PROFFER CONDITION AMENDMENT (PCA), CONCEPTUAL DEVELOPMENT PLAN AMENDMENT (CDPA) AND FINAL DEVELOPMENT PLAN AMENDMENT (FDPA) (PCA/CDPA/FDPA #2005-PR-039) AND PROFFER CONDITION AMENDMENT (PCA), CONCEPTUAL DEVELOPMENT PLAN AMENDMENT (CDPA) AND FINAL DEVELOPMENT PLAN AMENDMENT (FDPA) (PCA/CDPA/FDPA CASE #88-P-030-2)

FOR

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION

PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

GENERAL NOTES

1. THE PROPERTIES DELINEATED HEREON ARE LOCATED ON FAIRFAX COUNTY TAX MAP #049-01-13-17A, ZONED PDC, TAX MAP #049-01-13-18A, ZONED PDC, TAX MAP #049-01-01-27A, ZONED PRM, TAX MAP #049-02-01-13A, ZONED PRM, AND TAX MAP #049-02-01-15A, ZONED PRM.
2. THE ABOVE REFERENCED PARCELS WILL BE CONSOLIDATED AND/OR RE-SUBDIVIDED AT THE TIME OF FINAL SITE PLAN.
3. THE BOUNDARY INFORMATION SHOWN HEREON WAS COMPILED BY URBAN ENGINEERING & ASSOCIATES, INC. (UEA).
4. THE TOPOGRAPHY SHOWN HEREON IS AT A TWO-FOOT CONTOUR INTERVAL, COMPILED BY UEA. ALL TOPOGRAPHY WAS OBTAINED VIA AIR SURVEY.
5. THE SITE SHOWN ON THIS PLAN IS LOCATED IN THE PROVIDENCE DISTRICT, THE ASA AND LOWER POTOMAC SANITARY SEWER DISTRICTS, AND THE ACCOTINK CREEK WATERSHED.
6. THIS PROPOSED DEVELOPMENT IS IN CONFORMANCE WITH THE COMPREHENSIVE PLAN AND ALL APPLICABLE ORDINANCES, REGULATIONS AND ADOPTED CONDITIONS WITH THE EXCEPTION OF THE FOLLOWING MODIFICATIONS AND WAIVERS APPROVED IN RZ/FDP 2005-PR-039 AND PCA/FDPA 88-P-030.
   - A MODIFICATION FOR ONSITE STORMWATER MANAGEMENT (SWM). SWM REQUIREMENTS WILL BE SATISFIED USING UNDERGROUND VAULTS AS DESCRIBED IN THE SWM NARRATIVE ON THIS SHEET.
   - A MODIFICATION OF THE PRIVATE STREET LIMITATIONS OF SECTION 11-302 OF THE FAIRFAX COUNTY ZONING ORDINANCE.
   - A MODIFICATION OF TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS IN FAVOR OF THE LANDSCAPING SHOWN ON THE INCLUDED LANDSCAPE PLAN.
   - A MODIFICATION OF INTERIOR PARKING LOT LANDSCAPING ON THE TOP OF PARKING DECKS IN FAVOR OF MORE SUSTAINABLE LANDSCAPING AS SHOWN ON THE INCLUDED LANDSCAPE PLAN.
   - A WAIVER OF THE 75' YARD REGULATIONS FOR LOTS ABUTTING PRINCIPAL ATERIAL HIGHWAYS AS REQUIRED BY SECTION 2-414.1.B OF THE FAIRFAX COUNTY ZONING ORDINANCE. THE COMMERCIAL USES IMPACTED BY THIS RESTRICTION ARE THE SECONDARY USES LOCATED IN THE WMATA GARAGE. THESE USES ARE LOCATED MORE THAN 75' FROM INTERSTATE 66, BUT THE GARAGE AS-A-WHOLE IS NOT.

   AND, THE FOLLOWING MODIFICATION REQUESTED WITH THIS APPLICATION.
   - A MODIFICATION OF ZONING ORDINANCE SECTION 11-203 SUCH THAT A MAXIMUM OF 10 LOADING SPACES SHALL BE REQUIRED FOR THIS PROJECT.
7. THIS SITE IS SERVED BY PUBLIC SEWER AND WATER.
8. STORM WATER MANAGEMENT (SWM) AND BEST MANAGEMENT PRACTICES (BMP) REQUIREMENTS WILL BE PROVIDED AS DESCRIBED IN THE NARRATIVES ON THIS SHEET. THE SWM CHECKLIST IS PROVIDED ON SHEET #3.
9. UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THERE ARE EXISTING UTILITY EASEMENTS OF 25' OR MORE IN WIDTH ON THE SITE.
10. INDIVIDUAL UTILITY PLANS AND PROFILES WILL BE SUBMITTED DURING THE SITE PLAN STAGE FOR CONSTRUCTION PURPOSES.
11. THERE ARE NO KNOWN HAZARDOUS OR TOXIC SUBSTANCES ON THIS SITE. IF ANY SUBSTANCES ARE FOUND, THE METHODS FOR DISPOSAL SHALL ADHERE TO COUNTY, STATE, OR FEDERAL LAW.
12. THERE ARE NO KNOWN BURIAL SITES FOUND ON THIS SITE.
13. ALL PUBLIC STREETS SHALL CONFORM TO FAIRFAX COUNTY AND/OR VIRGINIA DEPARTMENT OF TRANSPORTATION (VDOT) STANDARDS AND SPECIFICATIONS UNLESS MODIFIED AS DESCRIBED HEREIN. PRIVATE STREETS SHALL CONFORM TO STANDARDS SET BY THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL SECTION 7 UNLESS MODIFIED HEREIN.
14. IN ACCORDANCE WITH PARAGRAPH 4 OF SECTION 16-403 OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE SIZE, DIMENSIONS, FOOTPRINTS, AND LOCATION OF BUILDINGS, PARKING SPACES, GARAGES AND SIDEWALKS MAY OCCUR WITH FINAL ENGINEERING AND DESIGN.
15. THERE ARE NO DESIGNATED FLOOD PLAINS, ENVIRONMENTAL QUALITY CORRIDORS, OR RPAs ON THE SUBJECT SITE PER FAIRFAX COUNTY MAPS.
16. THERE ARE NO SCENIC ASSESTS OR NATURAL FEATURES ON THE SUBJECT SITE WHICH WOULD DESERVE PROTECTION OR PRESERVATION.
17. THERE IS AN EXISTING WMATA SUB-STATION BUILDING ON THIS SITE THAT IS NOT IMPACTED BY THIS APPLICATION AND IS TO REMAIN.
18. THE ON-SITE AMENITIES APPROVED WITH THIS DEVELOPMENT SHALL INCLUDE:
    * WALKING/BIKE TRAILS
    * PLAZA RECREATION AREA
    * PEDESTRIAN SIDEWALKS
    * WMATA PARKING GARAGE AND RELATED FACILITIES
19. THE DEVELOPMENT SCHEDULE SHALL BE DETERMINED BY THE APPLICANT BASED UPON MARKET CONDITIONS.
20. THE PROPOSED PUBLIC ROAD IMPROVEMENTS ILLUSTRATE THE REQUIRED IMPROVEMENTS IN GENERAL ACCORDANCE WITH THE COMPREHENSIVE PLAN AND ARE SHOWN PER VDOT STANDARDS EXCEPT AS MODIFIED HEREIN. THE APPROVAL OF THIS PLAN WILL ONLY BIND THE OWNER TO CONSTRUCTING THOSE ROAD IMPROVEMENTS SHOWN ON THE FINAL SITE PLAN AND CONSTRUCTED IN ACCORDANCE WITH THE ACCOMPANYING PLANS/PROFFERS.
21. SIGNAGE WILL BE PROVIDED IN ACCORDANCE WITH THE FAIRFAX COUNTY ZONING ORDINANCE. UNLESS MODIFIED BY A COMPREHENSIVE SIGN PLAN.
22. THE LANDSCAPING AND STREETSCAPE CONCEPTS SHOWN ON SHEETS 9-15 OF THIS PLAN ARE FOR ILLUSTRATIVE PURPOSES ONLY, PROVIDED THAT THE QUANTITY AND QUALITY OF PLANTINGS ARE IN GENERAL CONFORMANCE WITH THOSE SHOWN HEREON.
23. THE BUILDING FOOTPRINTS ON THE CDP/FDP ARE CONCEPTUAL AND SUBJECT TO CHANGE AT THE TIME OF FINAL ENGINEERING IF IN SUBSTANTIAL CONFORMANCE WITH THE CDP/FDP.
24. TABULATIONS FOR SITE, BUILDING, PARKING AND LOADING DATA ARE PROVIDED ON SHEET #4 OF THIS PLAN.
25. AS PART OF SITE PLAN APPROVAL FOR THE PROPOSED DEVELOPMENT, THE APPLICANT SHALL RESERVE FOR FUTURE DEDICATION FOR PUBLIC STREET PURPOSES THE RIGHT-OF-WAY AND RELATED EASEMENTS FOR THE ROAD IMPROVEMENTS SHOWN ON THIS DEVELOPMENT PLAN. DEDICATION AND CONSTRUCTION OF THE ROAD IMPROVEMENTS SHOWN HEREON SHALL BE COMPLETED IN ACCORDANCE WITH THE PHASING PLAN SET FORTH HEREIN AND THE ACCOMPANYING PROFFERS.

STORMWATER MANAGEMENT NARRATIVE

THE CURRENT USE OF THIS SITE IS IMPERVIOUS, ASPHALT SURFACE PARKING FOR THE ADJACENT DUNN LORING METRO STATION. THE EXISTING SITE IS APPROXIMATELY 83% IMPERVIOUS AREA. THE DEVELOPMENT WITH THIS PLAN ONLY SLIGHTLY INCREASES THE IMPERVIOUS AREA, TO APPROXIMATELY 85% IMPERVIOUS AREA. AS SHOWN ON SHEET 31, AN UNDERGROUND STORMWATER MANAGEMENT FACILITY IS PROPOSED TO ACCOMODATE THE INCREASED STORMWATER RUNOFF. THE UNDERGROUND FACILITY HAS BEEN ROUGHLY SIZED IN ACCORDANCE WITH THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK (SEE COMPUTATIONS ON SHEET 32). FULL SWM DETAILS AND COMPUTATIONS WILL BE PROVIDED AT THE TIME OF FINAL SITE PLAN.

BEST MANAGEMENT PRACTICES NARRATIVE

THIS DEVELOPMENT IS CLASSIFIED AS A REDEVLOPMENT IN ACCORDANCE WITH SECTION 6-400 OF THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL. THUS, THE REQUIRED REDUCTION IN PHOSPHORUS LOADS WILL BE CALCULATED AS FOLLOWS:

$$\% \text{ P REMOVAL} = [1-0.9(C_{pre}/C_{post})] \times 100 = [1-0.9(0.90/0.90)] \times 100 = 10\% \text{ P REMOVAL}$$

INNOVATIVE BMP MEASURES WILL BE UTILIZED TO SATISFY THIS REQUIREMENT. A POSSIBLE UNDERGROUND BMP FACILITY HAS BEEN ROUGHLY SIZED AND SHOWN ON SHEET 31. DETAILS AND SIZING FOR AN INNOVATIVE BMP HAVE BEEN PROVIDED ON SHEET 33 TO SHOW ADEQUACY. THE APPLICANT RESERVES THE RIGHT TO CHANGE THE SPECIFIC TYPE OF BMP AT THE TIME OF FINAL SITE PLAN IN CONFORMANCE WITH THE PUBLIC FACILITIES MANUAL.

OUTFALL NARRATIVE

THE EXISTING SITE IS CURRENTLY DEVELOPED AS LARGE SURFACE PARKING LOTS FOR THE METRO RAIL SYSTEM. THE EXISTING DEVELOPED CONDITION DRAINS THE SITE TO EXISTING CATCH BASINS THROUGHOUT THE SITE. RAINFALL ON THE PROPOSED DEVELOPMENT WILL BE MANAGED USING ADEQUATELY DESIGNED CATCH BASINS AND CLOSED CONDUIT SYSTEMS. THE SITE WILL OUTFALL THROUGH THE EXISTING CLOSED CONDUIT SYSTEM.

ALONG THE NORTHWESTERN PROPERTY LINE THE SITE OUTFALLS THROUGH TWO EXISTING CONCRETE PIPES INTO AN EXISTING CONCRETE CHANNEL. AN ADDITIONAL CONCRETE PIPE ALONG THE NORTHWESTERN PROPERTY LINE OUTFALLS INTO THE THE SAME CHANNEL, FURTHER DOWNSTREAM, WHERE THE LINING IS RIP-RAP. THIS CHANNEL ULTIMATELY OUTFALLS INTO LONG BRANCH. APPROXIMATELY 1400 FEET DOWNSTREAM OF WHERE THE CHANNEL ENTERS LONG BRANCH, THE STREAM IS CONSIDERED FLOODPLAIN WITH A DRAINAGE AREA OF 1.08 SQUARE MILES.

ALONG THE SOUTHERN PROPERTY LINE THE SITE OUTFALLS INTO AN EXISTING CLOSED CONDUIT SYSTEM. ULTIMATELY THIS CLOSED CONDUIT SYSTEM OUTFALLS INTO AN EXISTING TRIBUTARY LEADING TO LONG BRANCH. JUST NORTH OF THE INTERSECTIOIN OF PROSPERITY AVE. AND ROUTE 50. APPROXIMATELY 1500 FEET DOWNSTREAM THE TRIBUTARY MEETS LONG BRANCH. THIS OUTFALL IS DOWNSTREAM ALONG LONG BRANCH FROM THE NORTH SITE OUTFALL; THEREFORE THE FLOODPLAIN DRAINAGE AREA IS SIGNIFCANTLY LARGER THAN 1 SQUARE MILE.

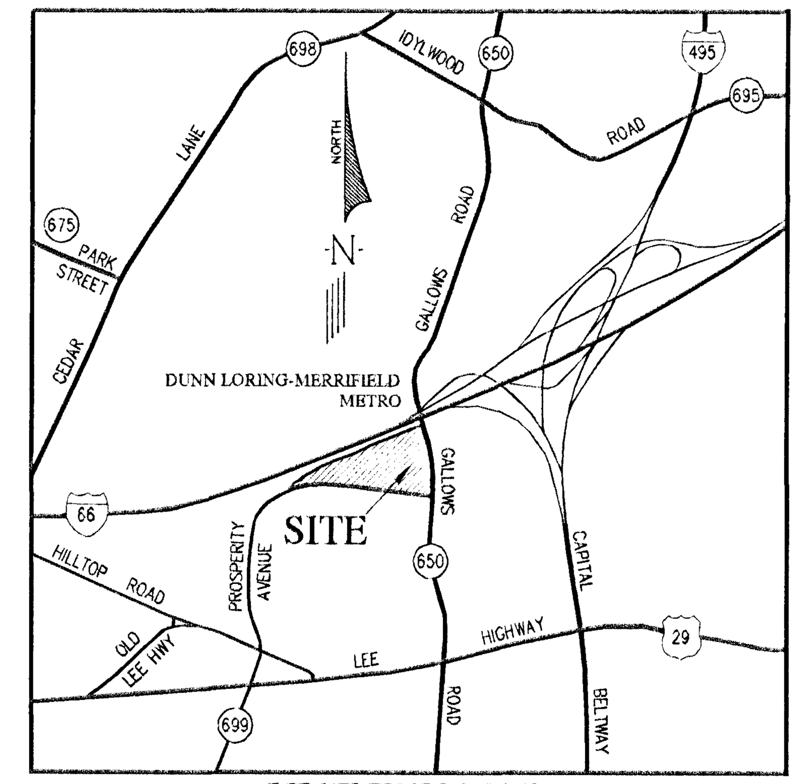
AT BOTH OUTFALL POINTS INTO LONG BRANCH AND LONG BRANCH TRIBUTARY, THE CHANNEL APPEARS TO BE IN GOOD CONDITION WITH NO VISIBLE SIGNS OF EROSION.

OWNERS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
600 5TH STREET N.W.
WASHINGTON, D.C. 20001
(202) 962-1234

APPLICANTS/ DEVELOPERS

DUNN LORING METRO, LLC
6110 EXECUTIVE BLVD.
SUITE 315
ROCKVILLE, MD 20852
(301) 255-6011



VICINITY MAP
SCALE: 1" = 2000'

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3.	EXISTING SITE LAYOUT
4.	CONCEPTUAL AND FINAL DEVELOPMENT PLAN AMENDMENT
5.	DETAILED CONCEPTUAL AND FINAL DEVELOPMENT PLAN AMENDMENT
6.	ILLUSTRATIVE GROUND FLOOR PLAN
7.	ILLUSTRATIVE ROOF TOP PLAN
8.	PEDESTRIAN CIRCULATION PLAN
9.	LANDSCAPE PLAN
10.	COURTYARD DETAIL PLAN
11.	STREETSCAPE AND BUS LOOP PLAN
12.	BUS LOOP SECTIONS
13.	DETAIL PLAN AND SECTIONS
14.	DETAIL PLAN AND SECTIONS
15.	LANDSCAPE SPECIFICATIONS AND PLANT LIST
16.	EXISTING AND PROPOSED CONDITIONS NOISE CON
17.	EXISTING VEGETATION PLAN
18.	ARCHITECTURAL SECTIONS
19-19A.	CONCEPTUAL ELEVATIONS
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25-26A.	PROPOSED PHASING PLAN
27.	SIGHT DISTANCE PROFILE
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31.	PRELIMINARY STORMWATER MANAGEMENT PLAN
32-34.	PRELIMINARY STORMWATER MANAGEMENT DETAILS

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 1 of 38

RECEIVED
Department of Planning & Zoning
MAY 01 2008
Zoning Evaluation Division

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE
REVISION APPROVED BY DIVISION OF DESIGN REVIEW					

PLAN DATE
09-21-05
11-22-05
02-22-06
03-01-06
03-09-06
06-09-06
07-07-06
09-07-06
10-04-06
11-16-06
01-14-08
03-17-08
04-17-08

URBAN ENGINEERING & ASSOC.,INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOIRTYOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

COVER SHEET
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED C.I. = N/A DATE: NOV., 2005

SHEET 1 OF 34

FILE No. ZP-1619

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CERTIFIED PLAT AND SOILS MAP

Urban Engineering & Associates, Inc.

7712 LITTLE RIVER TPKE,
ANNANDALE, VIRGINIA 22003

Telephone: (703) 642-8080
Facsimile: (703) 642-8251

J. EDGAR SEARS, JR., P.E., C.L.S., R.L.A. Principal
BARRY H. SMITH, P.E. Principal
ERIC S. SIEGEL, P.E. Principal
DAVID T. McELHANEY, P.E. Principal
JEFFREY L. GILLILAND, P.E. Principal
PHILLIP A. BLEVINS, C.L.S. Associate
BRIAN A. SEARS, P.E. Associate

DESCRIPTION

T.M. #049-1-013-0017A & T.M. #049-1-013-0018A

ALL THOSE CERTAIN PIECES OR PARCELS OF LAND, TOGETHER WITH THE BUILDINGS AND IMPROVEMENTS THEREON, LYING, SITUATE AND BEING IN FAIRFAX COUNTY, VIRGINIA, MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT ON THE SOUTHWEST CORNER OF THE LAND HEREIN DESCRIBED, SAID POINT BEING ON THE SOUTHERN RIGHT-OF-WAY LINE OF INTERSTATE ROUTE 66 (I-66), EASTBOUND LANES AND THE NORTHERN RIGHT-OF-WAY OF PROSPERITY AVENUE, ROUTE 6066, WIDTH VARIES, AS SHOWN ON PLAT RECORDED IN DEED BOOK 7767 AT PAGE 226 AMONG THE LAND RECORDS OF FAIRFAX COUNTY, VIRGINIA; THENCE DEPARTING SAID POINT AND RUNNING WITH THE SOUTHERN LINES OF SAID I-66 THE FOLLOWING COURSES AND DISTANCES

NORTH 67°49'50" EAST 261.51 FEET TO A POINT; THENCE
NORTH 78°35'20" EAST 101.79 FEET TO A POINT; THENCE
NORTH 57°04'20" EAST 101.79 FEET TO A POINT; THENCE
NORTH 67°49'50" EAST 173.82 FEET TO A POINT; THENCE DEPARTING THE SOUTHERN RIGHT-OF WAY LINE OF SAID INTERSTATE 66
SOUTH 05°11'45" WEST 246.26 FEET TO A POINT ON THE NORTHERN RIGHT-OF WAY LINE OF PROSPERITY AVENUE; THENCE RUNNING WITH THE NORTHERN LINE OF SAID PROSPERITY AVENUE
NORTH 89°50'47" WEST 4.00 FEET TO A POINT; THENCE
NORTH 84°47'49" WEST 366.10 FEET TO A POINT; THENCE
201.17 FEET ALONG THE ARC OF A CURVE TO THE LEFT, HAVING A RADIUS OF 437.00 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 82°00'54" WEST 199.40 FEET TO THE POINT OF BEGINNING CONTAINING 57,719 SQUARE FEET OR 1.32505 ACRES, MORE OR LESS.

ENGINEERS • PLANNERS • LANDSCAPE ARCHITECTS • SURVEYORS

Urban Engineering & Associates, Inc.

7712 LITTLE RIVER TPKE,
ANNANDALE, VIRGINIA 22003

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JEFFREY L. GILLILAND, P.E. Principal
PHILLIP A. BLEVINS, C.L.S. Associate
BRIAN A. SEARS, P.E. Associate

DESCRIPTION

T.M. #049-1-01-0027A, T.M. #049-2-01-13A & T.M. #049-2-01-15A

ALL THOSE CERTAIN PIECES OR PARCELS OF LAND, TOGETHER WITH THE BUILDINGS AND IMPROVEMENTS THEREON, LYING, SITUATE AND BEING IN FAIRFAX COUNTY, VIRGINIA, MORE PARTICULARLY DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTHWEST CORNER OF THE LAND HEREIN DESCRIBED, SAID POINT BEING ON THE SOUTHERN RIGHT-OF-WAY LINE OF INTERSTATE ROUTE 66 (I-66), EASTBOUND LANES; THENCE DEPARTING SAID POINT AND RUNNING WITH THE SOUTHERN LINES OF SAID I-66 THE FOLLOWING COURSES AND DISTANCES

NORTH 67°52'19" EAST 874.31 FEET TO A POINT; THENCE
NORTH 67°51'03" EAST 252.02 FEET TO A POINT; THENCE
SOUTH 50°50'27" EAST 52.72 FEET TO A POINT ON THE WESTERN RIGHT-OF-WAY LINE OF GALLOWS ROAD, ROUTE 650, WIDTH VARIES; THENCE DEPARTING SAID I-66 AND RUNNING WITH THE WESTERN LINES OF SAID GALLOWS ROAD THE FOLLOWING COURSES AND DISTANCES

SOUTH 23°54'41" EAST 124.34 FEET TO A POINT; THENCE
SOUTH 07°54'52" EAST 14.41 FEET TO A POINT; THENCE
174.63 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 915.93 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 12°41'06" EAST 174.37 FEET TO A POINT; THENCE
SOUTH 80°35'04" WEST 29.13 FEET TO A POINT; THENCE
163.43 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 896.93 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 05°48'33" EAST 163.20 FEET TO A POINT; THENCE
SOUTH 00°35'22" EAST 46.22 FEET TO A POINT; THENCE
187.56 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 3,886.16 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 00°47'35" WEST 187.54 FEET TO A POINT; THENCE
SOUTH 29°22'05" WEST 21.96 FEET TO A POINT; THENCE
SOUTH 07°45'55" EAST 4.98 FEET TO A POINT ON THE NORTHERN RIGHT-OF-WAY LINE OF SAID PROSPERITY AVENUE; THENCE DEPARTING SAID GALLOWS ROAD AND RUNNING WITH THE NORTHERN LINES OF SAID PROSPERITY AVENUE THE FOLLOWING COURSES AND DISTANCES

22.31 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 30.00 FEET AND A CHORD BEARING AND DISTANCE OF SOUTH 69°54'26" WEST 21.79 FEET TO A POINT; THENCE
NORTH 88°47'52" WEST 124.71 FEET TO A POINT; THENCE
110.73 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, HAVING A RADIUS OF 1,589.41 FEET AND A CHORD BEARING AND DISTANCE OF NORTH 86°58'07" WEST 110.71 FEET TO A POINT; THENCE
NORTH 84°48'22" WEST 148.45 FEET TO A POINT; THENCE
NORTH 84°48'15" WEST 658.21 FEET TO A POINT; THENCE
NORTH 83°35'00" WEST 113.10 FEET TO A POINT; THENCE DEPARTING THE NORTHERN RIGHT-OF-WAY LINE OF PROSPERITY AVENUE
NORTH 05°11'45" EAST 246.26 FEET TO THE POINT OF BEGINNING CONTAINING 612,262 SQUARE FEET OR 14.05789 ACRES, MORE OR LESS.

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 2 of 38

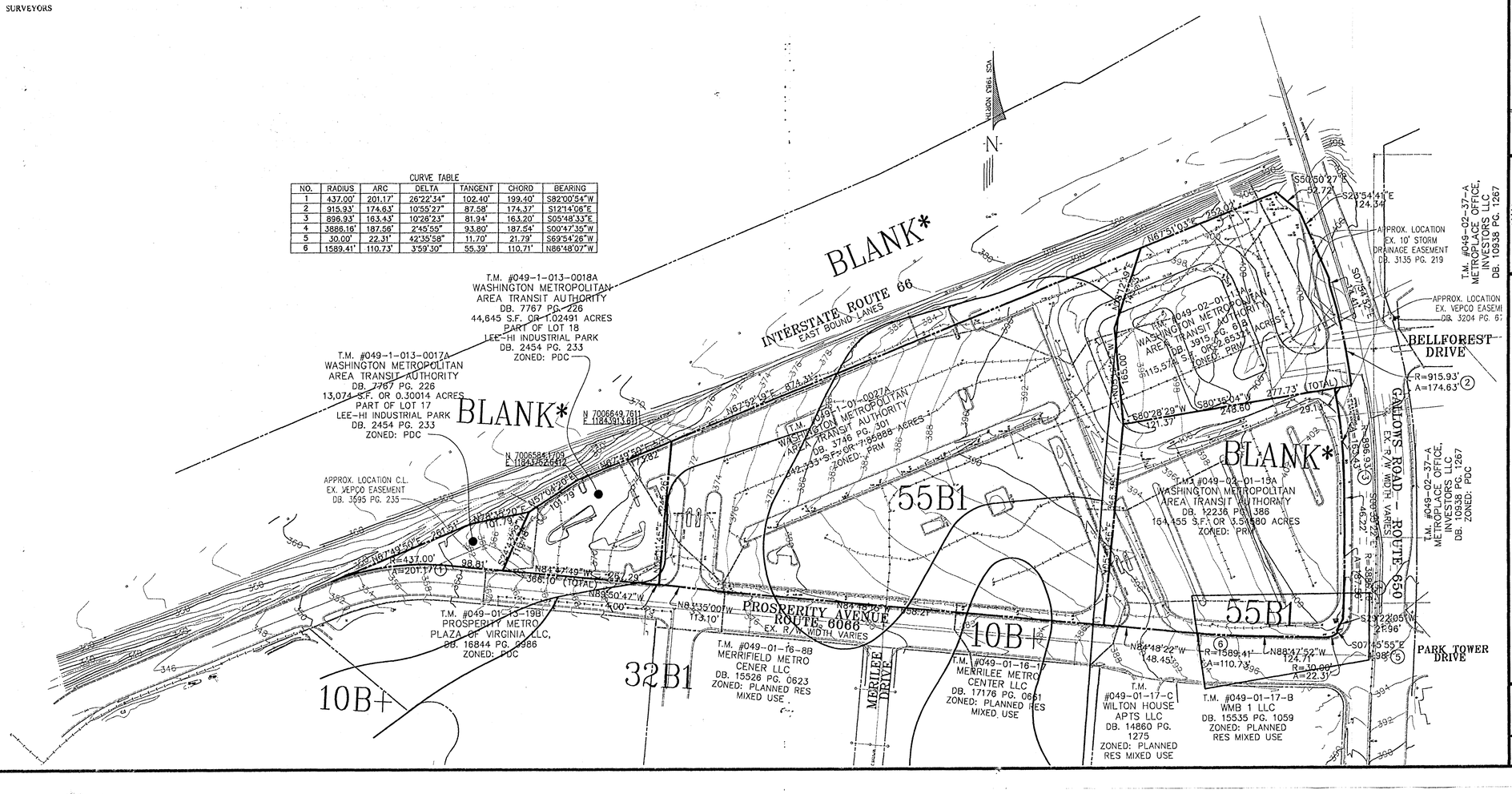
* NO SOIL TYPE PROVIDE ON FAIRFAX COUNTY SOILS IDENTIFICATION MAPS

SOILS LEGEND		
NUMBER	NAME	CLASS
10B+	GLENVILLE	B
32B1	FAIRFAX	B
55B1	GLENELG	C

NOTE: SOILS DATA SOURCE IS THE COUNTY OF FAIRFAX SOILS IDENTIFICAITION MAPS.

CURVE TABLE

NO.	RADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
1	437.00'	201.17'	26°22'34"	102.40'	199.40'	S82°00'54"W
2	915.93'	174.63'	10°55'27"	87.58'	174.37'	S12°14'06"E
3	896.93'	163.43'	10°26'23"	81.94'	163.20'	S05°48'33"E
4	3886.16'	187.56'	2°45'55"	93.80'	187.54'	S00°47'35"W
5	30.00'	22.31'	42°35'58"	11.70'	21.79'	S69°54'26"W
6	1589.41'	110.73'	3°59'30"	55.39'	110.71'	N86°48'07"W



No.	DATE	DESCRIPTION	REV'BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
09-21-05
11-22-05
12-20-05
03-31-06
09-07-06
10-16-06
12-14-07
04-17-08

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOTTEMANN
No. 036621
PROFESSIONAL ENGINEER
04/17/08

CERTIFIED PLAT AND SOILS MAP

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100' C.I. = N/A DATE: NOV., 2005

SHEET 2 OF 34

FILE No. ZP-1619

EXISTING SITE LAYOUT

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
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Sheet 3 of 38

VCS 1983 NORTH

N

INTERSTATE ROUTE 66
EAST BOUND LANES

EXISTING WMATA
DUNN LORING METRO
RAIL STATION

EXISTING WMATA
OVERHEAD WALKWAY
(TO REMAIN)

EXISTING WMATA 2 STORY
CONCRETE SERVICE BUILDING
(TO REMAIN)

EXISTING WMATA
CONCRETE BRIDGE

T.M. #049-1-013-0018A
WASHINGTON METROPOLITAN
AREA TRANSIT AUTHORITY
DB. 7787 PG. 228
44,645 S.F. OR 1.02491 ACRES
PART OF LOT 18
LEE-HI INDUSTRIAL PARK
DB. 2454 PG. 233
ZONED: PDC

T.M. #049-1-013-0017A
WASHINGTON METROPOLITAN
AREA TRANSIT AUTHORITY
DB. 7787 PG. 228
13,074 S.F. OR 0.30014 ACRES
PART OF LOT 17
LEE-HI INDUSTRIAL PARK
DB. 2454 PG. 233
ZONED: PDC

T.M. #049-01-0017A
WASHINGTON METROPOLITAN
AREA TRANSIT AUTHORITY
DB. 3748 PG. 301
342,333 S.F. OR 7.8604 ACRES
ZONED: I-4

T.M. #049-02-01-15A
WASHINGTON METROPOLITAN
AREA TRANSIT AUTHORITY
DB. 3915 PG. 618
154,453 S.F. OR 3.54587 ACRES
ZONED: R-1

T.M. #049-02-37-A
MERRIFIELD 4 OFFICE
INVESTORS LLC
DB. 10538 PG. 1267
ZONED: PDC

T.M. #049-1-13-0018
PROSPERITY METRO PLAZA
OF VIRGINIA LLC
DB. 16844 PG. 0988
ZONED: PDC

T.M. #049-01-17-B
WMB 11 LLC
DB. 15535 PG. 1059
ZONED: PLANNED RES MIXED USE

T.M. #049-01-17-A
WILTON HOUSE APTS LC
DB. 14860 PG. 1275
ZONED: PLANNED RES MIXED USE

N:7006649.7611
E:11843913.6111

N:7006584.1708
E:11843752.8412

200' RESIDENTIAL SETBACK

PROSPERITY AVENUE
– ROUTE 6066
DE 54' WIDTH VARIES
POSTED SPEED 35 MPH

MERRILEE DRIVE

DELLE
DR

GALLOWS ROAD – ROUTE 650
VARIABLE WIDTH
POSTED SPEED 35 MPH

N67°57'19"E 527.31'

N67°49'30"E 261.84'

N78°15'20"E 101.79'

S21°43'29"W 101.79'

N67°49'30"E 261.84'

R=437.00'
A=201.17'

98.81'

N84°47'49"W
366.10' (TOTAL)

N89°50'47"W
4.00'

N83°35'00"W
113.10'

N84°48'15"W 658.21'

N67°31'03"E 252.02'

S50°50'27"E
52.22'

S23°54'44"E
12.18'

S07°54'52"E
74.47'

N16°27'29"E
45.13'

N.E.=125.00'

S80°38'29"W
121.37'

S80°35'04"W 277.73' (TOTAL)

248.60'

29.13'

R=915.93'
A=174.63'

R=886.91'
A=163.49'

S23°05'32"E
46.22'

R=3869.16'
A=197.56'

S29°22'05"W
21.96'

S07°45'55"E
4.98'

R=30.00'
A=22.31'

N84°48'22"W
148.45'

R=1589.41'
A=110.73'

N88°47'52"W
124.71'

S 46°38'46" W 348.38'

N05°51'46"E

N05°51'46"E

PAVED ISLAND (TYPICAL)

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
09-21-05
11-22-05
03-01-06
05-01-06
09-07-06
10-06-06
11-16-06
04-17-06

URBAN ENGINEERING & ASSOC., INC.
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7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-0080

COMMONWEALTH OF VIRGINIA
MATTHEW E. HEDRICKSON
No. 026824
PROFESSIONAL ENGINEER
04/17/06

EXISTING SITE LAYOUT

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=60' C.I. = N/A DATE: NOV., 2005

SHEET
3
OF
34

FILE No.
ZP-1619

CONCEPTUAL AND FINAL DEVELOPMENT PLAN AMENDMENT

SITE TABULATIONS:

EXISTING PARCEL ANALYSIS:

PARCEL	AREA (SF)	AREA (AC)	CURRENT ZONING	RECORD LOCATION
49-2((1))-13A	115,574	2.653	PRM	DB 03915 PG 0618
49-2((1))-15A	154,455	3.546	PRM	DB 12236 PG 0386
49-1((1))-27A	342,333	7.859	PRM	DB 03746 PG 0301
49-1((13))-17A	13,074	0.300	PDC	DB 07767 PG 0226
49-1((13))-18A	44,645	1.025	PDC	DB 07767 PG 0226
TOTALS	670,081	15.383		

EXISTING SITE AREA	15.383 AC. (670,081 S.F.)
EXISTING ZONE	PRM, PDC
PROPOSED ZONE	PRM, PDC
LANDSCAPED OPEN SPACE REQUIRED-PARCELS 49-2((1))-13A, 15A, & 27A (20% OF G.S.A.)	2.81 AC (122,472 SF)
LANDSCAPED OPEN SPACE REQUIRED-PARCELS 49-1((13))-17A & 18A (20% OF G.S.A.)	0.27 AC (11,544 SF)
LANDSCAPED OPEN SPACE PROVIDED-PARCELS 49-2((1))-13A, 15A, & 27A (20% OF G.S.A.)	2.81 AC (122,472 SF)
LANDSCAPED OPEN SPACE PROVIDED-PARCELS 49-2((1))-17A & 18A (20% OF G.S.A.)	0.27 AC (11,544 SF)
PROPOSED BUILDING GROSS FLOOR AREA	SEE CHART ON THIS SHEET
MAX. FAR IN PRM DISTRICT	3.0
PROPOSED FAR IN PRM DISTRICT	1.37** (917,373/670,081)
MAXIMUM BUILDING HEIGHT IN PRM DISTRICT	NO MAXIMUM
PROPOSED BUILDING HEIGHT IN PRM DISTRICT	SEE CHART ON THIS SHEET

A BULK PLANE REQUIREMENT DOES NOT APPLY TO THE PRM ZONE.

MAX FAR ALLOWED PER COMPREHENSIVE PLAN	
BASE @ 2.25 FAR FOR 8 ACRES	784,080 GFA
17% BONUS DENSITY FOR ADU'S	133,293 GFA
CELLAR SPACE	PER GRADE PLANE CALCULATION
TOTAL FAR ALLOWED:	917,373 GFA + CELLAR SPACE
MAXIMUM FAR PROPOSED	
SECONDARY USE BASE	125,000 SF
RESIDENTIAL	792,373 SF
RESIDENTIAL AMENITIES (CELLAR)	15,000 SF
RESIDENTIAL MECH./STORAGE (CELLAR)	10,000 SF
TOTAL	942,373 SF
RESIDENTIAL	
MAX. NO. OF UNITS PROPOSED	720 RESIDENTIAL UNITS
MIN. NO. OF UNITS PROPOSED	550 RESIDENTIAL UNITS
AVERAGE UNIT SIZE (GROSS)	1000 SF – 1128 SF

BUILDING DATA CHART

BUILDING	USE	MAX. FLOORS	MAX. BUILDING HEIGHT
A	MULTI-FAMILY WITH GROUND FLOOR SECONDARY USES	11	135'
B	MULTI-FAMILY WITH GROUND FLOOR SECONDARY USES	11	110'
C	MULTI-FAMILY WITH GROUND FLOOR SECONDARY USES	11	110'
D	WMATA PARKING STRUCTURE WITH GROUND FLOOR SECONDARY USES	7	80' (60' WITHIN 100' OF I-66 R.O.W.)
E	SECONDARY USE	2	40'
F	SECONDARY USE	2	40'

PARKING/LOADING COMPUTATIONS

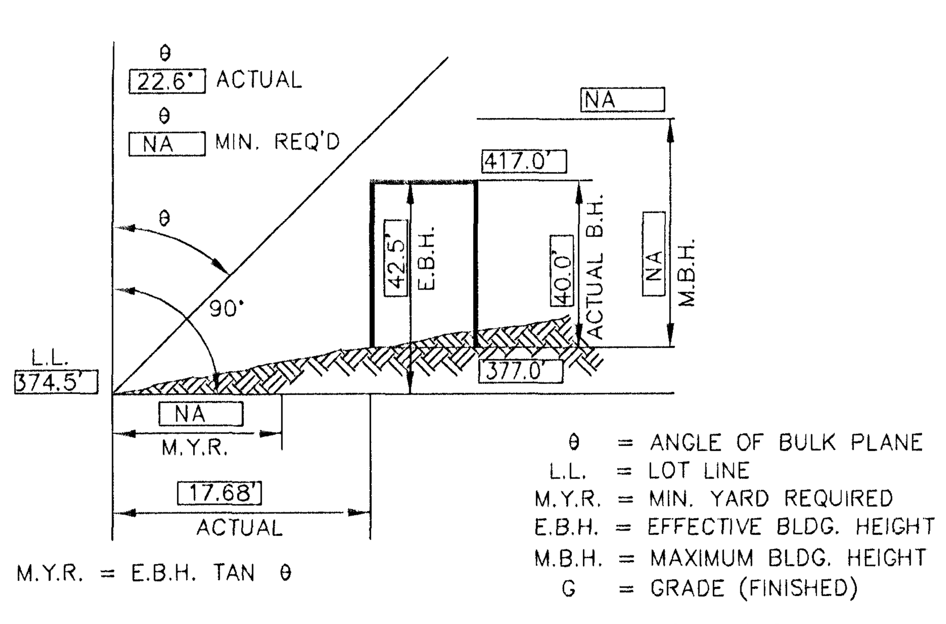
MAX. REQUIRED PARKING:
MULTI-FAMILY RESIDENTIAL, 720 UNITS (1.6 SP/UNIT) = 1,152 SPACES
+SECONDARY USES, 125,000 GSF (4.0 SP/1000 GSF) = 500 SPACES
+WMATA GARAGE SPACES = 2,000 SPACES
= 3,652 REQUIRED SPACES

MAX. PROPOSED PARKING:
MULTI-FAMILY RESIDENTIAL = 1,152 SPACES (720 UNITS)
+SECONDARY USES = 538 SPACES
+WMATA GARAGE SPACES = 2,000 SPACES
= 3,690 PROVIDED SPACES ***

REQUIRED LOADING:
MULTI-FAMILY RESIDENTIAL, 700,000 GSF (1/25,000 + 1/100,000) = 8 SPACES
+SECONDARY USES, 125,000 GSF (1/10,000 + 1/15,000) = 9 SPACES
=17 SPACES CALCULATED
MAXIMUM REQUIREMENT PER Z.O. SECTION 11-202.15 = 5 SPACES PER USE
=> 10 REQUIRED LOADING SPACES

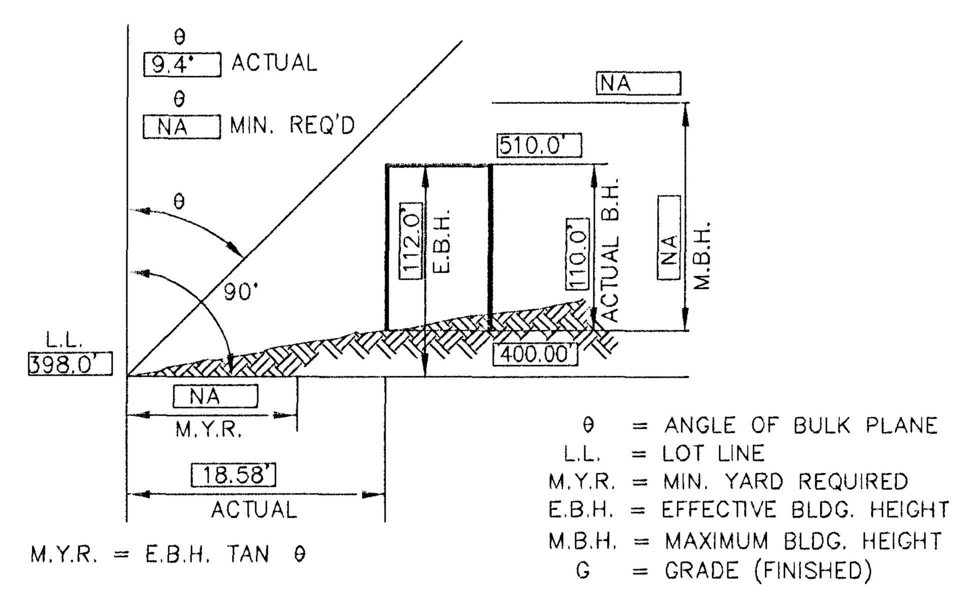
PROVIDED LOADING:
= 10 LOADING SPACES TO BE PROVIDED (SEE MODIFICATION REQUEST ON SHEET 1) ***

***NOTE: PARKING AND LOADING SPACES WILL BE PROVIDED GENERALLY AS SHOWN. IF NOT SHOWN HEREON, LOADING SPACE WILL BE PROVIDED IN GARAGE. APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER AND/OR LOCATION OF THE PARKING AND/OR LOADING SPACES AT TIME OF FINAL SITE PLAN, SO LONG AS THE MINIMUM NUMBERS OF SPACES ARE PROVIDED IN ACCORDANCE WITH ARTICLE 11 OF THE FAIRFAX COUNTY ZONING ORDINANCE AND/OR ANY APPROVED MODIFICATIONS THEREOF.



