

## **5.0 GENERAL ECOLOGICAL CONDITIONS**

The Foster Church Inc. proposal entails redevelopment of the project site from existing residential uses (two single family house lots) for construction of the 16,100 square foot Gospel Hall including parking and circulation areas. The 5.1-acre property currently consists of two single family houses and other structures which are to be removed as part of this action.

### **5.1 Existing Conditions**

#### *Existing Conditions - Soils*

The project site contains one type of soil, mapped by the USDA NRCS in two slope categories: WeB - Wethersfield gravely silt loam, 3 to 8 percent slopes, and WeD - Wethersfield gravely silt loam, 15 to 25 percent slopes. (see Figure 5-1) A third slope category also exists: 8 to 15 percent slopes (WeC). These soils typically form on hills and till plains. The gentler sloped soil occurs on the eastern half of the site, grading into the steeper WeD soil on the western half. Some of the characteristics typical of the Wethersfield soil type listed by the USDA NRCS include the following:

- Depth to restrictive feature: More than 80 inches
- Drainage class: Well drained
- Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
- Frequency of flooding: None
- Frequency of ponding: None
- Available water capacity: Moderate (about 6.8 inches)

These soils are common in Rockland County. These soils are generally conducive to building site development according to the NRCS soils descriptions. Steeper slopes are the greatest limiting factor to development necessitating engineering designs that overcome such limitations.

#### *Existing Conditions - Flora and Fauna*

At present, there are approximately 1.5 acres of lawn and landscaped areas, 3.1 acres of woodland, and 0.5 acres of impervious surfaces (pavement and buildings) on the property. As a developed residential property within the larger context of a developed residential neighborhood, the diversity of existing ecological resources at the site is limited.

There are three general types of vegetative cover on the site: young, native, early successional deciduous woods over the north and west portions of the parcel; managed lawn generally in the center; and managed landscape plantings including individual evergreen and deciduous trees and groups of ornamental shrubs toward the east side of the parcel. There are a number of sizable trees in the developed area and visible from South Pascack Road -- the evergreens are visually prominent in the winter months -- while a relatively even density of deciduous tree cover with moderate understory is evident at the rear of the parcel. The site survey identifies tree sizes and types of individual trees in the developed area.

In the larger context, the vegetative communities on the parcel are connected to adjoining areas which contain similar habitat and offer opportunities for wildlife circulation onto and off of the property, and limited opportunities for food and cover for some urban-tolerant wildlife species. The wooded land at the rear of the parcel may afford use by a variety of wildlife common to the area, although its relatively narrow dimension between residences along South Pascack Road and residences on Nicole Way and the Garden State Parkway would limit use by species that require more extensive wild areas. Unsurprisingly, given the developed nature of the area, no sensitive wildlife habitat was observed to occur on the site.

*Existing Conditions - Surface Water*

The subject property contains no wetlands, watercourses or waterbodies. (see Figure 5-2) The site slopes up from South Pascack Road toward the west, such that the entire site drains eastward as sheet flow toward Pascack Brook on the east side of South Pascack Road. Under present conditions this site provides no formal stormwater treatment of runoff from impervious surfaces and there are no stormwater management facilities in the County road. A drainage map showing existing conditions is included in the accompanying Stormwater Pollution Prevention Plan (SWPPP).

**5.2 Avoidance or Minimization of Potential Impacts**

*Soils*

Engineering measures such as proper design of foundations, with subsurface drainage if needed, and proper designs of pavement subbase and excavated slopes can be expected to overcome the limitations of the onsite soils. An erosion and sediment control plan will need to be implemented to assure proper handling of soils to avoid undue erosion of the onsite soils.

The soil erosion and sediment control plan for the project will be designed to conform to applicable requirements of the New York State Department of Environmental Conservation.

