

PRELIMINARY ASSESSMENT REPORT

*Pursuant to New Jersey Technical Requirements for
Site Remediation (N.J.A.C. 7:26E-3.1 and 3.2)*

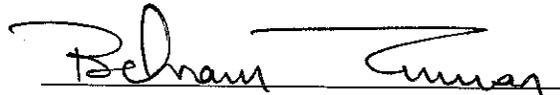
STAFFORD MITIGATION PROPERTY
Block 54, Lots 21.02 & 26
Township of Stafford
Ocean County, New Jersey

Prepared for:

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EXECUTIVE SUMMARY

CME Associates (CME) has completed a Preliminary Assessment (PA) of the property designated Lots 21.02 and 26, Block 54 located in the Township of Stafford, Ocean County, New Jersey (Site). The Site is currently owned by the Township of Stafford and consists of vacant land. This PA was initiated at the request of the Township of Stafford.

The PA included reviews of governmental databases and historical records, interviews with site representatives, a site reconnaissance, data evaluation, and report preparation. This report presents the findings of the PA and, where warranted, provides recommendations for additional investigation. CME performed a site reconnaissance on November 5, 2013.

The Township of Stafford, County of Ocean, and NJDEP provided CME with information pertaining to chains of title, environmental liens, and activity and use limitations (AULs). No environmental liens were identified for the Site. However, the Township intends to preserve the Site as passive open space; therefore, potential uses are restricted to public outdoor recreation (i.e., nature trails) and/or resource conservation.

CME has performed this PA in conformance with the scope and limitations of the Technical Requirements for Site Remediation (TRSR) (N.J.A.C. 7:26E-3.1 & 3.2) and NJDEP guidance. Any exceptions to or deletions from this practice are described in *Section 1.2* of this report. This assessment has revealed the following Areas of Concern (AOCs) in association with the Site.

AOC #1: Former Borrow Pits

Historic aerial photographs, historic topographic maps, and available information from NJGIN indicate two (2) former borrow pits were located along the Garden State Parkway in the northern portion of Lot 26. Borrow pits are typically found close to major construction projects and are used as a source of material (e.g., sand, gravel) for use at another location. Some borrow pits become filled with groundwater, rain water, and/or surficial runoff. The final excavation depth of the former borrow pits is not known; however, based on available information and field observations, it appears the pits were shallow and likely do not contain buried wastes or debris. No further investigation is recommended at this time.

AOC #2: Surficial Debris/Illegal Dumping

During the site reconnaissance, surficial litter and debris was observed in several areas throughout the Site. Observed materials and debris included lumber, roofing shingles, siding, utility poles (with probable creosote), empty antifreeze and paint containers, an empty compressed gas tank, broken glass, numerous automobile tires, cinder blocks and asphalt debris, metal and plastic debris, two (2) small boats, all-terrain vehicle parts (including an empty gas tank), pieces of Orangeburg piping, and household refuse. There is a potential the illegally

dumped materials may have impacted the environmental quality of the Site. All surficial litter and debris should be removed and properly disposed off-site at an approved facility. Further investigation is recommended.

1.0 INTRODUCTION

At the request of the Township of Stafford, CME Associates (CME) performed a Preliminary Assessment (PA) of the property designated as Block 54, Lots 21.02 and 26 in Stafford Township, Ocean County, New Jersey (Site). “Preliminary Assessment”, as defined in the Technical Requirements for Site Remediation (TRSR) (N.J.A.C. 7:26E-1.8), “means the first phase in the process of identifying Areas of Concern (AOCs) and determining whether contaminants are or were present at a site or have migrated or are migrating from a site, and shall include in the initial search for and evaluation of, existing site specific operational and environmental information, both current and historic, to determine if further investigation concerning the documented, alleged, suspected or latent discharge of any contaminant is required”. The purpose of a PA is to identify the presence of potentially contaminated Areas of Concern (AOCs) on a property.

An Area of Concern (AOC) is defined as “any existing or former location where hazardous substances, hazardous wastes, or pollutants are or were known or suspected to have been discharged, generated, manufactured, refined, transported, stored, handled, treated, disposed, or where hazardous substances, hazardous wastes, or pollutants have or may have migrated” (N.J.A.C. 7:26E-1.8).

1.1 Purpose and Scope

This PA was conducted in accordance with the scope and limitations of N.J.A.C. 7:26E-3.1 and 3.2 and applicable NJDEP guidance documents, as well as in general conformance with the All Appropriate Inquiries Final Rule (40 CFR Part 312). CME conducted a site reconnaissance on November 5, 2013.

The purpose of this Preliminary Assessment Report (PAR) is to document CME’s assessment of AOCs as they existed on the Site at the time of our inspection. Qualifications of the individuals who prepared this report are included in **Appendix A**. The scope of work completed for this assessment included an evaluation of the following:

- Physical characteristics of the Site through a review of available topographic, geologic, wetland, floodplain, and ground water data.
- Site history through a review of reasonably obtainable information from private sources and governing public agencies including, but not limited to: land deeds, historic Sanborn Fire Insurance Maps, historic aerial photographs, historic topographic maps, city directories, and previous reports.
- Information contained within federal and state environmental databases, and county and municipal records relative to the Site and surrounding properties within specific search distances.

- Current Site conditions through reconnaissance observations and interviews regarding the presence of Areas of Concern (AOCs) as defined in the TRSR, N.J.A.C. 7:26E-1.8. These AOCs may include hazardous substances or petroleum products; generation, treatment, storage, or disposal of hazardous, regulated, or medical wastes; electrical equipment that utilizes oils which potentially contain PCBs; and aboveground or underground storage tanks.
- Usage of adjacent and nearby properties to determine the potential for environmental contaminants (if present or suspected) to migrate onto the Site.

The NJDEP Preliminary Assessment Data Gathering Checklist and Green Acres Preliminary Assessment Checklist are presented in **Appendix B**. A copy of the NJDEP Preliminary Assessment/Site Investigation Form is provided in **Appendix C** and a copy of the NJDEP case inventory document is provided in **Appendix D**.

1.2 Variances

This PA was conducted in accordance with all applicable laws and regulations.

2.0 SITE DESCRIPTION

2.1 Site Location and Description

The Stafford Mitigation Property is located along Four Mile Branch, north of Littleworth Mill Road, west of Cedar Bridge Road, and southeast of the Garden State Parkway in the Township of Stafford, Ocean County, New Jersey (Site). The Site location is depicted on *Figure 1 – USGS Location Map*. Lot 21.02 is located within the Edwin B. Forsythe National Wildlife Refuge. The Site vicinity is characterized by mixed uses and vacant land; primarily consisting of residential and light commercial properties. Southern Regional High School is located to the southeast of the Site.

The Site contains approximately 40.85 acres and is comprised of Block 54, Lots 21.02 and 26, as depicted on *Figure 2 – Tax Map*. Historically, the Site has consisted of vacant land; two (2) former borrow pits used during the construction of the Garden State Parkway (early 1950s) were located in the northern portion of Lot 26. Cranberry bogs were formerly located adjacently southwest of Lot 21.02. The Site is currently vacant woodlands and wetlands, and contains several nature trails.