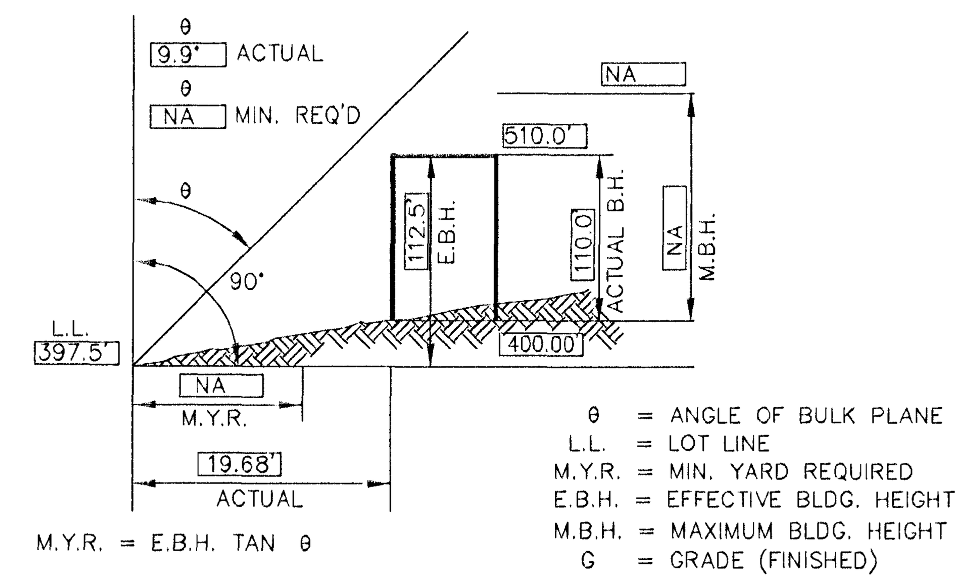
DETAIL ANGLE OF BULK PLANE

BUILDING E AT PROSPERITY
(NOT TO SCALE)



DETAIL ANGLE OF BULK PLANE

BUILDING C AT PROSPERITY
(NOT TO SCALE)



DETAIL ANGLE OF BULK PLANE

BUILDING C AT GALLOWS
(NOT TO SCALE)

PRM SITE TABULATIONS**:

SITE AREA = 612,362 SF. (NOT INCLUDING PDC/FDPA 88-P-030) OR 14.06 AC
MAX. AREA OF 2.25 FAR (PER COMPREHESIVE PLAN) = 348,480 OR 8.0 AC
ALLOWABLE PER COMP. PLAN = (348,480 * 2.25 FAR) = 784,080 GFA
ADU BONUS DENSITY (17%) = 133,293 GFA
917,373 GFA + CELLAR SPACE

**APPLICATION PROPERTY EQUALS 15.383 ACRES, OF WHICH 14.06 ACRES ARE ZONED PRM. THE PRM DISTRICT PERMITS UP TO A 3.0 FAR; HOWEVER, THE COMPREHENSIVE PLAN RESTRICTS THE ALLOWABLE FAR TO 2.25 OVER 8 ACRES OF THE APPLICATION PROPERTY. ACCORDINGLY, THE TABULATIONS ON THIS SHEET DEMONSTRATE COMPLIANCE WITH THE PRM DISTRICT REGULATIONS OVER 14.06 ACRES, AS WELL AS COMPLIANCE WITH THE COMPREHENSIVE PLAN GUIDANCE.

AFFORDABLE HOUSING TABULATION (ADUS)

1. ASSUMPTIONS: THE COMP. PLAN CALLS FOR DUNN LORING METRO DEVELOPMENT WITH AN FAR OF 2.25 FAR UP TO 8 ACRES, WITH THE 17% BONUS DENSITY FOR PROVIDING ADUS. THE PROPOSED DEVELOPMENT HAS AN FAR OF 2.25 (784,080/348,480) ON UP TO 8 AC AS ALLOWED IN THE COMPREHENSIVE PLAN.

2. COMPUTATIONS OF DENSITY:
(SIZE OF SITE * FAR)–SECONDARY USES=MAX ALLOWABLE RESIDENTIAL GFA

UPPER END:
(348,480 SF * 2.25)–125,000 SF = 659,080 GFA

(659,080 SF/1,128 AVG. UNIT SIZE) = 584 UNITS = 73 DU/AC. @ 8 AC.

LOWER END:
(348,080 SF * 1.00)–125,000 SF = 223,080 GFA

(223,080 SF/1,128 AVG. UNIT SIZE) = 198 UNITS = 25 DU/AC. @ 8 AC.

UPPER END OF DENSITY RANGE = 73 DU/AC.
LOWER END OF DENSITY RANGE = 25 DU/AC.

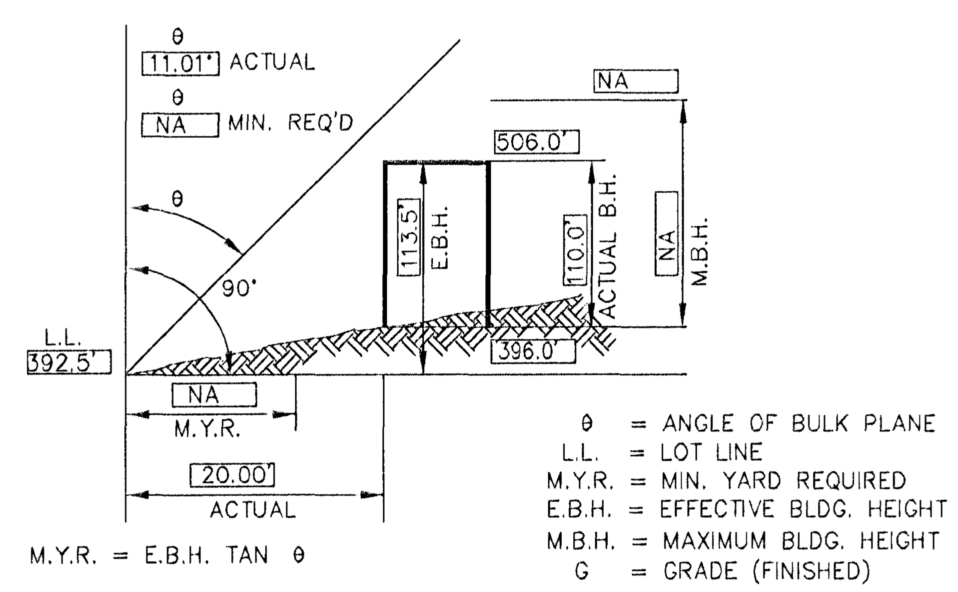
3. COMPUTATIONS OF DENSITY FOR DEVELOPMENT:

UPPER END OF ADJUSTED DENSITY RANGE: 85
LOWER END OF ADJUSTED DENSITY RANGE: 29

$$\frac{73 - 25}{85 - 29} = \frac{48}{56} = 0.86 * 5\% = 4.30\%$$

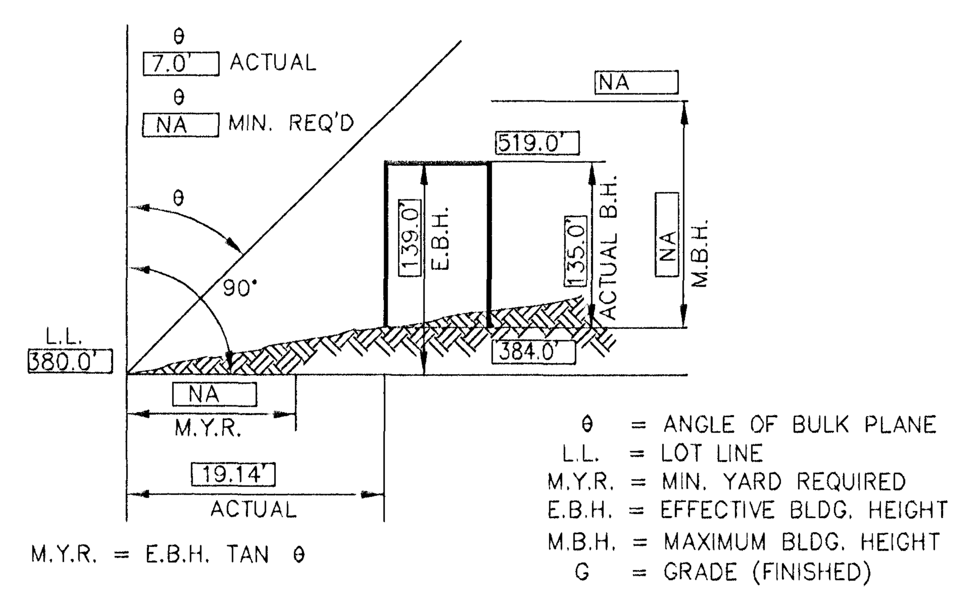
4.30% * 720 = 31 ADUS

ADU CALCULATION RESULTS:
RESIDENTIAL IS COMPRISED OF A MAX OF 720 MULTI-FAMILY DWELLING UNITS WITH AN AVERAGE SQUARE FOOTAGE OF 1,128, OF WHICH 31 ADUS WILL BE PROVIDED.



DETAIL ANGLE OF BULK PLANE

BUILDING B AT PROSPERITY
(NOT TO SCALE)



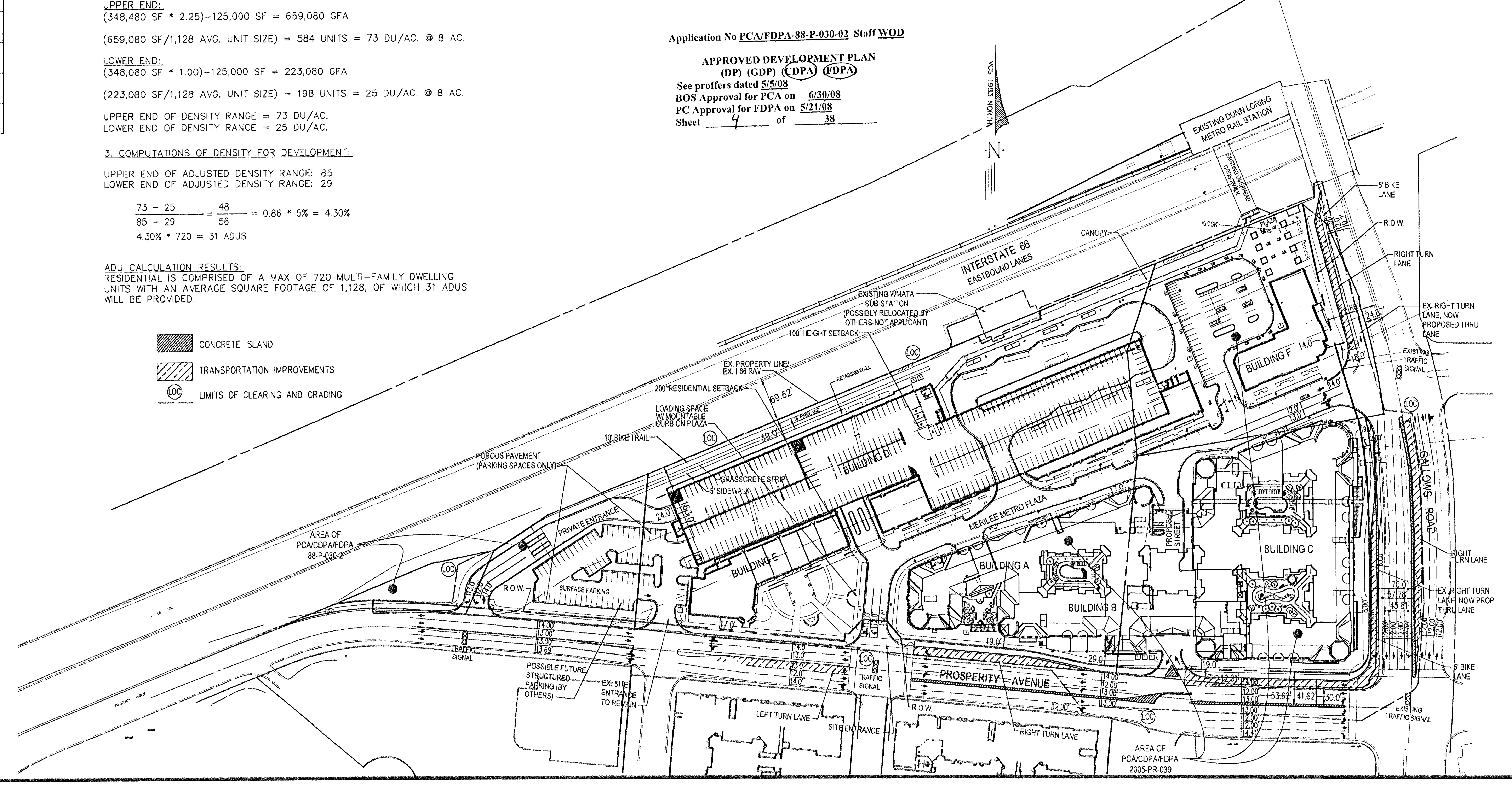
DETAIL ANGLE OF BULK PLANE

BUILDING A AT PROSPERITY
(NOT TO SCALE)

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 4 of 38

CONCRETE ISLAND
TRANSPORTATION IMPROVEMENTS
LOC LIMITS OF CLEARING AND GRADING



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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KORTPOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

CONCEPTUAL AND FINAL DEVELOPMENT PLAN AMENDMENT
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100'   C.I. = N/A   DATE: NOV., 2005

SHEET 4 OF 34

FILE No. ZP-1619

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VGS 1983 NORTH

N

EX. I-66 R/W

INTERSTATE 66
EASTBOUND LANES

EXISTING DUNN LORING METRO RAIL STATION

EXISTING OVERHEAD CROSSWALK

5' BIKE LANE

R.O.W.

RIGHT TURN LANE

KIOSK

PLAZA

CANOPY

EXISTING WMATA SUB-STATION (POSSIBLY RELOCATED BY OTHERS-NOT APPLICANT)

100' HEIGHT SETBACK

EX. PROPERTY LINE/ EX. I-66 R/W

200' RESIDENTIAL SETBACK

69.62'

RETAINING WALL

LOADING SPACE W/ MOUNTABLE CURB ON PLAZA

10' BIKE TRAIL

POROUS PAVEMENT (PARKING SPACES ONLY)

GRASSCRETE STRIP

5' SIDEWALK

BUILDING D

BUILDING F

475' SIGHT DISTANCE LINE

EX. RIGHT TURN LANE, NOW PROPOSED THRU LANE

EXISTING TRAFFIC SIGNAL

EYE

GALLOWS ROAD

PRIVATE ENTRANCE

AREA OF PCA/CDPA/FDPA 88-P-030-2

MERILEE METRO PLAZA

PROPOSED STREET

BUILDING E

BUILDING A

BUILDING B

BUILDING C

SURFACE PARKING

TRAFFIC SIGNAL

POSSIBLE FUTURE STRUCTURED PARKING (BY OTHERS)

EX. SITE ENTRANCE TO REMAIN

LEFT TURN LANE

SITE ENTRANCE

RIGHT TURN LANE

PROSPERITY AVENUE

AREA OF PCA/CDPA/FDPA 2005-PR-039

EX. RIGHT TURN LANE NOW PROP THRU LANE

5' BIKE LANE

EXISTING TRAFFIC SIGNAL

Application No PCA/FDPA-88-P-030-02 Staff WOD

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(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
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Sheet 5 of 38

No.	DATE	DESCRIPTION	REV BY	APPROVED	DATE
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PLAN DATE
03-09-06
07-07-06
08-04-06
11-16-06
01-14-08
02-07-08
04-17-08

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7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA MATTHEW K. KOSTOPOULOS No. 036622 PROFESSIONAL ENGINEER

DETAILED CONCEPTUAL AND FINAL DEVELOPMENT PLAN AMENDMENT

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=60' C.I. = N/A DATE: NOV., 2005

SHEET 5 OF 34

FILE No. ZP-1619

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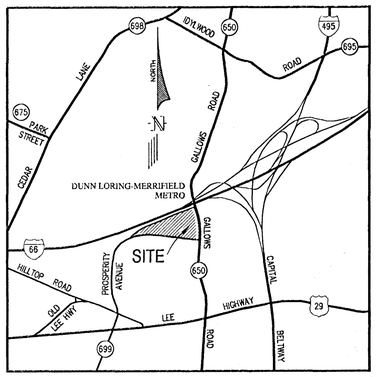
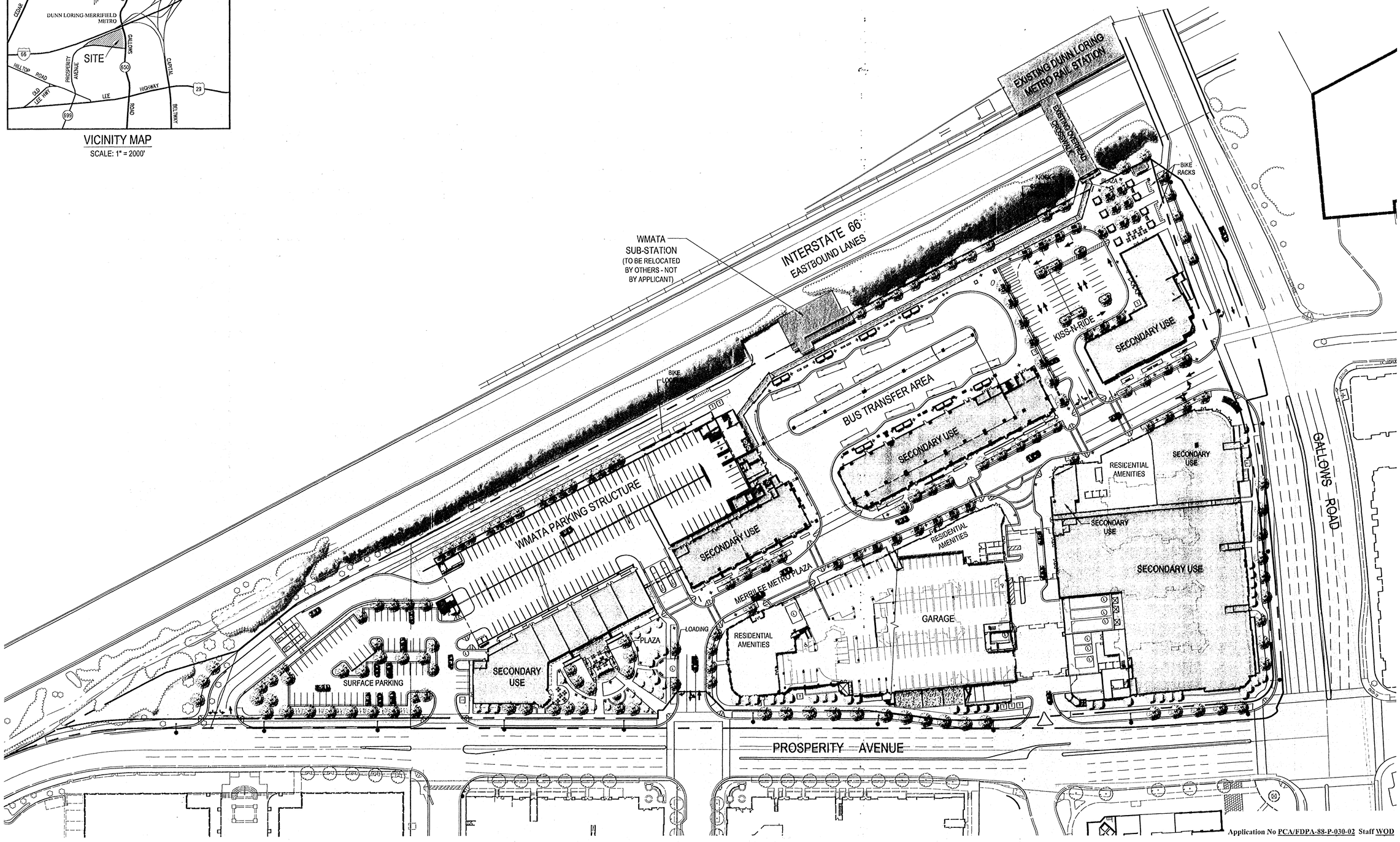


VICINITY MAP

SCALE: 1" = 2000'



Application No PCA/FDPA-88-P-030-02 Staff WOD

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(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
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Sheet 6 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

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09-27-05
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04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOERTZHAN
No. 036321
04/17/08
PROFESSIONAL ENGINEER

ILLUSTRATIVE GROUND FLOOR PLAN

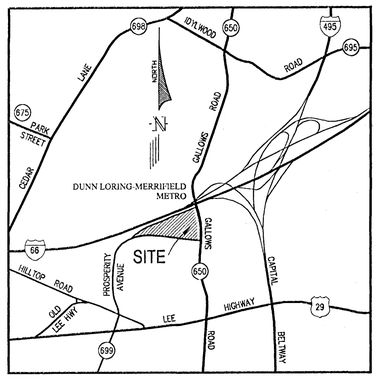
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=60' C.I. = N/A DATE: SEPT., 2005

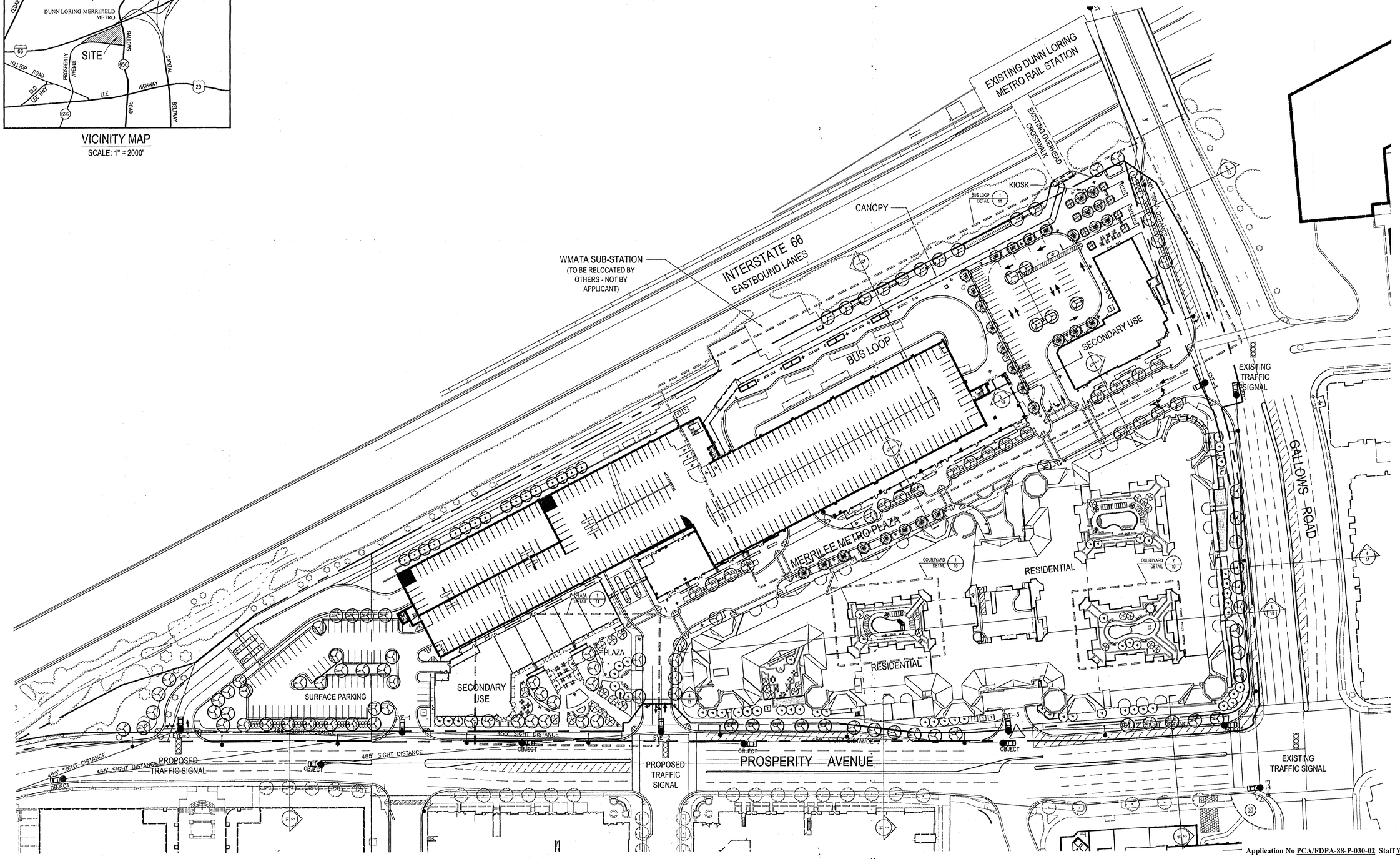
SHEET 6 OF 34

FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L: Jobs: Alexan Dunn Loring Rezoning ill_ground_dim.dwg [6 groundfloor] April 17, 2008 - 1:12pm ssinclair



VICINITY MAP
SCALE: 1" = 2000'



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Sheet 7 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE
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PLAN DATE
01-25-05
05-05-06
06-22-06
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11-17-06
03-02-08
04-17-08

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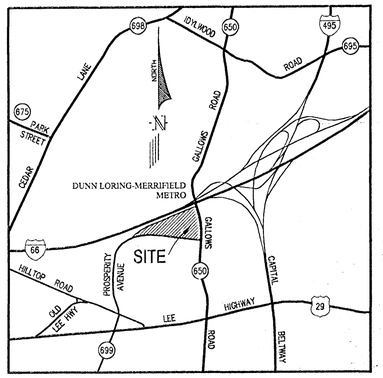
COMMONWEALTH OF VIRGINIA
MATTHEW L. SOBOTKOWIAK
No. 030824
PROFESSIONAL ENGINEER
04/17/08

ILLUSTRATIVE ROOF TOP PLAN
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1"=60' C.I. = N/A DATE: SEPT., 2005

SHEET 7 OF 34
FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L:\Jobs Alexan Dunn Luring Rezoning ill_roof B&W_dlm.dwg [7 rooftop] April 17, 2008 - 1:08pm ssinclair



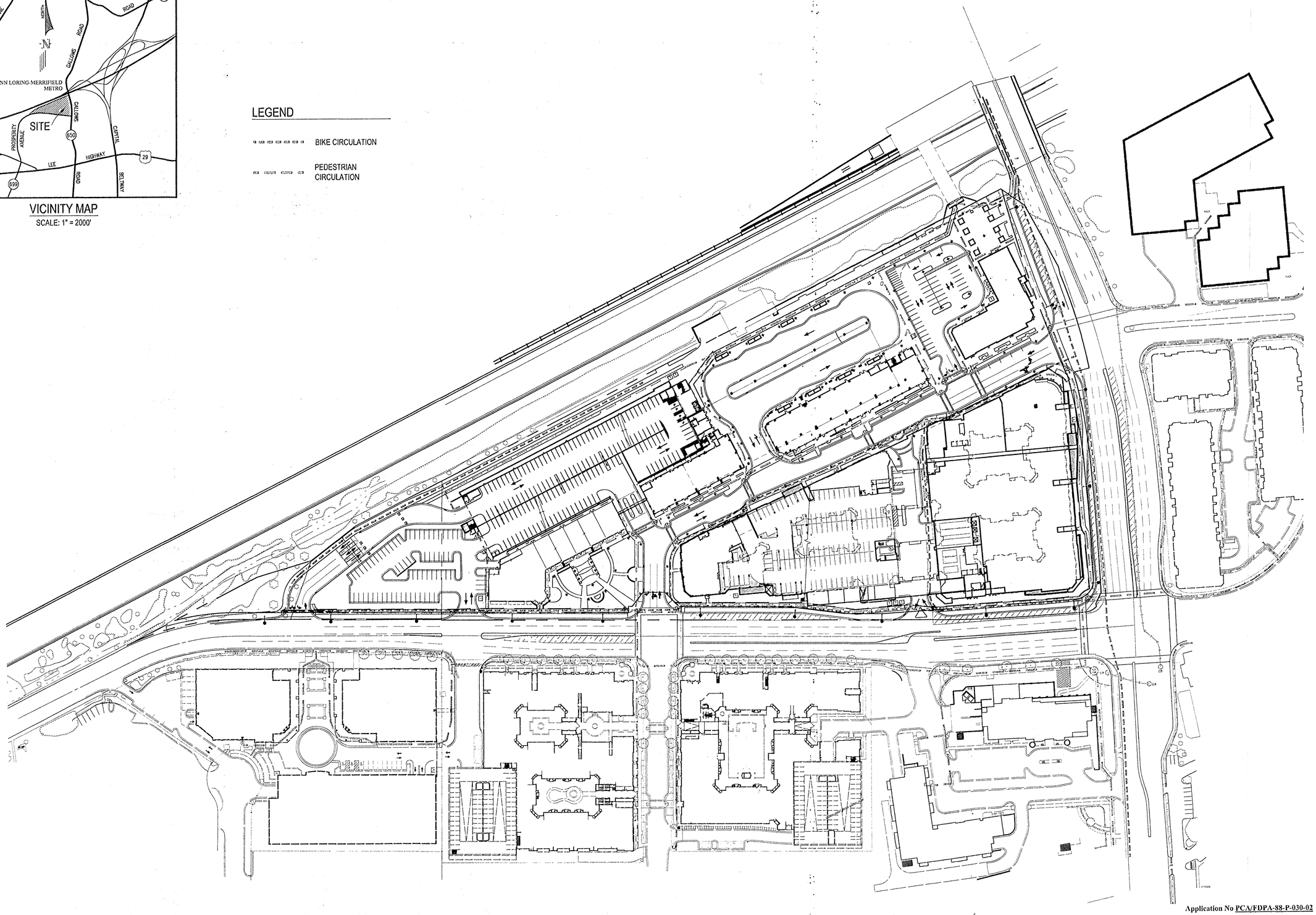
VICINITY MAP

SCALE: 1" = 2000'

LEGEND

BIKE CIRCULATION

PEDESTRIAN CIRCULATION



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Sheet 8 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOSTOHANN
No. 030021
04/17/08
PROFESSIONAL ENGINEER

PEDESTRIAN AND BIKE CIRCULATION PLAN

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=80' C.I. = N/A DATE: SEPT., 2005

SHEET 8 OF 34

FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L:\Jobs\Alexan Dunn Loring Rezoning\ill_ground B&W_dlm.dwg [8 pedestrian plan] April 17, 2008 - 1:18pm ssinclair

TREE COVER REQUIREMENTS

GROSS SITE AREA	670,080 SF
BLDG FOOTPRINTS FOR SITE PLAN	
- Building C2	(22,560 SF)
- Building C1	(29,027 SF)
- Building B	(25,787 SF)
- Building B Spanning Roadway	(9,655 SF)
- Building A	(37,283 SF)
- Building E	(17,750 SF)
- Building D - West	(12,212 SF)
- Building D - East	(18,780 SF)
- Building F	(13,250 SF)
= ADJUSTED GROSS SITE AREA	483,776 SF
TREE CANOPY COVER REQUIRED (483,776 SF X 10%)	48,378 SF
TREE CANOPY COVER PROVIDED:	
LANDSCAPE PROVIDED	44,100 SF
TREE SAVE AREA (4,028 SF x 1.25)	5,035 SF
TOTAL	49,135 SF

LEGEND

- CATAGORY IV DECIDUOUS TREE
- CATAGORY III DECIDUOUS TREE
- CATAGORY II DECIDUOUS TREE
- CATAGORY II EVERGREEN TREE
- TREE WITH STRUCTURAL CELLS
  SEE DETAILS ON SHEETS 15 & 15A FOR MORE INFORMATION.

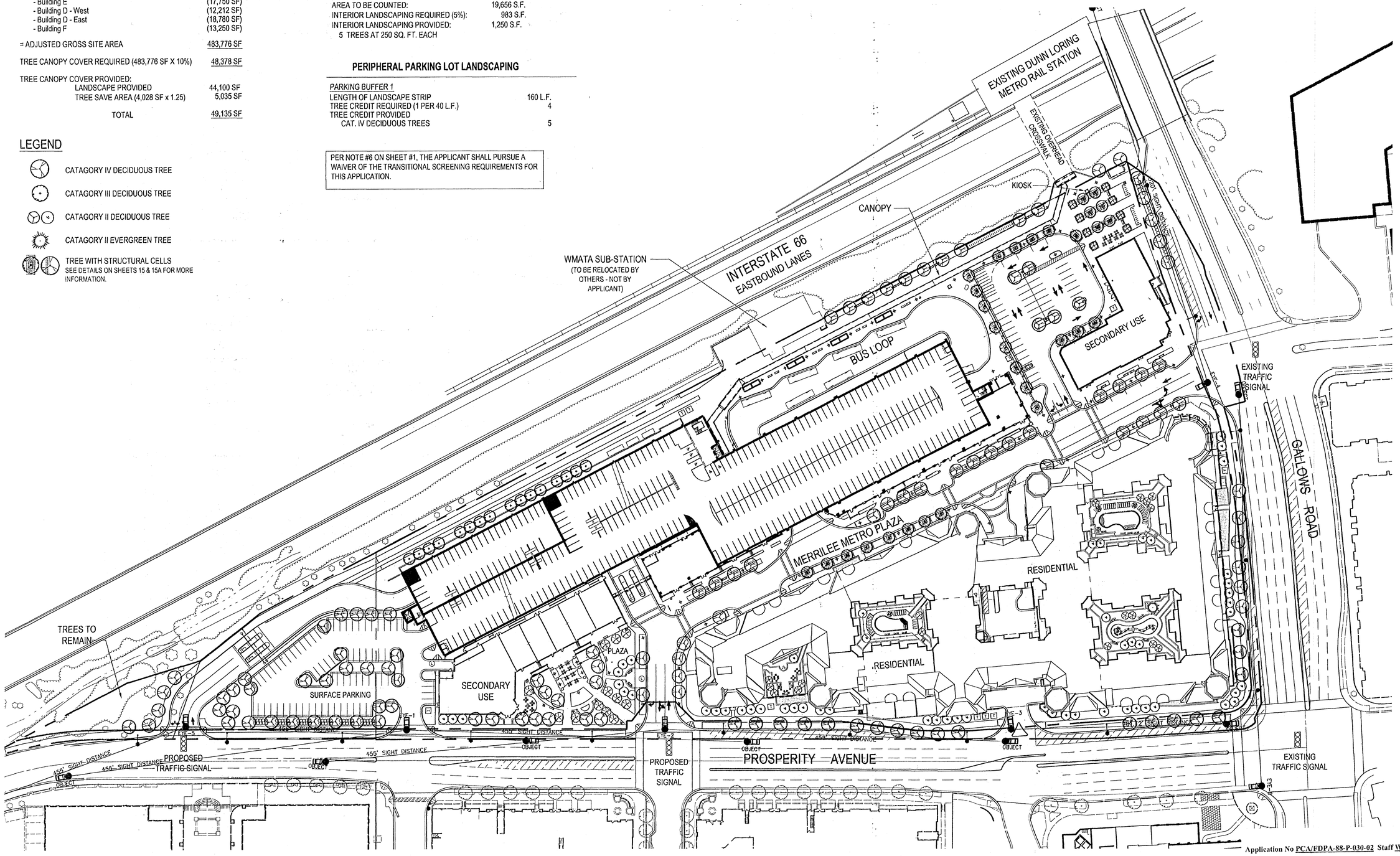
INTERIOR PARKING LOT LANDSCAPING CALCULATIONS

PARKING LOT 1	
AREA TO BE COUNTED:	27,100 S.F.
INTERIOR LANDSCAPING REQUIRED (5%):	1,355 S.F.
INTERIOR LANDSCAPING PROVIDED:	3,000 S.F.
12 TREES AT 250 SQ. FT. EACH	
PARKING LOT 2	
AREA TO BE COUNTED:	19,656 S.F.
INTERIOR LANDSCAPING REQUIRED (5%):	983 S.F.
INTERIOR LANDSCAPING PROVIDED:	1,250 S.F.
5 TREES AT 250 SQ. FT. EACH	

PERIPHERAL PARKING LOT LANDSCAPING

PARKING BUFFER 1	
LENGTH OF LANDSCAPE STRIP	160 L.F.
TREE CREDIT REQUIRED (1 PER 40 L.F.)	4
TREE CREDIT PROVIDED	
CAT. IV DECIDUOUS TREES	5

PER NOTE #6 ON SHEET #1, THE APPLICANT SHALL PURSUE A WAIVER OF THE TRANSITIONAL SCREENING REQUIREMENTS FOR THIS APPLICATION.



Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 9 of 38

No.	DATE	DESCRIPTION	REV.BY APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW		

PLAN DATE
08-21-05
09-26-06
12-20-06
01-16-08
01-17-08
04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

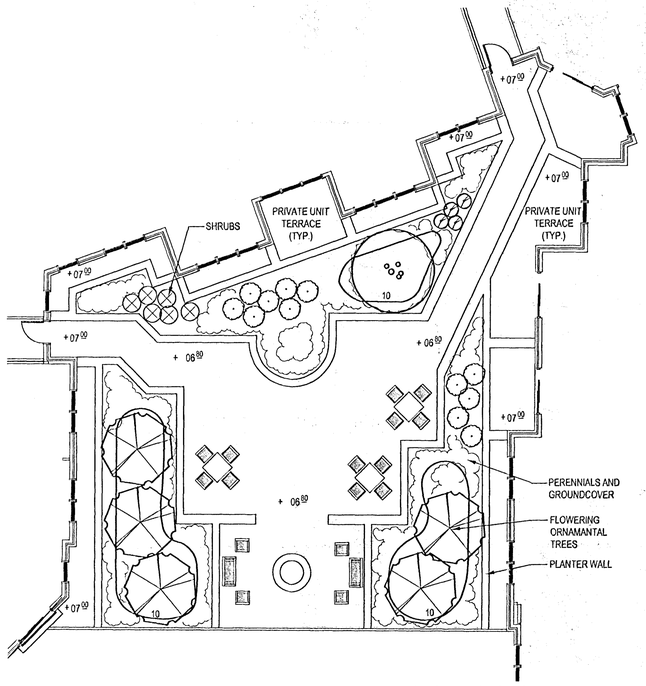
COMMONWEALTH OF VIRGINIA
MATTHEW K. KNIGHTSMAN
No. 058022
PROFESSIONAL ENGINEER
04/17/08

LANDSCAPE PLAN
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
SCALE: 1"=60' C.I. = N/A DATE: SEPT., 2005

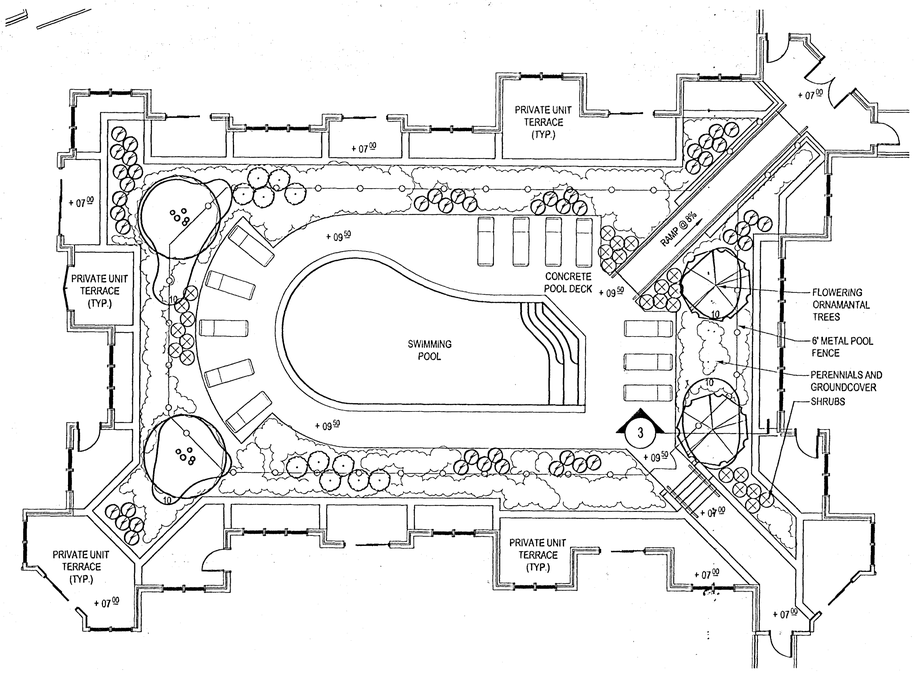
SHEET 9 OF 34

FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L: Jobs Alexan Dunn Loring Rezoning 3L_roof B&W_dim.dwg [9 landscape] April 17, 2008 1:03pm sclinkler



1 BUILDING A COURTYARD DETAIL PLAN
Scale: 1"=10'



2 BUILDING B COURTYARD DETAIL PLAN
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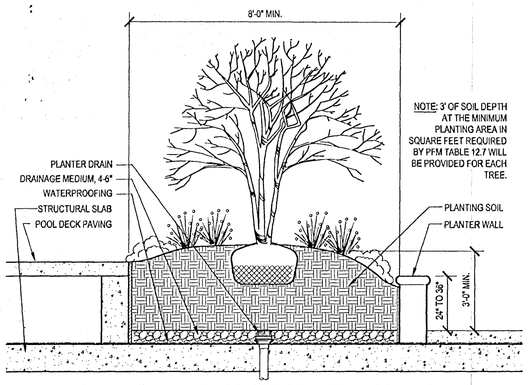
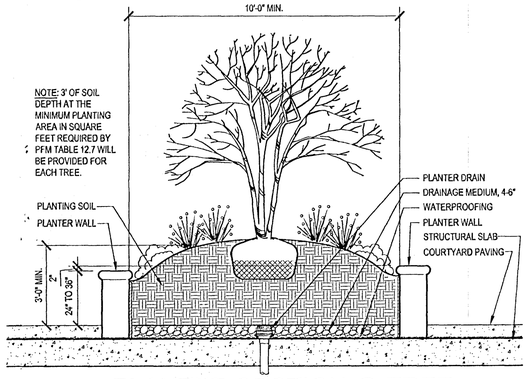
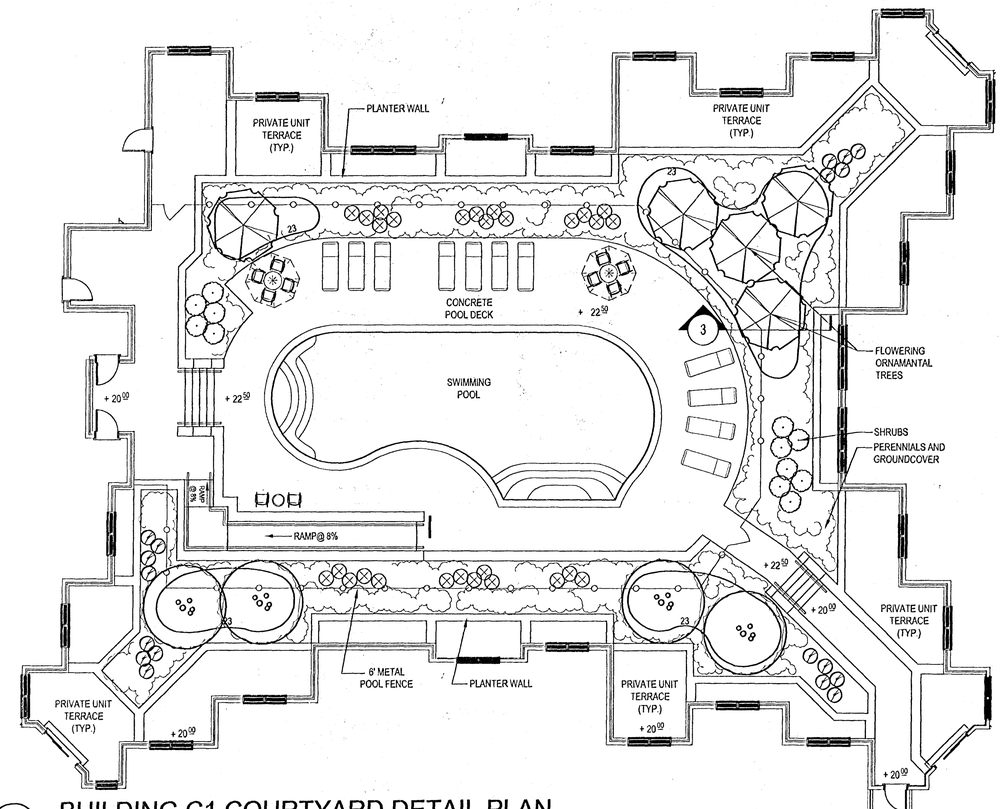


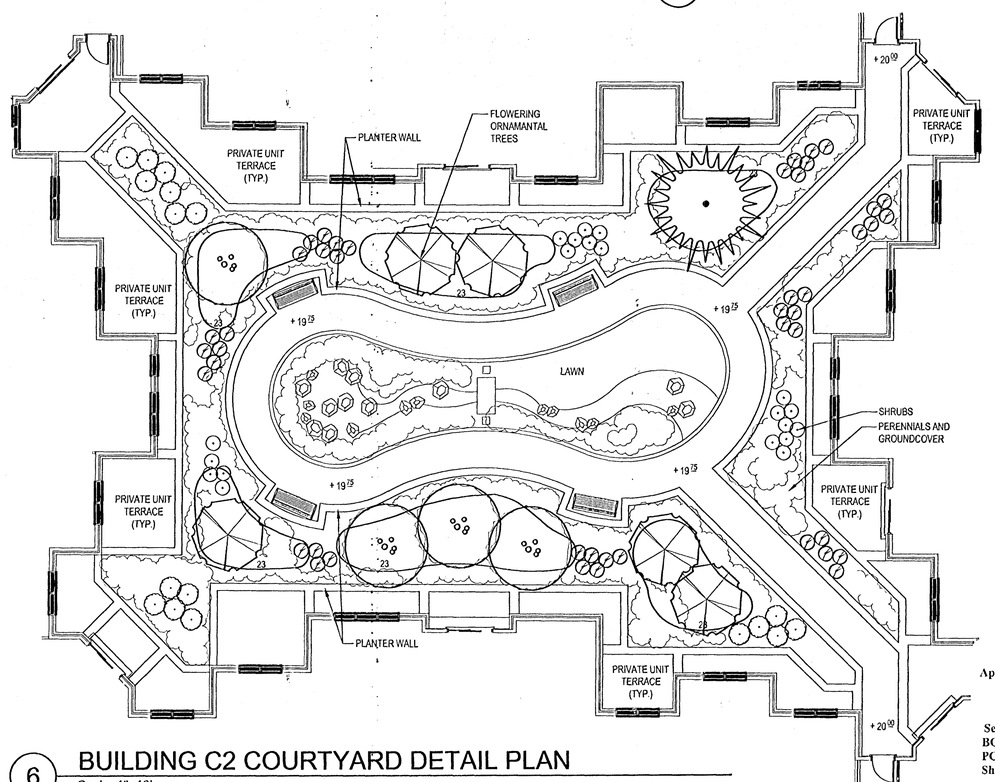
3 PLANTER SECTION @ TREE
3/8"=1'-0"



4 PLANTER SECTION @ TREE
3/8"=1'-0"



5 BUILDING C1 COURTYARD DETAIL PLAN
Scale: 1"=10'



6 BUILDING C2 COURTYARD DETAIL PLAN
Scale: 1"=10'

LEGEND

- CATAGORY II DECIDUOUS TREE
- CATAGORY II EVERGREEN TREE
- SHRUB
- PERENNIAL OR GROUNDCOVER
- + 19.75 SPOT ELEVATION

Application No PCA/FDPA-88-P-030-02 Staff WOD

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04-02-08
04-17-08

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CIVIL

COMMONWEALTH OF VIRGINIA MATTHEW K. KIRKPATRICK No. 036824 PROFESSIONAL ENGINEER 04/17/08

COURTYARD DETAIL PLANS

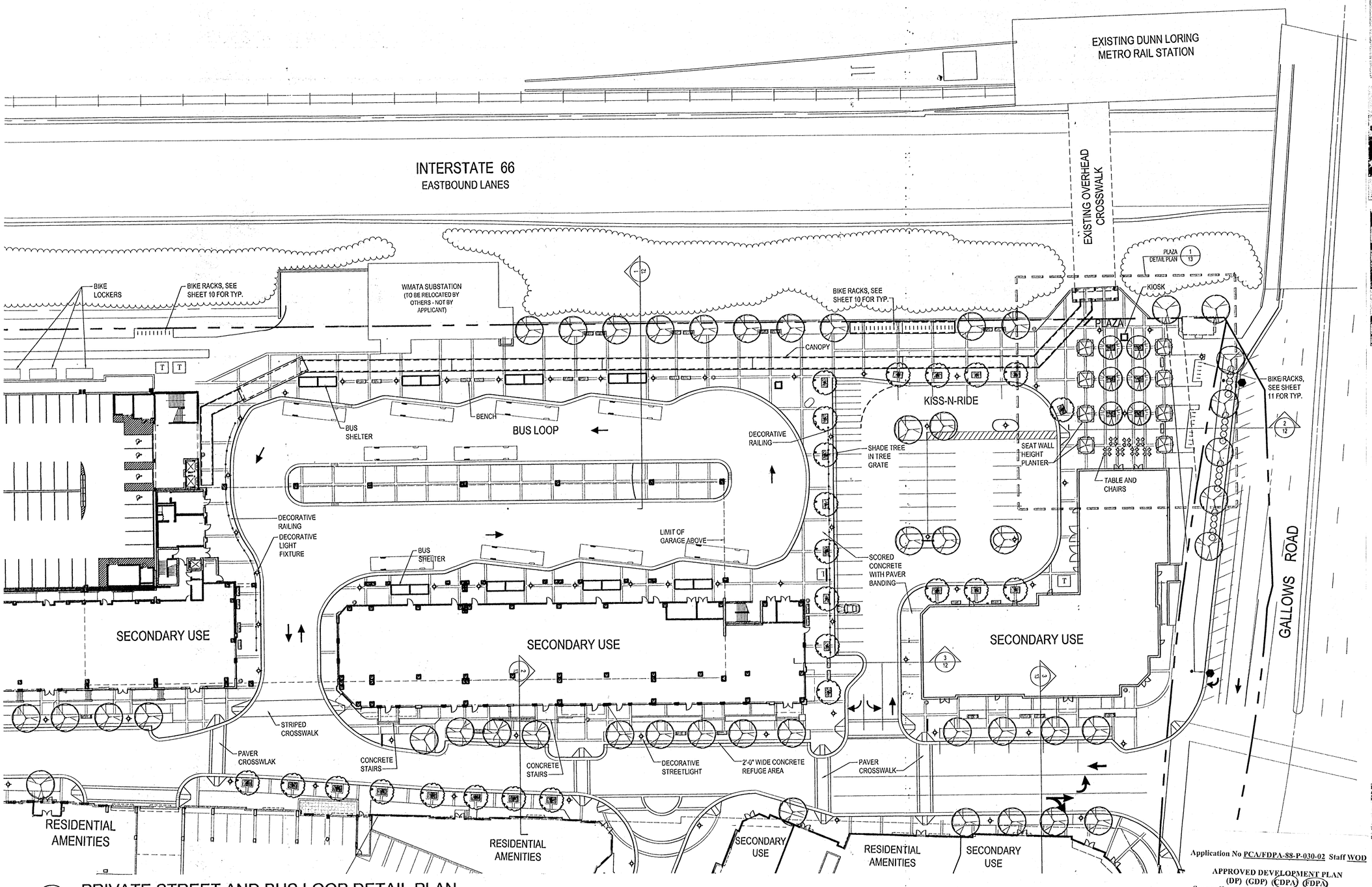
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: SEPT., 2005
SCALE: AS NOTED C.I. = N/A

SHEET 10 OF 34

FILE No. ZP-1619

Urban Engineering & Associates, Inc. – L: \Jobs\ Alexan Dunn Loring Rezoning \IL_roof B&N_dim.dwg [10 cy detail plans] April 17, 2008 – 1:05pm ssinclair



1 PRIVATE STREET AND BUS LOOP DETAIL PLAN
1"=30'

TYPICAL BIKE RACK IMAGES

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
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No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

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09-27-05
03-13-08
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COMMONWEALTH OF VIRGINIA
MATTHEW K. KOEPPERMANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

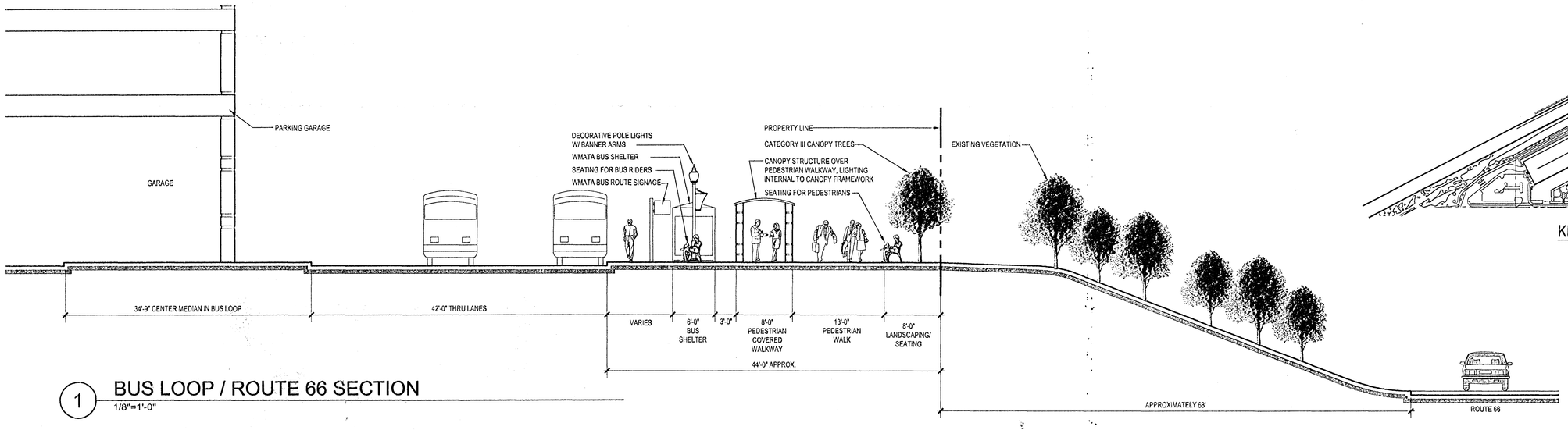
STREETSCAPE AND BUS LOOP PLAN
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED C.I. = N/A DATE: SEPT., 2005

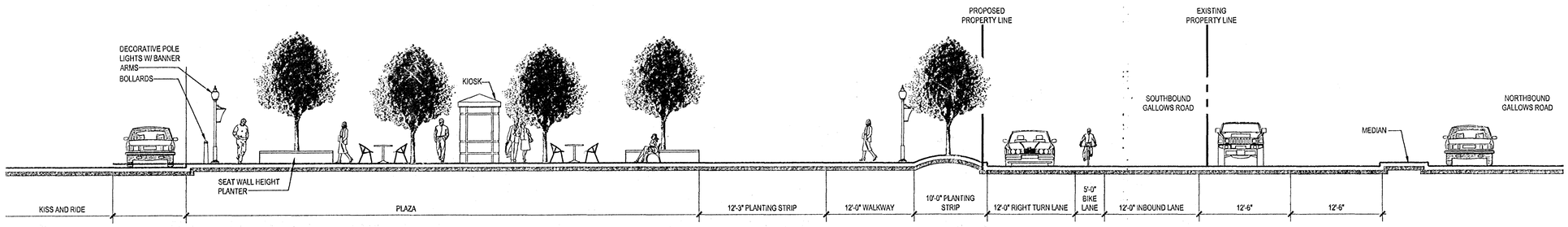
SHEET 11 OF 34

FILE No. ZP-1619

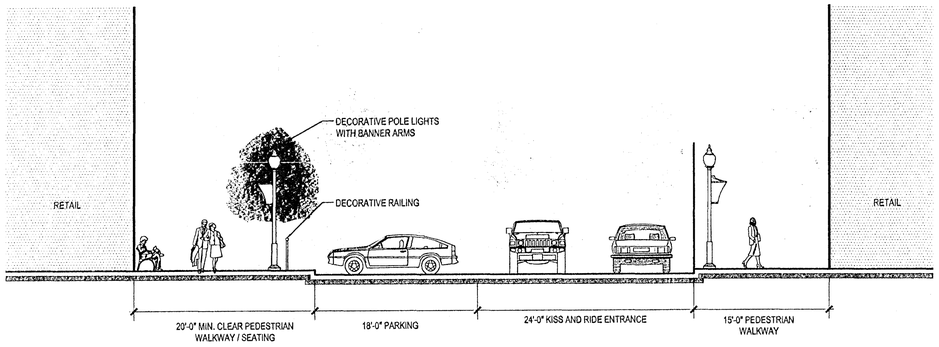
Urban Engineering & Associates, Inc. - L: Jobs Alexan Dunn Loring Rezoning ill_ground B&W_dim.dwg [11streetscape] April 17, 2008 - 1:22pm ssinclair



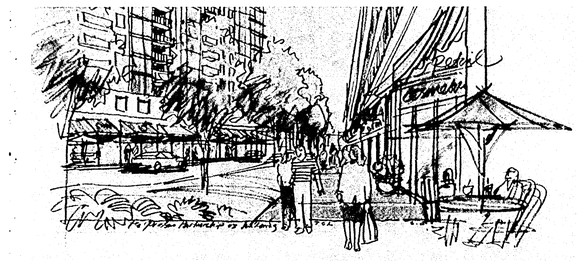
1 BUS LOOP / ROUTE 66 SECTION
1/8"=1'-0"



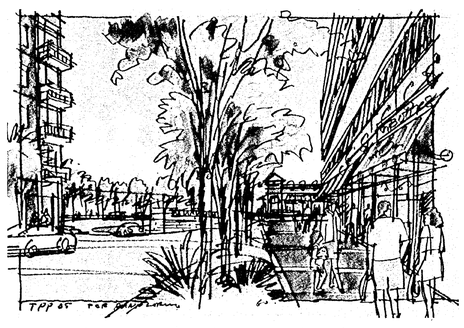
2 PLAZA / GALLOWS ROAD SECTION
1/8"=1'-0"



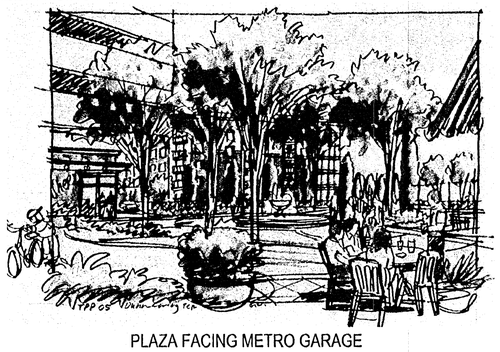
3 BUS LOOP / PEDESTRIAN WALKWAY SECTION
1/8"=1'-0"



PROPOSED MAIN STREET FACING PLAZA

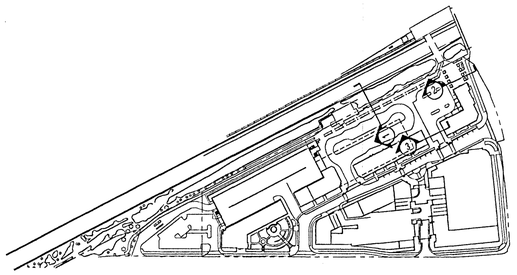


PROPOSED MAIN STREET FACING PLAZA



PLAZA FACING METRO GARAGE

4 STREETSCAPE IMAGES



KEY PLAN
N.T.S.

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
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COMMONWEALTH OF VIRGINIA
MATTHEW K. KORTYKHANY
No. 036821
04/17/08
PROFESSIONAL ENGINEER

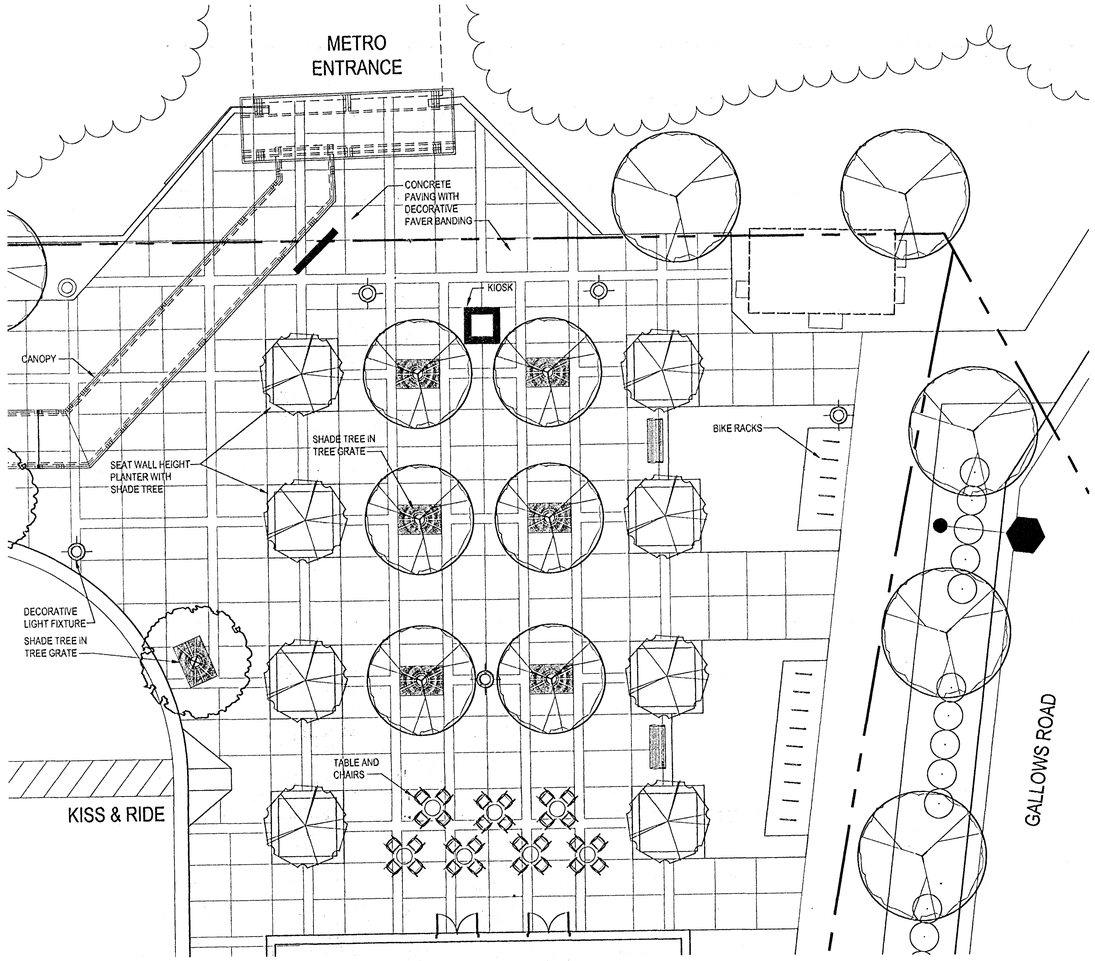
BUS LOOP SECTIONS
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED C.I. = N/A DATE: SEPT., 2005

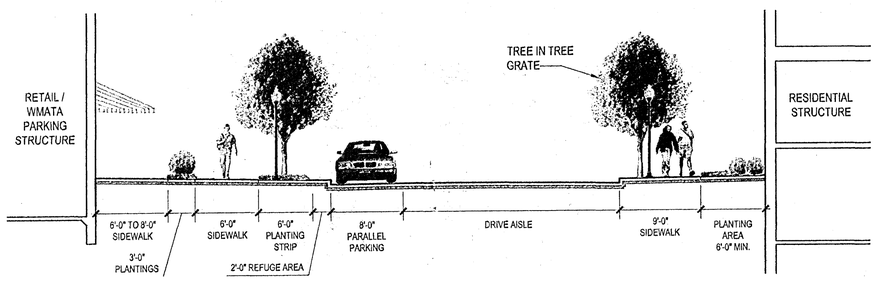
SHEET 12 OF 34

FILE No. ZP-1619

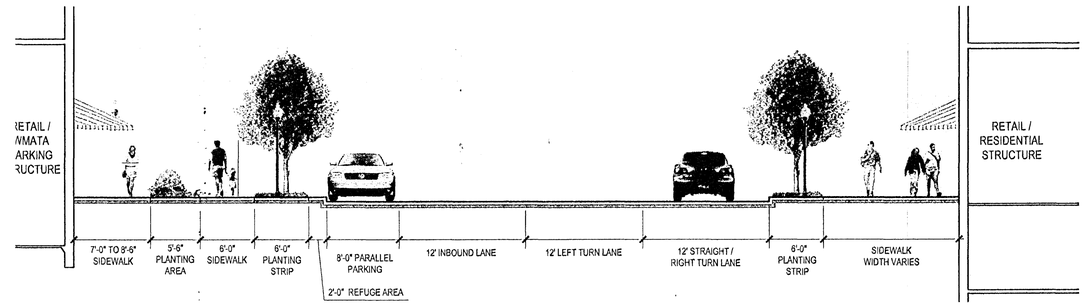
Urban Engineering & Associates, Inc. - L:\Jobs\Alexan Dunn Loring Rezoning\ill_ground B&W_dim.dwg [12 bus loop sec.] April 17, 2008 - 1:24pm ssinclair



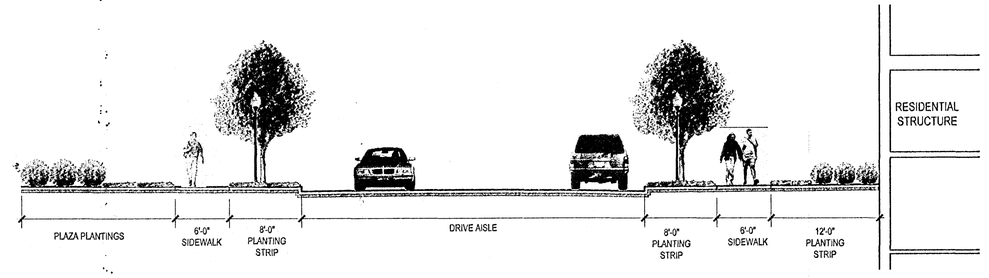
1 PLAZA DETAIL PLAN
1"=10'



2 MAIN STREET SECTION
1/8"=1'-0"



3 MAIN STREET SECTION (NEAR GALLOWS ROAD)
1/8"=1'-0"



4 MAIN STREET SECTION (AT PLAZA)
1/8"=1'-0"

Application No PCA/FDPA-88-P-030-02 Staff WOD

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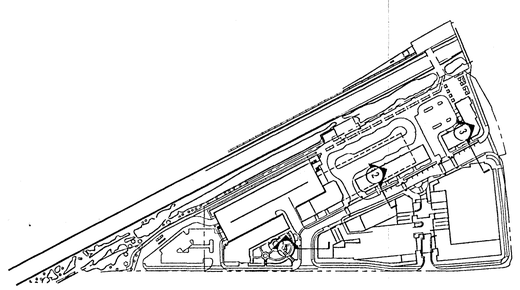
Sheet 13 of 38



KEY PLAN
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COMMONWEALTH OF VIRGINIA
MATTHEW K. KNIEPTCHAN
No. 038021
04/17/08
PROFESSIONAL ENGINEER

DETAIL PLAN AND SECTIONS
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

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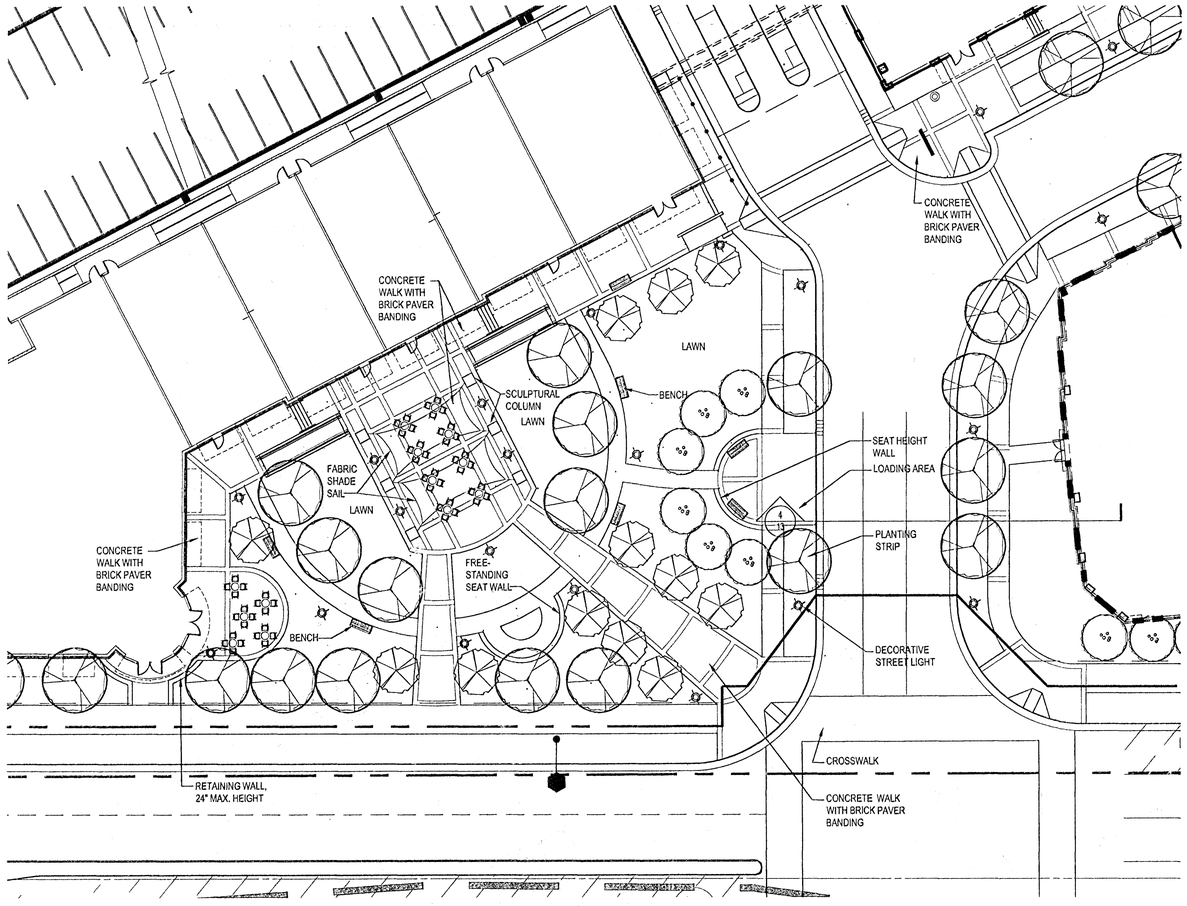
SHEET 13 OF 34

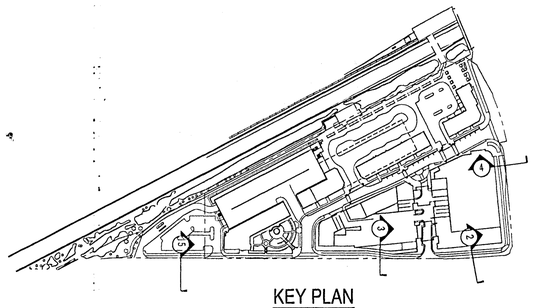
FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L:\Jobs\Alexan Dunn Loring\Rezoning\ill_ground B&W_dim.dwg [13 Plaza] April 17, 2008 - 1:25pm ssinclair

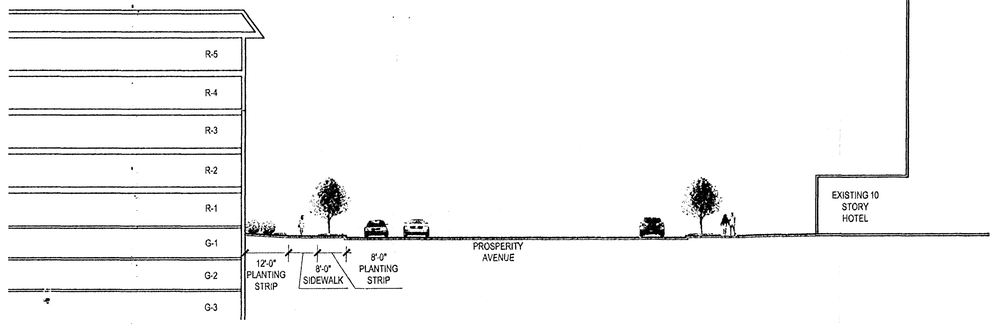


1 PLAZA DETAIL PLAN
1"=20'

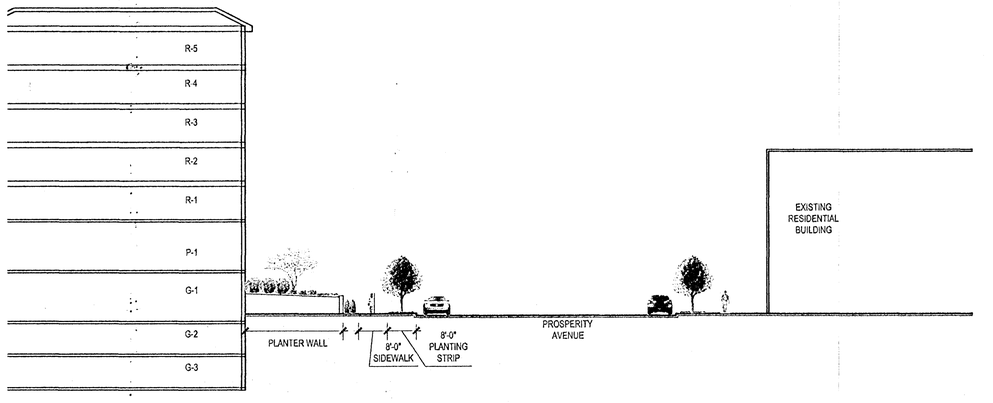
NOTES
1. APPROXIMATE AREA OF PLAZA: 17,000 SQUARE FEET
2. OPTIONS FOR FOCAL POINT MAY INCLUDE FOUNTAIN, SCULPTURE, OR PUBLIC ART.



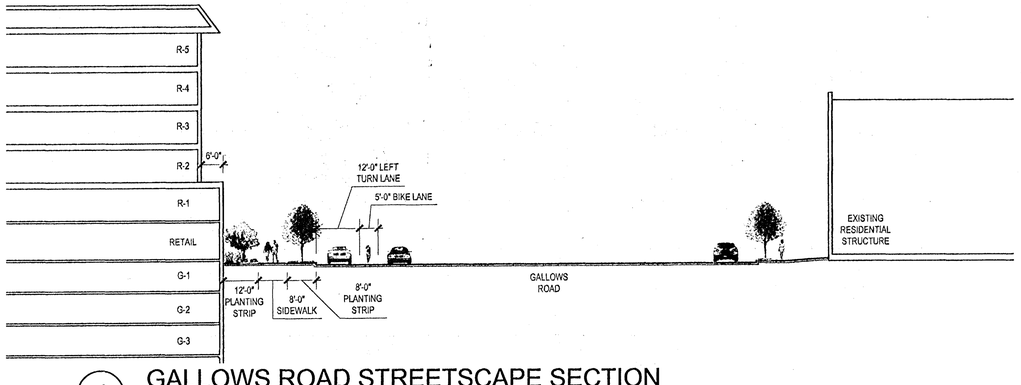
KEY PLAN
N.T.S.



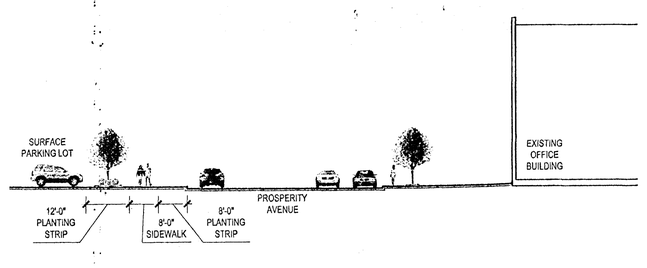
2 PROSPERITY AVE. STREETSCAPE SECTION
1"=20'



3 PROSPERITY AVE. STREETSCAPE SECTION
1"=20'



4 GALLOWS ROAD STREETSCAPE SECTION
1"=20'



5 PROSPERITY AVE. STREETSCAPE SECTION
1"=20'

Application No PCA/FDPA-88-P-030-02 Staff WOD

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOERTZHANN
No. 036021
04/17/08
PROFESSIONAL ENGINEER

DETAIL PLAN AND SECTIONS

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED C.I. = N/A DATE: SEPT., 2005

SHEET 14 OF 34

FILE No. ZP-1619

Urban Engineering & Associates, Inc. - L: Jobs Alexan Dunn Loring Rezoning ill_ground B&W_dim.dwg [14 detail pl] April 17, 2008 - 1:27pm ssinclair

PLANTING SPECIFICATIONS

1. Quality Assurance:

   a. Landscape planting and related work shall be performed by a firm with a minimum of five years experience specializing in this type and scale of work.

   b. Applicable Specifications and Standards:

      Fairfax County Zoning Ordinance, American Joint Committee on Horticultural Nomenclature,
      American Standard for Nursery Stock, latest edition.
      American Association of Nurserymen
      Landscape Specification Guidelines for Baltimore Washington Metropolitan Areas, latest edition, Landscape Contractors Association.

2 Submittals: Submit the following to the Owner's Representative prior to beginning work:

   Copies of manufacturer's data for all materials required.
   Samples of required mulch material.
   Chemical and mechanical analysis and samples of all existing soil, topsoil, organic matter and soil mix to be used.
   Planting schedule showing the dates (earliest and latest) proposed for each type of plant specified, schedule each type of planting within the normal planting seasons for such work. Include requests for any proposed changes in the approved planting season and a list of proposed sources for all plant materials.
   List of proposed sources for all plant material.

3. Delivery, Storage and Handling:

   a. Deliver packaged materials in manufacturer's unopened containers or bundles, fully identified with name, brand, type, weight, and analysis. Store packaged materials in such a manner as to prevent damage or intrusion of foreign matter.

   b. Dig balled and burlapped (B& B) plants with firm, natural balls of earth, of a diameter not less than that shown on the plant list nor less than recommended by the American Standard for Nursery Stock, and of sufficient depth to include the fibrous and feeding roots. B&B plants will not be accepted if the ball is cracked or broken before or during planting operation.

   c. Deliver trees and shrubs after preparations for planting have been completed. Do not bend, bind, or tie trees or shrubs in such a manner as to damage bark, break branches or destroy natural shape. If planting is delayed more than 6 hours after delivery, set trees and shrubs in shade, protect from weather and mechanical damage, and keep roots moist by heeling-in bare root stock and covering plant balls with soil, peat moss or other acceptable material for balled stock. Plants shall be kept well watered and shall not remain unplanted for longer than ten (10) days after delivery.

   d. Plants shall be lifted and handled from the bottom of the ball only.

   e. Do not remove container-grown stock from containers until planting time.

4. Before planting, determine that areas to receive plant material have adequate subdrainage.

   a. The landscape contractor is responsible for drainage tests as necessary to identify any problems prior to beginning planting operations. Upon commencement of planting operations the landscape contractor assumes responsibility for soil conditions.

   b. Dig planting pits to full depth and dimensions indicated on drawings.

   c. At bottom of planting pit, excavate rectangular pit 12 inches by 12 inches by 18 inches deep. Quickly pour water into small pit to a depth of 6 inches (approximately 3-3 3/4 gallon). Note time required for water to be completely absorbed. Divide time noted by 6 to achieve average rate of absorption for 1 inch of water. Where rate of absorption exceeds 60 minutes per inch, notify owner immediately for directions on how to proceed.

5. Planting shall be done only within the following dates except as approved by Owner.

   a. Deciduous Trees and Shrubs: March 1 to May 31 and October 15 to December 15.

   b. Evergreen Trees, Shrubs and Vines: March 1 to May 31 and September 1 to November 15.

   6. All plant material shall be guaranteed by the Contractor for a period of 1 year from the date final acceptance to be in good, healthy and flourishing condition.