*Flora and Fauna*

Disturbance of the project site caused by demolition of the existing buildings and construction of new improvements will result in permanent removal of some vegetation on the property, and will result in the loss or displacement of wildlife that currently utilizes the property. The site plan will include measures to reestablish vegetation wherever improvements (building and pavement) are not built. The new vegetation will include species that are adapted to the climate, reflect the natural species diversity of the site area, and can be expected to flourish with low maintenance requirements. Once construction is complete and the new vegetation becomes established, some wildlife, particularly birds, will be able to return to use the site.

A landscape planting plan is proposed to be implemented. The plan included with this application proposes to retain the undisturbed portion of woods at the rear of the parcel in its natural vegetative cover, and create additional masses of tree and shrub cover around the perimeter of the developed portion of the site. The species selection includes plants hardy to the local area and plants that are native or will naturalize to site conditions and provide some habitat benefits to local wildlife species, especially birds.

### Surface Water

The project will alter the hydrologic characteristics of the site to some extent by dividing the surface drainage into two subdrainage areas: Drainage Area 1 for the developed portion of the Gospel Hall lot and Drainage Area 2 for the remainder of the project site -- undeveloped portion of the meeting hall lot and the entire single family house lot. A drainage map showing the proposed conditions, including the two drainage areas, is included in the accompanying SWPPP. Drainage collected from Area 1 will receive treatment via a water quality basin designed as a Micro pool Extended Detention Pond (design P-1 as per the *New York State Stormwater Management Design Manual*). This design will create a permanent pool approximately one foot deep within the basin, and the basin will be seeded and maintained as a meadow habitat. Runoff from the rooftop in Area 2 will receive treatment in a rain garden (as per the *Design Manual*). Drainage collected from Area 2 will be directed via surface swales and a catch basin system to combine with the treated discharge from the basin, which will then be piped to an outfall at Pascack Brook. The residence site will have a rain garden for quality treatment purposes. There is also a small part of the parcel (southwest corner) that maintains its current runoff pattern outside of the two drainage areas.

All drainage components of the project plans are designed in accordance with the NYSDEC Phase II stormwater regulations for treatment to improve water quality. Phase II regulations call for treatment of the water quality volume which is assumed to control 90 percent of storm events. Additionally, the peak discharge from the developed site cannot exceed the existing peak discharge, as required by the regulations.

A net increase in impervious surface will result on the project site, however the proposed stormwater management measures are designed to minimize the potential impact to downstream, surface water resources through the implementation of collection and treatment practices that will treat pollutants associated with developed sites and reduce the increased quantity of runoff resulting from the project to a level that does not exceed pre-development peak flow rates. The proposed plan is designed to address both water quality and quantity.

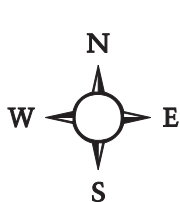
The proposed plan will incorporate "green infrastructure" practices applicable to the project site and conforming to the latest edition of the *Design Manual*. Additionally, in the short term during project construction, soil erosion and sediment controls are proposed to be implemented in accordance with the New York standards and specifications for erosion and sediment control to avoid or minimize any adverse effect on surface waters down gradient from the site.

The site-specific SWPPP prepared for this project describes additional pollution prevention measures to be implemented during the construction and operation of the site facilities, addressing activities such as pesticide use, material storage, waste disposal and spill response for further protection of surface water resources. Implementation of the SWPPP includes certifications by the project owner and contractors at the site, and approval by the Village (as the MS4) and notification of NYSDEC prior to the commencement of construction.

Appendix D presents the draft SWPPP for this project.



USDA Natural Resources Conservation Service

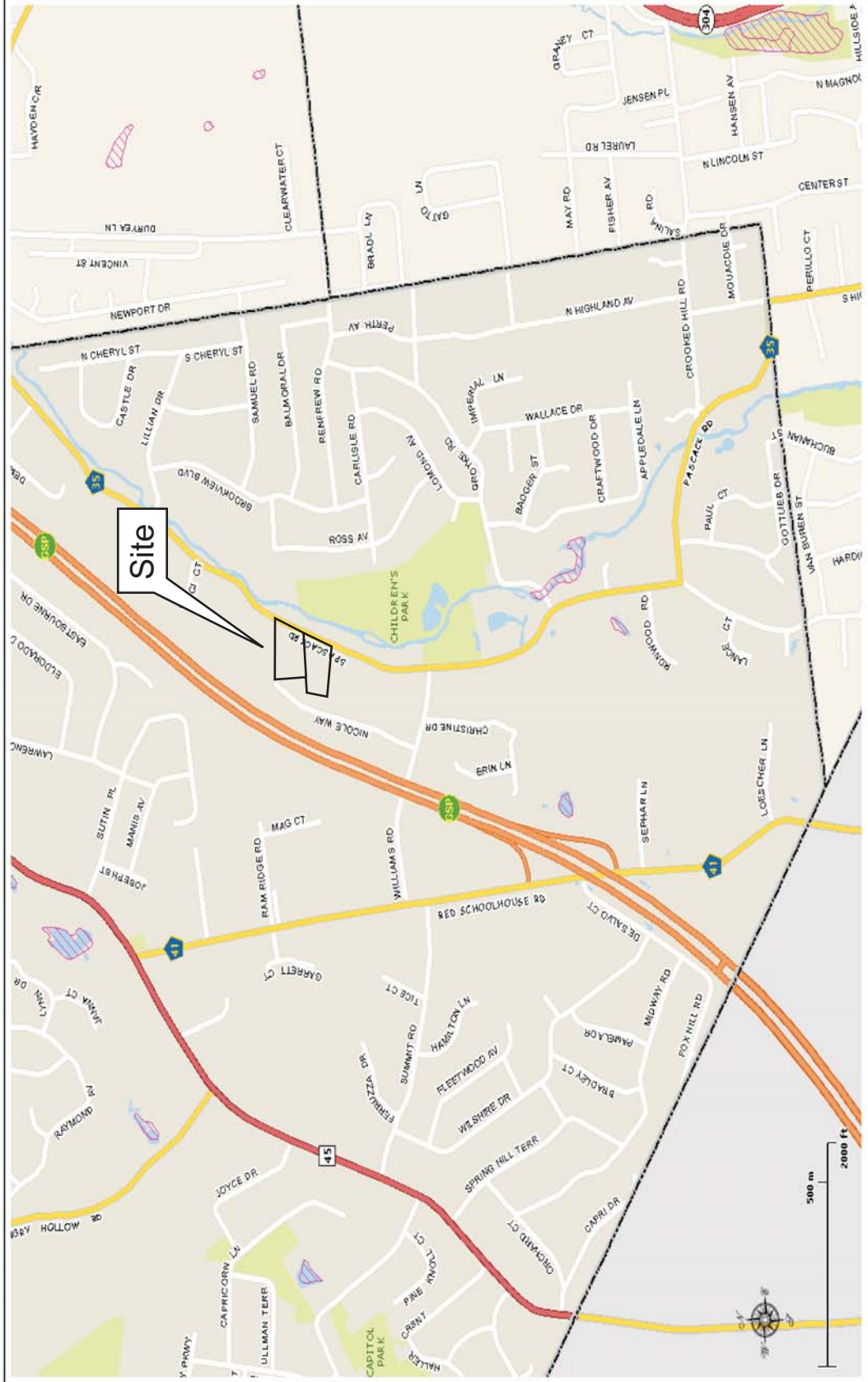


Site Property Boundary

Figure 5-1: Soils Map  
 Brethren Church  
 Village of Chestnut Ridge, Rockland County, NY  
 Scale: As shown  
 Source: USDA Natural Resources Conservation Service

# Rockland GIS Map Wetlands Base Map

Map Source: Rockland County Department of Planning.



**Figure 5-2: Wetlands Map**  
Brethren Church  
Village of Chestnut Ridge, Rockland County, NY  
Scale: Graphic Scale as shown  
Source: Rockland County GIS

**ENVIRONMENTAL DATA**

-  Wetlands, Federal
-  Wetlands, New York State

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