10	6.06	6.01	5.97	5.92	5.87	5.83
19.60 CFS	5.78	5.74	5.69	5.65	5.60	5.56	5.51	5.46
20.00 CFS	5.42	5.37	5.33	5.29	5.25	5.21	5.17	5.13
20.40 CFS	5.10	5.07	5.04	5.01	4.98	4.95	4.93	4.90
20.80 CFS	4.88	4.86	4.84	4.83	4.82	4.80	4.79	4.78
21.20 CFS	4.77	4.76	4.75	4.74	4.73	4.72	4.70	4.69
21.60 CFS	4.68	4.67	4.66	4.65				

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
3.74 WATERSHED INCHES; 186 CFS-HRS; 15.4 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 1

1
TR20 -- SCS -
STONECROFT SWM POND VERSION
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EXECUTIVE CONTROL COMPUT FROM XSECTION 1 TO STRUCTURE 1
STARTING TIME = .00 RAIN DEPTH = 10.95 RAIN DURATION = 1.00
ANT. RUNOFF COND. = 2 MAIN TIME INCREMENT = .050 HOURS
ALTERNATE NO. = 1 STORM NO. =15 RAIN TABLE NO. = 2

OPERATION RUNOFF XSECTION 1
OUTPUT HYDROGRAPH = 1 AREA = .08 SQ MI
INPUT RUNOFF CURVE = 93. TIME OF CONCENTRATION = .11 HOURS
COMPUTED INTERNAL TIME INCREMENT = .0264 HOURS

1

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
11.94 640.4 (RUNOFF)

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =15
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

1.60 CFS	.43	.52	.63	.71	.81	.90	.99	1.08
2.00 CFS	1.17	1.25	1.35	1.43	1.51	1.59	1.69	1.76
2.40 CFS	1.84	1.92	2.01	2.09	2.16	2.24	2.33	2.40
2.80 CFS	2.47	2.54	2.63	2.70	2.77	2.84	2.92	2.99
3.20 CFS	3.05	3.12	3.20	3.27	3.33	3.39	3.47	3.54
3.60 CFS	3.60	3.66	3.74	3.80	3.86	3.92	3.99	4.05
4.00 CFS	4.11	4.17	4.24	4.31	4.39	4.47	4.54	4.62
4.40 CFS	4.70	4.77	4.85	4.92	5.00	5.08	5.16	5.23
4.80 CFS	5.31	5.38	5.46	5.53	5.61	5.69	5.77	5.84
5.20 CFS	5.92	5.99	6.07	6.14	6.22	6.29	6.37	6.44
5.60 CFS	6.52	6.59	6.67	6.74	6.82	6.89	6.97	7.04
6.00 CFS	7.12	7.19	7.27	7.34	7.41	7.49	7.56	7.63
6.40 CFS	7.71	7.78	7.86	7.93	8.00	8.07	8.15	8.22
6.80 CFS	8.29	8.36	8.44	8.51	8.58	8.65	8.72	8.79
7.20 CFS	8.87	8.94	9.01	9.08	9.15	9.22	9.29	9.36
7.60 CFS	9.43	9.50	9.57	9.64	9.72	9.78	9.86	9.92
8.00 CFS	10.00	10.11	10.26	10.45	10.69	10.93	11.20	11.45
8.40 CFS	11.72	11.97	12.24	12.49	12.76	13.02	13.29	13.55
8.80 CFS	13.83	14.09	14.37	14.63	14.90	15.11	15.28	15.38
9.20 CFS	15.44	15.48	15.51	15.54	15.57	15.59	15.63	15.74
9.60 CFS	15.94	16.23	16.63	17.01	17.46	17.86	18.30	18.71
10.00 CFS	19.15	19.61	20.14	20.68	21.33	21.93	22.59	23.20
10.40 CFS	23.86	24.48	25.15	25.86	26.70	27.60	28.68	29.67
10.80 CFS	30.78	31.80	32.90	33.94	35.06	36.42	38.16	40.16
11.20 CFS	42.73	45.09	47.72	50.18	52.82	55.31	58.42	74.22
11.60 CFS	103	146	207	271	351	464	610	638
12.00 CFS	571	440	248	152	112	95	84	77
12.40 CFS	70.08	64.17	57.80	53.03	48.64	45.98	44.05	42.53
12.80 CFS	41.03	39.66	38.22	36.87	35.41	34.22	33.03	32.13
13.20 CFS	31.28	30.53	29.74	29.01	28.23	27.51	26.72	26.05
13.60 CFS	25.35	24.77	24.19	23.66	23.11	22.58	22.03	21.51
14.00 CFS	20.94	20.51	20.12	19.83	19.58	19.39	19.21	19.02
14.40 CFS	18.81	18.63	18.45	18.26	18.05	17.87	17.69	17.51
14.80 CFS	17.30	17.12	16.94	16.76	16.54	16.36	16.18	16.00