Surficial litter and debris were observed in several areas of the Site. Site photographs are presented in **Appendix E**. Surrounding properties consist of the Edwin B. Forsythe National Wildlife Refuge, Southern Regional High School, residential and light commercial uses, and vacant land. Clayton Block Co Inc. operates a sand and gravel mining facility to the north-northeast of the Site.

2.2 Physical Setting

2.2.1 Topography

Based on interpretation of the U.S.G.S. Topographic Map (West Creek, New Jersey Quadrangle, 1977), the Site elevation is approximately 30 to 50 feet above mean sea level (msl). The Site topography is generally sloping southward toward Manahawkin Lake. A copy of the U.S.G.S. Topographic Map is provided in *Figure 1*.

2.2.2 Geology and Soils

The Site is located within the Coastal Plain physiographic province of New Jersey and is underlain by the Cohansey Formation (Tch). This formation is described as medium to coarse-grained quartz sand. Available information from the U.S Department of Agriculture (USDA) under the Soil Survey Geographic Database program (SSURGO) indicates Lot 21.02 of the Site contains Downer loamy sand (DocB). Lot 26 of the Site contains Manahawkin muck (MakAt), Downer loamy sand (DocB), and Sand and Gravel Pits (PHG), as depicted on *Figure 3 – Soils Map*.

2.2.3 *Hydrology*

The Site drains to on-site wetlands and Four Mile Branch which traverses the eastern portion of Lot 26 and forms the western property boundary of Lot 21.02. Four Mile Branch discharges to Manahawkin Lake approximately 2,000 feet south of Lot 21.02. The Site is underlain by the Kirkwood-Cohansey (kcas) aquifer system. Depth to groundwater on the Site has not been determined; flow direction is suspected to be generally to the south-southeast.

2.3 Site Vicinity

The Site vicinity is primarily characterized as vacant land and mixed uses (i.e., residential, commercial, education/school), and is serviced by the public water and sewer systems. Edwin B. Forsythe National Wildlife Refuge adjoins Lot 26 to the south-southwest; Lot 21.02 is located within the refuge boundaries. Adjoining properties to the south and southwest consist of vacant land. The area to the east and south consists of the Southern Regional High School, residences, and light commercial uses. The Garden State Parkway (GSP) is located adjacently northwest of Lot 26; the area to the northwest (beyond GSP) consists of residential and light commercial uses. Clayton Block Co Inc. operates a sand and gravel mining facility to the north-northeast of the Site.

3.0 SITE HISTORY

To assess the historical uses and operations at the Site, a review of historic documents was conducted. This review included evaluation of historic Sanborn[®] Fire Insurance Maps, historic aerial photographs, and historic topographic maps. A review was conducted of available ownership information obtained from the Township of Stafford and the County of Ocean. In addition, a City Directory Report was obtained from Environmental Data Resources, Inc. (EDR).

Historic Sanborn[®] Maps are presented in **Appendix F**. Aerial photographs are provided in **Appendix G**, and historic topographic maps are presented in **Appendix H**. Available ownership records are provided in **Appendix I** and the City Directory Report is presented in **Appendix J**.

3.1 Overview

No industrial uses or operations have been identified on the Site. Available information indicates the Site has consisted of vacant woodlands and wetlands since prior to 1930. However, during the construction of the adjacent Garden State Parkway (GSP) in the early 1950s, two (2) borrow pits were present in the northern portion of Lot 26. Nature trails traverse several portions of the Site. The Site has been subjected to illegal dumping in several areas. Four Mile Branch traverses the eastern portion of Lot 26 and forms the western boundary of Lot 21.02. Cranberry bogs were formerly located adjacently southwest of Lot 21.02.

3.2 Certified Sanborn[®] Maps

Sanborn[®] Fire Insurance Maps of the Site vicinity were requested from EDR. Maps were not identified for the Site; a copy of the Certified Sanborn[®] Map Report is included in **Appendix F**.

3.3 Aerial Photographs

Aerial photographs of the Site and surrounding area were reviewed for indications of past uses. Aerial photographs from the years 1933, 1954, 1963, 1972, 1984, 1995, 2006, 2008 and 2010 were obtained from EDR. Aerial photographs from the years 1931, 1951, 1956, 1963, 1972, and 1986 were reviewed online at www.historicaerials.com. Aerial photographs from the years 1930, 1995, 2002, 2006, 2007, 2010, and 2012 were obtained from the State of New Jersey's Geographic Information Network (NJGIN). Copies of selected aerial photographs are presented in **Appendix G**.

YEAR	COMMENTS
1930, 1931, & 1933	Photo quality is poor. The Site and surrounding properties consist of vacant land. Cedar Bridge Road (vacated) and Levi's Road (vacated) traverse the northern portion of Lot 26. Four Mile Branch traverses the eastern portion of Lot 26 and the western boundary of Lot 21.02; wetlands along the stream are visibly inundated. A tributary stream enters Four Mile Branch from the east in the southern portion of Lot 26. Man-made dams, likely used to create cranberry bogs, are visible along the stream to the north of Lot 26 and adjacently southwest of Lot 21.02. The surrounding area consists of agricultural fields and vacant land.

YEAR	COMMENTS
1951	Photo quality is fair to poor. The water level of Four Mile Branch is visibly lower than previously observed; the stream channel is evident. No significant changes are observed at surrounding properties.
1954	Photo quality is fair to poor. The water level of Four Mile Branch is visibly lower than previously observed. The Garden State Parkway is under construction to the northwest of the Site. Two (2) potential borrow pits are evident in the northern portion of Lot 26. Cranberry bogs adjacently southwest of Lot 21.02 have been drained; the stream channel is evident. Former agricultural fields to the east are densely vegetated.
1956	Photo quality is fair to poor. No significant changes are observed at the Site or surrounding properties.
1963	Photo quality is fair to poor. Vegetation at the Site and surrounding properties appears much denser than previously observed. The former borrow pits in the northern portion of Lot 26 appear inactive and have become overgrown. Southern Regional High School is under construction to the east-southeast, along Route 9.
1972	Photo quality is poor. No significant changes are observed at the Site. Southern Regional High School facilities have been expanded; additional recreational fields have been constructed. Road construction and residential development is evident in the area to the northwest, beyond Garden State Parkway. A golf course and Holiday Lake have been constructed to the north. Large areas of disturbed soil are evident in the area to the northeast.
1984	Photo quality is fair. No significant changes are observed at the Site or surrounding properties.
1986	Photo quality is fair to poor. No significant changes are observed at the Site. Additional residential development is evident in the area to the northwest. Additional soil disturbances are visible in the area to the northeast.
1995	Photo quality is fair to poor. No significant changes are observed at the Site. Southern Regional High School facilities have been expanded; additional buildings and recreational fields have been constructed.
2002	No significant changes are observed at the Site. Southern Regional High School facilities have been expanded; additional buildings and recreational fields have been constructed. A retention pond has been constructed to the west of the school property and east of the Site (Lot 21.02). Additional residential development is evident in the surrounding areas.
2006	No significant changes are observed at the Site or surrounding properties. Additional residential development is evident in the area to the east.
2007, 2008, 2010, & 2012	No significant changes are observed at the Site or surrounding properties.

