

Memorandum

To: Gabriella Velardi Ward - Coalition For Wetlands and Forests
CC: Sarah Wilkins, Sarah Lipuma, Harriet Festing
From: Ericka Naklicki, PWS Principal Environmental Scientist
Date: April 8, 2019, revised June 11, 2019
Re: Preliminary Wetland Investigation
Graniteville Wetlands - Block 1707, Lots 1 and 5
Forest Avenue and South Avenue
Graniteville, Staten Island, New York

On March 23, I conducted a preliminary wetland assessment with Gabriella Velardi Ward and Sarah Lipuma at the subject site identified as Block 1707, Lots 1 and 5 located along Forest Avenue and South Avenue in Graniteville, Staten Island, New York. The preliminary investigation included a walk through the majority of the subject site to get an understanding of the habitat. I conducted soil borings to get a general idea of the soil conditions, observed signs of hydrology, and identified the dominant trees growing onsite. A second site visit was conducted on June 2, 2019 to get a better assessment of the site and observe the herbaceous vegetation that was not onsite during the march visit.

The subject site is approximately 28 acres in size. The site consists of an undeveloped, forested property that contains forested and emergent wetland habitats, forested uplands and tributaries. We note that the site is owned by Joseph Alpert. The wetlands on the property have been delineated by a PWS and an Army Corps of Engineers (ACOE) Jurisdictional Determination (JD) was approved for the site in 2012. The JD legally verified the limits of the wetland habitats onsite. The JD has identified five isolated wetland habitats on the property which total 2.06 acres and a wetland habitat associated with Old Place Creek which is located south of the subject site. Included with this memo are the color photos from the field investigation, a copy of the Jurisdictional Determination, a USDA Soil Map and the wetland map that we used in the field.

FEMA Flood Data

Based on the Effective FEMA Flood Maps, dated 9/5/2007, the southern portion of the site is within FEMA Flood Zone X, which is also known as the 0.2% Annual Flood Hazard Area. This means that 1% annual chance flood with average depth of flood less than 1 foot or drainage areas less than 1 square mile. Based on the Preliminary FEMA Map (not yet approved), dated December 5, 2013, the southern portion of the site is located in Zone AE with Base Flood Elevation 10'. The FEMA Flood Maps have been added to the dropbox file.

USDA Soil Data

Based on USDA Soil Data, the site is underlain by five different soil types. The location of the soil types are included on the maps attached to this memo. First, we must define the seven classes of hydrologic soil groups as listed below:

- **Group A** soils have a high infiltration rate and low runoff. These soils consist of deep, well drained sands or gravelly sands and have a high rate of water transmission.

- **Group B** soils have a moderate infiltration rate. This group consists chiefly of deep well drained soils with a moderately fine to moderately coarse texture and a moderate rate of water transmission.
- **Group C** soils have a slow infiltration rate. This group consists of soils with a layer that impedes the downward movement of water or fine textured soils and a slow rate of water transmission.
- **Group D** soils have a very slow infiltration rate and high runoff potential. This group is composed of clays that have a high shrink-swell potential, soils with a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.
- If a soil is placed in group D because of a high water table it may be assigned to a dual hydrologic group: **A/D, B/D, or C/D**. The first letter of the pair represents the soil's group if drained and the D represents the natural condition.

For more information on soil hydrologic groups see the Natural Resources Conservation Service's [National Engineering Handbook](#).

The soil descriptions of the soil underlying the site are as follows:

1. BmA—Boonton loam, moderately well drained, 0 to 3 percent slopes

The Boonton, moderately well drained component makes up 80 percent of the map unit. Slopes are 0 to 3 percent. This component is on ground moraines on till plains. The parent material consists of red coarse-loamy till derived from sedimentary rock. Depth to a root restrictive layer, fragipan, is 20 to 36 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 18 inches during January, February, March. Organic matter content in the surface horizon is about 77 percent. Below this thin organic horizon the organic matter content is about 2 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The hydrologic soil group is C/D.

2. DfA—Deerfield loamy fine sand, 0 to 3 percent slopes

The Deerfield component makes up 85 percent of the map unit. Slopes are 0 to 3 percent. This component is on outwash plains on lowlands. The parent material consists of sandy outwash derived from granite, gneiss, and/or quartzite. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 25 inches during January, February, March, April, May, June, November, December. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria. The hydrologic soil group is A.

3. LUA—Laguardia-Urban land complex, 0 to 3 percent slopes

The Laguardia component makes up 60 percent of the map unit. Slopes are 0 to 3 percent. This component is on fills on uplands, fills on lowlands. The parent material consists of loamy-skeletal human-transported material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately low. Available water to a depth of 60 inches is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within

a depth of 72 inches. Organic matter content in the surface horizon is about 9 percent. Nonirrigated land capability classification is 1. This soil does not meet hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 12 percent. The hydrologic soil group is C.

