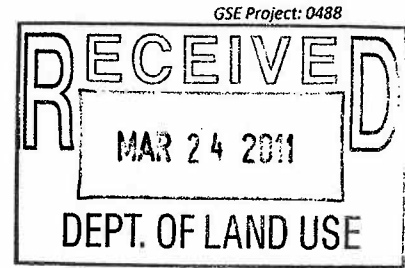


Green Stone  
ENGINEERING

March 24, 2011

Mr. Stephen G. Davies, P.E., President  
APEX Engineering Incorporated  
27 West Market Street  
Newport, DE 19804

RE: **NonWetland Determination Letter**  
**Greenville Professional Center Project**  
**New Castle County Parcel: 0702600150**  
**3700 Kennett Pike**  
**Wilmington, DE 19807**



20110171

Mr. Davies,

Green Stone Engineering LLC (Green Stone) performed a Wetland/NonWetland determination at a portion of the above referenced property (Site). The scope of work was to determine the presence or absence of wetlands at the Site, as requested and authorized by Mr. Stephen Davies of APEX Engineering Inc. The determination was conducted by Green Stone's qualified professional, Mr. William Hohman, Environmental Scientist II, in accordance with the principles, practices, guidance, and associated memoranda and addendums noted to date in the *Corps of Engineers Wetlands Delineation Manual* (1987). The 1987 manual is the current Federal delineation manual used in identifying Section 404 waters and wetlands of the United States and associated practices for documenting and determining jurisdiction under the Clean Water Act (CWA) regulatory program.

The following is a summary of methods, site inspection, and determination of Green Stone's professional findings. For clarification, nonwetlands will be defined herein to "include uplands and lowland areas that are neither deepwater aquatic habitats, wetlands, nor other special aquatic sites. They are seldom inundated, or if frequently inundated, they have saturated soils for only brief periods during the growing season, and, if vegetated, they normally support a prevalence of vegetation typically adapted for life only in aerobic soil conditions, (1987 Manual)... any area that has sufficiently dry conditions that hydrophytic vegetation, hydric soils, and/or wetland hydrology are lacking; it includes upland as well as former wetlands that are effectively drained (*Federal Manual for Identifying and Delineating Jurisdictional Wetlands, 1989*)."

#### METHODS

Green Stone performed preliminary data gathering and synthesis to determine an onsite inspection was unnecessary per the 1987 manual. However, a general site reconnaissance was performed to gather additional site specific data for the area reserved for storm water detention basin as per the Record Resubdivision Plan Monroe Park New Castle County Recorder of Deeds Microfilm No. 6679 (Record Plan) and verify any dated data collected prior to visiting the Site. Preliminary data gathered included review of United States Geological Survey (USGS) 7.5 Minute Topographic Quadrangle Maps, national and state wetland inventory maps, 2010 aerial and bird's eye view photographs, soil survey data, plant databases, New Castle County parcel maps with specific natural resource overlay data (critical natural resource areas, wetland polygons, aerial photographs, and natural resources), hydrologic maps, and use of various remote sensing techniques.

Data synthesis and analysis included general Site identification, preparation of base maps, county parcel information review, photographic documentation of general onsite conditions, and other general site

characteristic documentation associated with the three parameter approach (vegetation, soils, hydrology) for the determination detailed in the 1987 manual.

A general site reconnaissance (inspection) was performed on Monday March 21, 2011 to verify the presence or absence of any newly established wetland indicators that may have developed since issuance of the above mentioned data. However, a routine and/or comprehensive delineation was not performed as part of this work.