3.4 Historic Topographic Maps

Available historic topographic maps were reviewed for information regarding past uses of the Site. Historic topographic maps from the years 1893, 1942, 1951, 1972, and 1977 were obtained from EDR. Maps from the years 1888, 1893, 1899, 1907, 1914, 1942, 1954, 1972, and 1973 were reviewed online at www.historicaerials.com. Copies of selected topographic maps are provided in **Appendix H**.

YEAR	COMMENTS
1888, 1893, 1899, 1907, & 1914	Transportation infrastructure (i.e., streets & railroads) is depicted on the map; development features are not shown. Four Mile Branch traverses the Site from the north and discharges to Manahawkin Lake to the south. The Site elevation is approximately 30 to 50 feet above mean sea level (msl).
1942	No significant changes are observed at the Site or surrounding properties. Development features are depicted in Manahawkin, to the south.
1951 & 1954	No significant changes are observed at the Site. Cranberry bogs are identified to the southwest and south of Lot 21.02. Garden State Parkway is depicted to the northwest and labeled 'under construction'.
1972 & 1973	No significant changes are observed at the Site. The northbound and southbound lanes of the Garden State Parkway are depicted. Residential development, the golf course, and Holiday Lake are depicted in the area to the north and northwest. Soil disturbances are depicted to the northeast. Southern Regional High School is depicted to the west-southwest.
1977	No significant changes are observed at the Site. Additional residential development is depicted in the area to the northwest.

3.5 Ownership Records

Prior ownership records were obtained from the County of Ocean; records were supplemented with available information from the Township of Stafford, NJDEP, and U.S. Fish and Wildlife Service (FWS). Copies of available records are provided in **Appendix I**.

Available information indicates the Edwin B. Forsythe National Wildlife Refuge was established in 1984, by combining two (2) originally distinct refuges; the Brigantine and Barnegat Divisions of the refuge were established in 1939 and 1967, respectively. Lot 21.02, Block 54 is located within the Barnegat Division of the refuge; Lot 26 is located adjacently north of refuge property. The Township of Stafford acquired Lot 21.02 on November 27, 1996 and Lot 26 on December 15, 1999 from the Southern Regional High School Board of Education.

Southern Regional High School Board of Education created Lot 21.02 from former Lots 10 and 19 on January 26, 1989; Lot 26 was created through a subdivision and restructuring of numerous parcels on February 4, 1997 (map I-2733). Available information indicates the School Board consolidated and restructured numerous tax parcels acquired prior to an expansion of the school facilities to the east of the Site. It appears the Site and adjacent properties were acquired from J.R. Mark Builders Inc. on December 22, 1988. J.R. Mark Builders Inc. acquired the Site and several additional properties from Burlington Ocean Corporation on January 27, 1987 and subsequently restructured and subdivided the parcels. Burlington Ocean Corporation acquired the Site and several additional properties from Corstaff Realty Corporation on January 17, 1970 and Liberty Development Corporation on January 29, 1970. No further information is available.

3.6 City Directory Report

A search of historic city directories was requested from EDR (**Appendix J**). The Site was not identified. Residential and commercial uses were identified in the surrounding area.

4.0 REGULATORY RECORD REVIEWS

4.1 New Jersey Geographic Information Network (NJGIN) Data

A review of available information from the NJGIN does not indicate any Known Contaminated Site, Deed Notice Areas, or Groundwater Contamination Areas (i.e., CEA, CKE) up-gradient or immediately adjacent to the Site, as depicted in *Figure 4 – NJGIN Databases Map*. Available information indicates historic fill is not present at the Site; however, historic fill is mapped along the adjacent Garden State Parkway. Available NJGIN data was also reviewed for information regarding environmental conditions in the Site vicinity including EPA-regulated facilities, wetlands, community supply wells, and NJPDES-permitted discharges, as depicted in *Figure 4*. Clayton Block Co Inc. located to the north-northeast of the Site, was identified as a NJPDES-permitted surface water discharge facility. Available information indicates the Site is located within a Natural Heritage Priority Site, as depicted in *Figure 4*.

4.2 Regulatory Agency Records

The EPA's Envirofacts website was reviewed for available information pertaining to the Site. The NJDEP's online databases and the Dataminer, iMap, and NJ GeoWeb websites were also reviewed. In addition, requests for publicly available information were sent to various government agencies via the Freedom of Information Act (FOIA) and the Open Public Records Act (OPRA), including the NJDEP, the County of Ocean, and the Township of Stafford. Requests for records and copies of available files are provided in **Appendix I**.

4.2.1 U.S. Environmental Protection Agency (EPA) Records

The Site was not identified on the EPA's Envirofacts website. Clayton Block Co Inc, located north of the Site, was identified in the Air Facility System database. The sand mining facility is permitted for minor emissions of particulates.

Several additional properties were identified in the surrounding area; however, these properties are not considered a concern due to their location relative to the Site (i.e., down-gradient, side-gradient), their distance from the Site, or their administrative status.

4.2.2 N.J. Department of Environmental Protection (NJDEP) Records

The Site was not identified in the NJDEP's online databases.

Several properties were identified in the surrounding area; however, these properties are not considered a concern due to their location relative to the Site (i.e., down-gradient, side-gradient), their distance from the Site, or their administrative status (e.g., NFA from NJDEP).

4.2.3 Ocean County Records

A request was sent to Ocean County for records pertaining to the Site. The County indicated files for the Site were not identified.

4.2.4 *Stafford Township Records*

A request was sent to the Township of Stafford for records pertaining to the Site. The Township indicated Construction Department files were not available for the Site; additionally, records pertaining to hazardous materials were not identified. The Tax Assessor indicated the Township of Stafford currently owns the Site. No additional information was available.

4.3 **EDR Radius Map™ Report**

A Radius Map™ Report was obtained from Environmental Data Resources, Inc. (EDR) of Milford, Connecticut. A copy of the report is provided in **Appendix K**. EDR reviewed available government databases of environmental records and compiled information regarding documented and/or suspected releases of regulated hazardous substances and/or petroleum products on or near the Site.

In the Orphan Summary, the report lists ‘unmappable’ sites identified in the databases searched. Unmappable sites are those that may fall within the limits of the various search distances; however, the property locations were not positively identified due to insufficient address information. CME cross-referenced data in the Orphan Summary with available information to identify the actual location of the sites listed.

4.3.1 *Site Findings*

The Site was not identified in any of the databases searched by EDR, and was not identified in the Orphan Summary.

