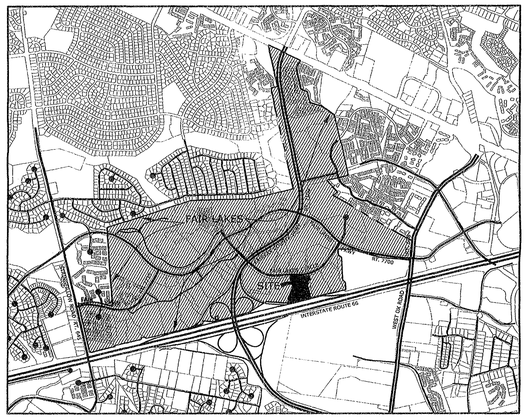
FAIR LAKES - LAND BAY V-B-3

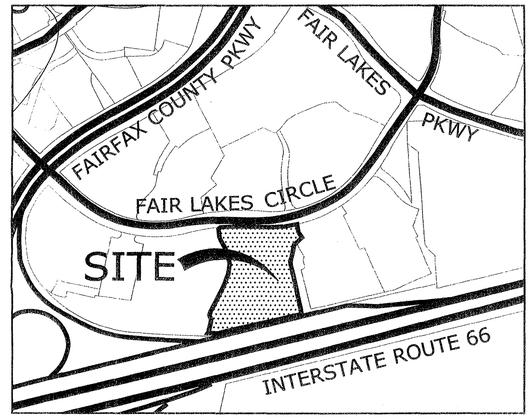
Springfield District Fairfax County, Virginia

FINAL DEVELOPMENT PLAN AMENDMENT

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



VICINITY MAP
SCALE: 1" = 2000'



VICINITY MAP
SCALE: 1" = 500'

FDPA 82-P-069-11-4
Application No. _____ Staff W'OD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDP)
SEE PROFFERS DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 1 of 10

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Department of Planning & Zoning
JUN 14 2007
Zoning Evaluation Division

Applicant:

COGNAC FAIR LAKES LLC
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PARSIPPANY, NJ 07054

Sheet Index

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
   SITE PLAN (SHEET 5 OF 44)
   FOR INFORMATION ONLY
7. EAST MARKET AT FAIR LAKES - PHASE V
   STORM PROFILES, COMPUTATIONS AND NARRATIVES (SHEET 12 OF 44)
   FOR INFORMATION ONLY
8. EAST MARKET AT FAIR LAKES - PHASE I INFRASTRUCTURE
   NARRATIVE AND BMP COMPUTATIONS (SHEET 15 OF 39)
   FOR INFORMATION ONLY
9. LANDSCAPE DETAIL
10. ARCHITECTURAL ELEVATIONS AND PHOTOGRAPHS

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
AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

Dewberry

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COMMONWEALTH OF VIRGINIA
PHILIP C. CHAMPAGNE
No. 030073
02/20/07
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FAIR LAKES /
LAND BAY V-B-3
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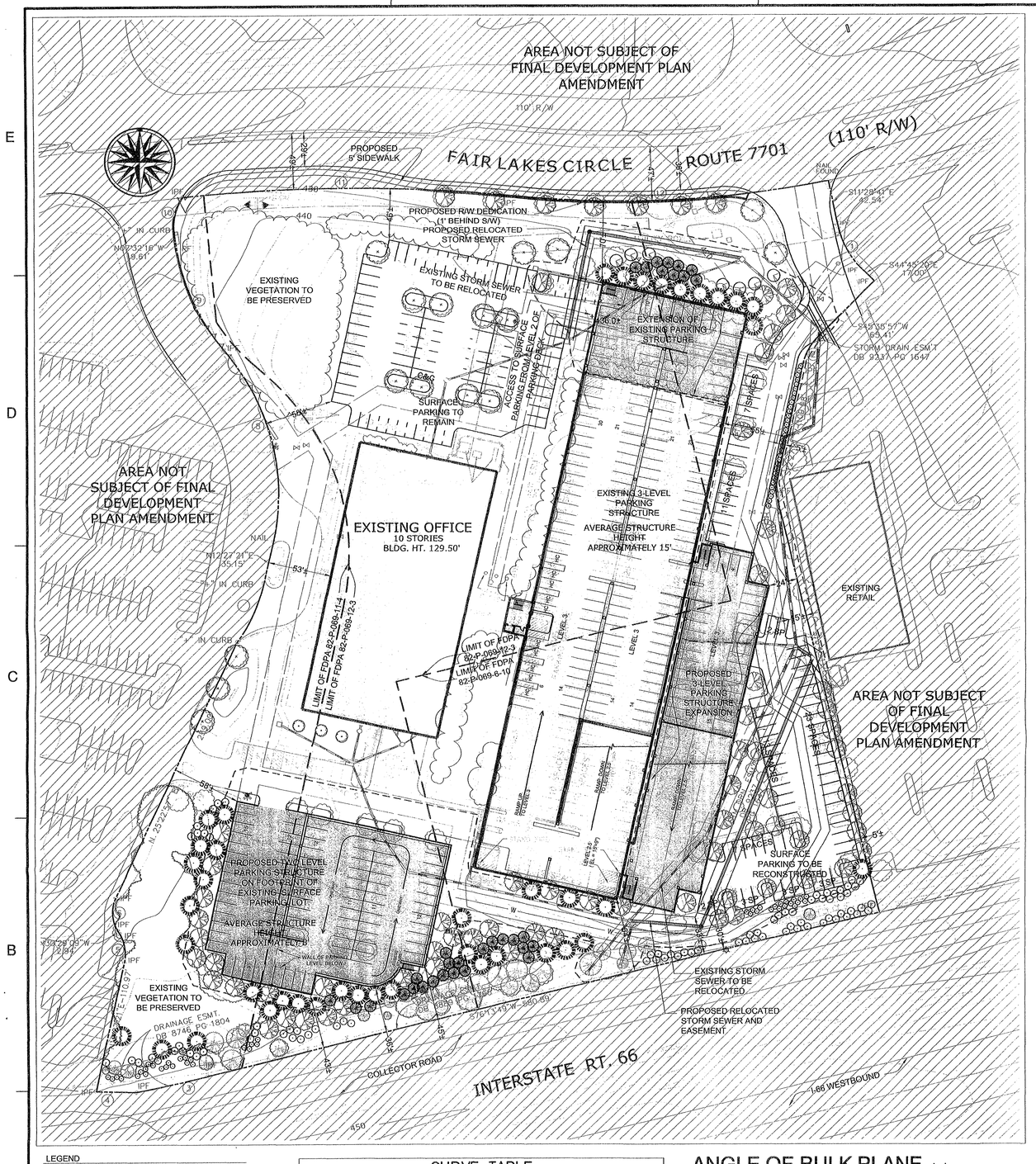
REV. FEBRUARY 20, 2007
REV. JANUARY 30, 2007
REV. JANUARY 8, 2007
AUGUST 14, 2006

SUBMISSION DATE

M-10605



LEGEND

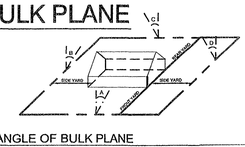
- EXISTING VEGETATION
- EXISTING VEGETATION TO BE PRESERVED
- PROPOSED LARGE DECIDUOUS TREE
- PROPOSED LARGE EVERGREEN TREE
- PROPOSED SHRUBS
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED WATER LINE
- LIMITS OF CLEARING AND GRADING

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°56'30"	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

ANGLE OF BULK PLANE

THERE IS NO ANGLE OF BULK PLANE REQUIREMENT FOR THE PDC DISTRICT. THIS GRAPHIC DEPICTION IS OF THE C-4 DISTRICT CONSIDERATION OF THE PROPOSED PARKING STRUCTURE ADDITION AT THE PERIPHERAL BOUNDARY LINES AND THE DESIGN STANDARD SET FORTH IN PAR. 1 OF SECTION 16-102 OF THE ZONING ORDINANCE.



ANGLE OF BULK PLANE

MINIMUM REQUIRED YARD FOR BUILDING WITH 15' HEIGHT

FRONT YARD : A 25' WITH A BUILDING HEIGHT OF 15', THE FRONT YARD = 7' BUT NOT LESS THAN 40'

SIDE YARD : B NO REQUIREMENT

REAR YARD : C 20' WITH A BUILDING HEIGHT OF 15', THE REAR YARD = 5' BUT NOT LESS THAN 20'

TABULATION

EXISTING/PROPOSED ZONING ..... PDC

LAND AREA ..... 8.38± 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 EXISTING OFFICE 260,000 @ 2.6 SPACES/1,000 SF 676

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.

TABULATION FOR AREA OF FDPA 82-P-069-6-10
FOR INFORMATION ONLY

LAND AREA ..... 3.14± AC

GROSS FLOOR AREA ..... SEE NOTE 1 BELOW
FLOOR AREA RATIO ..... SEE NOTE 1 BELOW
OPEN SPACE ..... SEE NOTE 2 BELOW

TABULATION FOR AREA OF FDPA 82-P-069-11-4
FOR INFORMATION ONLY

LAND AREA ..... 1.34± AC

GROSS FLOOR AREA ..... SEE NOTE 1 BELOW
FLOOR AREA RATIO ..... SEE NOTE 1 BELOW
OPEN SPACE ..... SEE NOTE 2 BELOW

TABULATION FOR AREA OF FDPA 82-P-069-12-3
FOR INFORMATION ONLY

LAND AREA ..... 3.88± AC

GROSS FLOOR AREA ..... SEE NOTE 1 BELOW
FLOOR AREA RATIO ..... SEE NOTE 1 BELOW
OPEN SPACE ..... SEE NOTE 2 BELOW

NOTE 1: AS NOTED ON THE GRAPHIC, A PORTION OF THE EXISTING OFFICE BUILDING IS LOCATED WITHIN THE LIMITS OF EACH OF THE PREVIOUSLY APPROVED FDPAs. THERE IS NO INCREASE IN GROSS FLOOR AREA WITH THE PROPOSED FDPA APPLICATION. CONSEQUENTLY, THE EXISTING/PROPOSED GROSS FLOOR AREA AND THE EXISTING/PROPOSED FLOOR AREA RATIO (FAR) PRESENTED ABOVE FOR THE PARENT APPLICATION WILL PREVAIL. THE CURRENTLY APPROVED FAR OF 0.25 FOR THE ENTIRETY OF THE FAIR LAKES PDC LAND AREA WILL ALSO CONTINUE TO PREVAIL.