#### **SITE INFORMATION**

The Site parcel is approximately 2.43 acres in size and located immediately south southwest of Kennett Pike (Route 52) in New Castle County, Wilmington, Delaware (approximate latitude: 75.59422W, longitude: 39.773184N). The Site is developed consisting of three commercial buildings, approximately 7 parking areas, one primary entrance just off and south of Presidential Drive which intersects Route 52. The remainder of the Site is made up of sidewalks associated with each building entrances, small maintained lawn and landscaped areas, and an area which is designated on the Record Plan mentioned above as an "Area Reserved For Storm Water Detention Basin." The majority of the site is made up of impervious cover. The immediate and contiguous properties consist of the following: to the north is the intersection of Presidential Drive (indicated as Thomas Drive on the Record Plan) and including a Getty Oil Company gas station just across Presidential Drive as indicated on New Castle County's parcel map viewer, west and south are the apartments associated with the subdivision known as Greenville Place, and the east is Kennett Pike (Route 52). For purposes of this letter determination, Green Stone performed the Wetland/NonWetland Determination for the portion of the Site designated on the Record Plan for storm water, area of interest, only and located in the southern most corner of the property parcel. Refer to the enclosure location maps for specific the specific location that this letter report applies towards. From hereafter, the Site refers to parcel area and the area of interest refers to the storm water area only. This determination is valid for the boundaries of the stormwater area only (aka area of interest), as per the clients request, and includes general comments and observations of the immediate surrounding area to within 30 feet of the area of interest. The area of interest was approximately 0.09± acres in size.

General Site topography is between approximately 268-282± foot elevations. The Site appears to be pitched to the south, and drains primarily southerly towards storm water facility area and eventually into a piped storm sewer system associated with the Greenville Place Apartments.

National Wetland Inventory and State Tidal Maps did not indicate any presence of wetlands at the Site. Additionally, New Castle County parcel map and State of Delaware environmental navigator overlays did not indicate any presence of wetlands or state natural resources on the property parcel.

Wetland vegetation (hydrophytes) is not present or in prevalence/dominance at the Site. However, two areas less than 100 square feet in surface area did contain some invasive plant hydrophytes with a facultative wet (FACW) indicator status defined to occur in wetlands 67-99% of the time. Although plant species with this type of indicator status are good indicators that a wetland may exist, they often grow in considerable numbers in uplands (Ralph W. Tiner, 2005). The Site consisted of primarily maintained grasses and landscaped beds including but not limited to various ornamental shrubs and woody vines. Primarily (dominant) Facultative to Facultative-Upland plant species diagnostic of qualitative nonwetland areas and were verified during the site reconnaissance.

Soils at the site were primarily disturbed from onsite development. New Castle County historic Delaware Soil Survey Maps, 1970, depict Watchung and Calvert Silt Loams, 0 to 3 percent slopes (WcA) and the Neshaminy and Montalto Silt Loams, 3 to 8 percent slope (NmB2) soil series (United States Department of Agriculture Soil Conservation Service, October 1970) on the Site. WcA soils are poorly drained, fine silt

loam, mixed mesic Typic Ochraqualfs soils; while NmB2 are well drained, fine loamy mixed mesic Ultic Hapludalfs. Additionally, current web soil survey information gathered from USDA-National Resource Conservation Service, NRCS, National Cooperative Soil Survey Mapping software 2010 map the Wheaton complex on the Site (VwB). The map unit name of this soil is the Urban land-Wheaton complex 0 to 8 percent slopes. It makes up approximately 95%± of the Site area. According to NRCS this soil type is typically found on flats and hillslope landforms, is part of a well drained drainage class and the depth to water table is more than 80 inches and is *not* listed on the NRCS State of Delaware's New Castle County list of Hydric Soils (February 2011). The area of interest was dominant with soils indicative of aerobic conditions and that of the most recent soil survey information. However, it is important to note that small pocket locations of poorly drained conditions evident in areas where fine sediments have accumulated due to potential poor maintenance are beginning to occur within the area of interest.

No primary indications or more than two secondary indications of wetland hydrology were evident within the <100 square foot area mentioned above. Drainage patterns within the area of interest appeared to occur from uplands to uplands and into the storm sewer pipe located in the southernmost corner of the property.