4.3.2 *Surrounding Properties Findings*

Southern Regional High School was identified in the Resource Conservation and Recovery Act (RCRA) database as a conditionally exempt small quantity generator. The school was also identified in the New York and New Jersey Manifest databases. The property was identified in the historic leaking underground storage tank (HIST LUST) database; the NJDEP issued a No Further Action (NFA) determination for case #95-03-07-0922 on July 18, 1995.

The EDR report identified additional properties in the surrounding area; however, these properties are not considered a concern due to their location relative to the Site (i.e., down-gradient, side-gradient), their distance from the Site, or their administrative status (e.g., NFA from NJDEP). For further information regarding these sites, please refer to the EDR Radius Map™ Report in **Appendix K**.

4.4 Other Sources of Information

4.4.1 *Property Liens and Limitations*

Information regarding environmental liens, and activity and use limitations (AULs) for the Site was requested from the Township of Stafford, the County of Ocean, and the NJDEP. No environmental liens were identified for the Site. However, the Township intends to preserve the Site as passive open space and future uses of the property are limited to public outdoor recreation (i.e., nature trails) and/or resource conservation. Available information indicates the Site is located within a Natural Heritage Priority Site; Lot 21.02 is located within the Edwin B. Forsythe National Wildlife Refuge and Lot 26 is located adjacently north of refuge lands.

4.4.2 *U.S. Fish and Wildlife Service (FWS)*

Available information from the U.S. Fish and Wildlife Service (FWS) indicates the Edwin B. Forsythe National Wildlife Refuge was established in 1984, combining two (2) originally distinct refuges. The Forsythe Refuge encompasses approximately 47,000 acres of actively protected and managed coastal habitats; 82 percent of the refuge consists of wetlands. The Brigantine and Barnegat Divisions of the refuge were established in 1939 and 1967, respectively; a portion of the Site (Lot 21.02) is located within the Barnegat Division of the refuge. Accordingly, the Site has consisted of protected habitat since approximately 1967.

5.0 INTERVIEWS

5.1 Interviews with Property Owner Representatives

James Moran, Township Administrator, was interviewed regarding environmental issues associated with the Site. Mr. Moran stated no commercial or industrial operations have been conducted at the Site. He indicated the Site has always consisted of vacant woodlands and wetlands. Mr. Moran stated, to the best of his knowledge, no fill has been emplaced at the Site. He indicated former cranberry bogs were located adjacent to the Site, along Four Mile Branch, and former borrow pits are present in the northwestern portion of Lot 26. Mr. Moran stated he was not aware of any environmental concerns associated with the Site. He indicated surficial litter and debris (illegally dumped by others) has been removed from the Site on several occasions in the past. Mr. Moran stated there are no plans for future development; the Township intends to preserve the Site in its current state as passive open space.

6.0 SITE RECONNAISSANCE

A site reconnaissance was performed by CME personnel on November 5, 2013.

The Site consists of vacant woodlands and wetlands. Maintained nature trails traverse several portions of the Site. Four Mile Branch and associated wetlands traverse the eastern portion of Lot 26 and forms the western boundary of Lot 21.02. An intermittent tributary stream enters the southern portion of Lot 26 from the east.

The two (2) former borrow pits in the northern portion of Lot 26 were evident; soil mounds were noted along the perimeter of each. Indications of illegal dumping were observed at the location of the former pits and in several other areas of the Site. Observed materials and debris included lumber, roofing shingles, siding, utility poles (with probable creosote), empty antifreeze and paint containers, an empty compressed gas tank, broken glass, numerous automobile tires, cinder blocks and asphalt debris, metal and plastic debris, two (2) small boats, all-terrain vehicle parts (including an empty gas tank), pieces of Orangeburg piping, and household refuse.

Adjoining properties consist of Edwin B. Forsythe National Wildlife Refuge, the Garden State Parkway, and vacant land. Southern Regional High School and associated athletic/recreational fields are located to the southeast. The surrounding vicinity is characterized by vacant land and mixed uses including light commercial/industrial and residential properties. No off-site AOCs were noted. Site photographs are provided in **Appendix E**. Site features are depicted on a 2012 aerial photograph in *Figure 5 – AOCs Map*.

7.0 FINDINGS

The Site is currently vacant land. No industrial uses or operations have been identified on the Site. This assessment has identified Areas of Concern (AOCs) at the Site, as indicated below and depicted on *Figure 5 – AOCs Map*. Recommendations regarding AOCs are discussed in *Section 8.1* of this report.

7.1 Storage Tanks and Containers

Based on the Site history, it is unlikely any heating oil storage tank(s) are or were present at the Site.

7.1.1 Underground Storage Tanks (USTs)

No records documenting the removal of USTs at the Site were identified. No indications of buried tanks were observed.

7.1.2 Aboveground Storage Tanks (ASTs)

No ASTs or indications of buried tanks were observed at the Site.

7.1.3 Other Containers

A small, empty gasoline tank was observed amongst remnants of an all-terrain vehicle in the northern portion of Lot 21.02; no staining or other indications of a discharge were observed. Several small (< 1 gal) containers were observed at locations of illegal dumping; the empty containers included antifreeze jugs, paint cans, and unknown containers. No drums were observed at the Site.

7.2 Storage and Staging Areas

No hazardous or non-hazardous materials storage, staging, or handling areas are located at the Site. Based on the Site history, it is unlikely any such areas previously existed at the Site.

7.3 Discharge and Disposal Areas

7.3.1 Solid Waste Generation, Storage, and Disposal

Surficial litter and debris were observed in several areas of the Site. Observed materials include household refuse, numerous automobile tires, two (2) small boats, broken glass, roofing shingles, lumber, siding, asphalt, cinder blocks, utility poles, metal and plastic debris, an empty compressed gas tank, and several empty containers (former contents unknown).

7.3.2 Wastewater Generation, Treatment, and/or Disposal

No buildings are present at the Site; available information indicates no structures were previously located at the Site.

7.3.3 Stormwater Management/Surface Drainage

Stormwater either infiltrates on-site soils, or drains to on-site wetlands and Four Mile Branch via overland/sheet flow. Stormwater management systems were identified in the Site vicinity. A stormwater detention basin was observed approximately 800 feet to the east of Lot 21.02; overflow from the basin discharges to the west and flows along an unlined drainage channel to Four Mile Branch. The surrounding area is serviced by the public stormwater drainage system.

7.4 Other AOCs

Historic Fill

Available data from the NJGIN indicates historic fill is not present at the Site; however, historic fill is mapped along the adjacent Garden State Parkway.

Wells

No buildings are located at the Site to receive utilities. No potable wells were identified at the Site. If wells are identified, they should be properly decommissioned by a licensed well driller.

Polychlorinated Biphenyls (PCBs)

No suspected PCB-containing equipment or materials were observed at the Site.

Power Transmission Lines

No high-voltage power transmission lines were observed at the Site. Transmission lines are located adjacent to Lot 26, within the utility easement parallel to the Garden State Parkway.