4. PkA—Preakness mucky silt loam, 0 to 3 percent slopes

The Preakness component makes up 82 percent of the map unit. Slopes are 0 to 3 percent. This component is on depressions on outwash plains, drainageways on outwash plains. The parent material consists of coarse-loamy outwash over gravelly outwash and/or sandy outwash. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 0 inches during January, February, March, April, May, November, December. Organic matter content in the surface horizon is about 77 percent. Below this thin organic horizon the organic matter content is about 14 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The hydrologic soil group is A/D.

5. WbA—Westbrook mucky peat, sandy substratum, 0 to 1 percent slopes, very frequently flooded

The Westbrook, sandy substratum, very frequently flooded component makes up 85 percent of the map unit. Slopes are 0 to 1 percent. This component is on tidal marshes on lowlands. The parent material consists of herbaceous organic material over loamy fluviomarine deposits over sandy fluviomarine deposits. Depth to a root restrictive layer, sulfuric, 0 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is very frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, May, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 55 percent. Nonirrigated land capability classification is 8w. This soil meets hydric criteria. The soil has a strongly saline horizon within 30 inches of the soil surface. The hydrologic soil group is A/D. To summarize, there are only two listed soil series onsite that are identified on the Hydric Soil List- Preakness and West Brook. Both of these soil series are located on the southern portion of the property.

List of T&E Species and other animal species onsite

A request has been made to the New York Natural Heritage Program (NHP) to obtain a list of rare, threatened or endangered species that inhabit the site. A response has not been received to date. This memo will be updated once the information is received. A Federal IPaC search has also been conducted for the property.

The USFWS provides an IPaC Review of Federal Species on a property. Certain birds are protected under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures. The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location.

According to their website (<https://ecos.fws.gov/ipac>), the property may have the following species and/or their onsite:

Bald Eagle, Blue winged warbler, Cerulean warbler, Eastern warbler, Golden eagle, Kentucky warbler, Prairie warbler, Prothonotary warbler, Red-headed woodpecker, Rusty blackbird, Wood thrush, Piping plover (Threatened) and Roseate Tern (Endangered). It is important to note that more in-depth survey would be

required by a qualified wildlife biologist to determine if these species or their habitats are onsite.

There have been deer observed on the property too. Although deer are not a protected species, it is rare to see deer in an urban environment.

As described recently, the site is identified as containing Eastern Mud Turtle (State Endangered). Eastern mud turtles live in freshwater or brackish wetlands and the undeveloped sandy vegetated uplands that surround them. They prefer wetlands that are shallow and quiet, with a soft bottom and emergent vegetation. These wetlands include marshes, small ponds, water-filled ditches, creeks, and swamps. On Long Island and adjacent islands, the turtles usually occupy brackish marshes and ponds dominated by giant reed grass (*Phragmites australis*). The surrounding undeveloped sandy uplands are a critical component of suitable habitat, since they provide areas that are critical for nesting and overwintering (Soule and Lindberg 2008). A survey is proposed by a biologist hired by the property owner in the early spring to determine if the turtle exists on the property. The Coalition for Wetlands and Forests is looking to hire someone to also conduct an Eastern mud turtle survey.

On June 2, 2019 a herpetologist conducted a site visit to review the habitat onsite to determine if the habitat for Eastern Mud turtle is onsite. Although the turtle was not observed, the site does contain suitable habitat for Mud turtle. The following amphibians/animals were observed:

Northern Green Frog - *Lithobates clamitans melanota*

Leopard Slug - *Limax maximus*

Blue Jay - *Cyanocitta cristata*

Great Crested Flycatcher - *Myiarchus crinitus*

Wetland Investigation Findings

The following information is based on the site visit conducted on March 23, 2019. The methodology enumerated in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands was employed to identify the wetland habitats. The wetland delineation included an evaluation of vegetation, soils and hydrology, as required by the Federal Manual. We note that 2018 was a record-breaking year of precipitation, so the site is very inundated. We investigated the six different wetland habitats that were identified on the Jurisdictional Determination. Wetland areas A through H.

The following tables represent the “National Wetland Plant Indicator Status List prepared by the US Army Corps of Engineers”, Dated July 2012. This information summarizes the various indicator status of the dominant wetland plants.

Table 1. Wetland indicator status ratings and their rating categories, as described in the National List of Plant Species that Occur in Wetlands (Reed 1988).

Indicator status (abbreviation)	% Occurrence in wetlands
Obligate (OBL). Occur almost always under natural conditions in wetlands.	99
Facultative Wetland (FACW). Usually occur in wetlands but occasionally found in non-wetlands.	67–99
Facultative (FAC). Equally likely to occur in wetlands and non-wetlands.	34–66
Facultative Upland (FACU). Usually occur in non-wetlands but occasionally found in wetlands.	1–33
Upland (UPL). Occur in wetlands in another region, but occur almost always under natural conditions in non-wetlands in the region specified.	1

Table 2. Wetland indicator status ratings based on ecological descriptions.