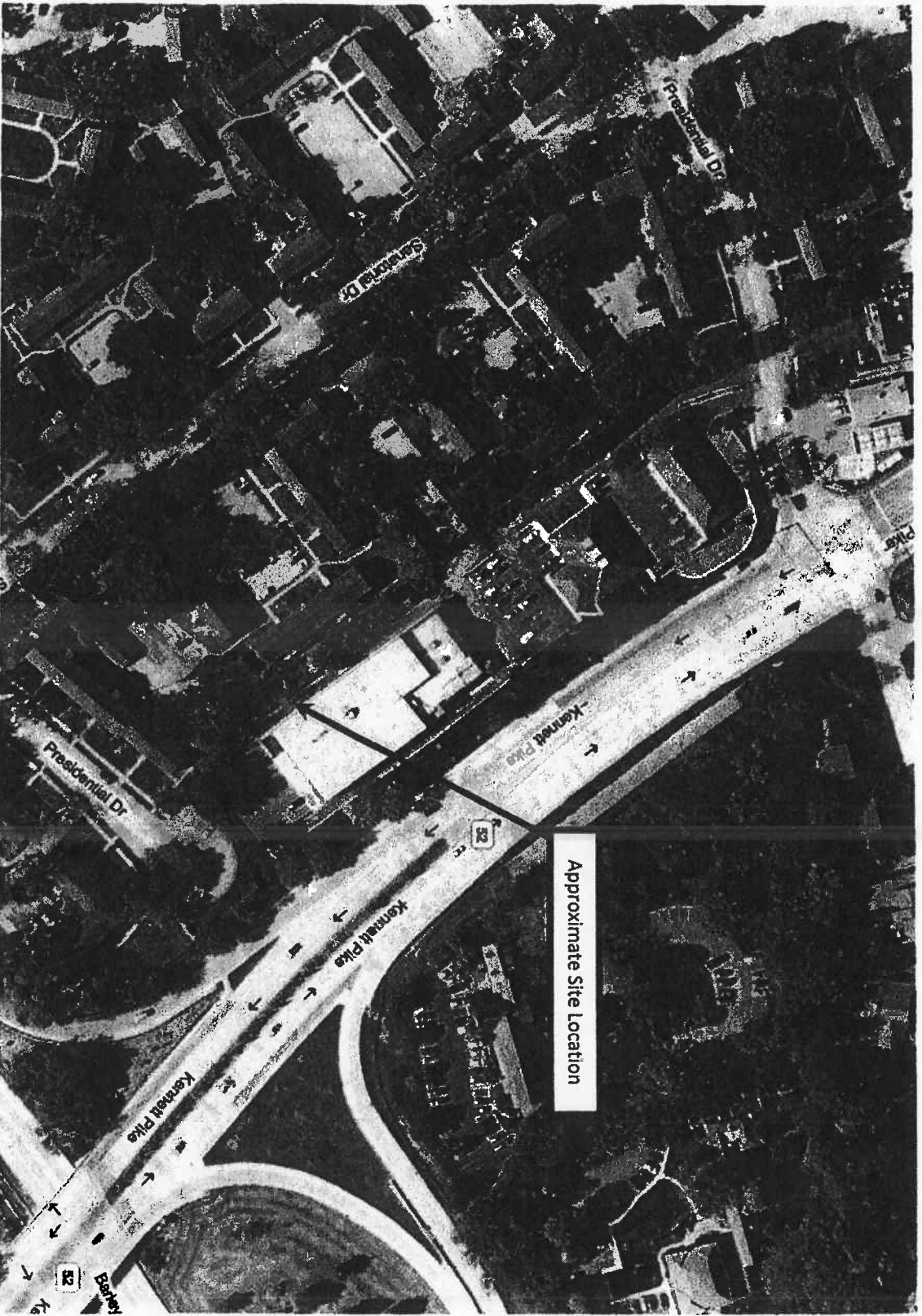
#### **DETERMINATION**

A Wetland/NonWetland determination was performed at the Site consistent with the 1987 Manual for determining the presence or absence of wetlands using the three parameter approach for vegetation, soils, and hydrology in the area of interest. The prevalent vegetation, for the area of interest, consisted of plant species that are typically adapted to life in urban/suburban developed properties and in upland soils. The soils identified through preliminary data gathering and syntheses are not classified as hydric as per soil survey and a general onsite reconnaissance verified that the soils possessed primarily aerobic characteristics in the area of interest associated with upland soils. Wetland hydrology indicators observed at area of interest were observed to occur from uplands to uplands and data synthesis information further supported no indication of wetland hydrology. At a maximum two of the nonwetland related diagnostics were identified. According to the 1987 manual, only one of the three above parameters (diagnostic characteristics) needs to be present at a site for the area to be determined a nonwetland. Therefore according to the technical approach for identification and delineation of Wetland and NonWetland areas, it is Green Stone's professional opinion that the project Site is determined to be a **NonWetland**.