7. Materials for Planting:

   a. Mulch shall be double shredded hardwood bark. Submit sample for approval. Material shall be mulching grade, uniform in size and free from foreign matter.

   b. Leaf Compost shall be screened and free of trash.

   c. Coir Mesh (geo-textile blanket) shall be natural fiber geo-textile woven mesh composed of 100% coir (spun from coconut fiber) yarn, containing 45% Lignin and 55% Cellulose. Opening in the mesh shall be 1 inch square (nominal) by .3 inches thick. Yarn count per yard shall be 42 warp x 37 weft. Fabric tensile strength shall be 432 lb/ft x 138lb/ft

   d. Twelve-inch hardwood stakes shall be Eco-STAKES by North American Green or equal.

   e. Fertilizer shall be commercial fertilizer for ornamental trees, shrubs and ground cover. Fertilizer shall be provided in accordance with the recommendations of the soil tests. As a basis for bidding, Contractors shall assume a fertilizer with an analysis of 10% Nitrogen, 6% Phosphorus and 4% Potassium. This fertilizer shall be granular with a minimum of 50% of the total Nitrogen in organic form.

   f. Topsoil: If required; shall be a fertile, friable natural loam, uniform in composition, free of stones, lumps, plants and their root debris and other extraneous matter of 1" in diameter, and capable of sustaining vigorous plant growth. Topsoil shall have a pH range of 6.0 to 6.5, with a pH range of 5.0 to 5.5 for plants requiring acid soils. Contractor shall have soil tested at an approved agricultural laboratory, and submit results and recommendations for acceptance by the Owner before providing topsoil for use.
   disease, insect pests, eggs or larvae and shall have healthy, well-developped root systems. They shall be free from physical damage or any conditions that would prevent thriving health and the desired appearance.

   g. Composted Pine Bark Fines shall be approved composted ground pine bark, having no particle with a dimension greater than 3/4 inch.

   h. Soil Mix shall consist of 3/4 existing soil and 1/4 composted pine bark fines or other approved organic matter, by volume.

8. Plant Materials (Refer to the PLANT LIST on the drawings for specific types and quantities of plants):

   a. Plants shall be nursery grown in accordance with good horticultural practices. Plants shall either be
   than specified may be used if acceptable to the Landscape Architect or owner. Use of such plants shall not
   obtained from local nurseries and/or others, which have soil (heavy clay) and climatic conditions similar to those in the locality of the project. Plant material grown in sandy, well-drained soil will not be approved for this project.

   b. Plants shall be true to species and variety and unless specifically noted otherwise, all plants shall be of specimen quality, exceptionally heavy, symmetrical, tightly-knit plants, so trained or favored in their development and appearance as to be superior in form, number of branches, compactness and symmetry.

   c. Plants shall be sound, healthy and vigorous, well branched and densely foliated when in leaf, free of

   d. Trees, which have a damaged or crooked leader, or multiple leaders, unless specified in the plant list, will be rejected. Trees with abrasion of the bark, sun scald, disfiguring knots, or pruning cuts more than 1 1/4 inch diameter which have not completely callused, will be rejected.

   e. Plants shall conform to measurements specified in the plant schedules except that plants larger

   increase the contract price. If larger plants are accepted, the root ball shall be sized for the larger plant.

   f. Caliper Measurement: Shall be taken at a point on the trunk 6 inches above natural ground line for trees up to 4 inchs diameter, and at a point 12 inchs above the natural ground line for trees over 4 inches diameter.

   g. Plants shall be measured when branches are in the normal position. Height and spread dimensions specified refer to the main body of the plant and not from branch tip to tip.

9. Preparation of Areas for Planting:

   a. Stake out all plant material beds and tree locations for approval of Landscape Architect or owner prior to any bed preparation.

   b. Shrubs, Shrub Beds and Hedges on slopes of 3:1 or less: Loosen soil in the area of entire plant bed or hedgerow to a depth of 6 inches minimum with a rototiller. Add soil amendments and rototill again to a depth of 6 inches. Excavate plant pit and hedge trenches a minimum of 12 inches wider than the root ball or bare root on all sides. The depth shall be sufficient to allow shrub to sit 2 inches above finished grade.

   c. Shrub Beds on Slopes of Greater than 3:1: Amend soil as above. Spread coir mesh across entire area of shrub bed in steep slope area per manufacturer's specifications. Excavate plant pit through coir mesh a minimum of 12 inches wider than the root ball or bare root on all sides. The depth shall be sufficient to allow shrub to sit 2 inches above finished grade.

   d. Ground Covers and Seasonal Plantings: Loosen soil to a depth of 6 inches minimum with a rototiller. Add amendments to the soil and/or specified planting soil mix and rototill again to a depth of 6". Install plants directly into prepared bed, and firm the soil mix around them.

   e. Groundcover on Slopes of Greater than 3:1: Amend soil as above or by hand as required. Spread leaf compost to 2 inches in depth immediately prior to placing coir mesh. Spread coir mesh across entire area of groundcover bed in steep slope area per manufacturer's specifications. Each ground cover shall be placed in an individual planting pit planted through the biodegradable netting.

   f. Trees: Excavate plant pit walls vertical and scarify sides. Plant pit depth shall be sufficient to allow 2 inch maximum of root ball to be above finished grade. Tree pit shall be 12 inches wider than the ball on all sides.

10. Erosion Control Material and Planting on Steep Slopes

   a. Material meeting the requirements of the specifications shall be installed and maintained on the designated areas as shown and specified. The areas to be covered shall be prepared and fertilized as specified before the erosion material is placed. Immediately prior to the planting operations, the material shall be laid evenly, smoothly and in contact with the soil throughout.

   b. Lay erosion control materials with one inch nominal openings in accordance with manufacturer's instructions. Unroll in direction of water flow. Overlap sheets by at least 6 inches. Where strips are to be spliced lengthwise, overlap strips by 8 inches. Upgrade section shall be on top of all splices.

   c. The Contractor shall maintain and protect the erosion control material until the final inspection. Maintenance shall consist of repairs made necessary by erosion, wind or any other cause. Following the restoration of damaged areas under plant and turf guarantee and establishment requirements for applicable underlying items; the erosion control material shall be repaired or replaced to meet the original requirements and maintained until the final inspection.

11. General Plant Installation:

   a. Excavation: Excavate all tree pits and planting areas to the width and depth shown in the planting details.

   b. Center plant in pit and orient for the best visual effect. Set plants plumb and hold rigidly in position until soil has been tamped firmly around root ball.

   c. Mix soil amendments and fertilizers with existing soil in accordance with soil recommendations for plant type, based upon soil test results as approved by Owner. Delay mixing of fertilizer if planting will not occur within a few days.

   d. Backfill pit with planting soil mix, consisting of 2/3 existing soil and 1/3 organic material, and fertilizer, until two-thirds full. Tamp and water each layer thoroughly to settle soil. After soil settles, fill pit with remaining planting soil mix, water and shape surface so that it slopes to drain from trunk and matches ground at edge of planting pit.

   e. Mulch within 48 hours after planting and after applying the pre-emergent herbicide, except ground cover areas (which shall have organic material placed before planting) with a 2" layer of mulch immediately after planting. All bed lines shall be cut with a smooth consistent edge to a minimum depth of 3 inches. Keep mulch out of the crowns of shrubs and off buildings, sidewalks, light standards, and other structures.

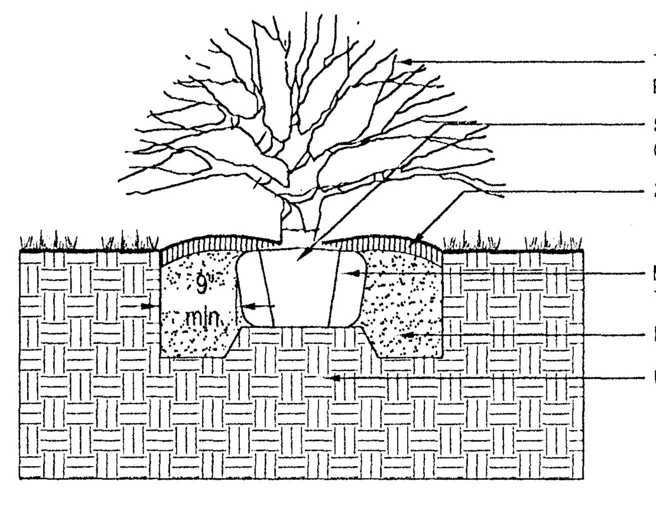
   f. All planting areas to conform to specified grades after full settlement has occurred and mulch has been applied. Provide saucers around tree pits as shown on planting details. Remove all tags, labels, strings, etc. from all plants.

12. Permanent Seeding or Sodding for Grass Areas:

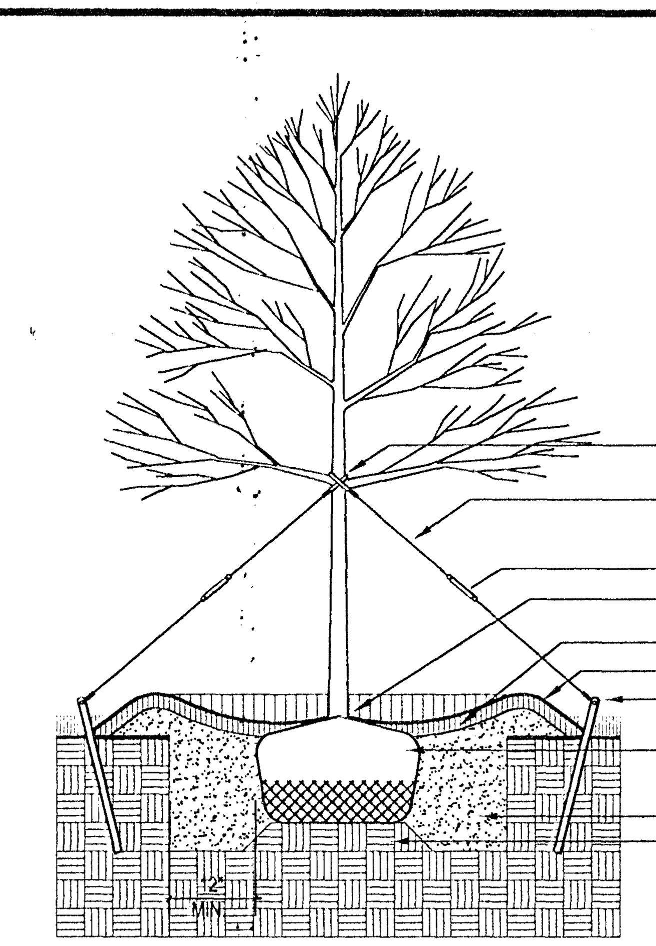
   a. Lawn Seed or Sod varieties shall be an improved variety turf-type tall fescue blend. The landscape contractor shall select from varieties approved by the Maryland or Virginia Department of Agriculture.

   b. Refer to the Virginia Erosion and Sediment Control Handbook, for guidelines, specifications and installation techniques of seed and sod.

14. Maintenance shall begin immediately after each plant and lawn area is installed and shall continue until 90 days after final acceptance of the last section.

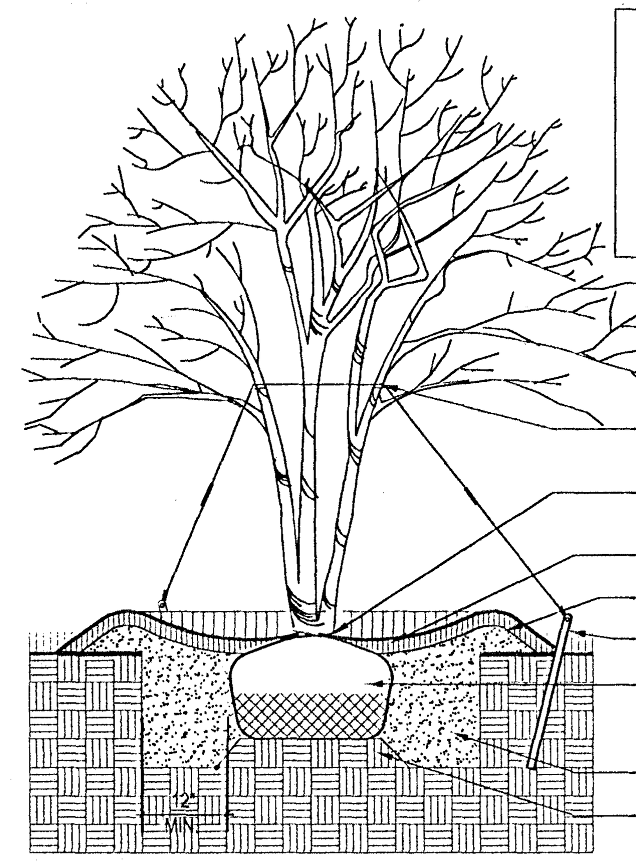


1 TYP. B&B SHRUB PLANTING
N.T.S.

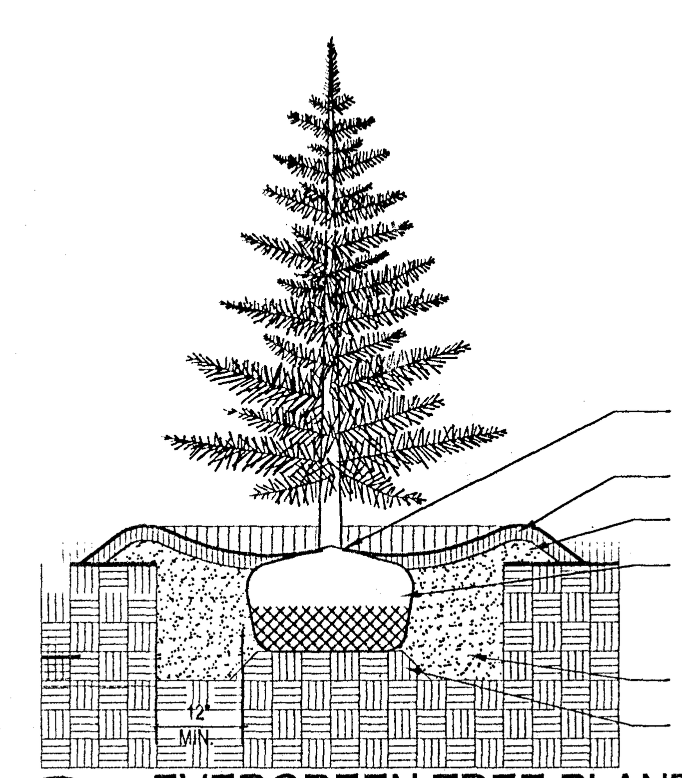


2 DECIDUOUS TREE PLANTING
NTS

NOTE:
1. STAKING AND GUYING SHALL BE IMPLEMENTED ONLY AS NEEDED FOR SUPPORT AND STABILITY AS DETERMINED BY THE LANDSCAPE CONTRACTOR BASED ON LANDSCAPE SPECIFICATION GUIDELINES. ALL STAKING AND GUYING SHALL BE REMOVED WITHIN ONE YEAR OF THE TIME OF INSTALLATION.



3 ORNAMENTAL TREE PLANTING
NTS

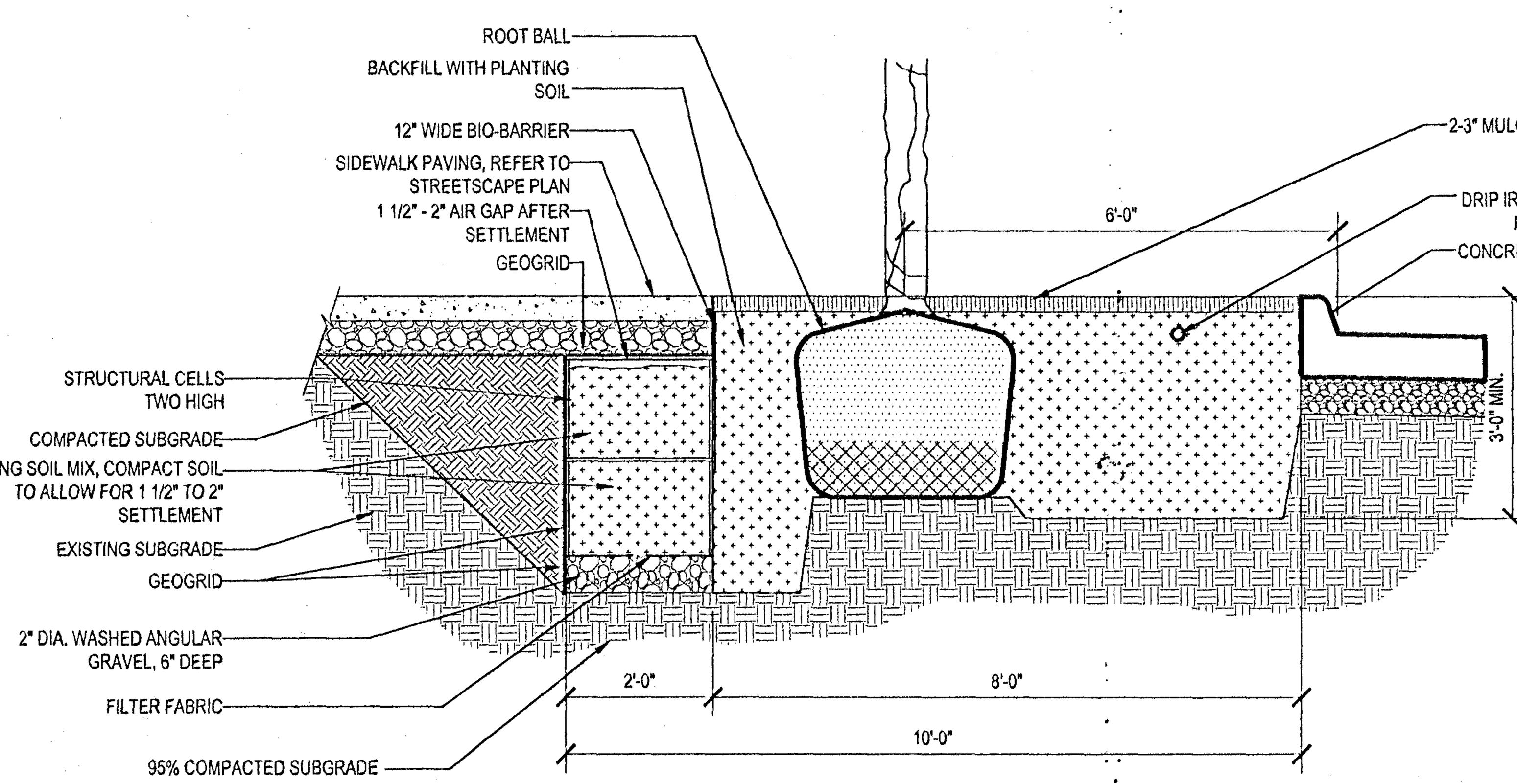


4 EVERGREEN TREE PLANTING
NTS

TYPICAL PLANT PALETTE

Botanical Name	Common Name	Size
CANOPY TREES		
Acer rubrum 'October Glory'	October Glory Red Maple	3" - 3-1/2" cal.
Cercidophyllum japonicum	Katsura Tree	3" - 3-1/2" cal.
Celtis occidentalis	Hackberry	3" - 3-1/2" cal.
Gleditsia triancanthos var. inermis 'Skyline'	Honeylocust	3" - 3-1/2" cal.
Quercus phellos	Willow Oak	3" - 3-1/2" cal.
Quercus rubra	Red Oak	3" - 3-1/2" cal.
Zelkova serrata	Zelkova	3" - 3-1/2" cal.
ORNAMENTAL TREES		
Amelanchier arborea	Downy Serviceberry	8'-10' ht.
Cercis canadensis	Eastern Redbud	8'-10' ht.
Chionanthus virginicus	Fringe Tree	8'-10' ht.
Cornus kousa	Kousa Dogwood	8'-10' ht.
Magnolia soulangiana	Saucer Magnolia	8'-10' ht.
Magnolia virginiana	Sweetbay Magnolia	8'-10' ht.
EVERGREEN TREES		
x Cupressocyparis leylandii	Leyland Cypress	7'-8' ht.
Ilex opaca	American Holly	7'-8' ht.
Pinus strobus	White Pine	8'-10' ht.
Thuja occidentalis 'Nigra'	Dark American Arborvitae	7'-8' ht.
SHRUBS / GROUNDCOVERS / PERENNIALS / MISC.		
Azalea 'Delaware Valley'	White Azalea	30"
Calamagrostis acutiflora 'Karl Forester'	Feather Reed Grass	3 gal.
Cotoneaster dammeri 'Coral Beauty'	Coral Beauty Cotoneaster	18"-24"
Hemerocallis minor 'Stella D'Oro'	Stella D'Oro Daylily	2 gal.
Hydrangea quercifolia	Oakleaf Hydrangea	30-36"
Hypericum calycinum	Aaronsbeard St. John's Wort	3 gal.
Ilex crenata 'Helleri'	Helleri Holly	18"-24"
Ilex x meserveae 'Blue Princess'	Blue Princess Holly	30"-36"

NOTES:
1. LANDSCAPING SHOWN IS CONCEPTUAL AND PRESENTED ONLY TO ILLUSTRATE CHARACTER AND QUALITY OF DESIGN. LOCATIONS, SPECIES AND QUANTITIES MAY BE ADJUSTED WITH FINAL DESIGN AND ENGINEERING.



5 TREE PIT @ EAST PROSPERITY AVE
Scale: 1/2"=1'-0"

NOTE: THE NUMBER OF STRUCTURAL CELLS PROVIDED FOR EACH TREE SHALL BE ADEQUATE TO MEET THE MINIMUM REQUIRED PLANTING AREA IN SQUARE FEET ON PFM TABLE 12.7

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 15 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
09-21-05
09-27-05
03-09-06
06-09-06
07-07-06
09-07-06
10-04-06
11-16-06
01-14-08
04-02-08
04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

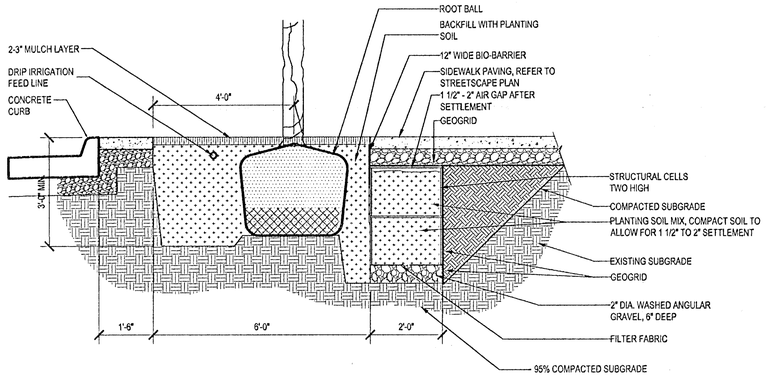
COMMONWEALTH OF VIRGINIA
MATTHEW K. KOIRTYOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

LANDSCAPE SPECIFICATIONS AND PLANT LIST
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: AS NOTED   C.I. = N/A   DATE: SEPT., 2005

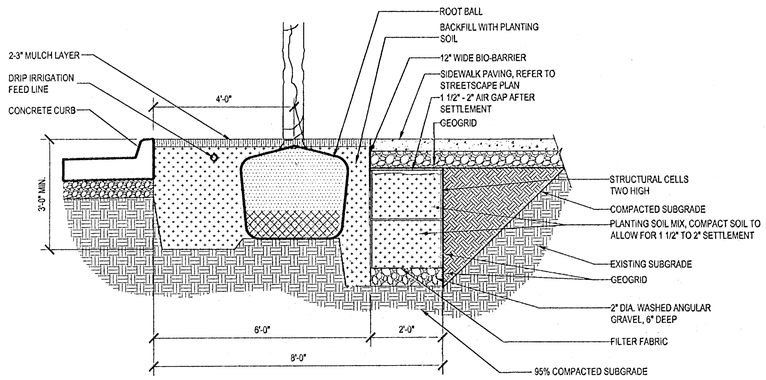
SHEET 15 OF 34

FILE No. ZP-1619



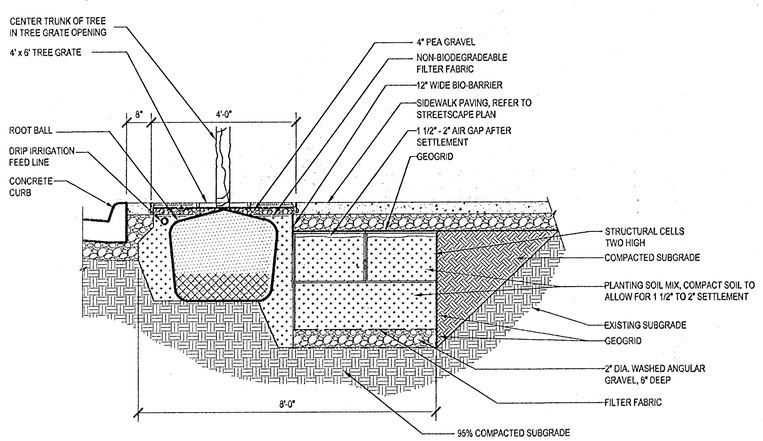
1 TREE PIT @ N. MERRILEE METRO PLAZA

Scale: 1/2"=1'-0"



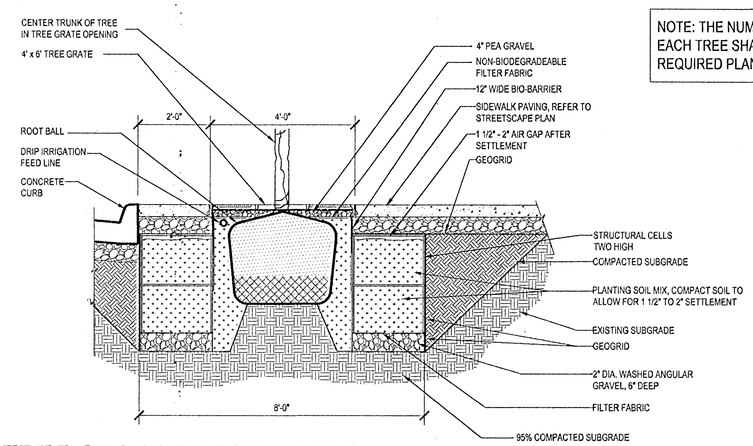
2 TREE PIT @ E. MERRILEE METRO PLAZA

Scale: 1/2"=1'-0"



3 TREE GRATE @ S. MERRILEE METRO PLAZA

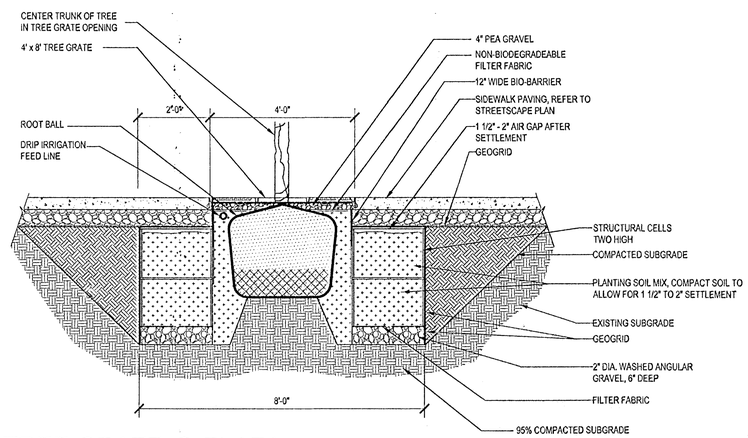
1/2"=1'-0"



4 TREE GRATE @ KISS-N-RIDE

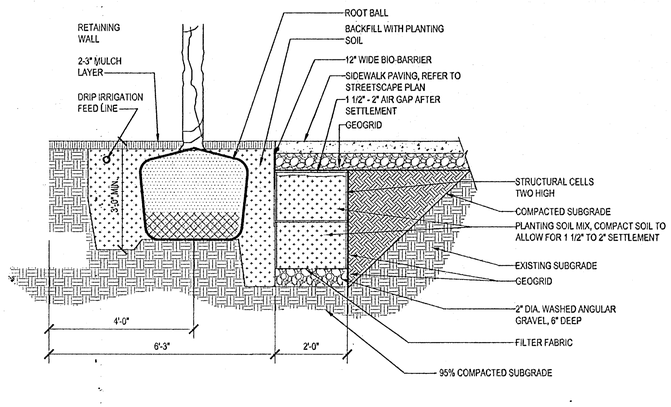
1/2"=1'-0"

NOTE: THE NUMBER OF STRUCTURAL CELLS PROVIDED FOR EACH TREE SHALL BE ADEQUATE TO MEET THE MINIMUM REQUIRED PLANTING AREA IN SQUARE FEET ON PFM TABLE 12.7



5 TREE GRATE @ PLAZA

1/2"=1'-0"



6 TREE PIT @ SOUTH GALLOWS ROAD

Scale: 1/2"=1'-0"

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 16 of 38

No.	DATE	DESCRIPTION	REV.BY APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW		

PLAN DATE: 21-05, 26-05, 26-05, 26-05, 07-06, 09-06, 10-06, 11-06, 04-07, 04-17-08

URBAN ENGINEERING & ASSOC., INC.
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ANNANDALE, VIRGINIA 22003 (703) 642-8080

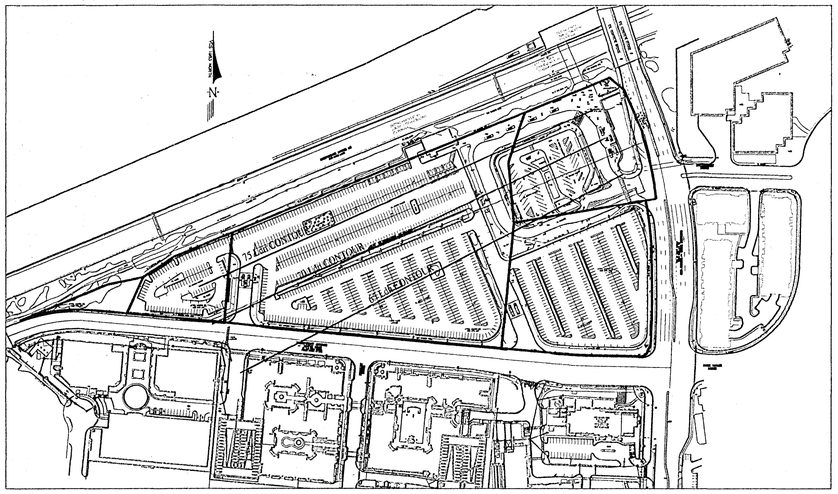
COMMONWEALTH OF VIRGINIA — MATTHEW K. KRUPOWICZ — No. 029224 — PROFESSIONAL ENGINEER — 04/17/08

LANDSCAPE DETAILS
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
DATE: SEPT., 2005
SCALE: AS NOTED
C.I. = N/A

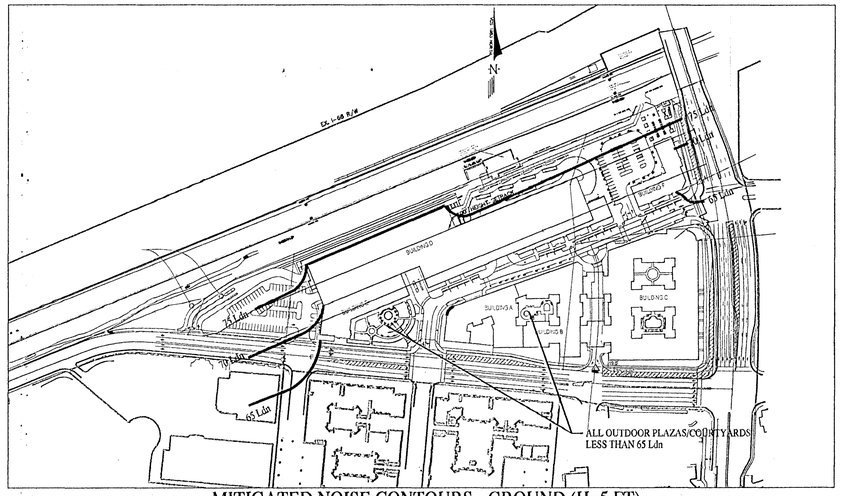
SHEET 15A OF 34

FILE No. ZP-1619

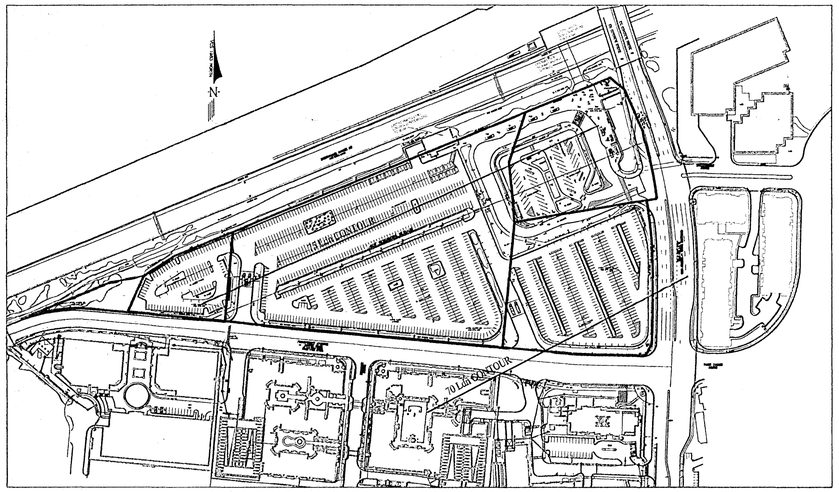
EXISTING AND PROPOSED CONDITIONS NOISE CONTOURS



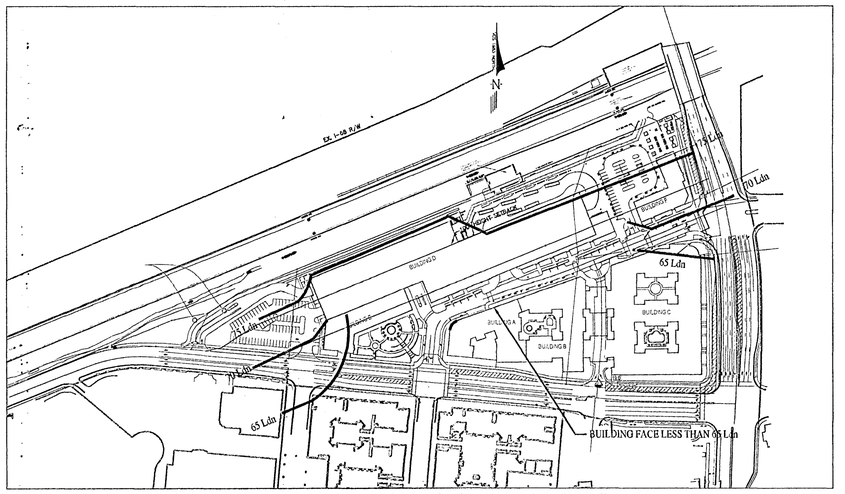
EXISTING NOISE CONTOURS GROUND LEVEL



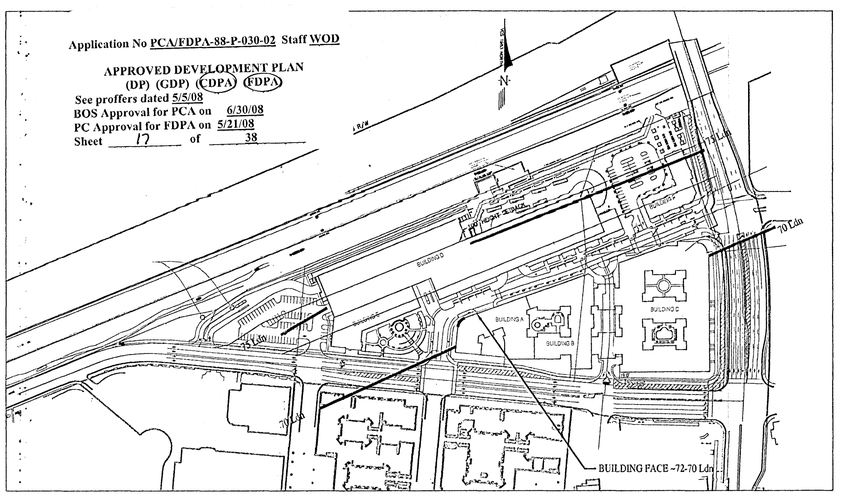
MITIGATED NOISE CONTOURS - GROUND (H=5 FT)



EXISTING NOISE CONTOURS 50 FT ABOVE GRADE



MITIGATED NOISE CONTOURS - 50 FT ABOVE GRADE



MITIGATED NOISE CONTOURS - 100 FT

FOR INFORMATION PURPOSES ONLY.
REFERENCED FROM NOISE STUDY BY MILLER, BEAM & PAGANELLI, INC.

