
JMM WETLAND CONSULTING SERVICES, LLC

**23 Horseshoe Ridge Road
Newtown, CT 06482**

Phone: 203-364-0345
Mobile: 203-994-3428
james@jmmwetland.com
jmmwetland.com

October 4, 2022

Town of South Windsor
Inland Wetlands Agency/Conservation Commission
1540 Sullivan Avenue
South Windsor, CT 06074

RE: ***WETLANDS ASSESSMENT/IMPACT ANALYSIS***
444 Nutmeg Road North, South Windsor, Connecticut

JMM Job # 22-3133-SWN-4

1.0 Introduction

Per the request of the applicant, Prime Materials Recovery, **JMM Wetland Consulting Services, LLC** (JMM) is providing this *Wetlands Assessment/Impact Analysis* report to be submitted as part of an application to conduct regulated activities at the above-referenced property.

The site is located on the east side of Nutmeg Road and north of Governor's Highway, in South Windsor, Connecticut. The overall parcel is comprised of an existing building, maintained lawn, landscaped areas, paved/gravel parking areas and drives, storage areas, and forested upland and wetland areas, which includes a ditched watercourse (Figure 1, attached). Specifically, JMM reviewed the southwestern portion of the overall property for regulated wetland and/or watercourse areas, which is the area of the proposed activities (JMM Study Area).

In this report, JMM is providing the following:

1. Descriptions of regulated wetlands and watercourses within the study area.
2. An analysis of potential indirect impacts upon the regulated resources and upon the functions and values they provide.

2.0 Description of Regulated Resource Area

JMM visited the site on August 1st, 2022 for the purpose of conducting a soil-based wetland delineation within the study area and to gather baseline information for this report. One regulated resource area was identified and delineated during the August 1st site visit (i.e., WC-series).

JMM-WC-Series

This regulated resource area is located along the southwestern portion of the study area (see Figure 1, attached). This resource is comprised of a man-made, intermittent ditched watercourse with steep to relatively steep rip-rap/vegetative banks. This intermittent watercourse periodically flows to an RCP locate in the western portion of the study area, which continues to points north both on and off-site (see photos 1-2, attached). It is worth noting that in and around the watercourse there is evidence of past soil disturbance, such as soil piles, debris, primarily due to decades of activities associated with the existing development as well as the adjacent developed parcel to the south. The centerline of the ditched intermittent watercourse was delineated with JMM watercourse boundary markers JMM-WC-1 to JMM-WC-9, which were subsequently surveyed and accurately shown on the submitted plans.

3.0 Soils

The soil types within the study area were found to be mainly disturbed; however, undisturbed soils were noted within the forested portion in its southwestern part. Any undisturbed soils are derived from glacial outwash (i.e., stratified sand and gravel) deposits. The undisturbed upland soils are comprised of the excessively drained Windsor (36) soil series and the moderately well drained Ninigret (701) soil series.

Windsor loamy fine sand (36). This series consists of very deep, excessively drained soils formed in sandy water deposited glacial outwash materials. They are nearly level to strongly sloping soils on glaciofluvial terraces, deltas and outwash plains. The soils formed in thick deposits of sand derived mainly from granite, gneiss and quartzite, but in places containing materials from schist and sandstone. The sand is poorly graded; medium sand is generally dominant and typically contains little or no gravel. Typically, these soils have a dark brown loamy sand surface layer 7 inches thick. The subsoil from 7 to 28 inches is yellowish brown loamy sand. The substratum from 28 to 60 inches is light yellowish brown sand.

Ninigret fine sandy loam (701). This series consists of very deep moderately well drained soils formed in a coarse-loamy mantle underlain by sandy water deposited glacial outwash

materials. They are nearly level to gently sloping soils on glaciofluvial landforms, typically in slight depressions and broad drainage ways. The soils formed in loamy over stratified sandy and gravelly outwash derived from a variety of acid rocks. Typically, these soils have a very dark grayish brown fine sandy loam surface layer 8 inches thick. The subsoil from 8 to 26 inches is yellowish brown fine sandy loam with mottles below 16 inches. The substratum from 26 to 60 inches is mottled, pale brown, loose, stratified loamy sand.

The disturbed upland soils were mapped as the Udorthents (308) mapping unit.