This determination provides Green Stone's professional opinion as to the presence or absence of wetlands in the area of interest. This does not provide verification for the presence or absence of jurisdictional or regulated wetlands and/o waters found on contiguous properties or for the remainder of the Site area, nor does it permit the reader to make their own jurisdictional determination. Final determination lies within the hands of the Federal and State regulatory authorities. Additionally, this determination is based off of existing conditions as of March 2011; should the site hydrology and topography be altered significantly in any way (natural or anthropogenic), this determination shall no longer be valid, to within reasonable time from issuance, as a determination for presence or absence of state and federal regulated 404 "waters of the U.S." as detailed in the regulations to date. Please refer to the enclosed sketches and maps for more specific site location information.

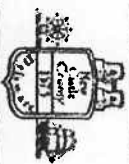
Specific diagnostic characteristics, requirements, and/or federal, state, and local regulations or laws associated with wetlands determinations summarized herein shall not be relied on solely for development of ones own determination and/or relinquish clearance from any required permitting or approvals at the Site. Refer to specific Federal, State, and local regulations, requirements, and referenced materials for further clarification.



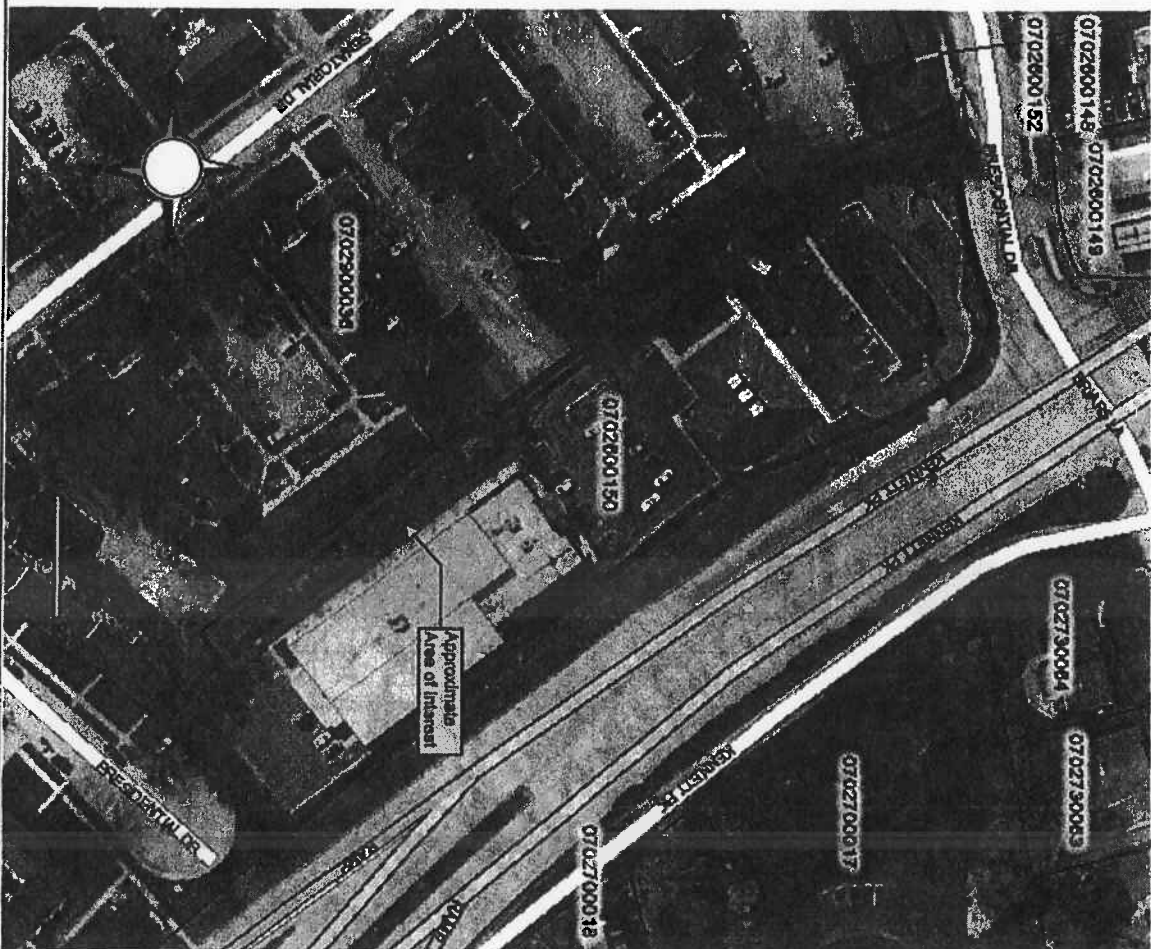


**General Site Location Aerial**  
**Not to Scale**


Image Source: [www.bing.com/mass/](http://www.bing.com/mass/) © Microsoft Corporation  
Created by: WKH