Indicator status (abbreviation)	Ecological description (Lichvar and Minkin 2008)
Obligate (OBL)	Almost always is a hydrophyte, rarely in uplands
Facultative Wetland (FACW)	Usually is a hydrophyte but occasionally found in uplands
Facultative (FAC)	Commonly occurs as either a hydrophyte or nonhydrophyte
Facultative Upland (FACU)	Occasionally is a hydrophyte, but usually occurs in uplands
Upland (UPL)	Rarely is a hydrophyte, almost always in uplands.

The subject site consists of forested wetland habitat and emergent wetlands along with forested upland habitats and disturbed open areas. The forested wetlands are dominated by Red maple (*Acer rubrum* FAC), Sweet gum (*Liquidambar styraciflua* FAC), Pin oak (*Quercus palustris* FAC), and Soft rush (*Juncus effuses* OBL), Cinnamon Fern (*Osmundastrum cinnamomeum*, FACW), Spike rush (*Elocharis palustris*, OBL), Common Blue eyed grass (*Sisyrinchium motanum*, FAC). The dominant species are classified as Facultative FAC and FACW vegetation as listed in the National List of Plant Species that Occur in Wetlands for NY State (last updated 2016). The upland portion of the site is dominated by the same species in the wetlands plus Red oak (*Quercus rubra* FACU) and New York Fern (*Thelypteris noveboracensis*) indicative to upland habitats. The dominant vegetation is consistent throughout the site.

Soil samples were taken throughout the property to get an understanding of the soil conditions. The soil borings were advanced with a handheld auger and the soil was investigated to a depth of approximately 24 inches. The soils underlying the site consist of a low chroma matrix indicative to hydric soil condition (10YR 3/1, 3/2 with 2 and 10YR 2/1). I did not observe any oxidized rhizospheres or redoximorphic features (mottling) in the soil. The upland soil consists of brighter parent material 10YR 6/6, 5/4 and 5/6. All of the soil borings were saturated, and the majority of the soil boring holes were filled with water to the surface. I would like to go back to the site in the early summer to see how site is in the drier season. But we note that 2018 was a record rainfall year, so the

site is saturated to the surface. Majority of the soil borings revealed a silty clay loam and there were no restrictive layers (i.e. stone, thick clay, or vegetation).

There was standing water in some of the soil boring holes within the wetland area at 6 inches below surface. The ground surface was wet at the time of the site visit. There were additional signs of hydrology including water stained leaves, ponded water, and high-water table. There was evidence of adventitious (shallow) roots on a variety of the larger trees on site. Several of the wetland features at the site demonstrated signs of extended periods of open water that include hummocky topography, dark water stained leaves, and standing pockets of water at the surface and up to 3 feet deep.

It is important to point out that I put the auger in some areas of standing pockets of water and there was refusal of some sort of manmade object, could be buried debris, stone, garbage, etc. As such, some of the standing pockets of water onsite could be related to buried debris/garbage. There are many disturbed areas on the property that include garbage, tires, cars and other miscellaneous debris. We also saw the evidence of previous test pits, silt fence and tree removal.

Conclusion

Since the State of New York DEC classifies “Regulated Wetlands” as wetlands that contain all three wetland criteria – hydric soil, signs of hydrology, hydrophytic vegetation – I concur with the wetlands that were approved with the Jurisdictional Determination (for wetland areas E and F). However, the wetland pockets located on the southern portion of the site, could potentially be connected (wetland habitats, B, C/D, H and B). A more in-depth delineation would be required to determine the limits of wetlands on the property. We also need to look at Wetland A.

It is also important to point out that the Army Corps of Engineers Regulates the Wetland Area B. Any work in the wetland would require a Nationwide Permit by the ACOE. The remaining wetlands would be regulated by the NYDEC. The NYDEC only regulates mapped wetlands and wetlands over 12.4 acres. Since the isolated wetlands are only 2.06 acres combined, they *may not* be regulated by the DEC. However, they appear to be in the location of the mapped wetlands on the property, so they can be regulated by the DEC. This should be confirmed by the NYDEC. It is also important to note that the mapped wetland on the southern portion of the site, represents what I believe to be the location/boundary of the wetlands area. Which can be further investigated with additional field work in late May-early June.

******The information in this memo is for informational purposes only. The NYDEC and Army Corps of Engineers makes the final determination of wetlands onsite and the required regulations and permits for disturbing wetlands.

Actions Needed

I would recommend a meeting with the NYDEC and the Army Corps of Engineers to explain the regulatory requirements and discuss the current status of the permit applications that are under review. If a public comment period will take place for this project, it is important to speak up during that time period and potentially request a public hearing.

Additional field work is required in late May/early June to observe additional vegetation and signs of hydrology. In addition, I would like to investigate the mapped wetlands on the southern portion of the property in relation to the JD wetlands. Completed June 2, 2019. I still concur with the delineated line, however, the wetlands appear to have grown in size. Since the wetlands have been verified again in 2017 by the Army Corps of Engineers, it

would be good to hear that they field verified the wetland boundary line. As opposed to verifying the previously approved wetland line that was delineated in 2011.