Off-site Sources of Contamination

Review of NJDEP databases identified a NJPDES-permitted surface water discharge facility upstream from the Site. Clayton Block Co Inc. operates a sand mining facility to the northeast of the Site; however, this operation is monitored by the NJDEP and is not suspected of adversely impacting the environmental quality of the Site. No off-site sources of contamination which may migrate onto or beneath the Site were identified.

7.5 Potential Impacts/Implications on Site Development and Construction

The Township intends to preserve the Site as passive open space through the NJDEP Green Acres Program; additionally, Lot 21.02 is located within the Edwin B. Forsythe National Wildlife Refuge. Future site uses are limited to public outdoor recreation (i.e., nature trails) and/or natural resource conservation. Available information from the NJGIN indicates the Site is located within a mapped Natural Heritage Priority Site and is located within the CAFRA zone. All surficial litter and debris should be removed and properly disposed off-site in accordance with all applicable laws and regulations.

7.6 Data Gaps

Limited records were available regarding previous ownership of the Site. However, available information indicates the Site and adjoining properties have always consisted of vacant land; therefore, this is not considered a significant data gap.

No significant data gaps have been identified.

8.0 CONCLUSIONS AND RECOMMENDATIONS

8.1 Areas of Concern (AOCs)

CME has performed this PA in conformance with the scope and limitations of the current Technical Requirements for Site Remediation (TRSR) (N.J.A.C. 7:26E-3.1 & 3.2) and NJDEP guidance documents. Any exceptions to, or deletions from, this practice are described in *Section 1.2* of this report. This assessment has revealed the following Areas of Concern (AOCs) in association with the Site, as depicted on *Figure 5 – AOCs Map*.

AOC #1: Former Borrow Pits

Historic aerial photographs, historic topographic maps, and available information from NJGIN indicate two (2) former borrow pits were located along the Garden State Parkway in the northern portion of Lot 26. Borrow pits are typically found close to major construction projects and are used as a source of material (e.g., sand, gravel) for use at another location. Some borrow pits become filled with groundwater, rain water, and/or surficial runoff. The final excavation depth of the former borrow pits is not known; however, based on available information and field observations, it appears the pits were shallow and likely do not contain buried wastes or debris. No further investigation is recommended at this time.

AOC #2: Surficial Debris/Illegal Dumping

During the site reconnaissance, surficial litter and debris was observed in several areas throughout the Site. Observed materials and debris included lumber, roofing shingles, siding, utility poles (with probable creosote), empty antifreeze and paint containers, an empty compressed gas tank, broken glass, numerous automobile tires, cinder blocks and asphalt debris, metal and plastic debris, two (2) small boats, all-terrain vehicle parts (including an empty gas tank), pieces of Orangeburg piping, and household refuse. There is a potential the illegally dumped materials may have impacted the environmental quality of the Site. All surficial litter and debris should be removed and properly disposed off-site at an approved facility. Further investigation is recommended.

9.0 LIMITATIONS

CME has performed this Preliminary Assessment (PA) using reasonable efforts in each phase of its work to identify Areas of Concern (AOCs) associated with hazardous substances and/or wastes, and petroleum products at the Site. The findings, opinions, and recommendations presented within this report are based on observations made on the day of the site reconnaissance and reasonably ascertainable information obtained from private sources and governing public agencies. CME is not responsible for incorrect or incomplete information provided by others. In addition, the information obtained is only relevant for the dates of the records reviewed or as of the date of the most recent site visit. If additional information is obtained subsequent to issuance of this report, our opinion on the impact of such information on our findings and conclusions will be transmitted under separate cover.

No specific inquiry or investigation with respect to asbestos materials, radon or methane gas, wetlands, ecological constraints, toxic mold, electrical or light fixtures, or the structural condition of buildings was conducted. No guarantee or warranty of the findings of this Preliminary Assessment is expressed or implied in this report or in any subsequent correspondence or consultation related to this assessment.

No environmental site assessment can wholly eliminate uncertainty regarding the potential for AOCs in connection with a property. This PA has been conducted in accordance with the scope and limitations of the Technical Requirements for Site Remediation, N.J.A.C. 7:26E-3.1 and 3.2, as well as in general conformance with ASTM Practice E 1527-05 and the “All Appropriate Inquiry” (AAI) Final Rule (40 CFR Part 312). Performance of this practice is intended to reduce, but not eliminate, uncertainty regarding the potential for AOCs in connection with a property, and this practice recognizes reasonable limits of time and cost.

This assessment is not exhaustive and should not be assumed to be a complete or definitive description of the conditions above or below surface grade at the Site. Actual subsurface conditions may differ from those implied by, or deduced from, surface observations and can only be reliably evaluated through intrusive techniques. Information in this report is not intended to be used as a construction document and should not be used for demolition, renovation, or other construction purposes.

CME makes no representation or warranty that the past or current operations at the Site are or have been in compliance with all applicable federal, state, and local laws, regulations, and codes. This report does not warrant against future operations or conditions, nor does it warrant against operations or conditions present of a type or at a location not investigated.

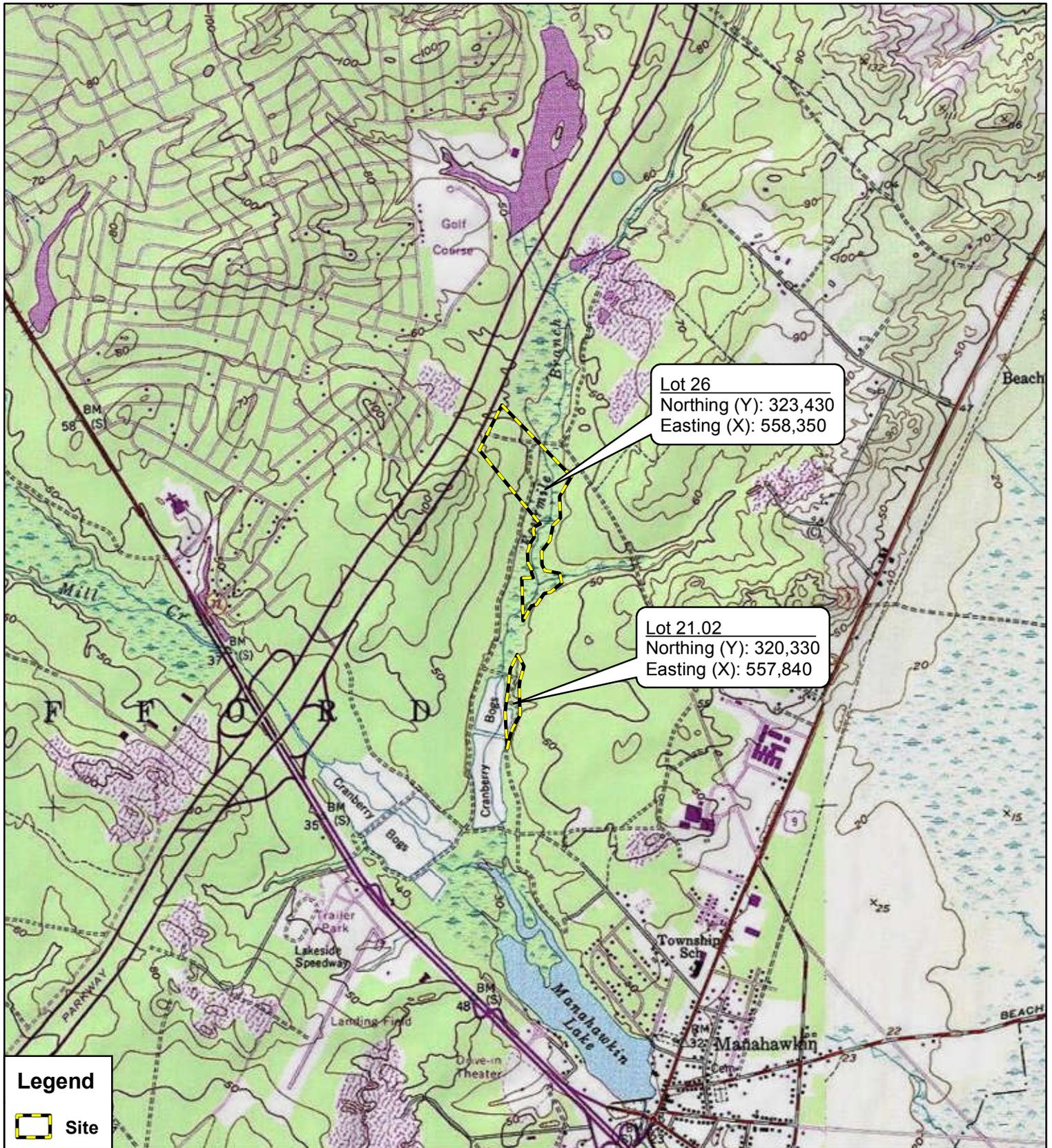
The regulatory database report provided is based on an evaluation of the data collected and compiled by a contracted data research company. The report focuses on the Site and neighboring properties which could impact the Site. Neighboring properties listed in governmental

