Appendix E

WETLAND FUNCTIONAL ASSESSMENT

Wetland Functional Assessment - Existing Conditions

Project: Yorktown Farms Subdivision
VS Construction Corp.
Town of Yorktown, NY

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Introduction

Following is a detailed evaluation of the existing wetlands on the 43-acre site of the proposed Yorktown Farms subdivision. New information has become available since a Preliminary Draft Environmental Impact Statement (DEIS) was submitted to the Town of Yorktown in Winter 2004 and is included in this analysis to provide a better understanding of site hydrology, vegetation and soils, and how they affect the function and values of the site's wetlands. This assessment has been prepared by Steve Marino, PWS, of Tim Miller Associates, Inc., at the request of the Yorktown Planning Board at its meeting of June 28, 2004. Additional information is provided regarding the hydrologic connections of existing site wetlands to off site wetlands.

Description of Existing Wetlands

The majority of the subject site lies within the Peekskill Hollow Brook watershed, although the southeast corner of the site drains to the Muscoot Reservoir watershed. A flattened ridgeline generally runs diagonally across the property from northeast to southwest, with topographic elevations ranging from 614 to 533 feet. The site produces runoff that is conveyed through the existing low gradient drainageways that make up most of the site regulated wetlands. A portion of the northern part of the site drains to the south and ultimately to the New Croton Reservoir.

Wetlands on site were delineated in conformance with New York State, federal and Town of Yorktown criteria. Copies of the New York State DEC Wetland Map and National Wetlands Inventory map are presented on the following pages as Figures 1 and 2. The proposed revisions to the DEC Wetland map shows the approximate extent of DEC Wetland A-2, and shows it extending onto the subject property in its southeast corner. Field delineation was revisited on June 23, 2003, and confirmed that the southeast corner of this site is in fact a part of Wetland A-2 (identified as Wetland D in this analysis). Locations of site wetlands are shown on Figure 3.

Wetland A (shown on the site plans as a narrow drainage corridor along the western side of the property) is now also included as part of a New York State DEC Wetland. With the proposed revisions to the DEC map, the DEC is including a new Wetland A-4 on the north side of Route 6. There is a hydrologic connection between Wetland A and DEC A-4 via a culvert under Route 6, and New York State DEC staff has determined that this wetland is also part of the new A-4.

This delineation of the New York State DEC and Town-regulated wetlands was done in conjunction with site walks with staff from the Yorktown Planning Department in 2003 and early 2004. The original delineation and consultation with the Town was done in 2000; several revisions have been made to the wetland boundaries as shown on the submitted subdivision plan.

Wetland B and C (as described below) were originally delineated as separate wetland features, using the three parameter approach used by the Army Corps of Engineers and defined in the ACOE 1987 Delineation Manual. Since the original 2003 delineation, the Town expressed concern that the wetland may be larger in size according to Town delineation criteria, which requires only one of three parameters. Paul Jaehnig, a certified Professional Geologist, inspected the site and connected wetlands B and C by

determining that hydric soils were present in the intervening area, although vegetative dominance and visible hydrology were absent. Wetlands B and C are now combined for the sake of this Town review and are evaluated as one wetland rather than two.

Table 1 below lists all of the regulated site features, including a description of size, wetland type and regulatory jurisdiction.

Table 1
Site Wetlands
Yorktown Farms Subdivision

Wetland ID	Wetland Area (ac.)	Wetland Description	Regulatory Jurisdiction	Regulated Setback
A (DEC A-4)	2.29	Slope Wetland with woody vegetation	ACOE/NYSDEC/Yorktown	100 feet
B/C	1.56	Drainageway	ACOE*/Yorktown	100 feet
D (DEC A-2)	1.77	Depressional Wetland with well-developed wooded Swamp	ACOE/NYSDEC/Yorktown	100 feet
Total	5.62			

* Of the 1.56 ac. shown for Wetland B/C, 1.04 acres is regulated by the ACOE. The remainder is regulated by the Town of Yorktown.