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
03-09-06
06-09-06
07-07-06
07-31-06
09-07-06
10-04-06
11-16-06
04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KIRKPOTHANN
No. 059021
PROFESSIONAL ENGINEER

EXISTING AND PROPOSED CONDITIONS NOISE CONTOURS

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=200' C.I. = N/A DATE: NOV., 2005

SHEET 16 OF 34

FILE No. ZP-1619

EXISTING VEGETATION PLAN

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE (IN) (CALIPER)	HEIGHT (FT)
1	Acer buergeranum	Maple	24	40
2	Platanus occidentalis	Sycamore	8	15
3	Platanus occidentalis	Sycamore	8	15
4	Platanus occidentalis	Sycamore	8	15
5	Platanus occidentalis	Sycamore	8	15
6	Platanus occidentalis	Sycamore	8	15
7	Platanus occidentalis	Sycamore	6	20
8	Platanus occidentalis	Sycamore	12	25
9	Cornus florida	Flowering Dogwood	8	15
10	Cornus florida	Flowering Dogwood	8	15
11	Cornus florida	Flowering Dogwood	8	15
12	Cornus florida	Flowering Dogwood	8	15
13	Cornus florida	Flowering Dogwood	8	15
14	Platanus occidentalis	Sycamore	8	15
15	Diospyros virginiana	Persimmon	12	12
16	Diospyros virginiana	Persimmon	6	6
17	Quercus acutissima	Oak	12	20
18	Platanus occidentalis	Sycamore	12	20
19	Platanus occidentalis	Sycamore	12	20
20	Platanus occidentalis	Sycamore	12	20
21	Platanus occidentalis	Sycamore	12	20
22	Platanus occidentalis	Sycamore	12	20
23	Platanus occidentalis	Sycamore	12	20
24	Prunus pensylvanica	Pin Cherry	8	12
25	Prunus pensylvanica	Pin Cherry	8	12
26	Prunus pensylvanica	Pin Cherry	8	12
27	Prunus pensylvanica	Pin Cherry	8	12
28	Prunus pensylvanica	Pin Cherry	8	12
29	Prunus pensylvanica	Pin Cherry	8	12
30	Prunus pensylvanica	Pin Cherry	8	12
31	Celtis Reticulata	Netleaf Hackberry	12	15
32	Celtis Reticulata	Netleaf Hackberry	12	15
33	Celtis Reticulata	Netleaf Hackberry	12	15
34	Celtis Reticulata	Netleaf Hackberry	12	15
35	Celtis Reticulata	Netleaf Hackberry	12	15
36	Celtis Reticulata	Netleaf Hackberry	12	15
37	Ilex Cassine	Dahoon Holly	7	10
38	Ilex Cassine	Dahoon Holly	7	10
39	Gleditsia triacanthos	Honeylocust	6	8
40	Pinus	Pine	6	10
41	Platanus occidentalis	Sycamore	18	30
42	Platanus occidentalis	Sycamore	18	30
43	Ilex cornuta	Holley	10	12
44	Platanus occidentalis	Sycamore	18	30
45	Platanus occidentalis	Sycamore	18	30
46	Platanus occidentalis	Sycamore	9	25
47	Platanus occidentalis	Sycamore	9	25
48	Platanus occidentalis	Sycamore	9	25
49	Platanus occidentalis	Sycamore	9	25
50	Platanus occidentalis	Sycamore	9	25
51	Platanus occidentalis	Sycamore	9	25
52	Platanus occidentalis	Sycamore	9	25
53	Diospyros virginiana	Persimmon	10	12
54	Diospyros virginiana	Persimmon	10	12
55	Platanus occidentalis	Sycamore	8	12
56	Platanus occidentalis	Sycamore	8	12
57	Platanus occidentalis	Sycamore	8	12
58	Platanus occidentalis	Sycamore	12	20
59	Platanus occidentalis	Sycamore	12	20
60	Quercus acutissima	Oak	6	18
61	Ilex cornuta	Holley	6	12
62	Quercus acutissima	Oak	6	20
63	Quercus acutissima	Oak	6	20
64	Quercus acutissima	Oak	6	20
65	Quercus acutissima	Oak	6	20
66	Quercus acutissima	Oak	6	20
67	Quercus acutissima	Oak	6	20
68	Quercus acutissima	Oak	6	20
69	Quercus acutissima	Oak	6	20
70	Fraxinus americana	Ash	24	40
71	Fraxinus americana	Ash	24	40
72	Fraxinus americana	Ash	24	40
73	Fraxinus americana	Ash	24	40
74	Fraxinus americana	Ash	24	40
75	Fraxinus americana	Ash	24	40
76	Fraxinus americana	Ash	24	40
77	Fraxinus americana	Ash	24	40
78	Fraxinus americana	Ash	24	40
79	Fraxinus americana	Ash	24	40
80	Fraxinus americana	Ash	24	40
81	Fraxinus americana	Ash	24	40
82	Fraxinus americana	Ash	24	40
83	Quercus acutissima	Oak	18	30
84	Quercus acutissima	Oak	18	30
85	Quercus acutissima	Oak	18	30
86	Quercus acutissima	Oak	18	30
87	Quercus acutissima	Oak	18	30
88	Quercus acutissima	Oak	18	30
89	Quercus acutissima	Oak	18	30
90	Quercus acutissima	Oak	7	20
91	Quercus acutissima	Oak	7	20
92	Quercus acutissima	Oak	9	25
93	Quercus acutissima	Oak	9	25
94	Quercus acutissima	Oak	9	25
95	Quercus acutissima	Oak	9	25
96	Quercus acutissima	Oak	8	20
97	Quercus acutissima	Oak	8	20
98	Quercus acutissima	Oak	15	25
99	Quercus acutissima	Oak	15	25
100	Fraxinus americana	Ash	24	40

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE (IN) (CALIPER)	HEIGHT (FT)
101	Fraxinus americana	Ash	24	40
102	Fraxinus americana	Ash	24	40
103	Fraxinus americana	Ash	24	40
104	Fraxinus americana	Ash	24	40
105	Fraxinus americana	Ash	24	40
106	Fraxinus americana	Ash	24	40
107	Fraxinus americana	Ash	24	40
108	Fraxinus americana	Ash	24	40
109	Fraxinus americana	Ash	24	40
110	Diospyros virginiana	Persimmon	12	18
111	Diospyros virginiana	Persimmon	6	8
112	Diospyros virginiana	Persimmon	6	8
113	Diospyros virginiana	Persimmon	6	8
114	Diospyros virginiana	Persimmon	12	18
115	Diospyros virginiana	Persimmon	10	12
116	Diospyros virginiana	Persimmon	10	12
117	Diospyros virginiana	Persimmon	10	12
118	Diospyros virginiana	Persimmon	10	12
119	Diospyros virginiana	Persimmon	10	12
120	Diospyros virginiana	Persimmon	10	12
121	Diospyros virginiana	Persimmon	10	12
122	Diospyros virginiana	Persimmon	10	12
123	Diospyros virginiana	Persimmon	10	12
124	Diospyros virginiana	Persimmon	10	12
125	Diospyros virginiana	Persimmon	10	12
126	Diospyros virginiana	Persimmon	10	12
127	Diospyros virginiana	Persimmon	10	12
128	Diospyros virginiana	Persimmon	10	12
129	Diospyros virginiana	Persimmon	10	12
130	Diospyros virginiana	Persimmon	10	12
131	Diospyros virginiana	Persimmon	10	12
132	Diospyros virginiana	Persimmon	10	12
133	Diospyros virginiana	Persimmon	10	12
134	Diospyros virginiana	Persimmon	10	12
135	Diospyros virginiana	Persimmon	10	12
136	Diospyros virginiana	Persimmon	10	12
137	Diospyros virginiana	Persimmon	10	12
138	Diospyros virginiana	Persimmon	10	12
139	Diospyros virginiana	Persimmon	10	12
140	Diospyros virginiana	Persimmon	10	12
141	Diospyros virginiana	Persimmon	10	12
142	Diospyros virginiana	Persimmon	10	12
143	Diospyros virginiana	Persimmon	10	12
144	Diospyros virginiana	Persimmon	10	12
145	Diospyros virginiana	Persimmon	10	12
146	Diospyros virginiana	Persimmon	10	12
147	Diospyros virginiana	Persimmon	10	12
148	Diospyros virginiana	Persimmon	10	12
149	Diospyros virginiana	Persimmon	15	20
150	Diospyros virginiana	Persimmon	15	20
151	Diospyros virginiana	Persimmon	15	20
152	Diospyros virginiana	Persimmon	15	20
153	Diospyros virginiana	Persimmon	15	20
154	Diospyros virginiana	Persimmon	15	20
155	Diospyros virginiana	Persimmon	15	20
156	Crataegus crusgalli	Hawthorn	8	15
157	Crataegus crusgalli	Hawthorn	8	15
158	Diospyros virginiana	Persimmon	15	20
159	Diospyros virginiana	Persimmon	15	20
160	Diospyros virginiana	Persimmon	15	20
161	Diospyros virginiana	Persimmon	15	20
162	Diospyros virginiana	Persimmon	15	20
163	Diospyros virginiana	Persimmon	15	20
164	Diospyros virginiana	Persimmon	15	20
165	Diospyros virginiana	Persimmon	15	20
166	Diospyros virginiana	Persimmon	15	20
167	Diospyros virginiana	Persimmon	15	20
168	Diospyros virginiana	Persimmon	15	20
169	Diospyros virginiana	Persimmon	15	20
170	Robinia pseudoacacia	Locust	18	40
171	Robinia pseudoacacia	Locust	18	40
172	Robinia pseudoacacia	Locust	18	40
173	Robinia pseudoacacia	Locust	18	40
174	Robinia pseudoacacia	Locust	18	40
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178	Robinia pseudoacacia	Locust	18	40
179	Robinia pseudoacacia	Locust	18	40
180	Robinia pseudoacacia	Locust	18	40
181	Robinia pseudoacacia	Locust	18	40
182	Fraxinus americana	Ash	20	30
183	Fraxinus americana	Ash	20	30
184	Fraxinus americana	Ash	20	30
185	Fraxinus americana	Ash	20	30
186	Fraxinus americana	Ash	20	30
187	Fraxinus americana	Ash	20	30
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190	Fraxinus americana	Ash	20	30
191	Fraxinus americana	Ash	20	30
192	Fraxinus americana	Ash	20	30
193	Fraxinus americana	Ash	20	30
194	Fraxinus americana	Ash	20	30
195	Fraxinus americana	Ash	20	30
196	Fraxinus americana	Ash	20	30
197	Fraxinus americana	Ash	20	30
198	Fraxinus americana	Ash	20	30
199	Fraxinus americana	Ash	20	30
200	Fraxinus americana	Ash	20	30

TREE NO.	BOTANICAL NAME	COMMON NAME	SIZE (IN) (CALIPER)	HEIGHT (FT)
201	Fraxinus americana	Ash	20	30
202	Fraxinus americana	Ash	20	30
203	Fraxinus americana	Ash	20	30
204	Fraxinus americana	Ash	20	30
205	Fraxinus americana	Ash	20	30
206	Fraxinus americana	Ash	18	30
207	Fraxinus americana	Ash	18	30
208	Fraxinus americana	Ash	6	12
209	Ulmus americana	Elm	6	12
210	Ulmus americana	Elm	6	12
211	Fraxinus americana	Ash	15	30
212	Fraxinus americana	Ash	15	30
213	Fraxinus americana	Ash	12	15
214	Fraxinus americana	Ash	12	15
215	Fraxinus americana	Ash	12	15
216	Fraxinus americana	Ash	10	12
217	Fraxinus americana	Ash	10	12
218	Fraxinus americana	Ash	10	12
219	Carya	Hickory	10	12
220	Carya	Hickory	10	12
221	Carya	Hickory	10	12
222	Carya	Hickory	8	12
223	Carya	Hickory	8	12
224	Quercus acutissima	Oak	18	30
225	Quercus acutissima	Oak	18	30
226	Quercus acutissima	Oak	18	30
227	Diospyros virginiana	Persimmon	10	25
228	Diospyros virginiana	Persimmon	10	25
229	Diospyros virginiana	Persimmon	10	25
230	Diospyros virginiana	Persimmon	10	25
231	Diospyros virginiana	Persimmon	10	25
232	Diospyros virginiana	Persimmon	10	25
233	Diospyros virginiana	Persimmon	10	25
234	Diospyros virginiana	Persimmon	10	25
235	Diospyros virginiana	Persimmon	10	25
236	Diospyros virginiana	Persimmon	10	25
237	Diospyros virginiana	Persimmon	10	25
238	Diospyros virginiana	Persimmon	10	25
239	Diospyros virginiana	Persimmon	10	25
240	Diospyros virginiana	Persimmon	10	25
241	Diospyros virginiana	Persimmon	10	25
242	Diospyros virginiana	Persimmon	10	25
243	Diospyros virginiana	Persimmon	10	25
244	Diospyros virginiana	Persimmon	10	25
245	Diospyros virginiana	Persimmon	10	25
246	Celtis Reticulata	Netleaf Hackberry	8	12
247	Celtis Reticulata	Netleaf Hackberry	8	12
248	Celtis Reticulata	Netleaf Hackberry	8	12
249	Rhamnus frangula	Glossy Buckthorn	10	15
250	Rhamnus frangula	Glossy Buckthorn	10	15
251	Quercus muehlenbergii	Chinkapin	10	8
252	Quercus muehlenbergii	Chinkapin	10	8
253	Quercus muehlenbergii	Chinkapin	10	8
254	Quercus muehlenbergii	Chinkapin	10	8
255	Quercus muehlenbergii	Chinkapin	10	8
256	Quercus muehlenbergii	Chinkapin	10	8
257	Quercus muehlenbergii	Chinkapin	10	8
258	Quercus muehlenbergii	Chinkapin	10	8
259	Quercus muehlenbergii	Chinkapin	10	8
260	Diospyros virginiana	Persimmon	10	8
261	Diospyros virginiana	Persimmon	10	8
262	Diospyros virginiana	Persimmon	10	8
263	Diospyros virginiana	Persimmon	18	10
264	Ulmus americana	Elm	12	30

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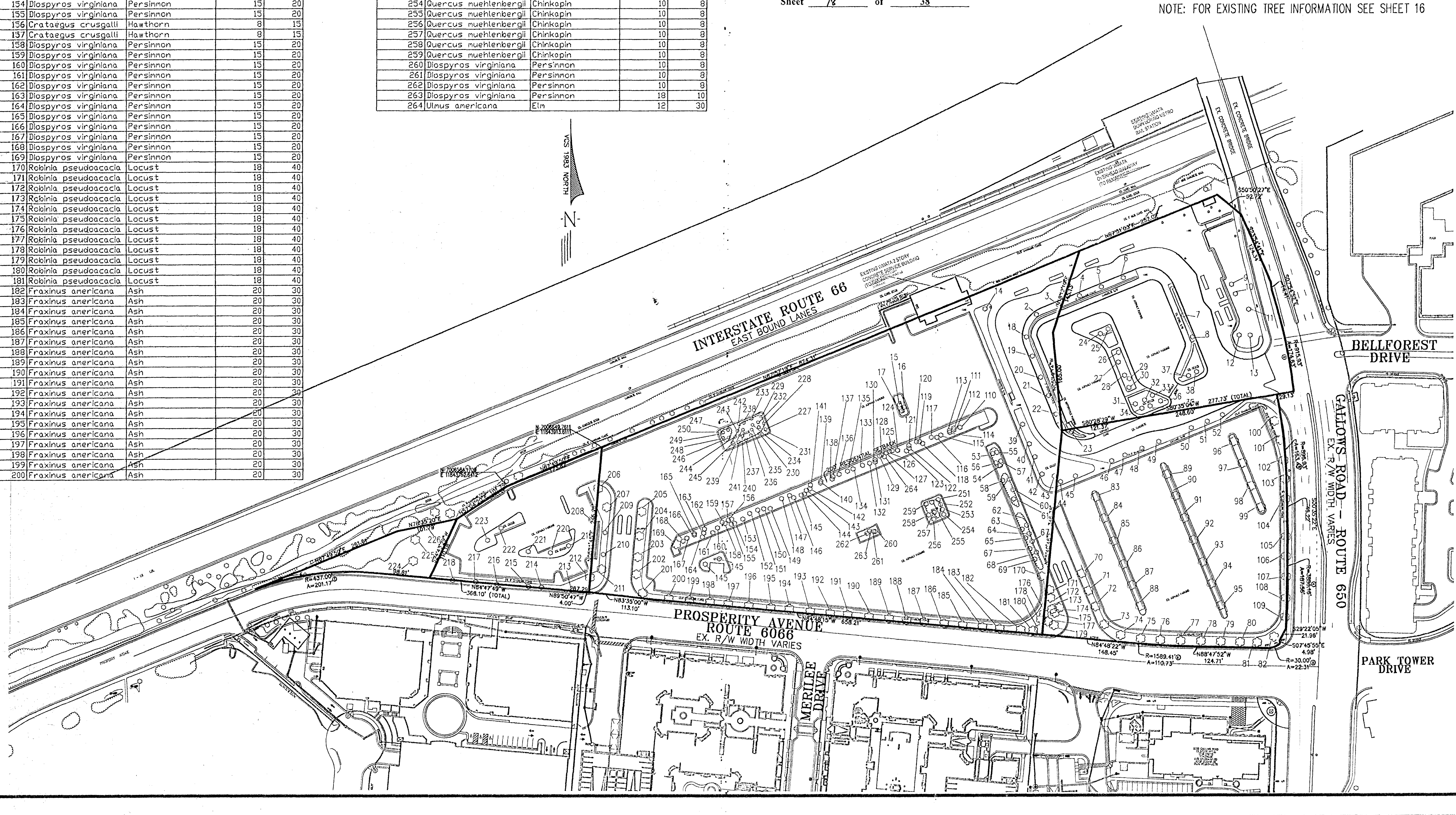
NOTE: FOR EXISTING TREE INFORMATION SEE SHEET 16



No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
09-21-05
11-22-05
03-03-06
07-07-06
09-07-06
10-04-06
11-16-06
04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATHEW K. KOIRTYOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

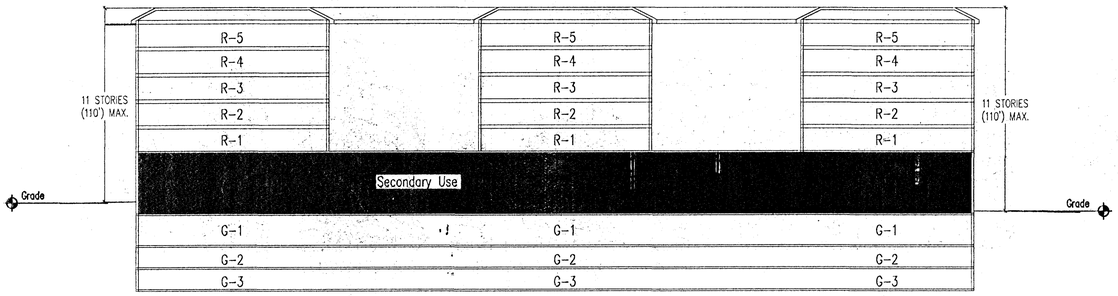
EXISTING VEGETATION PLAN

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

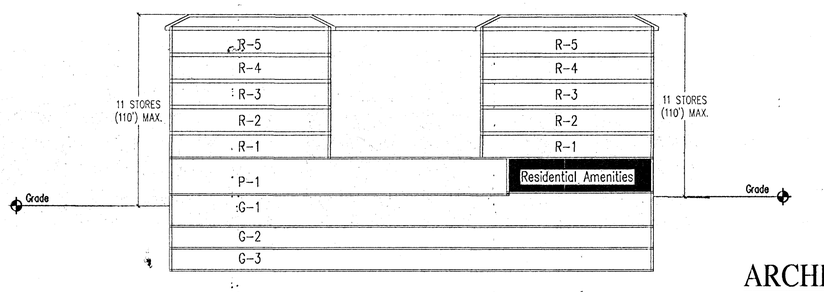
SCALE: 1"=100' C.I. = N/A DATE: NOV., 2005

SHEET 17 OF 34

FILE No. ZP-1619



1 Building Section – Opt. 1 and 2
SCALE: 1" = 30'



2 Building Section – Opt. 1 and 2
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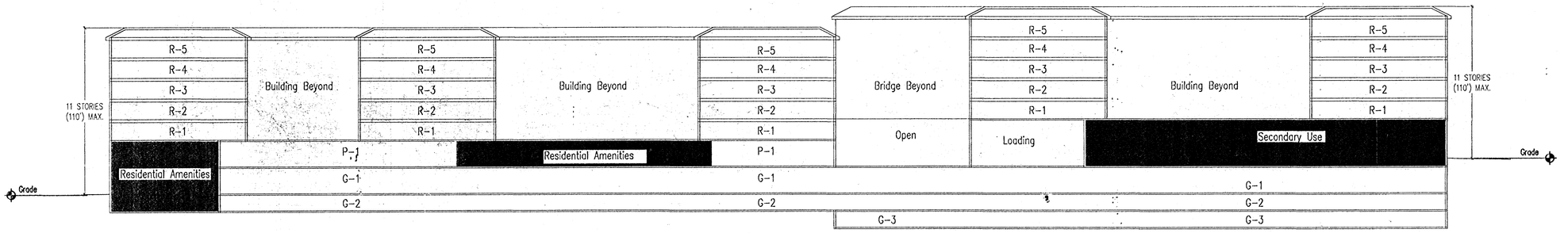

3 Building Section – Opt 1
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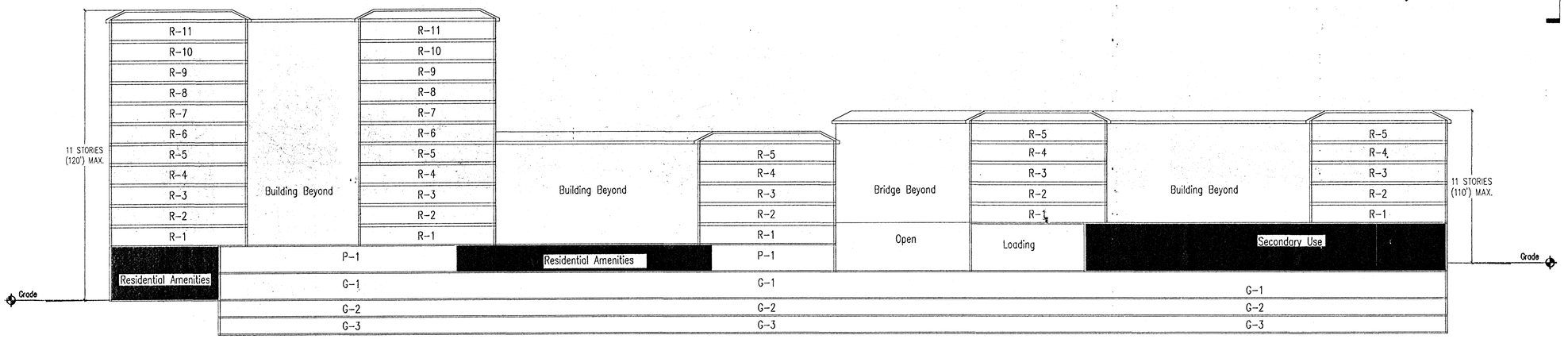
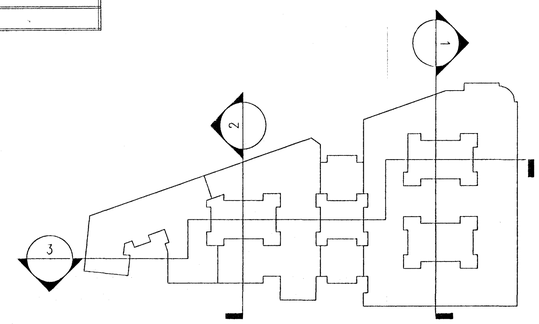


4 Building Section – Highrise – Opt 2
SCALE: 1" = 30'



KEY PLAN

ARCHITECTURAL SECTIONS

THIS PLAN DOES NOT REPRESENT FINAL ENGINEERING AND DESIGN AND IS SUBJECT TO FINAL ENGINEERING AND DESIGN AT THE TIME OF THE FINAL CONSTRUCTION DOCUMENTS.

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 19 of 38

THE PRESTON PARTNERSHIP, LLC
A MULTI-DISCIPLINARY DESIGN FIRM
3141 FAIRVIEW PARK DRIVE, SUITE 415
FALLS CHURCH, VIRGINIA 22042
TELEPHONE: 703 205 0930
FAX: 703 205 0931
WWW.THEPRESTONPARTNERSHIP.COM

No.	DATE	DESCRIPTION	REVIEW APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW		

PLAN DATE
09-21-05
09-27-06
03-09-06
05-11-06
09-07-06
09-14-06
11-16-06
01-14-08
03-17-08
04-17-08

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ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. MONTGOMERY
No. 030621
PROFESSIONAL ENGINEER
04/17/08

ARCHITECTURAL SECTIONS

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

DATE: SEPT., 2005
C.I. = N/A
SCALE: AS NOTED

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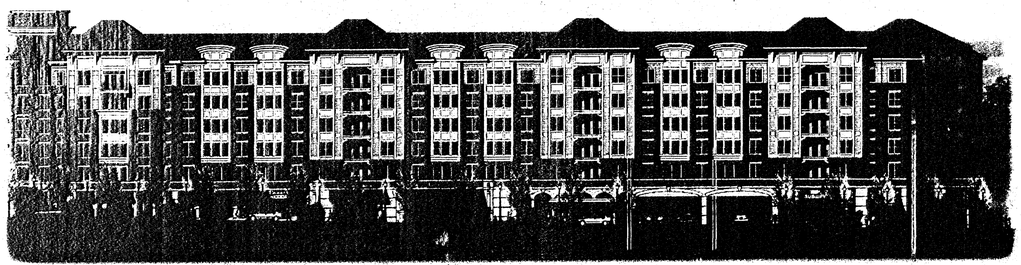
OF
34

FILE No.
ZP-1619

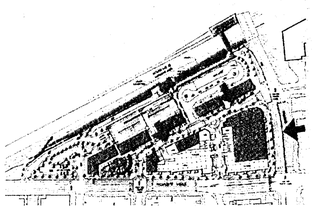
GALLOWS ROAD ELEVATION

NEW STREET ELEVATION EAST



NEW STREET ELEVATION WEST (OPTION 1)

NEW STREET ELEVATION WEST (OPTION 2)



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(DP) (GDP) (CDPA) (FDPA)
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Sheet 20 of 38

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THE PRESTON PARTNERSHIP, LLC
A MULTI-DISCIPLINARY DESIGN FIRM

1000 ABERNATHY ROAD NE, SUITE 600
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CONSULTANT

SEAL

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOURTOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

PROJECT

ALEXAN
DUNN LORING
VIENNA, VIRGINIA

FOR

TCR
TRAMMELL CROW RESIDENTIAL

6110 EXECUTIVE BLVD.
SUITE 315
ROCKVILLE, MD 20852
(301) 881-4092

PRINTED
JUNE 09, 2006
SEPT 09, 2006
NOV. 16, 2006
APRIL 17, 2008

REVISIONS

DATE JUNE 09, 2006
JOB NUMBER 0515605
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CONCEPTUAL ELEVATION

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COMMENTS

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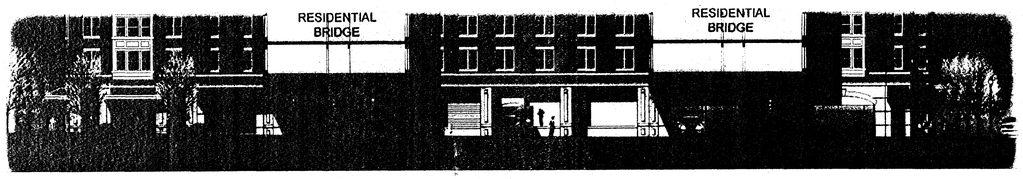
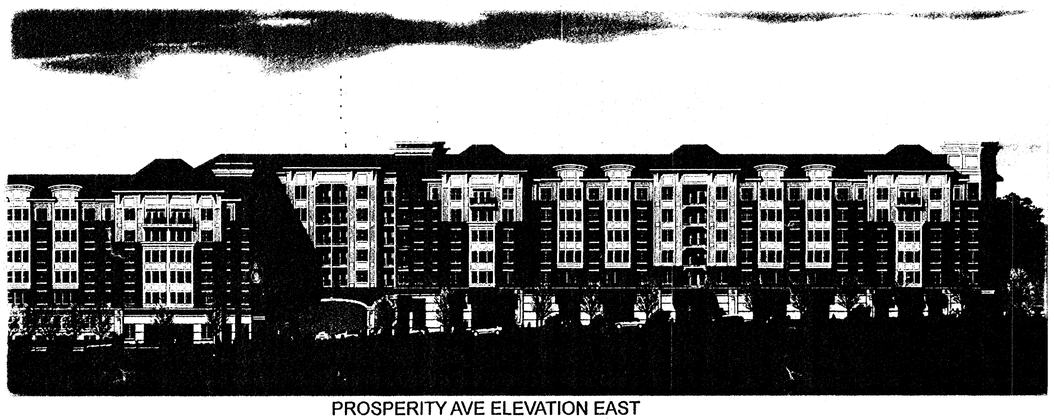


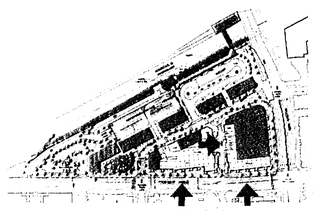
INTERNAL STREET ELEVATION / LOADING



PROSPERITY AVE ELEVATION EAST

PROSPERITY AVE ELEVATION WEST (OPTION 1)

PROSPERITY AVE ELEVATION WEST (OPTION 2)



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04/17/08

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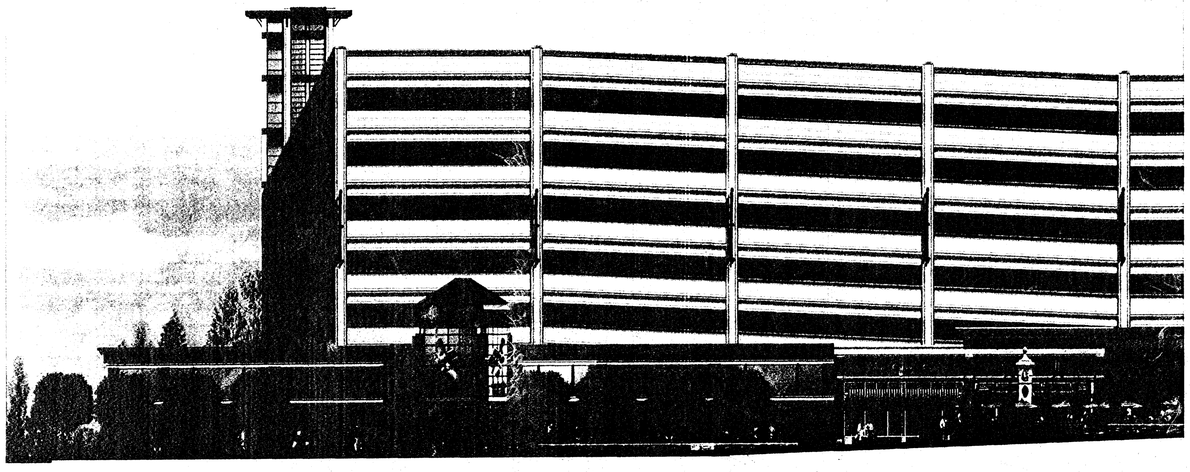
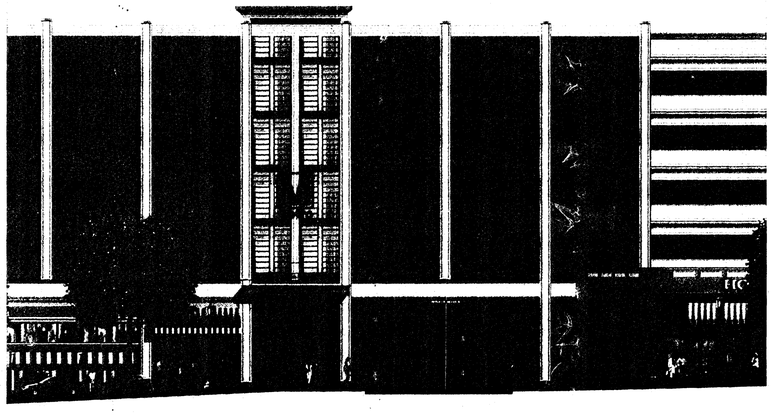
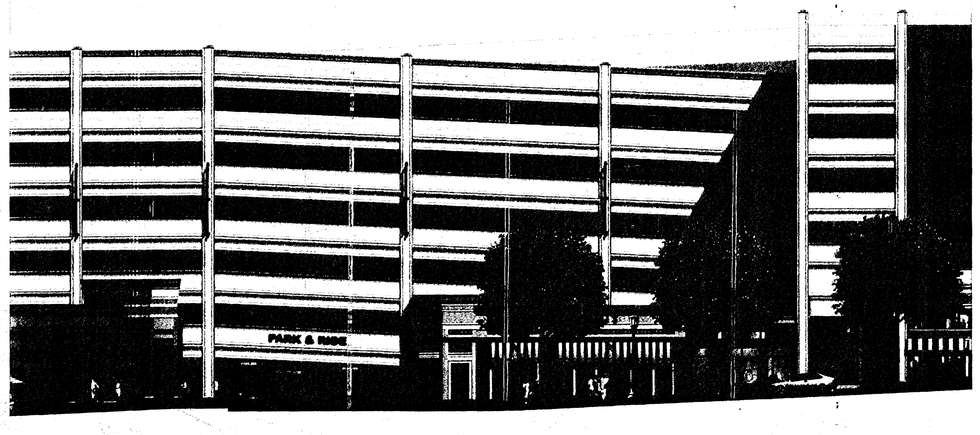
RETAIL STREET ELEVATION EAST



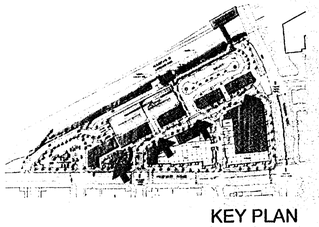
RETAIL STREET ELEVATION WEST



METRO BUS AND PEDESTRIAN ENTRANCE



PARK AND RIDE GARAGE ENTRANCE



KEY PLAN

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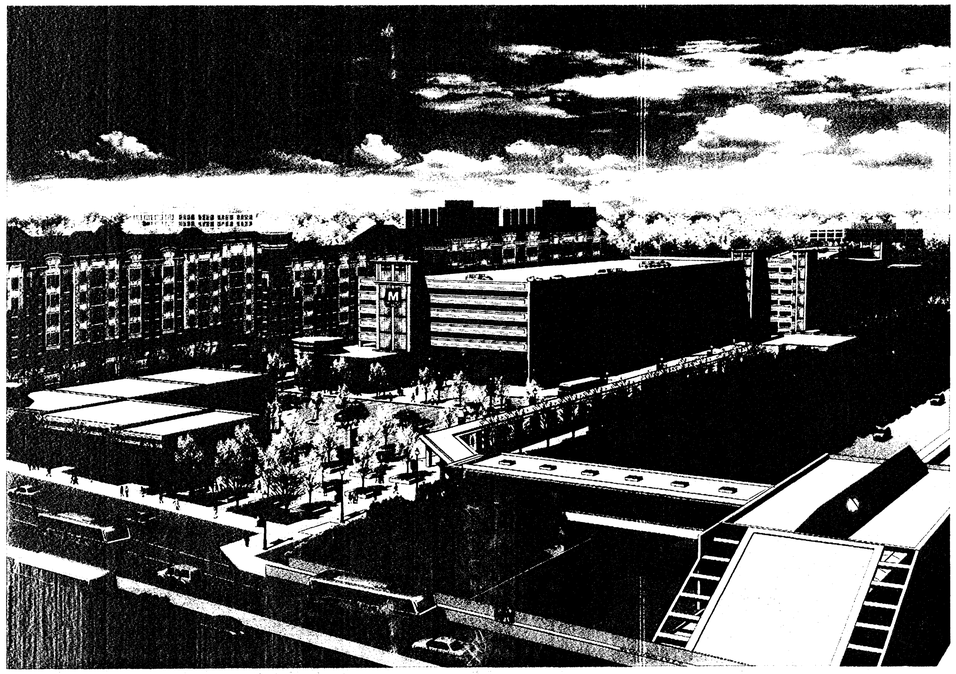
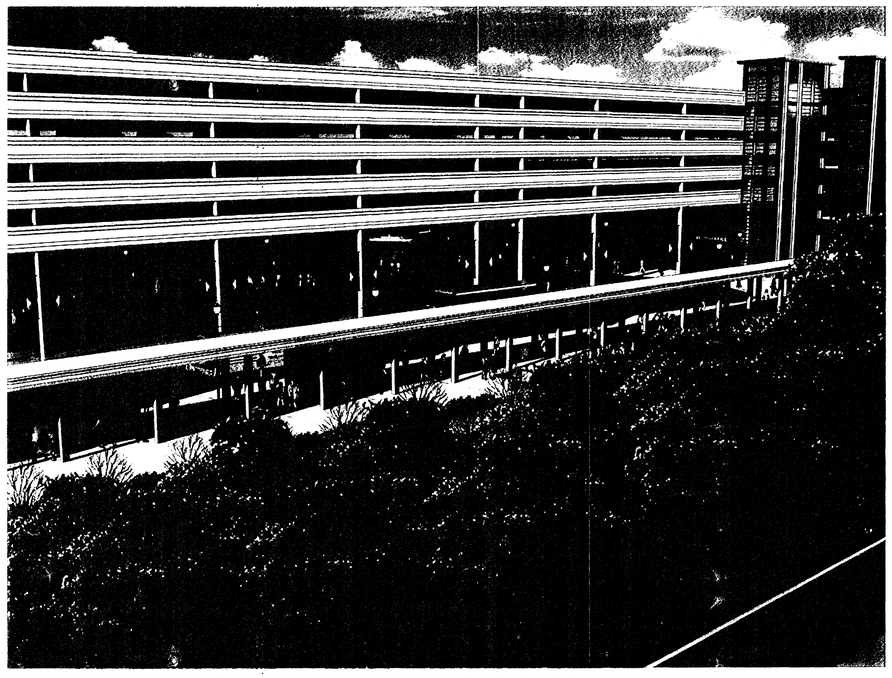
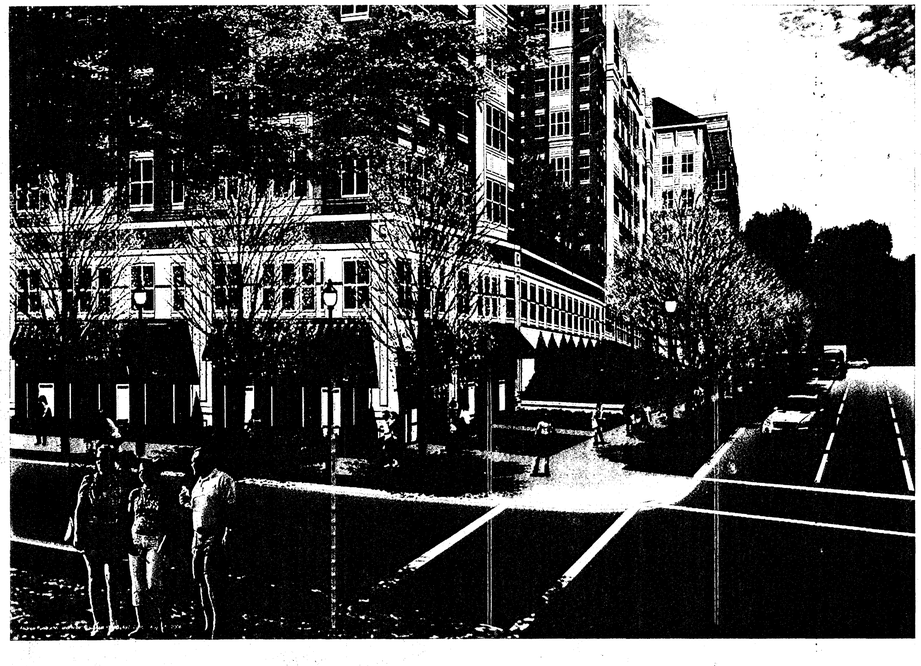


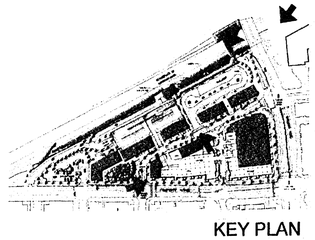
PERSPECTIVE VIEW LOOKING WEST ACROSS GALLOWS ROAD



PERSPECTIVE VIEW OF WMATA BUS DROP OFF AND PEDESTRIAN WALKWAY



PERSPECTIVE VIEW LOOKING EAST ALONG PROSPERITY AVE



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TELEPHONE 770 396 7248
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CONSULTANT

SEAL

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOHRTOHANN
No. 039021
04/17/08
PROFESSIONAL ENGINEER

PROJECT

ALEXAN
DUNN LORING
VIENNA, VIRGINIA

FOR

TCR
TRAMMELL CROW RESIDENTIAL

6110 EXECUTIVE BLVD.
SUITE 315
ROCKVILLE, MD 20852
(301) 881-4092

PRINTED
JUNE 09, 2006

REVISIONS
SEPT 09, 2006
OCT. 4, 2006
NOV. 16, 2006
APRIL 17, 2008

DATE JUNE 09, 2006
JOB NUMBER 0515605
DRAWN BY
CHECKED BY

DRAWING TITLE
CONCEPTUAL PERSPECTIVES

DRAWING NUMBER
20A of 34

COMMENTS

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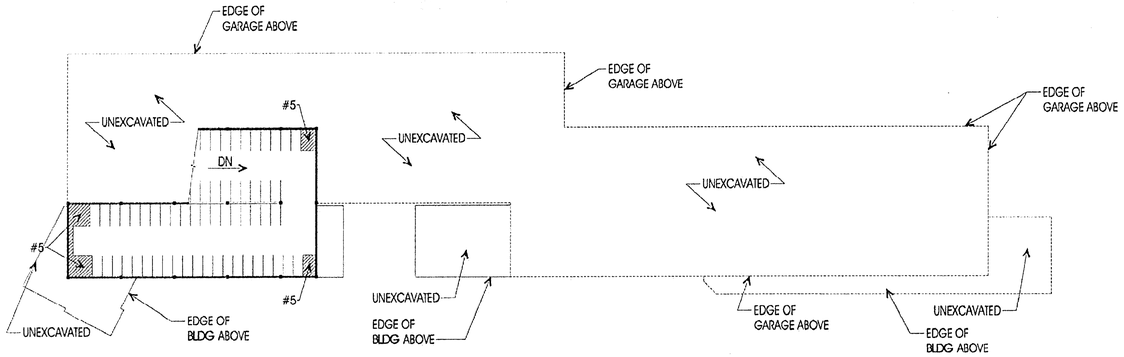

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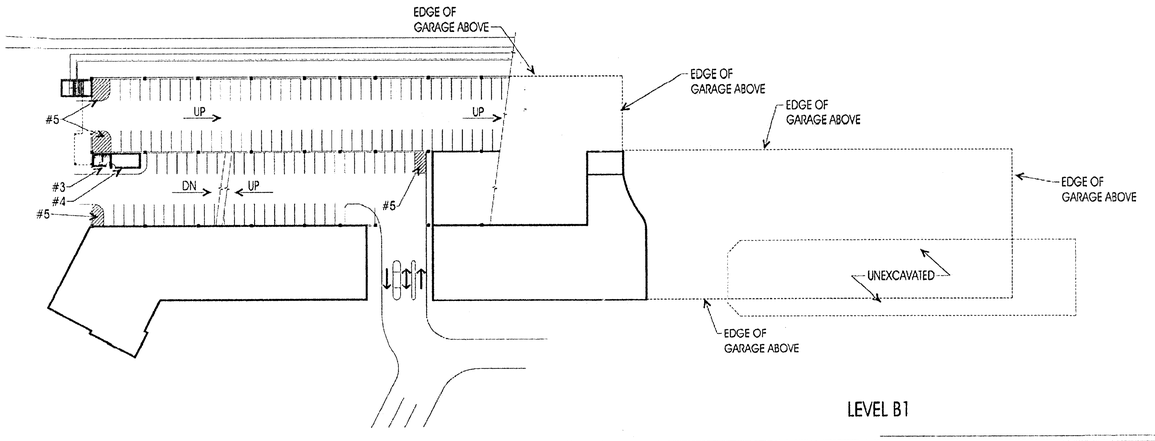

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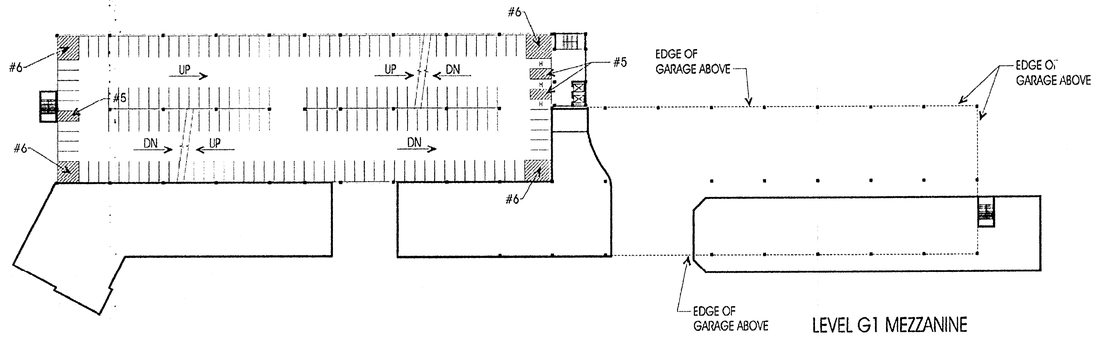