environmental records are identified within specific search distances. The search distances vary depending upon the particular government record being checked. The regulatory research is designed to meet the requirements of ASTM Practice E 1527-05. The information provided in the regulatory database report is assumed to be correct and complete.

Reasonable efforts have been made during this assessment to identify aboveground and underground storage tanks and ancillary equipment. "Reasonable efforts" are limited to information gained from visual observation of largely unobstructed areas, recorded database information held in public record, and available information gathered from interviews. Such methods may not identify subsurface equipment that may have been hidden from view due to paving, construction or debris pile storage, or incorrect information from sources.

CME reviewed past ownership information of the Site in an attempt to determine past uses. CME is not a professional title insurance firm and makes no guarantee, explicit or implied, that the records which were reviewed represent a comprehensive or precise description of past site ownership or tenancy for legal purposes.

FIGURES



Legend

 Site



3759 U.S. Highway 1 South, Suite 100
 Monmouth Junction, NJ 08852
 Phone: 732-951-2101
 Fax: 732-951-2106

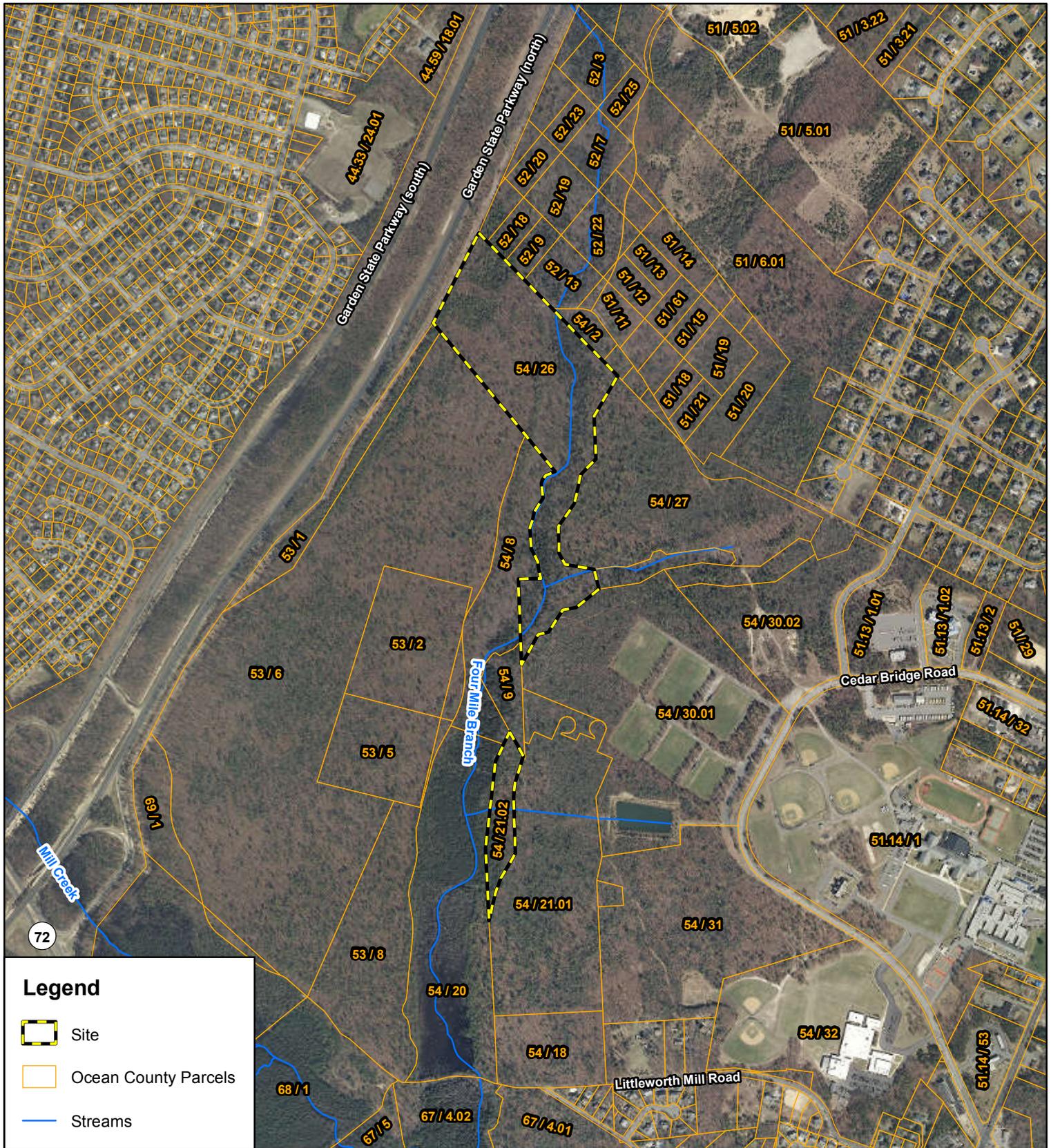
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 Feet
 1 inch = 2,000 feet



**Figure 1 - USGS Location Map
 Mitigation Property
 Block 54, Lots 21.02 & 26
 Stafford Township
 Ocean County, New Jersey**

Last Updated: 11/21/2013 by ERS
 Source(s): ESRI, NJGIN
 Filepath: P:\100 CME\STAFFORD TOWNSHIP\Mitigation Property\GIS\Figure 1 - USGS Location Map.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.