NOTE 2: AS NOTED ON THE GRAPHIC, A PORTION OF THE OPEN SPACE IS LOCATED WITHIN THE LIMITS OF EACH OF THE PREVIOUSLY APPROVED FDPAs. AS NOTED ON THE ABOVE TABULATION FOR THE PARENT APPLICATION, THE OPEN SPACE REQUIREMENT FOR THE ENTIRETY OF THE FAIR LAKES PDC LAND AREA IS 15%. OPEN SPACE PROPOSED FOR THE AREA OF THE PARENT APPLICATION IS 35%.

NOTES

1. 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 8.38 ACRES AND IS A PORTION OF LAND BAY V-B OF FAIR LAKES. THE PROPERTY IS ZONED TO THE PLANNED DEVELOPMENT COMMERCIAL (PDC) DISTRICT.

   LAND BAY V-B IS CURRENTLY DEVELOPED WITH A HOTEL, TWO OFFICE BUILDINGS, A RETAIL SHOPPING CENTER (DICKS AND KOHLS) AND A CHILD CARE CENTER

2. 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 2.99 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 2.99 SPACES PER 1,000 SQUARE FEET OF GROSS FLOOR AREA IS NOT/WILL NOT BE SUFFICIENT TO SERVE THE LONG-TERM NEEDS OF THE EXISTING TENANT. 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 1,019 SPACES, 165 SPACES OR 16% WILL BE SURFACE SPACES AND 853 OR 84% WILL BE SPACES IN A PARKING STRUCTURE(S).

3. THE BOUNDARY INFORMATION SHOWN ON THE GRAPHIC IS BY DEWBERRY & DAVIS LLC.

4. THE TOPOGRAPHY SHOWN ON THE GRAPHIC IS AT A CONTOUR INTERVAL OF TWO FEET FROM AN AERIAL SURVEY FLOWN IN 2002.

5. 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 NOs. 5727-PI-10 AND 5727-DS-01. IN ADDITION, A REGIONAL STORMWATER MANAGEMENT POND 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.

6. 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.

7. 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.

8. LANDSCAPING AND SCREENING HAVE BEEN/WILL BE 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.

9. 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.

10. FIVE (5) LOADING SPACES FOR THE EXISTING DEVELOPMENT PROGRAM ON THE SUBJECT PROPERTY HAVE BEEN PROVIDED IN ACCORDANCE WITH THE CURRENTLY APPROVED SITE PLAN.

11. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.

12. 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, ESTABLISHMENTS FOR SCIENTIFIC RESEARCH, DEVELOPMENT 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.

13. THE SUBJECT PROPERTY IS LOCATED WITHIN THE WATER SUPPLY PROTECTION OVERLAY DISTRICT AND THE PROPOSED DEVELOPMENT DOES/WILL CONFORM TO THE PROVISIONS THEREOF.

14. 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.

15. PUBLIC WATER AND SEWER ARE CURRENTLY AVAILABLE ON THE SITE.

16. 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.

17. 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.

18. 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 355; ANY HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA/DEPARTMENT OF WASTE MANAGEMENT VR 672-10-1 - 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.

19. 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.

20. 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.

21. THERE IS AN EXISTING OFFICE BUILDING LOCATED ON THE SUBJECT PROPERTY. BASED ON FAIRFAX COUNTY RECORDS, IT WAS BUILT IN 1995. IT WILL BE SAVED. 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).

22. 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.

23. THE FLOOR AREAS REPRESENTED IN THE TABULATION ARE GROSS FLOOR AREAS AS DEFINED IN THE FAIRFAX COUNTY ZONING ORDINANCE.

24. 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. 2-514 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.

25. 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

26. 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.

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

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

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SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

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

KEY PLAN FDPA 82-P-069-11-4
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Sheet 2 of 10

SCALE
0' 50' 100'

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

REVISIONS

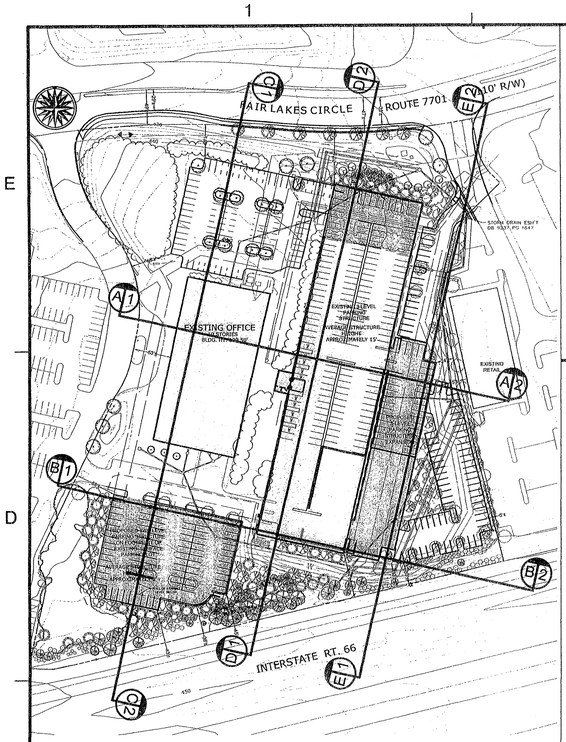
DRAWN BY gah
APPROVED BY pgy
CHECKED BY pgy
DATE 08.14.06

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

PROJECT NO. M-10605

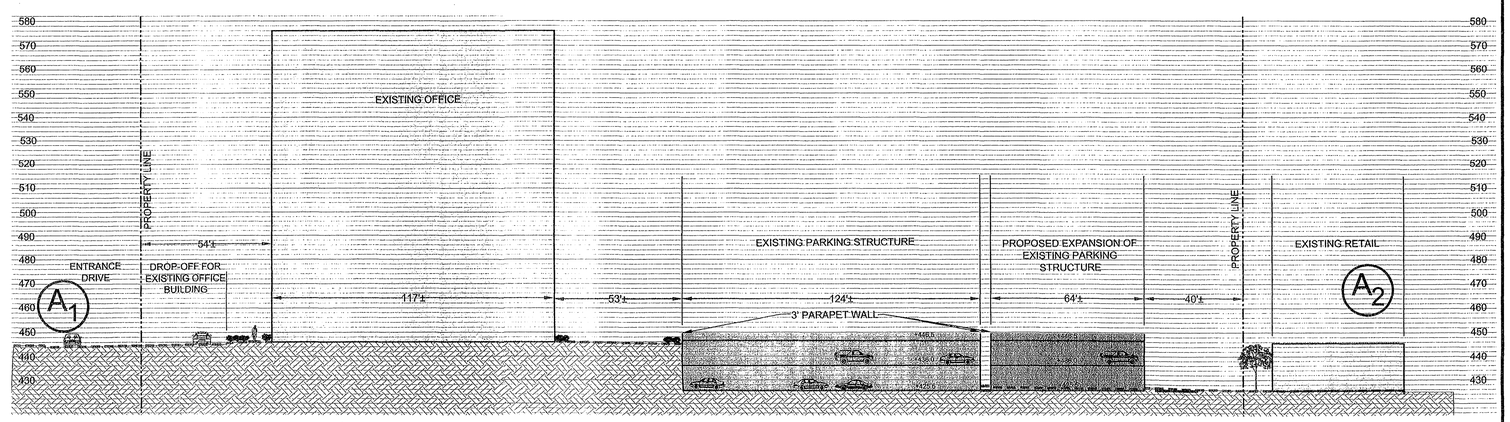
2

SHEET NO. 2 OF 10

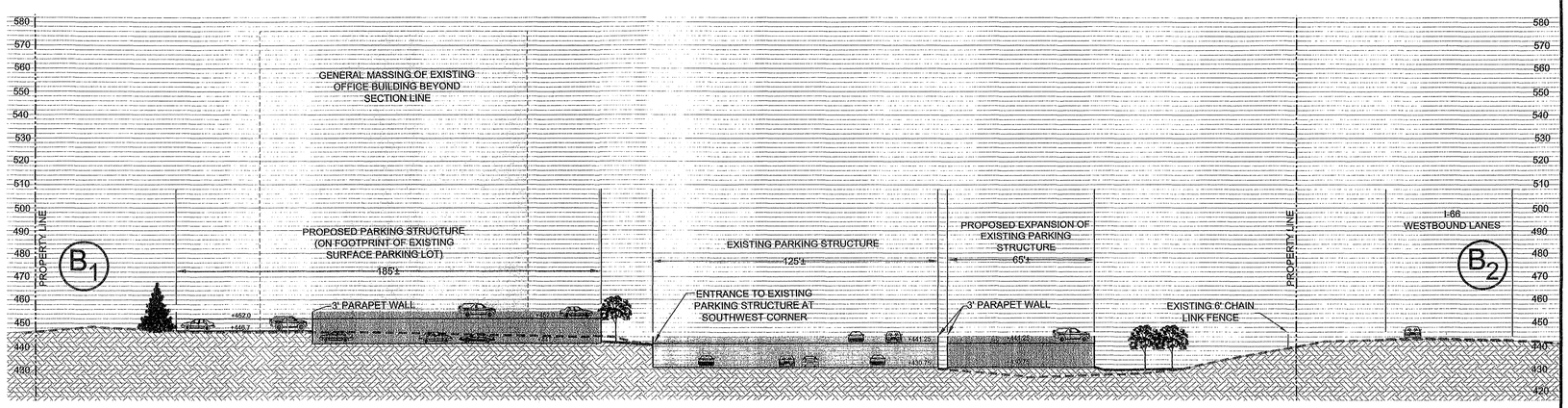


SECTION KEY MAP

0' 100' 200'



SECTION A



SECTION B

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www.dewberry.com

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

SCALE
0' 30' 60'