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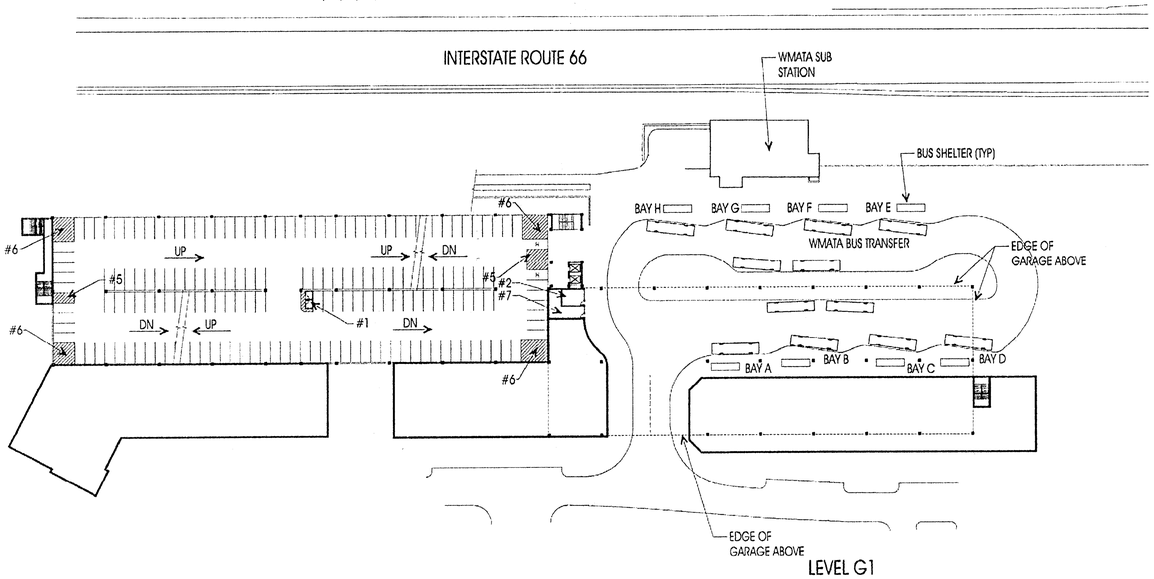

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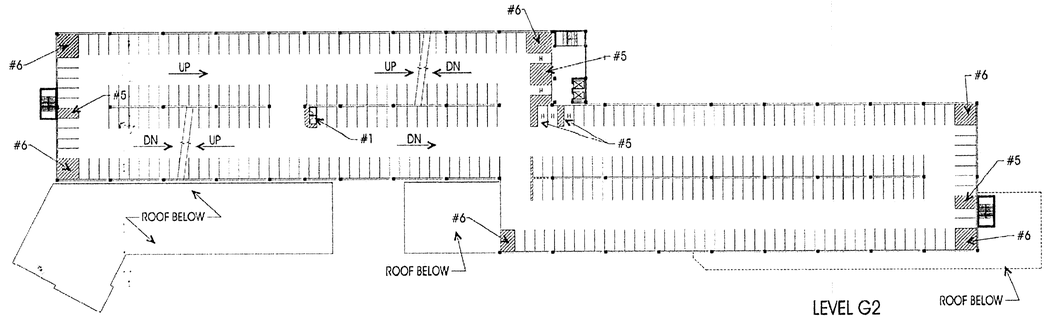

LEVEL G2

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 24 of 38

THIS PLAN DOES NOT REPRESENT FINAL ENGINEERING AND DESIGN AND IS SUBJECT TO FINAL ENGINEERING AND DESIGN AT THE TIME OF THE FINAL CONSTRUCTION DOCUMENTS

KEY NOTES:
#1 - ELEC/COMMUNICATIONS ROOMS (APPROX 44 GSF EA.)
#2 - SECURITY OFFICE (APPROX 275 GSF)
#3 - H.C. UNISEX LAV. (APPROX 135 GSF)
#4 - P.A.R.C. (PARKING ACCESS AND REVENUE CONTROL) (APPROX 260 GSF)
#5 - BOLLARDS @ 5'-0" OC W/ PAINT STRIPING
#6 - PAINT STRIPING W/OUT BOLLARDS
#7 - SATELITE POLICE STATION

N

0 16' 32' 64'

SEPTEMBER 26, 2006

TCR
Trammell Crow Residential

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Rockville, MD 20852

Dunn Loring Metro
Proposed Development Plan WMATA Replacement Facility

4233-01

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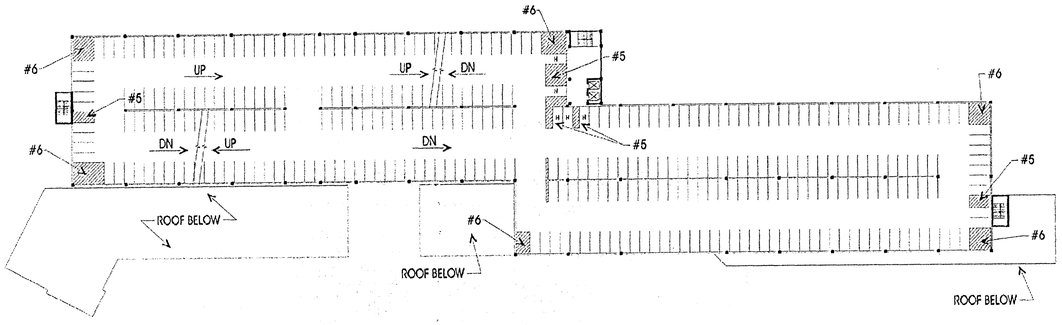
REVISION DATE: 04-17-08



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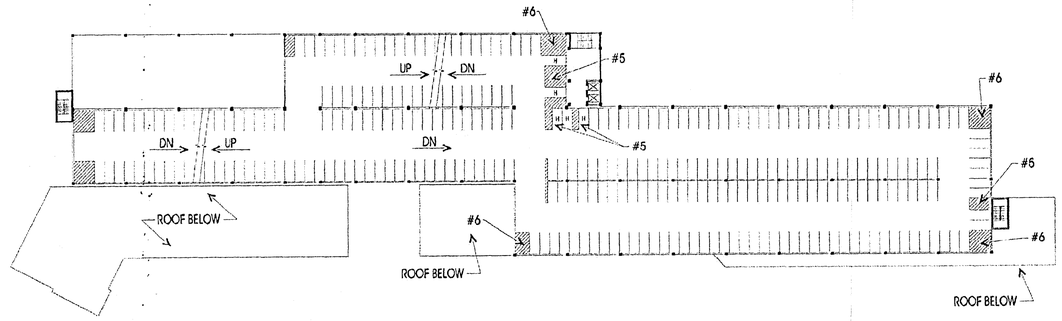

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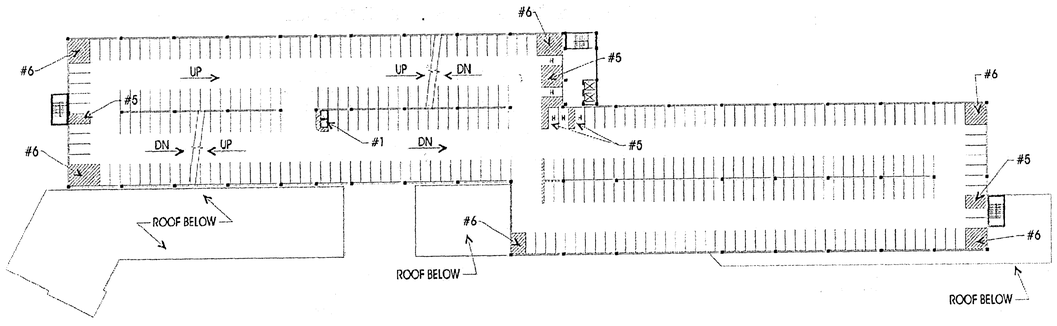

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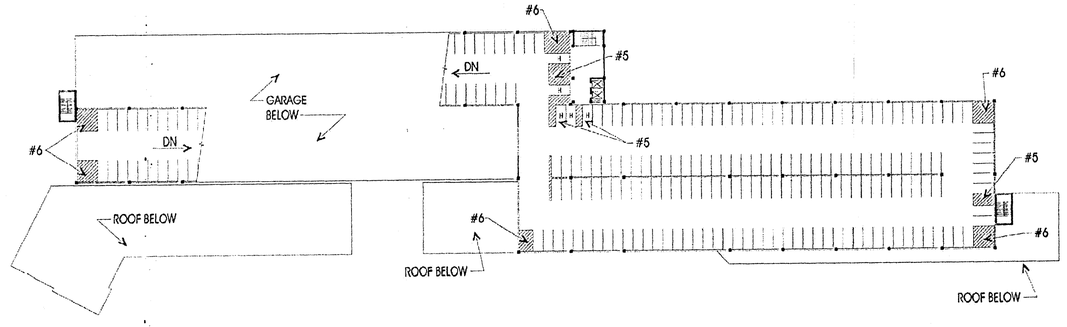

LEVEL G6

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N

0 16 32 64

SEPTEMBER 26, 2006

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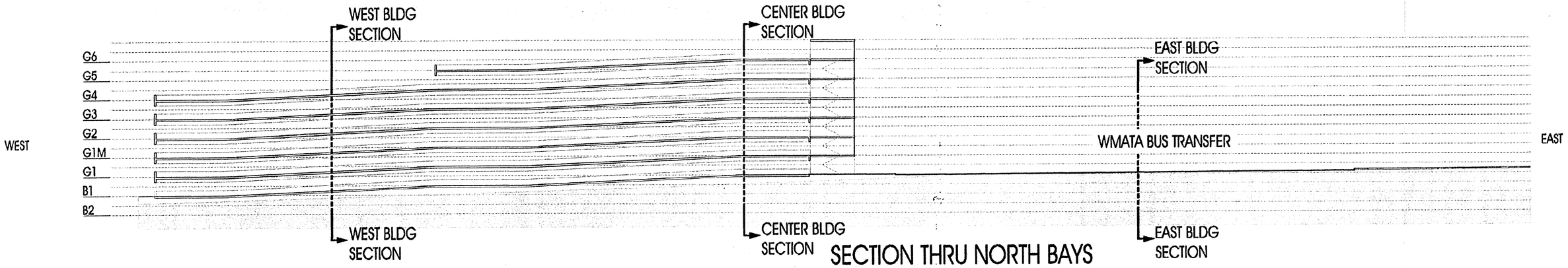

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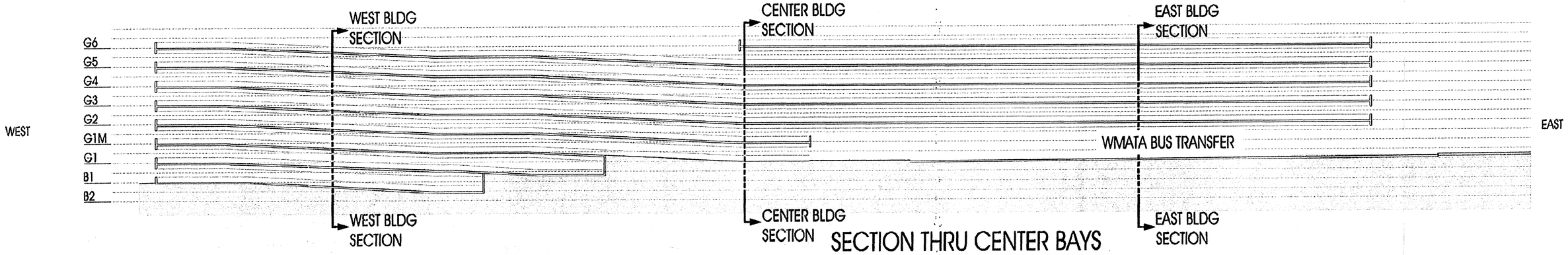

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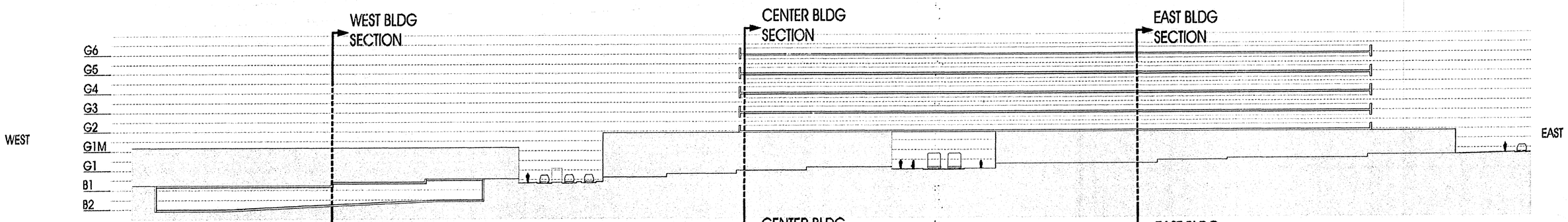

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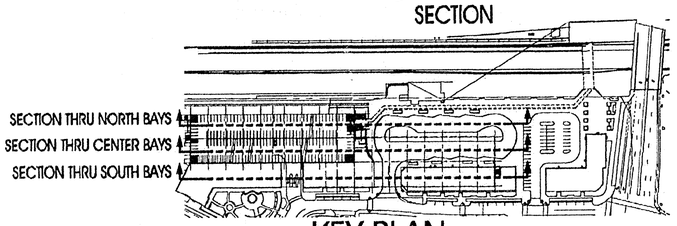

KEY PLAN

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Application No PCA/FDPA-88-P-030-02 Staff WOD

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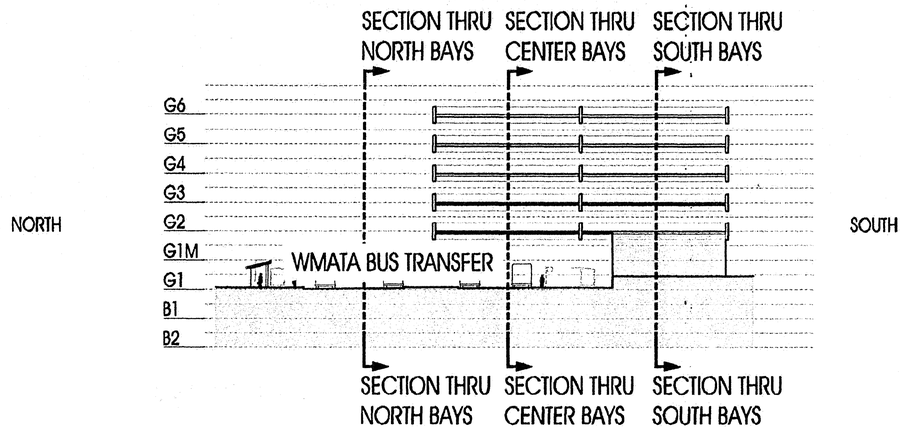

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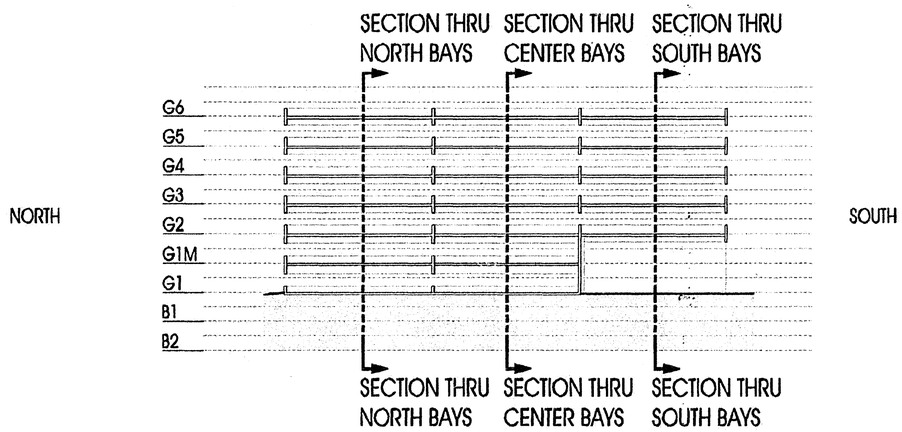

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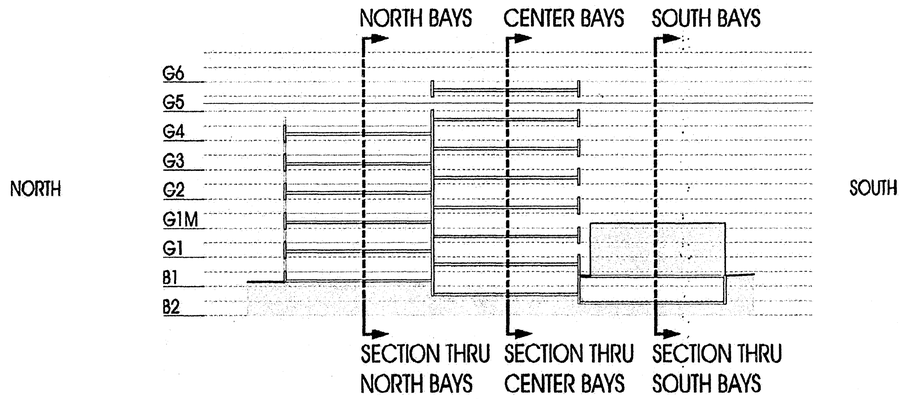

WEST BUILDING SECTION

KEY PLAN

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SEPTEMBER 26, 2006

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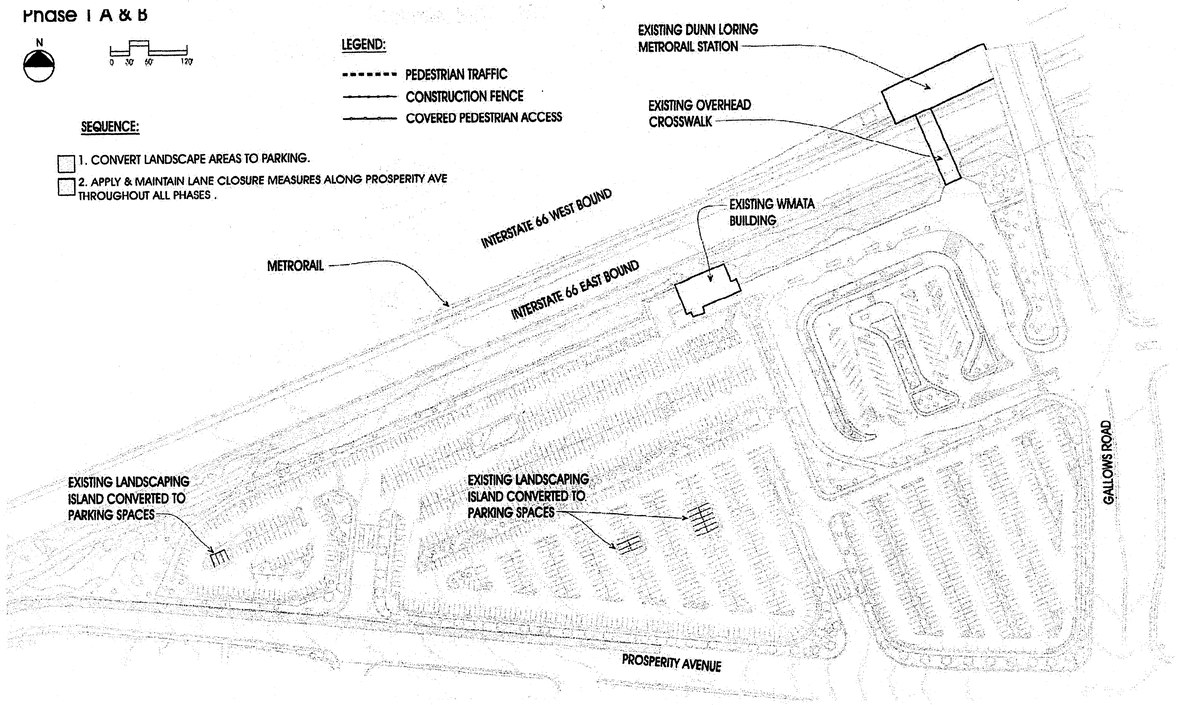
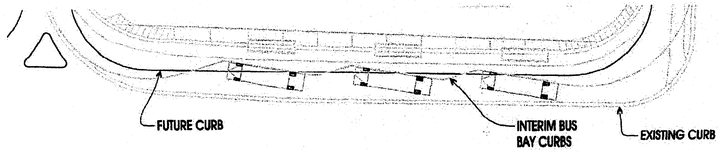
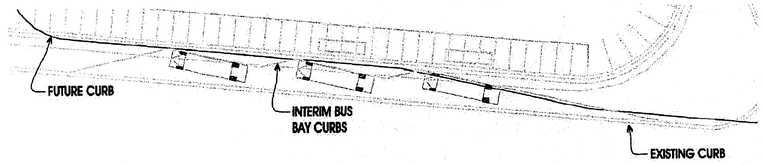
Phase 1 A & B

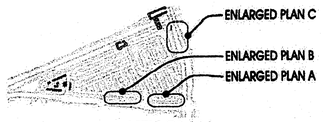




ENLARGED PLAN A:



ENLARGED PLAN B:



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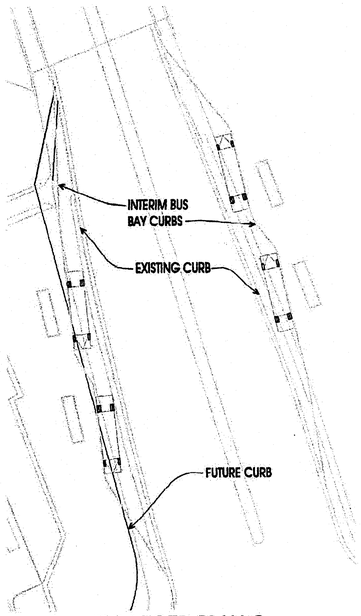
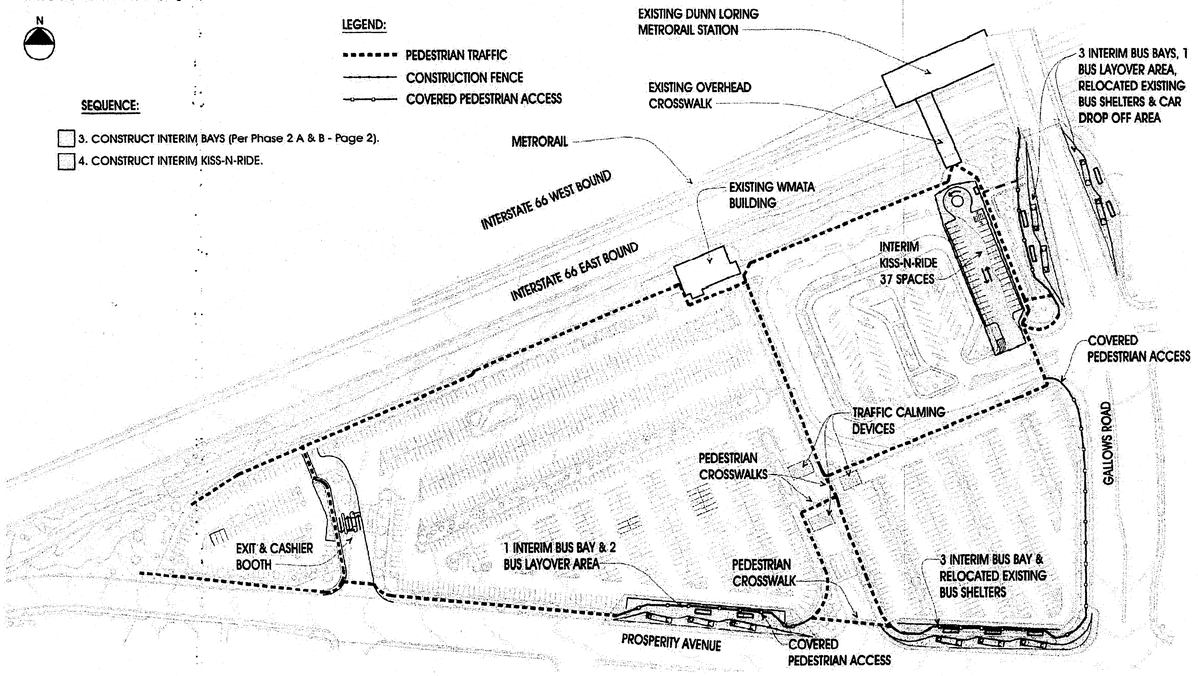
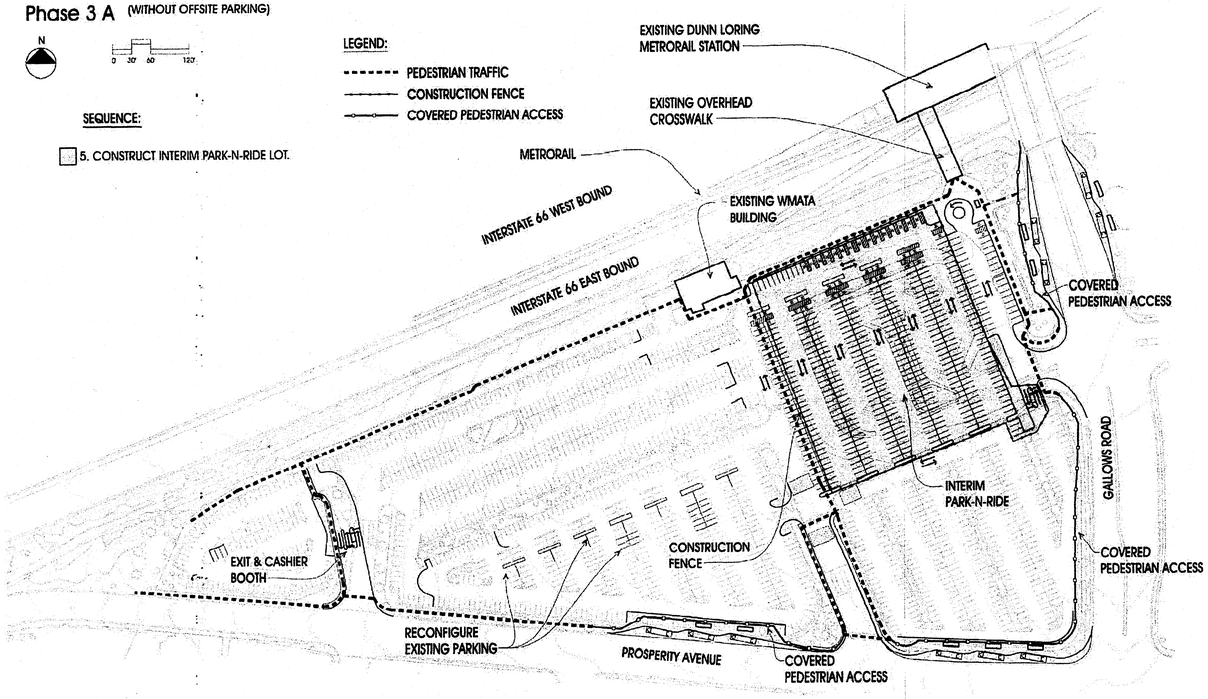


ENLARGED PLAN C:

Phase 2 A & B (Page 1)



Phase 3 A (WITHOUT OFFSITE PARKING)



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Rockville, MD 20852

Dunn Loring Metro
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4233-01

Application No PCA/FDPA-88-P-030-02 Staff WOD

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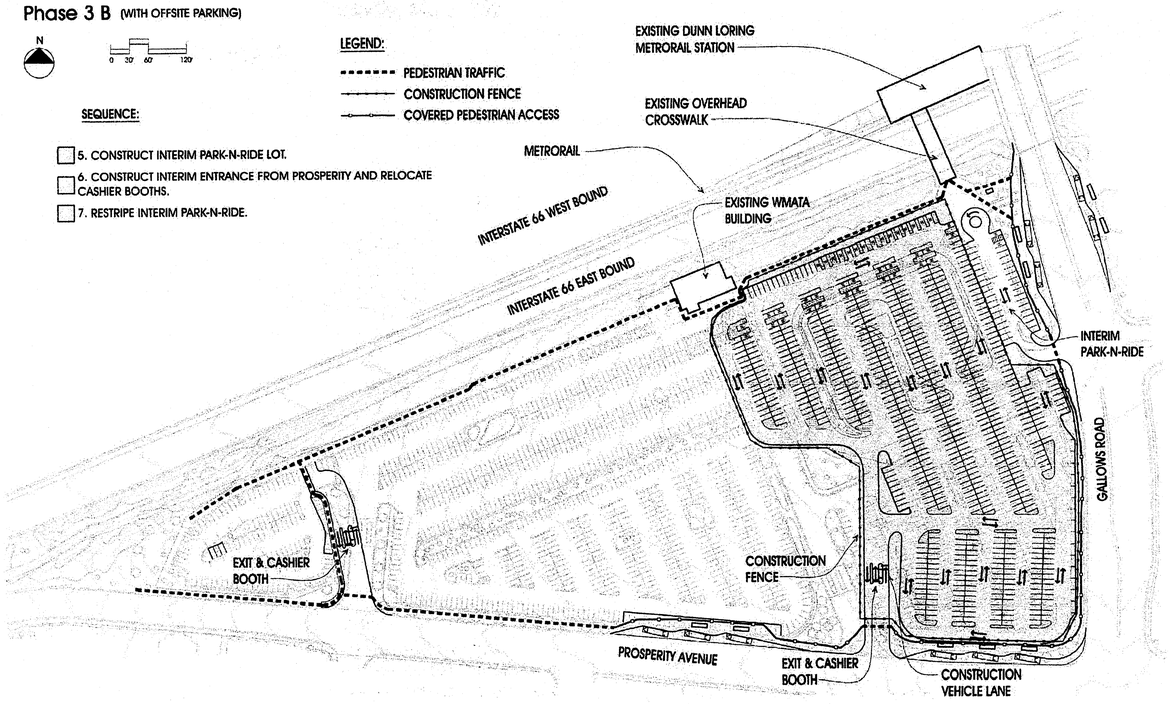
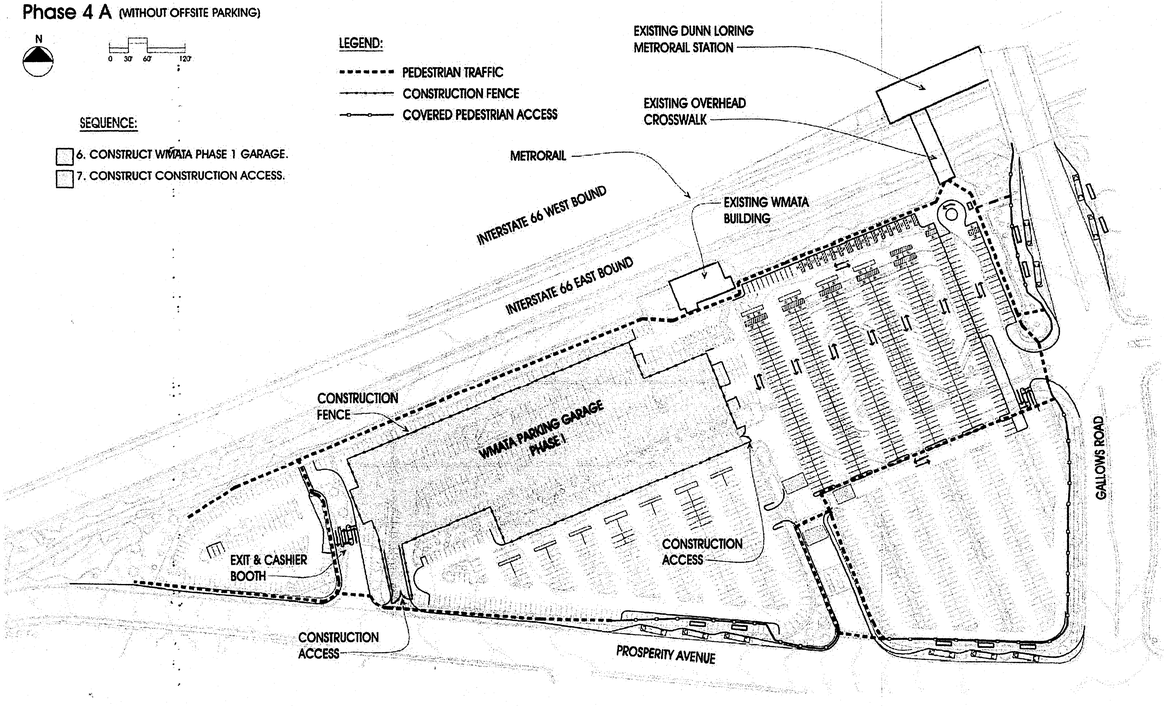
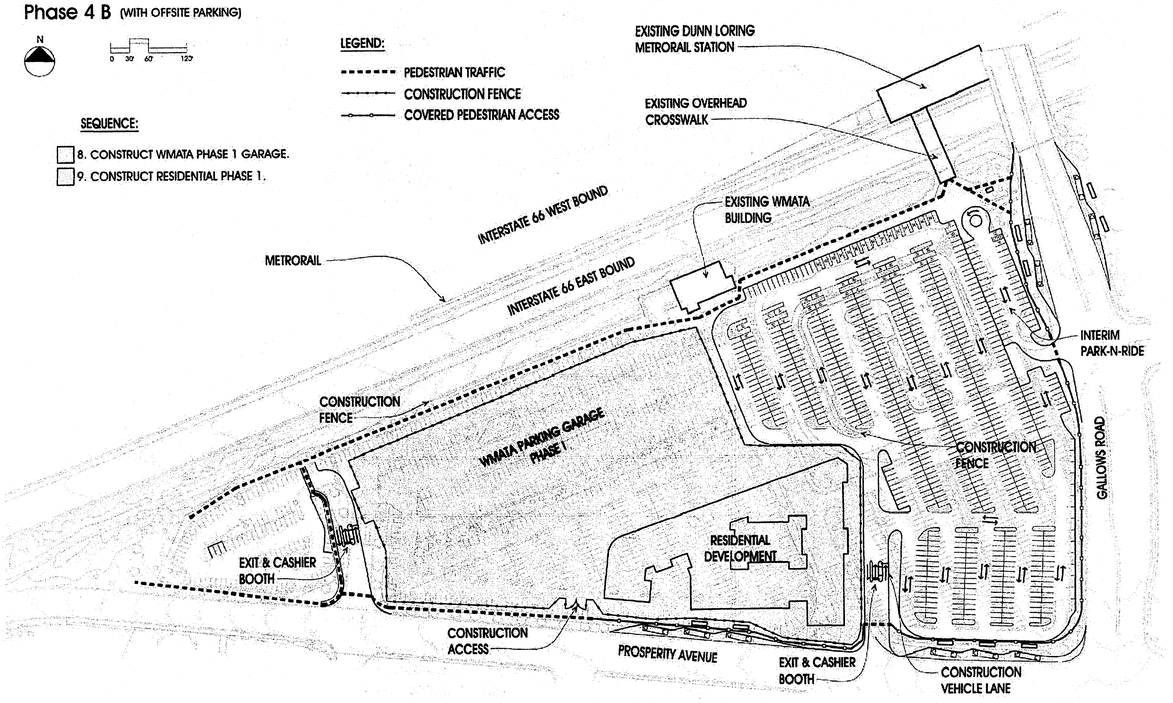
Phase 3 B (WITH OFFSITE PARKING)



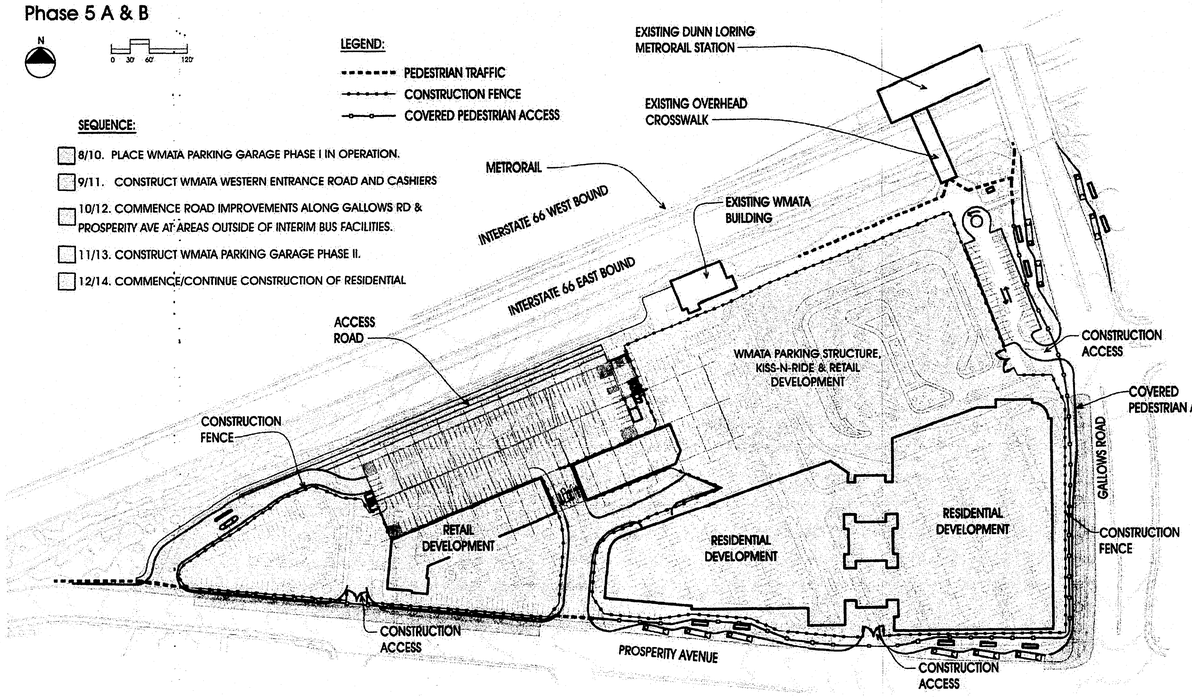
Phase 4 A (WITHOUT OFFSITE PARKING)



Phase 4 B (WITH OFFSITE PARKING)



Phase 5 A & B



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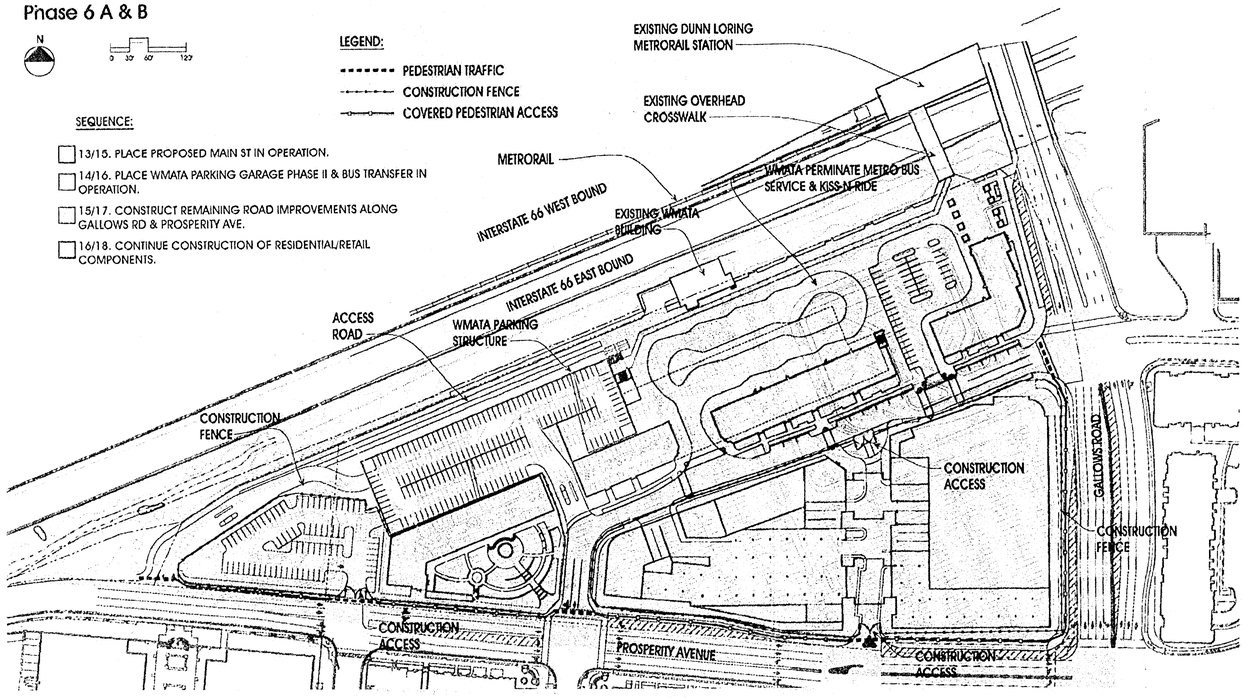
Phase 6 A & B



Application No PCA/FDPA-88-P-030-02 Staff WOD

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(DP) (GDP) (CDPA) (FDPA)
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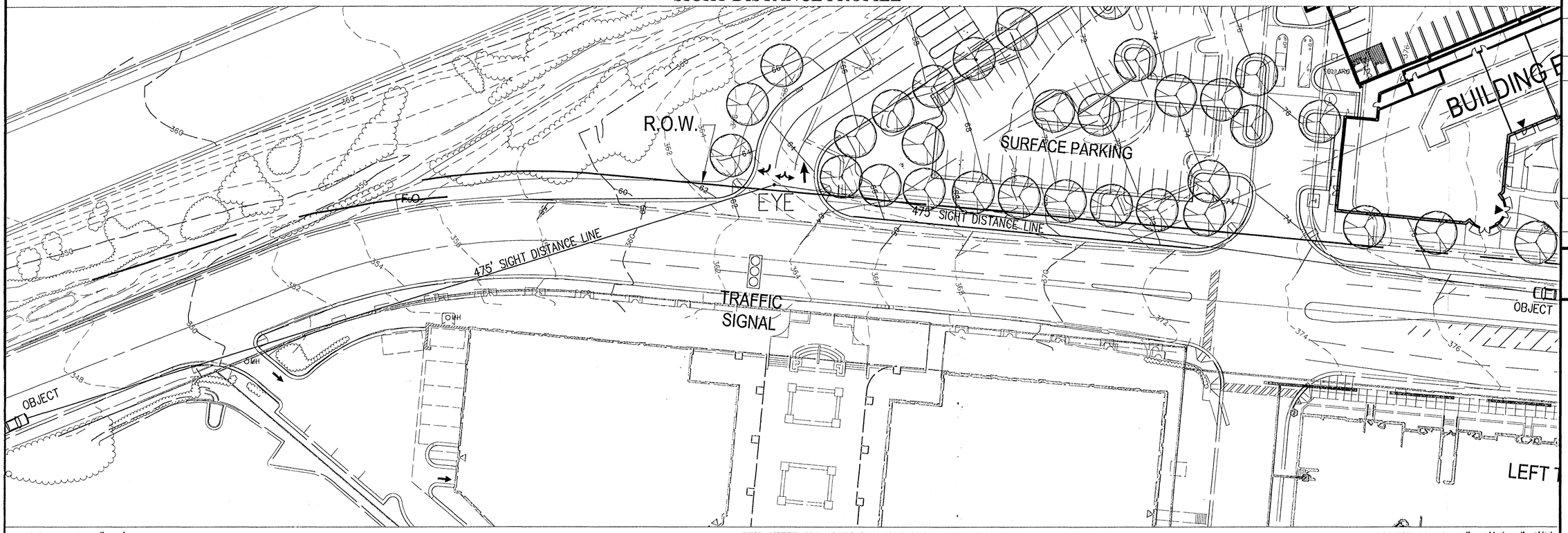
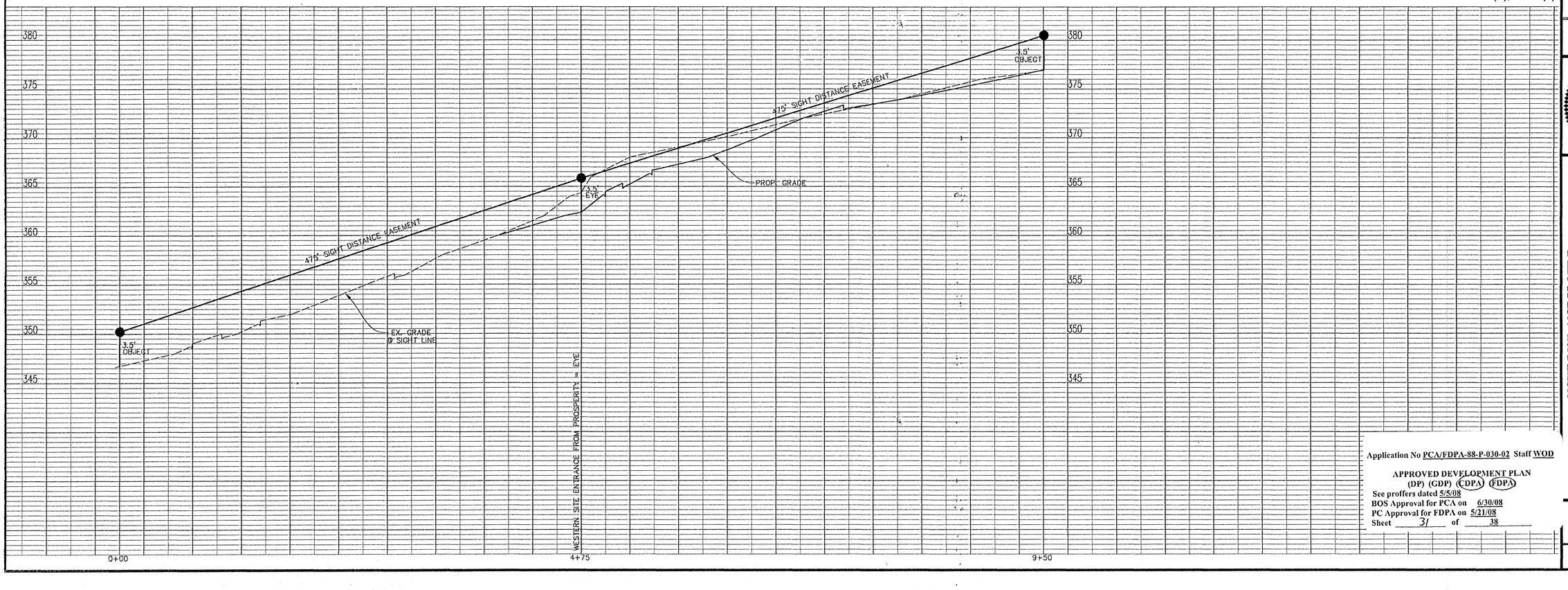
SIGHT DISTANCE PROFILE



PLAN SCALE: 1"=25'

THIS SHEET FOR SIGHT DISTANCE PURPOSES ONLY.