Functional Analysis

Included below with the description of each site wetland area is an evaluation of wetland functions. This evaluation was completed using parameters set up in Magee Hollands "Rapid Procedure for Assessing Wetland Functional Capacity." The model is set up to allow evaluation of several parameters related to wetland value and function. These parameters are:

1. Position in the landscape
2. Hydrology
3. Soils
4. Vegetation

These parameters are further divided into a number of specific variables, including:

1. Modification of groundwater discharge
2. Modification of groundwater recharge
3. Storm and Flood-water storage
4. Modification of Stream Flow
5. Modification of Water Quality
6. Export of Detritus
7. Contribution to Abundance and Diversity of Wetland Vegetation
8. Contribution to Abundance and Diversity of Wetland Fauna

Using these parameters as a basis for evaluation of the wetlands, it is possible to estimate the functional capacity of each area.

Wetland A

Wetland A is made up of a drainage corridor that flows from south to north along the western edge of the property. This drainageway begins in a flat area behind the cul de sac at Stonewall Court. Runoff from the adjacent slopes to the east and west collect in Wetland A and are conveyed to a culvert under Route 6. Due to the relatively flat slope, runoff is slow, allowing longer saturation times. Seasonally saturated soil conditions have developed that resulted in a dominance of vegetation that is tolerant of wet conditions, including red maple, green ash, American elm, spicebush and winterberry. Groundcovers include tussock sedge, skunk cabbage and sphagnum moss. Braided intermittent channels carry runoff through the wetland, and runoff occasionally collects in small pockets. Canopy cover is relatively dense, with high stem count within the wetland mostly made up of young trees.

Soils within this wetland are generally typical of a Ridgebury loam, as shown on the Westchester County Soil Survey. The Ridgebury series consists of very deep, poorly and somewhat poorly drained soils formed in a coarse loamy mantle underlain by firm, compact glacial till. They occupy slopes ranging from 2 to 8 percent on uplands. The soils are formed in glacial till derived mainly from schist, gneiss or granite. These soils are very stony. A seasonal high water table may exist within a depth of 1.5 feet during the Winter and Spring months. Permeability is moderate to moderately rapid in the surface layer and subsoil and slow or very slow in the substratum.

Following a site walk with a representative of the New York State DEC on April 20, 2004 to confirm the wetland boundary, a determination was made by the New York State DEC that this wetland is a part of New York State DEC Wetland A-4. Therefore any activities within 100 feet of this wetland would be regulated by the New York State DEC.

Wetland Function

In total, this system covers approximately 2.29 acres of the site. Additional area extends to the south on Town-owned property. The primary function and benefit of the Wetland A corridor is storm and flood water control, the modification of stream flow and the modification of water quality. This low gradient, densely vegetated wetland helps to filter flows running off from the residences on Gay Ridge Road, Stonewall Court and other adjacent residential streets, as well as the undeveloped Yorktown Farms property. Due to the length and width of the corridor, and its dense canopy, this wetland also provides good habitat for species that utilize wetlands and transitional areas in close proximity to suburban uses. This wetland also provides cover and saturated conditions for smaller wetland dependent species, including salamanders and frogs.

Because this wetland drains directly to Wetland A-4 on the north side of Route 6, it is important that flow patterns be maintained, flow characteristics (i.e., flow volumes and rates) be consistent with existing conditions, and the vegetative cover be preserved. Any disruption of flows or changes to flow patterns must be carefully considered, with accommodations made to maintain flow patterns from north to south.

Wetland B/C

Following submission of the preliminary DEIS, the Town determined that a closer look at the Wetland B/C corridor was required, as historical soils maps indicated that the area between these two wetlands might contain hydric soils. If this was the case, this area would also be regulated as Town wetland.

The site was reviewed again on April 28, 2004 by Town representatives, consultants for the applicant, and Paul Jaehnig, who is a certified Professional Geologist. The conclusion was reached that this area does meet the criteria related to hydric soils and, although it does not exhibit a dominance of hydrophytic vegetation, is therefore regulated under the Town's ordinance as one larger wetland.