Legend

-  Site
-  Ocean County Parcels
-  Streams



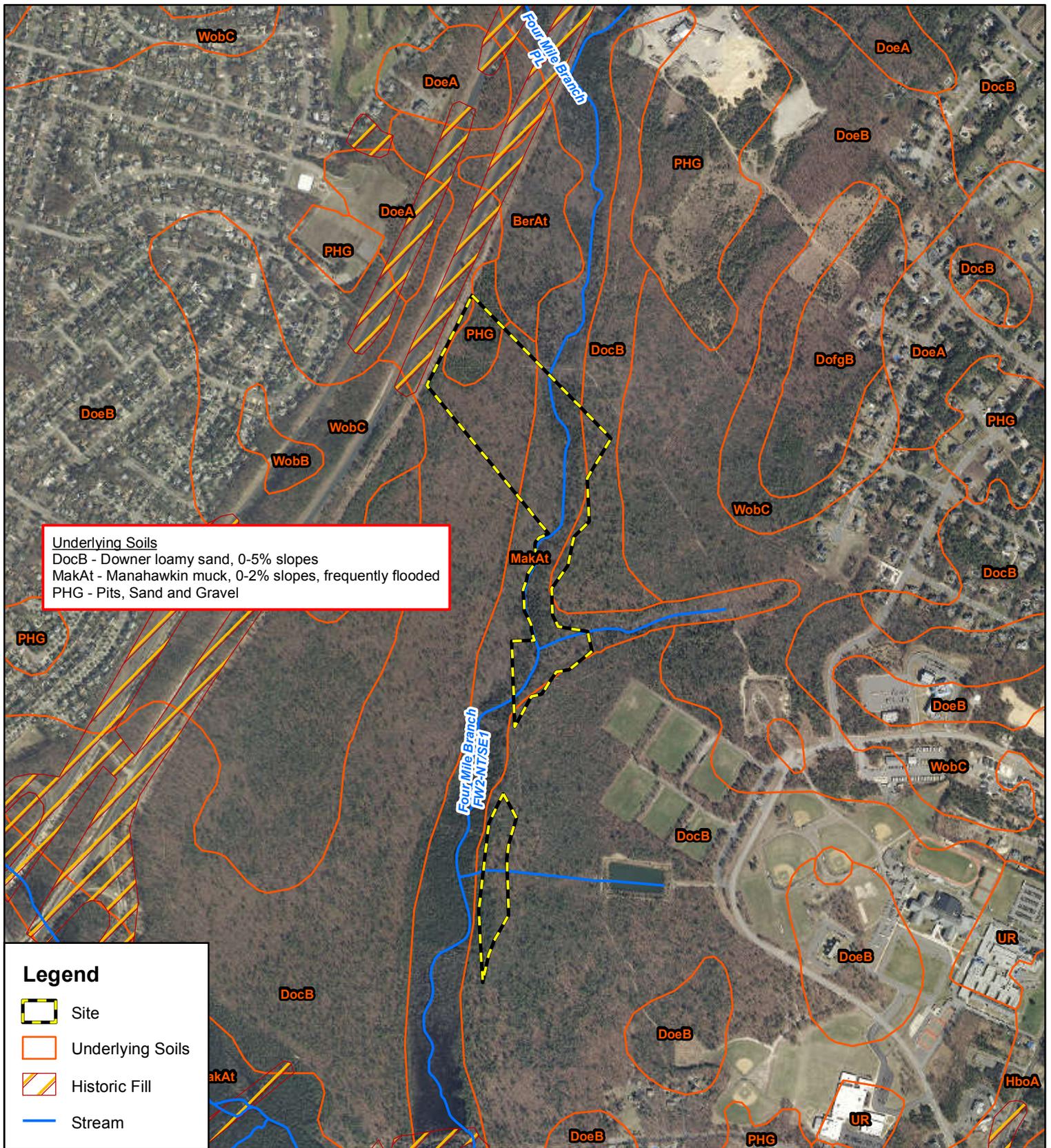
3759 U.S. Highway 1 South, Suite 100
 Monmouth Junction, NJ 08852
 Phone: 732-951-2101
 Fax: 732-951-2106

0 500 1,000
 Feet

1 inch = 1,000 feet



**Figure 2 - Tax Map
 Green Acres Compensation Lands
 Block 54, Lots 21.02 & 26
 Stafford Township
 Ocean County, New Jersey**



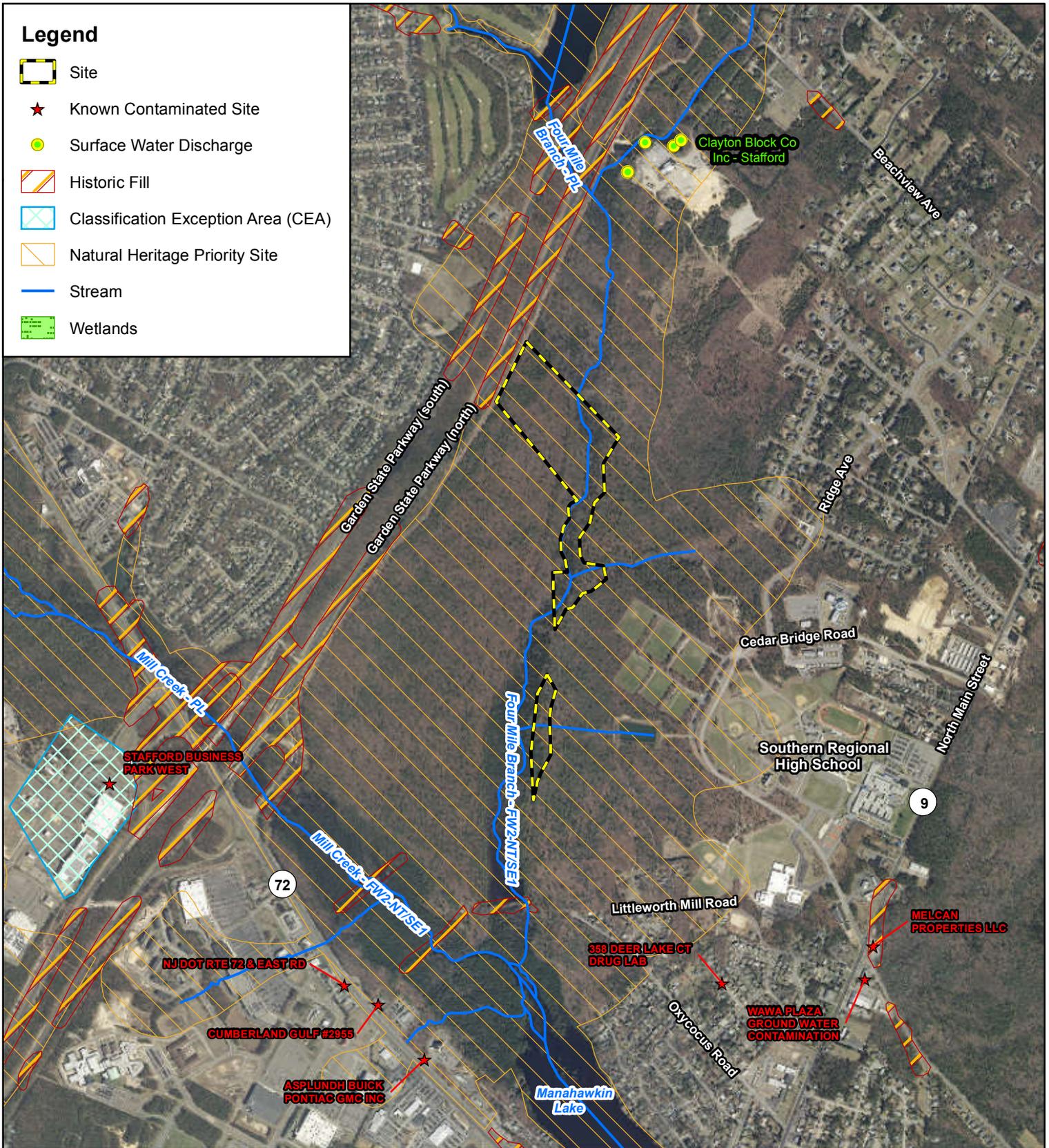
3759 U.S. Highway 1 South, Suite 100
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 Phone: 732-951-2101
 Fax: 732-951-2106