# Greenville Professional Center





**Legend**  
 Major Roads


 Ramp, Service Area

 US Highway

 State Route


 Interstate


 Tax Parcels


 Public and Private Schools


 PRIVATE Streets and Roads


 PUBLIC Streets and Roads


 Interstate


 U.S. Route


 State Route


 County Roads neighborhood


 Privalle


 Service

 Interstate ramps incorporated

 Railroad

 Aerial Photos

 Surface Water

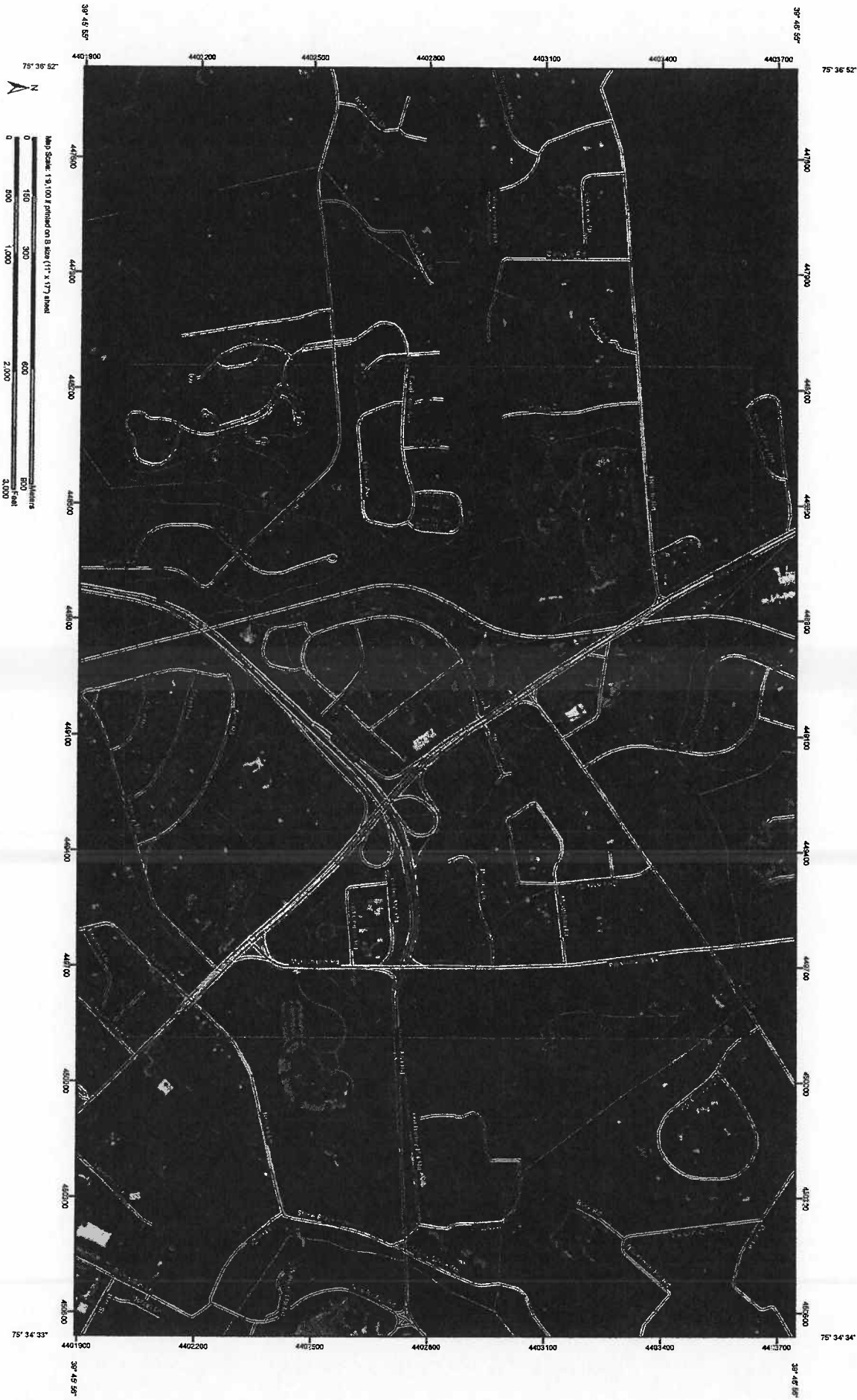
 Adjacent Counties

 Delaware

 Other

Disclaimer: For informational purposes only - not to be used as official documentation.













































Soil Map—New Castle County, Delaware  
(App. Potential SVM Sites)



USDA  
Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

## MAP LEGEND

	Area of Interest (AOI)		Very Stony Spot
	Area of Interest (AOI)		Wet Spot
	Soils		Other
	Soil Map Units		Special Line Features
	Special Point Features		Gully
	Blowout		Short Steep Slope
	Borrow Pit		Other
	Clay Spot		Political Features
	Closed Depression		Cities
	Gravel Pit		Water Features
	Gravelly Spot		Oceans
	Landfill		Streams and Canals
	Lava Flow		Transportation
	Marsh or swamp		Rails
	Mine or Quarry		Interstate Highways
	Miscellaneous Water		US Routes
	Perennial Water		Major Roads
	Rock Outcrop		Local Roads
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		
	Spoil Area		
	Stony Spot		

## MAP INFORMATION

Map Scale: 1:9,100 if printed on B size (11" x 17") sheet.

The soil surveys that comprise your AOI were mapped at 1:24,000. Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service  
Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>  
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: New Castle County, Delaware  
Survey Area Data: Version 5, Jan 7, 2010

Date(s) aerial images were photographed: 7/16/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.



## Map Unit Legend

New Castle County, Delaware (DE003)			
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
DcB	Delanco-Codorus-Hatboro complex, 0 to 8 percent slopes, flooded	2.3	0.3%
GeB	Glenelg loam, 3 to 8 percent slopes	98.8	14.1%
GeC	Glenelg loam, 8 to 15 percent slopes	8.6	1.2%
GhB	Glenelg-Wheaton-Urban land complex, 0 to 8 percent slopes	89.7	12.8%
GnB	Glenville silt loam, 3 to 8 percent slopes	23.8	3.4%
Hw	Hatboro-Codorus complex, 0 to 3 percent slopes, frequently flooded	37.3	5.3%
MzB	Mount Lucas silt loam, 3 to 8 percent slopes	11.2	1.6%
NtB	Neshaminy silt loam, 3 to 8 percent slopes	142.9	20.4%
NtC	Neshaminy silt loam, 8 to 15 percent slopes	7.3	1.0%
NxB	Neshaminy-Urban land complex, 0 to 8 percent slopes	83.0	11.9%
TdB	Talleyville-Montalto-Urban land complex, 0 to 8 percent slopes	41.1	5.9%
UaB	Udorthents, bedrock substratum, 0 to 8 percent slopes	63.0	9.0%
Uy	Urban land, bedrock substratum	25.4	3.6%
VwB	Urban land-Wheaton complex, 0 to 8 percent slopes	64.8	9.3%
<b>Totals for Area of Interest</b>		<b>699.3</b>	<b>100.0%</b>



U.S. Fish and Wildlife Service

# National Wetlands Inventory









Greenville Center  
Wetland Inventory  
Map

Mar 24, 2011



Approximate Site Location

## Wetlands

-  Freshwater Emergent
-  Freshwater Forested/Shrub
-  Estuarine and Marine Deepwater
-  Estuarine and Marine
-  Freshwater Pond
-  Lake
-  Riverine
-  Other

User Remarks:

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands-related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.