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15.20 CFS	15.79	15.60	15.43	15.25	15.03	14.85	14.67	14.49
15.60 CFS	14.27	14.09	13.92	13.73	13.52	13.34	13.16	12.98
16.00 CFS	12.76	12.61	12.48	12.38	12.29	12.22	12.16	12.09
16.40 CFS	12.01	11.95	11.89	11.82	11.74	11.68	11.62	11.55
16.80 CFS	11.47	11.41	11.35	11.28	11.20	11.14	11.08	11.01
17.20 CFS	10.93	10.87	10.81	10.74	10.66	10.60	10.54	10.47
17.60 CFS	10.39	10.33	10.27	10.20	10.12	10.06	10.00	9.93
18.00 CFS	9.85	9.79	9.73	9.66	9.58	9.52	9.46	9.39
18.40 CFS	9.31	9.25	9.19	9.12	9.04	8.98	8.92	8.85
18.80 CFS	8.77	8.71	8.65	8.58	8.50	8.44	8.38	8.31
19.20 CFS	8.23	8.17	8.11	8.04	7.96	7.90	7.84	7.77
19.60 CFS	7.69	7.63	7.56	7.50	7.42	7.36	7.29	7.23
20.00 CFS	7.15	7.10	7.06	7.03	7.00	6.99	6.98	6.97
20.40 CFS	6.95	6.93	6.93	6.92	6.89	6.88	6.88	6.86
20.80 CFS	6.84	6.83	6.82	6.81	6.78	6.77	6.77	6.75

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
9.69 WATERSHED INCHES; 483 CFS-HRS; 39.9 ACRE-FEET.

OPERATION RESVOR STRUCTURE 1
INPUT HYDROGRAPH 1 OUTPUT HYDROGRAPH 2
SURFACE ELEVATION = 43.00

PEAK TIME(HRS) PEAK DISCHARGE(CFS) PEAK ELEVATION(FEET)
12.00 580.8 50.21

HYDROGRAPH POINTS FOR ALTERNATE = 1, STORM =15
HRS MAIN TIME INCREMENT = .050 hr, DRAINAGE AREA = .08 SQ.MI.

5.30 CFS	-.17	.06	.28	.49	.70	.91	1.11	1.31
5.70 CFS	1.50	1.69	1.87	2.05	2.22	2.40	2.56	2.73
6.10 CFS	2.89	3.05	3.21	3.36	3.51	3.66	3.80	3.94
6.50 CFS	4.08	4.22	4.35	4.49	4.62	4.75	4.90	5.12
6.90 CFS	5.33	5.54	5.73	5.92	6.10	6.27	6.44	6.60
7.30 CFS	6.75	6.90	7.04	7.18	7.32	7.45	7.57	7.70
7.70 CFS	7.82	7.93	8.05	8.16	8.27	8.37	8.47	8.58
8.10 CFS	8.68	8.79	8.90	9.03	9.16	9.30	9.45	9.60
8.50 CFS	9.77	9.94	10.11	10.29	10.48	10.67	10.86	11.07
8.90 CFS	11.27	11.48	11.69	11.91	12.12	12.33	12.53	12.72
9.30 CFS	12.90	13.07	13.23	13.38	13.53	13.67	13.83	14.01
9.70 CFS	14.21	14.41	14.64	14.88	15.13	15.40	15.68	15.98
10.10 CFS	16.29	16.61	16.96	17.33	17.73	18.14	18.57	19.01
10.50 CFS	19.47	19.95	20.46	20.99	21.56	22.16	22.80	23.48
10.90 CFS	24.19	24.92	25.77	26.70	27.69	28.77	29.95	31.26
11.30 CFS	32.67	34.19	35.81	37.52	39.40	42.24	47.13	56.80
11.70 CFS	86	150	223	321	446	548	581	538
12.10 CFS	426	294	212	163	130	107	93	86
12.50 CFS	79.98	73.88	68.16	62.98	58.52	54.74	53.04	51.70
12.90 CFS	50.35	49.01	47.65	46.30	44.96	43.66	42.40	41.19
13.30 CFS	40.02	38.90	37.92	36.98	36.06	35.16	34.27	33.41
13.70 CFS	32.58	31.77	30.98	30.22	29.48	28.76	28.06	27.37