Udorthents (308). This soil mapping unit consists of well drained to moderately well drained soils that have been altered by cutting, filling, or grading. The areas either have had two feet or more of the upper part of the original soil removed or have more than two feet of fill material on top of the original soil. *Udorthents* or Made Land soils can be found on any soil parent material but are typically fluvial on glacial till plains and outwash plains and stream terraces.

Any undisturbed wetland soils were identified as the poorly drained Walpole (13) soil series.

Walpole sandy loam (13). This series consists of deep, poorly drained soils formed in sandy water deposited glacial outwash materials. They are nearly level to gently sloping soils on glaciofluvial landforms, typically in shallow drainage ways and low-lying positions on stream terraces and outwash plains. The soils formed in loamy over stratified sandy and gravelly outwash derived from a variety of acid rocks. Typically, these soils have a very dark brown sandy loam surface layer 6 inches thick. The subsoil from 6 to 23 inches is mottled, grayish brown sandy loam. The substratum from 23 to 60 inches is mottled, light brownish gray, gravelly loamy sand and gravelly sand.

The disturbed wetland soils were mapped as the Aquents (308w) mapping unit.

Aquents (308w). This soil map unit consists of poorly drained and very poorly drained disturbed land areas. They are most often found on landscapes, which have been subject to prior filling and/or excavation activities. In general, this soil map unit occurs where two or more feet of the original soil surface has been filled over, graded or excavated. The *Aquents* are characterized by a seasonal to prolonged high ground water table and either support or are capable of supporting wetland vegetation. *Aquents* are recently formed soils, which have an aquic moisture regime. An aquic moisture regime is associated with a reducing soil environment that is virtually free of dissolved oxygen because the soil is saturated by groundwater or by water of the capillary fringe. The key feature is the presence of a ground water table at or very near to the soil surface for a period of fourteen days or longer during the growing season.

4.0 Proposed Activities

Overview

According to the reviewed plans, entitled *Prime Materials Recovery, 410 Governor's Highway & 444 Nutmeg Road, South Windsor, CT, Grading Plan, prepared for Prime Materials Recovery*, by Design Professionals, Inc., dated October 3, 2022, the construction of building is proposed. Also proposed are parking areas and drive, stormwater management, utilities, and other miscellaneous site improvements.

Direct Wetland Impacts

According to the reviewed site plans one minor *direct* watercourse impact is proposed within the study area. This impact consists of approximately 80-feet of the ditched intermittent watercourse to accommodate for a portion of the proposed above-ground stormwater basin.

Indirect Wetland Impacts

Indirect or secondary impacts to a wetland or watercourse can occur as a result of activities outside of wetlands or watercourses. Such impacts can be *short-term* or *long-term*, and are typically associated with erosion and sedimentation, mostly during the construction period, the removal or disturbance of vegetation in upland areas, but adjacent to wetlands or watercourses, the alteration of wetland hydrology or the flow regime of a watercourse, and the discharge of degraded or insufficiently treated surface water or groundwater, which may adversely impact the water quality of the regulated resources.

The potential for any of these indirect impacts to occur at the site as a result of the proposal depends on the regulated resources themselves, their sensitivity, their ecological and physical characteristics, and the degree to which they provide recognized functions and values. These *potential* impacts are discussed below.

Erosion and Sedimentation

The potential for soil erosion and subsequent deposition in wetlands or watercourses exists at every construction site that involves soil disturbance. At this site the risk or the potential for adverse impacts from erosion and sedimentation is considered *low*. The primary reasons for this assessment are as follows: (1) a detailed erosion and sedimentation control plan has been prepared and submitted, which complies with the CT-DEEP's 2002 *Connecticut Guidelines for*

Erosion and Sediment Control, as well as any recent guidelines promulgated by regulatory agencies, and (2) the study area's soils have *low* erodibility.

Removal of Native Vegetation and Habitat Loss

The proposed plans show the forested upland area adjacent to the watercourse will have its tree canopy removed. However, the majority of the tree/shrub layer along the ditched watercourse will be left in place and this man-made disturbed watercourse will continue function in a very similar fashion post-development.

Potential Impacts to Wetland Hydrology and Stream Flow

The hydrologic and flow regime of wetland is dependent both on contributions via shallow groundwater flow and surface flows. The site plans show that an effort has been made to ensure that wetland hydrology will be preserved to the ditched watercourse. The plans show the capture of stormwater runoff from impervious areas, with conveyance to an above-ground stormwater basin, which will recharge the watercourse/groundwater table at the site. Based on the review of the plans, the hydrology of the site's man-made, intermittent, ditched watercourse will be maintained.

Potential Water Quality Impacts

Stormwater runoff from impervious surfaces of industrial sites has the potential of degrading the water quality (i.e., surface and groundwater) of regulated resources. Generation of potential pollutants on impervious surfaces typically results from vehicular traffic over them.

The CT-DEEP's 2004 *Stormwater Quality Manual* ("the Manual") is used to guide the selection, design, siting, and sizing of appropriate best management practices (BMPs), which are protective of surface and groundwater quality. The CT-DEEP has adopted, through their General Permit for discharge of stormwater, an 80% TSS (total suspended solids) minimum annual removal goal, because research has shown that the concomitant removal of other runoff constituents is high at these levels of TSS removal.

As mentioned above, flows generated from impervious surfaces, will be conveyed through a robust, properly-sized and designed, stormwater management system. This will ensure that, post-construction, the water quality of the site's wetlands/watercourses will be maintained. We note that the bottom elevation of the proposed basin is set at 74.0 feet, which is the bottom elevation of the delineated regulated resource, and at or near the seasonal high groundwater

table. Therefore, it is quite likely that the stormwater basin will maintain a wet bottom and become a wetland habitat, with an emergent cover type (i.e., meadow/marsh).

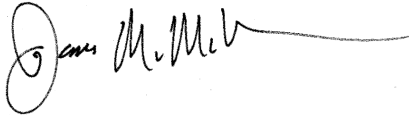
5.0 Conclusion

In conclusion, it is JMM's opinion that as proposed, and with **diligent** monitoring of erosion and sediment controls, the proposal will not have significant adverse short-term (construction) or long-term (water quality/habitat) impacts upon the regulated resources.

Please call us if you have any questions on the above or need further assistance.

Respectfully submitted,

JMM WETLAND CONSULTING SERVICES, LLC

A handwritten signature in black ink, appearing to read "James M. McManus", with a long horizontal flourish extending to the right.

James M. McManus, MS, CPSS
Certified Professional Soil Scientist (No. 15226)

Attachments: Figure 1, Photos 1-2, NRCS Web Soil Survey Map

Town of South Windsor

Geographic Information System (GIS)



Approximate Location of
JMM-WC-Series (WC-1-WC-9)

Approximate
Location of JMM
Study Area (in red)

MAP DISCLAIMER - NOTICE OF LIABILITY

This map is for assessment purposes only. It is not for legal description or conveyances. All information is subject to verification by any user. The Town of South Windsor and its mapping contractors assume no legal responsibility for the information contained herein.

Approximate Scale: 1 inch = 400 feet

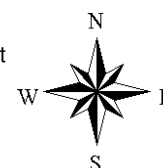




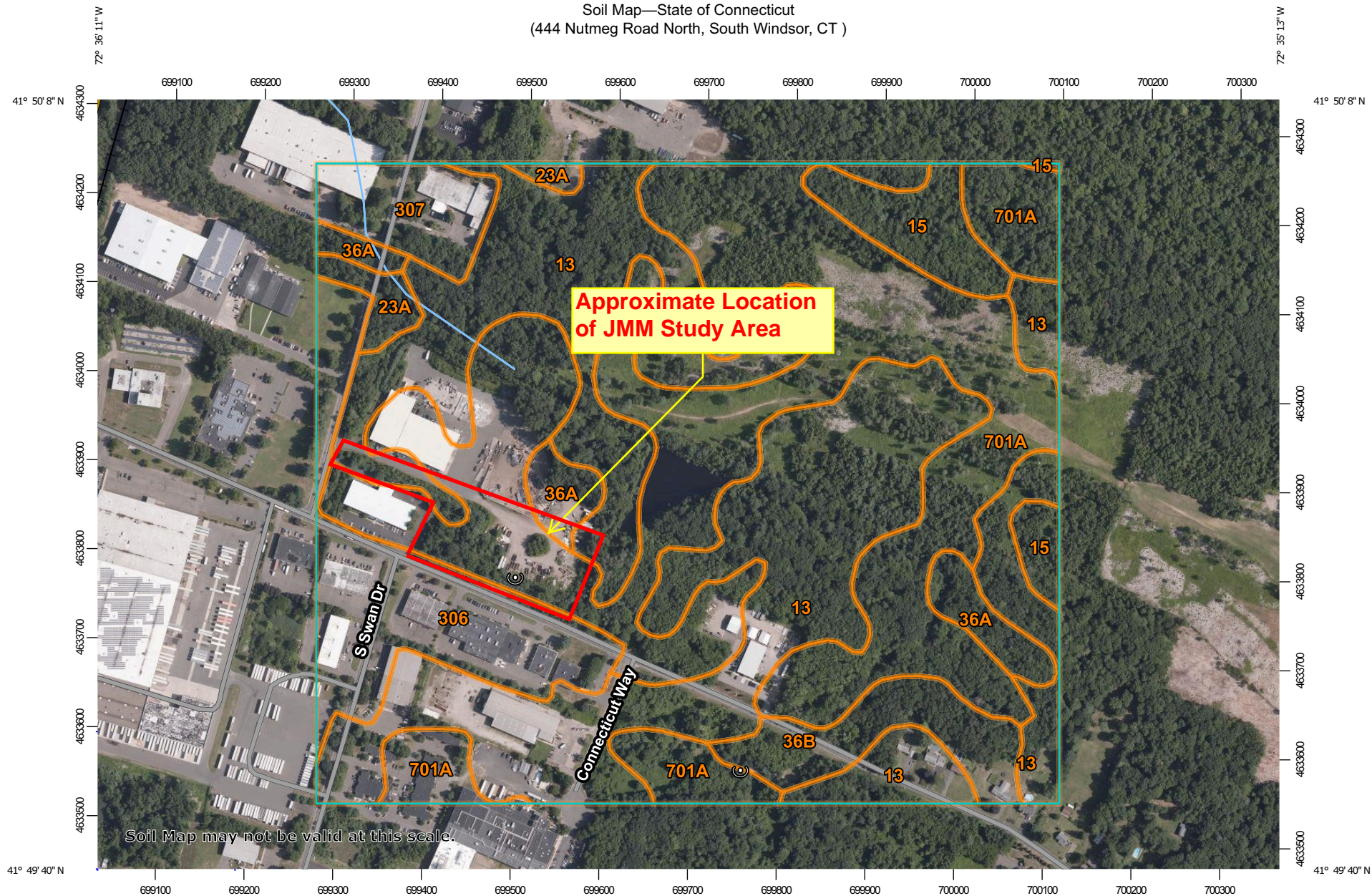
Photo 1: View of regulated watercourse within the southwestern part of Study Area (JMM photo taken 10/1/2022); facing southeasterly



**Location of Wetland/
Watercourse outside of JMM
Study Area**

Photo 2: View of Nutmeg Road North entrance & off study area regulated watercourse/wetland (JMM photo taken 10/1/2022); facing northeasterly

Soil Map—State of Connecticut
(444 Nutmeg Road North, South Windsor, CT)



Map Scale: 1:6,090 if printed on A landscape (11" x 8.5") sheet.

0 50 100 200 300 Meters

0 250 500 1000 1500 Feet

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

1/23/2020
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

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

Soil Survey Area: State of Connecticut

Survey Area Data: Version 19, Sep 13, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jul 15, 2019—Aug 29, 2019

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

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
13	Walpole sandy loam, 0 to 3 percent slopes	57.1	38.2%
15	Scarboro muck, 0 to 3 percent slopes	5.5	3.7%
23A	Sudbury sandy loam, 0 to 5 percent slopes	1.9	1.3%
36A	Windsor loamy sand, 0 to 3 percent slopes	4.4	3.0%
36B	Windsor loamy sand, 3 to 8 percent slopes	5.7	3.8%
306	Udorthents-Urban land complex	13.0	8.7%
307	Urban land	4.7	3.1%
701A	Ninigret fine sandy loam, 0 to 3 percent slopes	57.2	38.3%
Totals for Area of Interest		149.4	100.0%

