

# FAIR LAKES - LAND BAY V-B-3

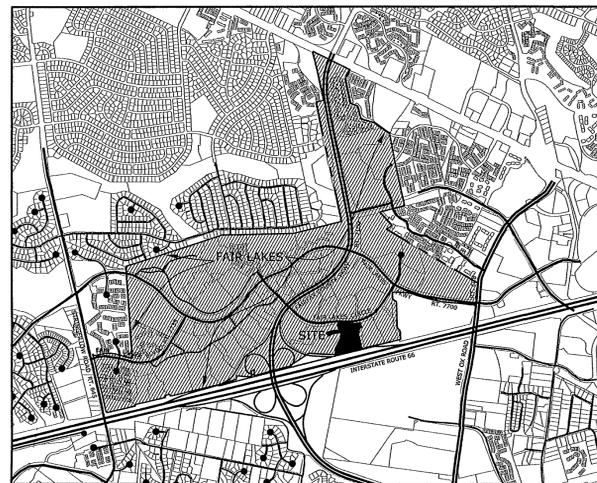
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## Springfield District Fairfax County, Virginia

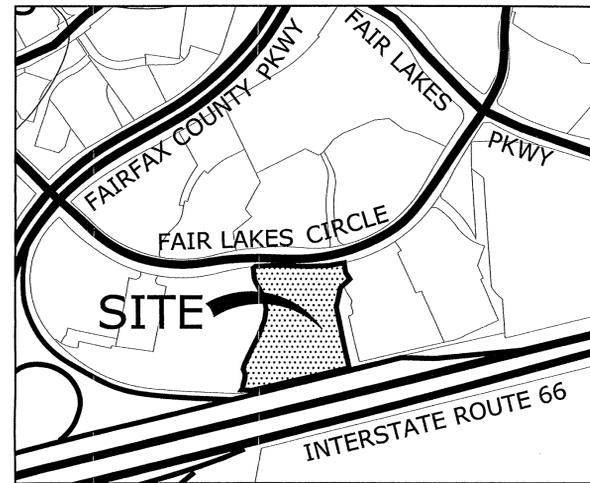
### FINAL DEVELOPMENT PLAN AMENDMENT

FDPA 82-P-069- 6-10  
 FDPA 82-P-069-11-4  
 FDPA 82-P-069-12-3

FAIR LAKES /  
 LAND BAY V-B-3  
 Final Development Plan  
 Amendment  
 FDPA 82-P-069- 6-10  
 FDPA 82-P-069-11-4  
 FDPA 82-P-069-12-3



VICINITY MAP  
 SCALE: 1" = 2000'



VICINITY MAP  
 SCALE: 1" = 500'

**Applicant:**  
 COGNAC FAIR LAKES LLC  
 8 CAMPUS DRIVE  
 PARSIPPANY, NJ 07054

FDPA 82-P-069-6-10  
 Application No. 82-P-069-6-10  
 APPROVED DEVELOPMENT PLAN  
 (DP) (GDP) (CDP) (FDP) (FDPA)  
 SEE PROFFERS DATED 5/2/07  
 Date of (BOS) (PS) APPROVAL: 5/2/07  
 Sheet 1 of 10



FAIR LAKES /  
 LAND BAY V-B-3  
 Final Development Plan  
 Amendment  
 FDPA 82-P-069- 6-10  
 FDPA 82-P-069-11-4  
 FDPA 82-P-069-12-3



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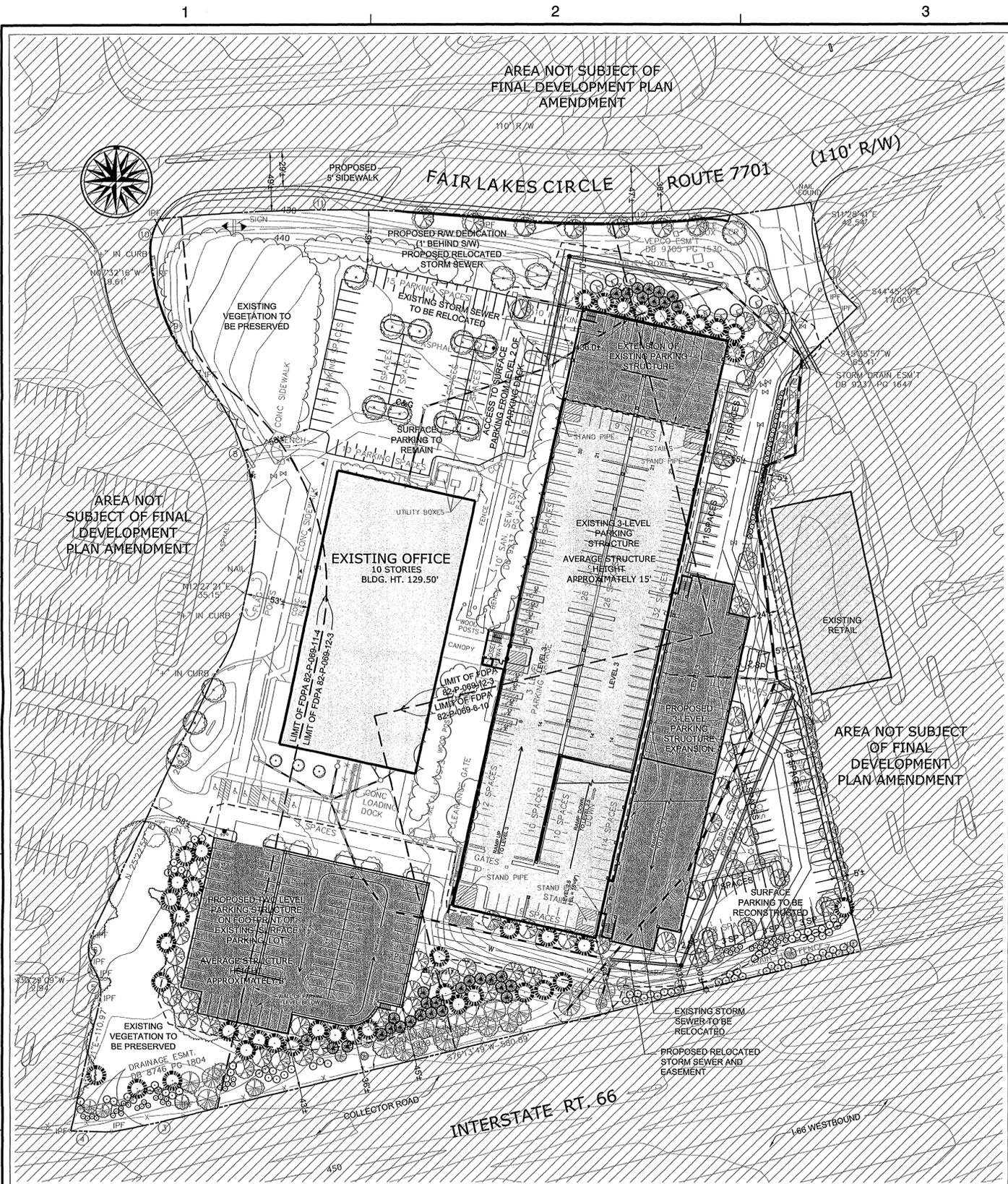
1. COVER SHEET
2. FINAL DEVELOPMENT PLAN AMENDMENT / NOTES / TABULATION
3. SECTIONS A & B
4. SECTIONS C, D & E
5. STORMWATER MANAGEMENT CALCULATIONS AND NARRATIVE
6. EAST MARKET AT FAIR LAKES - PHASE V  
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FAIR LAKES - LAND BAY V-B-3  
 Final Development Plan Amendment  
 FDPA 82-P-069- 6-10  
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 FDPA 82-P-069-12-3

REV. FEBRUARY 20, 2007  
 REV. JANUARY 30, 2007  
 REV. JANUARY 8, 2007  
 AUGUST 14, 2006

SUBMISSION DATE

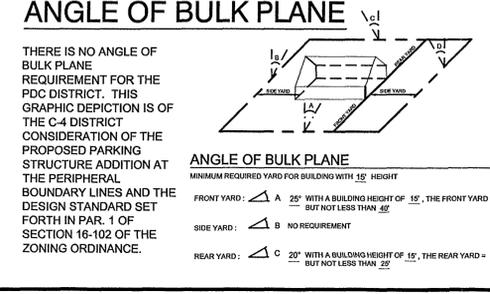
M-10605



- LEGEND**
- EXISTING VEGETATION
  - EXISTING VEGETATION TO BE PRESERVED
  - PROPOSED LARGE DECIDUOUS TREE
  - PROPOSED LARGE EVERGREEN TREE
  - PROPOSED SHRUBS
  - EXISTING STORM SEWER
  - PROPOSED STORM SEWER
  - PROPOSED WATER LINE
  - LIMITS OF CLEARING AND GRADING

**CURVE TABLE**

NO.	RADIUS	DELTA	ARC	TANGENT	CHORD	BEARING
1	69.00'	32°55'22"	39.65'	20.39'	39.10'	S27°56'22"E
2	48.00'	33°08'36"	27.77'	14.28'	27.38'	S29°01'39"W
3	1047.36'	03°22'43"	61.76'	30.89'	61.75'	S77°54'14"W
4	1597.02'	01°13'44"	34.25'	17.13'	34.25'	N88°39'17"W
5	34.00'	42°52'30"	25.48'	13.37'	24.89'	N09°00'54"W
6	30.00'	55°52'06"	29.25'	15.91'	28.11'	N02°33'06"W
7	131.00'	24°10'31"	55.27'	28.05'	54.86'	N24°32'36"E
8	188.00'	53°10'11"	174.46'	94.08'	168.27'	N14°07'45"W
9	173.00'	33°10'35"	100.17'	51.53'	98.78'	N24°07'32"W
10	49.00'	39°47'09"	34.03'	17.73'	33.35'	N12°21'20"E
11	1377.39'	11°40'40"	280.74'	140.86'	280.25'	N89°53'49"E
12	873.51'	17°12'50"	262.44'	132.21'	261.45'	N87°07'44"E



**TABULATION**

EXISTING/PROPOSED ZONING..... PDC

LAND AREA..... 8.36± AC

LAND AREA OF FDPA 82-P-069-6-10..... 3.14± AC

LAND AREA OF FDPA 82-P-069-11-4..... 1.34± AC

LAND AREA OF FDPA 82-P-069-12-3..... 3.88± AC

EXISTING/PROPOSED GROSS FLOOR AREA..... 260,000 SF

EXISTING/PROPOSED FLOOR AREA RATIO (FAR)..... 0.71\*

MAXIMUM BUILDING HEIGHT OF EXISTING OFFICE (10 STORIES)..... 129.50 FT

PARKING SPACES REQUIRED FOR..... 676

EXISTING OFFICE 260,000 @ 2.6 SPACES/1,000 SF

PARKING SPACES EXISTING..... 779

SURFACE..... 311

STRUCTURE..... 468

PARKING SPACES PROPOSED..... 1,018

SURFACE..... 165

NORTHWEST LOT..... 82

EAST/SOUTH LOT..... 74

SOUTHWEST TRAVEL LANE..... 9

STRUCTURE(S)..... 853

SOUTHWEST STRUCTURE..... 134

MAIN STRUCTURE..... 719

OPEN SPACE REQUIRED (15%)..... 1.25± AC\*

OPEN SPACE AS REPRESENTED ON CURRENT SITE PLAN (39%)..... 3.26± AC

OPEN SPACE PROPOSED (35%)..... 2.93± AC

\* THE APPROVED FLOOR AREA RATIO (FAR) FOR THE ENTIRETY OF THE FAIR LAKES PDC LAND AREA IS 0.25.

\*\* THE 15% OPEN SPACE REQUIREMENT IS FOR THE ENTIRETY OF THE FAIR LAKES PDC LAND AREA.