The Wetland B/C corridor is topographically similar to Wetland A, with collected runoff from two low ridges on either side draining through a narrow drainageway. The most significant difference is the vegetation, which is old field that has developed with herbaceous and shrub species that are tolerant of the moist conditions caused by the regular flow of runoff through the system. As described above, some of this wetland does not support a dominance of wetland vegetation, but does continue the flow path between the original wetland B and C. This area was maintained as agricultural fields as recently as ten years ago, and is now beginning the succession process. Redosier dogwood, pussy willow and multifloral rose are the dominant woody species, with soft rush, soft-stem bulrush and occasional tussock sedge. No areas of standing water were observed, but a moist substrate and visible flow paths were evident. Soils within the wetland are nutrient poor, owing primarily to past agricultural uses and the possibility of topsoil being stripped from the site. The remaining soil surface is dense and, where depressed, forms the necessary flow paths for runoff while preventing significant infiltration. Soils are generally mapped as the Ridgebury series, as described above, but have been altered somewhat by past land uses.

Wetland Function

In total, this system covers approximately 1.56 acres of the site, of which 1.04 acres meet the three-parameter approach used by the ACOE, and 0.52 acres are regulated by the Town only. Like Wetland A above, the primary function and benefit of Wetland B/C is the conveyance of storm flows, the modification of groundwater discharge and the filtering of collected runoff resulting in improved water quality. Due to the dense subsoils, no recharge function is associated with this wetland. This low gradient, densely vegetated wetland helps to filter stormwater and groundwater discharge flows to a culvert under Route 6, ultimately entering a tributary that eventually flows to Wetland A-4 and Osceola Lake. Detention time within the wetland are shorter than Wetland A, however, owing to the dense soils and narrower drainage channels. This does not allow as much time for soil saturation or filtering effects of the existing vegetation.

This wetland may also provide cover for wetland dependent species, including salamanders and frogs. Due to its small size and long narrow geometry, this area is not used as primary habitat for these species, and is unlikely to act as a significant corridor since it does not connect to larger wetlands. It does provide dense cover and nesting opportunities for bird species. The level of this function as it relates to wetland

dependent species is tempered by the narrow corridor and the lack of wetland vegetation in one-third of the wetland. It is equally likely to be used by non-wetland species due to the relatively dry hydrology and old field vegetation.

The upper area of this wetland (formerly Wetland C) is a very small area of collected runoff within a small depressional area. Dominant species include red maple, barberry, bittersweet, spicebush, sugar maple and American elm. Hydrology is provided by overland runoff and shallow subsurface flow from the steeper slopes to the north. This wetland measures approximately 12 feet by 300 feet, or 0.08 acres. Due to its small size, lack of wetland-dependent vegetation and infrequent saturation, this area has only marginal wetland characteristics and few if any identifiable wetland functions. It does serve as a temporary collection point for overland runoff and infiltration. No visible surface connection to downstream areas was observed but, as stated above, a connection was made using soils analysis.

The relatively small watershed that drains through this corridor does make up some of the drainage basin Wetland A-4. Once these flows leave the site, they are conveyed under Route 6 via a culvert and a channelized drainge swale before entering Weltand A-4 downstream. As noted, this wetland ultimately drains to Osceola Lake, which is used by local residents for recreational swimming. Flows out of Wetland A and D (DEC Wetland A-2) are much more significant in terms of contribution to hydrology and water quality than Wetland B/C. Maintenance of flows to the culvert at Route 6, detention of increased flow volumes to prevent erosive velocities to the culvert, and provisions for water quality management must be considered in development plans to ensure constant or improved hydrology to the downstream wetland.

Wetland D

Wetland D is the onsite portion of New York State DEC Wetland A-2 (Figure 1). According to Westchester County GIS information, overall this wetland is 24.06 acres; 1.77 acres are on the subject property. It is identified as a Class II wetland by the New York State DEC.

New York State wetland A-2 is a well-developed and undisturbed wooded swamp complex. Vegetation is dominated by red maple and American elm in the canopy, an understory of tall shrubs (primarily viburnums, spicebush and highbush blueberry) and an herbaceous layer of skunk cabbage and several wetland varieties of ferns.

Soils in this wetland are Palms Mucks (Pa) and Sun loam (Sh), although only the Sun soils were observed on the Yorktown Farms property. The Palms Muck soil exists deeper into the body of the wetland, on the property immediately to the east of this site.