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14.10 CFS	26.71	26.08	25.49	24.96	24.51	24.08	23.67	23.28
14.50 CFS	22.90	22.54	22.19	21.85	21.53	21.22	20.91	20.62
14.90 CFS	20.33	20.06	19.78	19.52	19.26	19.01	18.76	18.52
15.30 CFS	18.28	18.04	17.81	17.58	17.36	17.14	16.92	16.70
15.70 CFS	16.49	16.28	16.06	15.85	15.65	15.44	15.24	15.03
16.10 CFS	14.84	14.64	14.46	14.28	14.12	13.96	13.81	13.67
16.50 CFS	13.56	13.45	13.34	13.23	13.13	13.03	12.93	12.83
16.90 CFS	12.74	12.65	12.56	12.47	12.38	12.29	12.21	12.12
17.30 CFS	12.04	11.96	11.87	11.79	11.71	11.63	11.56	11.48
17.70 CFS	11.40	11.33	11.25	11.18	11.10	11.03	10.95	10.88
18.10 CFS	10.81	10.74	10.66	10.59	10.52	10.45	10.38	10.31
18.50 CFS	10.23	10.16	10.09	10.02	9.95	9.88	9.81	9.74
18.90 CFS	9.68	9.61	9.54	9.47	9.40	9.33	9.26	9.19
19.30 CFS	9.12	9.06	8.99	8.92	8.85	8.78	8.71	8.65
19.70 CFS	8.58	8.51	8.44	8.37	8.30	8.24	8.17	8.10
20.10 CFS	8.03	7.97	7.91	7.85	7.79	7.74	7.69	7.64
20.50 CFS	7.59	7.55	7.51	7.47	7.43	7.39	7.36	7.32
20.90 CFS	7.29	7.26	7.23	7.20	7.17	7.15		

RUNOFF ABOVE BASEFLOW (BASEFLOW = .00 CFS)
7.14 WATERSHED INCHES; 355 CFS-HRS; 29.4 ACRE-FEET.

EXECUTIVE CONTROL ENDCMP COMPUTATIONS COMPLETED FOR PASS 2

TR20 -- SCS -
STONECROFT SWM POND VERSION
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11:24:07 SUMMARY, JOB NO. 1 PAGE 8

SUMMARY TABLE 1

SELECTED RESULTS OF STANDARD AND EXECUTIVE CONTROL IN ORDER PERFORMED.
A CHARACTER FOLLOWING THE PEAK DISCHARGE TIME AND RATE (CFS) INDICATES:
F-FLAT TOP HYDROGRAPH T-TRUNCATED HYDROGRAPH R-RISING TRUNCATED HYDROGRAPH

XSECTION/ STRUCTURE ID	STANDARD CONTROL OPERATION	DRAINAGE AREA (SQ MI)	RUNOFF AMOUNT (IN)	PEAK DISCHARGE ELEVATION (FT)	TIME (HR)	RATE (CFS)	RATE (CSM)
RAINFALL OF 7.30 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
RAINTABLE NUMBER 2, ARC 2							
MAIN TIME INCREMENT .050 HOURS							
ALTERNATE 1 STORM 99							
XSECTION 1	RUNOFF	.08	6.25	---	11.94	420	5250.0
STRUCTURE 1	RESVOR	.08	3.74	49.76	12.00	372	4650.0
RAINFALL OF 10.95 inches AND 24.00 hr DURATION, BEGINS AT .0 hrs.							
ALTERNATE 1 STORM 15							
XSECTION 1	RUNOFF	.08	9.69	---	11.94	640	8000.0
STRUCTURE 1	RESVOR	.08	7.14	50.21	12.00	581	7262.5