- NOTES**
- THE PROPERTY THAT IS THE SUBJECT OF THIS FINAL DEVELOPMENT PLAN AMENDMENT (FDPA) IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS 55-2 ((1) 14A. THE FDPA CONTAINS APPROXIMATELY 8.36 ACRES AND IS A PORTION OF LAND BAY V-B OF FAIR LAKES. THE PROPERTY IS ZONED TO THE PLANNED DEVELOPMENT COMMERCIAL (PDC) DISTRICT.
  - THE FDPA HAS BEEN FILED TO ADD ADDITIONAL ACCESSORY PARKING SPACES TO SERVE THE TENANTS IN THE EXISTING OFFICE BUILDING. NO OTHER CHANGES ARE PROPOSED TO THE EXISTING DEVELOPMENT PROGRAM ON THE SITE. THE EXISTING OFFICE BUILDING WAS BUILT IN 1995. IT CONTAINS 260,000 SQUARE FEET OF GROSS FLOOR AREA.
  - BASED ON THE APPROVED SITE PLAN, THERE ARE 779 EXISTING PARKING SPACES ON SITE. THIS EQUATES TO A PARKING STANDARD OF 2.69 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA. OF THE 779 SPACES, 311 SPACES OR 40% ARE SURFACE SPACES, AND 468 SPACES OR 60% ARE SPACES IN A PARKING STRUCTURE.
  - THE EXISTING PARKING STANDARD OF 2.69 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA IS NOT A MINIMUM. THE PROPOSED PARKING SPACE EXPANSION PROGRAM WILL RESULT IN A TOTAL OF 1,018 PARKING SPACES WHICH WILL EQUATE TO A MORE REASONABLE PARKING STANDARD OF 3.92 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA. OF THE 1,018 SPACES, 168 SPACES OR 16% WILL BE SURFACE SPACES AND 853 OR 84% WILL BE SPACES IN A PARKING STRUCTURE(S).
  - THE BOUNDARY INFORMATION SHOWN ON THE GRAPHIC IS BY DEWBERRY & DAVIS LLC.
  - THE TOPOGRAPHY SHOWN ON THE GRAPHIC IS AT A CONTOUR INTERVAL OF TWO FEET FROM AN AERIAL SURVEY FLOWN IN 2002.
  - STORMWATER MANAGEMENT (DETENTION AND BMPs) FOR EXISTING AND PROPOSED FAIR LAKES DEVELOPMENT HAVE BEEN PROVIDED IN FAIR LAKES IN ACCORDANCE WITH PREVIOUSLY APPROVED PLANS AND PROFFERS. THE APPROVED OVERALL STORMWATER MANAGEMENT PLAN FOR FAIR LAKES IS DESCRIBED IN COUNTY PLAN NO. 5727-PP-10 AND 5727-DS-01. IN ADDITION, A REGIONAL STORMWATER MANAGEMENT FOND SYSTEM WAS RECENTLY CONSTRUCTED ON FAIRFAX COUNTY GOVERNMENT CENTER LAND BAY 'A' SOUTH OF FAIR LAKES PARKWAY (COUNTY PLAN NOS. 7202-DS-01, 7202-SP-03, AND 7202-SP-04), NORTHEAST OF THE SUBJECT SITE, WHICH SUPPLEMENTS STORMWATER MANAGEMENT PROVIDED WITH THE ORIGINAL FAIR LAKES STORMWATER MANAGEMENT PLAN. NO ADDITIONAL STORMWATER MANAGEMENT FACILITIES ARE PROPOSED; CONSEQUENTLY, THE ADDITIONAL SUBMISSION REQUIREMENTS FOR SAME ARE NOT PROVIDED WITH THIS APPLICATION, AND A WAIVER OF THE SUBMISSION REQUIREMENTS IS HEREBY REQUESTED.
  - THE OFFICE BUILDING SHOWN WITHIN THE AREA OF THE FDPA IS EXISTING. IT WAS CONSTRUCTED IN 1995 AND WILL BE RETAINED. AS NOTED ABOVE, THE ADDITIONAL PARKING SPACES PROPOSED WITH THIS FDPA WILL BE ACCESSORY AND DESIGNED TO SERVE THE TENANT IN THE EXISTING OFFICE BUILDING.
  - A GRAPHIC DEPICTION OF THE ANGLE OF BULK PLANE IS PRESENTED ON SHEET 2. THERE IS NO ANGLE OF BULK PLANE REQUIREMENT SPECIFIED FOR THE APPLICABLE PDC DISTRICT. THE CONVENTIONAL ZONING DISTRICT THAT MOST CLOSELY CHARACTERIZES THE PROPOSED DEVELOPMENT IS THE C-4 DISTRICT. THE ANGLE OF BULK PLANE REQUIREMENTS FOR THE C-4 DISTRICT ARE PRESENTED FOR GENERAL CONFORMANCE BY THE PROPOSED DEVELOPMENT AT THE PDC PERIPHERAL BOUNDARY, I.E. THE RIGHT-OF-WAY OF I-66 TO THE SOUTH.
  - LANDSCAPING AND SCREENING HAVE BEEN PROVIDED IN ACCORDANCE WITH THE CURRENTLY APPROVED AND PROPOSED FINAL DEVELOPMENT PLAN. THERE IS A TRANSITIONAL SCREENING YARD AND BARRIER REQUIREMENT ALONG THE I-66 RIGHT-OF-WAY, BUT GIVEN THE FACT THAT THE CLOSEST SINGLE FAMILY DETACHED DWELLING ON THE SOUTH SIDE OF I-66 IS OVER 2,000 FEET AWAY FROM THE PROPOSED DEVELOPMENT, A WAIVER OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENT IS HEREBY REQUESTED IN ACCORDANCE WITH PAR. 11 OF SECT. 13-304 OF THE ZONING ORDINANCE IN FAVOR OF THE EXISTING/PROPOSED LANDSCAPING SHOWN HEREON. THERE IS NO TRANSITIONAL SCREENING OR BARRIER REQUIRED ALONG THE EASTERN, NORTHERN OR WESTERN BOUNDARIES OF THE SUBJECT PROPERTY.
  - PARKING SPACES FOR THE EXISTING DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 11 OF THE ZONING ORDINANCE. AS REPRESENTED IN THE TABULATION, APPROXIMATELY 83% OF THE PROPOSED PARKING SPACES WILL BE PROVIDED IN THE EXISTING AND PROPOSED PARKING STRUCTURE(S).
  - THE APPLICANT RESERVES THE RIGHT TO INCREASE OR DECREASE THE NUMBER OF PARKING SPACES AS REPRESENTED IN THE TABULATION SO LONG AS THE RESULTING NUMBER OF SPACES SATISFIES THE MINIMUM NUMBER PRESCRIBED BY THE APPLICABLE PROVISIONS IN THE ZONING ORDINANCE AND/OR THE AMOUNT OF OPEN SPACE AND THE MINIMUM DISTANCES TO THE PERIPHERAL LOT LINES ARE NOT DIMINISHED.
  - FIVE (5) LOADING SPACES FOR THE EXISTING DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY HAVE BEEN PROVIDED IN ACCORDANCE WITH THE CURRENTLY APPROVED SITE PLAN.
  - TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.
  - THE PRIMARY USE IN THE EXISTING BUILDING WILL BE OFFICE. SECONDARY USES WITHIN THE BUILDING MAY INCLUDE BUT ARE NOT NECESSARILY LIMITED TO ACCESSORY SERVICE USES, FINANCIAL INSTITUTIONS, FAST FOOD RESTAURANTS, QUICK SERVICE FOOD STORES, EATING ESTABLISHMENTS, BUSINESS SERVICE AND SUPPLY SERVICE ESTABLISHMENTS FOR SCIENTIFIC RESEARCH, DEVELOPMENT, HEALTH AND TRAINING, GARMENT CLEANING ESTABLISHMENTS, PERSONAL SERVICE ESTABLISHMENTS, PUBLIC USES, REPAIR SERVICE ESTABLISHMENTS, HEALTH CLUBS, COMMUNITY USES, INSTITUTIONAL USES, PRIVATE CLUBS, PRIVATE SCHOOLS AND CHURCHES AND/OR OTHER PLACES OF WORSHIP.
  - THE SUBJECT PROPERTY IS LOCATED WITHIN THE WATER SUPPLY PROTECTION OVERLAY DISTRICT AND THE PROPOSED DEVELOPMENT DOES NOT CONFORM TO THE PROVISIONS THEREOF.
  - THE CONSTRUCTION OF A SIDEWALK ALONG THE SUBJECT PROPERTY'S FRONTAGE ON FAIR LAKES CIRCLE IS PROPOSED WITH THIS APPLICATION. NO OTHER IMPROVEMENTS TO THE PUBLIC RIGHTS-OF-WAY OR COMMUNITY OR PUBLIC FACILITIES ARE PROPOSED WITH THIS FDPA.
  - PUBLIC WATER AND SEWER ARE CURRENTLY AVAILABLE ON THE SITE.
  - THERE IS NO FLOODPLAIN DESIGNATED BY THE FEDERAL INSURANCE ADMINISTRATION, UNITED STATES GEOLOGICAL SURVEY OR FAIRFAX COUNTY ON THE SITE. THERE IS NO ENVIRONMENTAL QUALITY CORRIDOR (EQC) OR RESOURCE PROTECTION AREA (RPA) ON THE SITE.
  - THE LIMITS OF CLEARING AND GRADING WILL BE CONFINED TO THE IMMEDIATE AREA OF THE PROPOSED PARKING STRUCTURE(S) AND THOSE AREAS OF THE EXISTING SURFACE PARKING LOT THAT WILL BE ADJUSTED WITH THE PROPOSED DEVELOPMENT PROGRAM AS REPRESENTED ON THE GRAPHIC.
  - TO THE BEST OF OUR KNOWLEDGE AND BELIEF THE PROPOSED DEVELOPMENT PROGRAM EXPANSION WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE ANY HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4 AND 305; ANY HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA DEPARTMENT OF WASTE MANAGEMENT VR 672-101 - VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND/OR ANY PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280. TO THE BEST OF OUR KNOWLEDGE AND BELIEF, THE SUBSTANCES THAT MAY BE UTILIZED, STORED AND DISPOSED OF IN CONJUNCTION WITH THE PROPOSED DEVELOPMENT PROGRAM EXPANSION AND/OR THE MAINTENANCE OF THE BUILDING PROGRAM AND GROUNDS WILL BE IN ACCORDANCE WITH SAID REGULATIONS.
  - TO THE BEST OF OUR KNOWLEDGE, EXCEPT AS REPRESENTED ON THE GRAPHIC, THERE ARE NO EXISTING UTILITY EASEMENTS HAVING A WIDTH OF TWENTY-FIVE (25) FEET OR MORE OR MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THE SUBJECT PROPERTY.
  - AMENITIES HAVE BEEN PREVIOUSLY PROVIDED IN FAIR LAKES. THERE ARE NO ADDITIONAL COMMUNITY OR PUBLIC FACILITIES PROPOSED WITH THE DEVELOPMENT PROGRAM. IN ADDITION, OTHER THAN THE EXISTING VEGETATION AND DEVELOPMENT ON THE SUBJECT PROPERTY, THERE ARE NO SCENIC ASSETS LOCATED ON THE SITE. LASTLY, OTHER THAN THE EXISTING VEGETATION, THERE ARE NO NATURAL FEATURES DESERVING OF PROTECTION OR PRESERVATION LOCATED ON THE SUBJECT PROPERTY. GIVEN THE LOCATION AND NATURE OF THE PROPOSED DEVELOPMENT ON THE PROPERTY, THERE WILL BE NO ADVERSE EFFECTS ON ADJACENT OR NEIGHBORING PROPERTIES.
  - THERE IS AN EXISTING OFFICE BUILDING LOCATED ON THE SUBJECT PROPERTY. BASED ON FAIRFAX COUNTY RECORDS, IT WAS BUILT IN 1995. IT WILL BE RETAINED. THE EXTERIOR DESIGN, MATERIALS AND COLORS USED IN THE CONSTRUCTION OF ALL OF THE PROPOSED PARKING STRUCTURE EXPANSIONS WILL BE CONSISTENT WITH THE EXTERIOR BUILDING MATERIALS IN THE EXISTING PARKING STRUCTURE AS APPROVED BY THE DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL SERVICES (DPWES).
  - THE EXACT LOCATIONS, SHAPES AND SIZES OF THE PROPOSED PARKING STRUCTURE(S) SHOWN ON THE GRAPHIC ARE PRELIMINARY AND SCHEMATIC AND ARE NOT TO BE CONSIDERED FINAL. THEY ARE SUBJECT TO ADJUSTMENT AND REFINEMENT WITH FINAL ENGINEERING AND ARCHITECTURAL DESIGN SO LONG AS THEY REMAIN IN SUBSTANTIAL CONFORMANCE WITH THE REPRESENTATIONS ON THE FDPA. THE TOTAL GROSS FLOOR AREA, AND THE BUILDING HEIGHTS PRESENTED IN THE TABULATION ARE TO BE CONSIDERED MAXIMUMS. THE OPEN SPACE AS REPRESENTED IN THE TABULATION AND THE DIMENSIONS TO THE PERIPHERAL LOT LINES OF THE PDC DISTRICT AS REPRESENTED ON THE GRAPHIC ARE TO BE CONSIDERED MINIMUMS WITH THE UNDERSTANDING THAT ALL DIMENSIONS SHOWN ON THE GRAPHIC ARE SUBJECT TO MINOR MODIFICATION IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 16-403 OF THE ZONING ORDINANCE.
  - THE FLOOR AREAS REPRESENTED IN THE TABULATION ARE GROSS FLOOR AREAS AS DEFINED IN THE FAIRFAX COUNTY ZONING ORDINANCE.
  - IT IS UNDERSTOOD THAT ADDITIONAL SITE FEATURES SUCH AS GAZEBOS, BENCHES, COVERED WALKWAYS, FLAGPOLES, TRELLISES, WATER FOUNTAINS OR FEATURES, SIGNS, WALLS, FENCES, LIGHT STANDARDS AND/OR UTILITY MAINTENANCE STRUCTURES NOT REPRESENTED ON THE GRAPHIC MAY BE PROVIDED AS LONG AS THE RESULTANT PROPOSED DEVELOPMENT IS IN SUBSTANTIAL CONFORMANCE WITH THAT REPRESENTED ON THE GRAPHIC. IT IS ALSO UNDERSTOOD THAT MOBILE AND LAND-BASED TELECOMMUNICATION FACILITIES MAY BE PROVIDED ON SITE IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN SECT. 2-614 OF THE ZONING ORDINANCE.
  - ALL SIGNS WILL BE PROVIDED IN ACCORDANCE WITH THE PROVISIONS SET FORTH IN ARTICLE 12 OF THE ZONING ORDINANCE AND IN ACCORDANCE WITH THE COMPREHENSIVE SIGNAGE PLAN FOR FAIR LAKES AS MAY BE AMENDED.
  - ALL LIGHTING ON SITE WILL BE SHIELDED AND LOCATED IN SUCH A MANNER AS TO REDUCE GLARE ON ADJACENT PROPERTIES IN ACCORDANCE WITH THE STANDARDS SET FORTH IN ARTICLE 14 OF THE ZONING ORDINANCE.
  - IT IS CURRENTLY ANTICIPATED THAT, SUBJECT TO MARKET CONDITIONS, CONSTRUCTION OF THE PROPOSED PARKING STRUCTURE EXPANSION(S) WILL COMMENCE AS SOON AS REQUISITE PLANS AND PERMITS ARE APPROVED. THE SEVERAL DIFFERENT PARKING STRUCTURE EXPANSIONS MAY BE CONSTRUCTED IN SEVERAL PHASES.
  - TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT OF THE SUBJECT PROPERTY CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES, REGULATIONS AND ADOPTED STANDARDS EXCEPT AS QUALIFIED ABOVE.