0 500 1,000
 Feet

1 inch = 1,000 feet



**Figure 3 - Soils Map
 Mitigation Property
 Block 54, Lots 21.02 & 26
 Stafford Township
 Ocean County, New Jersey**



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 Feet

1 inch = 1,500 feet

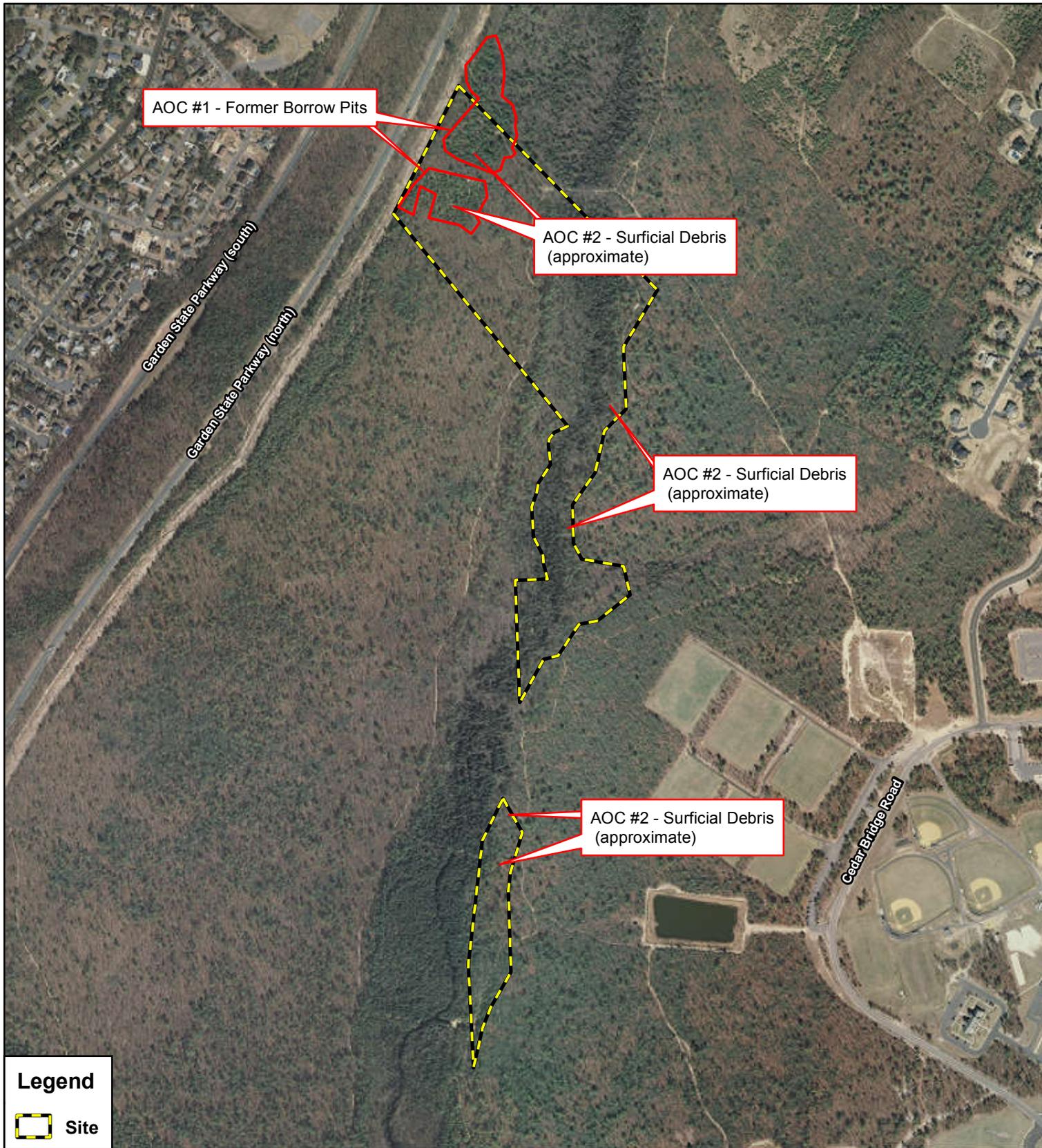


Figure 4 - NJGIN Databases Map Mitigation Property Block 54, Lots 21.02 & 26 Stafford Township Ocean County, New Jersey

Last Updated: 11/21/2013 by ERS
 Source(s): ESRI, NJGIN, CME Field Data

Filepath: P:\100 CME\STAFFORD TOWNSHIP\Mitigation Property\GIS\Figure 4 - NJGIN Databases Map.mxd not been verified by NJDEP and is not State-authorized.

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product



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0 200 400 600 800
 Feet

1 inch = 700 feet



**Figure 5 - AOCs Map
 Mitigation Property
 Block 54, Lots 21.02 & 26
 Stafford Township
 Ocean County, New Jersey**

Last Updated: 11/25/2013 by ERS
 Source(s): ESRI, NJGIN, EDR, CME Field Data
 Filepath: P:\100 CME\STAFFORD TOWNSHIP\Mitigation Property\GIS\Figure 5 - AOCs Map.mxd

NOTE: This map was developed using New Jersey Department of Environmental Protection Geographic Information System digital data, but this secondary product has not been verified by NJDEP and is not State-authorized.