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SUMMARY, JOB NO. 1 PAGE 9

SUMMARY TABLE 3

STORM DISCHARGES (CFS) AT XSECTIONS AND STRUCTURES FOR ALL ALTERNATES
QUESTION MARK (?) AFTER: OUTFLOW PEAK - RISING TRUNCATED HYDROGRAPH.

XSECTION/ STRUCTURE ID	DRAINAGE AREA (SQ MI)	STORM NUMBERS.......... 15	99
STRUCTURE 1	.08		
ALTERNATE 1		581	372
XSECTION 1	.08		
ALTERNATE 1		640	420

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TR20 -- SCS -
STONECROFT SWM POND VERSION
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END OF 1 JOBS IN THIS RUN

SCS TR-20, VERSION 2.04TEST
FILES

INPUT = D: \PROJECTS\6278\SCCLOGA.DAT , GIVEN DATA FILE
OUTPUT = D: \PROJECTS\6278\SCCLOGA.OUT , DATED 06/01/**, 11:24:07

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*** TR-20 RUN COMPLETED ***

PCA 1999-SU-018
APPLICATION NO ________ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 16 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

DATE

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 BETHESDA, MD

STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM
COMPUTATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
DATE: FEB, 2000
DES. DHH
DWN. CADD
SCALE: N/A
PROJECT/FILE NO. 6278
SHEET NO. 9-G

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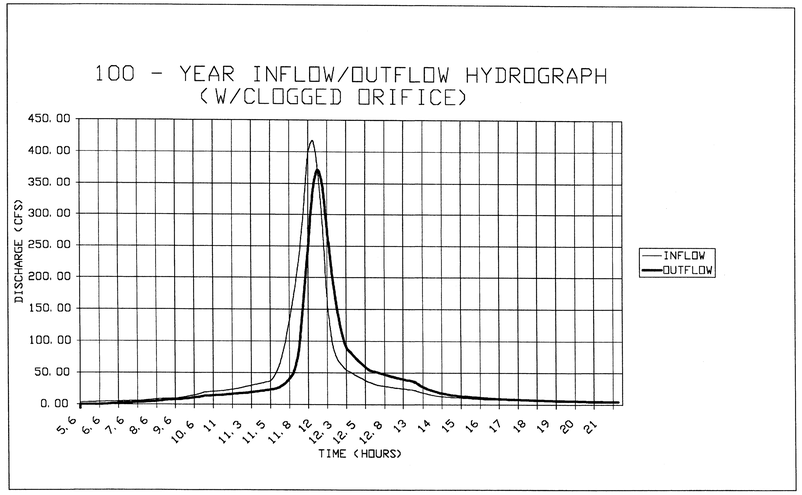

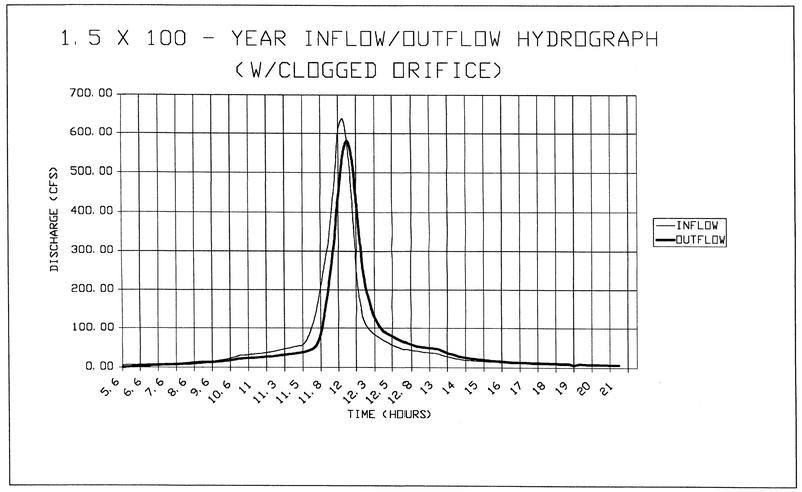

PCA 1999-SU-018

APPLICATION NO_____ STAFF KC

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDP)