PROFILE SCALE: 1"=50'(H); 1"=5'(V)



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Sheet 31 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
03-01-06
03-09-06
06-09-06
07-07-06
09-07-06
10-04-06
11-16-06
01-14-08
04-17-08

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CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

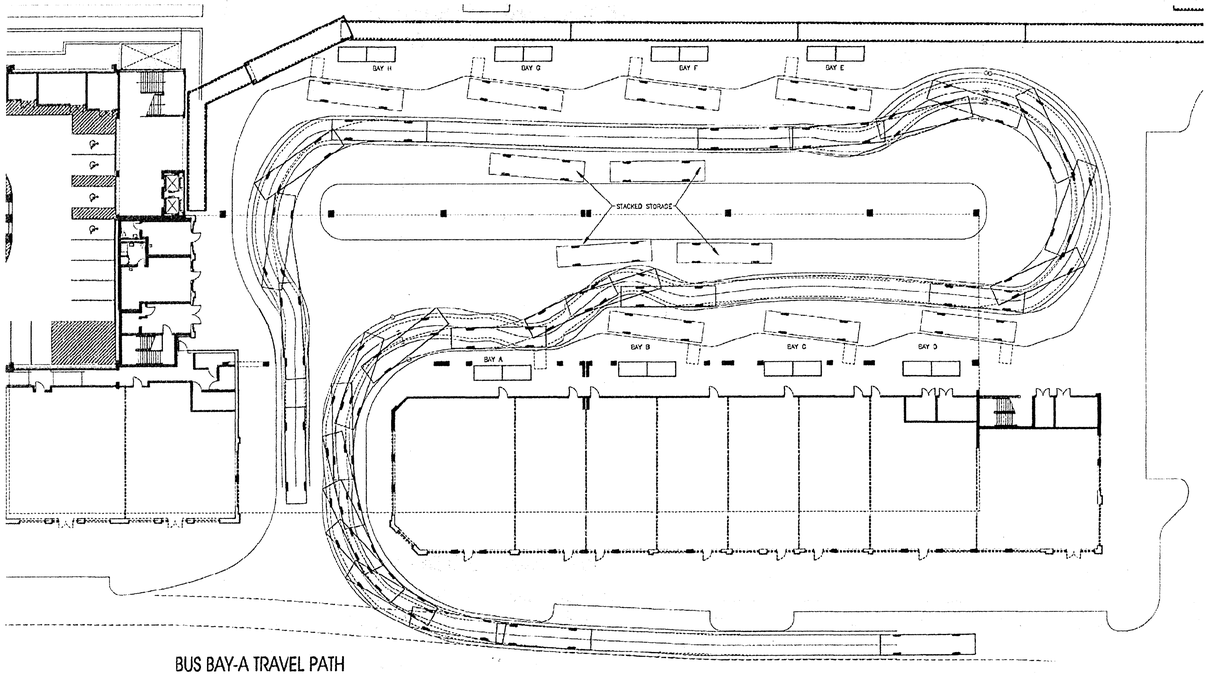
COMMONWEALTH OF VIRGINIA
MATTHEW K. KIRKPATRICK
No. 036022
04/17/08
PROFESSIONAL ENGINEER

SIGHT DISTANCE PROFILE
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

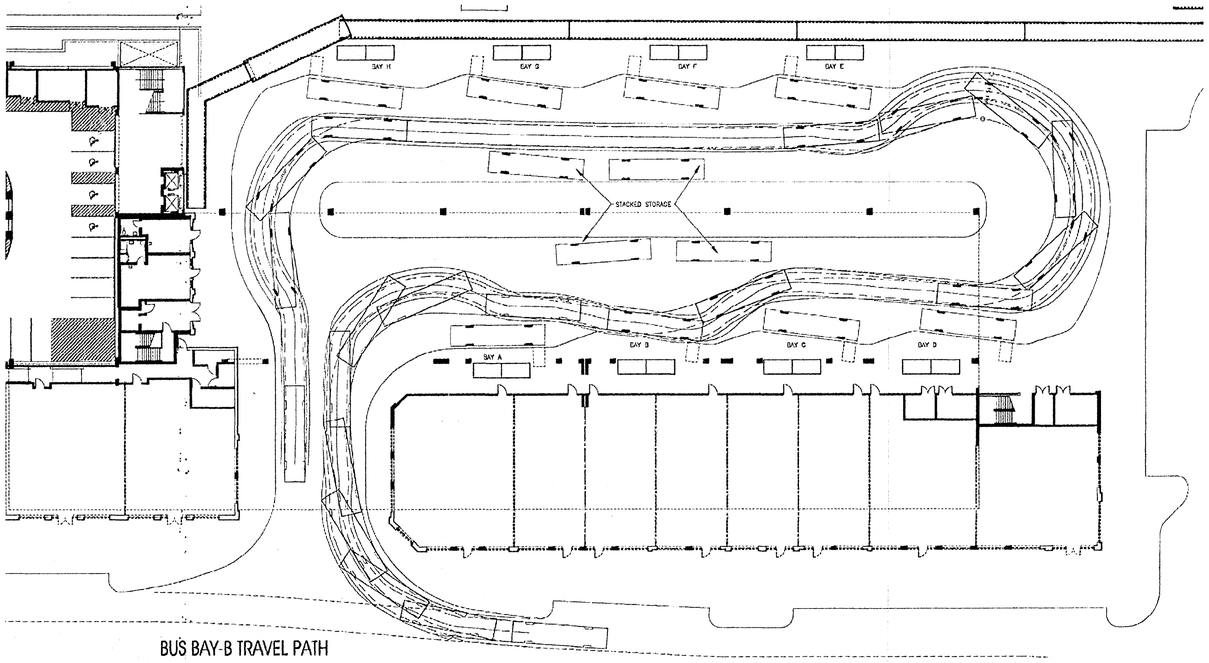
SCALE: AS NOTED
C.I. = N/A
DATE: NOV., 2005

SHEET 27 OF 34

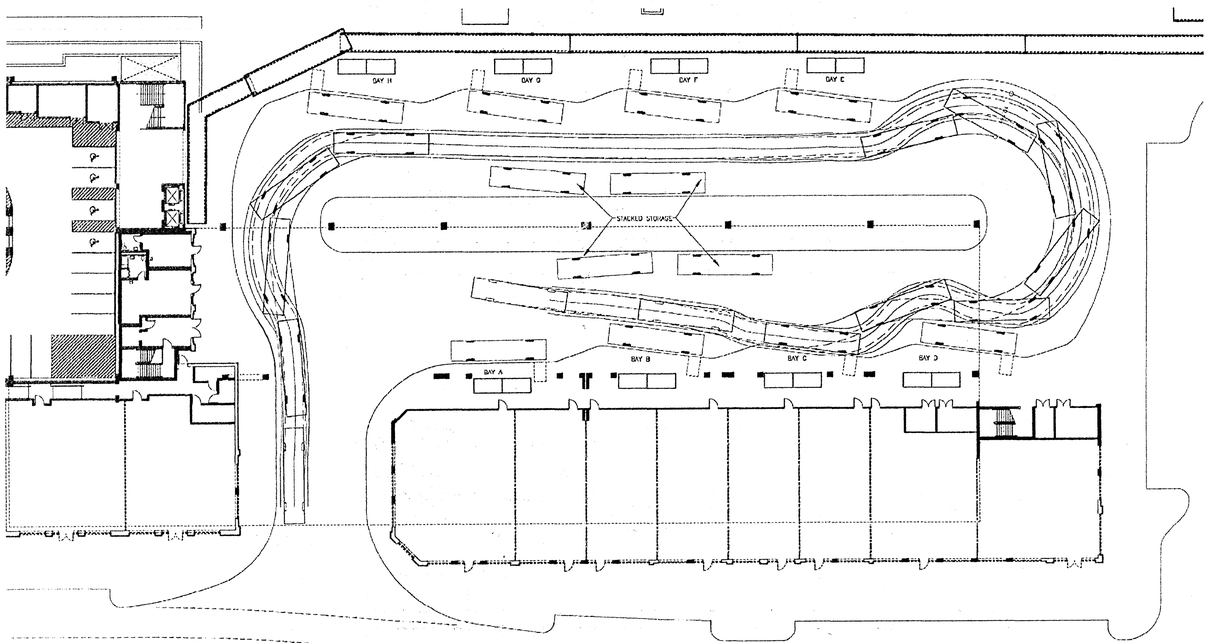
FILE No. ZP-1619



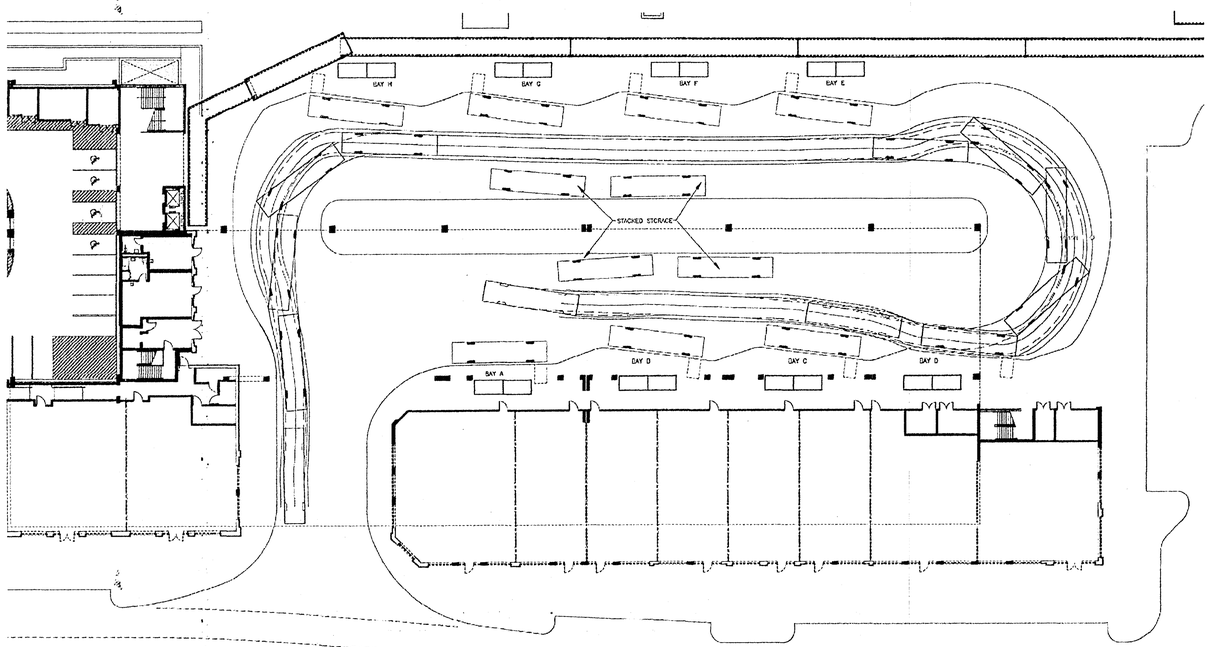
BUS BAY-A TRAVEL PATH



BUS BAY-B TRAVEL PATH



BUS BAY-C TRAVEL PATH



BUS BAY-D TRAVEL PATH

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N

0 8' 16' 32'

DECEMBER, 2007

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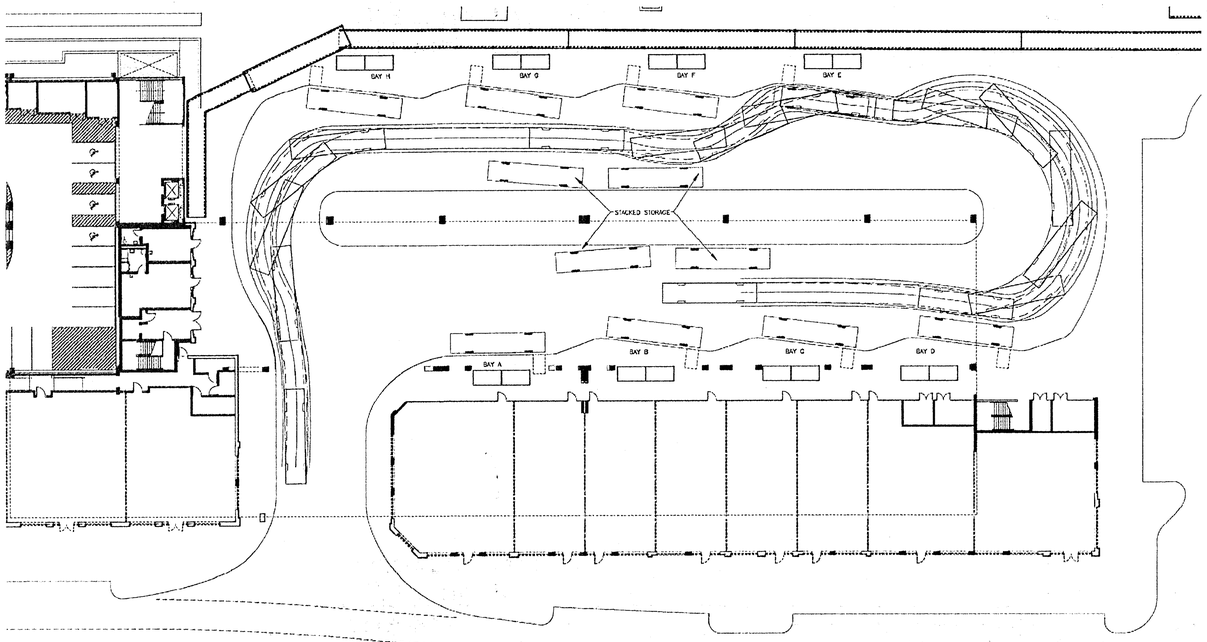
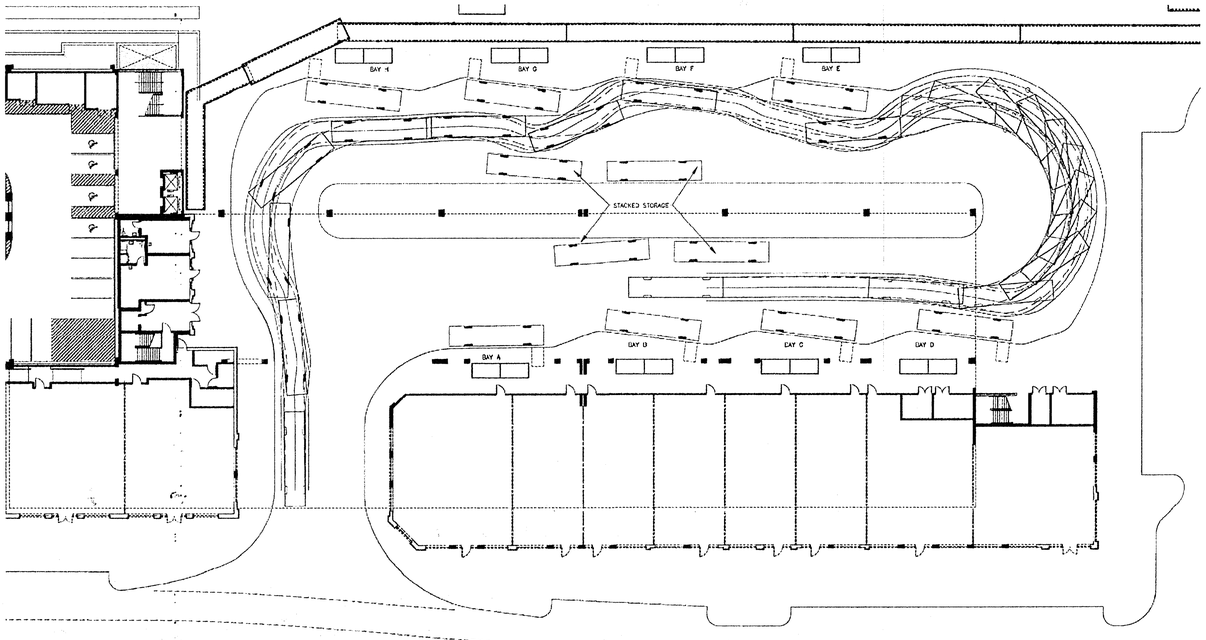
Sheet 28 OF 34 ZP-1619



BUS BAY-E TRAVEL PATH



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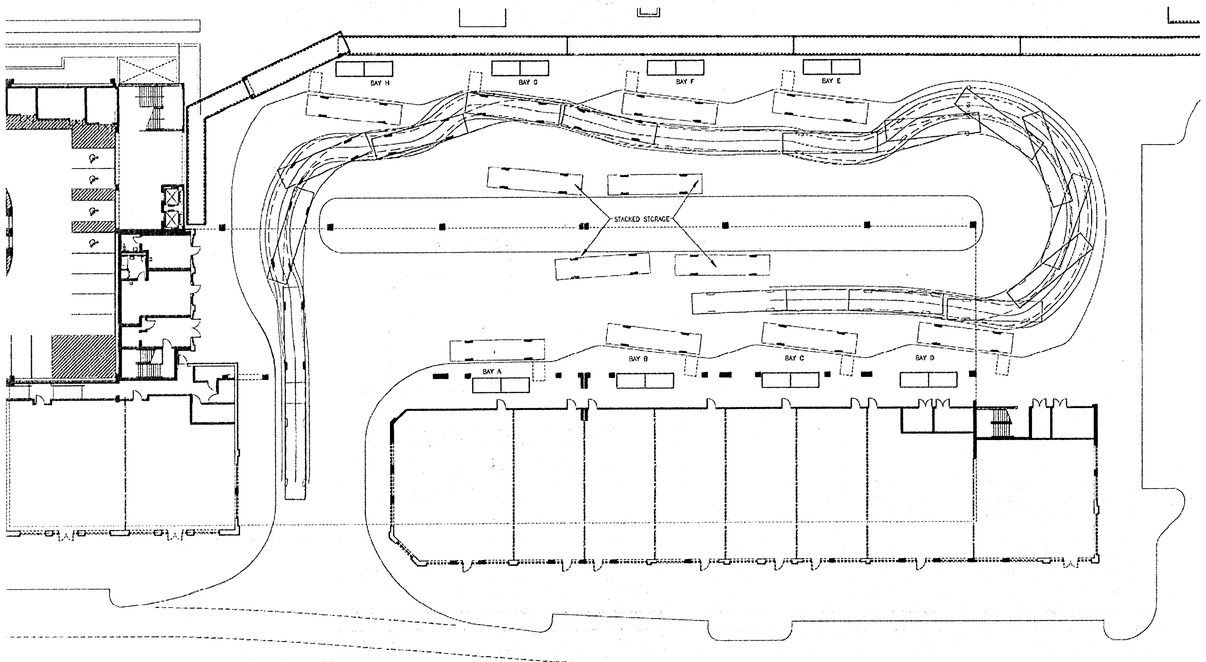
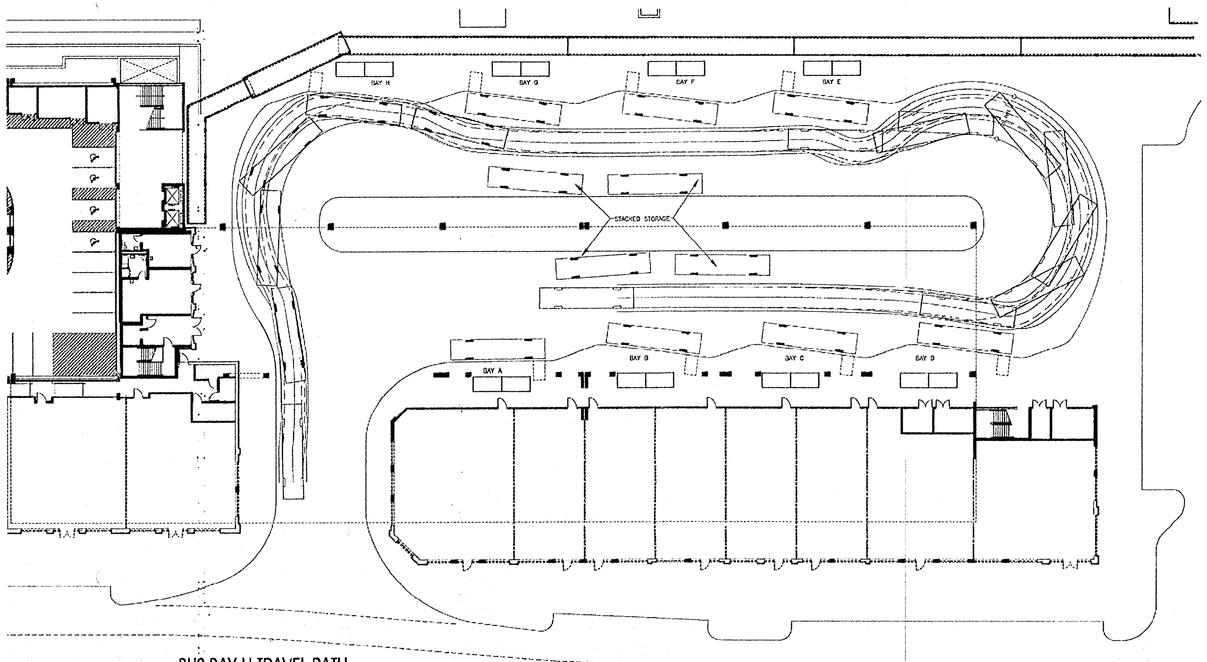


BUS BAY-G TRAVEL PATH



BUS BAY-H TRAVEL PATH

THIS PLAN DOES NOT REPRESENT FINAL ENGINEERING AND DESIGN AND IS SUBJECT TO FINAL ENGINEERING AND DESIGN AT THE TIME OF THE FINAL CONSTRUCTION DOCUMENTS

N

0 8' 16' 32'

DECEMBER, 2007

TCR
Trammell Crow Residential

Trammell Crow Residential
6110 Executive Blvd., Suite 315
Rockville, MD 20852

Dunn Loring Metro

Proposed Development Plan WMATA Replacement Facility

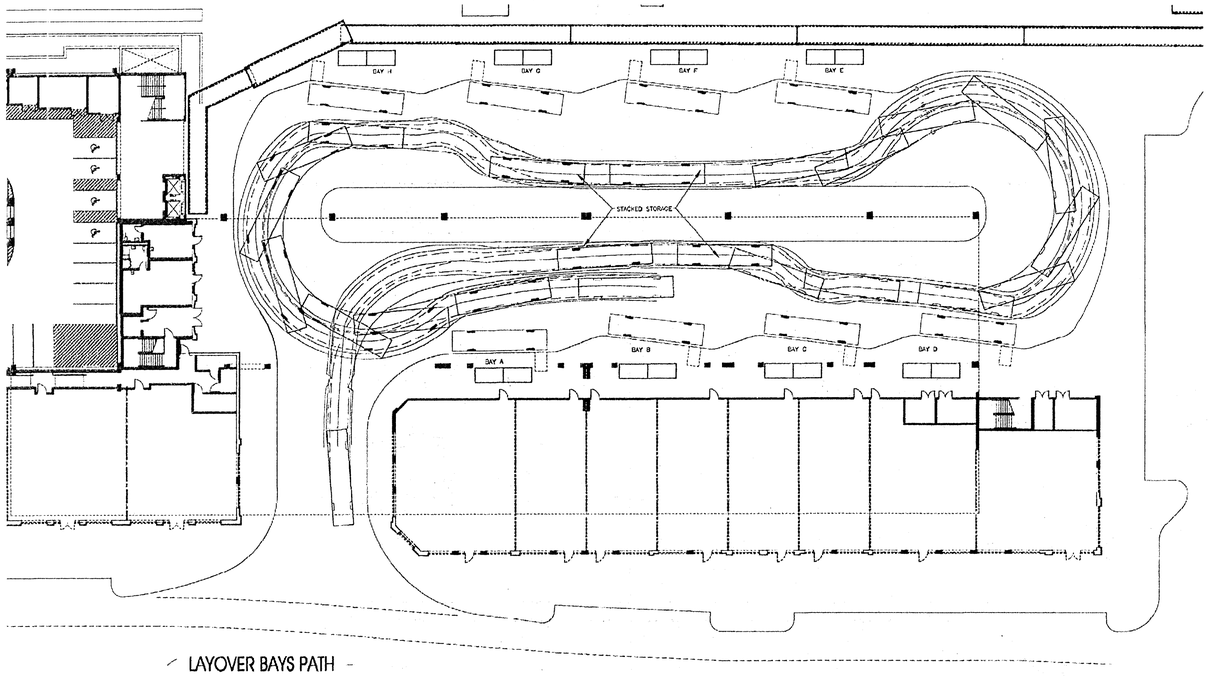
4233-01

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 33 of 38

WENDEL DUCHSCHERER
ARCHITECTS & ENGINEERS
www.wd-ae.com

REVISION DATE: 04-17-08



LAYOVER BAYS PATH

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 34 of 38

THIS PLAN DOES NOT REPRESENT FINAL ENGINEERING AND DESIGN AND IS SUBJECT TO FINAL ENGINEERING AND DESIGN AT THE TIME OF THE FINAL CONSTRUCTION DOCUMENTS

N

0 8' 16' 32'

DECEMBER, 2007

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Proposed Development Plan WMATA Replacement Facility

4233-01

WENDEL DUCHSCHERER
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www.wd-ae.com

REVISION DATE: 04-17 08

PRELIMINARY STORMWATER MANAGEMENT PLAN

NOTE: STORM PIPES ARE SHOWN TO DEMONSTRATE EXISTING DRAINAGE PATTERNS. EXISTING STORM STRUCTURES THAT CONFLICT WITH PROPOSED IMPROVEMENTS WILL BE RELOCATED OR REMOVED AT THE TIME OF THE FINAL SITE PLAN.

CURVE TABLE

ADIUS	ARC	DELTA	TANGENT	CHORD	BEARING
37.00'	201.17'	26°22'34"	102.40'	199.40'	S82°00'54"W
15.93'	174.63'	10°55'27"	87.58'	174.37'	S12°14'06"E
96.93'	163.43'	10°26'23"	81.94'	163.20'	S05°48'33"E
86.16'	187.56'	2°45'55"	93.80'	187.54'	S00°47'35"W
0.00'	22.31'	42°35'58"	11.70'	21.79'	S69°54'26"W
89.41'	110.73'	3°59'30"	55.39'	110.71'	N86°48'07"W

IPROVEMENTS

AND GRADING

EX. I-66 R/W

VGS 1983 NORTH

EX. SITE OUTFALL TO EX. CONC. DITCH

EX. CONCRETE DITCH

ASPHALT DRIVE AISLE AND ACCESS TO SWM AND BMP FACILITIES

EX. RIP-RAP SWALE

EX. SITE OUTFALL TO EX. RIP-RAP SWALE

PROP. UNDERGROUND SWM FACILITY

APPROX. SWM LIMITS OF DISTURBANCE

BUILDING A

BUILDING B

PROSPERITY AVENUE

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 35 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
11-22-05
03-09-06
06-09-06
09-07-06
10-04-06
01-16-08
03-17-08
04-17-08

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. MORTENSEN
No. 036821
PROFESSIONAL ENGINEER
04/17/08

PRELIMINARY STORMWATER MANAGEMENT PLAN

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=60' C.L. = N/A DATE: NOV., 2005

SHEET 31 OF 34

FILE No. ZP-161

UNDERGROUND SWM WAIVER

County of Fairfax, Virginia

MEMORANDUM

DATE: August 24, 2006

TO: Jonathan Papp, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Jeremiah Stonefield, Chief Stormwater Engineer
Site Review East, Environmental and Site Review Division
Department of Public Works and Environmental Services

SUBJECT: Dunn Loring Metro Station, RZ 2005-PR-039, concurrent with PCA 88-P-030, Conceptual/ Final Development Plan, Land Unit A, Dunn Loring - Merrifield Metro Station, dated July 7, 2006 (Plan),Tax Map #049-1-01-0027, 13-0017-A, 0018-A, 049-2-01-0013-A, and 0015-A (Site), Providence District

REFERENCE: Waiver #0378-WPFM-001-2, for location of Underground Facilities in a Residential Area

We have reviewed the referenced submission for consistency with Section 6-0303.8 of the Public Facilities Manual (PFM), which restricts use of underground stormwater management facilities located in a residential development (Attachment B). The Board of Supervisors (Board) may grant a waiver after taking into consideration possible impacts on public safety, the environment, and the burden placed on prospective homeowners for maintenance. Underground stormwater management facilities located in residential developments allowed by the Board:

- shall be privately maintained;
- shall be disclosed as part of the chain of title to all future owners responsible for maintenance of the facilities;
- shall not be located in a County storm drainage easement; and,
- shall have a private maintenance agreement, in a form acceptable to the Director of the Department of Public Works and Environmental Services (DPWES), executed before the construction plan is approved.

The applicant has indicated that the preferred method for stormwater management includes use of one underground detention vault and one underground StormFilter[TM] system.

The applicant has provided construction cost estimates of the stormwater facilities for the development comprised of at least 2000 parking spaces for WMATA, a minimum of 550 to a total maximum of 720 residential units, and a minimum of 80,000 square feet to a maximum 105,000 square feet of secondary/retail uses to be served by the underground facilities.

Department of Public Works and Environmental Services
Land Development Services, Environmental and Site Review Division
12055 Government Center Parkway, Suite 535
Fairfax, Virginia 22035-5503
Phone 703-324-1720 • TTY 703-324-1877 • FAX 703-324-8359

ANALYSIS:
An analysis of the possible impacts on public safety, the environment, and the burden placed on prospective home owners for maintenance is as follows:

Impacts on Public Safety – The proposed underground vaults are proposed to be located in the paved on-site access road. With respect to safety, a proposed facility within a paved parking lot or next to a street or travel lane is viewed differently than a facility located in a grassy open space area. Parking and travelway areas are places where children are less likely to play and gain unauthorized access to the facilities. Locking manholes and doors must be provided at each access point.

If it is the intent of the Board to approve the waiver request, the applicant shall provide liability insurance in an amount acceptable to Fairfax County as a waiver condition. A typical liability insurance amount is $1,000,000 against claims associated with underground facilities. The private maintenance agreement shall also hold Fairfax County harmless from any liability associated with the facilities.

Impacts on the Environment – The surrounding areas are developed and the proposed underground facilities will outfall into an existing piped storm drainage system. Therefore, staff does not believe that there will be any adverse impact on the environment from the proposed underground facilities.

Burden Placed on Prospective Homeowners for Maintenance and Future Replacement – The proposed development is for construction of a minimum of 550 and a total maximum of 720 residential units, in addition to the WMATA parking and retail uses. The applicant has indicated the annual routine maintenance burden will be assumed by an Umbrella Owners Association (UOA) or similar entity. A maintenance agreement must be executed prior to site plan approval. Staff recommends that the maintenance responsibility be shared among all owners within the development. The estimated annual maintenance cost provided by the applicant, in current dollars is $30,400 for the underground detention facility and the StormFilter[TM] BMP facility. Staff recommends that the applicant, prior to site plan approval, escrow monies for a 20-year maintenance cycle of the underground facilities for the residential portion of the maintenance responsibility to the UOA. These monies must not be made available to the UOA until after final bond release.

The applicant should also be required, as a waiver condition, to address future replacement of the underground facilities as part of a private maintenance agreement with the County. In order to maximize the useful life of underground facilities and minimize maintenance issues, Staff recommends that, if it is the intent of the Board to grant the waiver, then the applicant must be required to construct the underground facilities with reinforced concrete products only. The applicant has estimated the total construction costs for the underground detention and water quality control facilities at approximately $352,000. The amount of the annual contribution by the UOA toward the replacement reserve fund for both the residential and non-residential portions of the site, assuming interest compensates for inflation, would be $7,040. The replacement reserve fund must be separate from the annual maintenance fund to ensure the monies are available at the time replacement is required and have not been previously spent on maintenance activities.

The applicant has indicated that the distribution of the maintenance responsibility among all of the property owners has not been finalized. The proposed development consists of WMATA,

residential units and retail uses. An UOA, or similar entity, will be formed to provide for the maintenance and future replacement of the facilities. The applicant states that, at this point, the actual percent interest of each owner has not been finalized, and that the negotiations are not expected to be concluded until after the Rezoning has been approved. However, recognizing that the Board is concerned with the burden placed on future homeowners, the applicant's engineer has indicated in a letter dated August 4, 2006, that the burden for maintenance and replacement of the facilities will not exceed $35 per residential unit per year. The proffers must include a commitment to limit the contributions from the individual residential units to the maintenance and future replacement funds.

Staff recommends that, if it is the intent of the Board to grant the waiver, the applicant be required to establish a financial plan for the operation, inspection, maintenance and future replacement of the underground facilities. The applicant should be required to establish, as part of the UOA documents, a reserve fund to cover future replacement of the facilities, based on the initial construction costs, an estimated 50-year lifespan (for concrete products).

The applicant must also provide that disclosure will be made in the chain of title of the homeowners' responsibility for maintenance and the associated waiver conditions.

RECOMMENDATION:
DPWES recommends that the Board approve the waiver to locate underground facilities in a residential area for the Land Unit A, Dunn Loring – Merrifield Metro Station development plan, subject to Waiver #0378-WPFM-001-2 Conditions dated August 24, 2006, as contained in Attachment A.

If you have any questions, or need further assistance, please contact me at 4-1720.

Waiver # 0378-WPFM-001-2 Conditions

Land Unit A, Dunn Loring - Merrifield Metro Station
RZ 2005-PR-039
August 24, 2006

1. The underground facilities shall be constructed in accordance with the development plan, these conditions and as determined by the Director of the Department of Public Works and Environmental Services (DPWES).
2. The underground facilities shall be located under the travel lanes or private streets and not within the open space areas of the proposed development, as determined by DPWES.
3. The underground facilities shall be constructed of reinforced concrete products only and incorporate safety features, including locking manholes and doors, as determined by DPWES at the time of construction plan submission.
4. The underground facilities shall be privately maintained and shall not be located in a County storm drain easement.
5. A private maintenance agreement, as reviewed and approved by the Fairfax County Attorney's Office, shall be executed and recorded in the Land Records of the County. The private maintenance agreement shall be executed prior to final plan approval.

   The private maintenance agreement shall address:
   - County inspection and all other issues as may be necessary to insure that the facilities are maintained by the property owners (e.g. Umbrella Owners Association) in good working condition acceptable to the County so as to control stormwater generated from the development of the site.
   - A condition that the applicant, property owners, their successors or assigns shall not petition the County to take future maintenance or replace the underground facilities.
   - Establishment of a reserve fund, for future replacement of the underground facilities.
   - Establishment of procedures to follow to facilitate inspection by the County, i.e. advance notice procedure, whom to contact, who has the access keys, etc.
   - A condition that the property owners provide and continuously maintain, liability insurance. The typical liability insurance amount is at least $1,000,000, against claims associated with underground facilities.
   - A statement that Fairfax County shall be held harmless from any liability associated with the facilities.

Attachment A
0378-WPFM-001-2

1

6. Operation, inspection and maintenance procedures associated with the underground facilities shall be incorporated in the site construction plan, private maintenance agreement, and umbrella owner association documents which insure safe operation, inspection and maintenance of the facilities.
7. A financial plan, for the umbrella owner association, to finance regular maintenance and full life cycle replacement costs, shall be established prior to final subdivision plat approval. A separate a line item in the umbrella owner association annual budget for operation, inspection and maintenance shall be established. A reserve fund for future replacement of the underground facilities shall also be established to receive annual deposits from the members of the umbrella owners association based on the initial construction costs and an estimated 50-year lifespan for concrete products.
8. Prior to final construction plan approval, the applicant shall escrow sufficient funds for the benefit of the umbrella owner association which will cover a 20-year maintenance cycle of the underground facilities. These monies shall not be made available to the umbrella owner association until after final bond release.
9. All future purchasers of any of the residential units shall be advised prior to entering into a contract of sale, as well as within the recorded umbrella owner association documents, that the umbrella owner association is responsible for the operation, inspection, maintenance and replacement of the underground facilities.
10. The owner and its successors and assigns shall disclose, as part of the chain of title, to all future property owners, the presence of the underground stormwater facilities and the umbrella owner association's responsibility for operation, inspection, maintenance and replacement of such facilities, by including the following language within the deed for each lot and the record plat:

    "The owner and its successors and assigns are responsible for the operation, inspection, maintenance and replacement of the underground stormwater facilities as set forth in the umbrella owners association documents and a private maintenance agreement entered into with the County." 03-08-06

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

Special Permits (8-011 2J & 2L)	Special Exceptions (9-011 2J & 2L)
Cluster Subdivision (9-615 1G & 1N)	Commercial Revitalization Districts (9-622 2A (12) & (14))
Development Plans PRC District (16-302 3 & 4L)	PRC Plan (16-303 1E & 1O)
FDP P Districts (except PRC) (16-502 1F & 1Q)	Amendments (18-202 10F & 10I)

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

☑ 2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet 39.

☑ 3. Provide:

Facility Name/ Type & No.	On-site area served (acres)	Off-site area served (acres)	Drainage area (acres)	Footprint area (sf)	Storage Volume (cf)	If pond, dam height (ft)
UNDERGROUND SWM FACILITY (e.g. dy pond, infil trench, underground vault, etc.)	14	0	14	800	2500	N/A
Totals						

☑ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 39. Pond inlet and outlet pipe systems are shown on Sheet 39.