Sun loam is a very deep, poorly drained or very poorly drained soil type located in nearly level lowland areas. These soils are extremely stony. These soils are formed in glacial till derived from granite, gneiss, and schist. Slopes range from 0 to 3 percent. A seasonal water table may flood these areas, or rise to within a depth of 0.5 feet during the Winter and Spring months. Permeability is moderate in the surface layer and slow or very slow in the subsoil and substratum.

Vegetation in Wetland A-2 is typical of that found in wooded swamp wetlands throughout Westchester County. Dominant tree species are red maple, American elm and green ash. Common shrub species include spicebush, winterberry, redosier dogwood, viburnum spp. and multifloral rose. Herbaceous species include tussock sedge, skunk cabbage, tearthumb and cinnamon and sensitive fern. Invasive species such as purple loosestrife and phragmites have had minimal impact on this portion of the wetland to date.

As expected, functional assessment of the portions of this wetland that are closest to the subject site indicate that the wetland is currently performing most identified functions at a moderate to high level. This is based on the size of the wetland, the low topographic gradient and storage capacity for stormwater. Functions related to stream and storm flow, modification of water quality and storm and flood water storage are particularly high for these reasons, in addition to the presence of well developed vegetation to filter and detain surplus flows.

Summary of Wetland Evaluations

As described above, Wetlands A, B/C and D provide some wetland functions and benefits at various levels. Wetland D, due to its connection to a much larger New York State DEC wetland to the east, has the highest functional value. These functions include stormwater filtering and detention, wildlife habitat potential and modification of stream flow (maintaining baseflow). Wetland D is also an important part of the overall drainage basin contributing to Osceola Lake. Wetland A, considering its dense canopy and the level of saturation, performs many wetland functions at a generally high level. It provides these functions at a somewhat lower level than wetlands of a larger size. It is important, though, that this wetland is now recognized to be connected to a larger New York State DEC wetland offsite. Wetland B/C, due to its small size, marginal soils and lack of significant wetland vegetation, has only marginal value related to wetland functions, but is a part of the drainage patterns contributing to downstream wetlands and waterbodies.

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland A

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

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

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Carex stricta	Herb	OBL	*Lindera benzoin*	Shrub	FACW-
Sedge,Uptight			Spicebush,Northern		
Symplocarpus foetidus	Herb	OBL	*Acer rubrum*	Tree	FAC
Skunk-Cabbage			Maple,Red		
Sphagnum palustre	Herb	OBL	*Fraxinus pennsylvanica*	Tree	FACW
Sphagnum, moss			Ash,Green		
Ilex verticillata	Shrub	FACW+	*Ulmus americana*	Tree	FACW-
Winterberry,Common			Elm,American		

Percent of Dominant Species that are OBL, FACW or FAC: **FAC Neutral:** 7/7 = 100.00%
(excluding FAC-) 8/8 = 100.00% **Numeric Index:** 14/8 = 1.75

Remarks:

HYDROLOGY

YES **Recorded Data(Describe in Remarks):**
NO **Stream, Lake or Tide Gauge**
YES **Aerial Photographs**
NO **Other**

NO **No Recorded Data**

Field Observations

Depth of Surface Water: <= 1 *(in.)*
Depth to Free Water in Pit: N/A *(in.)*
Depth to Saturated Soil: N/A *(in.)*

Wetland Hydrology Indicators
Primary Indicators
YES **Inundated**
YES **Saturated in Upper 12 Inches**
YES **Water Marks**
NO **Drift Lines**
YES **Sediment Deposits**
YES **Drainage Patterns in Wetlands**
Secondary Indicators
YES **Oxidized Root Channels in Upper 12 Inches**
YES **Water-Stained Leaves**
YES **Local Soil Survey Data**
YES **FAC-Neutral Test**
NO **Other(Explain in Remarks)**

Remarks:

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland A

SOILS

Map Unit Name (Series and Phase): Ridgebury loam, 3 to 8 percent slopes
Map Symbol: RdB **Drainage Class:** poorly drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-6	A	10YR3/1	N/A	N/A	N/A	Loam
6+	B	10YR4/1	N/A	N/A	N/A	Silt loam

Hydric Soil Indicators:

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

Remarks:

WETLAND DETERMINATION

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

Remarks:

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland B/C

Do Normal Circumstances exist on the site?	(Yes) No	**Community ID:** Palustrine shrub/scrub
Is the site significantly disturbed (Atypical Situation:)?	Yes (No)	**Transect ID:**
Is the area a potential Problem Area?	Yes (No)	**Field Location:**
(If needed, explain on the reverse side)		Wetland B/C

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

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Juncus effusus Rush,Soft	Herb	FACW+	*Cornus stolonifera* Dogwood,Red-Osier	Shrub	FACW+
Scirpus validus Bulrush,Soft-Stem	Herb	OBL	*Salix discolor* Willow,Pussy	Shrub	FACW
Carex stricta Sedge,Uptight	Herb	OBL	*Rosa multiflora* Rose,Multiflora	Shrub	FACU
Symplocarpus foetidus Skunk-Cabbage	Herb	OBL			

Percent of Dominant Species that are OBL, FACW or FAC: (excluding FAC-) 6/7 = 85.71%	**FAC Neutral:** 6/7 = 85.71% **Numeric Index:** 13/7 = 1.86

Remarks:

HYDROLOGY

YES **Recorded Data(Describe in Remarks):**
- NO **Stream, Lake or Tide Gauge**
- YES **Aerial Photographs**
- NO **Other**

NO **No Recorded Data**

Field Observations

Depth of Surface Water:	N/A *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	>= 1 *(in.)*

Wetland Hydrology Indicators

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

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

Remarks:

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland B/C

SOILS

Map Unit Name (Series and Phase): Ridgebury loam, 2 to 8 percent slopes, very stony
Map Symbol: RgB **Drainage Class:** poorly drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-4	A	10YR3/1	N/A	N/A	N/A	Loam
4+	B	10YR4/1	N/A	N/A	N/A	Silt loam

Hydric Soil Indicators:

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

Remarks:

WETLAND DETERMINATION

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

Remarks:

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland D

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

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

Dominant Plant Species(Latin/Common)	Stratum	Indicator	Plant Species(Latin/Common)	Stratum	Indicator
Symplocarpus foetidus	Herb	OBL	*Lindera benzoin*	Shrub	FACW-
Skunk-Cabbage			Spicebush,Northern		
Onoclea sensibilis	Herb	FACW	*Vaccinium amoenum*	Shrub	FACW
Fern,Sensitive			Blueberry,Highbush		
Osmunda cinnamomea	Herb	FACW	*Acer rubrum*	Tree	FAC
Fern,Cinnamon			Maple,Red		
Carex stricta	Herb	OBL	*Ulmus americana*	Tree	FACW-
Sedge,Uptight			Elm,American		
Viburnum dentatum	Shrub	FAC			
Arrow-Wood					

Percent of Dominant Species that are OBL, FACW or FAC: **FAC Neutral:** 7/7 = 100.00%
(excluding FAC-) 9/9 = 100.00% **Numeric Index:** 18/9 = 2.00

Remarks:

HYDROLOGY

YES **Recorded Data(Describe in Remarks):**
- NO **Stream, Lake or Tide Gauge**
- YES **Aerial Photographs**
- NO **Other**

NO **No Recorded Data**

Field Observations

Depth of Surface Water:	>= 1 *(in.)*
Depth to Free Water in Pit:	N/A *(in.)*
Depth to Saturated Soil:	N/A *(in.)*

Wetland Hydrology Indicators

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

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

Remarks:

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

Project/Site:	Yortown Farms	**Project No:**	**Date:** 16-May-2002
Applicant/Owner:	Santucci, Val		**County:** (Westchester)
Investigators:	James Bates and Andrew Mavian		**State:** New York
			Plot ID: Wetland D

SOILS

Map Unit Name (Series and Phase): Sun loam
Map Symbol: Sh **Drainage Class:** poorly drained **Mapped Hydric Inclusion?**
Taxonomy (Subgroup): **Field Observations Confirm Mapped Type?** (Yes) No
Profile Description

Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Color (Munsell Moist)	Mottle Abundance/Contrast		Texture, Concretions, Structure, etc
0-6	A	10R2.5/1	N/A	N/A	N/A	Loam
6+	B	10YR4/1	N/A	N/A	N/A	Silt loam

Hydric Soil Indicators:

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

Remarks:

WETLAND DETERMINATION

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

Remarks: