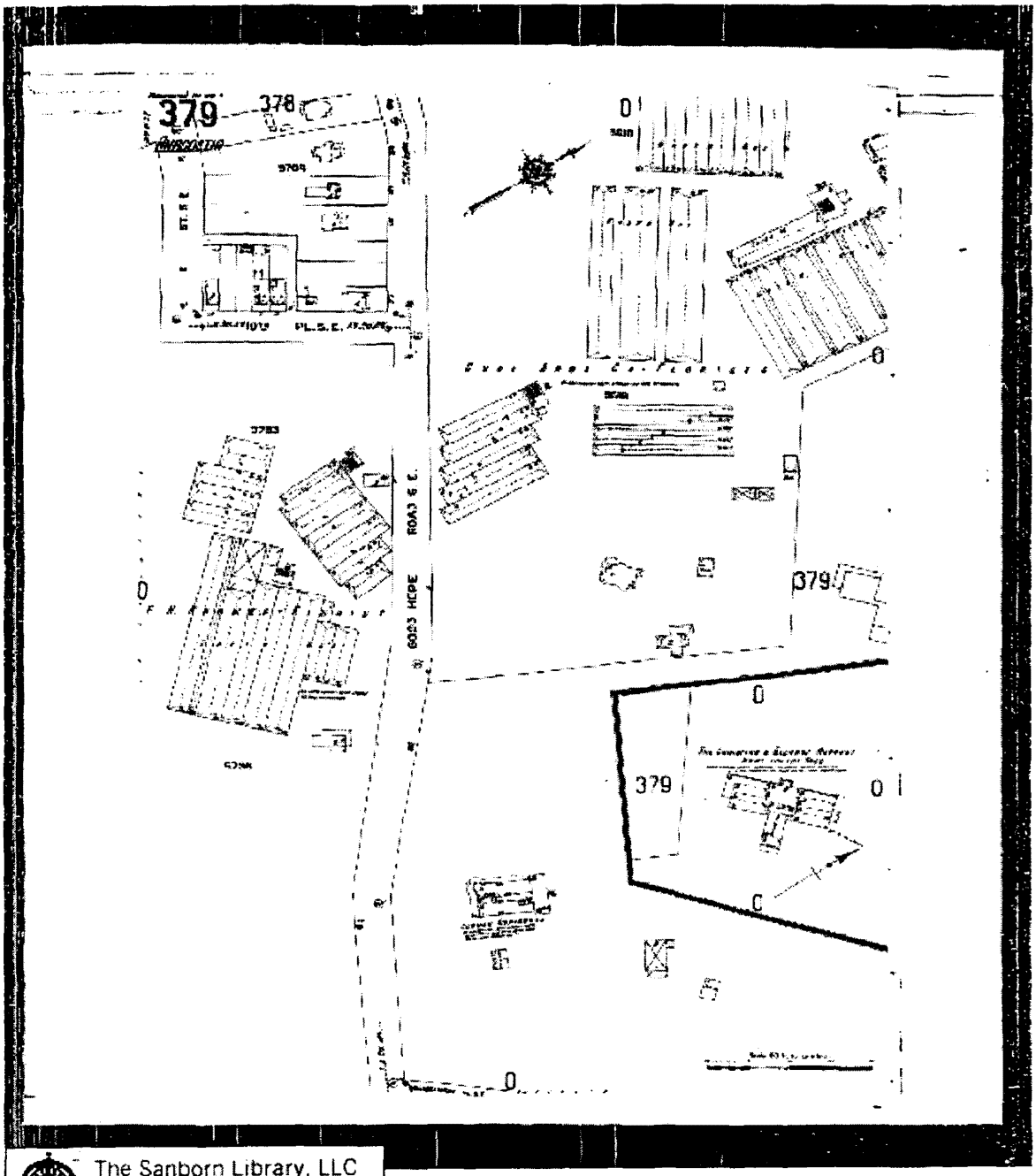
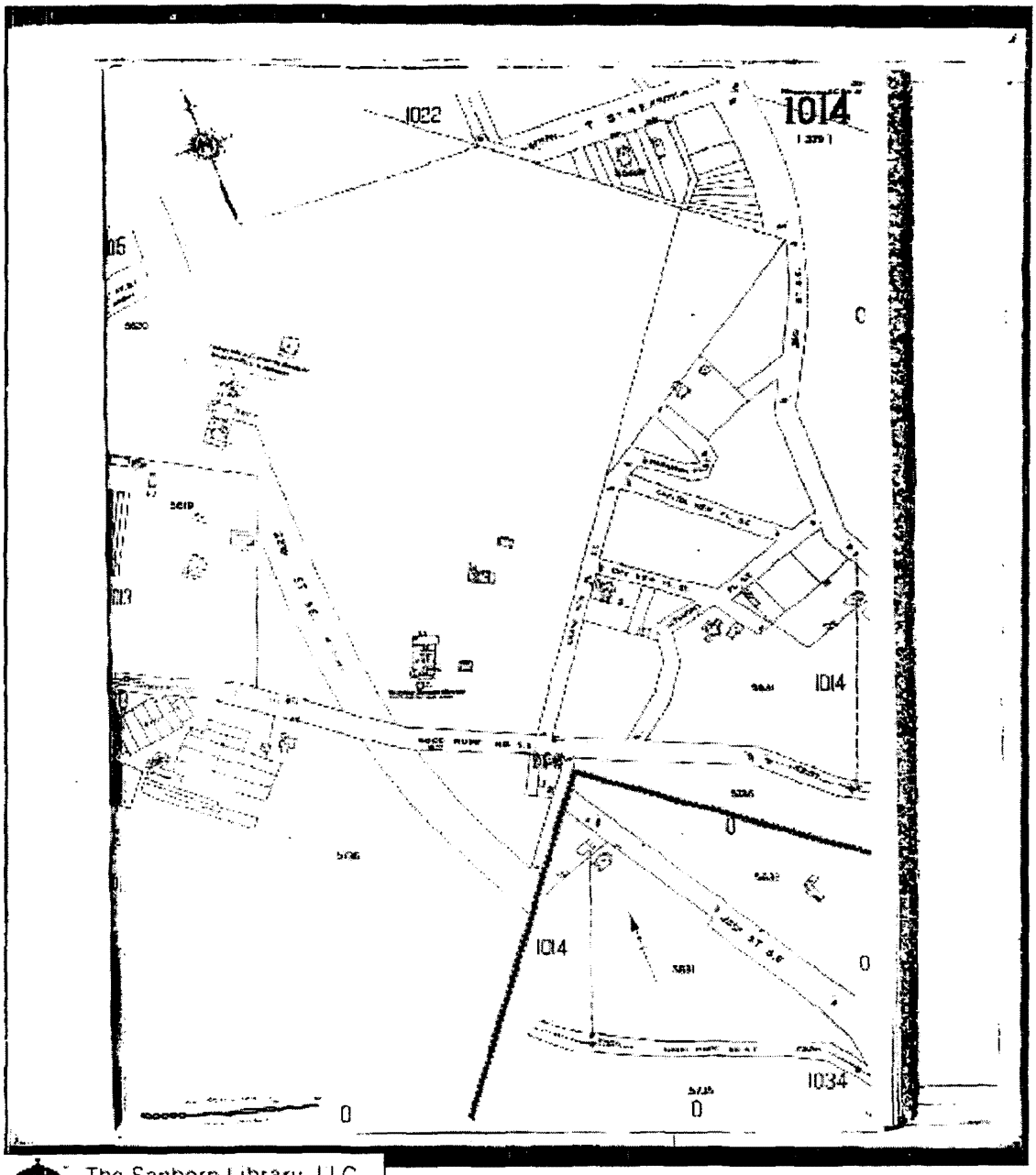
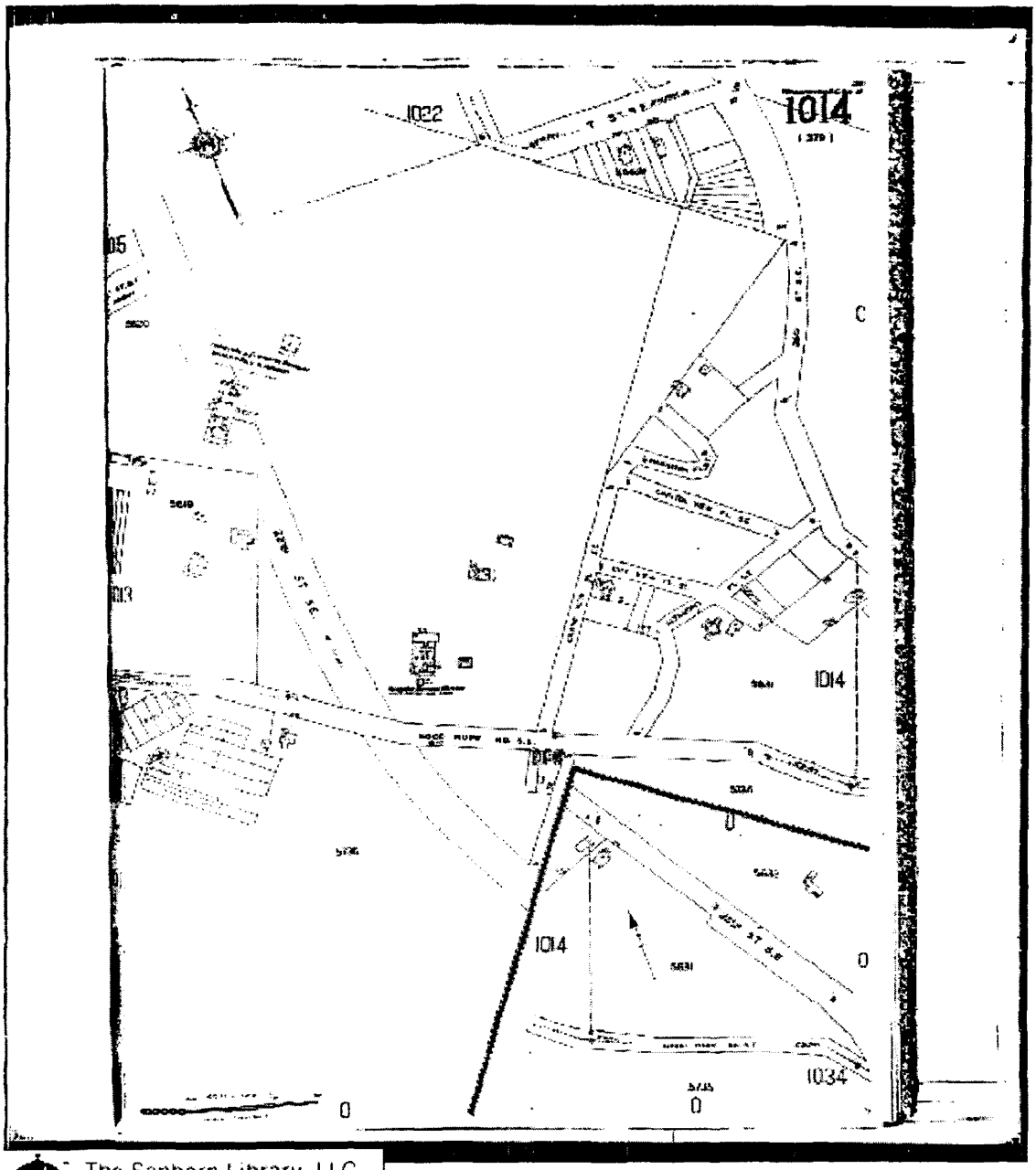


Board of Zoning Adjustment
District of Columbia
CASE NO.16457
EXHIBIT NO.131A3

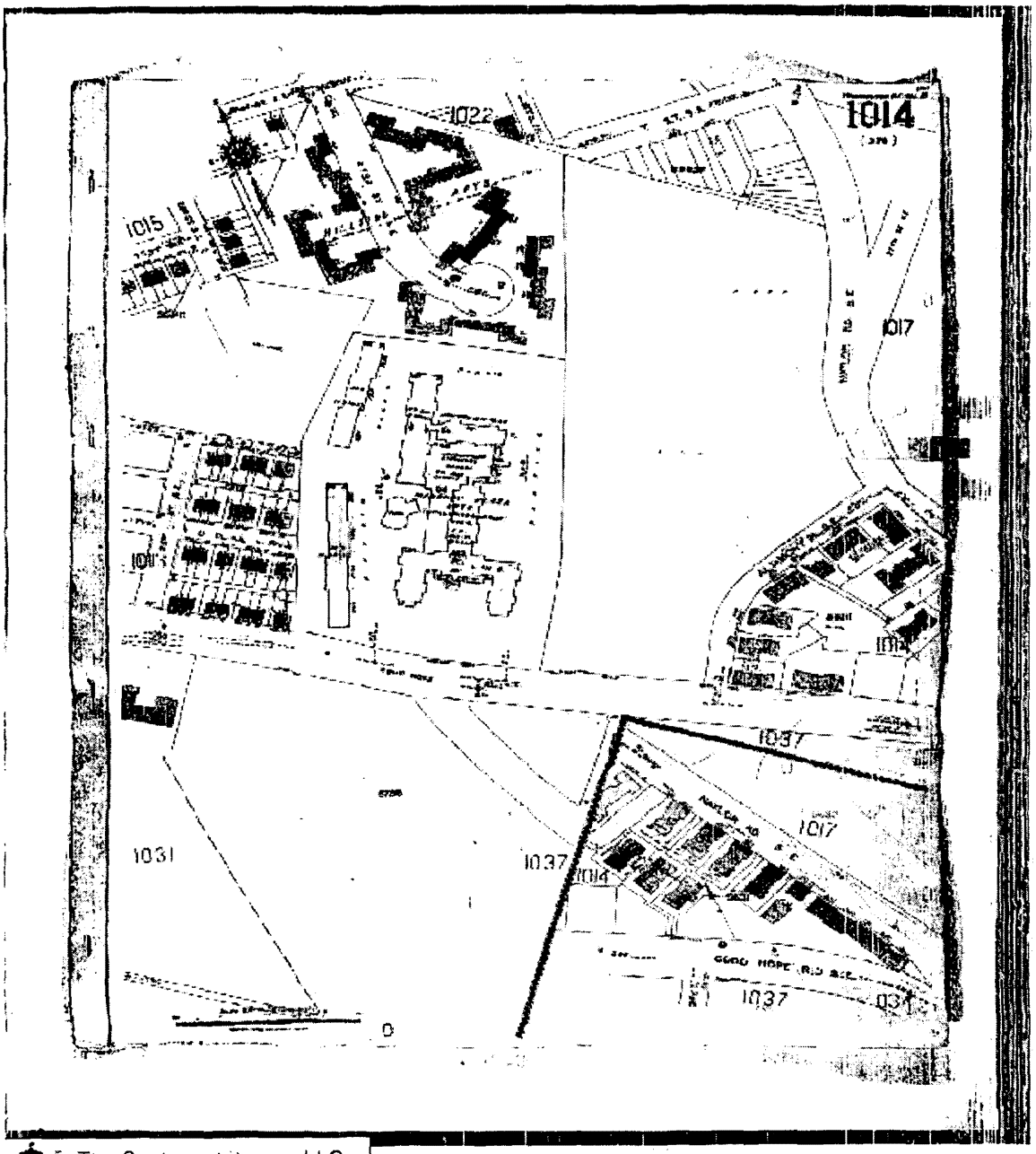


The Sanborn Library, LLC



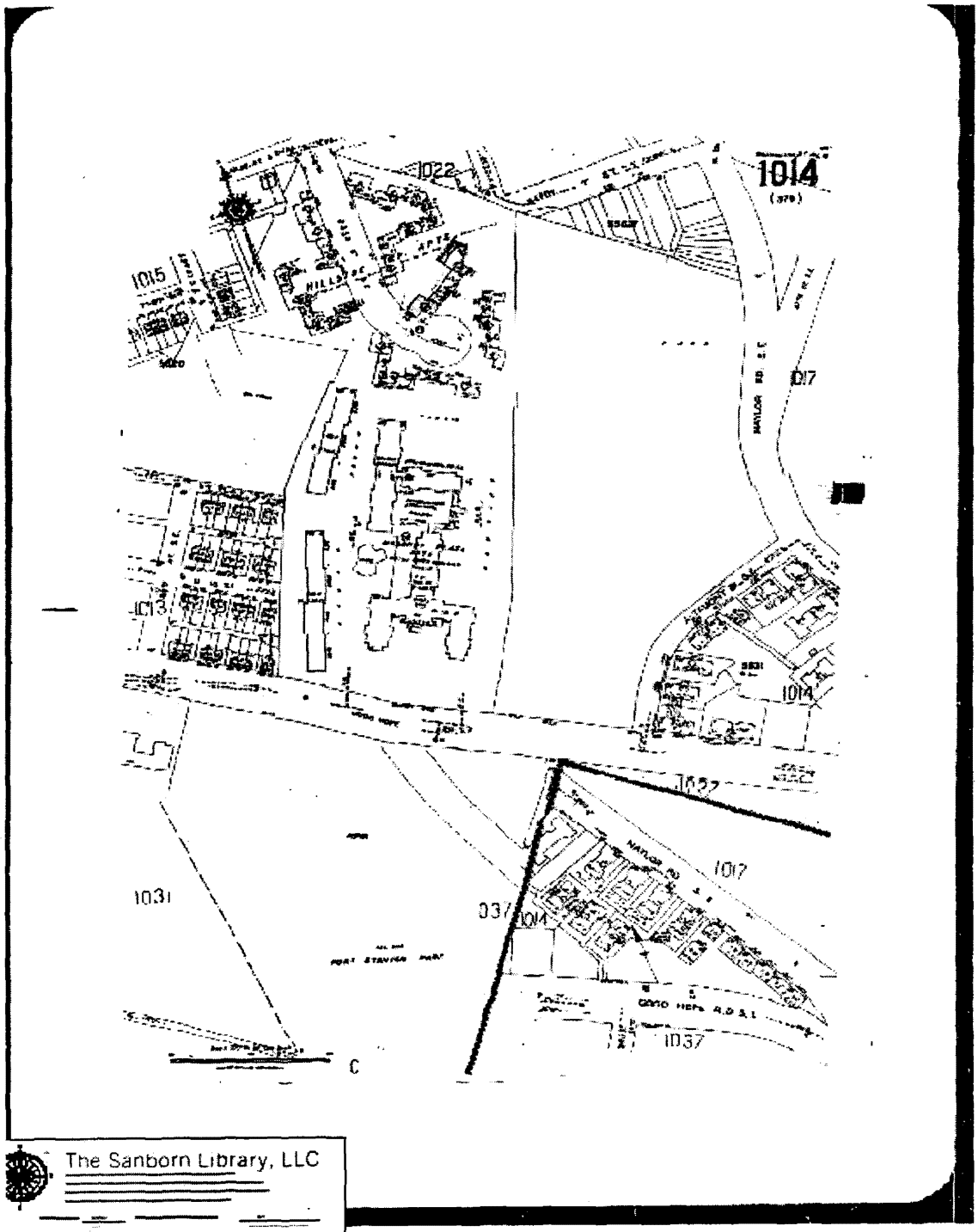
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1960



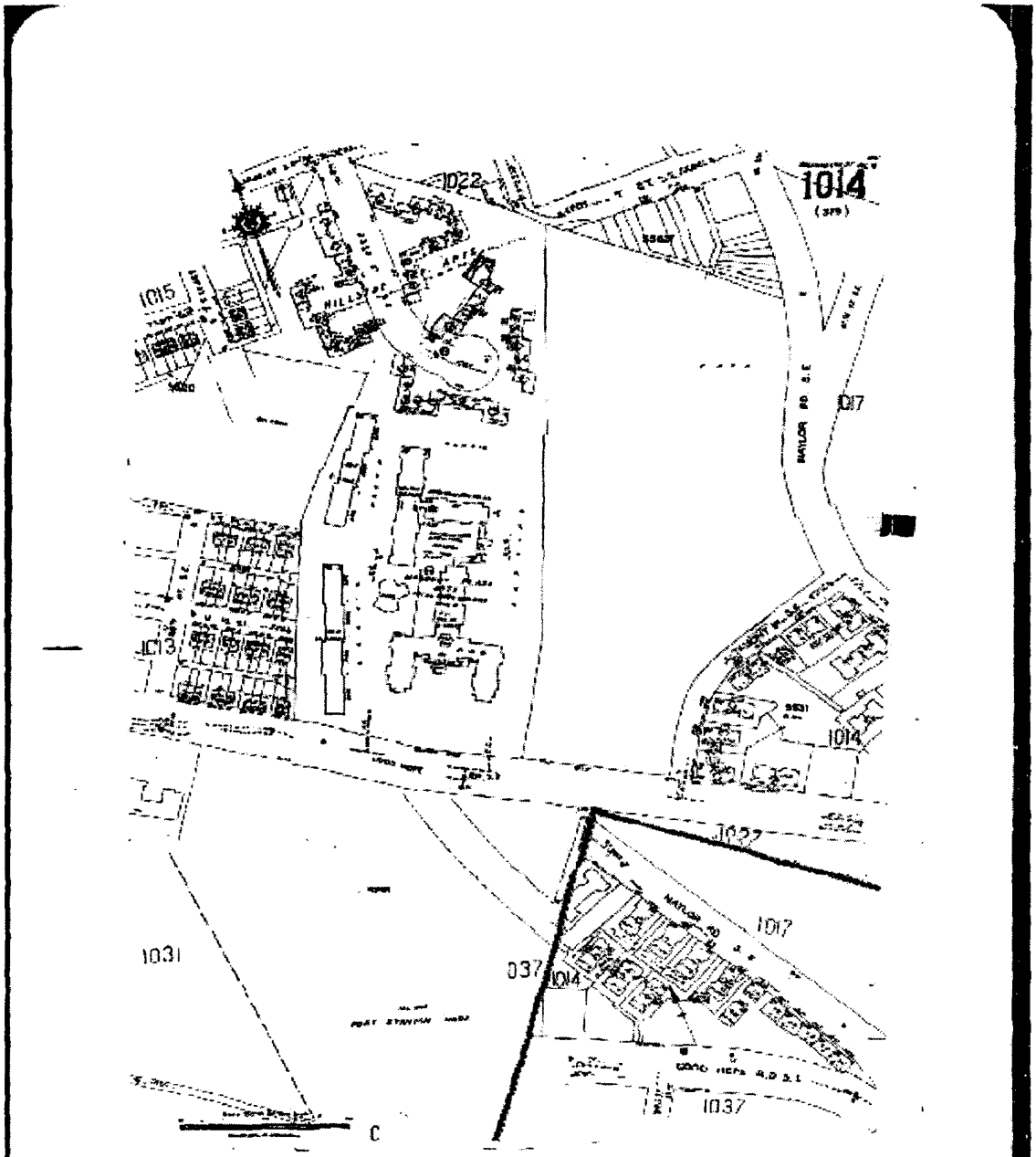
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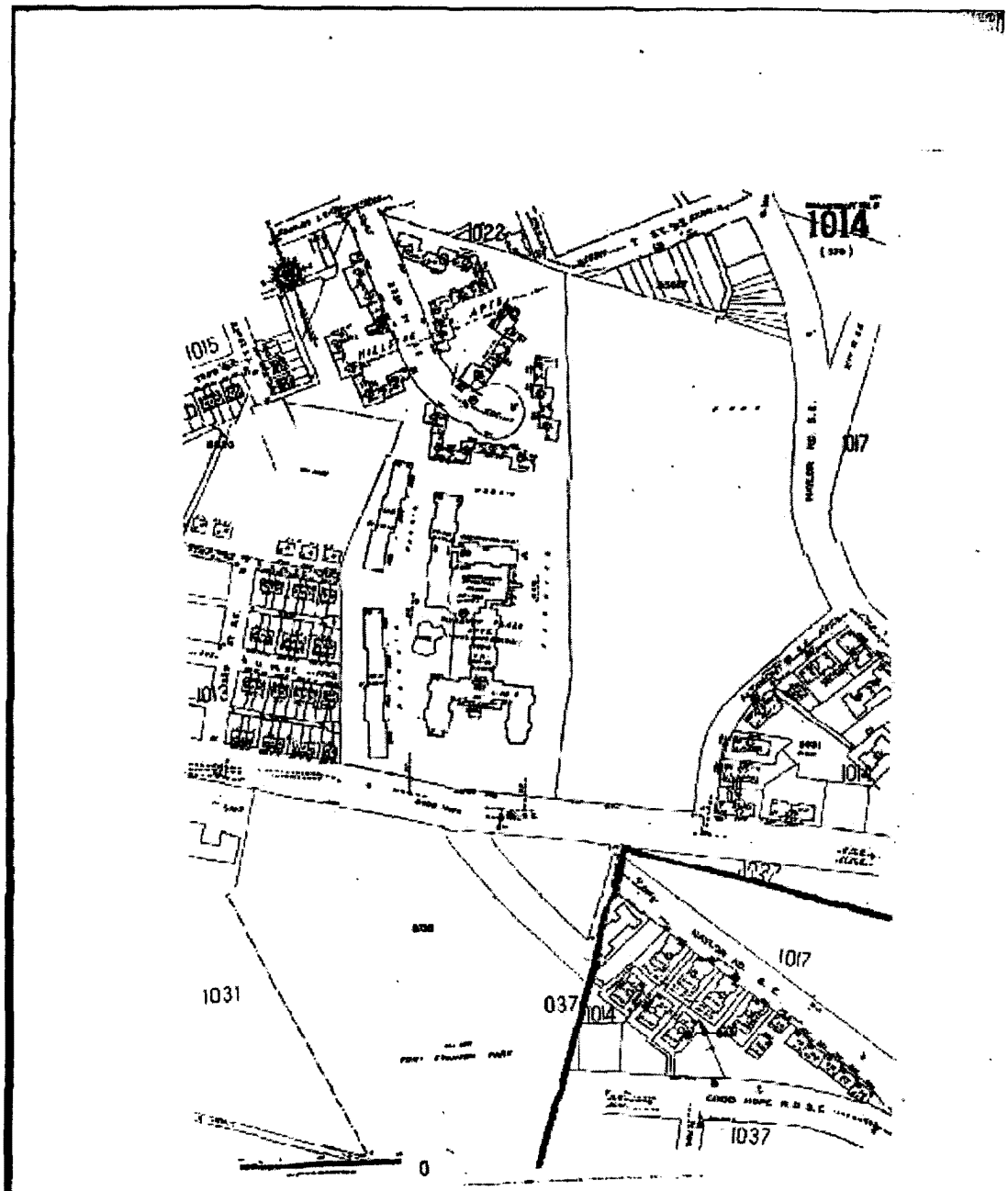
The Sanborn Library, LLC

1985



The Sanborn Library, LLC

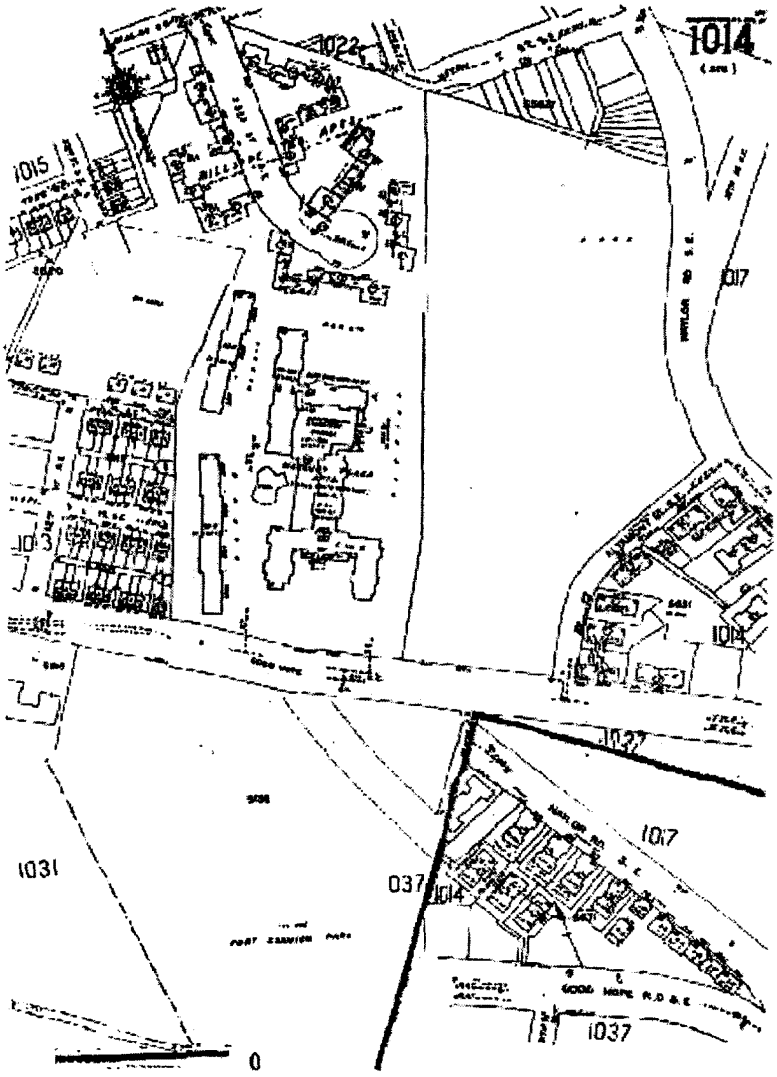
1989



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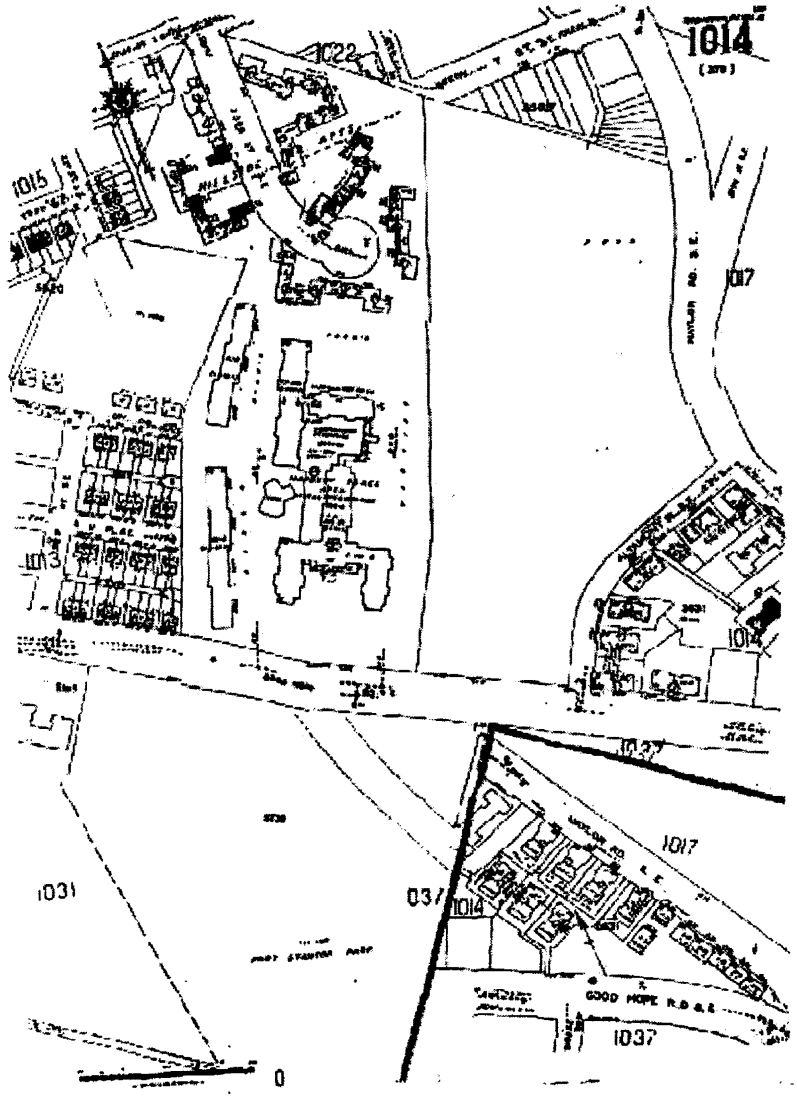
1989



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1990



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The Sanborn Library, LLC

1992

APPENDIX C

Chain of Title



MERIT TITLE COMPANY

3900 University Drive
Suite 110
Fairfax, Virginia 22030

Phone: (703) 934-2727
FAX: (703) 352-2569

November 30, 1998

BY TELECOPIER ONLY

Fort Stanton, L.P.
c/o KSI Services, Inc.
8081 Wolftrap Road, Suite 300
Vienna, Virginia 22182
Attn: Ray Schmidt

Re: **Kass M.A. L.L.C. to Fort Stanton L.P., Approx. 687,979 square feet located in the District of Columbia**

Dear Ray:

This is to supplement the earlier information describing the chain of title to the Parcels identified as 219/138, 219/96, and 220/31, by giving you the chain of title for Lot 804 (Parcel II of the Commitment), which is part of former Lots 801 and 803 and Parcels 219/20, 219/21 and 219/61.

(As to 219/20)

3/28/31: Ester Gude to Robert Baggott;

4/3/44: Heirs of Baggott to Beatrice S. and Leonard J. Clarke;

(As to 219/63)

10/13/61: Clarke to Anacostia Lodge Building Corporation;

(As to 219/21)

2/1/43: Mealy & Wood, Inc., to V. Stuart Davis;

2/19/61: Davis to Clarence E. Mealy;

10/4/57: Veronia S. Mealy to Mealy & Wood, Inc.;

10/4/61: Mealy & Wood, Inc., to Anacostia Lodge Building Corp;

(As to Lot 804)

4/21/64: Anacostia Lodge Building Corp., to Kass Realty Company, Inc.

I would limit the above for the purpose of solely identifying the names or entities appearing in the chain of title according to the examiner's abstract of title.

Please forward to the engineer.

Very truly yours,

MERIT TITLE COMPANY

By: Daniel H. Shaner
President

DHS:cld
(i:\data\merit\f98\f98-0533.l2)

APPENDIX D

Environmental Database Report



The EDR-Radius Map
with GeoCheck®

Fort Stanton
2300 Good Hope Road, SE
Washington, DC 20020

Inquiry Number: 448238.1s

January 03, 2000

***The* Source**
For Environmental
Risk Management
Data

3530 Post Road
Southport, Connecticut 06490

Nationwide Customer Service

Telephone: 1-800-352-0050
Fax: 1-800-231-6802
Internet: www.edrnet.com

TABLE OF CONTENTS

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Topographic Map	2
GeoCheck Summary	3
Overview Map	5
Detail Map	6
Map Summary - All Sites	7
Map Summary - Sites with higher or the same elevation as the Target Property	8
Map Findings	9
Orphan Summary	12

APPENDICES

GeoCheck Version 2.1	A1
Government Records Searched / Data Currency Tracking Addendum	A4

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

Disclaimer and Other Information

This Report contains information obtained from a variety of public and other sources and Environmental Data Resources, Inc. (EDR) makes no representation or warranty regarding the accuracy, reliability, quality, suitability, or completeness of said information or the information contained in this report. The customer shall assume full responsibility for the use of this report.
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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc. (EDR). The report meets the government records search requirements of ASTM Standard Practice for Environmental Site Assessments, E 1527-97. Search distances are per ASTM standard or custom distances requested by the user.

The address of the subject property for which the search was intended is:

2300 GOOD HOPE ROAD, SE
WASHINGTON, DC 20020

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the subject property or within the ASTM E 1527-97 search radius around the subject property for the following Databases:

NPL:	National Priority List
Delisted NPL:	NPL Deletions
RCRIS-TSD:	Resource Conservation and Recovery Information System
SHWS:	State Haz. Waste
CERCLIS:	Comprehensive Environmental Response, Compensation, and Liability Information System
CERC-NFRAP:	Comprehensive Environmental Response, Compensation, and Liability Information System
CORRACTS:	Corrective Action Report
AST:	AST
RAATS:	RCRA Administrative Action Tracking System
RCRIS-SQG:	Resource Conservation and Recovery Information System
RCRIS-LQG:	Resource Conservation and Recovery Information System
HMIRS:	Hazardous Materials Information Reporting System
PADS:	PCB Activity Database System
ERNS:	Emergency Response Notification System
FINDS:	Facility Index System/Facility Identification Initiative Program Summary Report
TRIS:	Toxic Chemical Release Inventory System
NPL Lien:	NPL Liens
TSCA:	Toxic Substances Control Act
MLTS:	Material Licensing Tracking System
ROD:	ROD
CONSENT:	Superfund (CERCLA) Consent Decrees
MINES:	Mines Master Index File

Unmapped (orphan) sites are not considered in the foregoing analysis.

Search Results:

Search results for the subject property and the search radius, are listed below:

Subject Property:

The subject property was identified in the following government records. For more information on this property see page 9 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
MARBURY PLAZA APARTMENTS 2300 GOOD HOPE RD SE WASHINGTON, DC 20020	UST	N/A

EXECUTIVE SUMMARY

Surrounding Properties:

Elevations have been determined from the USGS 1 degree Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. EDR's definition of a site with an elevation equal to the subject property includes a tolerance of -10 feet. Sites with an elevation equal to or higher than the subject property have been differentiated below from sites with an elevation lower than the subject property (by more than 10 feet). Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Consumer and Regulatory Affairs' District of Columbia LUST Cases list.

A review of the LUST list, as provided by EDR, and dated 07/14/1999 has revealed that there are 3 LUST sites within approximately 0.5 miles of the subject property.

Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
SKYLAND APARTMENTS, AREA#1	2307 SKYLAND PLACE, SE	1/8 - 1/4 ESE	A6	9
MOBIL-FORMER	2704 GOOD HOPE RD SE	1/4 - 1/2 ESE	10	10
AVON THEATER	***2834 ALABAMA AV SE***	***1/4 - 1/2 ESE***	***11***	***10***

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the Department of Consumer & Regulatory Affairs' D.C. UST Database List.

A review of the UST list, as provided by EDR, and dated 07/19/1999 has revealed that there are 7 UST sites within approximately 0.25 miles of the subject property.

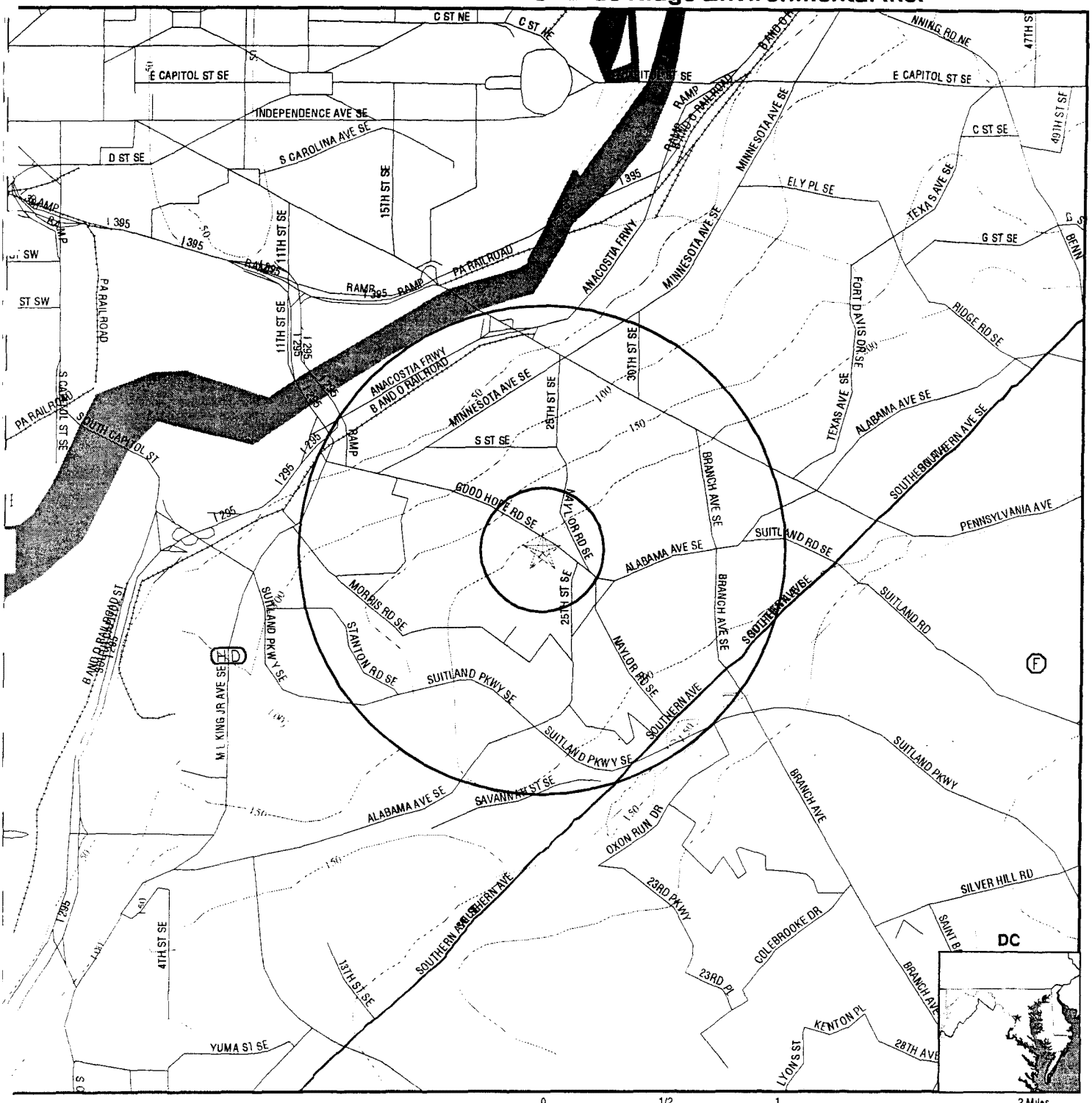
Equal/Higher Elevation	Address	Dist / Dir	Map ID	Page
UNKNOWN	2324 24TH ST SE	0 - 1/8 SE	2	9
SKYLAND APARTMENTS	2319 24TH ST SE 24TH &	0 - 1/8 ENE	3	9
UNKNOWN	2348 SKYLAND PL SE	0 - 1/8 ESE	5	9
KOGOD & BURKA	2503 GOOD HOPE RD SE	1/8 - 1/4 ESE	A7	10
Lower Elevation	**Address**	**Dist / Dir**	**Map ID**	**Page**
APARTMENT BUILDING	2400 GOOD HOPE RD SE	0 - 1/8 NNW	4	9
MARBURY PLAZA APARTMENTS	2330 GOOD HOPE RD SE	1/8 - 1/4 NW	8	10
UNKNOWN	2310 GOOD HOPE RD SE	1/8 - 1/4 NW	9	10

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	*Database(s)*
KENILWORTH PARK LANDFILL SITE	CERCLIS
MARTIN BROTHERS	UST
MARTIN BROTHERS	UST
MARTIN BROTHERS	UST
ORR ELEMENTARY SCHOOL	UST
BLDG. 31 FORT MCNAIR	ERNS
5005 FORT TOTTEN DRIVE SUPER CONCRETE	ERNS
FORT MCNAIR	ERNS
FORT MCNAIR AAFES SERVICE STATION	ERNS
OUTSIDE OF FORT MCNAIR GATE; V ST EXTENSION	ERNS
WASHINGTON CHANNEL OPPOSITE FORT MCNAIR	ERNS

TOPOGRAPHIC MAP - 448238.1s - Blue Ridge Environmental Inc.



Major Roads
Contour Lines
Waterways
Earthquake epicenter, Richter 5 or greater
(F) Closest Federal Well in quadrant
[S] Closest State Well in quadrant
Closest Public Water Supply Well
(HD) Closest Hydrogeological Data

TARGET PROPERTY:	Fort Stanton	CUSTOMER:	Blue Ridge Environmental Inc.
ADDRESS:	2300 Good Hope Road, SE	CONTACT:	Kent Campbell
CITY/STATE/ZIP:	Washington DC 20020	INQUIRY #:	448238.1s
LAT/LONG:	38.8619 / 76.9724	DATE:	January 03, 2000 9:36 am

GEOCHECK VERSION 2.1
SUMMARY

TARGET PROPERTY COORDINATES

Latitude (North):	38.861900 - 38° 51' 42.8"
Longitude (West):	76.972397 - 76° 58' 20.6"
Universal Transverse Mercator:	Zone 18
UTM X (Meters):	328863.3
UTM Y (Meters):	4303092.5

USGS TOPOGRAPHIC MAP ASSOCIATED WITH THIS SITE

Target Property:	2438076-G8 ANACOSTIA, DC MD

GEOLOGIC AGE IDENTIFICATION†

Geologic Code:	IK
Era:	Mesozoic
System:	Cretaceous
Series:	Lower Cretaceous

ROCK STRATIGRAPHIC UNIT†

Category:	Stratified Sequence

GROUNDWATER FLOW INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, including well data collected on nearby properties, regional groundwater flow information (from deep aquifers), or surface topography.‡

AQUIFLOW™** Search Radius: 2.000 Miles. The following table shows sites where groundwater flow and depth information was reported. Additional AQUIFLOW™ site information may be available in the GeoCheck® section at the end of this report.

MAP ID	DISTANCE FROM TP	DIRECTION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported			

General Topographic Gradient at Target Property: General NW
General Hydrogeologic Gradient at Target Property: No hydrogeologic data available.

† Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).
‡ U.S. EPA Ground Water Handbook, Vol I: Ground Water and Contamination, Office of Research and development EPA/625/6-90/016a,Chapter 4, page 78, September 1990.
** EDR AQUIFLOW™ information System of hydrogeologically determined groundwater flow directions at specific locations. See the date pages at the end of this report for a complete description.

GEOCHECK VERSION 2.1
SUMMARY

Site-Specific Hydrogeological Data*:

Search Radius:	2.0 miles
Location Relative to TP:	1 - 2 Miles WSW
Site Name:	St Elizabeth's Hospital
Site EPA ID Number:	DC9751305997
Groundwater Flow Direction:	WNW, DISCHARGING INTO THE ANACOSTIA AND POTOMAC RIVERS.
Inferred Depth to Water:	not available.
Hydraulic Connection:	Discontinuous or leaky aquitards separate aquifers underlying the site. The estimated depth to bedrock exceeds 600 feet.
Sole Source Aquifer:	No information about a sole source aquifer is available
Data Quality:	Information is inferred in the CERCLIS investigation report(s)

FEDERAL DATABASE WELL INFORMATION

WELL QUADRANT	DISTANCE FROM TP	LITHOLOGY	DEPTH TO WATER TABLE
Eastern	>2 Miles	Not Reported	180 ft.
Southern	>2 Miles	Sand	111 ft.

PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.
NOTE: PWS System location is not always the same as well location.

PWS Name: OXON HILL RECREATION CLUB
'1635 TUCKER HILL RD.
OXON HILL, MD 20745
Location Relative to TP: >2 Miles South
PWS currently has or has had major violation(s) or enforcement: No

AREA RADON INFORMATION

1996 Radon Information:

Zip Code: 20020

Number of sites tested: 314.

Maximum Radon Level: 17.4 pCi/L.
Minimum Radon Level: 0.4 pCi/L.

pCi/L <4	pCi/L 4-10	pCi/L 10-20	pCi/L 20-50	pCi/L 50-100	pCi/L >100
275 (87.58%)	34 (10.83%)	5 (1.59%)	0 (0.00%)	0 (0.00%)	0 (0.00%)

* ©1996 Site-specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

OVERVIEW MAP - 448238.1s - Blue Ridge Environmental Inc.

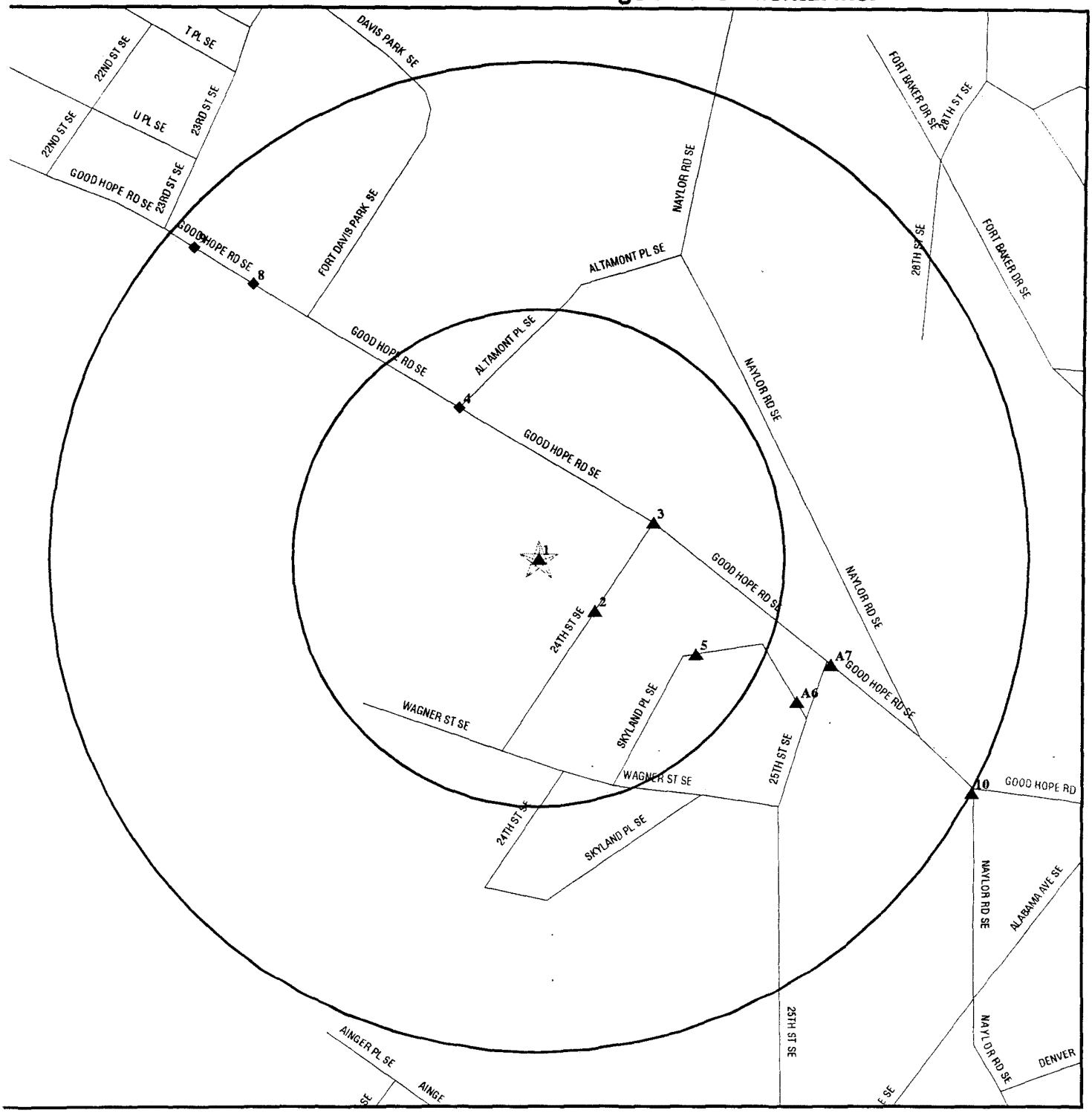


0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	Fort Stanton	CUSTOMER:	Blue Ridge Environmental Inc.
ADDRESS:	2300 Good Hope Road, SE	CONTACT:	Kent Campbell
CITY/STATE/ZIP:	Washington DC 20020	INQUIRY #:	448238.1s
LAT/LONG:	38.8619 / 76.9724	DATE:	January 03, 2000 9:35 am

DETAIL MAP - 448238.1s - Blue Ridge Environmental Inc.



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Coal Gasification Sites (if requested)
- Sensitive Receptors
- National Priority List Sites
- Landfill Sites
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone

TARGET PROPERTY:	Fort Stanton	CUSTOMER:	Blue Ridge Environmental Inc.
ADDRESS:	2300 Good Hope Road, SE	CONTACT:	Kent Campbell
CITY/STATE/ZIP:	Washington DC 20020	INQUIRY #:	448238.1s
LAT/LONG:	38.8619 / 76.9724	DATE:	January 03, 2000 9:35 am

MAP FINDINGS SUMMARY SHOWING ALL SITES

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		N/A	N/A	N/A	N/A	N/A	N/A	N/A
LUST		0.500	0	1	2	NR	NR	3
UST	X	0.250	4	3	NR	NR	NR	7
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
MINES		0.250	0	0	NR	NR	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

MAP FINDINGS SUMMARY SHOWING
ONLY SITES HIGHER THAN OR THE SAME ELEVATION AS TP

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
NPL		1.000	0	0	0	0	NR	0
Delisted NPL		1.000	0	0	0	0	NR	0
RCRIS-TSD		0.500	0	0	0	NR	NR	0
State Haz. Waste		1.000	0	0	0	0	NR	0
CERCLIS		0.500	0	0	0	NR	NR	0
CERC-NFRAP		0.250	0	0	NR	NR	NR	0
CORRACTS		1.000	0	0	0	0	NR	0
State Landfill		N/A	N/A	N/A	N/A	N/A	N/A	N/A
LUST		0.500	0	1	2	NR	NR	3
UST	X	0.250	3	1	NR	NR	NR	4
AST		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
RCRIS Sm. Quan. Gen.		0.250	0	0	NR	NR	NR	0
RCRIS Lg. Quan. Gen.		0.250	0	0	NR	NR	NR	0
HMIRS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
ERNS		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
NPL Liens		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
ROD		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
MINES		0.250	0	0	NR	NR	NR	0

TP = Target Property

NR = Not Requested at this Search Distance

* Sites may be listed in more than one database

Coal Gas Site Search: EDR does not presently have coal gas site information available in this state.

1
Target
Property

MARBURY PLAZA APARTMENTS
2300 GOOD HOPE RD SE
WASHINGTON, DC 20020

Database(s): **UST**
EDR ID Number: **U002111462**
EPA ID Number: **N/A**

UST:
Facility ID: 6-000949
Owner: SMITH PROPERTY HOLDINGS 1 (DC)LP

2
SE
< 1/8
204
Higher

UNKNOWN
2324 24TH ST SE
WASHINGTON, DC 20020

Database(s): **UST**
EDR ID Number: **U003055827**
EPA ID Number: **N/A**

UST:
Facility ID: 6-003047
Owner: DC FIRE PREVENTION BRANCH

3
ENE
< 1/8
321
Higher

SKYLAND APARTMENTS
2319 24TH ST SE 24TH & GOOD HOPE RD SE
WASHINGTON, DC 20020

Database(s): **UST**
EDR ID Number: **U002111594**
EPA ID Number: **N/A**

UST:
Facility ID: 6-003046
Owner: STONE PROPETIES OF DC

4
NNW
< 1/8
453
Lower

APARTMENT BUILDING
2400 GOOD HOPE RD SE
WASHINGTON, DC 20020

Database(s): **UST**
EDR ID Number: **U002111466**
EPA ID Number: **N/A**

UST:
Facility ID: 6-000953
Owner: ALTAMONT MANOR CONDO ASSOC

5
ESE
< 1/8
493
Higher

UNKNOWN
2348 SKYLAND PL SE
WASHINGTON, DC 20020

Database(s): **UST**
EDR ID Number: **U003055873**
EPA ID Number: **N/A**

UST:
Facility ID: 6-004761
Owner: DC FIRE PREVENTION BRANCH

A6
ESE
1/8-1/4
791
Higher

SKYLAND APARTMENTS, AREA#1
2307 SKYLAND PLACE, SE
WASHINGTON, DC

Database(s): **LUST**
EDR ID Number: **S100253633**
EPA ID Number: **N/A**

SKYLAND APARTMENTS, AREA#1 (Continued) — **S100253633**

LUST:
Case Number: 92066
Facility Status: Case Closed
Product: Heating Oil

A7
ESE
1/8-1/4
834
Higher

KOGOD & BURKA — **UST** — **U002111467**
2503 GOOD HOPE RD SE — **N/A**
WASHINGTON, DC 20020

UST:
Facility ID: 6-000954
Owner: Not reported

8
NW
1/8-1/4
1060
Lower

MARBURY PLAZA APARTMENTS — **UST** — **U002111464**
2330 GOOD HOPE RD SE — **N/A**
WASHINGTON, DC 20020

UST:
Facility ID: 6-000951
Owner: MARBURY ASSOC LTD PARTNERSHIP

9
NW
1/8-1/4
1246
Lower

UNKNOWN — **UST** — **U003055761**
2310 GOOD HOPE RD SE — **N/A**
WASHINGTON, DC 20020

UST:
Facility ID: 6-000952
Owner: DC FIRE PREVENTION BRANCH

10
ESE
1/4-1/2
1320
Higher

MOBIL-FORMER — **LUST** — **S103534442**
2704 GOOD HOPE RD SE — **N/A**
, DC

LUST:
Case Number: 98085
Facility Status: Case Open
Product: Gas

11
ESE
1/4-1/2
1779
Higher

AVON THEATER — **UST** — **U002111842**
2834 ALABAMA AV SE — **LUST** — **N/A**
WASHINGTON, DC 20020

LUST:
Case Number: 94037
Facility Status: Case Closed
Product: Heating Oil

AVON THEATER (Continued) ***U002111842***

UST:
Facility ID: 7-002115
Owner: DELBE REAL ESTATE

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)	Facility ID
COUNTY	U003541283	MARTIN BROTHERS	2516 ALTAMONT PL SE	20020	UST	6-002081
COUNTY	U003541284	MARTIN BROTHERS	2516 ALTAMONT PL SE	20020	UST	6-002082
COUNTY	U003541285	MARTIN BROTHERS	2522 ALTAMONT PL SE	20020	UST	6-002083
WASHINGTON	U002111590	ORR ELEMENTARY SCHOOL	22ND & PROUT ST SE MINNESOTA AV & NAYL(	20020	UST	6-002990
WASHINGTON	93327186	BLDG. 31 FORT MCNAIR	BLDG. 31 FORT MCNAIR		ERNS	
WASHINGTON	1001491675	KENILWORTH PARK LANDFILL SITE	DEANE AVENUE IN KENILWORTH PARK	20020	CERCLIS	
WASHINGTON	96518251	5005 FORT TOTTEN DRIVE SUPER CONCRETE	5005 FORT TOTTEN DRIVE SUPER CONCRETE		ERNS	
WASHINGTON	90180392	FORT MCNAIR	FORT MCNAIR		ERNS	
WASHINGTON	90160246	FORT MCNAIR AAFES SERVICE STATION	FORT MCNAIR AAFES SERVICE STATION		ERNS	
WASHINGTON	89103979	OUTSIDE OF FORT MCNAIR GATE; V ST EXTENSION	OUTSIDE OF FORT MCNAIR GATE; V ST EXTENSION		ERNS	
WASHINGTON	96503261	WASHINGTON CHANNEL OPPOSITE FORT MCNAIR	WASHINGTON CHANNEL OPPOSITE FORT MCI		ERNS	

GEOCHECK VERSION 2.1 ADDENDUM
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Eastern Quadrant)

BASIC WELL DATA

Site ID:	385119076560501	*Distance from TP:*	*>2 Miles*
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1924	County:	Prince Georges
Altitude:	290.00 ft.	State:	Maryland
Well Depth:	365.00 ft.	Topographic Setting:	Not Reported
Depth to Water Table:	180.00 ft.	*Prim. Use of Site:*	*Observation*
Date Measured:	01121924	Prim. Use of Water:	Unused

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Mesozoic-Cretaceous-Lower
Principal Lithology of Unit:	Not Reported
Further Description:	Not Reported

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
FEDERAL DATABASE WELL INFORMATION

Well Closest to Target Property (Southern Quadrant)

BASIC WELL DATA

Site ID:	384852077001701	Distance from TP:	>2 Miles
Site Type:	Single well, other than collector or Ranney type		
Year Constructed:	1946	County:	Prince Georges
Altitude:	20.50 ft.	State:	Maryland
Well Depth:	605.00 ft.	Topographic Setting:	Flat surface
Depth to Water Table:	111.20 ft.	Prim. Use of Site:	Withdrawal of water
Date Measured:	06031976	Prim. Use of Water:	Public supply

LITHOLOGIC DATA

Geologic Age ID (Era/System/Series):	Mesozoic-Cretaceous-Lower
Principal Lithology of Unit:	Sand
Further Description:	CLAY W SAND BEDS

WATER LEVEL VARIABILITY

Not Reported

GEOCHECK VERSION 2.1
PUBLIC WATER SUPPLY SYSTEM INFORMATION

Searched by Nearest PWS.

PWS SUMMARY:

PWS ID:	MD1161071	PWS Status:	Active	Distance from TP:	>2 Miles
Date Initiated:	Not Reported	Date Deactivated:	Not Reported	Dir relative to TP:	South
PWS Name:	OXON HILL RECREATION CLUB '1635 TUCKER HILL RD. OXON HILL, MD 20745				
Addressee / Facility:	System Owner/Responsible Party OXON HILL RECREATION CLUB '1635 TUCKER HILL RD. OXON HILL, MD 20745				
Facility Latitude:	38 48 33		Facility Longitude:	076 59 53	
City Served:	Not Reported				
Treatment Class:	Untreated		Population Served:	Under 101 Persons	

PWS currently has or has had major violation(s) or enforcement: No

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Elapsed ASTM days: Provides confirmation that this EDR report meets or exceeds the 90-day updating requirement of the ASTM standard.

FEDERAL ASTM RECORDS:

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System
Source: EPA
Telephone: 703-413-0223
CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 08/26/99
Date Made Active at EDR: 11/11/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 08/30/99
Elapsed ASTM days: 73
Date of Last EDR Contact: 08/30/99

ERNS: Emergency Response Notification System
Source: EPA/NTIS
Telephone: 202-260-2342
Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 10/28/99
Date Made Active at EDR: 12/03/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 11/01/99
Elapsed ASTM days: 32
Date of Last EDR Contact: 11/01/99

NPL: National Priority List
Source: EPA
Telephone: N/A
National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC).

Date of Government Version: 07/22/99
Date Made Active at EDR: 09/10/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/05/99
Elapsed ASTM days: 36
Date of Last EDR Contact: 08/05/99

RCRIS: Resource Conservation and Recovery Information System
Source: EPA/NTIS
Telephone: 800-424-9346
Resource Conservation and Recovery Information System. RCRIS includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA).

Date of Government Version: 09/01/99
Date Made Active at EDR: 11/17/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 10/06/99
Elapsed ASTM days: 42
Date of Last EDR Contact: 10/04/99

CORRACTS: Corrective Action Report
Source: EPA
Telephone: 800-424-9346
CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 03/01/99
Date Made Active at EDR: 04/16/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 03/17/99
Elapsed ASTM days: 30
Date of Last EDR Contact: 09/13/99

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FEDERAL NON-ASTM RECORDS:

BRS: Biennial Reporting System
Source: EPA/NTIS
Telephone: 800-424-9346
The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/95
Database Release Frequency: Biennially
Date of Last EDR Contact: 09/23/99
Date of Next Scheduled EDR Contact: 12/20/99

CONSENT: Superfund (CERCLA) Consent Decrees
Source: EPA Regional Offices
Telephone: Varies
Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: Varies
Database Release Frequency: Varies
Date of Last EDR Contact: Varies
Date of Next Scheduled EDR Contact: N/A

FINDS: Facility Index System/Facility Identification Initiative Program Summary Report
Source: EPA
Telephone: N/A
Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/01/99
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/13/99
Date of Next Scheduled EDR Contact: 01/10/00

HMIRS: Hazardous Materials Information Reporting System
Source: U.S. Department of Transportation
Telephone: 202-366-4526
Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/31/98
Database Release Frequency: Annually
Date of Last EDR Contact: 10/28/99
Date of Next Scheduled EDR Contact: 01/24/00

MLTS: Material Licensing Tracking System
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/08/98
Database Release Frequency: Quarterly
Date of Last EDR Contact: 10/12/99
Date of Next Scheduled EDR Contact: 01/10/00

NPL LIENS: Federal Superfund Liens
Source: EPA
Telephone: 205-564-4267
Federal Superfund Liens. Under the authority granted the USEPA by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner receives notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/91
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/27/99
Date of Next Scheduled EDR Contact: 01/22/00

PADS: PCB Activity Database System
Source: EPA
Telephone: 202-260-3936
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/22/97
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 08/17/99
Date of Next Scheduled EDR Contact: 02/14/00

RAATS: RCRA Administrative Action Tracking System
Source: EPA
Telephone: 202-564-4104
RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/95
Database Release Frequency: No Update Planned
Date of Last EDR Contact: 09/13/99
Date of Next Scheduled EDR Contact: 12/13/99

ROD: Records Of Decision
Source: NTIS
Telephone: 703-416-0223
Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 01/31/99
Database Release Frequency: Annually
Date of Last EDR Contact: 10/06/99
Date of Next Scheduled EDR Contact: 11/22/99

TRIS: Toxic Chemical Release Inventory System
Source: EPA
Telephone: 202-260-1531
Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/97
Database Release Frequency: Annually
Date of Last EDR Contact: 09/27/99
Date of Next Scheduled EDR Contact: 12/27/99

TSCA: Toxic Substances Control Act
Source: EPA
Telephone: 202-260-1444
Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the *TSCA Chemical Substance Inventory list.* It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/94
Database Release Frequency: Every 4 Years
Date of Last EDR Contact: 09/20/99
Date of Next Scheduled EDR Contact: 01/24/00

MINES: Mines Master Index File
Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959

Date of Government Version: 08/01/98
Database Release Frequency: Semi-Annually
Date of Last EDR Contact: 10/04/99
Date of Next Scheduled EDR Contact: 01/03/00

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DISTRICT OF COLUMBIA ASTM RECORDS:

LUST: District of Columbia LUST Cases
Source: Department of Health
Telephone: 202-645-6080
Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 07/14/99
Date Made Active at EDR: 10/18/99
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 08/30/99
Elapsed ASTM days: 49
Date of Last EDR Contact: 11/01/99

SHWS: State Hazardous Waste Sites
Source: Department of Consumer and Regulatory Affairs
Telephone: 703-603-8904
State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/21/99
Date Made Active at EDR: 06/09/99
Database Release Frequency: Monthly

Date of Data Arrival at EDR: 05/14/99
Elapsed ASTM days: 26
Date of Last EDR Contact: 09/27/98

UST: D.C. UST Database List
Source: Department of Health
Telephone: 202-645-6080
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 07/19/99
Date Made Active at EDR: 09/22/99
Database Release Frequency: Semi-Annually

Date of Data Arrival at EDR: 07/29/99
Elapsed ASTM days: 55
Date of Last EDR Contact: 10/12/99

DISTRICT OF COLUMBIA NON-ASTM RECORDS:

AST: List of AST Facilities
Source: Department of Health
Telephone: 202-727-7218

Date of Government Version: 07/19/99
Database Release Frequency: N/A

Date of Last EDR Contact: 10/12/99
Date of Next Scheduled EDR Contact: 12/20/99

Historical and Other Database(s)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

Former Manufactured Gas (Coal Gas) Sites: The existence and location of Coal Gas sites is provided exclusively to EDR by Real Property Scan, Inc. ©Copyright 1993 Real Property Scan, Inc. For a technical description of the types of hazards which may be found at such sites, contact your EDR customer service representative.

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The information contained in this report has predominantly been obtained from publicly available sources produced by entities other than Real Property Scan. While reasonable steps have been taken to insure the accuracy of this report, Real Property Scan does not guarantee the accuracy of this report. Any liability on the part of Real Property Scan is strictly limited to a refund of the amount paid. No claim is made for the actual existence of toxins at any site. This report does not constitute a legal opinion.

DELISTED NPL: NPL Deletions
Source: EPA
Telephone: N/A
The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 06/24/99
Date Made Active at EDR: 09/10/99
Database Release Frequency: Semi-Annually
Date of Data Arrival at EDR: 08/10/99
Elapsed ASTM days: 31
Date of Last EDR Contact: 08/10/99

NFRAP: No Further Remedial Action Planned
Source: EPA
Telephone: 703-413-0223
As of February 1995, CERCLIS sites designated "No Further Remedial Action Planned" (NFRAP) have been removed from CERCLIS. NFRAP sites may be sites where, following an initial investigation, no contamination was found, contamination was removed quickly without the need for the site to be placed on the NPL, or the contamination was not serious enough to require Federal Superfund action or NPL consideration. EPA has removed approximately 25,000 NFRAP sites to lift the unintended barriers to the redevelopment of these properties and has archived them as historical records so EPA does not needlessly repeat the investigations in the future. This policy change is part of the EPA's Brownfields Redevelopment Program to help cities, states, private investors and affected citizens to promote economic redevelopment of unproductive urban sites.

Date of Government Version: 08/26/99
Date Made Active at EDR: 11/11/99
Database Release Frequency: Quarterly
Date of Data Arrival at EDR: 08/30/99
Elapsed ASTM days: 73
Date of Last EDR Contact: 08/30/99

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-260-2805
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SWDIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

Area Radon Information: The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones: Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

Statistical Summary Readings: Radon readings for Delaware, D.C., Maryland, Pennsylvania, Virginia and West Virginia. EPA Region 3.

Oil/Gas Pipelines/Electrical Transmission Lines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines and electrical transmission lines.

Sensitive Receptors: *There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity* to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

USGS Water Wells: In November 1971 the United States Geological Survey (USGS) implemented a national water resource information tracking system. This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on more than 900,000 wells, springs, and other sources of groundwater.

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 1999 from the Federal Emergency Management Agency (FEMA). *Data depicts 100-year and 500-year flood zones as defined by FEMA.*

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in March 1997 from the U.S. Fish and Wildlife Service.

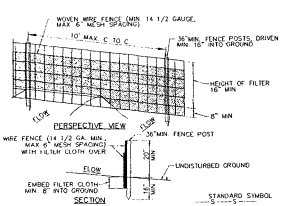
Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

Water Dams: National Inventory of Dams
Source: Federal Emergency Management Agency
Telephone: 202-646-2801
National computer database of more than 74,000 dams maintained by the Federal Emergency Management Agency.

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Exhibit F-1

Sediment and Erosion Control



CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

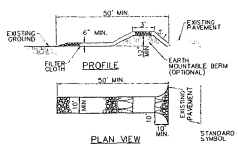
POST: STEEL EITHER T OR U TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 1/2 GA 6" MAX. MESH OPENING

FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

FABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

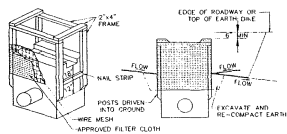
1/7 FABRICATED SILT FENCE
NOT TO SCALE



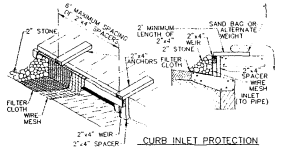
CONSTRUCTION SPECIFICATIONS

1. STONE SIZE—USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH—AS REQUIRED, BUT NOT LESS THAN 50 FEET (EXCEPT ON RESIDENCE LOT WHERE A 30 FOOT MINIMUM LENGTH WOULD APPLY.
3. THICKNESS—NOT LESS THAN SIX (6) INCHES.
4. WIDTH—TEN (10) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH—WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE. FILTER WILL NOT BE REQUIRED ON A SINGLE FAMILY RESIDENCE LOT.
6. SURFACE WATER—ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE—THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO DISTRICT OF COLUMBIA ROADS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO DISTRICT OF COLUMBIA ROADS MUST BE REMOVED IMMEDIATELY.
8. WASHING WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO DISTRICT OF COLUMBIA ROADS WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.
9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

2/7 STABILIZED CONSTRUCTION ENTRANCE
NOT TO SCALE



SWALE INLET PROTECTION



CURB INLET PROTECTION

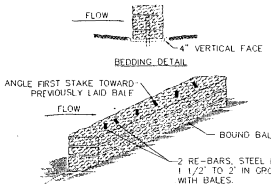
CONSTRUCTION SPECIFICATIONS

A. MATERIALS
1. WOODEN FRAME IS TO BE CONSTRUCTED OF 2"x4" CONSTRUCTION GRADE LUMBER
2. WIRE MESH MUST BE OF SUFFICIENT STRENGTH TO SUPPORT FILTER FABRIC AND STONE FOR CURB INLETS, WITH WATER FULLY IMPOUNDED AGAINST IT.
3. FILTER CLOTH MUST BE OF A TYPE APPROVED FOR THIS PURPOSE. RESISTANT TO SUNLIGHT WITH SIEVE SIZE, EOS, 40-85, TO ALLOW SUFFICIENT PASSAGE OF WATER AND REMOVAL OF SEDIMENT.
4. STONE IS TO BE 2" IN SIZE AND CLEAN. SINCE FINES WOULD CLOG THE CLOTH.

B. CURB INLET PROTECTION
1. ATTACH A CONTINUOUS PIECE OF WIRE MESH (30" MIN. WIDTH BY THROAT LENGTH PLUS 4') TO THE 2"x4" WEIR (MEASURING THROAT LENGTH PLUS 2') AS SHOWN ON THE STANDARD DRAWING.
2. PLACE A PIECE OF APPROVED FILTER CLOTH (40-85 SIEVE) OF THE SAME DIMENSIONS AS THE WIRE MESH OVER THE WIRE MESH AND SECURELY ATTACH TO THE WIRE MESH WITH ALTERNATE WEIGHT.
3. SECURELY NAIL THE 2"x4" WEIR TO 6' LONG VERTICAL SPACERS TO BE LOCATED BETWEEN THE WEIR AND INLET FACE (MAX 6' APART).
4. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL MINIMUM 2' LENGTHS OF 2"x4" TO THE TOP OF THE WEIR AT SPACER LOCATIONS. THESE 2"x4" ANCHORS
5. THE ASSEMBLY SHALL BE PLACED SO THAT THE END SPACERS ARE A MINIMUM OF 1' BEYOND BOTH ENDS OF THE THROAT OPENING.
6. FORM THE WIRE MESH AND FILTER CLOTH TO THE CONCRETE GUTTER AND AGAINST THE FACE OF CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 2" STONE OVER THE WIRE MESH AND FILTER CLOTH IN SUCH A MANNER AS TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE FILTER CLOTH
7. THIS TYPE OF PROTECTION MUST BE INSPECTED FREQUENTLY AND THE FILTER CLOTH AND STONE REPLACED WHEN CLOGGED WITH SEDIMENT.
8. ASSURE THAT STORM FLOW DOES NOT BYPASS INLET BY INSTALLING TEMPORARY EARTH OR ASPHALT DIKES DIRECTING FLOW INTO INLET.

C. A SWALE, DITCHLINE OR YARD INLET PROTECTION
1. EXCAVATE COMPLETELY AROUND INLET TO A DEPTH OF 18" BELOW NOTCH ELEVATION.
2. DRIVE 2"x4" POST 1' INTO GROUND AT FOUR CORNERS OF INLET. PLACE NAIL STRIPS BETWEEN POSTS ON ENDS OF INLET. ASSEMBLE TOP PORTION OF 2"x4" FRAMING USING OVERLAP JOINT SHOWN. TOP OF FRAME (MOP) MUST BE 8" BELOW EDGE OF ROADWAY ADJACENT TO INLET.
3. STRETCH WIRE MESH TIGHTLY AROUND FRAME AND FASTEN SECURELY. ENDS MUST MEET AT POST. STRETCH FILTER CLOTH TIGHTLY OVER WIRE MESH. THE CLOTH MUST EXTEND FROM TOP OF FRAME TO 18" BELOW INLET NOTCH ELEVATION. FASTEN SECURELY TO FRAME. ENDS MUST MEET AT POST, BE OVERLAPPED AND FOLDED, THEN FASTENED DOWN.
5. BACKFILL AROUND INLET IN COMPACTED 6" LAYERS UNTIL LAYER OF EARTH IS EVEN WITH NOTCH ELEVATION ON ENDS AND TOP ELEVATION ON SIDES
6. IF THE INLET IS SET IN A LOW POINT, CONSTRUCT A PACKED EARTH DIKE IN THE DITCH LINE BELOW IT. THE TOP OF THIS DIKE IS TO BE AT LEAST 6" HIGHER THAN THE TOP OF FRAME (MOP).
7. THIS STRUCTURE MUST BE INSPECTED FREQUENTLY AND THE FILTER FABRIC REPLACED WHEN CLOGGED.

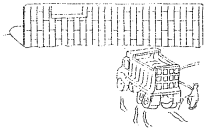
3/7 INLET PROTECTION
NOT TO SCALE



CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOP OF A SLOPE OR ON THE CONTOUR AND IN A ROW WITH ENDS ROTILY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF FOUR INCHES (4"), AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE AT AN ANGLE TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

4/7 STRAW BALE DIKE
NOT TO SCALE



STANDARDS AND SPECS FOR VEHICLE WASH AREA

DEFINITION: AN ON-SITE AREA WHERE TIRES AND UNDER CARRIAGE OF A VEHICLE CAN BE WASHED.

PURPOSE: THE VEHICLE WASH IS PROVIDED TO MINIMIZE THE QUANTITY OF SEDIMENT DEPOSITED ON DISTRICT OF COLUMBIA ROADS BY VEHICLES LEAVING THE SITE.

CONDITION WHERE PRACTICE APPLIES: THE VEHICLE WASH AREA WILL BE REQUIRED ON ANY SITE WHERE VEHICLES CAN ENTER INTO UNIMPROVED SURFACES.

DESIGN CRITERIA: THE "VEHICLE WASH AREA" SHALL BE PROVIDED ON-SITE. THE AREA MAY BE CONSTRUCTED OF RUBBLE OR OTHER HARD POROUS MATERIAL. A WORKING WATER HOSE MUST BE LOCATED IN THE AREA DURING ALL CONSTRUCTION ACTIVITIES.

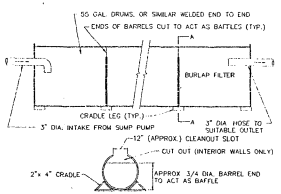
WASHING-WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO U.S. NATIONAL ARBORETUM ROADS. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH STONE AND WHICH DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

5/7 VEHICLE WASH AREA
NOT TO SCALE

SOD ESTABLISHMENT (VEGETATIVE STABILIZATION)

To provide quick cover on disturbed areas which will be maintained with equipment (2:1 grade or flatter)

1. General Specifications
   a. Only of turfgrass sod shall be Maryland or Virginia State Certified, or Maryland or Virginia State approved sod.
   b. Sod shall be machine cut at a uniform thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch.
   c. Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
   d. Individual pieces of sod shall be cut to the suppliers width and length. Allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
   e. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
   f. Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be inspected and approved prior to its installation.
   g. Sod rolled shall be made available in the pallet fashion and respective.
2. Sod Installation
   a. During periods of excessively high temperature the sod shall be lightly irrigated immediately prior to laying the sod.
   b. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids which would cause air drying of the roots.
   c. On sloping areas where erosion may be a problem, sod shall be laid with the long edges parallel to the contour and with staggering joints. Secure the sod by rolling, tamping and pegging or other approved methods.
   d. As sodding is completed in any one section, the entire area shall be rolled or tamped to ensure solid contact of roots with soil and surface. Sod shall be watered immediately after rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.
3. Sod Maintenance
   a. In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.
   b. After the first week, sod shall be watered as necessary to maintain adequate moisture and ensure establishment.
   c. First mowing should not be attempted until sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.



NOTES:
1. CLEAN OUT THE SEDIMENT TANK WHEN ONE THIRD (1/3) FILLED WITH SILT.
2. STEEL DRUMS ARE USED AS AN EXAMPLE DUE TO THEIR READY AVAILABILITY. ANY TANKS MAY BE USED PROVIDING THAT THE VOLUME IN CUBIC FEET EQUALS SIXTEEN TIMES THE PUMP DISCHARGE IN GALLONS PER MINUTE. PUMP DISCHARGE (G.P.M.) x 16=CUBIC FOOT STORAGE
3. ALL SEDIMENT COLLECTED IN THE TANK SHALL BE DISPOSED OF BY A METHOD APPROVED BY THE ARCHITECT.

6/7 PORTABLE SEDIMENT TANK DETAIL
NOT TO SCALE

NOTE:
SEE SHEET 8 FOR SUPER SILT FENCE DETAIL AND DIVERSION DIKE DETAIL.

NO.	DESCRIPTION	MADE BY	APPROVED	DATE

REVISION APPROVED BY:
DIVISION OF DESIGN REVIEW

VIKA
VIKA ASSOCIATES
SURVEYORS • ENGINEERS • ARCHITECTS • PLANNERS
8180 GREENSBORO DRIVE, SUITE 200
MCLEAN, VIRGINIA 22102
(703) 761-7860 FAX (703) 761-7861

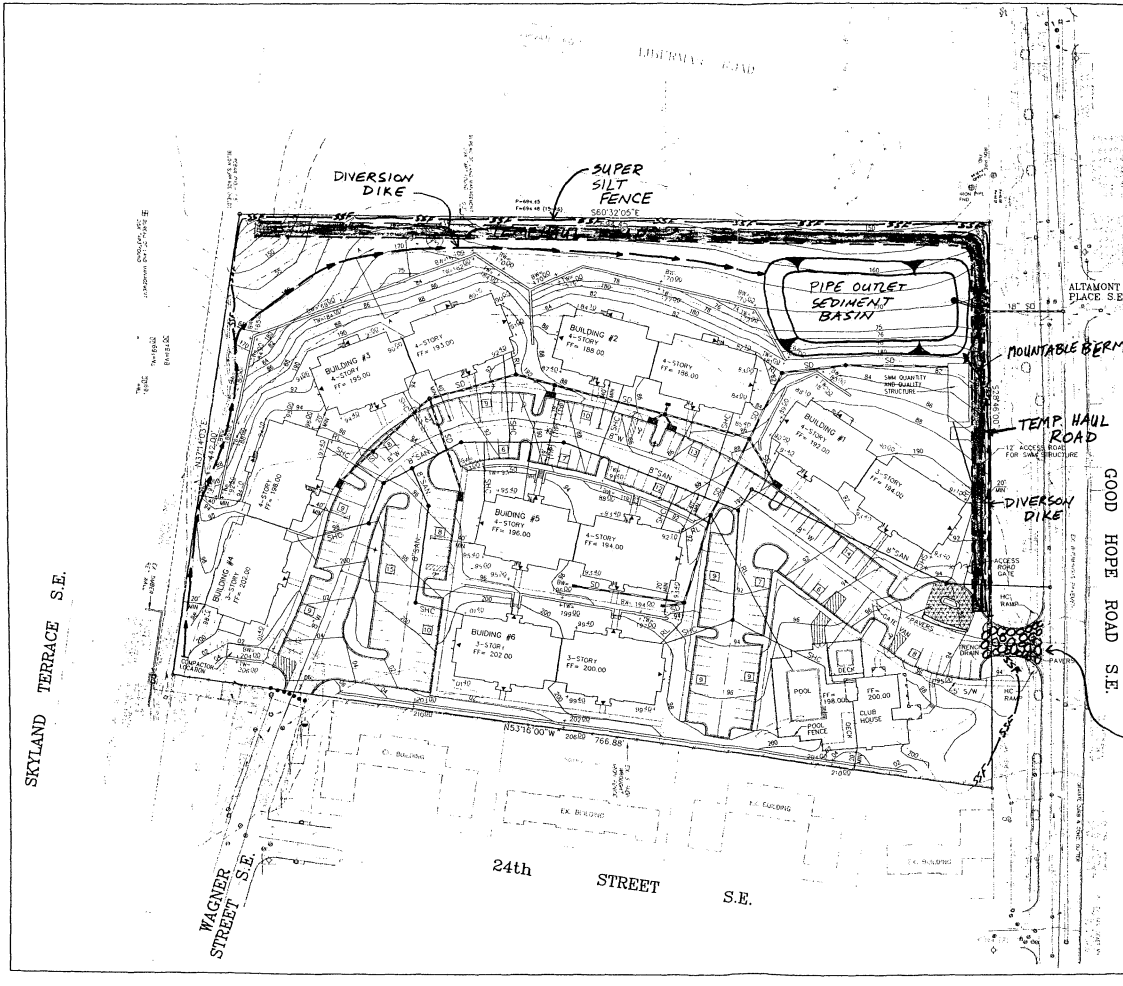
THE HOMES AT WOODMONT
SQUARE 5735
PARCELS 219/96 & 220/31
WASHINGTON, D.C.

SEDIMENT & EROSION CONTROL DETAILS AND NOTES

VIKA REVISIONS

DATE: MAR. 19, 1999
DES. STH | DWN. STF
SCALE: 1"=10'
PROJECT FILE NO. 6207
SHEET NO. 7

THE DISTRICT OF COLUMBIA
DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS



LEGEND:

SD – STORM DRAIN
SHC – SEWER HOUSE CONNECTION
RL – ROOF LEADER
SAN – SANITARY SEWER
W – WATER MAIN
FF – FINISHED FLOOR

SITE TABULATIONS

	EXISTING/REQUIRED	PROPOSED
SITE AREA	8.1549AC	8.1549AC
ZONING	R-5-A	R-5-A
DENSITY/FAR		
MAXIMUM ALLOWED:	9 FAR SITE=8.1549AC X 9=7.33	176 MULTI FAMILY UNITS
OPEN SPACE		
% LOT COVERAGE	40% MAX. OCCUPANCY 3.26 AC	20% OCCUPANCY 1.63 AC

BUILDING SETBACKS

BUILDING TO BUILDING:	VARIES SEE SITE PLAN
FRONT YARD:	B.R.L. (NOT APPLICABLE)
SIDE YARD:	8 FEET
REAR YARD:	20 FEET
BUILDING HEIGHT RESTRICTIONS:	40 FEET

PARKING REQUIREMENTS

OFF-STREET SPACES PER UNIT	184 SPACES PROVIDED
REGULAR SPACE SIZE:	9 FEET X 19 FEET
HANDICAPPED SPACE SIZE:	8 FEET X 19 FEET 2% OF TOTAL REQ'D
HANDICAPPED SPACES	4 SPACES PROVIDED

UNIT TABULATION

TOTAL UNITS	176
2 BR/2 BA @ 930 S.F.	64
2 BR/2 BA @ 1,000 S.F.	56
3 BR/2 BA @ 1,175 S.F.	56

NOTE: ALL ROOF DRAINS SHALL BE PIPED TO SWM STRUCTURE VIA STORM DRAIN SYSTEM.

GRAPHIC SCALE

(IN FEET)
1 inch = 40 ft.

VIKA
CONSULTANTS • SURVEYORS • LANDSCAPE ARCHITECTS • PLANNERS • SITE DESIGNERS
8180 GREENSBORO DRIVE, SUITE 200 MCLEAN, VIRGINIA 22102
(703)442-7800 • FAX (703)761-2787
METRO (703)698-8979

THE HOMES AT WOODMONT

SEDIMENT & EROSION CONTROL PLAN

SITE PLAN
EASTERN PARCEL

VIKA REVISIONS

DATE: MARCH, 1999
DES. KUO | DWN. GF
SCALE: 1"=40'
PROJECT/FILE NO. 6207
SHEET NO. 9

Exhibit F-2

Stormwater Management

DESIGN OF SAND FILTER WATER QUALITY/QUANTITY STRUCTURE #1
STORM FREQUENCY = 15 years
STORM DURATION = 24 hours
TIME OF CONCENTRATION : T_c = 5 min.
RAINFALL INTENSITY: I = 7.36 in/hr

1. FINAL SURFACE ELEVATION, INVERT IN, & INVERT OUT

INV. IN	173	
INV. OUT	165.5	
HEAD DIFFERENCE	7.5	
INFLOW PIPE DIAMETER	2 ft.	
COVER OVER CROWN OF PIPE	1 ft.	
FINAL SURFACE ELEVATION	176	
DEPTH OF FILTER LAYER	2.5 ft.	* top. area only
AREA TO SAND FILTER	2.67 acres*	actual area = 6.15
RUNOFF COEFFICIENT	0.9	actual 'c' = 0.66
FIRST FLUSH RUNOFF	0.5 inches	

2. PEAK DISCHARGE FROM PARKING LOT : Q(PEAK, 15 yr.)
Q(PEAK, 15 yr.) = cia 30.67 cfs

3. VOLUME OF STORAGE NEEDED: V_s
$V_s = D_f \times A_{max} - F \times T \times A_2$
F= 1.18 ft/hr/ T = 1 hr.
A2 = 50 + (I, - 0.1) 167

A_1 = 646.19 USE 693 sq. ft.

A1 = A_2 / 3 = 231.67 USE 232 sq. ft.

Therefore
V_s = (0.5 in.)(1 ft./12 in.)(A_{max})-[(1.18 ft/hr) x (1 hr) x (A_2)]
V_s = 5841 USE 6240 cu. ft.
6240 cu. ft. is the required volume for quantity control

4. VOLUME OF FILTER LAYER: V_m
$V_m = A_2 \times d \times V_v$
V_v = void ratio for sand + gravel + perforated pipe

V_v = 0.6
d = 2.5
V_m = 3042.5 ; USE 3042.5 cu. ft.

5. BOTTOM VOLUME OF FIRST CHAMBER: V_{1B}
$V_{1B} = A1 \times d$

V_{1B} = 580 USE 580 cu. ft.

6. TOP VOLUME OF FIRST AND SECOND CHAMBER:(V_{1T} + V_{2T})
(V_{1T} + V_{2T}) = V_s - (V_m+V_{1B})

(V_{1T} + V_{2T}) = 4617.5 cu. ft.

7. HEIGHT DIFFERENCE AVAILABLE BETWEEN TOP OF FILTER LAYER AND BOTTOM OF SECOND CHAMBER WEIR: H
$V_{1T} + V_{2T} = A_1 \times H + A_2 \times H$
Therefore
Hr= (V_{1T} + V_{2T}) / (A_1 + A_2) = 4.98 ft.

8. WEIR HEIGHT ABOVE INVERT OUT: D
D = W + d

D = 7.48 ft., <= 2.5 ft. (Good)
USE 2.5 ft. for conservative storage volume

8.5. DESIGN INVERT OUT
DESIGN INVERT OUT= INV. IN - D
DESIGN INVERT OUT = 165.52 >= 165.5 (from 1.)

WEIR INV. = INV. OUT + d +H = 173.50 ft.

9. SIZE OF OVERFLOW WEIR OPENING IN SECOND CHAMBER:
L = 2 ft. (assume) for
$Q = CL(H^{3/2})$

L= 2
C = 3.33
Q = 30.67 H = 2.78 ft.
USE 3 ft.

10. SUBMERGED WEIR IN FIRST CHAMBER
L = 7 '
assume h = 1ft.
$Q = C \times A \times$ [square root of (2 x g x H)]

Q = 30.67 cfs
C = 0.6
h = 1 ft.
g = 32.2 ft./sec/sec.
H = Hydraulic head[(inv. in - inv. out) - h/2] =
H = 7 ft.

Solve for A, based on the above equation
A = 2.41 sq. ft.
L = A/h = 2.41 USE 3 ft. for clogging safety

11. STRUCTURE DIMENSIONS: (INTERNAL ONLY)
$A_2 = L_2 \times W_2$ W = 19.5 ft.
Therefore
$L_2 = A_2 / W$ = 35.64 USE 36 ft.

$L_1 = A_1 / W$ = 31.90 USE 33 ft.

L = L_1 + L_2 + L_3 = 52.00 ft.

11.5. TO PREVENT 'SHORT CIRCUITING' IN THE FILTER CHAMBER
$L_3 + L_2 >= 3 \times W$

69.00 >= 58.5 Good

TOTAL INNER HEIGHT
D_i = D + Inflow Pipe Diameter + Freeboard

D = 7.5 ft.
Inflow Pipe dia. (assumed) = 2 ft.
Freeboard 1 ft.
D_i = 10.5 ft.

12. FLOW AND DETENTION TIME AFTER STORAGE VOLUME FILLS UP
$Q = K \times A_2 \times I$
$= K \times A_2 \times (H_{max} / 2) / S$
S = Sand Layer = 1.5 ft.
$T_d = V_s / Q =$

H_{max} = (d + H) -[(perf. pipe dia./2)] = 7.73 ft.
avg. head = H_{max} / 2
Therefore

Q = 1674.0 cu. ft./hr.
Q = 0.2985 cu. ft./s
DAY 0.3 cu. ft. / s

DETENTION TIME = T_d = V_s / Q = 5.81 hr. <= 72 hr. Good

13. INFLOW AND OUTFLOW HYDROGRAPHS
A. INFLOW : Q = CIA

T(min.)	I (in./hr)	Q (cfs)
0	0	0.00
5	7.36	30.69
10	6.9	28.77
15	5.44	22.68
20	4.87	19.96
30	3.95	16.93
45	3.36	12.83
60	2.66	10.80

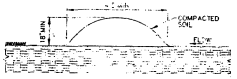
B. TIME AT WHICH OUTFLOW HYDROGRAPH BEGINS
TC x Q_{peak} = 2 x V_s

Q_{peak} = 30.69 cfs at 5 min.
V_s = 6240 cu. ft.
9205.81 cfs 12480 cfs

Therefore TC x Q_{peak} < 2 x V_s

$T = [(2 \times V_s \times T_c)/Q_{max}]^{0.5}$ - 349.3 sec. 5.82 min.

T = 5.82 min. for Q =

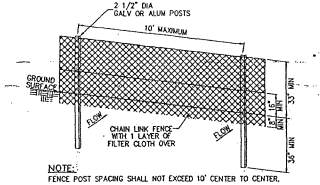


OUTLET
1 THE DIVERTED RUNOFF IS FREE OF SEDIMENT, MUST BE RELEASED THROUGH A STABILIZED OUTLET OR CHANNEL
2 SEDIMENT-LADEN RUNOFF MUST BE DIVERTED AND RELEASED THROUGH A SEDIMENT TRAPPING FACILITY.

CONSTRUCTION SPECIFICATIONS
1. TEMPORARY DIVERSION DIKES MUST BE INSTALLED AS A FIRST STEP IN THE LAND-DISTURBING ACTIVITY AND MUST BE FUNCTIONAL PRIOR TO UPSLOPE LAND DISTURBANCE.
2 THE DIKE SHOULD BE ADEQUATELY COMPACTED to PREVENT FAILURE.
3 TEMPORARY OR PERMANENT SEEDING AND MULCH SHALL BE APPLIED TO THE DIKE IMMEDIATELY FOLLOWING ITS CONSTRUCTION.
4. THE DIKE SHOULD BE LOCATED TO MINIMIZE DAMAGES BY CONSTRUCTION OPERATIONS AND TRAFFIC

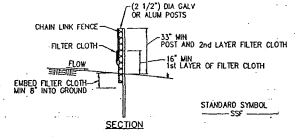
MAINTENANCE
THE MEASURE SHALL BE INSPECTED AFTER EVERY STORM AND REPAIRS MADE TO THE DIKE, FLOW CHANNEL, OUTLET OR SEDIMENT TRAPPING FACILITY, AS NECESSARY. ONCE EVERY TWO WEEKS, WHETHER A STORM EVENT HAS OCCURED OR NOT, THE MEASURE SHALL BE INSPECTED AND REPAIRS MADE IF NEEDED. DAMAGES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY MUST BE REPAIRED BEFORE THE END OF EACH WORKING DAY.

TEMPORARY DIVERSION DIKE
NOT TO SCALE



NOTE:
FENCE POST SPACING SHALL NOT EXCEED 10' CENTER TO CENTER.

PERSPECTIVE VIEW



SECTION

FENCING
FENCING SHALL BE (42") HIGH CHAIN LINK FENCE-CONSTRUCTED IN ACCORDANCE WITH THE LATEST MSHA STANDARD DETAILS FOR CHAIN LINK FENCING. THE SPECIFICATIONS FOR A (6'-0") FENCE SHALL BE USED, SUBSTITUTING (42") FABRIC AND (6'-0") LENGTH POSTS.

1. THE POLES DO NOT NEED TO SET IN CONCRETE.
2. CHAIN LINK FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
3. FILTER CLOTH TO BE FASTENED SECURLEY TO CHAIN LINK FENCE WITH TIES SPACED EVERY (24") AT TOP AND MID SECTION.
4. FILTER CLOTH SHALL BE EMBEDDED A MINIMUM (8") INTO THE GROUND.
5. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY (6") AND FOLDED.
6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND SILT BUILDUPS REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE.

SUPER SILT FENCE
NOT TO SCALE

VIKA
VIKA INCORPORATED
ENGINEERS · PLANNERS · SURVEYORS · LANDSCAPE ARCHITECTS
8180 GREENSBORO DRIVE, SUITE 200, MCLEAN, VIRGINIA 22102
TEL: (703) 442-7800 FAX: (703) 761-2787
WEB: http://www.vika.com

THE HOMES AT WOODMONT
SQUARE 5735
PARCELS 219/96 & 220/31
WASHINGTON, D.C.

STORMWATER MANAGEMENT COMPUTATIONS

VIKA REVISIONS

DATE: MAR. 19, 1999
DES. STF | DWN. STF
SCALE: N/A
PROJECT/FILE NO. 6207
SHEET NO. 8

Exhibit F-3

Wetlands Data and Approval

Planning
Site Engineering
Transportation
Environmental
Surveying/Mapping

Greenhorne & O'Mara, Inc. *Founded in 1950*

11211 WAPLES MILL ROAD FAIRFAX, VIRGINIA 22030 PHONE 703-385-9800 FAX 703-385-5721

January 8, 1999

U.S. Army Corps of Engineers
Baltimore District
ATTN: CENAB-OP-RP: Mr. George Harrison ← (410) 962-6002
Potomac Basins Permits Section
P.O. Box 1715
Baltimore, Maryland 21203-1715

RE: Jurisdictional Determination Request
Ft. Stanton Property, Washington, D.C.

Dear Mr. Harrison:

This is a request for a Jurisdictional Determination for a property comprised of two parcels in the Southeast portion of Washington, D.C.

The Agent is:

Greenhorne & O'Mara, Inc.
11211 Waples Mill Road
Fairfax, VA 22030-6050

Attn: Mr. Dan Lucey

The Applicant is:

KSI, Inc.
8081 Wolftrap Road
Vienna, VA 22182

Attn: Mr. Dick Knapp

DESCRIPTION OF THE PROPERTY:

The property consists of two parcels adjacent to Good Hope Road in the District of Columbia. The parcels total 15 acres, with the "Eastern" property comprising approximately 7 acres and the "Western" property comprising approximately 8 acres. The Eastern parcel was filled with excess material from Metro construction in the early 1980's. Approximate fill depths range from a foot or two on the eastern portion of the parcel to about 40 feet near the western edge of the parcel. The entire parcel slopes gently to the west, with a steep bank on the western parcel edge. The vegetation on the eastern parcel is primarily grass and forbs, with two small areas of volunteer black locust.

The Western parcel is generally steep, with most slopes over 15%. The primary vegetation on the parcel is relatively mature hardwood forest. White oak, beech, and tulip poplar dominate the forest. The eastern boundary of the parcel is separated from the western boundary of the Eastern parcel by about 200 feet. The property between the parcels is owned by the National Park Service as part of the Ft. Stanton Park. Surface drainage from the Eastern parcel is conveyed to the Western parcel across the National Park Service property via a storm drain and surface flow.

A vicinity map is included as an inset to the delineation map.

DRAINAGE DESCRIPTION:

An unnamed tributary to the Anacostia River drains the property. A prominent storm drain discharges storm water onto the western parcel as shown on the enclosed delineation map. Near the western boundary of the western parcel, the surface flow again enters a culvert. This culvert apparently discharges directly into the District of Columbia Storm Water System, and no further surface flow (downstream) is apparent.

WETLAND DELINEATION:

In January of 1999, G&O scientists conducted a detailed wetland delineation. This delineation was conducted in accordance with the Corps of Engineers Wetland Delineation Manual, Technical Report Y-87-1. The delineation boundaries were flagged with numbered pink plastic flagging labeled "Wetland Delineation". The delineation resulted in identifying the following jurisdictional areas:

EASTERN PARCEL:

200 lf of 2-foot wide Intermittent Waterway (WOUS-R-4).

WESTERN PARCEL:

Four forested wetlands totaling approximately 0.6 acres (PFO)
375 lf of 4-foot wide Intermittent Waterway (WOUS-R-4)
75 lf of 20-foot wide Intermittent Waterway (WOUS-R-4)
50 lf of 18-foot-wide Intermittent Waterway (WOUS-R-4)
125 lf of 18-foot wide Perennial Waterway (WOUS-R-3)

G&O also installed 5 field data plots on the project. Of these plots, two were in upland and three were in wetlands. Data forms for the plots are in enclosed.

DESCRIPTION OF JURISDICTIONAL AREAS:

All of the waterways (R-3, R-4) are essentially devoid of vegetation. All are incised. Wetlands 2, A, and B, are drained by braided segments of these waterways. Wetland 3 is not in-line and was created by backwater from the stormwater inlet near the western boundary of the western parcel.

VEGETATION: Within the forested wetlands, the dominant overstory vegetation is Red maple (Acer rubrum), Sweet gum (Liquidambar styraciflua), American elm (Ulmus americana), and Silver maple (Acer saccharinum). The understory vegetation varies, but is dominated by Japanese honeysuckle (Lonicera japonica), Common greenbrier (Smilax rotundifolia), and Northern spicebush (Lindera benzoin).

SOILS : The soils in the forested wetland areas mapped primarily as Croom and Christiana series. Croom is classified as a gravelly silt loam and Christiana is classified as silt loam. Within the wetland areas, gleying and low chroma soils are evident. In Wetland 3, oxidized root channels are also evident.

HYDROLOGY: As described above, the hydrology is furnished by surface flow associated with the unnamed tributary to the Anacostia River.

FORESTED WETLAND SIZES:
WETLAND 2.....0.08 Acres
WETLAND 3.....0.33 Acres
WETLAND A.....0.06 Acres
WETLAND B.....0.12 Acres
TOTAL.....0.59 Acres

The applicant is anxious to obtain a Jurisdictional Determination for the above delineation. We would like to accompany you on your field visit. Please call me at (703)-385-9800 to coordinate the field visit. If in the interim, you have questions, please let me know.

Sincerely,

Daniel C. Lucey

Daniel C. Lucey
Environmental Engineer
Environmental Services Group
Greenhorne & O'Mara, Inc.

Enclosures:
Data Sheets, Plots 1-5
USGS Quad (Anacostia, DC/MD)
Delineation Map

Cc: Richard Knapp, with enclosures.
Lynn Stemy, with enclosures

ANACOSTIA QUADRANGLE

TOPO! map printed on 01/07/99 from "Dcbaltmr.tpo" and "Untitled.tpg"



FT. STANTON

No profile exists. Choose 'Build Profile' from the pop-up options menu of a route.

PARCEL CENTROID (NAD'83)

7000664 N

DATA FORM

ROUTINE WETLAND DETERMINATION

(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	**Project No:**	**Date:** 5-Jan-1999
Applicant/Owner: KSI		**County:**
Investigators: LS, RN		**State:** District of Columbia
		Plot ID: 1

Do Normal Circumstances exist on the site?	Yes (No)	**Community ID:** PFO
Is the site significantly disturbed (Atypical Situation:)?	(Yes) No	**Transect ID:**
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		Wetland data point 1

VEGETATION **(USFWS Region No. 1)**

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum	Tree	FAC	*Liquidambar styraciflua*	Tree	FAC
Maple,Red			Gum,Sweet		
Toxicodendron radicans	Shrub	FAC	*Acer negundo*	Tree	FAC+
Ivy,Poison			Box-Elder		
Ailanthus altissima	Tree	NI	*Lonicera japonica*	Tree	FAC-
Tree-Of-Heaven			Honeysuckle,Japanese		
Smilax rotundifolia	Shrub	FAC			
Greenbrier,Common					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 5/6 = 83.33%

FAC Neutral: 0/0 = 0.00%

Numeric Index: 18/6 = 3.00

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	= 0-2 *(in.)*
Depth to Free Water in Pit:	= 0 *(in.)*
Depth to Saturated Soil:	= 0 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- YES Saturated in Upper 12 Inches
- YES Water Marks
- NO Drift Lines
- YES Sediment Deposits
- YES Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- YES Water-Stained Leaves
- NO Local Soil Survey Data
- NO FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:

WetFormᵘᵐ

DATA FORM
ROUTINE WETLAND DETERMIN. ON
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner: KSI		County:
Investigators: LS, RN		State: District of Columbia
		Plot ID: 2

Do Normal Circumstances exist on the site?	Yes (No)	Community ID: Forest
Is the site significantly disturbed (Atypical Situation:)?	(Yes) No	Transect ID:
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		Upland data point 2

VEGETATION (USFWS Region No. 1)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer rubrum	Tree	FAC	*Lonicera japonica*	Shrub	FAC-
Maple,Red			Honeysuckle,Japanese		
Liquidambar styraciflua	Tree	FAC	*Toxicodendron radicans*	Vine	FAC
Gum,Sweet			Ivy,Poison		
Liriodendron tulipifera	Tree	FACU	*Quercus alba*	Vine	FACU-
Tree,Tulip			Oak,White		
Ilex opaca	Shrub	FACU+			
Holly,American					

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 3/7 = 42.86%

FAC Neutral: 0/3 = 0.00%

Numeric Index: 24/7 = 3.43

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- NO Saturated in Upper 12 Inches
- NO Water Marks
- NO Drift Lines
- NO Sediment Deposits
- NO Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- NO FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:

WetForm[vn]

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	**Project No:**	**Date:** 5-Jan-1999
Applicant/Owner: KSI		**County:**
Investigators: LS, RN		**State:** District of Columbia
		Plot ID: 1

SOILS

Map Unit Name (Series and Phase): Udorthents
Map Symbol: U1 **Drainage Class:** N/A **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): Udorthents **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-3	A	10YR3/3	N/A	N/A	N/A	Clay loam
3-7	C1	7.5YR4/4	N/A	N/A	N/A	Clay loam
8-16	C2	10YR3/1	N/A	N/A	N/A	Clay loam

Hydric Soil Indicators:

NO Histosol	NO Concretions
NO Histic Epipedon	NO High Organic Content in Surface Layer in Sandy Soils
NO Sulfidic Odor	NO Organic Streaking in Sandy Soils
NO Aquic Moisture Regime	NO Listed on Local Hydric Soils List
NO Reducing Conditions	NO Listed on National Hydric Soils List
YES Gleyed or Low Chroma Colors	NO Other (Explain in Remarks)

Remarks:
C2 horizon (8-16 inches in depth) very wet and full of tiny roots. Soil also appears to be highly disturbed, composed of fill material.

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

Explanation for response to: Normal Circumstances? Atypical Situation ? Potential Problem Area ?
The wetland is located adjacent to the fill area and appears to be formed by a seep at the base of the fill. The water flow from the seep has been partially blocked further down by a culvert under a trail creating the saturated soils and wetland conditions.

WetForm

DATA FORM
ROUTINE WETLAND DETERMINA. ON
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	**Project No:**	**Date:** 5-Jan-1999
Applicant/Owner: KSI		**County:**
Investigators: LS, RN		**State:** District of Columbia
		Plot ID: 2

SOILS

Map Unit Name (Series and Phase): Udorthents, clayey

Map Symbol: US **Drainage Class:** N/A **Mapped Hydric Inclusion?**

Taxonomy (Subgroup): Udorthents **Field Observations Confirm Mapped Type?** Yes (No)

Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-16	C	7.5YR4/4	N/A	N/A	N/A	Sandy clay loam

Hydric Soil Indicators:

- NO Histosol
- NO Histic Epipedon
- NO Sulfidic Odor
- NO Aquic Moisture Regime
- NO Reducing Conditions
- NO Gleyed or Low Chroma Colors
- NO Concretions
- NO High Organic Content in Surface Layer in Sandy Soils
- NO Organic Streaking in Sandy Soils
- NO Listed on Local Hydric Soils List
- NO Listed on National Hydric Soils List
- NO Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland?	Yes (No)
Wetland Hydrology Present?	Yes (No)		
Hydric Soils Present?	Yes (No)		

Remarks:

Explanation for response to: Normal Circumstances? Atypical Situation ? Potential Problem Area ?

The site has been previously disturbed by the placement of fill material.

WetForm™

DATA FORM
ROUTINE WETLAND DETERMIN. ON
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner: KSI		County:
Investigators: LS, RN		State: District of Columbia
		Plot ID: 3

Do Normal Circumstances exist on the site?	(Yes) No	Community ID: Floodplain PFO
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		Wetland data point 2

VEGETATION (USFWS Region No. 1)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Liquidambar styraciflua	Tree	FAC	*Toxicodendron radicans*	Vine	FAC
Gum,Sweet			Ivy,Poison		
Lindera benzoin	Shrub	FACW-	*Lonicera japonica*	Vine	FAC-
Spicebush,Northern			Honeysuckle,Japanese		
Acer negundo	Shrub	FAC+	*Rubus allegheniensis*	Vine	FACU-
Box-Elder			Blackberry,Allegheny		
Acer rubrum	Tree	FAC	*Physocarpus opulifolius*	Shrub	FACW-
Maple,Red			Ninebark,Eastern		

Percent of Dominant Species that are OBL, FACW or FAC:	FAC Neutral: 2/3 = 66.67%
(excluding FAC-) 6/8 = 75.00%	Numeric Index: 23/8 = 2.88

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	= 6 *(in.)*
Depth to Saturated Soil:	= 6 *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- YES Saturated in Upper 12 Inches
- YES Water Marks
- NO Drift Lines
- YES Sediment Deposits
- YES Drainage Patterns in Wetlands

Secondary Indicators
- YES Oxidized Root Channels in Upper 12 Inches
- YES Water-Stained Leaves
- NO Local Soil Survey Data
- YES FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:

WetForm^WP

DATA FORM
ROUTINE WETLAND DETERMINA ON
(1987 COE Wetlands Delineation Manual)

Project/Site:	Fort Stanton	**Project No:**	**Date:** 5-Jan-1999
Applicant/Owner:	KSI		**County:**
Investigators:	LS, RN		**State:** District of Columbia
			Plot ID: 3

SOILS

Map Unit Name (Series and Phase): Udorthents
Map Symbol: U1 **Drainage Class:** N/A **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): Udorthents **Field Observations Confirm Mapped Type?** Yes (No)
Profile Description

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-2	A	10YR3/3	N/A	N/A	N/A	Clay loam
2-8	A	10YR4/4	N/A	N/A	N/A	Clay loam
8-16	B	10YR3/2	7.5YR5/8	Few	Faint	Clay loam

Hydric Soil Indicators:

NO Histosol	NO Concretions
NO Histic Epipedon	NO High Organic Content in Surface Layer in Sandy Soils
NO Sulfidic Odor	NO Organic Streaking in Sandy Soils
NO Aquic Moisture Regime	NO Listed on Local Hydric Soils List
NO Reducing Conditions	NO Listed on National Hydric Soils List
YES Gleyed or Low Chroma Colors	NO Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:
Wetland located in floodplain of stream with braided channel.

DATA FORM
ROUTINE WETLAND DETERMINA ON
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner: KSI		County:
Investigators: LS, RN		State: District of Columbia
		Plot ID: 4

Do Normal Circumstances exist on the site?	(Yes) No	Community ID: PFO
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		Wetland data point 3

VEGETATION (USFWS Region No. 1)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Acer saccharinum	Tree	FACW	*Rosa blanda*	Herb	FACU
Maple,Silver			Rose,Smooth		
Ulmus americana	Tree	FACW-	*Acer rubrum*	Tree	FAC
Elm,American			Maple,Red		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 3/4 = 75.00%

FAC Neutral: 2/3 = 66.67%

Numeric Index: 11/4 = 2.75

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

- Depth of Surface Water: N/A *(in.)*
- Depth to Free Water in Pit: N/A *(in.)*
- Depth to Saturated Soil: N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- NO Saturated in Upper 12 Inches
- YES Water Marks
- NO Drift Lines
- YES Sediment Deposits
- YES Drainage Patterns in Wetlands

Secondary Indicators
- YES Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- YES FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:

DATA FORM
ROUTINE WETLAND DETERMIN. ON
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner: KSI		County: .
Investigators: LS, RN		State: District of Columbia
		Plot ID: 4

SOILS

Map Unit Name (Series and Phase): Udorthents, clayey
Map Symbol: U5 Drainage Class: N/A
Mapped Hydric Inclusion?
Taxonomy (Subgroup): Udorthents
Field Observations Confirm Mapped Type? Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions, Structure, etc
0+	A	10YR4/2	7.5YR5/8	Common Prominent	Clay loam

Hydric Soil Indicators:

NO Histosol	NO Concretions
NO Histic Epipedon	NO High Organic Content in Surface Layer in Sandy Soils
NO Sulfidic Odor	NO Organic Streaking in Sandy Soils
NO Aquic Moisture Regime	NO Listed on Local Hydric Soils List
NO Reducing Conditions	NO Listed on National Hydric Soils List
YES Gleyed or Low Chroma Colors	NO Other (Explain in Remarks)

Remarks:

WETLAND DETERMINATION

Hydrophytic Vegetation Present?	(Yes)	No	Is the Sampling Point within the Wetland? (Yes) No
Wetland Hydrology Present?	(Yes)	No	
Hydric Soils Present?	(Yes)	No	

Remarks:

DATA FORM
ROUTINE WETLAND DETERMIN/ ON
(1987 COE Wetlands Delineation Manual)

Project/Site:	Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner:	KSI		County:
Investigators:	LS, RN		State: District of Columbia
			Plot ID: S

Do Normal Circumstances exist on the site?	(Yes) No	Community ID: Forest
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	Transect ID:
Is the area a potential Problem Area?	Yes (No)	Field Location:
(If needed, explain on the reverse side)		Upland data point 1

VEGETATION (USFWS Region No. 1)

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Ulmus americana	Tree	FACW-	*Lonicera japonica*	Tree	FAC-
Elm,American			Honeysuckle,Japanese		
Robinia pseudoacacia	Tree	FACU-	*Ilex opaca*	Tree	FACU+
Locust,Black			Holly,American		

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 1/4 = 25.00%

FAC Neutral: 1/3 = 33.33%

Numeric Index: 13/4 = 3.25

Remarks:

HYDROLOGY

NO Recorded Data(Describe in Remarks):
- N/A Stream, Lake or Tide Gauge
- N/A Aerial Photographs
- N/A Other

YES No Recorded Data

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

Primary Indicators
- NO Inundated
- NO Saturated in Upper 12 Inches
- NO Water Marks
- NO Drift Lines
- NO Sediment Deposits
- NO Drainage Patterns in Wetlands

Secondary Indicators
- NO Oxidized Root Channels in Upper 12 Inches
- NO Water-Stained Leaves
- NO Local Soil Survey Data
- NO FAC-Neutral Test
- NO Other(Explain in Remarks)

Remarks:

WetForm^{vn}

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: Fort Stanton	Project No:	Date: 5-Jan-1999
Applicant/Owner: KSI		County:
Investigators: LS, RN		State: District of Columbia
		Plot ID: 5

SOILS

Map Unit Name (Series and Phase): Udorthents
Map Symbol: U1 Drainage Class: N/A
Taxonomy (Subgroup): Udorthents
Mapped Hydric Inclusion?
Field Observations Confirm Mapped Type? Yes (No)
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-5	A	2.5YR4/6	N/A	N/A	N/A	Sandy clay loam
5-18	B	7.5YR6/8	N/A	N/A	N/A	Sandy clay loam

Hydric Soil Indicators:

NO Histosol	NO Concretions
NO Histic Epipedon	NO High Organic Content in Surface Layer in Sandy Soils
NO Sulfidic Odor	NO Organic Streaking in Sandy Soils
NO Aquic Moisture Regime	NO Listed on Local Hydric Soils List
NO Reducing Conditions	NO Listed on National Hydric Soils List
NO Gleyed or Low Chroma Colors	NO Other (Explain in Remarks)

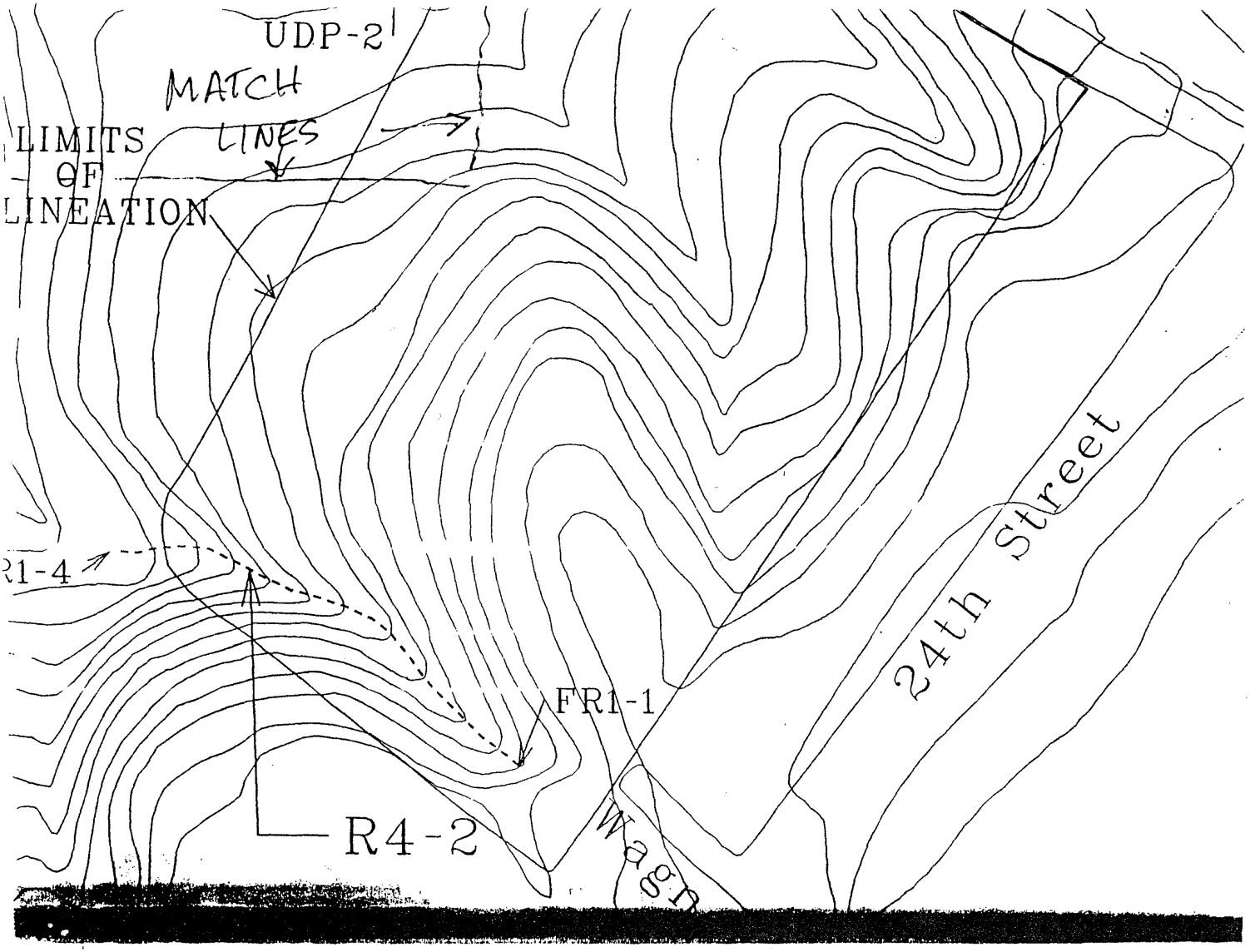
Remarks:

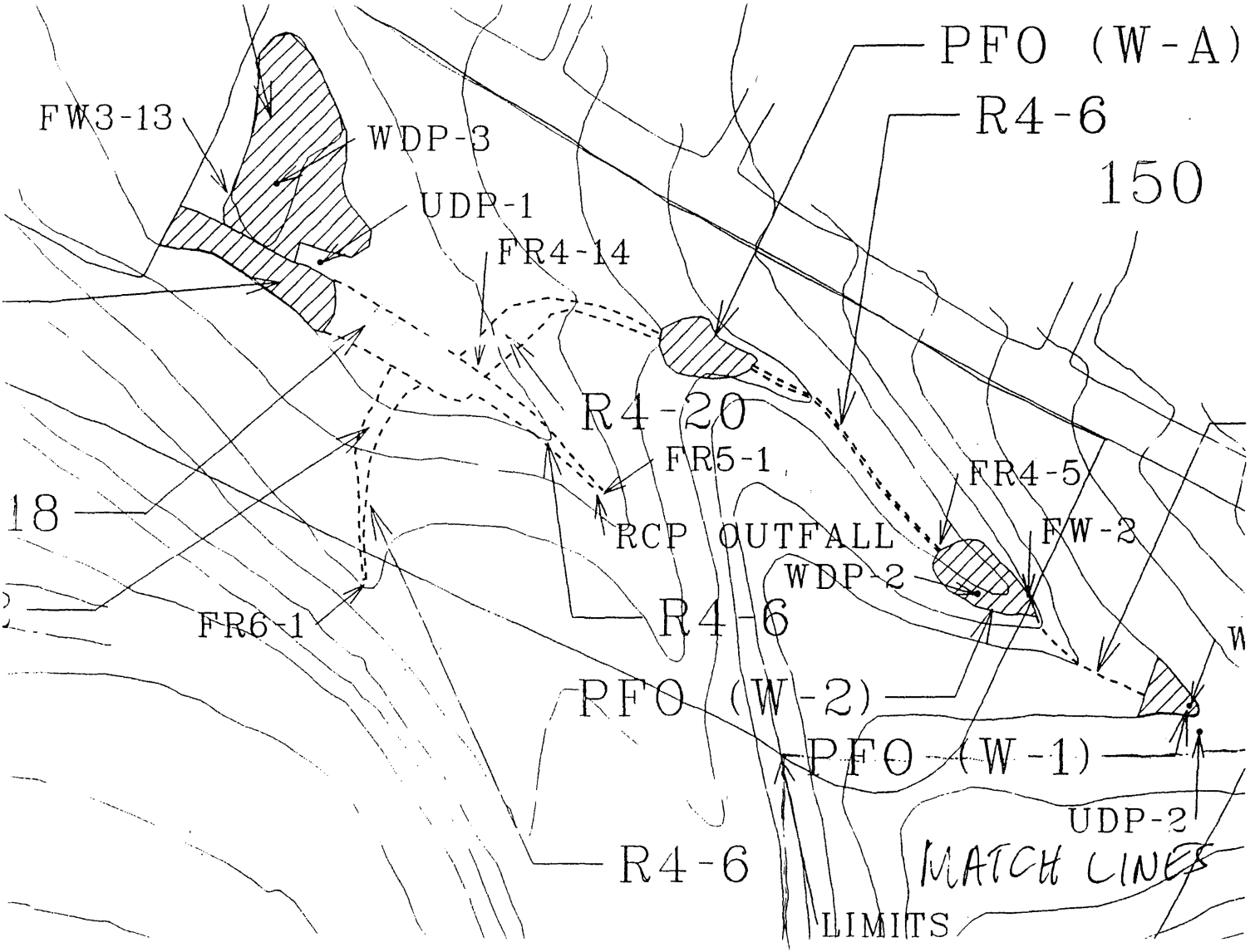
WETLAND DETERMINATION

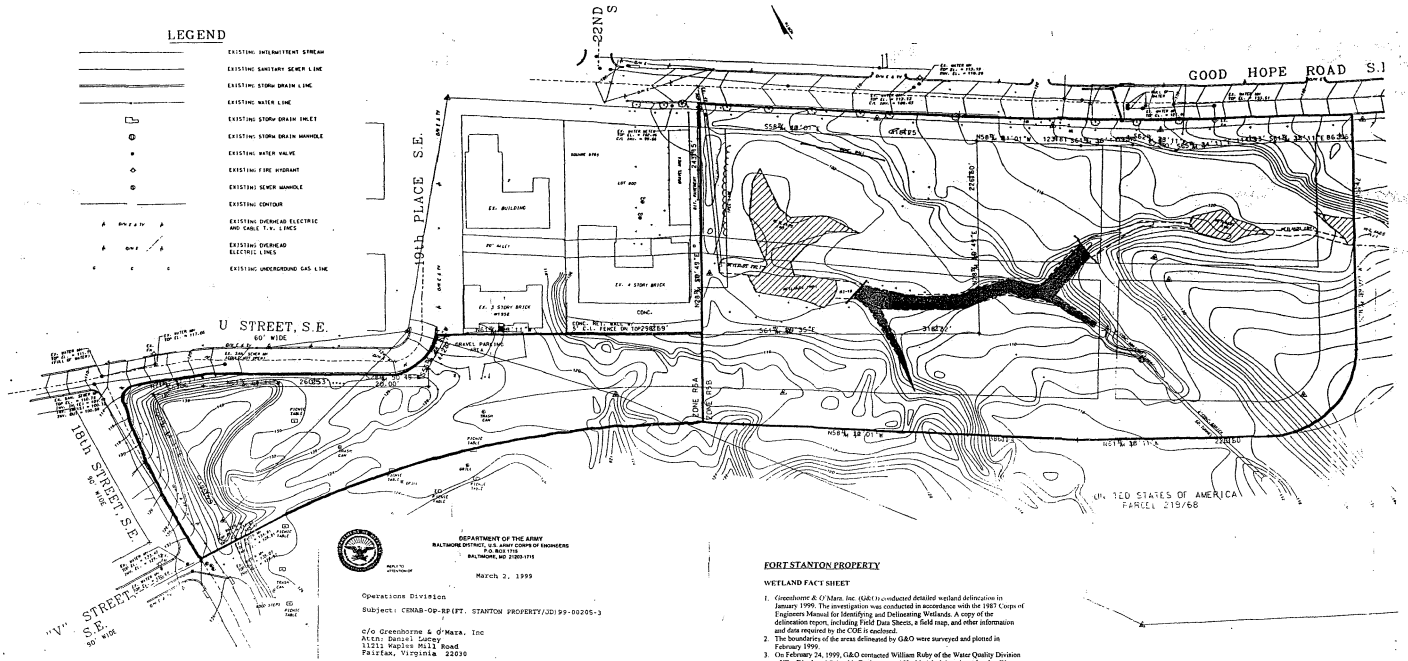
Hydrophytic Vegetation Present?	Yes (No)	Is the Sampling Point within the Wetland? Yes (No)
Wetland Hydrology Present?	Yes (No)	
Hydric Soils Present?	Yes (No)	

Remarks:

WetForm[MR]


UDP-2
MATCH
LINES
LIMITS
OF
LINEATION
R1-4
FR1-1
R4-2
24th Street
Wash


PFO (W-A)
R4-6
150
FW3-13
WDP-3
UDP-1
FR4-14
R4-20
FR5-1
FR4-5
18
RCP OUTFALL
FW-2
WDP-2
FR6-1
R4-6
PFO (W-2)
PFO (W-1)
UDP-2
R4-6
MATCH LINES
LIMITS



FORT STANTON PROPERTY
WETLAND DELINEATION MAP
West Parcel

(AS APPROVED BY US ARMY COE, March 2, 1999)

Approved Limits of Waters of the U.S. (non-vegetated)

Approved Limits of Vegetated Wetlands

Limits of proposed Impacts (Section 404 Permit)

Scale 1" = 50 feet. Greenborne & O'Mara, Inc.

DEPARTMENT OF THE ARMY
BALTIMORE DISTRICT, US ARMY CORPS OF ENGINEERS
P.O. BOX 1715
BALTIMORE, MD 21203-1715

March 2, 1999

Operations Division

Subject: CENAB-Op-RP(FT. STANTON PROPERTY/JD/99-00205-3

c/o Greenborne & O'Mara, Inc
Attn: Daniel Lacey
11211 Waples Mill Road
Fairfax, Virginia 22030

Dear Mr. Lucey:

I am replying to your letter, dated January 8, 1999, requesting a jurisdictional determination and verification of the delineation of waters of the United States, including jurisdictional wetlands, on property located off of Good Hope Road, District of Columbia.

A field inspection was conducted on January 22, 1999. This inspection indicated that the delineation of waters of the United States, including jurisdictional wetlands, on the enclosed map is accurate. Those areas indicated as waters of the United States, including non-tidal wetlands, are regulated by this office pursuant to Section 404 of the Clean Water Act. This verification is valid for five years from the date of this letter, unless new information warrants a revision before the expiration date.

You are reminded that any grading or filling of waters of the United States, including jurisdictional wetlands, is subject to Department of the Army authorization. In addition, the Interstate Land Sales Full Disclosure Act may require that prospective buyers be made aware, by the seller, of the Federal authority over any waters of the United States, including jurisdictional wetlands, being purchased.

If you have any questions concerning this matter, please call George Harrison of this office at (410) 962-6002.

Sincerely,

Richard E. Spencer
Chief, Potomac Basin Section

FORT STANTON PROPERTY

WETLAND FACT SHEET

1. Greenborne & O'Mara, Inc. (G&O) conducted detailed wetland delineation in January 1999. The investigation was conducted in accordance with the 1987 Corps of Engineers Manual for Identifying and Delineating Wetlands. A copy of the delineation report, including Field Data Sheets, a field map, and other information and data required by the COE is enclosed.
2. The boundaries of the areas delineated by G&O were surveyed and plotted in February 1999.
3. On February 24, 1999, G&O contacted William Ruby of the Water Quality Division of The District of Columbia Environmental Health Administration related to Water Quality Certification requirements for proposed wetland impacts on the project. Mr. Ruby requested that discussions be deferred until after the COE issued a JD and the COE had expressed a position related to wetland impacts under Section 404 (CWA).
4. On March 2, 1999, the Baltimore COE issued a Jurisdictional Determination (JD) approving the limits of the jurisdictional areas as proposed. The JD is valid for 5 years.
5. On May 4, 1999, G&O met with George Harrison of the Baltimore Office of the COE related to proposed wetland impacts on the property.
6. Mr. Harrison concluded that the nature and amount of proposed impact (approximately 0.15 acres to non-vegetated Waters of the US) are consistent with COE regulations, and that he would recommend that a permit be issued for the impacts upon request.
7. G&O is in the process of coordinating with Mr. Ruby to address Water Quality Certification Requirements, including mitigation.
8. Here is a summary of the Wetland Inventory and Proposed Wetland Impacts on the property:

	Vegetated Wetlands Present (Square Feet)	Waters of the US Non-vegetated Present (Square Feet)	TOTALS
WEST PARCEL	23,700	10,350	35,050
EAST PARCEL	0	600	600
TOTAL	23,700	10,950	35,650
PROPOSED IMPACT	0	6,400*	6,400

This estimated proposed impact is less than 0.15 acres. * = No impact is proposed on the Eastern Parcel

Exhibit F-4

Geotechnical Report – Public File

WHITLOCK DALRYMPLE POSTON & ASSOCIATES, INC.
CONSULTING ENGINEERS

November 20, 1998

Greenhorne & O'Mara, Inc.
11211 Waples Mill Road
Fairfax, Virginia 22030-6050

Attention: Mr. Dan Lucey

Subject: **Geotechnical Feasibility Study**
Fort Stanton Property
Goodhope Road and 24th Street, S.E.
Washington, D.C.
WDP Project No. 06-98106

Dear Mr. Lucey:

Whitlock Dalrymple Poston & Associates, Inc. (WDP) is pleased to transmit four (4) copies of the Geotechnical Feasibility Study for the Fort Stanton Property at the intersection of Goodhope Road and 24th Street, S.E. in Washington, D.C. Limited field exploration (backhoe test pits) including visual-manual soil classification and report preparation was performed in accordance with WDP's Work Authorization Form, dated November 4, 1998. To further aid in the preparation of this study, WDP received preliminary development information including approximate original and existing contour plans as well as proposed preliminary grade changes information from Mr. Lucey and Mr. Ernie Anderson with Greenhorne & O'Mara (G&O).

PROJECT UNDERSTANDING

From our discussions and review of preliminary development information, it is our understanding that several garden-style apartment structures and associated site improvements are proposed at this time. Retaining structures and/or slopes (both cut and fill) may be necessary in order to achieve final design grades, which are in preliminary design phase. Approximate grade changes may be on the order of 20± feet and 10± feet in cut and fill, respectively. A retaining structure is being considered along the south/southwest property boundary along the toe of the existing slope as well as the addition of fill soils upon the existing westerly facing slope.

WDP

8832 RIXLEW LANE

MANASSAS, VA 20109

703-257-9280 TEL

703-257-7589 FAX

wdpa@erols.com

SITE DESCRIPTION

The geotechnical feasibility study area is comprised of a nearly rectangular, 8± acre vacant parcel of land covered with a moderate growth of wild grass and a few small scattered trees. A lightly wooded area was noted within the southeast portion of the property. An existing earth berm/swale drainage feature crosses the property from near the northeast corner down towards the southwest corner/slope area. The site generally slopes to the west; relatively gently up to the earth berm/swale then gradually increasing in steepness to an approximate 2 to 2-1/2 H:1V ratio. Some erosion gulleys and rivulets (up to 18-24 inches deep) were observed within the grass-covered slope faces along the southern and western property limits. No apparent significant slope instabilities, either gross or surficial were observed. Total site relief is on the order of 60± feet with a high elevation of 210± north of the lightly wooded tree area and a low elevation of 150± along the western property boundary. The property is bordered by Goodhope Road to the north, by residences and 24th Street to the east, woods and residential development under construction to the south and heavily wooded, Fort Stanton Park to the west. A Site Vicinity Map has been included at the end of this report.

FIELD EXPLORATION/TEST PIT OBSERVATIONS

Thirteen (13) backhoe test pits were excavated on November 17, 1998 at the approximate location indicated on the attached Test Pit Location Plan. Test pit locations/elevations were approximated from the existing site features/topography and elevation contours indicated on the Test Pit Location Plan. Test pit logs are included with this report with visual-manual soil classification performed in accordance with ASTM D-2488 procedures. Laboratory testing was beyond the authorized scope of services for this phase of the project.

WDP

Beneath a moderate growth of wild grasses and thin 2± inch veneer of moderately organic silts/sands, test pit observations can be categorized into two (2) distinct strata as described below:

Stratum I - Existing Fill Materials

Consists of brown, grayish, and reddish/yellow brown, grayish black variable quality and strength existing fill materials comprised of Silty to Clayey SANDS (USCS SM/SC), Sandy to Silty CLAYS (USCS CL/CH) and Sandy SILTS (USCS ML) with variable gravel and cobble/boulder content. Miscellaneous debris such as brick, wood, concrete and asphalt pieces, wire, steel, glass, plastic, paper and rubber were observed in varying amounts throughout the existing fill materials. Several large concrete and asphalt pieces encountered with Test Pits Nos. 2, 3, 4, 5, 6, 10 and 13 resulted in backhoe excavation difficulties and subsequent refusal. A 5-gallon plastic oil/grease container was encountered within Test Pit No. 9. The existing fill materials generally ranged from loose/soft to medium dense/medium stiff and moist to very moist/wet. Some slight to moderate organic odors were detected during test pit explorations at random locations/elevations.

5 gallon plastic oil/grease can

-Odors at Random Locations

Based upon the topography/contour information from Greenhorne & O'Mara representatives superimposed by WDP on the Test Pit Location Plan, existing fill material depths exist across the site ranging from 4± to 20± feet and up to 40± feet. These fill depths appear to be located within previous drainage paths/valleys running through the north, central and southern portions of the site as well as the 50± foot high fill slope along the western property boundary.

50+ High

The table below presents the approximated depths of fill material at the Test Boring locations based upon the submitted contour plans. The test pit observations/logs correlate well to the approximate depths of fill where natural soils were encountered within the test pits.

Test Pit - Surface Elevation	Encountered Depth/Elevation of Fill	Plan-approximated Depth of Fill	Remarks
1 - 204±	11± ft/193	14-15± feet	
2 - 208±	3-1/2 ft/204.5	14-15± feet	Refusal on buried asphalt - possible road
3 - 210±	2-1/2 ft/207.5	19-21± feet	Refusal on buried asphalt - possible road

WDP

Test Pit - Surface Elevation	Encountered Depth/Elevation of Fill	Plan-approximated Depth of Fill	Remarks
4 - 211±	0.5 ft/210.5	10-12± feet	Refusal on buried asphalt - possible road
5 - 208±	7 ft/201	13-15± feet	Refusal on buried oversized debris
6 - 200±	8 ft/192	30-32± feet	Refusal on buried oversized debris
7 - 203±	6± ft/197	4-8± feet	Native soils at 6± feet
8 - 204±	3± ft/201	3-5± feet	Native soils at 3± feet
9 - 204±	10± ft/194	23-25± feet	
10 - 198±	5± ft/193	26-30± feet	Refusal on buried oversized debris
11 - 197±	11± ft/186	20-22± feet	
12 - 198±	10± ft/188	18-20± feet	
13 - 195±	8± ft/187	25-30± feet	Refusal on buried oversized debris

Limited soil compaction test data was submitted for review from Cohen Engineers, dated November 14, 1986. It is not known what the minimum compaction specification was under which these fill materials were placed and compacted/tested. Furthermore, the locations indicate an unknown station reference with no elevations for the test locations. All twenty-five (25) density tests were noted to be performed on the same day, October 7, 1986. The cover letter for the test data suggests that additional density tests were performed during other periods of fill placement and compaction.

Existing fill soils proposed for reuse should possess Liquid Limits and Plasticity Indices less than 45% and 20%, respectively, and be free of debris, oversized materials, and/or other deleterious matter. Moisture content adjustments can be expected, as well as screening of debris and/or oversized materials, in view of the test pit observations.

Stratum II - Native Soils

Consists of yellow to orange brown/gray, medium dense to medium stiff, Clayey SANDS (USCS SC), Sandy SILT (USCS ML) and Sandy CLAY (USCS CL) with some gravels and cobbles. These soils were in a generally moist condition and only encountered at Test Pit Nos. 7 and 8 at 6± feet and 3± feet below existing grade, respectively, which correlates well with the original ground and existing grade contours on the Test Pit Location Plan. These soils were classified as native soils due to the absence of miscellaneous debris, indications of geologic/soil structure, and increased consistency. These soils are generally considered suitable for reuse as structural fill; some moisture content adjustments should be anticipated in order to achieve proper compaction and develop suitable-bearing strengths.

Bedrock and/or Groundwater

Bedrock and/or groundwater was not encountered within the exploration limits of this study, and based upon the local geology, is not anticipated to be a significant problem. Groundwater seepage, or locally perched zones of water, should be anticipated to exist within the existing fill materials.

CONCLUSIONS AND RECOMMENDATIONS

In general, development and construction of garden-style apartment structures and related site improvements is considered feasible from a geotechnical perspective. Since preliminary details (site layout, desired elevations, slope and/or retaining wall locations) are unknown at this time, it is difficult to comment on the specifics of the above. However, special considerations (both design and construction) are considered appropriate and necessary in view of the test pit observations and anticipated, deep variable quality and strength existing fill materials.

Conventional residential construction (shallow foundation/basement walls/on-grade slab) may necessitate increased structural capacity (additional reinforcing, larger dimensions, better material qualities) and/or selective removals and replacement/recompaction for foundations and/or slab-bearing subgrades in view of the test pit observations of the existing fill materials. Sitework difficulties can be expected in view of the variable fill quality and miscellaneous debris content. Retaining structures and/or slopes should be appropriately evaluated and designed in view of the existing fill materials.

Existing fill materials and native soils may be suitable for reuse as structural fill provided the Liquid Limits and Plasticity Indices do not exceed 45% and 20%, respectively, and are screened of miscellaneous debris, oversized materials, and/or other deleterious matter. Moisture content adjustments should be expected in order to achieve adequate compaction densities and develop suitable-bearing strengths.

Although not apparent based upon the limited field investigation, the 30 to 50± foot high slopes on the southern and western property boundaries do not exhibit significant indications of gross and/or surficial instabilities. Some erosion gulleys and rivulets (up to 18-24 inches deep) were observed within the grass-covered slope faces along the southern and western facing sloped areas.

While significant evidence of environmentally-impacted or contaminated soils was not observed/detected, the presence of miscellaneous debris including a 5-gallon oil/grease container (Test Pit No. 9 area) suggests the possibility/probability of localized areas of contaminated soils/materials. Analytical testing of observed conditions/materials was beyond WDP's authorized scope of services for this phase of the project.

TEST pit 9 oil/grease CAN

In view of the above observations/findings and conclusions, WDP recommends the following be considered for planning and development of the property:

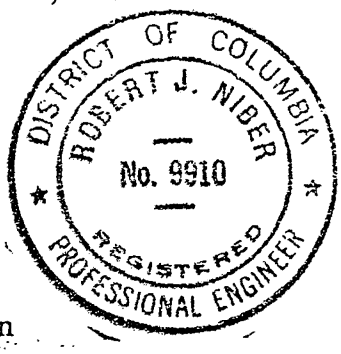
- A detailed, plan-specific geotechnical investigation utilizing both test borings and test pits to better geologically characterize the on-site conditions, obtain samples for laboratory testing, and provide geotechnical design parameters and construction considerations. The details of such a study can be discussed/developed as project details and particulars become available.

- An environmental site assessment (Phase II level minimum) be performed to better characterize the environmental impacts of the existing site conditions. It is WDP's understanding that Greenhorne & O'Mara is presently performing a preliminary environmental site assessment for feasibility study purposes.

WDP would be pleased to continue our involvement on the Fort Stanton property by providing additional, plan-specific geotechnical engineering services as necessitated by WDP's test pit observations. Furthermore, our geotechnical expertise and experience with challenging site conditions may be realized during grading and construction through proper geotechnical testing and inspection services. We would be pleased to discuss your future project needs further at your convenience.

WDP appreciates the opportunity to be of continued professional service to Greenhorne & O'Mara, Inc. and KSI Services, Inc. on this project. Should you have any questions after reviewing the above or enclosed information, please do not hesitate to contact me.

Respectfully Submitted,
WHITLOCK DALRYMPLE POSTON & ASSOCIATES, INC.



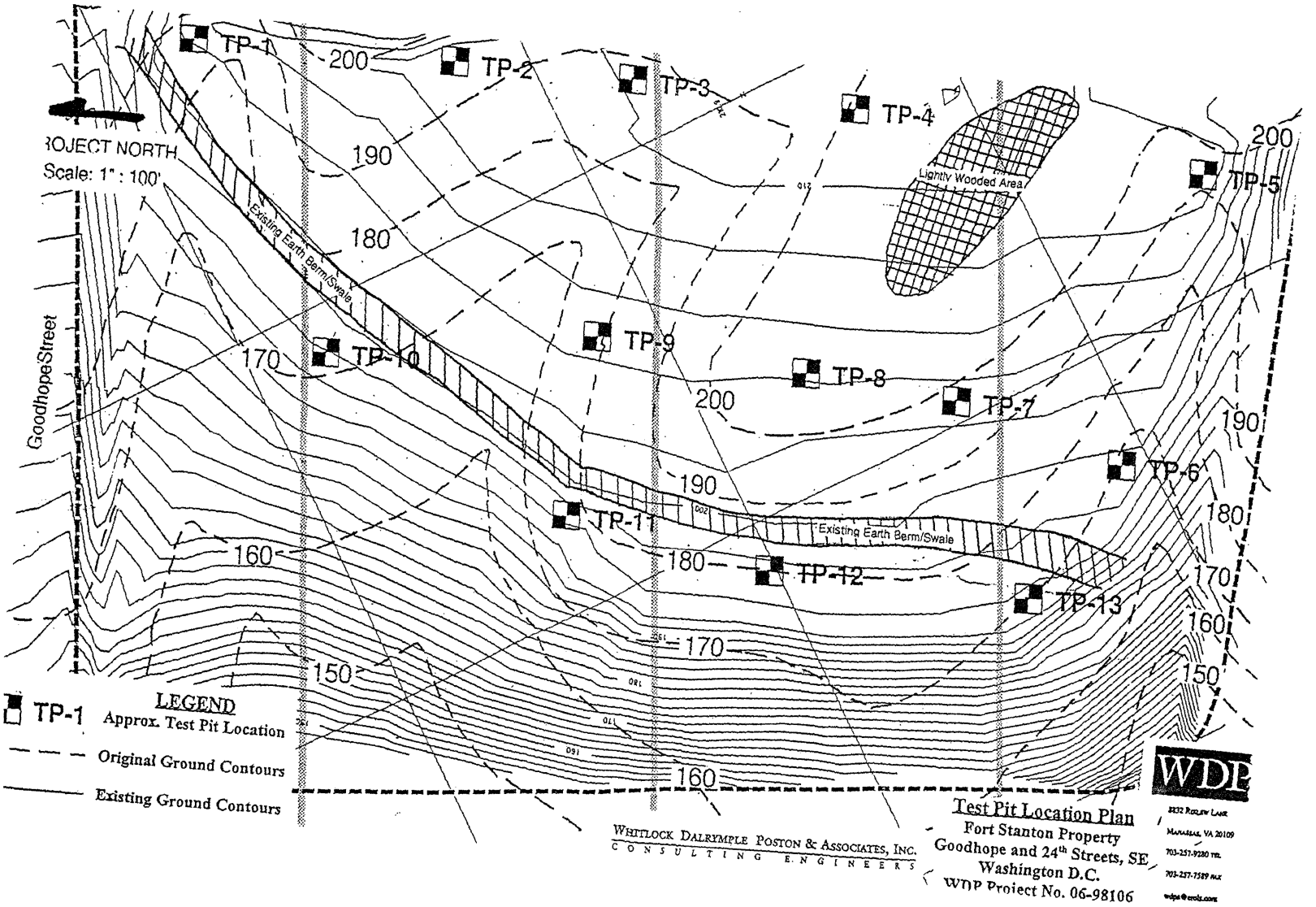
Robert J. Niber, P.E.
Senior Geotechnical Engineer

RJN/rp

cc: Greenhorne & O'Mara, Inc. - Mr. Ernie Anderson
KSI Services, Inc. - Mr. Dick Knapp

WDP


SITE
Anacostia
MARBURY PLAZA
Fort Stanton
Stanton ES
Garfield ES
Kimball ES
Beers ES
Overlook ES
Anacostia Pavillion
Anacostia Fieldhouse
Washington Yacht Club
District Yacht Club
Eastern Precinct
Boat Club
Congressional
DC Center for Therapeutic Rec
US Park Police
Douglass
Douglas JHS
Miner ES
Our Lady of Perpetual Help
Wilkinson Church
Penn Branch Shop Ctr
Penn Branch Center
Suitland Manor
Suitland Terrace
Silver Hill
Woodland
Garfield Heights
Knox Hill
Good Hope
Hillcrest
Penn Branch
Fairview
Good Hope Park
Anacostia Park
Anacostia Freeway
Douglas Memorial Bridge
Pennsylvania Ave
Alabama Ave
Good Hope Road
Nash Pl
Nash St
Mass Ave
Highwood Dr
Pope St
Texas Ave
Fort Dupont
Fort Dupont Park
Fort Stanton Park
Fort Stanton Dr
Fort Stanton Rd
Fort Stanton Terr
Fort Stanton Pl
Fort Stanton Ct
Fort Stanton Cir
Fort Stanton Ln
Fort Stanton Way
Fort Stanton Pkwy
Fort Stanton Blvd
Fort Stanton Ave
Fort Stanton St


TP-1
TP-2
TP-3
TP-4
TP-5
TP-6
TP-7
TP-8
TP-9
TP-10
TP-11
TP-12
TP-13
200
190
180
170
160
150
PROJECT NORTH
Scale: 1" : 100'
GoodhopeStreet
Existing Earth Berm/Swale
Lightly Wooded Area
Existing Earth Berm/Swale
LEGEND
TP-1 Approx. Test Pit Location
Original Ground Contours
Existing Ground Contours
WHITLOCK DALRYMPLE POSTON & ASSOCIATES, INC.
CONSULTING ENGINEERS
Test Pit Location Plan
Fort Stanton Property
Goodhope and 24th Streets, SE
Washington D.C.
WDP Project No. 06-98106
WDP

TEST PIT LOG

BORING LOCATION: NE corner
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-1
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 204 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown and yellow brown, medium dense, Silty to Clayey fine-medium SAND (SM/SC) and fine Sandy SILT with Clay (ML/CL), gravels and cobbles - Moist to very moist								Wild grasses at surface. Variable amounts of debris - wood, brick, concrete, wire, asphalt, plastic and rubber.
200												
				4.5								
	5			FILL - Brown to gray brown, reddish brown and black, soft to medium stiff, silty CLAY (CL/CH) with sand, gravels - Very moist								Concrete, brick, wood pieces.
				Slight to moderate organic odor								
												Large concrete chunk/boulders at 8-9 feet.
195				9.0								
	10			FILL - Brown/gray brown, medium stiff, micaceous fine-medium Sandy SILT (ML) to Silty fine-medium SAND (SM), some gravels - Moist to very moist								
				11.0								
				Test pit terminated at 11 feet. No water. Backfilled.								
190												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▽	AFTER ____ HOURS	____	FEET

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8832 Rixlew Lane
Manassas, Virginia 20109
(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-1 11/20/98

TEST PIT LOG

BORING LOCATION: East property boundary - north central
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-2
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 208 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown to orange/yellow brown, medium dense, Silty to Clayey fine-medium SAND (SM/SC), gravels, some cobbles - Moist to very moist								Wild grasses at surface. Brick/concrete pieces, wood, asphalt, asphalt millings, CMU fragments.
205				Hard asphalt pavement — 3.5								
				Backhoe refusal at 3-1/2 feet on buried asphalt pavement. No water. Backfilled.								Backhoe excavation difficult.
	5											
200												
	10											
195												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

DURING DRILLING	None	FEET	
AT COMPLETION	None	FEET	
AFTER ____	HOURS ____	FEET	
AFTER ____	HOURS ____	FEET	

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8832 Rixlew Lane
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(703) 257-9280

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Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-2 11/20/98

TEST PIT LOG

BORING LOCATION: East property boundary - central
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-3
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 210 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/yellow brown, medium dense, Silty to Clayey fine-medium SAND (SM/SC) with gravels, cobbles - Moist									Wild grasses at surface.
				FILL - Gray white/orange brown, fat CLAY (CH) and fine Sandy Silt/Clay (ML/CL) - Very moist (1.5)									Brick wall piece, concrete, asphalt.
				Backhoe refusal at 2-1/2 feet on buried asphalt pavement. (2.5) No water. Backfilled.									Asphalt pavement.
205	5												
200	10												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▽	AFTER ____ HOURS	____	FEET

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8832 Rixlew Lane
Manassas, Virginia 20109
(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: East property boundary - south central
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-4
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 211 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
210	0			FILL - Brown, dense, Clayey fine-medium SAND (SC) - Moist								Wild grasses at surface.
				0.5								
				Backhoe refusal at 6 inches on buried asphalt pavement. No water. Backfilled.								
	5											
205												
	10											
200												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

DURING DRILLING	None	FEET	
AT COMPLETION	None	FEET	
AFTER	HOURS		FEET
AFTER	HOURS		FEET

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8832 Rixlew Lane
Manassas, Virginia 20109
(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-4 11/2098

TEST PIT LOG

BORING LOCATION: SE corner - Near top of slope

BORING METHOD: JD310D Backhoe

LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-5

DATE STARTED: 11/17/98

DATE COMPLETED: 11/17/98

SHEET 1 OF 1

SURFACE ELEVATION: 208 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/yellow brown, medium dense, Silty to Clayey fine-medium SAND (SM/SC), gravels, cobbles - Moist								Wild grasses at surface. Concrete/brick pieces. Wire cable pieces. Asphalt.
205												
				FILL - Gray brown, soft to medium stiff, Clayey SAND/Sandy CLAY (SC/CL), gravels, cobbles - Very moist								Brick, concrete, glass debris.
	5			Concrete/sheet metal pieces								Large asphalt chunk at 6 feet.
				Backhoe refusal at 7 feet on oversized (+2 feet) concrete/asphalt debris. No water. Backfilled.								
200												
	10											
195												

3.5

7.0

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▼	AFTER ____ HOURS	____	FEET

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8832 Rixlew Lane
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(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-5 11/20/98

TEST PIT LOG

BORING LOCATION: South central property - Near top of slope
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-6
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 200 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown and yellow brown, dense Silty/Clayey fine-coarse SAND (SM/SC), gravels, cobbles - Moist								Wild grasses at surface.
				Large 2-3 foot concrete pieces. 1.5								Brick, asphalt, concrete pieces.
				FILL - Gray to gray brown, loose to medium dense, Silty/Clayey SAND (SM/SC) to Sandy CLAY (CL) - Moist to very moist								Wire strapping.
195	5											Miscellaneous concrete, wood, asphalt, brick debris.
				Backhoe refusal at 8 feet on miscellaneous buried debris. 8.0								
				No water. Backfilled.								
190	10											

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None		FEET
▼	AT COMPLETION	None		FEET
▼	AFTER ____	HOURS	____	FEET
▼	AFTER ____	HOURS	____	FEET

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8832 Rixlew Lane
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Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: South central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-7
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 203 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/yellow brown, medium dense, Silty to Clayey SAND (SM/SC), gravels, cobbles - Moist								Wild grasses at surface.
				1.0								
				FILL - Grayish black, loose to medium dense, Silty SAND (SM), gravels, some clay - Moist								Asphalt cinders, slag pieces, wood, brick/CMU, wire.
200												
	5											
				6.0								
				Native - Yellow brown, soft to medium stiff, fine Sandy SILT (ML) to fine Sandy CLAY (CL) - Moist								Possible original ground - Trace rootlets
195												
				9.0								
				Test pit terminated at 9 feet. No water. Backfilled.								
	10											
190												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

DURING DRILLING	None		FEET
AT COMPLETION	None		FEET
AFTER		HOURS	FEET
AFTER		HOURS	FEET

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Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: South central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-8
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 204 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Yellow brown, medium dense, Silty to Clayey SAND (SM/SC) to Sandy CLAY (CL), gravels, cobbles - Moist								Wild grasses at surface.
				FILL - Grayish black, medium dense, Silty SAND (SM), gravels - Moist (1.5)								Asphalt cinders, brick.
				Native - Orange brown, medium dense/stiff, Clayey SAND (SC) to Sandy CLAY (CL), some gravels, cobbles - Moist (3.0)								Possible original ground.
200	5			Orange brown/gray, mottled, medium dense, Silty/Clayey SAND (SM/SC), trace gravels, cobbles - Moist								
				Native - Light gray brown, medium dense, Silty fine SAND/fine Sandy SILT (SM/ML) - Moist (8.5)								
195	10			Test pit terminated at 10 feet. (10.0) No water. Backfilled.								
190												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▼	AFTER ____ HOURS	____	FEET
▼	AFTER ____ HOURS	____	FEET

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Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: North central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-9
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 204 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/yellow brown, medium dense, Silty to Clayey SAND (SM/SC), gravels, cobbles - Moist								Wild grasses at surface. Some brick, wood, concrete, asphalt, wire cable pieces.
				FILL - Greyish brown to gray black, medium stiff, fine Sandy CLAY to Silty CLAY (CL/CH) - Moist to very moist								Some brick, asphalt, concrete, wood debris.
200	5			Blue gray color - 5 gallon oil/grease can								Paper/plastic.
				Gray brown/gray black, soft to medium stiff, Clayey SAND/Sandy CLAY (SC/CL) to Silty CLAY (CL/CH) - Moist to very moist								
195	10			Test pit terminated at 10 feet. No water. Backfilled.								
190												

3.0

10.0

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▼	AFTER ____ HOURS	____	FEET

WHITLOCK DALRYMPLE POSTON & Assoc.
8832 Rixlew Lane
Manassas, Virginia 20109
(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-9 11/20/98

TEST PIT LOG

BORING LOCATION: North central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-10
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 198 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown, medium dense, Clayey to Silty SAND (SC/SM), gravels, cobbles - Moist to very moist								Wild grasses at surface.
												Some brick, asphalt, concrete, wood debris.
195				Large asphalt sheets, concrete boulders, slab pieces at 3-5 feet								Difficult backhoe excavating.
	5			Backhoe refusal at 5 feet on buried oversized debris. 5.0								
				No water. Backfilled.								
190												
	10											
185												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▼	AFTER ____ HOURS	____	FEET

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Manassas, Virginia 20109
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Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 8810G TP-10 11/2098

TEST PIT LOG

BORING LOCATION: West central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-11
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 197 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown, medium dense/medium stiff, Clayey SAND/Sandy CLAY (SC/CL), gravels, cobbles, boulders - Moist to very moist								Wild grasses at surface.
												Concrete slabs, brick, wood debris.
195												
				More clayey and more moist								
				Brown, soft, silty CLAY/Sandy CLAY (CL/CH), gravels, cobbles - Very moist								Railroad tie at 4 feet.
	5											Bricks, asphalt.
				Concrete debris								
190												
				Very moist and clayey								
	10											
				11.0								
				Test pit terminated at 11 feet. No water. Backfilled.								
185												

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None	FEET
▼	AT COMPLETION	None	FEET
▽	AFTER ____ HOURS	____	FEET
▼	AFTER ____ HOURS	____	FEET

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(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: Southwest central property
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-12
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 198 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/yellow brown, medium dense, Clayey SAND (SC), gravels, cobbles - Moist								Wild grasses at surface.
												Brick, concrete, wire pieces.
				Brown/reddish brown, soft, Sandy CLAY (CL) - Very moist								
195												Brick, concrete pieces.
				Gray brown color								
	5											
				FILL - Gray brown, medium dense, Silty to Clayey SAND (SM/SC), gravels - Very moist								
190												
	10			Test pit terminated at 10 feet. No water. Backfilled.								
185												

7.5

10.0

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None		FEET
▼	AT COMPLETION	None		FEET
▽	AFTER ____	HOURS ____		FEET
▽	AFTER ____	HOURS ____		FEET

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Manassas, Virginia 20109
(703) 257-9280

Geotechnical Feasibility Study
Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

TEST PIT LOG

BORING LOCATION: Southwest property - Near top of slope
BORING METHOD: JD310D Backhoe
LOGGED BY: Robert Niber, P.E. DRILLER: Washington Air

BORING NO.: TP-13
DATE STARTED: 11/17/98
DATE COMPLETED: 11/17/98
SHEET 1 OF 1

SURFACE ELEVATION: 195 ±

Elevation (ft)	Depth (ft)	Groundwater	Stratum	MATERIAL DESCRIPTION	Sample	Dry Density (pcf)	Pocket Pentrometer (tsf)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	% Passing No. 200 Sieve	REMARKS
				FILL - Brown/orange brown, medium dense, Silty/Clayey SAND (SM/SC), gravels, cobbles - Moist								Wild grasses at surface.
												Rebar pieces, wood, brick, concrete, asphalt pieces.
				FILL - Gray black, medium dense, Silty SAND (SM), gravels, cobbles - Moist (2.0)								
				Concrete slab pieces (3 feet diameter)								Steel angle. Asphalt cinders.
												Bricks, concrete debris.
190	5			Gray black/grayish brown, medium dense to medium stiff, Silty/Clayey SAND (SM/SC) to Sandy CLAY (CL/CH) - Very moist								
				Backhoe refusal at 8 feet on buried oversized materials/debris. (8.0) No water. Backfilled.								
185	10											

The lines between various strata on the test boring logs represent the approximate strata boundary; however, the transition between strata may be more gradual than shown, especially where indicated by a broken line.

GROUNDWATER DATA

▽	DURING DRILLING	None		FEET
▼	AT COMPLETION	None		FEET
▼	AFTER ____	HOURS ____		FEET
▼	AFTER ____	HOURS ____		FEET

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Ft. Stanton Property
Goodhope and 24th Sts., S.E.
WDP Project No.: 06-98106

WDP-TP 98106 TP-13 11/20/98

ATTACHMENT A

Chain of Custody Form and Analytical Data Sheet

SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com

(1)

CLIENT: BLUE RIDGE PHONE NO: (703) 729-9196

PROJECT MGR: KENT CAMPBELL FAX NO: (703) 729-9197

PROJECT NAME: FT. STANTON

SITE LOCATION: WASHINGTON DC

PROJECT NUMBER:

P.O. NUMBER:

PSS Project #: 00012809

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No. CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used / Analysis Required (3) RCRA 8 METALS (DISSOLVED)	REMARKS
	SURF 1	1/28	10:15	W	1	G	X	

(5)

Collected / Relinquished By: (1)	Date	Time	Received By:
	11/28/00	12:20	
Relinquished By: (2)	Date	Time	Received By:
	11/28/00	2:06	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received For Laboratory By:
	11/28/00	206	

(4)

Shipping Carrier: DIAL

Shipping Ticket No:

Sample Condition Upon Receipt: ON ICE

Data Deliverables Required

Level I Level II Level III

Chain of Custody Seal:

COOLER N/A CONTAINER

Requested Turnaround Time and Special Instructions:

STANDARD T/A/T

LAB FILTER BEFORE ANALYSIS

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • FAX (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

OFFICES:
6630 BALTIMORE NATIONAL PIKE
ROUTE 40 WEST
BALTIMORE, MARYLAND 21228
410-747-8770
800-932-9047
410-788-8723 Fax
www.phaseonline.com

PHASE SEPARATION SCIENCE, INC.

ANALYTICAL CHEMISTRY • ENVIRONMENTAL SCIENCE

CERTIFICATE OF ANALYSIS
No. 00012809 Page 1 of 1
Blue Ridge Environmental
February 4, 2000

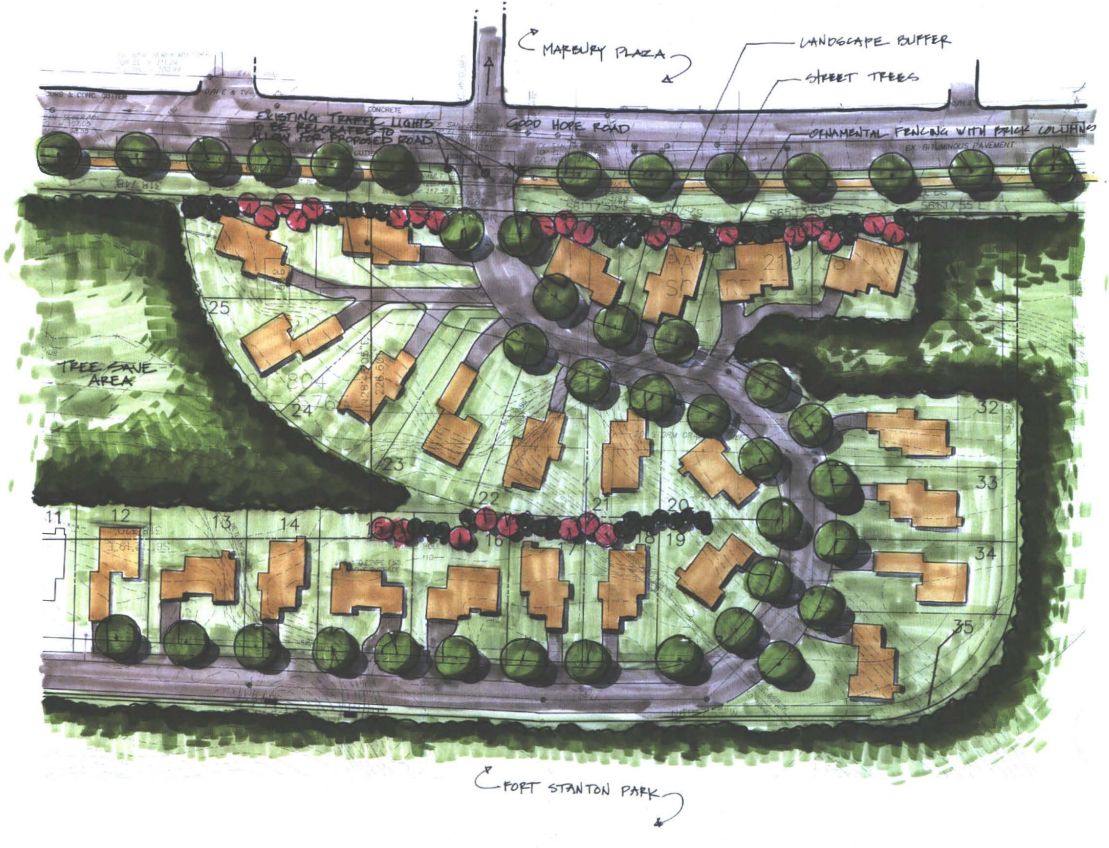
Project: Ft. Stanton
Site Location: Washington, DC
Project Number: N/A
Matrix: Water

Date Sampled: 01/28/00
Date Received: 01/28/00

		Result	Unit	Method	PQL	Prepared	Analyzed
Sample ID: Surf 1							
RCRA Metals, Dissolved							
Arsenic	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00
Barium		56	ug/L	EPA 200.8	5	01/31/00	02/03/00
Cadmium	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00
Chromium	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00
Lead	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00
Mercury	<	1	ug/L	EPA 200.8	1	01/31/00	02/02/00
Selenium	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00
Silver	<	10	ug/L	EPA 200.8	5	01/31/00	02/03/00

Notes/Comments:
PQL - Practical Quantitation Limit

Reviewed By: Matt Colee
Quality Assurance Chemist



NOTE: SITE PLAN FOR SCHEMATIC PURPOSES ONLY. PLANS NOT TO BE USED FOR CONSTRUCTION.

STUDIO39
Landscape Architecture, P.C.

THE HOMES AT WOODMONT

Washington, D.C.

KSI SERVICES, INC.

SINGLE FAMILY
SITE PLAN
(ENLARGEMENT)

NORTH

SCALE: 1"= 30'-0"

0 30 60 90

DATE: March 7, 2000
REVISIONS:

JOB# 98128D

STUDIO 39 LANDSCAPE ARCHITECTURE, P.C.
6411 Connecticut Avenue
Suite 100-A
Alexandria, Virginia 22306
Tel: 703.734.0580 Fax: 703.734.0583

CAD DWG: 98128 Schematic Design Xref 4-20 revsiteplan.dwg