**Dewberry**

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**NORITAKE associates**

**FAIR LAKES LAND BAY V-B-3-A FINAL DEVELOPMENT PLAN AMENDMENT**

FDPA 82-P-069-6-10  
FDPA 82-P-069-11-4  
FDPA 82-P-069-12-3  
SPRINGFIELD DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA  
PHILIP C. CHAMPAGNE  
No. 030073  
02/20/07  
PROFESSIONAL ENGINEER

KEY PLAN: FDPA 82-P-069-6-10 Staff: WJD

APPROVED DEVELOPMENT PLAN

DATE: 5/26/07

BY: [Signature]

FOR: [Signature]

SCALE: 0' 50' 100'

**REVISIONS**

No.	DATE	BY	Description
3	02.20.07	GAH	
2	01.30.07	GAH	
1	01.08.07	GAH	

DRAWN BY: gah

APPROVED BY: pgy

CHECKED BY: pgy

DATE: 08.14.06

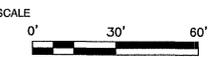
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PROJECT NO.: M-10605

SHEET NO.: 2 of 10



KEY PLAN

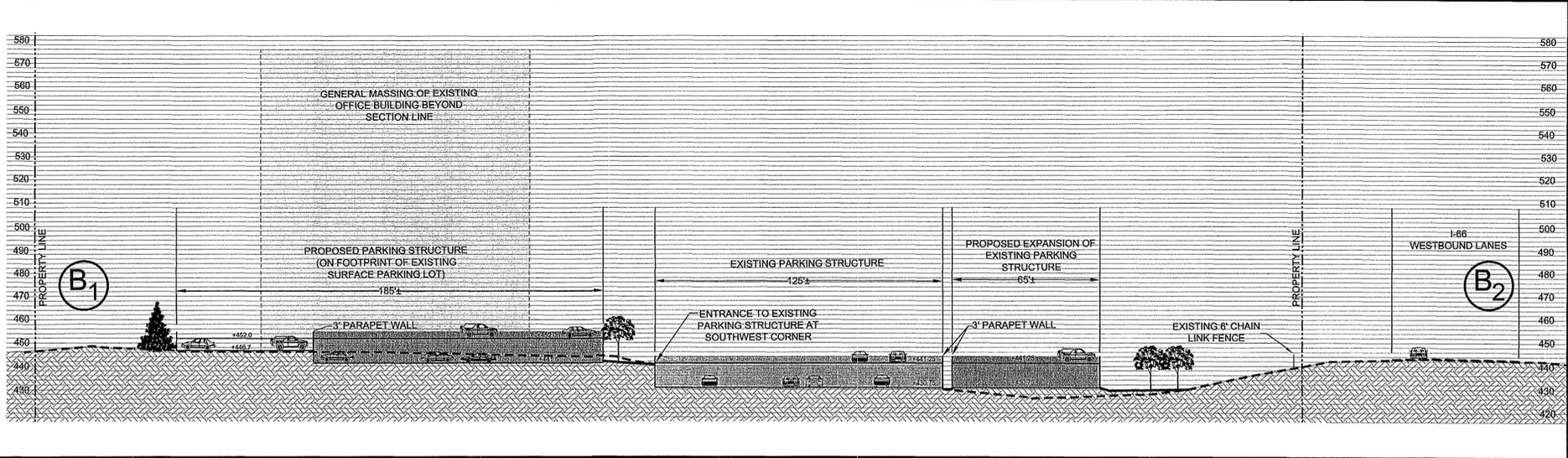
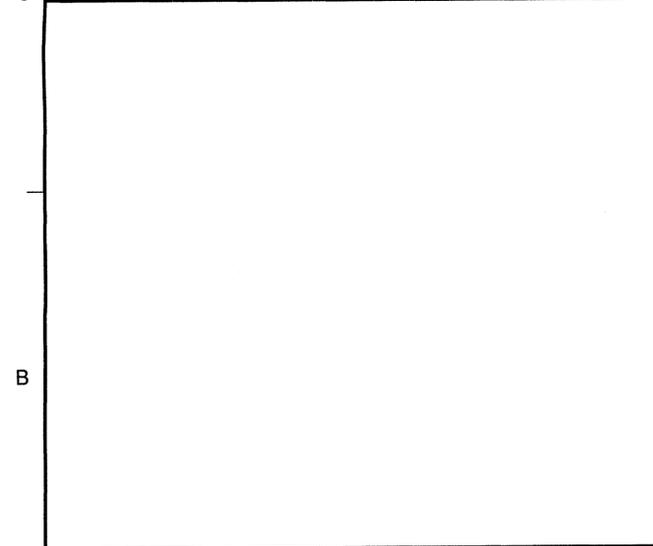
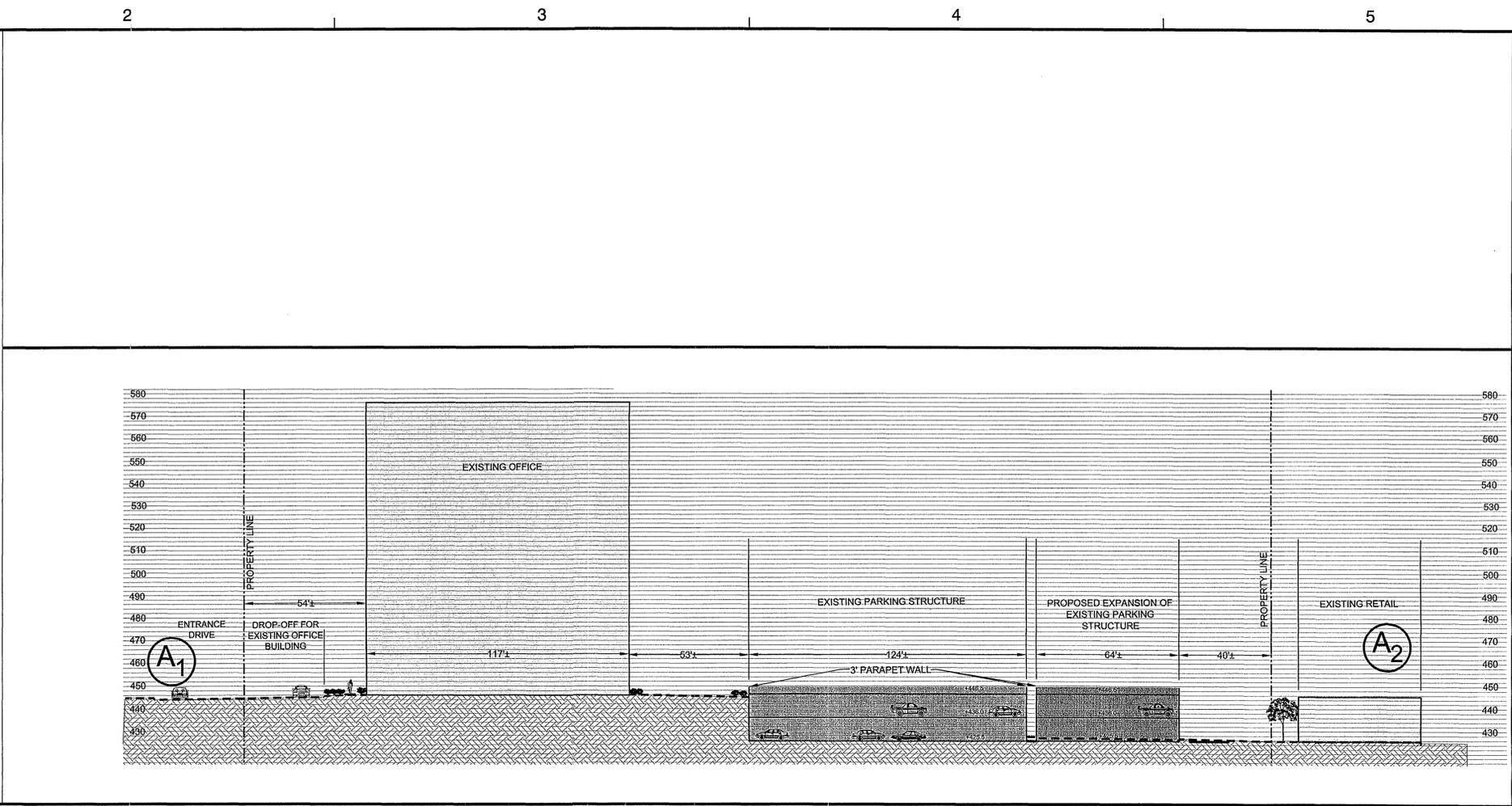
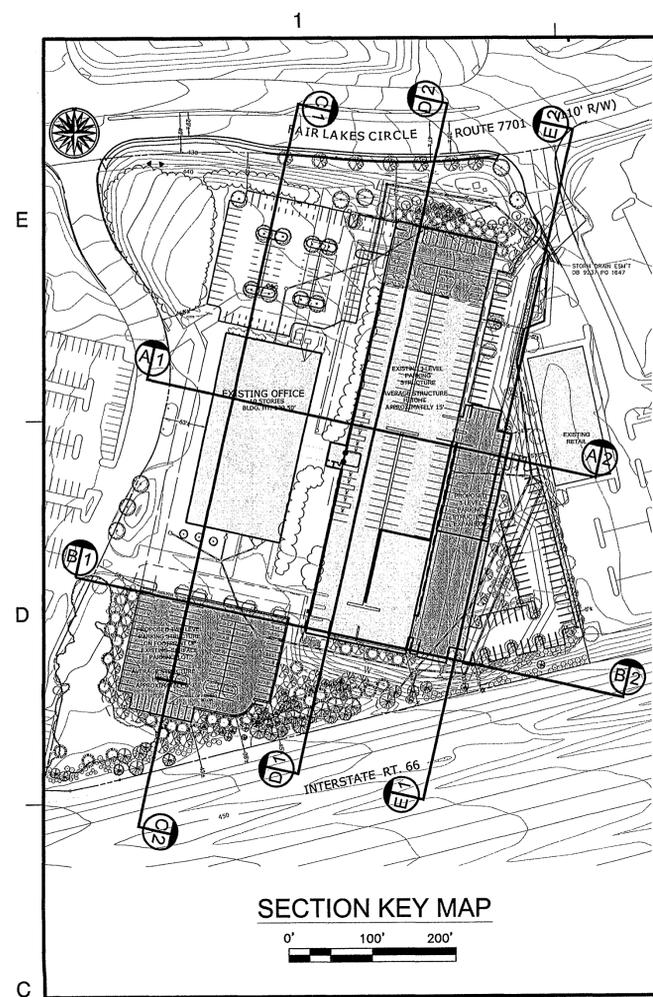


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1	01.08.07	GAH	

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 APPROVED BY PSY  
 CHECKED BY PSY  
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TITLE  
**FAIR LAKES V-B-3-A  
 FINAL DEVELOPMENT  
 PLAN AMENDMENT  
 SECTIONS**

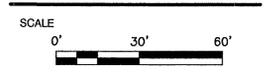
PROJECT NO. M-10605



Application No. FDA 82-P-069-6-10 Staff WON  
 APPROVED DEVELOPMENT PLAN  
 DP: GAH (CDM) (FDP) (CO PA)  
 JEE Contrib (FIS DATED) 5/2/07  
 Dat (FCI) approval 5/2/07  
 She. 3 of 10



KEY PLAN FDP# 82-P-069-6-10  
 APPROVED DEVELOPMENT PLAN  
 (GDP) (CDP) (FDP) (FDP#)  
 PROFFERS DATED 5/2/07  
 (BOS) (FC) approval 5/2/07  
 4 of 10

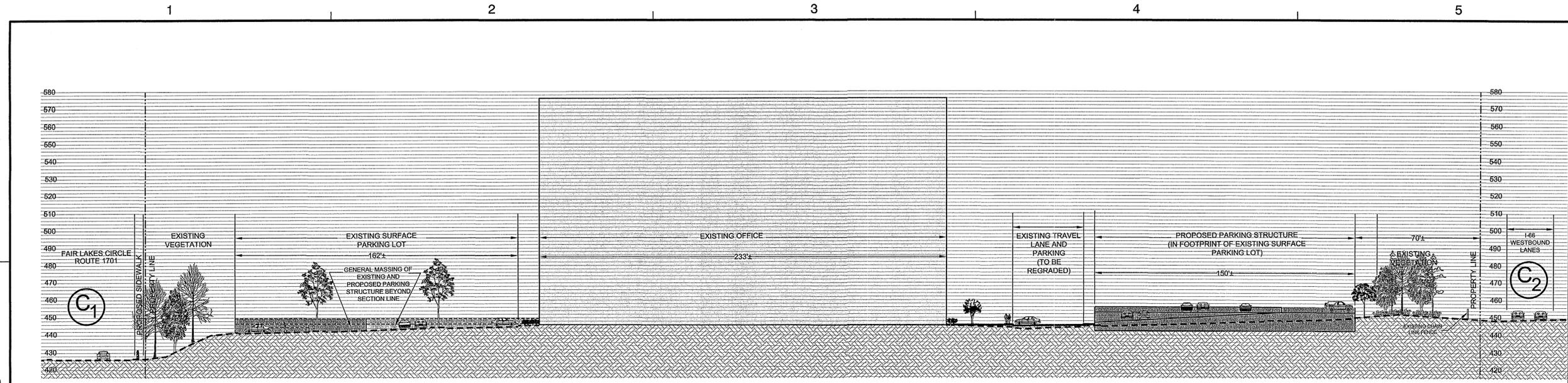


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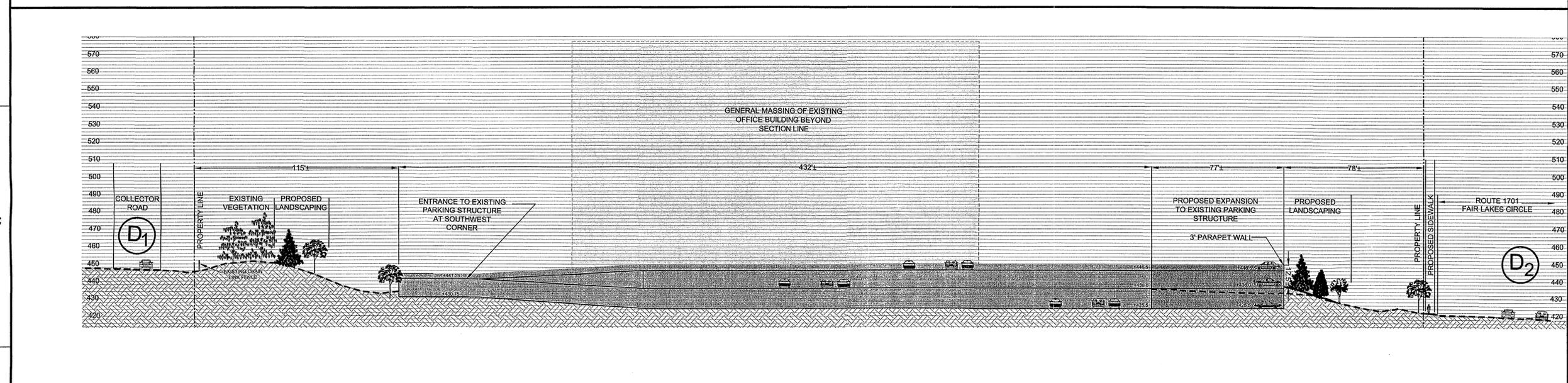
REVISIONS  
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 APPROVED BY pgv  
 CHECKED BY pgv  
 DATE 08.14.06

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 FINAL DEVELOPMENT  
 PLAN AMENDMENT  
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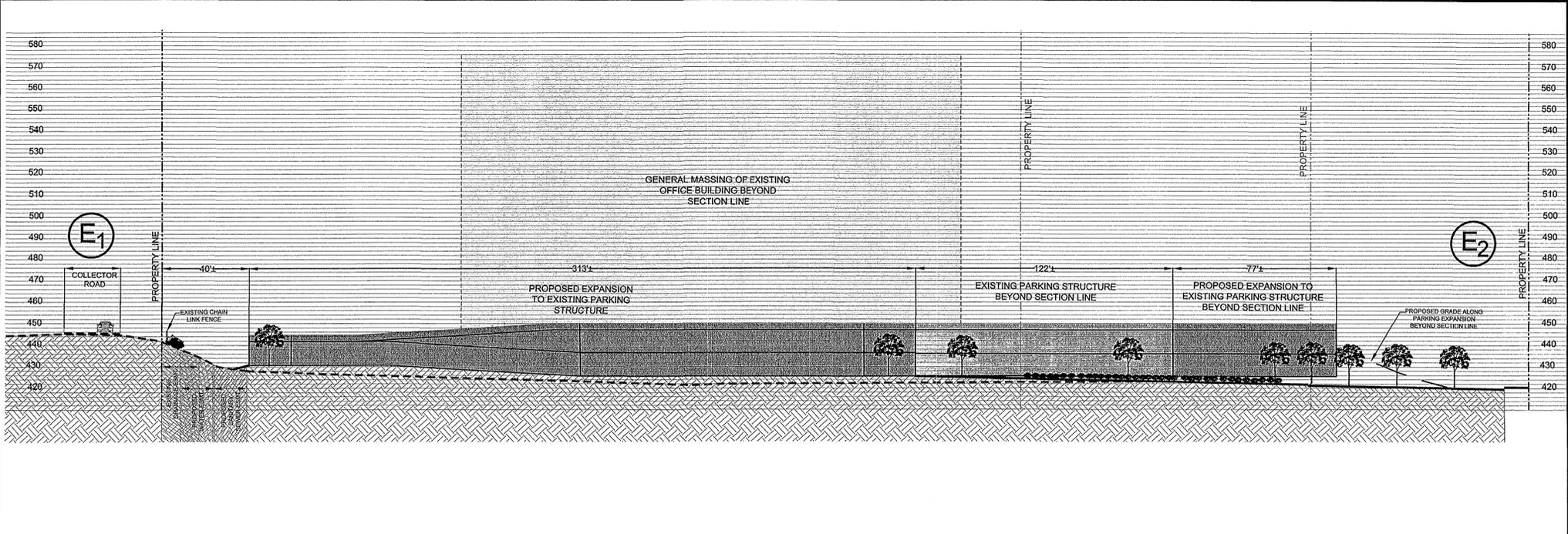
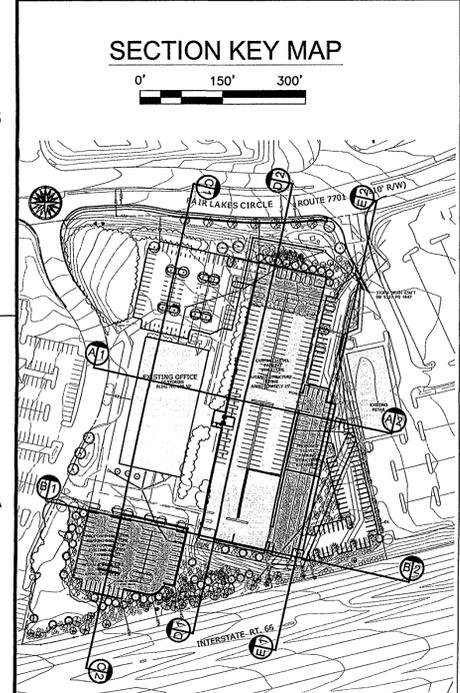
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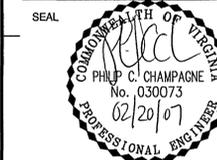
SECTION C



SECTION D



SECTION E

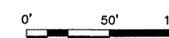


SEAL

FDP# 82-P-069-6-10  
 Application No. 5-14 WOD  
 APPROVED BY [Signature]  
 (DP) (GDP) (C) (P) (F) (E) (F) (E) (P) (A)  
 SEE PROFFER (DATE) 5/2/07  
 Date of (BO#) 5/2/07  
 Sheet 5 of 10

KEY PLAN

SCALE



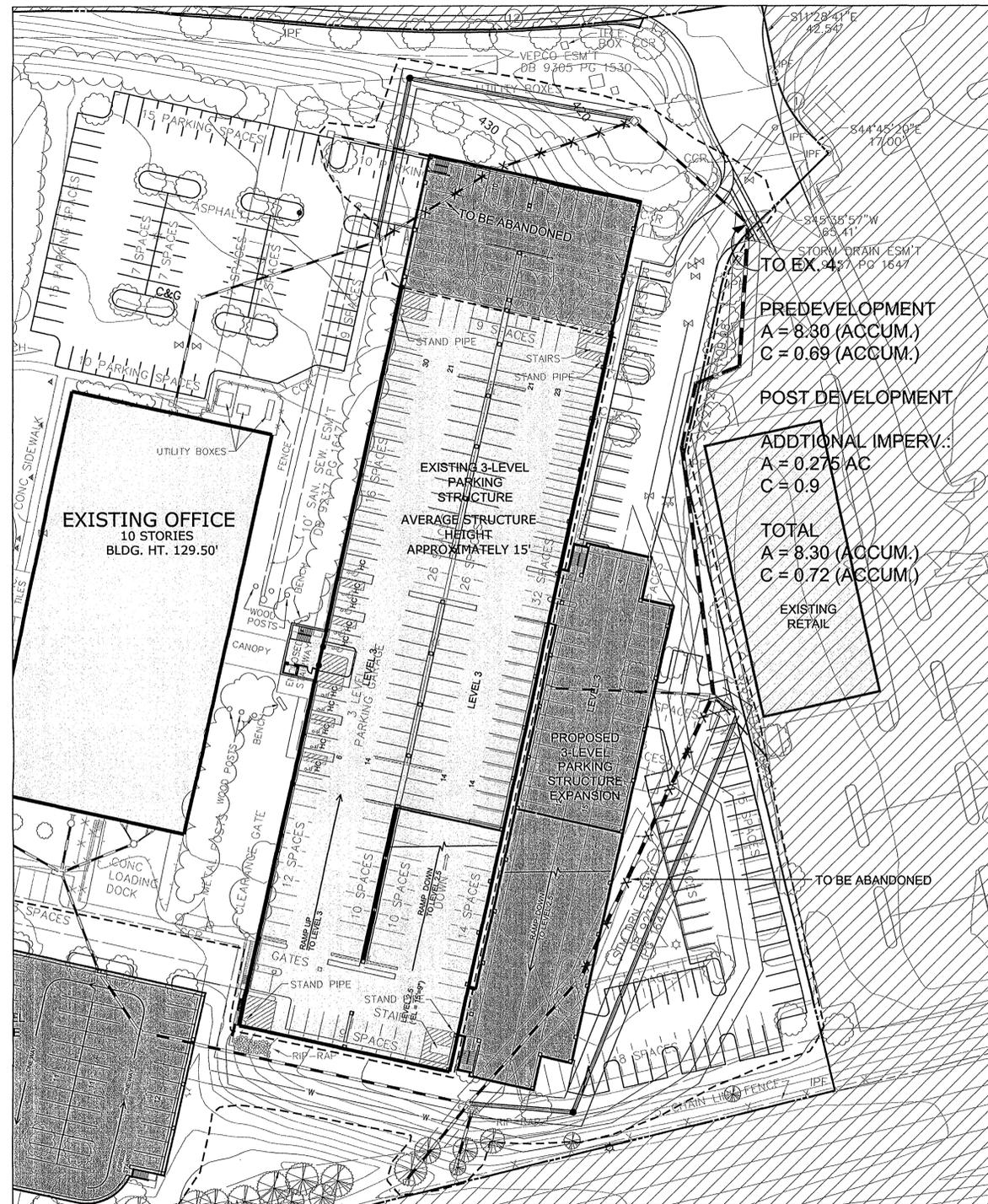
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REVISIONS

DRAWN BY gah  
 APPROVED BY pgy  
 CHECKED BY pgy  
 DATE 08.14.06

TITLE  
**FAIR LAKES V-B-3-A  
 FINAL DEVELOPMENT  
 PLAN AMENDMENT  
 SWM CALCULATIONS /  
 NARRATIVE**

PROJECT NO. M-10605



EXISTINGS / PROPOSED CONDITIONS  
 WITH UTILITY LAYOUT

PREDEVELOPMENT  
 A = 8.30 (ACCUM.)  
 C = 0.69 (ACCUM.)

POST DEVELOPMENT

ADDITIONAL IMPERV.:  
 A = 0.275 AC  
 C = 0.9

TOTAL  
 A = 8.30 (ACCUM.)  
 C = 0.72 (ACCUM.)

**ADEQUATE OUTFALL NARRATIVE**

THE STORM SEWER SYSTEM PROPOSED WITH THIS PLAN WILL DISCHARGE TO AN EXISTING STORM SEWER SYSTEM, BUILT WITH APPROVED SITE PLAN (FAIR LAKES BAY 5-B3, FFX. CO. #: 5727-SP-67), WHICH ULTIMATELY DISCHARGES INTO AN EXISTING REGIONAL FACILITY CONSTRUCTED WITH SITE PLAN "FAIRFAX COUNTY GOVERNMENT CENTER - LAND BAY "A", PHASE I SWM/BMP POND AND BALL FIELDS" BY WILLIAM H. GORDON & ASSOCIATES, FFX. CO. #: 7202-SP-03 (LOWER POND) WHOSE FINAL DESIGN WAS COMPLETED WITH SITE PLAN "EAST MARKET AT FAIR LAKES - PHASE I INFRASTRUCTURE BY WILLIAM H. GORDON & ASSOCIATES, FFX. CO. #: 7202-SP-04. THIS FACILITY IS LOCATED WITHIN THE 100 YEAR FLOOD PLAIN OF BIG ROCKY RUN.

THE PROPOSED DEVELOPMENT GENERATES A TOTAL INCREASE IN RUNOFF OF 1.81 CFS COMPARED TO EXISTING CONDITIONS (PER APPROVED PLAN "FAIR LAKES LAND BAY 5B-3 BY DEWBERRY AND DAVIS FFX. CO. #: 5727-SP-67). THE INCREASE IN RUNOFF IS A RESULT OF AN ADDITIONAL 0.275 ACRES OF IMPERVIOUSNESS OVER EXISTING CONDITIONS. GIVEN THE PROPOSED DEVELOPMENT DESCRIBED ABOVE, THE STORM SEWER COMPUTATIONS INDICATE THAT A 1.81 CFS INCREASE IN RUNOFF WILL NOT EXCEED CAPACITY OF THE EXISTING STORM SEWER LINES. FURTHER DOWNSTREAM ANALYSIS (FROM BOEX 37 TO BOEX 16) INDICATES THAT THE EXISTING STORM SEWER SYSTEM IS ADEQUATE TO ACCOMMODATE THIS FLOW INCREASE AS DEMONSTRATED BY THE STORMWATER MANAGEMENT COMPUTATIONS IN SITE PLAN "EAST MARKET AT FAIR LAKES - PHASE V BY WILLIAM H. GORDON & ASSOCIATES."

THEREFORE;

1. THE ULTIMATE POINT OF DISCHARGE IS AN ADEQUATE FACILITY WHICH WAS DESIGNED TO RECEIVE THIS INCREASE IN RUNOFF.
2. THE EXISTING STORM SEWER LINES HAVE ENOUGH CAPACITY TO ACCOMMODATE THIS FLOW INCREMENT.

IT IS OF THE OPINION OF THE DESIGN ENGINEER THAT THE EXISTING OUTFALL FOR THE PROPOSED DEVELOPMENT IS ADEQUATE.

**STORMWATER MANAGEMENT AND BMP NARRATIVE**

STORMWATER MANAGEMENT AND BMP WILL BE PROVIDED BY AN EXISTING REGIONAL STORMWATER/BMP FACILITY CONSTRUCTED WITH SITE PLAN "FAIRFAX COUNTY GOVERNMENT CENTER, LAND BAY "A", PHASE 1 SWM/BMP POND AND BALL FIELDS (LOWER POND), FFX. CO. #: 7202-SP-03. A SECOND POND ASSOCIATED WITH THIS FACILITY (UPPER POND) WAS PROPOSED WITH SITE PLAN "EAST MARKET AT FAIR LAKES - PHASE I -INFRASTRUCTURE, FFX. CO. #: 7202-SP-04. THE COMBINATION OF THESE SITE PLANS WILL PROVIDE ULTIMATE REGIONAL STORMWATER MANAGEMENT AND BMP INFRASTRUCTURE FOR THE ENTIRE FAIR LAKES DEVELOPMENT, WHICH INCLUDES BOTH, THE FAIR LAKES LAND BAY 5B-3 (WHERE THE PROPOSED DEVELOPMENT IS LOCATED) AND THE EAST MARKET SITE. THE REGIONAL FACILITY IS PRIVATELY OWNED AND MAINTAINED BY THE FAIR LAKES MASTER ASSOCIATION.

THEREFORE, IT IS OF THE OPINION OF THE DESIGN ENGINEER THAT STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES FOR THIS DEVELOPMENT ARE HEREBY PROVIDED.

From	To	Drainage Area (acre)	C Factor	Pre Development		Post Development								
				C x A Increment	Cumm	Runoff Q (cfs)	Capacity Q (cfs)	Delta (cfs)	C Factor	Runoff Q (cfs)	Capacity Q (cfs)	Delta (cfs)		
AMS SITE	EX	8.30	0.69			5.00	7.27	41.64			0.72	43.45		
EX 5	4D			0.12	0.23	5.00	7.27	1.65	8.04	6.39		3.46	8.04	4.58
4D	4C			0.00	4.55	5.00	7.27	33.06	36.79	3.73		34.87	36.79	1.92
4C	4B			0.00	4.66	5.00	7.27	33.86	36.79	2.93		35.67	36.79	1.12
4B	4A			0.00	4.66	5.00	7.27	33.86	44.94	11.08		35.67	44.94	9.27
4A	EX4	0.11	0.88	0.10	4.75	5.00	7.27	34.56	43.02	8.46	0.88	36.37	43.02	6.65
EX4	EX3			0.00	6.02	5.00	7.27	43.79	65.59	21.80		45.60	65.59	19.99
EX3	EX2			0.00	6.18	5.00	7.27	44.96	59.62	14.66		46.77	59.62	12.85
EX2	EX1			0.00	6.18	5.00	7.27	44.96	91.39	46.43		46.77	91.39	44.62
						5.00	7.27					1.81		
EX11	10A			0.00	7.81	5.00	7.27	56.78	105.26	48.48		58.59	105.26	46.67
10A	EX10			0.00	7.81	5.00	7.27	56.78	74.99	18.21		58.59	74.99	16.40
EX10	EX9			0.00	7.81	5.00	7.27	56.78	108.21	51.43		58.59	108.21	49.62
EX9	EX8	1.19	0.80	0.95	9.01	5.00	7.27	65.52	100.54	35.02	0.80	67.33	100.54	33.21
EX8	EX7	0.56	0.90	0.50	9.52	5.00	7.27	69.18	83.53	14.35	0.90	70.99	83.53	12.54
						5.00	7.27					1.81		
BOEX37	BOEX4	0.12	0.75	0.09	9.61	5.00	7.27	69.86	72.65	2.79	0.75	71.67	72.65	0.98
BOEX4	BOEX5	0.67	0.88	0.59	10.20	5.00	7.27	74.15	250.99	176.84	0.88	75.96	250.99	175.03
BOEX5	BOEX30	0.26	0.90	0.23	11.97	5.00	7.27	87.05	122.55	35.50	0.90	88.86	122.55	33.69
BOEX30	BOEX29			0.00	18.15	5.00	7.27	131.98	164.22	32.24		133.79	164.22	30.43
BOEX29	BOEX3	0.75	0.90	0.68	18.83	5.00	7.27	136.88	165.73	28.85	0.90	138.69	165.73	27.04
BOEX3	BOEX16	0.45	0.73	0.33	19.93	5.00	7.27	144.87	172.23	27.36	0.73	146.68	172.23	25.55





**NARRATIVE**

**Background**

This plan is a continuation of 2 previously approved plans. The first plan is a Drainage Study, Fairfax County Plan No. 7202-DS-01, entitled "Fairfax County Government Center, Land Bay 'A', Drainage Study Big Rocky Run". The second plan is a Site Plan that proposed the construction of a lower pond, Fairfax County Plan No. 7202-SP-03-2, entitled "Fairfax County Government Center, Land Bay 'A', Phase I SWM/BMP Pond and Ball Fields". The lower pond is built and is reflected in this plan as existing.

**Purpose of Plan**

The purpose of this plan is to complete the regional stormwater management (SWM)/BMP infrastructure for this site. This is accomplished through the construction of an upper pond. With the previously built lower pond and the proposed upper pond, the SWM/BMP requirements for this site along with some upstream off-site properties will be met. The design criteria for this facility is based on profers for this site and further defined by a memo from Carl Bouchard dated June 17, 2002. See copy this sheet.

**Hydrology**

All the hydrology for this plan has been taken from the 2 previously mentioned approved plans. This includes drainage areas, time of concentration (Tc), SCS runoff curve number and the HEC-1 hydrologic models that have established the modeling of watershed. (SEE SHEETS 15A AND 15B.)

**Summary of Hydrologic Models**

1. **Allowable Release Rates (Model No. 1):** Allowable Release Rates for this site were established with the approved Drainage Study, Model No. 1 was taken from that study as shown on Sheet 6.  
 2. **Proposed Upper Pond Routings (Model No. 2):** This model establishes the 2-year and 10-year release rates from the ultimate development within the site. It is the model that is shown on Sheet 17A of the Site Plan that proposed the Lower Pond with the following exceptions. The proposed Upper Pond and associated grading are incorporated into the model, as well as reductions in the Lower Pond storage resulting from the proposed Upper Pond embankment. With the incorporation of the proposed Upper Pond, the watershed network was revised accordingly. The CN for sub-basin B2 has been changed from 92 to 89. The CN of 89 is the appropriate value and was proposed with the Drainage Study, as shown on Sheet 5. The CN for sub-basin A1 has been changed from 89 to 91. The CN of 91 is the appropriate value and was proposed with the Drainage Study, as shown on Sheet 5. This change in CN for sub-basin A1 provides for stormwater management for the future development with sub-basin A1. Lastly, the units have been changed from Metric to English units. The results of the model indicate the release rates from the site are well below the allowable release rates established in Model No. 1.

3. **Spillway Design Flood (SDF) (Model No. 3):** This model establishes the Spillway Design Flood as the 100-Year Storm. The model is the same as Model No. 2 mentioned above with the following exception. The precipitation value on the JR card was changed to reflect the 100-Year Storm. The starting routing elevation, as shown on the RS card, of the proposed Upper Pond and existing lower pond was revised to exclude any BMP volume. The BMP orifice, as described on the SL card of both ponds was deleted to exclude any BMP discharge. The results of the model indicate that 2' of freeboard has been provided in the Upper Pond.

4. **Freeboard Hydrograph (FBH) (Model No. 4):** This model establishes the Freeboard Hydrograph as the 1.5 x 100-Year Storm. The model is the same as Model No. 3 mentioned above with the following exceptions. The precipitation value on the JR card was changed to reflect the 1.5 x 100-Year Storm. The outflow rating curve, as shown on the SQ and SE cards, used for the Lower Pond was taken from Sheet 18 of the Site Plan that proposed the Lower Pond and converted to English units, instead of being modeled within Hec-1 using SS and ST Cards. This was done to account for the backwater effect on the Lower Pond spillway from Fair Lakes Circle. The results of the model indicate that the top of dam elevation is above the water-surface elevation resulting from the routing of the FBH.

5. **Dam Breach Analysis "SUNNY DAY" Breach (Model No. 5):** This analysis establishes the impact of a "Sunny Day" breach downstream of the proposed Upper Pond. The model is the same as Model No. 3 mentioned above with the following exceptions. The precipitation value on the JR card was changed to reflect a pond inflow of 0. A SB Card was inserted into the model to simulate the breach. The elevation of the water-surface, which causes the failure, was assumed at the crest of the emergency spillway. The results of the model indicate that the water-surface elevation resulting from the routing of the dam breach hydrograph is less than the 100-year flood elevation in the Lower Pond.

6. **Dam Breach Analysis "DAM OVERTOPPING" Without Upper Pond (Model No. 6):** This analysis establishes the flood depth in the Lower Pond "without" the Upper Pond. The results from this model will be compared to the flood depth in the Lower Pond "with" the Upper Pond. The model is the same as Model No. 5 mentioned above with the following exceptions. The precipitation value on the JR card was changed to reflect 2.5 x 100-Year Storm. This is the next highest storm to cause overtopping. The proposed Upper Pond was deleted from the model. Downstream of the proposed pond the model was taken from the previous Dam Breach Overtopping Analysis as shown on Sheet 20 of the Site Plan that proposed the Lower Pond and converted to English units. The Stage-Discharge data for Fair Lakes Circle was slightly adjusted to better reflect the data presented in the Site Plan.

7. **Dam Breach Analysis "DAM OVERTOPPING" With Upper Pond (Model No. 7):** This analysis establishes the flood depth in the Lower Pond "with" the Upper Pond. The results from this model will be compared to the flood depth in the Lower Pond "without" the Upper Pond. The model is the same as Model No. 6 mentioned above with the following exceptions. The proposed Upper Pond was inserted into the model. The combined spillway was modeled with SQ/SE Cards, while the top of dam was modeled with a ST Card. A SB Card was inserted into the model to simulate the breach. The elevation of the water-surface, which causes the failure, was assumed at 1' above the top of dam elevation. The results of the model indicate that the water-surface elevation resulting from the routing of the dam breach hydrograph is less than the water-surface elevation in the Lower Pond "without" the Upper Pond.

**II. WATERSHED INFORMATION**

Part 1: List all of the Subareas and "C" factors used in the BMP Computations

Subarea Designation (1)	"C" (2)	Acres (3)	Product (4)
Onsite Parcel Landbay A and Parcel 14B1	0.60	35.50	21.30
Offsite Parcels Promenade, Kaiser & Silver Diner Government Properties	0.90 0.70	21.70 95.80	19.53 67.06
<b>Total</b>		<b>153.00</b>	<b>153.00</b>

**III a. PHOSPHORUS REMOVAL - "OCOQUAN METHOD"**

Part 2: Compute the Weighted Average "C" Factor for the Site

(A) Area of the Site (a) 35.50 acres

Subarea Designation (1)	"C" (2)	Acres (3)	Product (4)
Landbay A and Parcel 14B1	0.60	35.50	21.30
<b>Total</b>		<b>35.50</b>	<b>21.30</b>

(C) Weighted average "C" factor (b)/(a) = (C) 0.60

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	Removal Efficiency (%) (2)	Area (Acres) (3)	"C" Ratio (4)	Product (5)	Product (6)
Regional Dry Pond (PFM Table 6.3)	50	35.50	1.00	1.00	50.00
<b>Total</b>					<b>50.00</b>

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (a) 50

Water Supply Overlay District (Ocoquan Watershed) =	50% (Fairfax County and Prince William County)
Line 3(a) 50.0	>= 50

**PHOSPHORUS REMOVAL REQUIREMENT IS SATISFIED**

**IV. SITE COVERAGE**

Part 5: Determine Compliance with Site Coverage Requirement

There are no uncontrolled onsite areas - therefore, site coverage requirement is met.

Part 6: Determine the Offsite Areas for this Coverage is Required

Since 100% of the site is covered, there are no offsite areas from which credit is required.

**V. STORAGE**

Part 7: Compute the Weighted Average of "C" Factor for Each Proposed BMP Facility

(A) List the areas to be controlled by the proposed BMP

Subarea Designation (1)	"C" (2)	Acres (3)	Product (4)
Landbay A and Parcel 14B1	0.60	35.50	21.30
Promenade, Kaiser & Silver Diner	0.90	21.70	19.53
Government Properties	0.70	95.80	67.06
<b>Total</b>		<b>153.00</b>	<b>153.00</b>

(B) (b) Total 107.89

(C) Weighted average "C" factor (b)/(a) = (C) 0.71

Part 8: Determine the Storage Required for Each Proposed Facility

Regional Dry Pond

PFM Plate 2-6  
 $[(4375 \times C) - 875] \text{ or } [31.25 \times \% \text{ imp.}] = (a)$  2,231 cftac  
 Design 1 (48 hour drawdown) Line 7(a) 153.00 x Line 8(a) 2231.25 = 341,381 cf

**VI. OUTLET COMPUTATION**

Part 9: Determine the Required Orifice Size for Each Extended Detention Facility

- (A) BMP Storage requirement (S) from Part 8. (A) 341,381
- (B) Maximum Head (h) at the required BMP storage from the elevation-storage curve for the facility. (B) 13.39 ft
- (C) Peak outflow rate (Qp) at the maximum head for a drawdown time of 48 hours (Qp = S / (0.5 x 3600 x 48)). 0.000016 x Line 9(a) (C) 5.48 cfs
- (D) Required orifice area (A) [A = Qp / (0.6 x (64.4 x h)<sup>0.5</sup>)] Line 9(C) 546 / [(0.6 x (64.4 x Line 9(b) 13.39)<sup>0.5</sup>)] (D) 0.31 sf
- (E) Diameter of a circular orifice. 2.0 x (Line 9(d)) / 3.1415937<sup>0.5</sup> = (E) 0.63 ft  
 Diameter of orifice provided = 180mm = 7.2 in  
 See Sheet 23A of 39



June 10th, 2002

Mr. Carl Bouchard, P.E.  
 Director, Stormwater Planning Division  
 Fairfax County DPW&ES  
 12000 Government Center Parkway  
 Suite 448  
 Fairfax, VA 22035

Subject: Fairfax County Landbay A - Stormwater Management (SWM) and BMP Facility WHGA # 734-0310

Re: Response to your letter dated May 30<sup>th</sup>, 2002 regarding proposed SWM release rates and BMP volumes

Dear Mr. Bouchard:

William H. Gordon Associates, Inc. has reviewed your letter referenced above and we have re-analyzed the stormwater management (SWM) release rates and BMP volumes as you have requested. For this new analysis, and as you have suggested, we assumed that the SWM release rates could exceed the minimum allowable and that we could exercise (slightly) within the EQC. The excavation in the EQC area is limited to the removal of the old dirt roadbed only. Additionally, we propose a weir length that is slightly greater than the weir previously proposed with the approved drainage study. All in an effort to maximize the BMP volume.

Utilizing these new design parameters, two additional scenarios were analyzed for the upper pond. Each scenario assumes the same top of dam elevation of 410 and establishes the maximum 100 year WISE at elevation 408. Through a trial and error process, we concluded that additional BMP volume of approximately 2.0 acre-feet could be provided in the upper pond by establishing the BMP elevation at 401 (scenario #1). This provides a 2 foot freeboard requirement for the 100 year storm event, however, the 10 year release rate (1372 cfs) exceeds the minimum (1330 cfs) by approximately 42 cfs. We also ran the calculations by establishing the BMP at elevation 402 (scenario #2). This provides approximately 3.5 acre-feet of BMP storage, however, the 10 year release rate is also exceeded and the freeboard from the top of dam to the 100 year WISE is less than two feet. Given these two scenarios, WHGA recommends that the BMP elevation be set at elevation 401, thereby we can provide two feet of freeboard for the 100 year storm but we have a slight increase in the 10 year release rate. This scenario will provide approximately 2.0 acre feet of storage.

In addition to the recommended increase of BMP in the upper pond, WHGA re-calculated the BMP volume that is provided in the lower pond. After accounting for the volume loss associated with the upper pond embankment and a re-measurement of the remaining area we have found that the lower pond will provide approximately 12.5 acre-feet of BMP storage. Therefore, the combined volumes of the recommended scenario for the upper pond and the new values for the lower pond provide approximately 14.5 acre-feet of BMP storage. This would not be possible without the excavation in the EQC and the increase in the 10 year release rate.

Carl E. Bouchard, P.E.  
 June 7th, 2002  
 Page 2

I also wanted to point-out that there are several elements of the proposed SWM/BMP facility that will require modifications to the Public Facilities Manual (PFM). First, we need your permission to permit the SWM release rate for the 10 year storm to be greater than the allowable. Second, we request permission to have a combined principal and emergency spillway. Finally, the upper pond is being designed using the 100-year and the 1.5 x 100 year storm for the SDF/FBH which is less than the current PFM criteria. This final modification is similar to the permitted design of the lower pond and was a design parameter mentioned as far back as the 1995 Dewberry and Davis report attached with your letter.

Enclosed are our calculations supporting our conclusions. We ask for your approval of our recommendations and the acceptance of our PFM modifications. We would appreciate the opportunity to meet with you to discuss this information at your earliest convenience. Please call if you have any questions.

Sincerely,  
 WILLIAM H. GORDON ASSOCIATES, INC.

*[Signature]*  
 Robert W. Walker, C.L.A.  
 Vice President

cc: Hossain Malayeri, FFX City  
 Cary Euser, Metropolitan Partnership  
 Wayne Barber, Metropolitan Partnership  
 Carlos Montenegro, Metropolitan Partnership  
 Ken Lin, FFX City  
 John Friedman, FFX City  
 Han Chay, WHGA  
 Joe McClellan, WHGA

BMP EL=402 FT

NO.	ITEM	LOWER POND	UPPER POND	TOTAL BMP	REMARKS
1	BMP EL	397.88 FT	401.00 FT		
2	BMP VOLUME	12.5 AF	1.50 AF	14.5 AF	
3	TOP OF DAM	404.55 FT	410.00 FT		
4	100-YEAR W.S.E	402.11 FT	408.23 FT		LESS THAN 2' F.B.
5	1.5 X 100 YR W.S.E	403.59 FT	409.74 FT		
6	10-YEAR W.S.E	401.62 FT	407.23 FT		
7	2-YEAR PEAK FLOW	592.00 CFS	-		
8	10-YEAR PEAK FLOW	1335.00 CFS	-		

BMP EL=401 FT

NO.	ITEM	LOWER POND	UPPER POND	TOTAL BMP	REMARKS
1	BMP EL	397.88 FT	401.00 FT		
2	BMP VOLUME	12.5 AF	2.00 AF	14.5 AF	
3	TOP OF DAM	404.55 FT	410.00 FT		
4	100-YEAR W.S.E	402.11 FT	407.88 FT		2.15' F.B.
5	1.5 X 100 YR W.S.E	403.60 FT	409.35 FT		
6	10-YEAR W.S.E	401.62 FT	406.41 FT		
7	2-YEAR PEAK FLOW	636.00 CFS	-		
8	10-YEAR PEAK FLOW	1372.00 CFS	-		

NOTE: LOWER POND VOLUME IS AFTER UPPER POND BUILT.

The Gordon Building  
 4501 Daly Drive  
 Chantilly, Virginia 20151  
 703-263-1900  
 (fax) 703-263-0786

FAIRFAX COUNTY, VIRGINIA

MEMORANDUM

TO: Michelle Brickner, Director  
 Office of Site Development Services

DATE: June 17, 2002

FROM: Carl E. Bouchard, Director  
 Stormwater Planning Division

REFERENCE: Land Bay "A"  
 Upper BMP/SWM pond design

We have completed the review of the hydraulic analysis for the referenced project by William H. Gordon Associates, Inc (WHGA). The analysis was performed as part of the Agreement between Fairfax County and the developer of Land Bay "A", to design and construct a two-pond system to meet the BMP/SWM requirements for the entire watershed upstream of Land Bay "A".

We conclude that the hydraulic analysis for the two-pond system included in the June 10, 2002 letter from WHGA satisfies the requirements stated in the Agreement. However, to accomplish these results, it is necessary that the County grant waivers/permits for the following conditions:

- 10-year release rate of the post-development condition to be greater than that of the pre-development by 3.16%, namely 42 cfs.
- The Spillway Design Flood and Free Board Hydrograph (SDF/FBH) to be routed through the 100-year and 1.5x100-year storm, respectively.
- Allow the use of a combined principal and emergency spillway.

The above actions require approvals from OSDS, DPZ, Planning Commission and the Board of Supervisors. We recommend that the waivers be granted.

Enclosed is the June 10, 2002 letter from WHGA, showing the data used in the analysis. If you have any questions or require additional information, please call Ken Lin or me at 324-5500.

CEB/ab/m4-m2.dcr

Attachments: As Stated

cc: Hossain Malayeri, Building Design Branch, Planning and Design Division  
 John Friedman, Office of Site Development Services  
 Harbun Matharoo, Chief, Storm Drainage Projects Branch, SWPD

**ADAQUATE OUTFALL NARRATIVE**

THIS PROJECT HAS MULTIPLE STORM DRAINAGE OUTFALLS THAT DISCHARGE INTO THE 100 YEAR FLOODPLAIN AND THE EXISTING STORMWATER DETENTION FACILITY CONSTRUCTED PER PLAN # 7202-SP-02. THE EXISTING STORMWATER DETENTION FACILITY WAS DESIGNED TO PROVIDE STORMWATER MANAGEMENT FROM THIS PROJECT AND HAS AN EXISTING ADAQUATE OUTFALL DOWNSTREAM OF THE POND AS DETERMINED ON PLAN # 7202-SP-02 AND SUPPORTED BY PREVIOUS COUNTY APPROVAL. THEREFORE, IT IS IN THE OPINION OF THIS ENGINEER THAT THE OUTFALL FOR THIS PROJECT IS ADAQUATE.

**BMP MAINTENANCE NOTE**

THE PROPOSED EXTENDED DRY POND THAT INCLUDES BMP MEASURES SHALL BE MAINTAINED BY THE DEVELOPER.

NOTE REGARDING COMBINED SPILLWAY:  
 THE COMBINED SPILLWAY IS REQUIRED DUE TO THE FACT THAT THE ROAD IS PROPOSED OVER THE DAM, WHICH DOES NOT PERMIT A SEPARATE "OVER THE DAM" EMERGENCY SPILLWAY. THIS POND HAS BEEN PROPOSED CONCEPTUALLY FOR YEARS AND HAS ALWAYS BEEN ENVISIONED AS A COMBINED SPILLWAY. COMPUTATIONS REGARDING THIS POND AND A REQUEST TO PERMIT THE COMBINED SPILLWAY WERE PREVIOUSLY SUBMITTED TO MR. CARL BURCHARD, CHIEF OF THE STORMWATER MANAGEMENT DIVISION. A MEMO IS ENCLOSED WHICH INDICATES MR. BURCHARD CONCURRED WITH THE CONCEPT OF A COMBINED PRINCIPAL AND EMERGENCY SPILLWAY.

FDPA 82-P-069-6-10  
 Application No. 35537  
 APPROVAL BY: [Signature]  
 (DP) (GDP) (CDP) (FL) (FDPA)  
 SEE PROPOSED DATED 5/20/02  
 Date of (BOS) (FC) approval 5/20/02  
 Sheet 8 of 10

**FOR INFORMATION ONLY!**

**BMP FACILITY DESIGN CALCULATIONS**

Plan Name: East Market, Phase I Date: 7/21/2004  
 Plan Number: 7202-SP-04 Engineer: LFM

**I. WATER QUALITY NARRATIVE**

The site area is approximately 35.5 acres. Two on-site facilities act as a regional facility and will serve the entire site, as well as large portions of the existing developed off-site areas. The pond is existing with the original plan for Landbay A and is being modified with this plan to divide it into two ponds with the construction of the roadway embankment for Market Commons Drive.

THE VOLUME PROVIDED IN THE SWM/BMP FACILITY IS PER THE APPROVED METHODOLOGY SUMMARIZED IN SCENARIO #1 OF THE LETTER DATED JUNE 10, 2002 FROM WILLIAM H. GORDON ASSOCIATES, INC TO CARL BOUCHARD, DIRECTOR OF STORMWATER PLANNING DIVISION, FAIRFAX COUNTY DPW & ES (SEE COPY, THIS SHEET).

BECAUSE THE FACILITY PROVIDES SUFFICIENT VOLUME TO MEET THE REQUIREMENTS FOR THIS SITE AND THE OFFSITE PARCELS DRAINING TO IT, AND, BECAUSE THE TOTAL DRAINAGE AREA TO THE FACILITY EXCEEDS 100 ACRES, IT QUALIFIES AS A REGIONAL DRY POND, WHICH HAS A PHOSPHORUS REMOVAL EFFICIENCY OF 50% ACCORDING TO TABLE 6.3, FAIRFAX COUNTY PFM.

REVISIONS

SURVEY WHCA

DESIGN S. PANDISH

DRAWN S. PANDISH

CHECKED J. MCCLELLAN

DATE OCTOBER 2003

SCALE HORZ: N/A  
 VERT: N/A

SEAL

COMMONWEALTH OF VIRGINIA  
 LAURA F. MILLER  
 NO. 35537  
 7/1/04  
 PROFESSIONAL ENGINEER

NARRATIVE AND BMP COMPUTATIONS

PROJECT EAST MARKET AT FAIR LAKES PHASE I INFRASTRUCTURE

JOB 0734-0507

CADD 0734BMP.DWG

SHEET 15 OF 39

M-10605 SHEET 8 OF 10



**LANDSCAPE TABULATIONS**  
THE INFORMATION PROVIDED BELOW IS INTENDED TO REFLECT THE ABILITY TO SATISFY MINIMUM LANDSCAPE REQUIREMENTS WITHIN THE PROPOSED DEVELOPMENT PROGRAM. AT TIME OF SITE PLAN, INDIVIDUAL TREES IDENTIFIED MAY VARY AND/OR ADDITIONAL TREES MAY BE IDENTIFIED AS CONTRIBUTING TOWARDS MEETING THE LANDSCAPE REQUIREMENT AND/OR ADDITIONAL TREE COVER MAY BE CLAIMED FOR EXISTING TREES WITH LARGER CALIPER/TREE COVERAGE.

<b>INTERIOR PARKING LOT LANDSCAPING</b>	
PARKING LOT AREA	170,150±AC
MIN. INTERIOR PARKING LOT LANDSCAPING REQUIRED (6%)	8,508±SF
MIN. INTERIOR PARKING LOT LANDSCAPING TO BE PROVIDED (6%)	8,600±SF
43 CAT IV DECIDUOUS TREES @ 200SF/TREE	
<b>TREE COVER</b>	
TOTAL SITE AREA	8.38±AC
EXISTING ZONING	PDC
MINIMUM TREE COVER REQUIRED (10%)	36,417±SF
MINIMUM TREE COVER PROPOSED	51,475±SF
AREA OF EXISTING TREES TO BE PRESERVED	42,875±SF
32,300±SF X 1.25 = 42,875±SF	
AREA OF MIN. INTERIOR PARKING LOT LANDSCAPING PROPOSED (SEE ABOVE)	8,600±SF

- LEGEND**
- EXISTING VEGETATION
  - EXISTING VEGETATION TO BE PRESERVED
  - PROPOSED LARGE DECIDUOUS TREE  
2.5" MINIMUM CALIPER
  - PROPOSED LARGE EVERGREEN TREE  
MINIMUM 8' HEIGHT
  - PROPOSED SMALL EVERGREEN TREE  
MINIMUM 6' HEIGHT
  - PROPOSED SHRUB
  - AREA OF EXISTING TREE COVER TO BE PRESERVE
  - DENOTES TREE WHICH MAY BE COUNTED  
TOWARDS SATISFYING THE INTERIOR  
PARKING LOT LANDSCAPE REQUIREMENT
  - EXISTING STORM SEWER
  - PROPOSED STORM SEWER
  - PROPOSED WATER LINE
  - LIMITS OF CLEARING AND GRADING

Application No. FDPA 82-P-069-6-10  
 APPROVED BY [Signature]  
 (DP) (DDP) (CDP) (LUP) (FDPA)  
 SEE PROCEEDINGS DATED 5/2/07  
 Date of (BOB) (PC) approval 5/2/07  
 Sheet 9 of 10



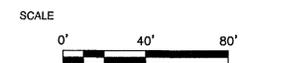
Dewberry & Davis LLC  
 8403 ARLINGTON BLVD.  
 FAIRFAX, VA 22031  
 PHONE: 703.949.0100  
 FAX: 703.949.0519  
 www.dewberry.com



**FAIR LAKES  
 LAND BAY V-B-3-A  
 FINAL DEVELOPMENT  
 PLAN AMENDMENT**  
 FDPA 82-P-069-6-10  
 FDPA 82-P-069-11-4  
 FDPA 82-P-069-12-3  
 SPRINGFIELD DISTRICT  
 FAIRFAX COUNTY, VIRGINIA



KEY PLAN



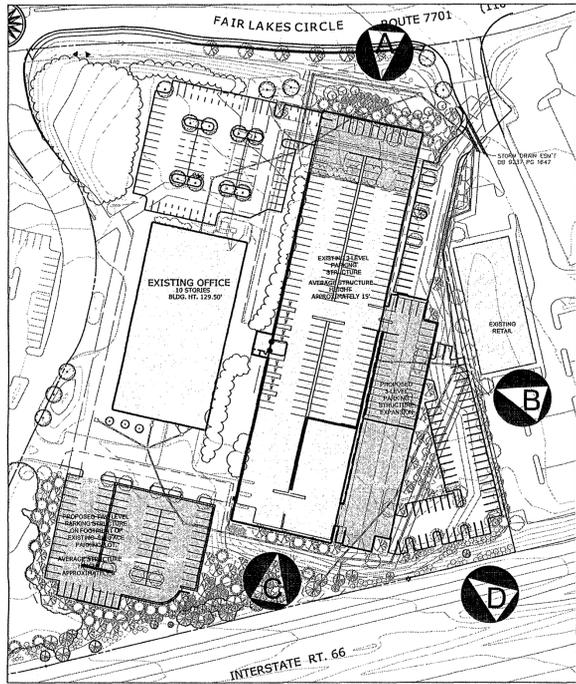
No.	DATE	BY	Description
3	02.20.07	GAH	
2	01.30.07	GAH	
1	01.08.07	GAH	

DRAWN BY gah  
 APPROVED BY pgy  
 CHECKED BY pgy  
 DATE 08.14.06

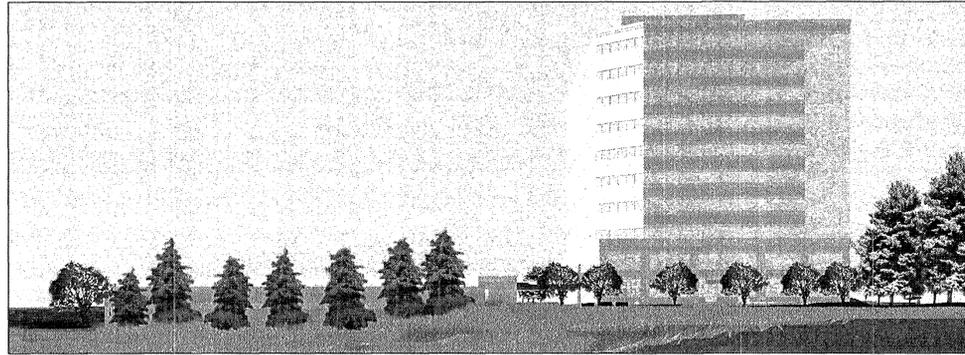
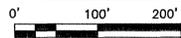
TITLE  
**FAIR LAKES V-B-3-A  
 FINAL DEVELOPMENT  
 PLAN AMENDMENT  
 LANDSCAPE DETAIL**

PROJECT NO. M-10605

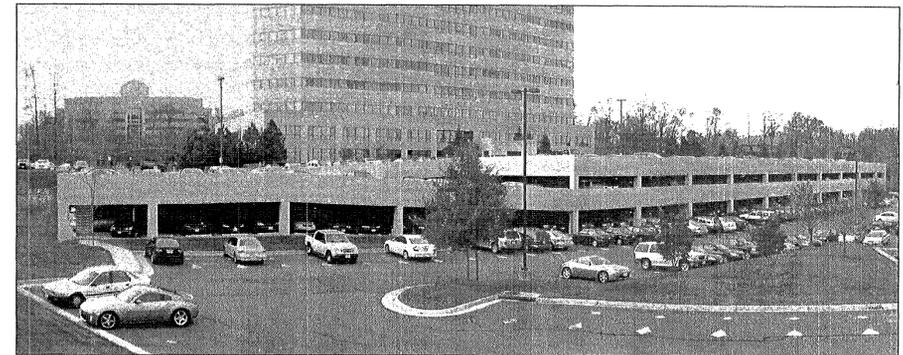
THE ARCHITECTURAL ELEVATIONS PRESENTED ON THIS SHEET ARE PRELIMINARY. THEY REPRESENT THE PROPOSED MASS, BULK AND GENERAL LAYOUT OF THE PROPOSED EXPANSION OF THE EXISTING PARKING STRUCTURE ON THE SUBJECT PROPERTY.



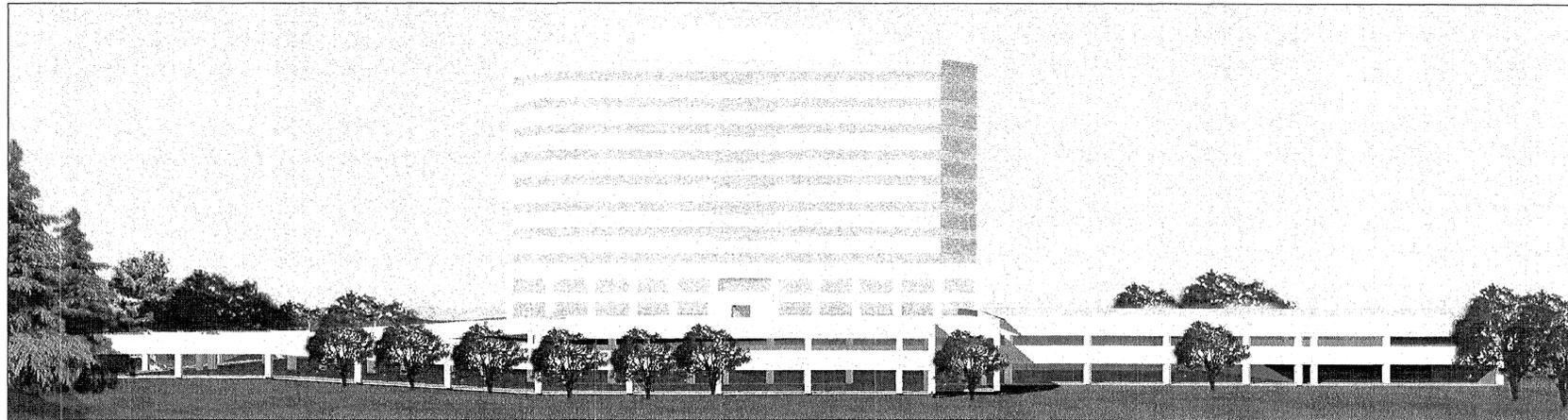
KEY MAP



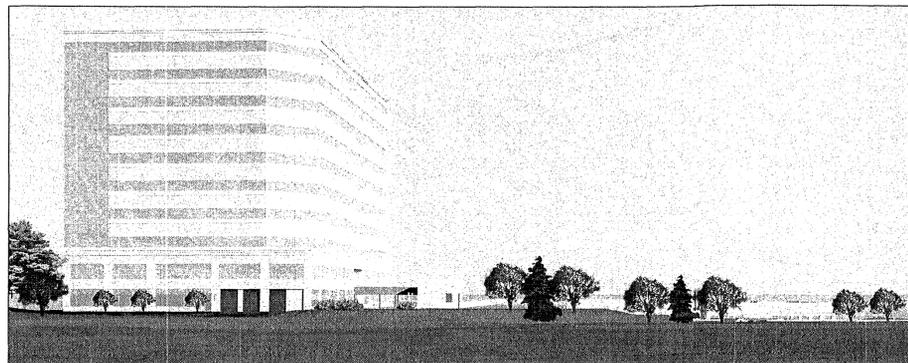
ELEVATION "A"



REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE



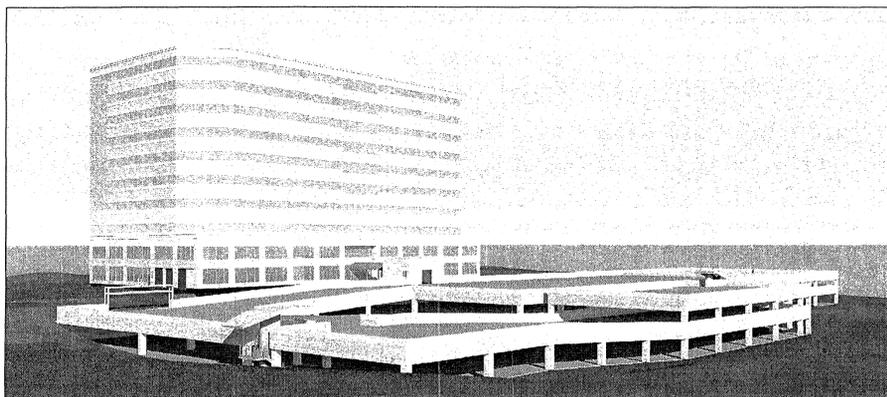
ELEVATION "B"



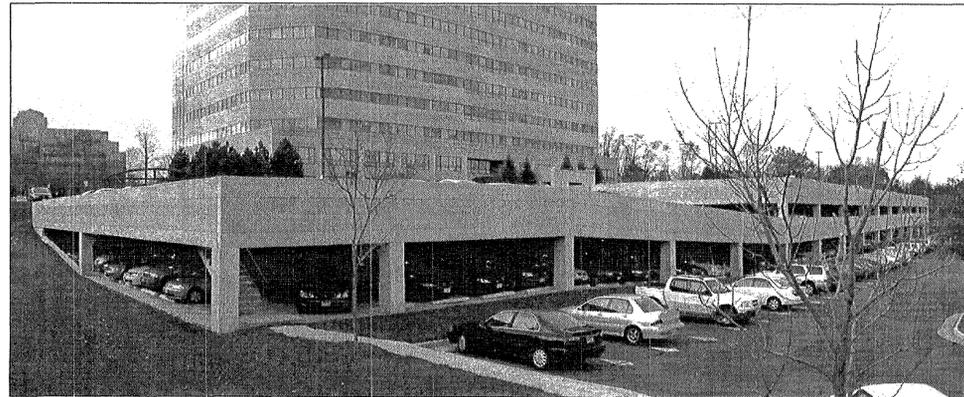
ELEVATION "C"



REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE



PERSPECTIVE "D" FROM I-66  
MASSING OF OFFICE BUILDING AND PARKING DECK WITH EXPANSION  
LANDSCAPING NOT SHOWN



REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE

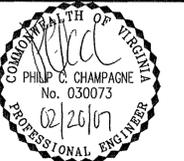


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**NORITAKE**  
associates

FAIR LAKES  
LAND BAY V-B-3-A  
FINAL DEVELOPMENT  
PLAN AMENDMENT  
FDPA 82-P-069-6-10  
FDPA 82-P-069-11-4  
FDPA 82-P-069-12-3  
SPRINGFIELD DISTRICT  
FAIRFAX COUNTY, VIRGINIA

SEAL



KEY PLAN

SCALE

NO SCALE

No.	DATE	BY	Description
3	02.20.07	GAH	
2	01.30.07	GAH	
1	01.08.07	GAH	

REVISIONS

DRAWN BY	gah
APPROVED BY	pgy
CHECKED BY	pgy
DATE	08.14.06

TITLE

FAIR LAKES V-B-3-A  
FINAL DEVELOPMENT  
PLAN AMENDMENT  
ARCHITECTURAL ELEVATIONS  
AND PHOTOGRAPHS

PROJECT NO. M-10605

10

SHEET NO. 10 OF 10

Application No. FDPA 82-P-069-6-10 Staff WJD  
APPROVED DEVELOPMENT PLAN  
(DP) (GDP) (CDP) (FDP) FDPA  
SEE PROFFERS DATED 5/2/07  
Date of (BOS) (PC) approval 5/2/07  
Sheet 10 of 10