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

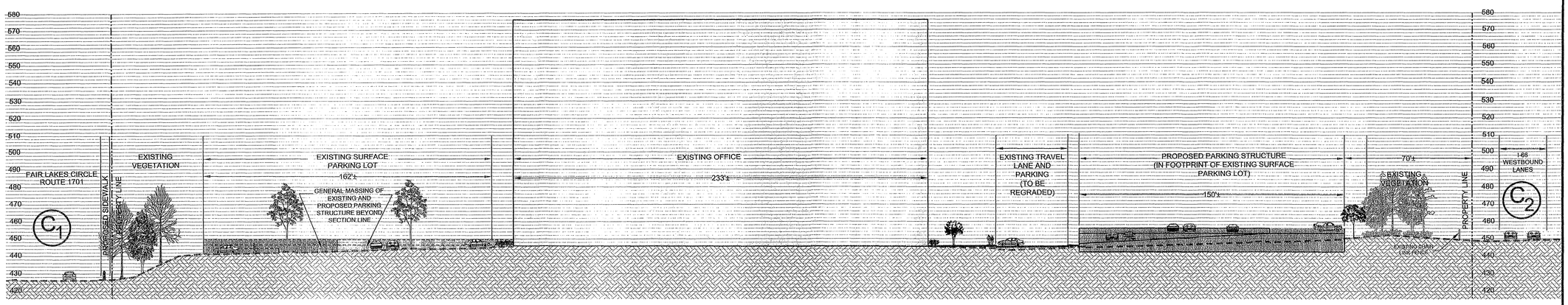
TITLE

FAIR LAKES V-B-3-A
FINAL DEVELOPMENT
PLAN AMENDMENT
SECTIONS

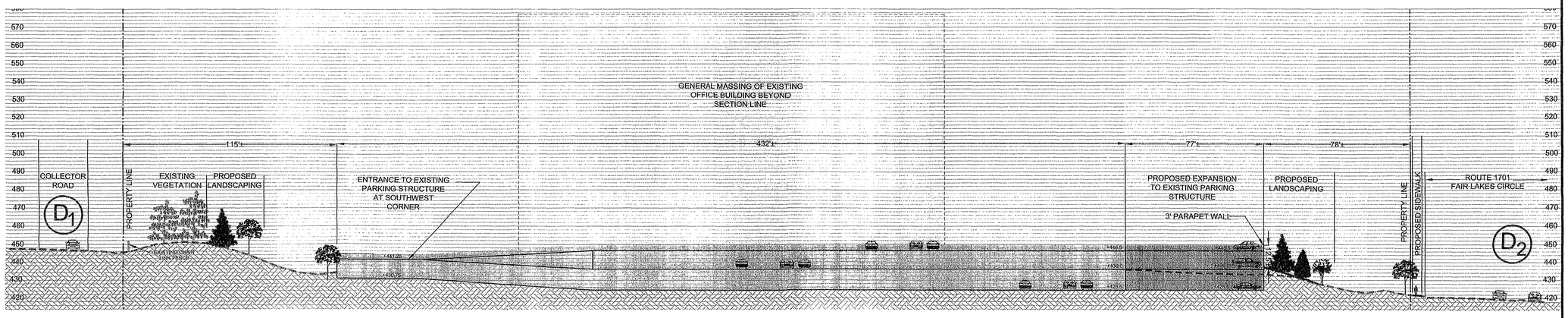
PROJECT NO. M-10605

3

SHEET NO. 3 OF 10



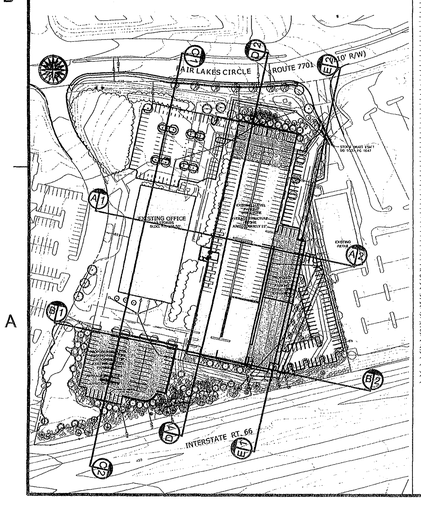
SECTION C

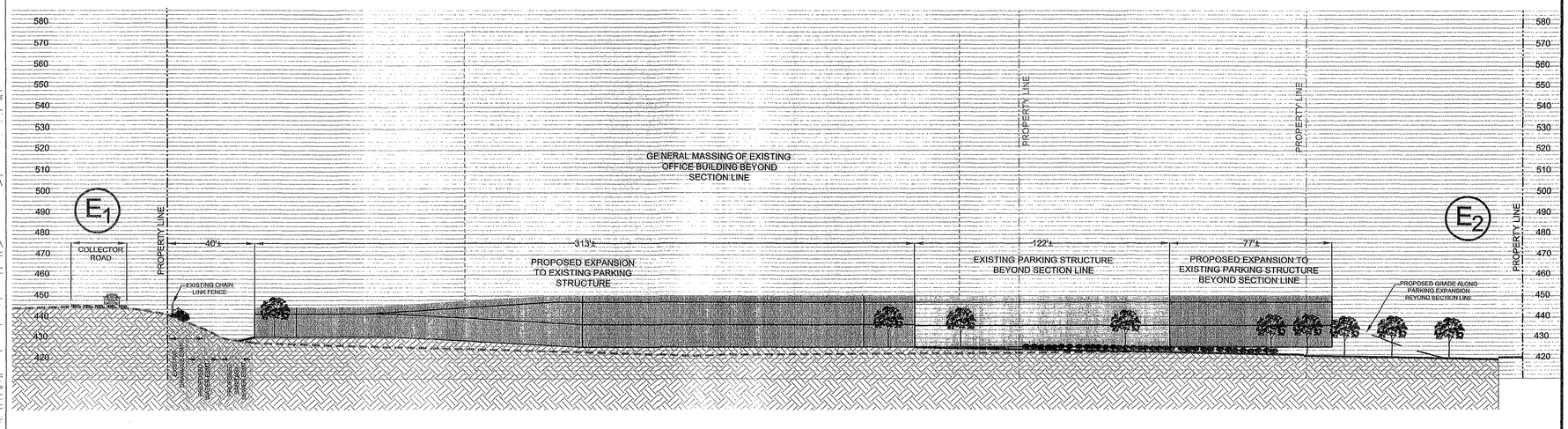


SECTION D

SECTION KEY MAP

0' 150' 300'





SECTION E

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

Dewberry

Dewberry & Davis LLC
8403 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
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www.dewberry.com

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

Application No. FDPA 82-P-069-11-4
Staff WOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE PROFFERS DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 4 of 10

SCALE
0' 30' 60'

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

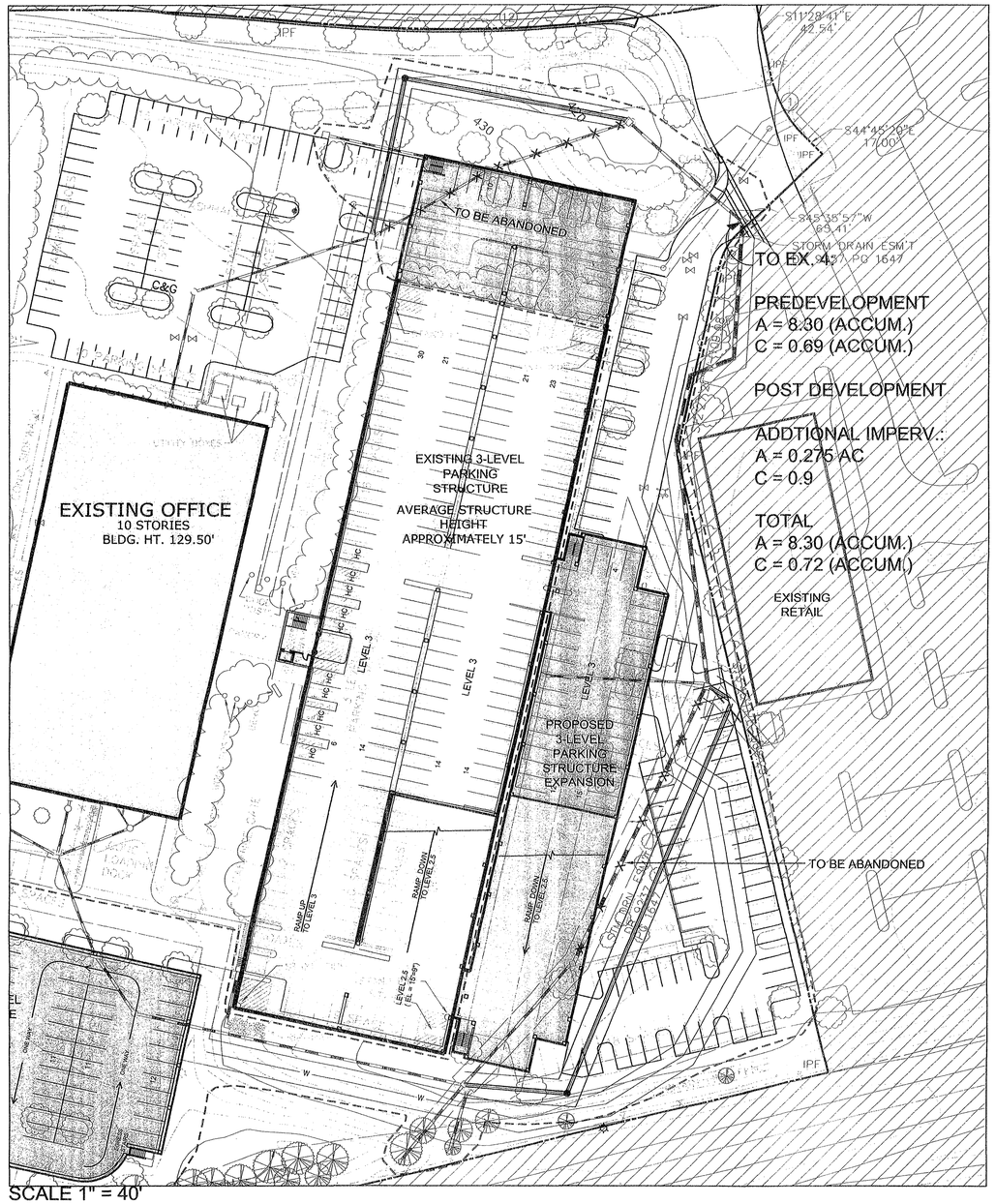
TITLE

FAIR LAKES V-B-3-A
FINAL DEVELOPMENT
PLAN AMENDMENT
SECTIONS

PROJECT NO. M-10605

4

SHEET NO. 4 OF 10



SCALE 1" = 40'

EXISTINGS / PROPOSED CONDITIONS
WITH UTILITY LAYOUT

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 MANAGMENT 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.

FDPA 82-P069-11-4
Application No. _____ Staff WOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE PROFFERS DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 5 of 10

From	To	Drainage Area (acre)	C Factor	C x A Increment	C x A Cumm	Inlet Time (min)	Rain Fall (in/hr)	Pre Development Runoff Q (cfs)	Pre Development Capacity Q (cfs)	Pre Development Delta (cfs)	Post Development C Factor	Post Development Runoff Q (cfs)	Post Development Capacity Q (cfs)	Post Development Delta (cfs)
AMS SITE	EX	8.30	0.69			5.00	7.27	41.64			0.72	43.45		
				0.12	0.23	5.00	7.27	1.65	8.04	6.39		3.46	8.04	4.58
EX 5	4D			0.00	4.55	5.00	7.27	33.06	36.79	3.73		34.87	36.79	1.92
4D	4C			0.00	4.66	5.00	7.27	33.86	36.79	2.93		35.67	36.79	1.12
4C	4B			0.00	4.66	5.00	7.27	33.86	44.94	11.08		35.67	44.94	9.27
4B	4A			0.00	4.66	5.00	7.27	33.86	43.02	9.16		35.67	43.02	7.35
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

Dewberry

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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

SCALE
0' 50' 100'

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

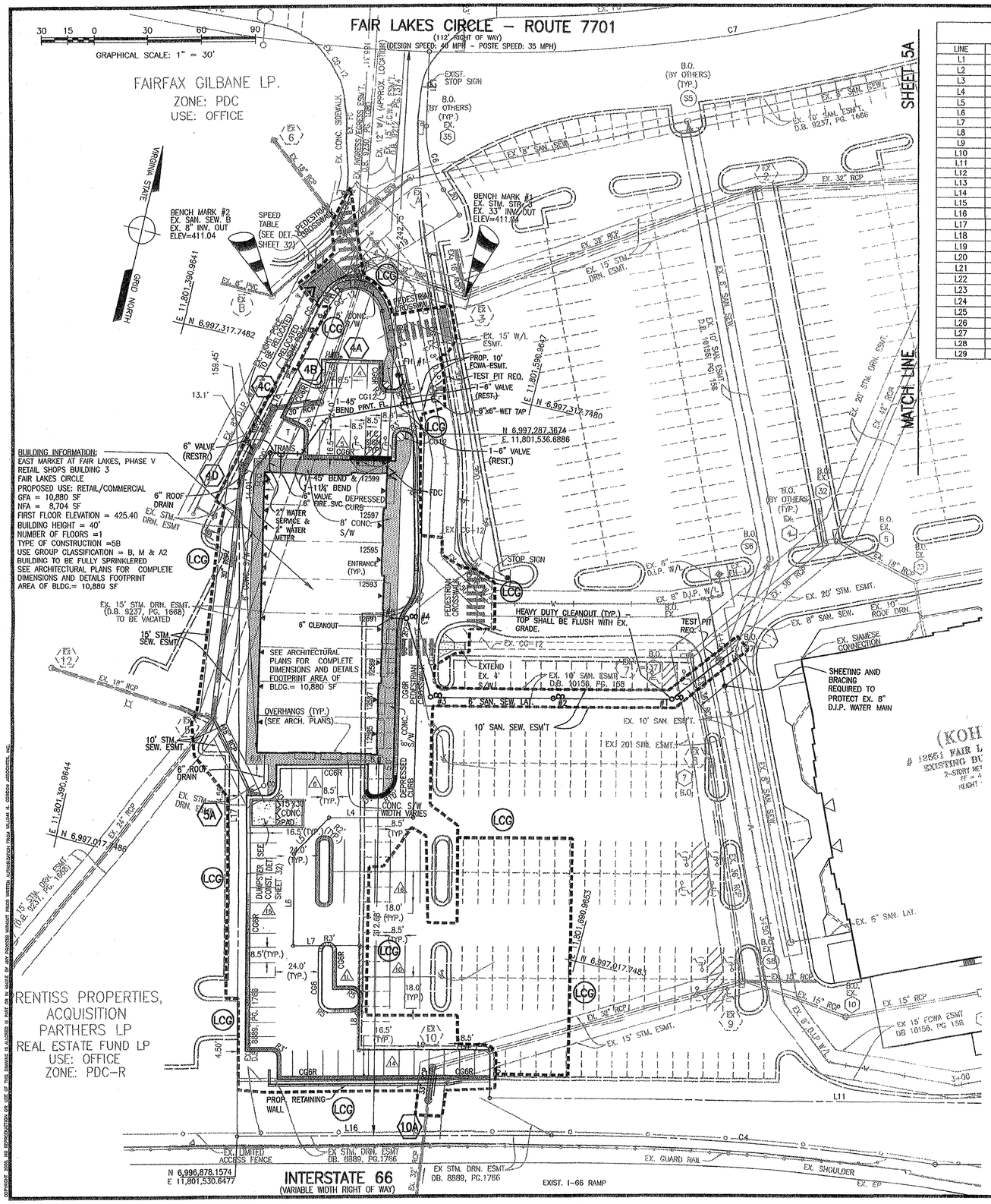
TITLE
FAIR LAKES V-B-3-A
FINAL DEVELOPMENT
PLAN AMENDMENT
SWM CALCULATIONS / NARRATIVE

PROJECT NO. M-10605

5

SHEET NO. 5 OF 10

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007



LINE TABLE

LINE	LENGTH	BEARING
L1	23.43'	S24°16'23"E
L2	51.69'	S35°47'35"E
L3	217.39'	N12°16'55"W
L4	47.20'	N76°13'49"E
L5	27.82'	S31°13'49"W
L6	52.33'	S13°46'11"E
L7	37.09'	S76°13'49"W
L8	60.06'	N13°46'11"W
L9	73.51'	S76°13'49"W
L10	27.21'	S13°46'11"E
L11	447.21'	N76°46'32"E
L12	31.72'	N76°46'32"E
L13	243.31'	N65°38'34"E
L14	82.28'	S13°47'08"E
L15	548.65'	S76°12'52"W
L16	175.83'	S76°12'52"W
L17	368.25'	N13°46'11"W
L18	109.07'	N12°27'21"E
L19	65.41'	S45°35'57"W
L20	17.00'	S44°45'20"E
L21	42.54'	S11°28'41"E
L22	125.74'	N17°21'23"E
L23	80.88'	N24°21'26"W
L24	16.50'	N65°38'34"E
L25	266.03'	N24°21'26"W
L26	338.95'	N24°21'26"W
L27	39.45'	S65°38'34"W
L28	261.84'	N24°21'26"W
L29	63.95'	N33°48'49"W

CURVE TABLE

CURVE	ARCH LENGTH	RADIUS	DELTA	TANGENT	CHORD	CHORD BEARING
C1	14.90	48.00	17°47'05"	7.51	14.84	S21°19'40"W
C2	29.59	15.91	106°32'57"	21.33	25.51	N77°32'35"W
C3	79.69	410.10	11°07'58"	39.97	79.56	N71°12'33"E
C4	215.02	1442.20	8°32'33"	107.71	214.83	S80°29'08"W
C5	12.86	48.00	15°21'09"	6.47	12.82	S37°53'48"W
C6	39.64	69.00	32°55'07"	20.39	39.10	S27°56'22"E
C7	340.40	873.51	22°19'39"	172.39	338.25	N67°21'31"E
C8	300.58	873.51	19°42'57"	151.79	299.10	N46°20'13"E
C9	46.34	54.25	48°57'01"	24.69	44.95	N79°44'00"W
C10	155.13	471.04	18°52'11"	78.27	154.43	N45°49'22"W
C11	203.18	301.50	38°36'41"	105.62	199.36	S55°41'37"E
C12	24.57	937.51	1°30'06"	12.29	24.57	N56°56'14"E

PARKING TABULATIONS:

REQUIRED PARKING (FFX. CO. ZONING ORDINANCE 11-104 ITEM 23B.) = 4 SPACES / 100,000 SF. OF GROSS FLOOR AREA
REQUIRED LOAD SPACES (FFX. CO. ZO. 11-203 ITEM 17 STANDARD B) = 1 SPACE FIRST 10,000 SF. OF GFA, 1 SPACE / 15,000 SF. OF GFA THEREOF) BUT REQ. LOADING SPACES SHALL NOT BE MORE THAN 5.
REQUIRE HANDICAP SPACES (ADA 4.1.2.(5a.) FOR 1001 PARKING SPACES AND OVER) = 20 HD. SPCS + 1 HD SPC / 100 PKG SPCS OVER 1000)
REQUIRED VAN ACCESSIBLE HANDICAP SPACES (ADA 4.1.2.(5b.) = 1 VAN ACCESS. / 8 HD SPCS

EXISTING BUILDINGS	195,000 SF.		
PROPOSED BUILDING	10,880 SF.		
TOTAL PROP. GROSS FLOOR AREA =	205,880 SF.		
MIN REQUIRED PARKING=	824 SPCS.		
EXISTING PARKING	984 SPCS.		
PROPOSED NET PARKING (74 NEW – 29 DEMOLISHED)	45 SPCS.		
TOTAL PARKING	1029 SPCS.	>	824 SPCS.
MIN. REQUIRED HANDICAP	21 SPCS.		
EXISTING HD SPACES	21 SPCS.		
PROPOSED HD SPACES	2 SPCS.		
TOTAL HD SPACES	23 SPCS.	>	21 SPCS.
MIN. REQUIRED VAN ACCESSIBLE	3 SPCS.		
EXISTING VAN ACCESSIBLE	21 SPCS.		
PROPOSED VAN ACCESSIBLE	2 SPCS.		
TOTAL VAN ACCESSIBLE	23 SPCS.	>	3 SPCS.
MIN. REQUIRED LOADING	14 SPCS.		SHALL NOT BE MORE THAN 5 (FFX. ZO. 11-202 ITEM 15)
EXISTING LOADING SPACES	6 SPCS.		
PROPOSED LOADING SPACES	1 SPCS.		
TOTAL LOADING SPACES	7 SPCS.	>	5 SPCS.

EXISTING PARKING SPACES PER APPROVED SITE PLAN "FAIR LAKES – LAND BAY 5-B3
FFX. CO. #:5727-SP-80

EXISTING OVERALL DENSITY TABULATION (1)

PARCEL	SQ. FT.	AC.
5-B-3-B1 (TM #: 55-2((1))-0014B1)	138,832	3.1803
5-B-3-B2 (TM #: 55-2((1))-0014B2)	284,297	6.0673
5-B-3-B3 (TM #: 55-2((1))-0014B3)	280,045	6.4289
EX. PROJECT GROSS SITE AREA	682,873	15.6765

GROSS FLOOR AREA	SQ. FT.
EXISTING BUILDING	195,000
PROPOSED BUILDING	10,880
TOTAL WITH THIS DEVELOPMENT	205,880

FAR AS EXISTING W/ PROP. DEVELOPMENT
GFA / SITE AREA) = 0.3015 < 0.3200 (PER ORIGINAL FDPA-82-P-069 SEE SHEET 41 THRU 44)

AREA DISTRIBUTION PER LOT LINE ADJUSTMENTS (2)

PARCEL	SQ. FT.	AC.
5-B-3-B1-A1 (ULTIMATE)	69,092	1.5861
FUTURE PHASE IV EAST MARKET (TO BE COMBINED WITH EX. PHASE IV OF EAST MARKET) SEE NOTE 2	30,093	0.6908
FUTURE PHASE III EAST MARKET (TO BE COMBINED W/ EX. PHASE 3 OF EAST MARKET) SEE NOTE 2	44,279	1.0165
5B-3-B2-A	259,204	5.9505
5-B-3-B3 (TM #: 55-2((1))-0014B3)	280,129	6.4309
TOTAL DISTRIB. SITE AREA (3)	682,797	15.6748

ULTIMATE OVERALL DENSITY TABULATION FOR COMBINED PROP. SITE, EX. GALYANS SITE AND KOHL'S SITE.

PARCEL	SQ. FT.	AC.
5-B-3-B1-A1 (ULTIMATE)	69,092	1.5861
5B-3-B2-A	259,204	5.9505
5-B-3-B3 (TM #: 55-2((1))-0014B3)	280,129	6.4309
ULTIMATE PROJECT GROSS SITE AREA	608,425	13.9675
TOTAL TRANSFERRED AREA	74,372	1.7073
ORIGINAL AREA PRIOR LOT LINE ADJUST.	682,797	15.6748

GROSS FLOOR AREA	SQ. FT.
EXISTING BUILDING	195,000
PROPOSED BUILDING	10,880
TOTAL WITH THIS DEVELOPMENT	205,880

PROPOSED FAR (GFA / ULTIM. SITE AREA) = 0.338 < 0.340 (PER APPROVED FDPA-82-P-069-6-7 SEE SHEET 41 THRU 44)

NOTES:
(1) PARCEL AREA INFORMATION PER RESUBDIVISION PLAT "PARCEL 5-B-3-B FAIR LAKES" BY DEWBERRY AND DAVIS DEED BOOK 9230, PAGE 1033, DATED AUGUST 6, 1997 CONVERTED FROM ITS ORIGINAL METRIC TO ENGLISH UNITS
(2) PARCEL AREA INFORMATION PER ULTIMATE LOT LINE ADJUSTMENTS AS PREPARED BY WILLIAM H. GORDON & ASSOCIATES SEE SHEET 40 FOR DESCRIPTION AND EXHIBITS SHOWING EVOLUTION OF PROPERTY TRANSFER FOR THE EAST MARKET SITE.
(3) THE ORIGINAL RESUBDIVISON OF PARCEL 5-B-3-B AS PREPARED DEWBERRY & DAVIS DATED 08/06/97 RECORDED IN D.B. 10155 PAGES 0383 THROUGH 0386 WAS CONVERTED FROM ITS ORIGINAL METRIC TO ENGLISH UNITS. AN ERROR OF 0.0110% OF THE TOTAL AREA (682,873 SF.) WAS DETERMINED AND CAN BE CONSIDERED NEGLIGIBLE.

FDPA 82-P-069-11-4
Application No. _____ Staff WOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE PROFFERS DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 4 of 10

FOR INFORMATION ONLY!

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY OFFICE OF SITE DEVELOPMENT SERVICES

REVISIONS
04/05/05 FFX. WATER COMMENT & BLDN FOOT PRNT

SURVEY WHGA
DESIGN H. RODRIGUEZ
DRAWN H. RODRIGUEZ
CHECKED L. MILLER

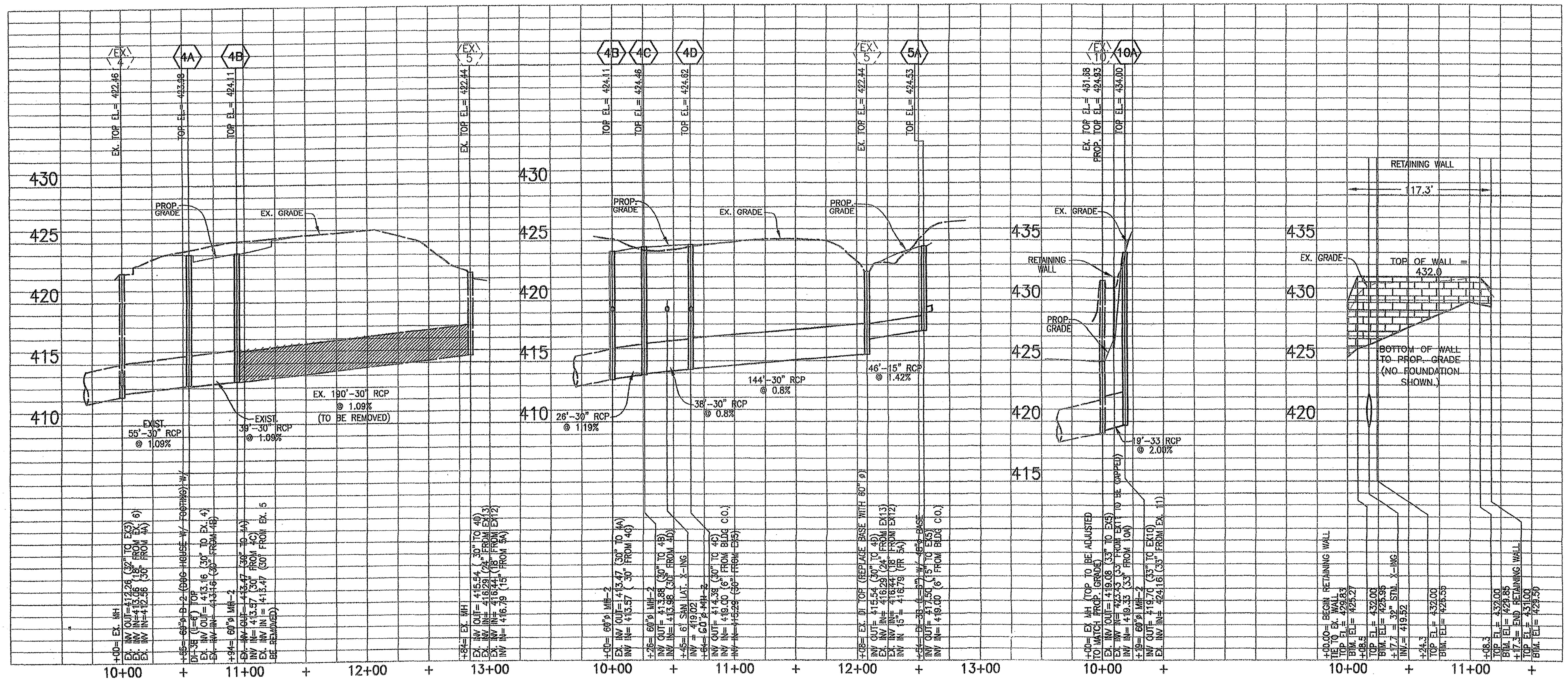
ENGINEERS · SURVEYORS · LAND PLANNERS · LANDSCAPE ARCHITECTS
William H. Gordon Associates, Inc.
4501 Daly Drive, Chantilly, Virginia 20151
(703) 263-1900 · METRO (703) 803-9508 · FAX (703) 263-0766

DATE JANUARY 2005
SCALE HORZ: 1"=30' VERT:
SEAL COMMONWEALTH OF VIRGINIA LAURA F. MILLER NO. 35537 6/23/05 PROFESSIONAL ENGINEER

SITE PLAN
PROJECT EAST MARKET AT FAIR LAKES PHASE V
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

JOB 0734-1107
CADD 1107SP.DWG
SHEET 5 OF 44

M-10605
SHEET 6 OF 10



ADEQUATE OUTFALL NARRATIVE:

RUNOFF FROM THIS DEVELOPMENT WILL BE MAINLY CAPTURED BY PROPOSED STRUCTURES 4A AND 5A AND DIRECT CONNECTIONS FROM ROOFTOP AREAS TO STRUCTURES 5A AND 5D. THE FEW AMOUNTS OF RUNOFF THAT WILL ESCAPE THE DEVELOPMENT WILL BE COLLECTED BY ADJACENT EXISTING STRUCTURES BOEX4, EX8 AND EX9.
THE PROPOSED STORM STRUCTURES WILL CONNECT TO THE EXISTING STORM SEWER SYSTEM, BUILT WITH APPROVED SITE PLAN "FAIR LAKES LAND BAY 5-B3, FFX. CO. #: 5727-SP-67), WHICH ULTIMATELY DISCHARGES INTO AND 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 YR. FLOOD PLAIN.
THE PROPOSED DEVELOPMENT GENERATES A TOTAL RUNOFF INCREASE OF 2.79 CFS. UNDER EXISTING CONDITIONS (PER APPROVED PLAN "FAIR LAKES LAND BAY 5-B3" BY DEWBERRY & DAVIS, FFX. CO. #: 5727-SP-67) THE CUMULATIVE FLOW AT EXISTING STRUCTURE EX1 (FORMERLY LABELED EX30 IN ABOVE MENTIONED APPROVED PLAN) WAS 43.98 CFS. THIS WAS INCREASED BY 0.98 CFS. FOR A POST-DEV. FLOW OF 44.96 CFS; THE CUMULATIVE FLOW FOR EXISTING EX7, (FORMERLY LABELED EX31 UNDER THE SAME APPROVED SITE PLAN) WAS 68.05 CFS BEING INCREASED BY 1.81 CFS FOR A POST-DEV. OF 69.86 CFS. UNDER THESE CONDITIONS, STORM SEWER CALCULATIONS INDICATE THAT INCREASE IN RUNOFF DOES NOT SURCHARGE THE CAPACITY OF EITHER THE PROPOSED OR EXISTING STORM SEWER LINES. ALSO, FURTHER DOWNSTREAM ANALYSIS (FROM BOEX37 TO BOEX16) INDICATES THE ADEQUACY OF THE EXISTING STORM SEWER SYSTEM TO ACCOMMODATE THIS FLOW INCREASE.
THEREFORE, SINCE: 1)– THE ULTIMATE POINT OF DISCHARGE IS AN ADEQUATE FACILITY TO RECEIVE THE INCREASE OF RUNOFF AND, 2)– THE EXISTING STORM SEWER LINES HAVE ENOUGH CAPACITY TO ACCOMMODATE THIS FLOW INCREMENT, WITHOUT ADVERSELY IMPACTING UPSTREAM AREAS, IT IS 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 I SWM/BMP POND AND BALL FIELDS (LOWER POND), FFX. CO. #: 7202-SP-03. A SECOND POND ASSOCIATED WITH THIS FACILITY (UPPER POND) IS PROPOSED WITH SITE PLAN "EAST MARKET AT FAIR LAKES – PHASE I – INFRASTRUCTURE, FFX. CO. #: 7202-SP-04. THE COMBINATION OF THESE TWO SITE PLANS WILL PROVIDE ULTIMATE REGIONAL STORMWATER MANAGEMENT AND BMP INFRASTRUCTURE FOR THE ENTIRE FAIRLAKES DEVELOPMENT, WHICH INCLUDES BOTH, THE FAIR LAKES LAND BAY 5B-3 (WHERE THE PROPOSED DEVELOPMENT IN LOCATED) AND THE EAST MARKET SITE. (SEE SHEETS 13 THROUGH 24.), THIS REGIONAL FACILITY IS PRIVATELY OWNED AND MAINTAINED BY THE FAIR LAKES MASTER ASSOCIATION.
HENCE, IT IS THE OPINION OF THE DESIGN ENGINEER THAT STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES FOR THIS DEVELOPMENT ARE HEREBY PROVIDED.

CHESAPEAKE BAY ORDINANCE COMPLIANCE:

THE PROPOSED IMPROVEMENTS WITH THIS PLAN DO NOT ENCROACH INTO ANY FAIRFAX COUNTY MAPPED RESOURCE PROTECTION AREA. THIS PLAN COMPLIES WITH THE CHESAPEAKE BAY PRESERVATION ORDINANCE AS ADOPTED ON NOVEMBER 18, 2003, PFM SECTION 6-1700, AND FAIRFAX COUNTY CODE CHAPTER 118.

From Point	To Point	Drainage Area	C Factor	C x A Increment	C x A Cumm.	Inlet Time Min.	Rain Fall In/Hr	Runoff Q C.F.S.	Invert Elev. Upper End	Invert Elev. Lower End	Length FT.	Slope %	Dia. IN.	Capacity Q C.F.S.	VEL. F.P.S.	Flow Time MIN.	Remarks
5A	EX5	0.13	0.9	0.12	0.23	5.00	7.27	1.65	417.50	416.79	46.0	1.54%	15	8.04	5.15	0.15	(1)
EX5	4D			0.00	4.55	5.00	7.27	33.06	415.54	414.39	144.1	0.80%	30	36.79	8.48	0.28	(2)
4D	4C			0.00	4.66	5.00	7.27	33.86	414.29	413.98	38.1	0.80%	30	36.79	8.50	0.07	(3)
4C	4B			0.00	4.66	5.00	7.27	33.86	413.88	413.57	26.1	1.19%	30	44.94	10.06	0.04	
4B	4A			0.00	4.66	5.00	7.27	33.86	413.47	413.16	28.0	1.09%	30	43.02	9.71	0.05	
4A	EX4	0.11	0.88	0.10	4.75	5.00	7.27	34.56	413.16	412.56	54.9	1.09%	30	43.02	9.74	0.09	
EX4	EX3			0.00	6.02	5.00	7.27	43.79	412.26	411.36	58.7	1.53%	33	65.59	11.83	0.08	(4)
EX3	EX2			0.00	6.18	5.00	7.27	44.96	411.04	408.83	175.0	1.26%	33	59.62	11.03	0.26	(4A); (4B)
EX2	EX1			0.00	6.18	5.00	7.27	44.96	408.32	404.43	131.1	2.97%	33	91.39	15.32	0.14	
EX11	10A			0.00	7.81	5.00	7.27	56.78	427.54	424.16	85.7	3.94%	33	105.26	18.06	0.08	(5)
10A	EX10			0.00	7.81	5.00	7.27	56.78	419.70	419.33	18.5	2.00%	33	74.99	13.88	0.02	
EX10	EX9			0.00	7.81	5.00	7.27	56.78	419.08	411.58	180.1	4.16%	33	108.21	18.44	0.16	
EX9	EX8	1.19	0.8	0.95	9.01	5.00	7.27	65.52	410.88	408.11	122.6	2.26%	36	100.54	15.15	0.13	(6)
EX8	EX7	0.56	0.9	0.50	9.52	5.00	7.27	69.18	407.96	406.97	63.4	1.56%	36	83.53	13.21	0.08	
BOEX37	BOEX4	0.12	0.75	0.09	9.61	5.00	7.27	69.86	407.15	405.97	99.7	1.18%	36	72.65	11.70	0.14	(7); 7(A)
BOEX4	BOEX5	0.67	0.88	0.59	10.20	5.00	7.27	74.15	405.80	405.41	6.3	6.19%	42	250.99	22.71	0.00	
BOEX5	BOEX30	0.26	0.9	0.23	11.97	5.00	7.27	87.05	404.92	403.31	223.1	0.72%	48	122.55	10.58	0.35	
BOEX30	BOEX29			0.00	18.15	5.00	7.27	131.98	403.31	402.36	72.9	1.30%	48	164.22	14.53	0.08	(8)
BOEX29	BOEX3	0.75	0.9	0.68	18.83	5.00	7.27	136.88	402.20	401.38	62.0	1.32%	48	165.73	14.73	0.07	
BOEX3	BOEX16	0.45	0.73	0.33	19.93	5.00	7.27	144.87	401.21	397.31	272.4	1.43%	48	172.23	15.36	0.30	

FOR ADEQUATE OUTFALL PURPOSES ONLY (ELEVATIONS AND GEOMETRY INFORMATION OBTAINED FROM APPROVED SITE PLAN "FAIR LAKES LAND BAY 5-B3, FFx. CO. #: 5727-SP-80)

(*) PREFIX BO=BY OTHERS (APPROVED SITE PLAN "FAIR LAKES LAND BAY 5-B3, FFx. CO. #: 5727-SP-80)
(1) CA=0.11 OF THE CUMULATIVE CxA IS GENERATED FROM ROOFTOP AREA
(2) CA=4.32 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (APPROVED SITE PLAN "AMS AT FAIR LAKES" – FFX. CO. #: 5727-SP-67)
(3) CA=0.11 OF THE CUMULATIVE CxA IS GENERATED FROM ROOFTOP AREA
(4) CA=1.27 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (APPROVED SITE PLAN "AMS AT FAIR LAKES" – FFX. CO. #: 5727-SP-67)
(4A) CA=0.16 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (APPROVED SITE PLAN "FAIR LAKES LAND BAY 5B-3" – FFX. CO. #: 5727-SP-80)
(4B) CUMULATIVE FLOW AT PRE-DEV. CONDITIONS=43.98 CFS (PER APPROVED SITE PLAN "FAIR LAKES LAND BAY 5-B3 – FFX. CO. # 5727-SP-80)
(5) CA=7.81 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (APPROVED SITE PLAN "FAIR LAKES LAND BAY 5B-3" – FFX. CO. #: 5727-SP-80)
(6) CA=0.25 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (APPROVED SITE PLAN "FAIR LAKES LAND BAY 5B-3" – FFX. CO. #: 5727-SP-80)
(7) CA=9.52 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (EX7=BOEX37)
(7A) CUMULATIVE FLOW AT PRE-DEV. CONDITIONS=68.05 CFS (PER APPROVED SITE PLAN "FAIR LAKES LAND BAY 5-B3 – FFX. CO. # 5727-SP-80)
(8) CA=6.18 OF THE CUMULATIVE CxA IS GENERATED FROM UPSTREAM AREAS (EX1=BOEX30)

INLET NUMBER	INLET TYPE	LENGTH	STATION	DRAINAGE AREA	C	C x A	C x A W	INTENSITY	Q INCR	Q CARRY OVER	Q TOTAL	S GUTTER	Sx CROSS SLOPE	T SPREAD	W	W/T	Sw	Sw/Sx	Eo	a	S'w	Se	Lt	P EFFECTIVE LENGTH	L/Lt	d	E	h	Q INT	d/H	Qb CARRY OVER	T SPREAD AT SAG	REMARKS
4A	DI-3C	6	10+58	0.06	0.88	0.05	0.05	7.27	0.35	0.00	0.35	0.013	0.031	1.87	2		0.083	2.68						9.60		0.10		0.46		0.22		3.21	
				0.06	0.88	0.05	0.05	7.27	0.35	0.00	0.35			1.87																			
5A	DI-3B	6	12+54	0.07	0.90	0.06	0.06	7.27	0.43	0.00	0.43	0.013	0.042	2.02	2		0.083	1.98						9.60		0.11		0.46		0.25		2.69	
				0.07	0.90	0.06	0.06	7.27	0.43	0.00	0.43			2.02																			
EX7=B037	DI-4BB	6		0.56	0.90	0.50	0.50	7.27	3.7	–	3.7	L.P.	0.03	5.98										9.60		0.10		0.46		0.22		2.70	
EX8=B07	DI-4CC	6		0.12	0.75	0.09	0.09	7.27	0.65	–	0.65	L.P.	0.016	10.06										9.60		0.30		0.46		0.65		6.90	
EX9=B08	DI-4C	8		1.19	0.80	0.95	0.95	7.27	6.9	–	6.9	L.P.	0.02	20.33										11.60		0.41		0.46		0.89		11.70	
B04	DI-4BB	6		0.85	0.78	0.66	0.66	7.27	4.8	–	4.8	L.P.	0.02	18.12										9.60		0.36		0.46		0.76		10.84	

Application No. FDPA 82-P-069-11-4 Staff WOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE ~~PROFFERS~~ DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 7 of 10

FOR INFORMATION ONLY!

NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE

REVISION APPROVED BY OFFICE OF SITE DEVELOPMENT SERVICES

REVISIONS

SURVEY: WHGA
DESIGN: H. RODRIGUEZ
DRAWN: N. ZELENSKY
CHECKED: L. MILLER

ENGINEERS · SURVEYORS · LAND PLANNERS · LANDSCAPE ARCHITECTS
William H. Gordon Associates, Inc.
4501 Daly Drive · Chantilly, Virginia 20151
(703) 263-1900 · METRO (703) 803-9508 · FAX (703) 263-0766

DATE: JANUARY 2005
SCALE: HORZ: 1" = 50' VERT: 1" =5'
SEAL: COMMONWEALTH OF VIRGINIA LAURA F. MILLER NO. 35537 6/7/05 PROFESSIONAL ENGINEER

STORM PROFILES, COMPUTATIONS, AND NARRATIVES

PROJECT: EAST MARKET AT FAIR LAKES PHASE V
SPRINGFIELD DISTRICT FAIRFAX COUNTY VIRGINIA

JOB: 0734-1107
CADD: 1107ST.DWG
SHEET: ~~12 OF 44~~

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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 proffers 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 hydrolic 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 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.

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.

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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)
Onsite Parcel:		
Landbay A and Parcel 14B1	0.60	35.50
Offsite Parcels		
Promenade, Kaiser & Silver Diner	0.90	21.70
Government Properties	0.70	95.80
	Total	153.00

III a. PHOSPHORUS REMOVAL - "OCCOQUAN 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	x	35.50	=	21.30
		x		=	0.00

(b) Total 21.30

(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 (%) (3)		Area Ratio (4)		"C" Ratio (5)		Product (6)
Regional Dry Pond (PFM Table 6.3)	50	x	1.00	x	1.00	=	50.00
		x		x		=	0.00

(a) Total = 50.00

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (a) 50

Water Supply Overlay District (Occoquan 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	x	35.50	=	21.30
Promenade, Kaiser & Silver Diner	0.90	x	21.70	=	19.53
Government Properties	0.70	x	95.80	=	67.06
		x		=	0.00
		x		=	0.00

(a) Total 153.00 ac.

(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 x "C") - 875] or [31.25 x % imp.] = (a) 2,231 cf/ac

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) 5.46 cfs

(D) Required orifice area (A) [A = Qp / (0.6 x (64.4 x h)^0.5)]
Line (9C) 546 / [(0.6 x (64.4 x Line 9(b) 13.39)^0.5)] (D) 0.31 sf

(E) Diameter of a circular orifice.
2.0 x (Line 9(d) _____ /3.1415937)^0.5= (E) 0.63 ft or 7.6 in

Diameter of orifice provided = 180mm = 7.2 in
See Sheet 23A of 39

William H. Gordon Associates, Inc.

The Gordon Building
4501 Daly Drive
Chantilly, Virginia 20151
703-263-1900
(fax) 703-263-0766

June 10th, 2002

Mr. Carl Bouchard, P.E.
Director, Stormwater Planning Division
Fairfax County DPWES
12000 Government Center Parkway
Suite 449
Fairfax, VA 22035

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

Re: Response to your letter dated May 30th, 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 excavate (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 WSE at elevation 408. Through a trail 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 WSE 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.

Robert W. Walker, C.L.A.
Vice President

cc: Hossein Malayeri, FFx Cty
Cary Euwer, Metropolitan Partnership
Wayne Barber, Metropolitan Partnership
Carlos Montenegro, Metropolitan Partnership
Ken Lin, FFx Cty
John Freidman, FFx Cty
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	3.50	AF	16.0 AF	
3	TOP OF DAM	404.55	FT	410.00	FT		
4	100-YEAR W.S.E	402.13	FT	408.33	FT		
5	1.5 X 100 YR W.S.E	403.59	FT	409.74	FT		LESS THAN 2' F.B. ~1.77'
6	10-YEAR W.S.E.	401.02	FT	407.23	FT		
7	2-YEAR PEAK FLOW	592.00	CFS	-			
8	10-YEAR PEAK FLOW	1335.00	CFS	-			

1330

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	407.85	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.	401.05	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.

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/klvland-a-m2.doc

Attachments: As Stated

cc: Hossein Malayeri, Building Design Branch, Planning and Design Division
John Friedman, Office of Site Development Services
Harbans Maharoo, 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-069-11-4
Application No. _____ Staff WOOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE PROFFERS DATED 6/2/10
Date of (BOS) (PC) approval 6/2/10
Sheet 8 of 10

FOR INFORMATION ONLY!

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

REVISIONS

SURVEY: WHGA
DESIGN: S. PANDISH
DRAWN: S. PANDISH
CHECKED: J. McCLELLAN

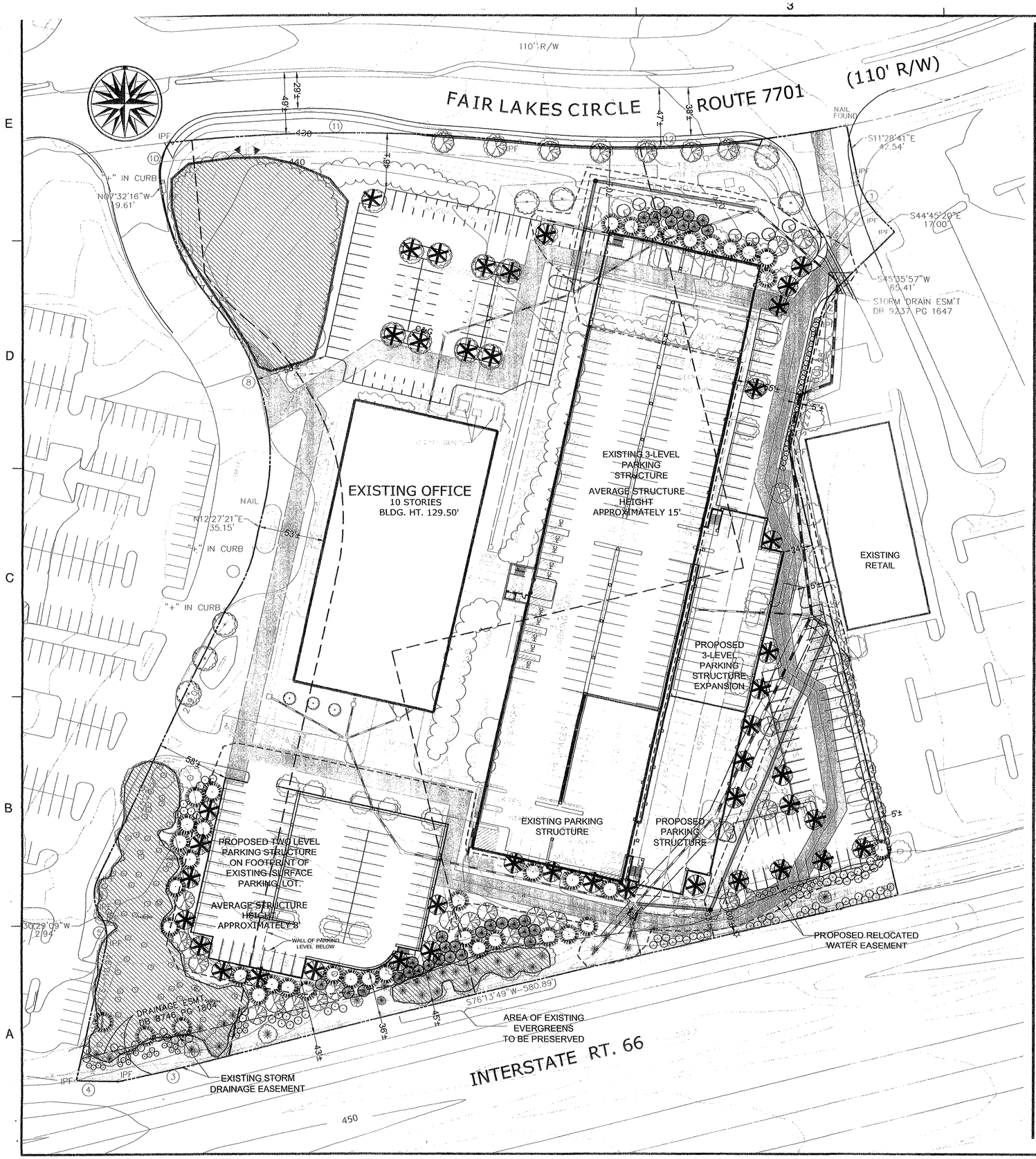
ENGINEERS · SURVEYORS · LAND PLANNERS · LANDSCAPE ARCHITECTS
William H. Gordon Associates, Inc.
4501 Daly Drive · Chantilly, Virginia 20151
(703) 263-1900 · METRO (703) 803-9508 · FAX (703) 263-0766

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
SPRINGFIELD DISTRICT
FAIRFAX COUNTY, VIRGINIA

JOB: 0734-0507
CADD: 0734BMP.DWG
SHEET: ~~15 OF 39~~
M-10605
SHEET 8 OF 10



LANDSCAPE TABULATIONS

THE INFORMATIONPROVIDED BELOW IS INTENDED TO REFLECT THE ABILITY TO SATISY MINIMUM LANDSCAPE REQUIRMENTS 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.

INTERIOR PARKING LOT LANDSCAPING

PARKING LOT AREA _____ 170,150±AC
MIN. INTERIOR PARKING LOT LANDSCAPING REQUIRED (5%) _____ 8,508±SF

MIN. INTERIOR PARKING LOT LANDSCAPING TO BE PROVIDED (5%) _____ 8,600±SF
43 CAT IV DECIDUOUS TREES @ 200SF/TREE

TREE COVER

TOTAL SITE AREA _____ 8.36±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 ____ 8,600±SF
(SEE ABOVE)

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 SATIFYING 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-069-11-4 Staff WOD
APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDP) (FDPA)
SEE PROFFERS DATED 5/2/07
Date of (BOS) (PC) approval 5/2/07
Sheet 9 of 10

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

Dewberry

Dewberry & Davis LLC
8403 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
FAX: 703.849.0519
www.dewberry.com

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

SCALE
0' 40' 80'

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

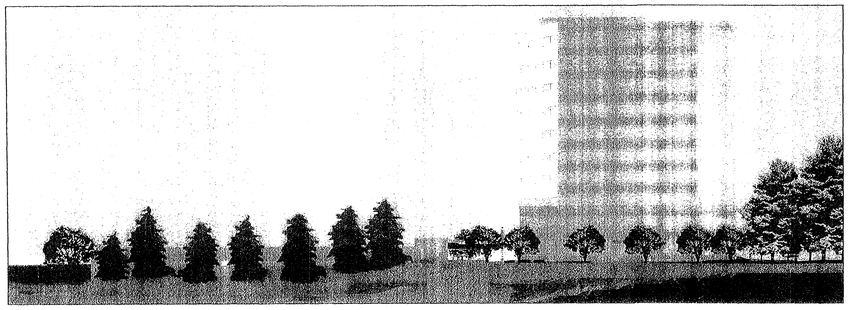
TITLE
FAIR LAKES V-B-3-A
FINAL DEVELOPMENT PLAN AMENDMENT
LANDSCAPE DETAIL

PROJECT NO. M-10605

9

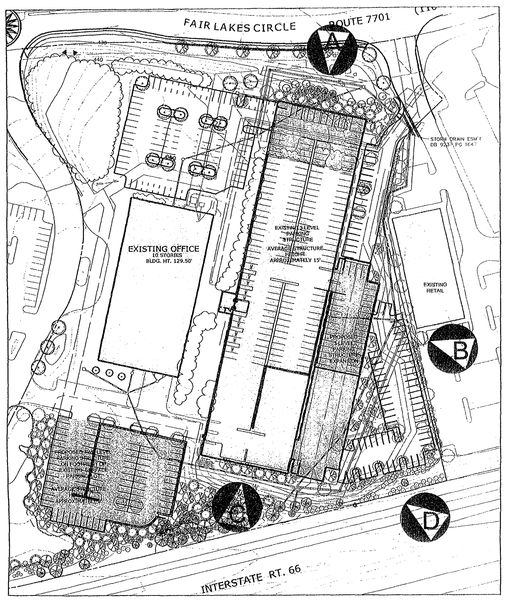
SHEET NO. 9 OF 10

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.



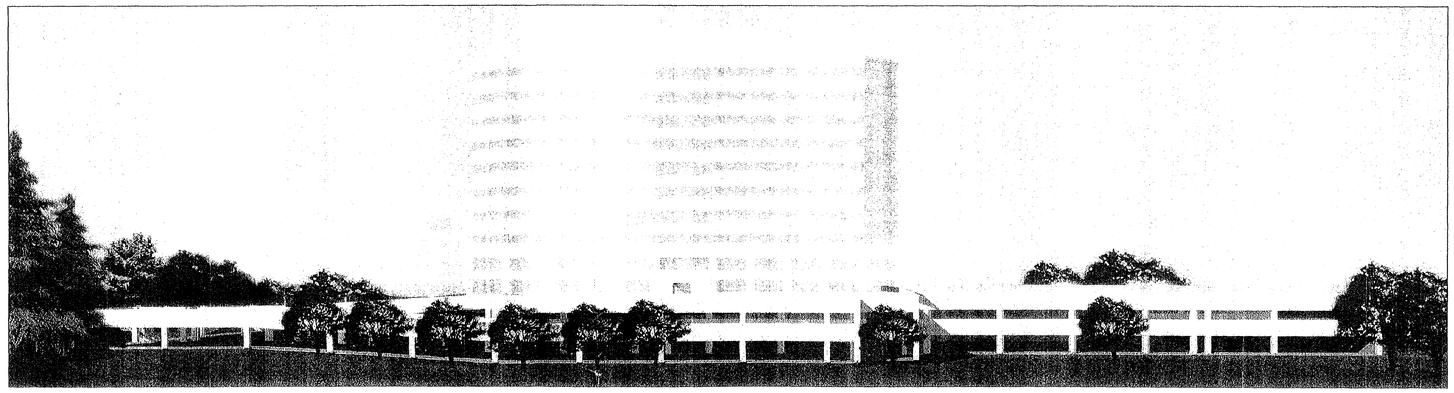
ELEVATION "A"

REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE

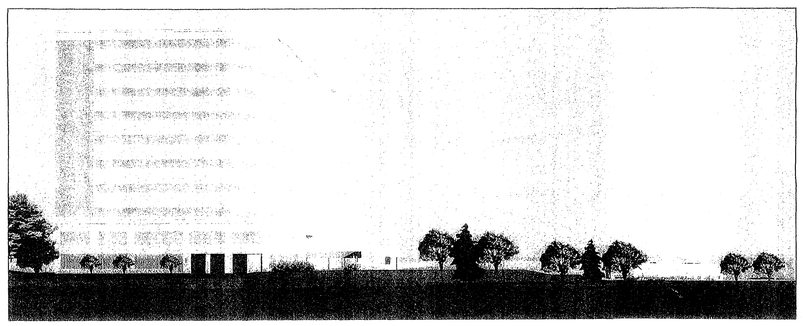


KEY MAP

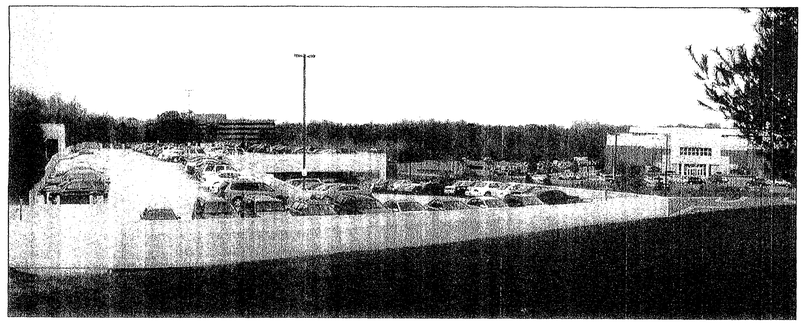
0' 100' 200'



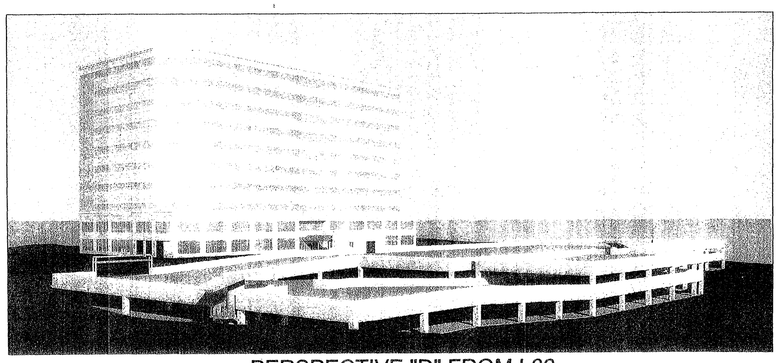
ELEVATION "B"



ELEVATION "C"



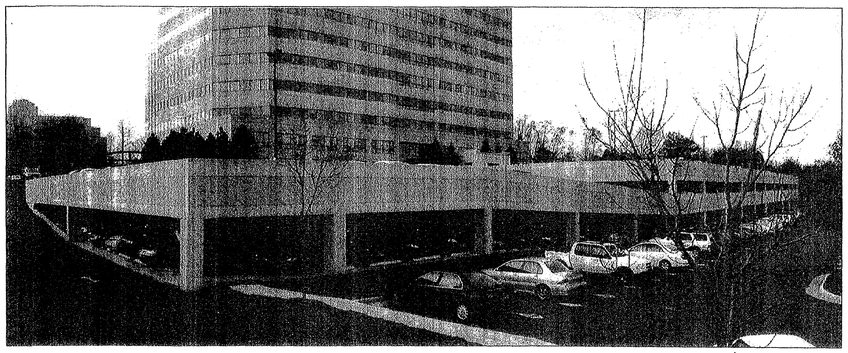
REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE



PERSPECTIVE "D" FROM I-66

MASSING OF OFFICE BUILDING AND PARKING DECK WITH EXPANSION

LANDSCAPING NOT SHOWN



REFERENCE PHOTOGRAPH OF EXISTING PARKING STRUCTURE

FDPA 82-P-069-11-4

Application No. _____ Staff UDD

APPROVED DEVELOPMENT PLAN

(DP) (GDP) (CDP) (FDPA)

SEE ~~PROFFERS~~ DATED 8/2/07

Date of (BOS) (PC) approval 8/2/07

Sheet 10 of 10

AS APPROVED BY THE FAIRFAX COUNTY PLANNING COMMISSION ON MAY 2, 2007

Dewberry

Dewberry & Davis LLC
8403 ARLINGTON BLVD.
FAIRFAX, VA 22031
PHONE: 703.849.0100
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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
02/26/07
PROFESSIONAL ENGINEER

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
ARCHITECTUAL ELEVATIONS
AND PHOTOGRAPHS

PROJECT NO. M—10605

10

SHEET NO. 10 OF 10