SEE PROFFERS DATED 1/20/05

DATE OF (BOS) (PC) APPROVAL 2/7/05

SHEET 17 OF 18

COMMONWEALTH OF VIRGINIA
1/5/05
ROBERT R. COCHRAN
No. 2012
LAND SURVEYOR

				DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA

ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ CONSTRUCTION INSPECTORS

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STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

SWM COMPUTATIONS

VIKA REVISIONS

REV:	JAN. 5, 2005
REV:	DEC 27, 2004
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DES. DHH	DWN. CADD
SCALE:	N/A
PROJECT/FILE NO.	6278
SHEET NO.	9-H

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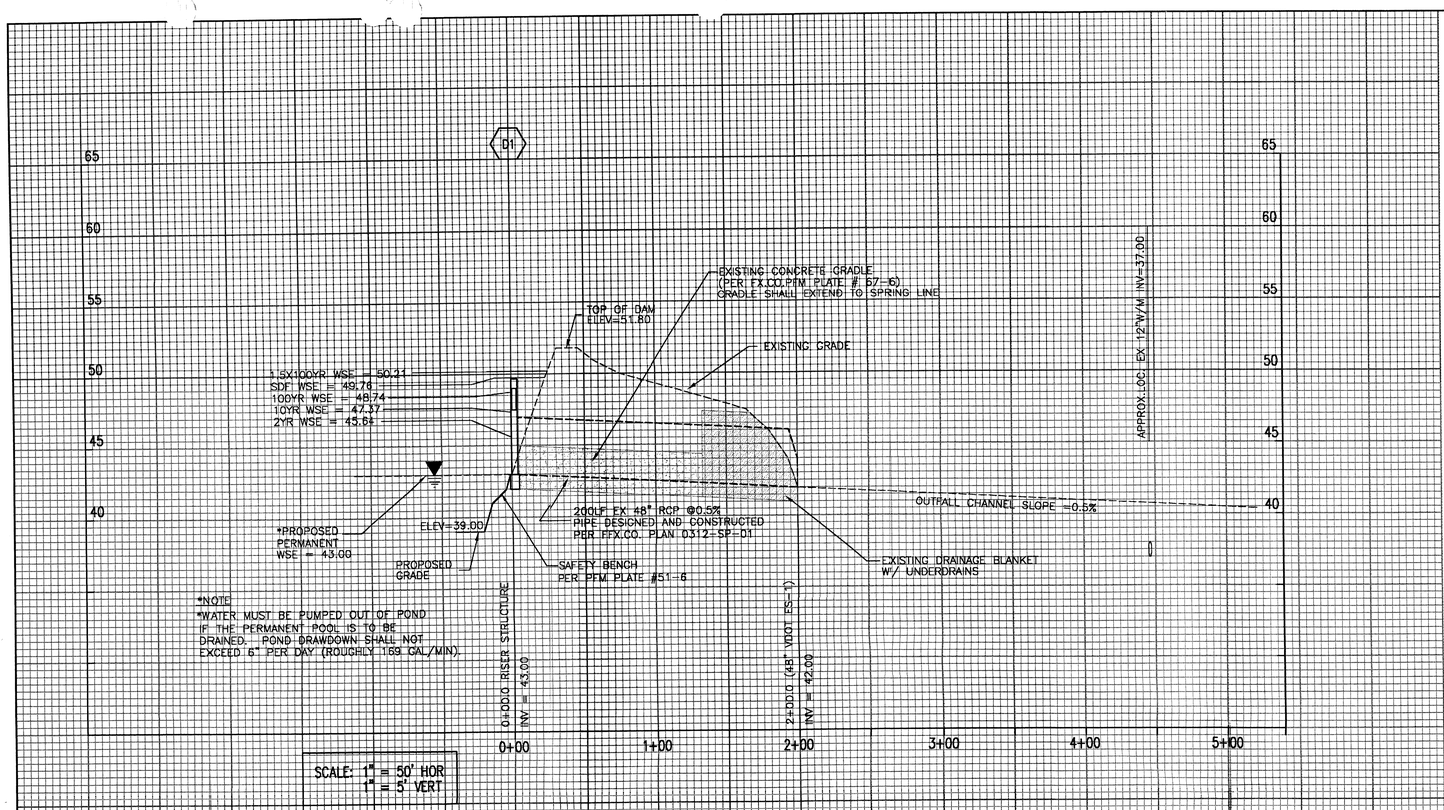
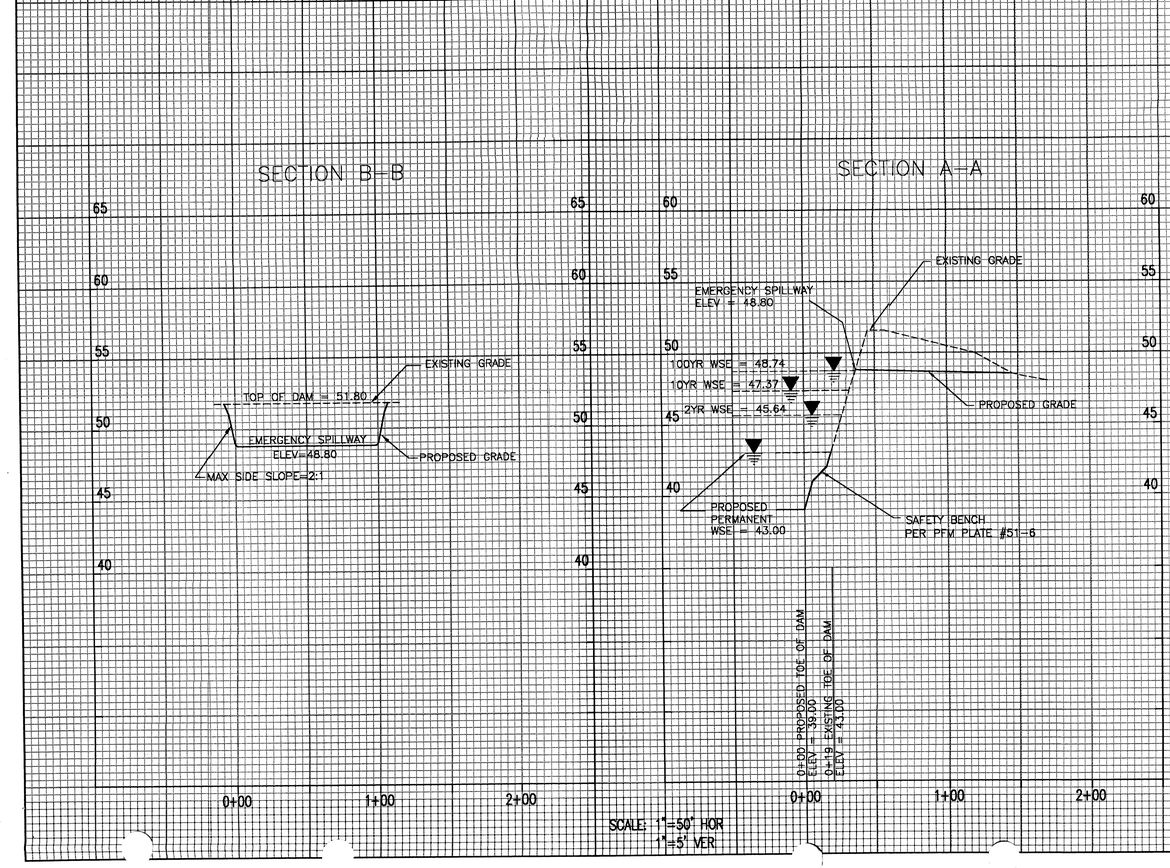
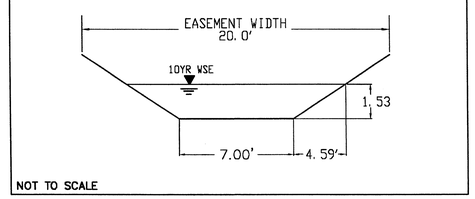




EXISTING OUTFALL CHANNEL COMPUTATIONS

SECTION CC	2-YR STORM	10-YR STORM	100-YR STORM
Flow Element	Trapezoidal Channel	Trapezoidal Channel	Trapezoidal Channel
Method	Manning's Formula	Manning's Formula	Manning's Formula
Solve For	Channel Depth	Channel Depth	Channel Depth
Input Data			
Mannings Coefficient	0.03	0.03	0.03
Slope	0.005 ft/ft	0.005 ft/ft	0.005 ft/ft
Left Side Slope	0.33 V : H	0.33 V : H	0.33 V : H
Right Side Slope	0.33 V : H	0.33 V : H	0.33 V : H
Bottom Width	7 ft	7 ft	7 ft
Discharge	22 cfs	65 cfs	135 cfs
Results			
Depth	0.86 ft	1.53 ft	2.21 ft
Flow Area	8.3 ft?	17.8 ft?	30.3 ft?
Wetted Perimeter	12.47 ft	16.7 ft	21.07 ft
Top Width	12.20 ft	16.24 ft	20.35 ft
Critical Depth	0.61 ft	1.17 ft	1.75 ft
Critical Slope	0.016842 ft/ft	0.014211 ft/ft	0.012787 ft/ft
Velocity	2.66 ft/s	3.65 ft/s	4.46 ft/s
Velocity Head	0.11 ft	0.21 ft	0.31 ft
Specific Energy	0.97 ft	1.74 ft	2.52 ft
Froude Number	0.57	0.61	0.64
Flow Type	Subcritical	Subcritical	Subcritical

EXISTING OUTFALL TRAPEZOIDAL CHANNEL
SECTION CC



NOT TO SCALE

ADEQUATE OUTFALL NARRATIVE

THERE IS ONE OUTFALL ASSOCIATED WITH THIS STORM WATER MANAGEMENT PLAN. THE OUTFALL FOR THE ENTIRE 48.85 ACRE STONECROFT BUSINESS PARK SITE WILL BE THROUGH THE STORM WATER MANAGEMENT POND PROPOSED WITH THIS PLAN. THE SWM/BMP FACILITY WILL OUTFALL THROUGH AN EXISTING STORM DRAIN EASEMENT AND INTO A BOARD ADOPTED 100 YR FLOOD PLAIN (DRAINAGE AREA GREATER THAN 640 ACRES). THIS FLOOD PLAIN IS AN ADEQUATE OUTFALL PER THE FAIRFAX COUNTY PFM SECTION 6-0203.6C. FLOWS HAVE BEEN DESIGNED TO BE NONEROSIVE AND NATURAL DRAINAGE DIVIDES HAVE BEEN HONORED. THUS, IT IS THE OPINION OF VIKA,INC THAT ADEQUATE OUT FALLS HAVE BEEN PROVIDED.

PCA 1999-SU-018
APPLICATION NO. _____ STAFF KC
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 1/20/05
DATE OF (BOS) (PC) APPROVAL 2/7/05
SHEET 18 OF 18

COMMONWEALTH OF VIRGINIA
ROBERT R. COCHRAN
No. 2012
1/5/05
PROFESSIONAL ENGINEER

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
ENGINEERS ■ PLANNERS ■ LANDSCAPE ARCHITECTS ■ SURVEYORS ■ CONSTRUCTION INSPECTORS
VIKA INCORPORATED
8180 GREENSBORO DRIVE, SUITE 200 ■ MCLEAN, VIRGINIA 22102
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McLEAN, VA BETHESDA, MD

STONECROFT BUSINESS PARK
SWM POND

SULLY DISTRICT
FAIRFAX COUNTY, VIRGINIA

CROSS SECTIONS
AND COMPUTATIONS

VIKA REVISIONS

REV: JAN. 5, 2005
REV: DEC 27, 2004
REV: DEC 16, 2004
DATE: FEB., 2000
DES. DHH | DWN. CADD
SCALE: HORIZ.1"=50' VERT:1"=5'
PROJECT/FILE NO. 6278
SHEET NO. 9-I

6278926.dwg 10-27-00 2:06:57 pm EST