☑ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 39. Type of maintenance access road surface noted on the plat is asphalt (asphalt, geoblock, gravel, etc).

☑ 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet N/A (UNDERGROUND)

☑ 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 1.

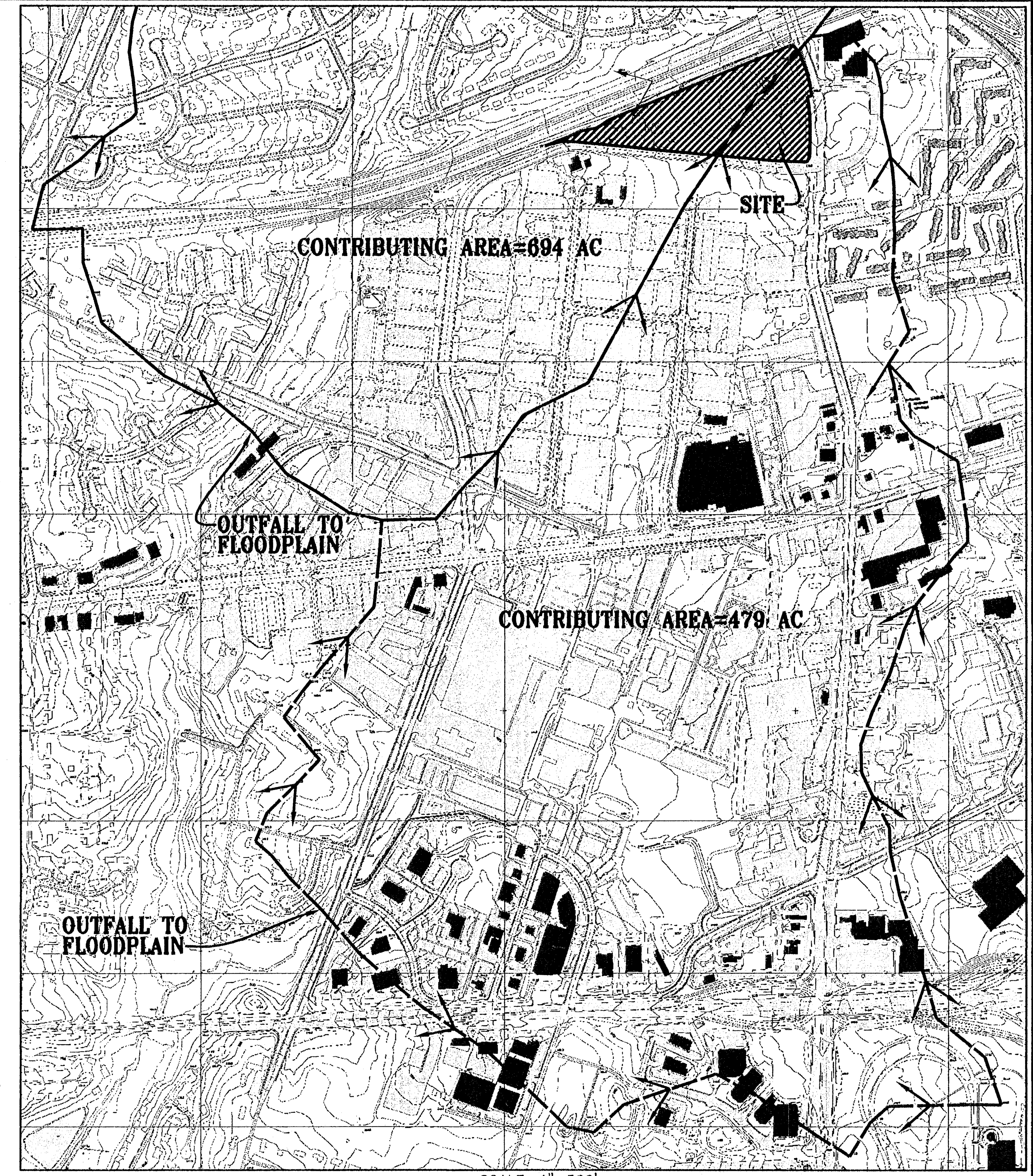
☑ 8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet 1.

☑ 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 1.

☑ 10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets 1 & 3.

☑ 11. A submission waiver is requested for N/A

☑ 12. Stormwater management is not required because N/A



SCALE: 1"=500'

ESTIMATED SWM FACILITY SIZING COMPUTATIONS

Modified Rational Method Worksheet
Virginia Stormwater Management Handbook Section 5-4.4

Project: DUNN LORING
Date: June 8, 2006

County:	Fairfax
Approx. Drainage Area to SWM Facility (DA, acres):	14
Pre-Developed Runoff Coefficient (C):	0.80
Post-Developed Runoff Coefficient (C):	0.83
Time of Concentration: (tc, min.):	5

Allowable/Pre-Developed Discharges		
	intensity (in/hr)	Q (cfs)
2-year (q2):	5.45	61.04
10-year (q10):	7.27	81.42

Reduction Post-Developed Discharges		
	%Reduction	Q (cfs)
2-year (q2):	25%	45.78
10-year (q10):	25%	61.07

Rainfall Constants		
	a	b
2-year:	117.06	17.34
10-year:	178.32	20.49

Calculations				
	critical duration	critical intensity	peak inflow	storage vol.
	Td, min	I, in/hr	Q, cfs	V, cf
10% Reduction				
2-year event	13.58	3.79	43.99	10192.94
10-year event	15.64	4.93	57.34	15725.73

Estimated Size of Detention Facility for 15% Discharge Reduction				
		length	Width	Depth
Assume Standard Box Culvert		88	30	6
			Total Volume	15840

Application No PCA/FDPA-88-P-030-02 Staff WOD

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(DP) (GDP) (CDPA) (FDPA)
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Sheet 36 of 38

Pre-Development Discharge = 81.42 cfs

Post-Development Discharge = 61.07 cfs (25% Reduction)

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE
02-21-06
03-09-06
06-09-06
06-30-06
07-07-06
09-07-06
10-04-06
11-16-06
04-02-08
04-17-08

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7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA
MATTHEW K. KOIRTOHANN
No. 03921
04/17/08
PROFESSIONAL ENGINEER

PRELIMINARY STORMWATER MANAGEMENT DETAILS

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100' C.I. = N/A DATE: NOV., 2005

SHEET 32 OF 34

FILE No. ZP-1619

PRELIMINARY BMP DESIGN

Plan Name: DUNN LORING MERRIFIELD METRO STATION   Date: 02-21-06

Plan Number: CDP/FDP   Engineer: EDR

Water Quality Control Narrative

See SWM and BMP Narrative on Sheet 1.

Watershed Data

Part 1 List All of the Subareas and "C" Factors Used in the BMP Computations.

Subarea Designation and Description (1)			"C" (2)	Acres (3)
S1 Onsite	StormFilter #1	Controlled	0.90	3.85
UC Onsite	Developed	Uncontrolled	0.83	10.15

NOTE: "C" Factors developed using % Imperviousness for existing and proposed conditions.

Phosphorus Removal

Part 2 Compute the Weighted Average "C" Factor For the Site.

(A) Area of Site (a) 14.0 acres

(B) Subarea Designation and Description (1)			"C" (2)	x	Acres (3)	=	Product (4)
S1 Onsite	StormFilter #1	Controlled	0.90	x	3.85	=	3.47
UC Onsite	Developed	Uncontrolled	0.83	x	10.15	=	8.42
				x		=	
				x		=	
				x		=	
				x		=	
				x		=	
				x		=	
				x		=	
			(b)		Total	=	11.89

(C) Weighted average "C" factor (b) / (a) = (c) 0.85

Part 3 Compute the Total Phosphorus Removal for the Site.

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)	x	Area Ratio (4)	x	"C" Factor Ratio (5)	=	Product (6)
S1 Onsite	StormFilter1	50	x	0.28	x	1.06	=	15
UC Onsite	Developed	0	x	0.73	x	0.98	=	0
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	
			x		x		=	

(A) Total Phosphorus Removal (a) Total 15%

Part 4 Determine Compliance with Phosphorus Removal Requirement.

(A) Select Requirement (a) 10%

Water Supply Overlay District (Occoquan) 50 %
Chesapeake Bay Resourse Preservation Area (New Development) 40 %
Chesapeake Bay Resourse Preservation Area (Redevelopment) 10 %
[1-0.9 x ("I"pre / "I"post)] x 100
[1-0.9 x (0.795/ 0.841)] x 100 = 14

(B) If Line 3 (a) is greater than or equal to Line 4 (a), then the Phosphorus removal requirement is satisfied. Line 3 (a) 15 >= Line 4 (a) 10

StormFilter Sizing Computations

3.85 ACRES TO BE TREATED
FLOW TO BE TREATED= (3.85 AC)(0.35 IN/HR)(0.83) = 1.12 CFS
NUMBER OF CARTRIDGES=(1.12 CFS)(449/15)=34 CARTRIDGES

8x18 PRECAST STORMFILTER CAN CONTAIN UP TO 35 CARTRIDGES.

* THESE SIZING COMPUTATIONS ARE PRELIMINARY AND WILL BE ADJUSTED AT THE TIME OF FINAL SITE PLAN PER FAIRFAX COUNTY PFM REQUIREMENTS AND IN COORDINATION WITH THE PRODUCT MANUFACTURER.

GENERAL NOTE:

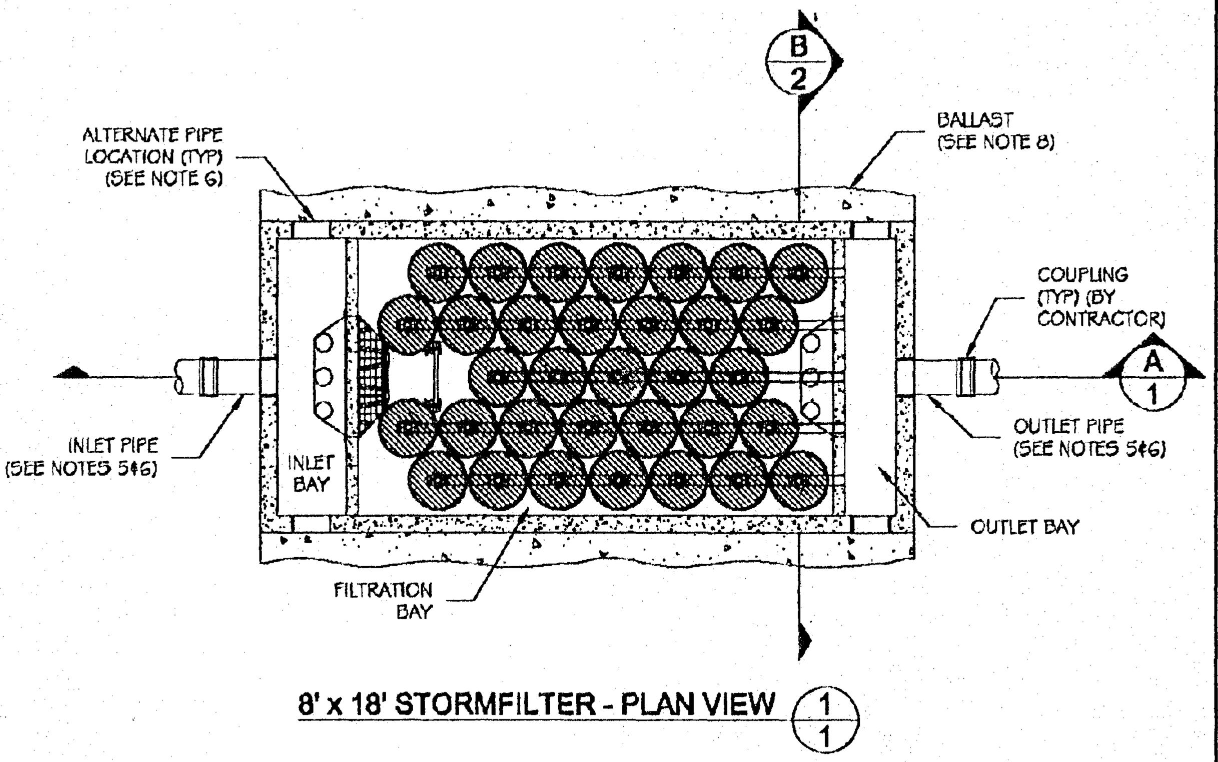
THE UNDERGROUND BMP DEVICES SHOWN ARE PRELIMINARY. CHANGES TO THE BMP'S FOR THE SITE MAY BE IMPLEMENTED AT THE TIME OF FINAL SITE PLAN TO MEET THE FAIRFAX COUNTY PFM REQUIREMENTS.

STORMFILTER MAINTENANCE NOTE:

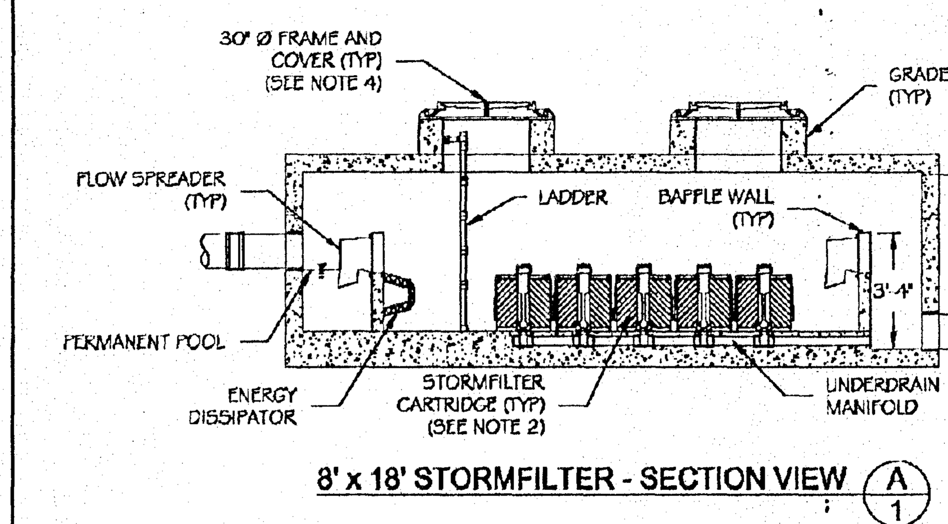
THE STORMFILTER DEVICES SHALL BE PRIVATELY MAINTAINED IN ACCORDANCE WITH THE FOLLOWING GUIDELINES. THE OWNER SHALL CONTRACT WITH THE MANUFACTURER TO PROVIDE THE NECESSARY MAINTENANCE OR PERFORM THE REQUIRED MAINTENANCE INDEPENDENTLY.

STORMFILTER CONSTRUCTION NOTE:

PROPER SEQUENCE OF CONSTRUCTION IS IMPERATIVE TO THE PROPER FUNCTIONALITY OF THE STORMFILTER UNITS. CONTRACTOR MUST ADHERE TO THE MANUFACTURER'S CONSTRUCTION GUIDELINES SHOWN ON THIS SHEET.



8' x 18' STORMFILTER - PLAN VIEW 1/1



8' x 18' STORMFILTER - SECTION VIEW A/1

THE STORMWATER MANAGEMENT StormFilter® U.S. PATENT No. 5,322,629, No. 5,707,527, No. 6,027,639 No. 6,649,048, No. 5,624,576, AND OTHER U.S. AND FOREIGN PATENTS PENDING

©2005 Stormwater360

Stormwater360 A CONTECH Company www.stormwater360.com

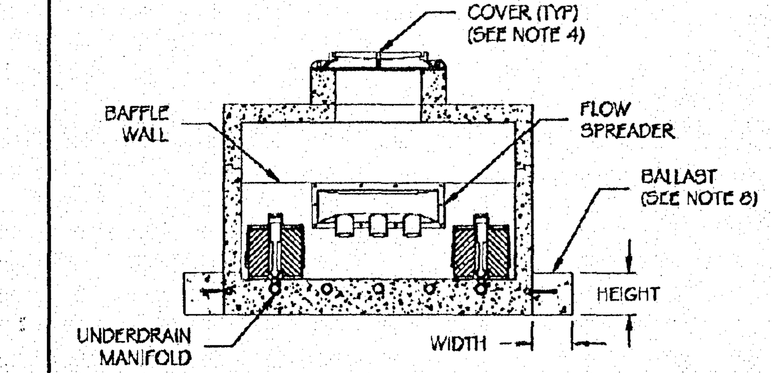
8' x 18' PRECAST STORMFILTER
PLAN AND SECTION VIEWS
STANDARD DETAIL

DRAWING 1 — 1/2

DATE: 09/29/05 | SCALE: NONE | FILE NAME: SF818-PC-DTL | DRAWN: MJW | CHECKED: ARG

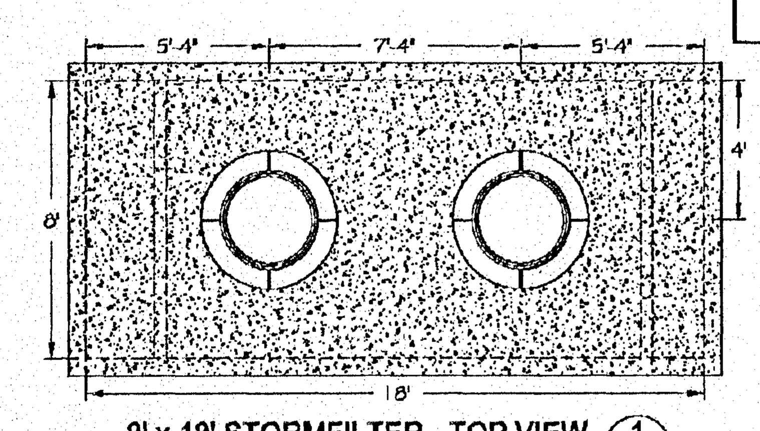
GENERAL NOTES

1) STORMFILTER BY STORMWATER360 (S360), PORTLAND, OREGON (800) 548-4667.
2) FILTER CARTRIDGE(S) TO BE SIPHON-ACTUATED AND SELF-CLEANING. STANDARD DETAIL DRAWING SHOWS MAXIMUM NUMBER OF CARTRIDGES. ACTUAL NUMBER REQUIRED TO BE SPECIFIED ON SITE PLANS OR IN DATA TABLE BELOW.
3) PRECAST VAULT TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C857 AND C858. DETAIL DRAWING REFLECTS DESIGN INTENT ONLY. ACTUAL DIMENSIONS AND CONFIGURATION OF STRUCTURE WILL BE SHOWN ON PRODUCTION SHOP DRAWING.
4) STRUCTURE AND ACCESS COVERS TO MEET AASHTO H-20 LOAD RATING.
5) STORMFILTER REQUIRES 2.3 FEET OF DROP FROM INLET TO OUTLET. IF LESS DROP IS AVAILABLE, CONTACT S360.
6) INLET AND OUTLET PIPING TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR. PRECAST STORMFILTER VAULT EQUIPPED WITH EITHER CORED OPENINGS OR KNOCKOUTS AT INLET AND OUTLET LOCATIONS.
7) PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS. IF A SHALLOWER SYSTEM IS REQUIRED, CONTACT S360 FOR OTHER OPTIONS.
8) ANTI-FLOTATION BALLAST TO BE SPECIFIED BY ENGINEER AND PROVIDED BY CONTRACTOR, IF REQUIRED. BALLAST TO BE SET ALONG ENTIRE LENGTH OF BOTH SIDES OF THE STRUCTURE.
9) ALL STORMFILTERS REQUIRE REGULAR MAINTENANCE. REFER TO OPERATION AND MAINTENANCE GUIDELINES FOR MORE INFORMATION.



8' x 18' STORMFILTER - SECTION VIEW B/2

8' x 18' PRECAST STORMFILTER DATA			
STRUCTURE ID			XXX
WATER QUALITY FLOW RATE (cfs)			X.XX
PEAK FLOW RATE (cfs)			X.XX
RETURN PERIOD OF PEAK FLOW (yrs)			XXX
# OF CARTRIDGES REQUIRED			XX
CARTRIDGE FLOW RATE (15 OR 7.5 gpm)			XX
MEDIA TYPE (CSF, PERLITE, ZPG)			XXXXX
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	XXX.XX'	XXX	XX"
INLET PIPE #2	XXX.XX'	XXX	XX"
OUTLET PIPE	XXX.XX'	XXX	XX"
RIM: XXX.XX' FLOW XXX.XX'			
LADDER			YES/NO
ANTI-FLOTATION BALLAST		WIDTH	HEIGHT
		XX"	XX"
NOTES/SPECIAL REQUIREMENTS:			



8' x 18' STORMFILTER - TOP VIEW 1/2

THE STORMWATER MANAGEMENT StormFilter® U.S. PATENT No. 5,322,629, No. 5,707,527, No. 6,027,639 No. 6,649,048, No. 5,624,576, AND OTHER U.S. AND FOREIGN PATENTS PENDING

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8' x 18' PRECAST STORMFILTER
TOP AND SECTION VIEWS, NOTES AND DATA
STANDARD DETAIL

DRAWING 2 — 2/2

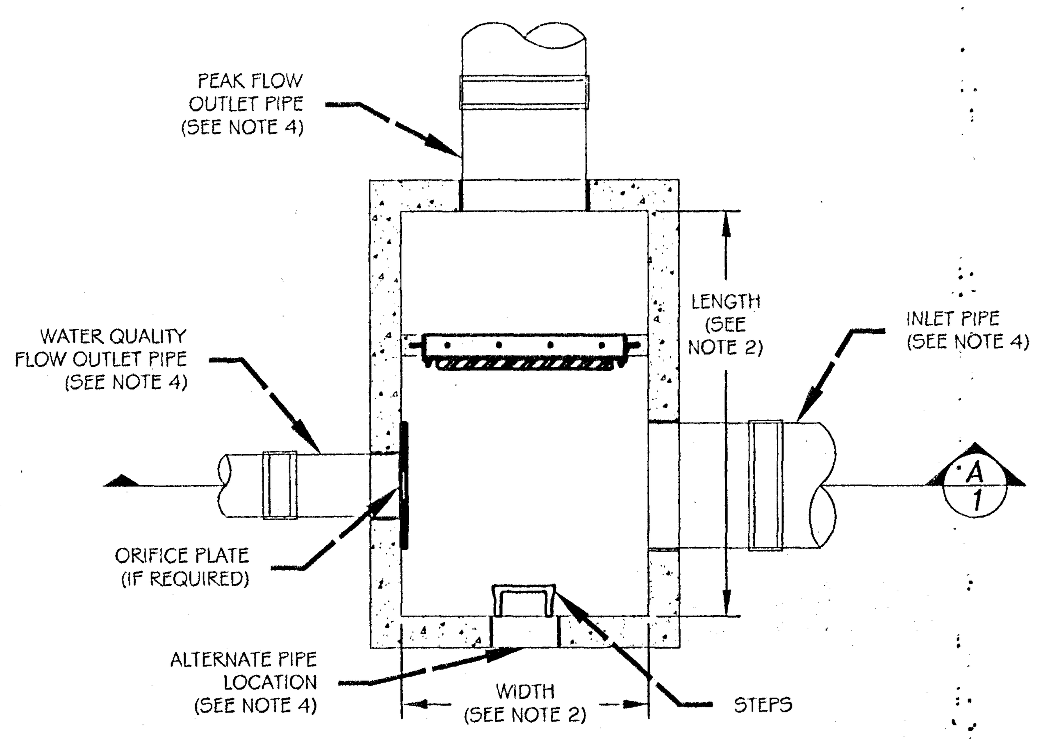
DATE: 09/29/05 | SCALE: NONE | FILE NAME: SF818-PC-DTL | DRAWN: MJW | CHECKED: ARG

THE STORMGATE HIGH FLOW BYPASS VAULT DETAIL STANDARD DETAIL (NOT TO SCALE)

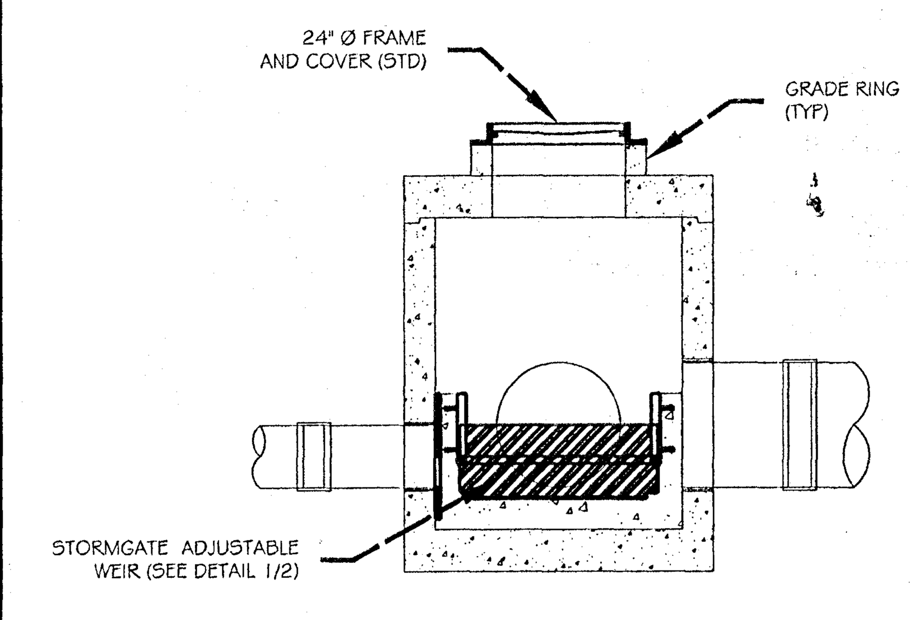
HYDROLOGY DATA	
HYDROLOGIC MODEL TYPE	
CONTRIBUTING AREA (acres)	-
C FACTOR OR CN	-
TIME OF CONCENTRATION (min)	-
PEAK INTENSITY (in/hour)	-
RETURN PERIOD OF PEAK FLOW (yrs)	-
BYPASS FLOW (cfs)	-
LOW FLOW (cfs)	-

STORMWATER MANAGEMENT INC.

STORMGATE VAULT DATA			
STRUCTURE ID			-
WATER QUALITY FLOW RATE (cfs)			-
PEAK FLOW RATE, Qpeak (cfs)			-
VAULT LENGTH			-
VAULT WIDTH			-
RIM ELEVATION			-
PIPE DATA:	I.E.	MATERIAL	DIAMETER
INLET PIPE #1	-	-	-
INLET PIPE #2	-	-	-
WATER QUALITY FLOW OUTLET PIPE	-	-	-
PEAK FLOW OUTLET PIPE	-	-	-
ORIFICE TYPE (PIPE, CAP, PLATE)			-
ORIFICE DIAMETER (in)			-
WEIR CREST ELEVATION			-
WEIR WALL ELEVATION			-
HEAD OVER WEIR, H (ft)			-
WSE at Qpeak			-
FLOOR ELEVATION			-
NOTES/SPECIAL REQUIREMENTS:			



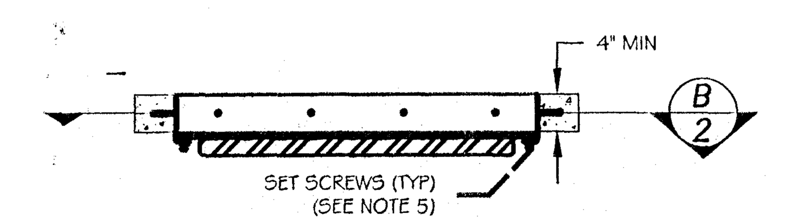
STORMGATE VAULT - PLAN VIEW 1/1 SCALE: N.T.S.



STORMGATE VAULT - SECTION VIEW A/1 SCALE: N.T.S.

GENERAL STORMFILTER NOTES:

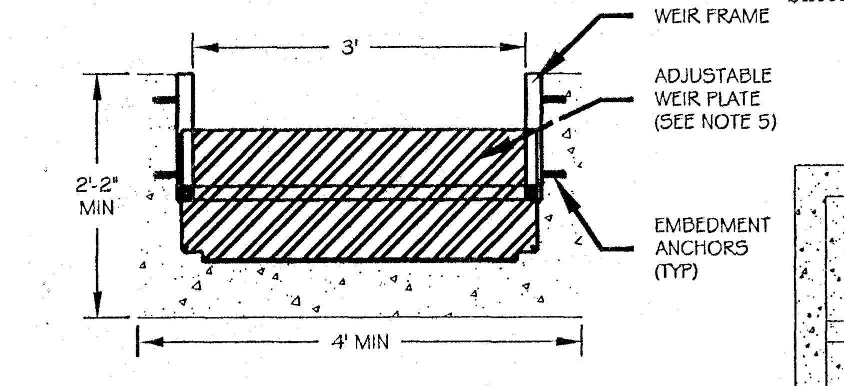
1.) STORMGATE BY STORMWATER MANAGEMENT, INC., PORTLAND, OREGON (800-548-4667).
2.) ALL WATER QUALITY FACILITIES REQUIRED REGULAR MAINTENANCE. MINIMUM ANNUAL MAINTENANCE INCLUDES INSPECTION OF COMPONENTS AND REMOVAL OF SEDIMENTS. FOLLOW ALL LOCAL, STATE, & FEDERAL SAFETY GUIDELINES.
3.) PRECAST CONCRETE VAULT CONSTRUCTED IN ACCORANCE WITH ASTM C858.
4.) EXTERNAL PIPING AND COUPLINGS PROVIDED BY OTHERS.
5.) FLEXIBLE COUPLINGS TO BE SET 18" OUTSIDE FACE OF WALL. FERNCO OR ENGINEER APPROVED.
6.) SEE PRECAST STORMGATE DATA BLOCK FOR VAULT SIZE AND WEIR SETTING.
7.) ANTI-FLOATATION BALLAST TO BE SET ALONG ENTIRE LENGTH OF BOTH SIDES OF VAULT, IF REQUIRED. SEE PRECAST STORMGATE DATA BLOCK SHEET FOR BALLAST WIDTH AND HEIGHT DIMENSIONS.
8.) CONTRACTOR TO ADJUST WEIR TO DESIGN ELEVATION.
9.) WHEN SETTING SCREWS ON WEIR PLATE DO NOT EXCEED 5.0 FT-LBS TOURQUE.
10.) SEAL WEIR WITH SILICONE SEALANT AFTER FINAL ADJUSTMENT.



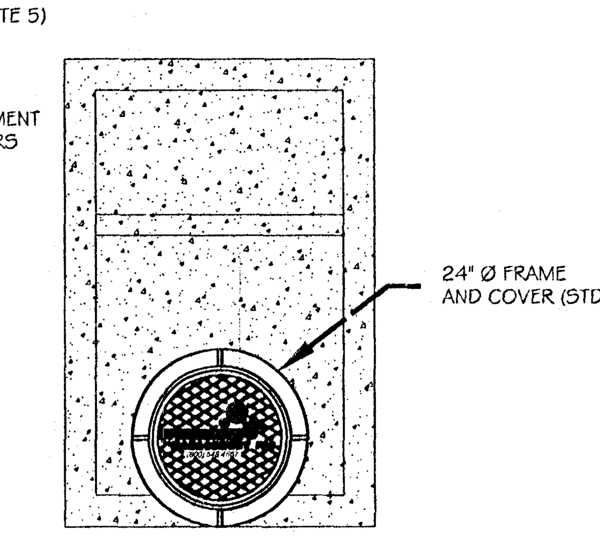
WEIR DETAIL - PLAN VIEW 1/2 SCALE: N.T.S.

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 37 of 38



WEIR DETAIL - SECTION VIEW B/2 SCALE: N.T.S.



STORMGATE VAULT - TOP VIEW 2/2 SCALE: N.T.S.

No.	DATE	DESCRIPTION	REV. BY	APPROVED	DATE
		REVISION APPROVED BY DIVISION OF DESIGN REVIEW			

PLAN DATE: 02-21-06, 03-09-06, 06-09-06, 06-30-06, 07-07-06, 09-07-06, 10-04-06, 11-16-06, 04-17-08

URBAN ENGINEERING & ASSOC., INC.
CIVIL ENGINEERS • LANDSCAPE ARCHITECTS • LAND SURVEYORS
7712 LITTLE RIVER TURNPIKE
ANNANDALE, VIRGINIA 22003 (703) 642-8080

COMMONWEALTH OF VIRGINIA — MATTHEW K. KOIRTOHANN — No. 039021 — 04/17/08 — PROFESSIONAL ENGINEER

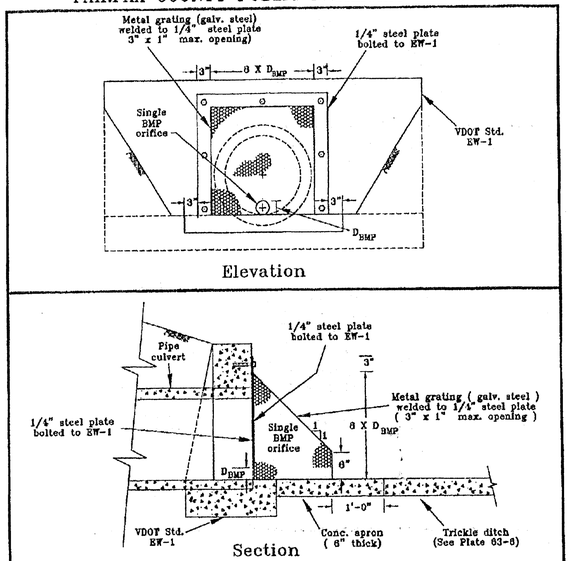
PRELIMINARY STORMWATER MANAGEMENT DETAILS
LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100' C.I. = N/A DATE: NOV., 2005

SHEET 33 OF 34

FILE No. ZP-1619

FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



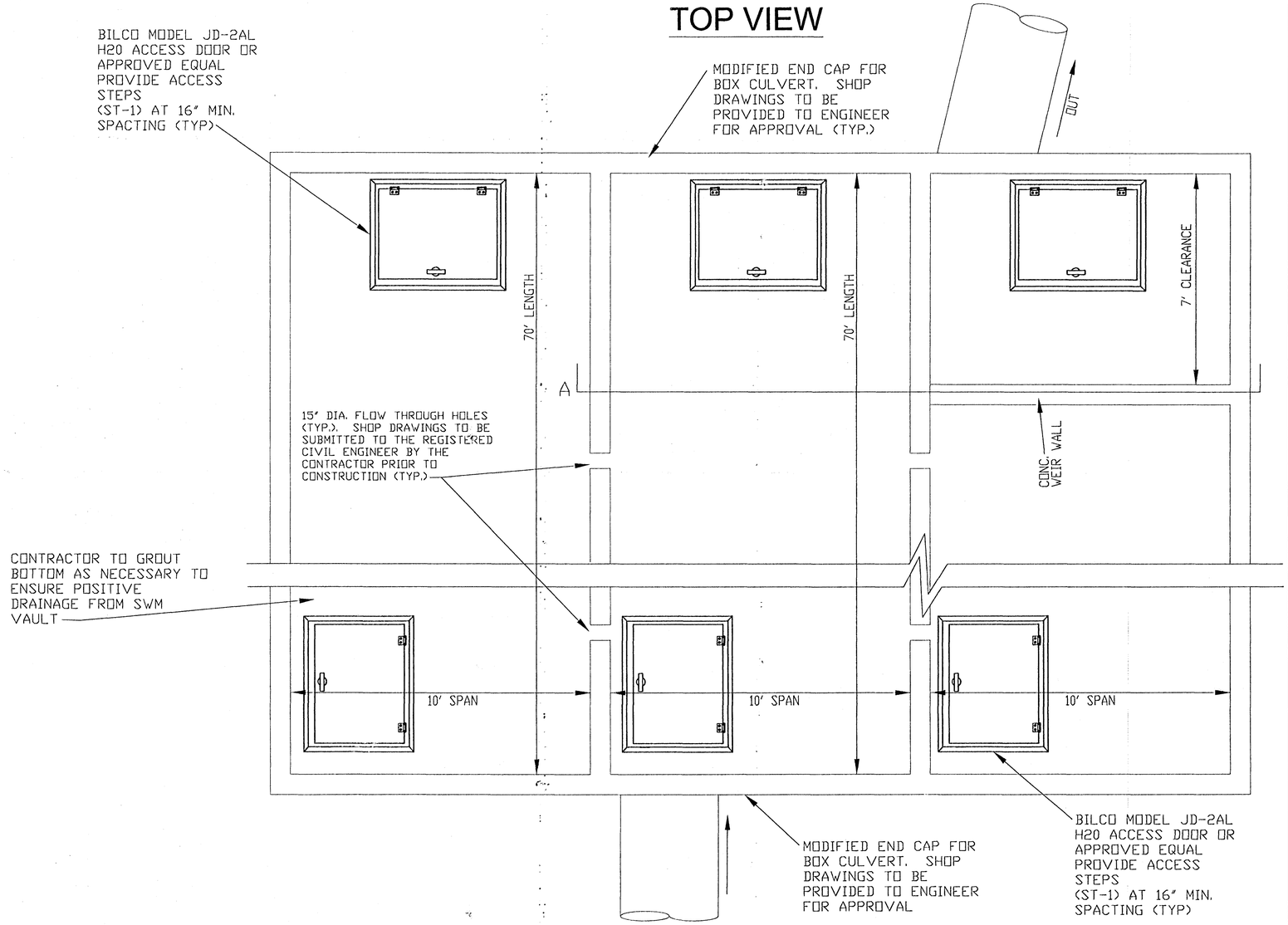
Elevation

Section

Notes:
1) Alternative cage configurations are acceptable as long as the flow velocity thru the cage at the max BMP pool elev is less than 0.15 FPS
2) This detail (metal grating and steel plate) may be applied directly against rectangular risers.
3) For larger cages (height > 5') a 3' X 2' hinged gate with locking mechanism shall be installed on the front face of the cage.

Ref. Sec. 6-1604.8C	BMP EXTENDED DRAWDOWN DEVICE (EXAMPLE DETAIL)	PLATE NO.	STD. NO.
Rev. 1-00		61-6	

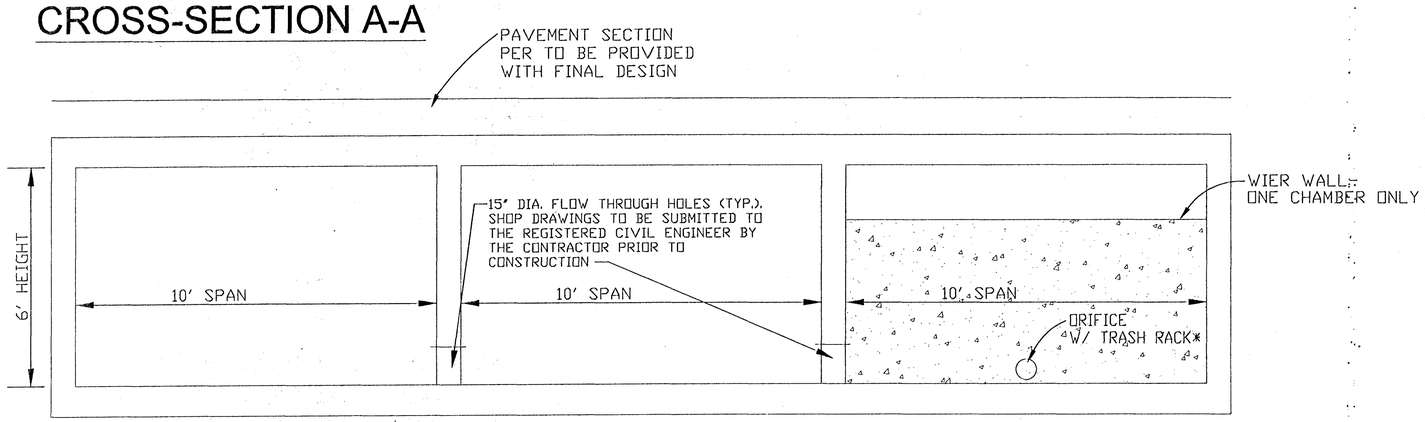
TOP VIEW



MODIFIED PRECAST 10'x6' BCT-02 SWM BOX CULVERT DETAIL (SPECIFICATIONS BY PRECASTER) (TO BE PRIVATELY MAINTAINED) (N.T.S.)

CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR MODIFIED BOX CULVERT TO ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND CONSTRUCTION

CROSS-SECTION A-A



* USE BMP DEBRIS CAGE, DETAIL THIS SHEET, OR EQUIVALENT

Application No PCA/FDPA-88-P-030-02 Staff WOD

APPROVED DEVELOPMENT PLAN
(DP) (GDP) (CDPA) (FDPA)
See proffers dated 5/5/08
BOS Approval for PCA on 6/30/08
PC Approval for FDPA on 5/21/08
Sheet 38 of 38

No.	DATE	DESCRIPTION	REV.BY	APPROVED	DATE

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

PLAN DATE
04-24-06
06-09-06
06-30-06
07-07-06
09-07-06
10-04-06
11-16-06
04-17-08

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COMMONWEALTH OF VIRGINIA
MATTHEW K. KORTHUHANN
No. 035621
04/17/08
PROFESSIONAL ENGINEER

PRELIMINARY STORMWATER MANAGEMENT DETAILS

LAND UNIT A
DUNN LORING - MERRIFIELD METRO STATION
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SCALE: 1"=100' C.I. = N/A DATE: NOV., 2005

SHEET 34 OF 34

FILE No. ZP-1619