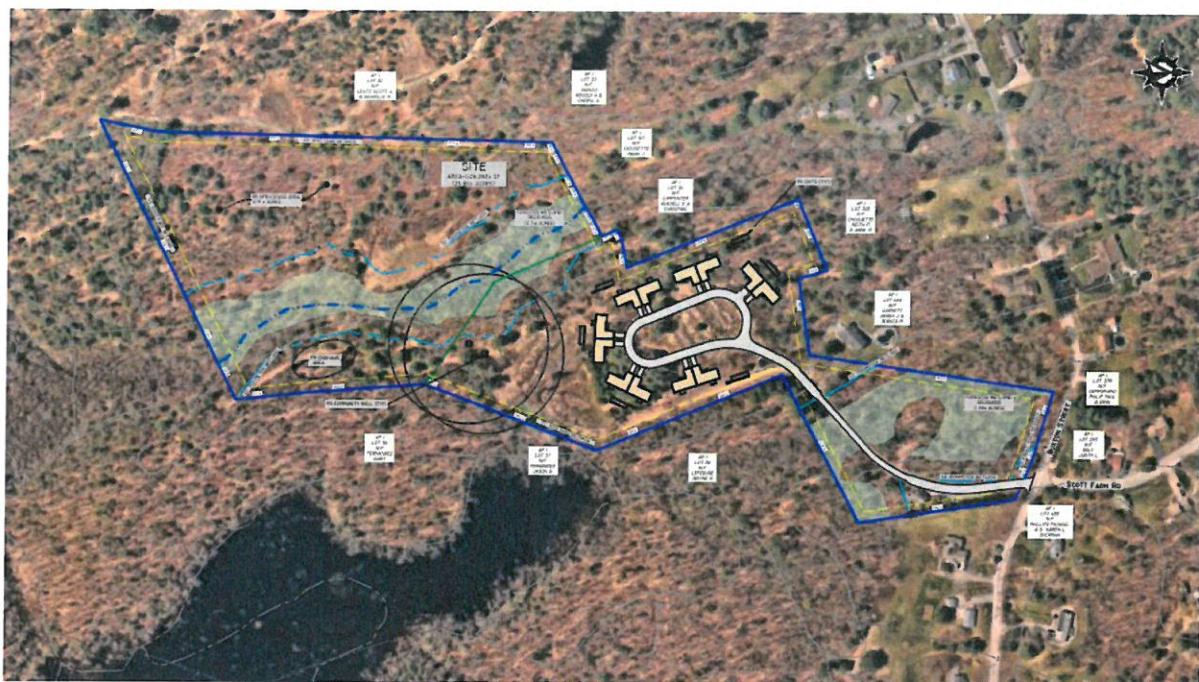




DiPrete Engineering

## Buxton Conservation Master Plan

### Wetland Narrative



Buxton Conservation  
Located in North Smithfield, RI  
Applicant: Jacques Farm, LLC

2023-02-08

## Introduction:

Buxton Conservation is a proposed 28-acre development located on the southern side of Buxton Street on AP 1, Lot 35 in North Smithfield, Rhode Island. The property is approximately 0.3 miles southwest of Quaker Highway. The purpose of this narrative is to document existing natural resources present on and surrounding the property.

## Soils:

The soils on the property have been mapped by the USDA Soil Conservation Service. They are:

**CkC and CeC**– Canton-Charlton, 3 to 15 percent slopes. This complex consists of gently sloping to moderately sloping well drained soils located on glacial till upland hills. The permeability of this soil is moderate to moderately rapid in the surface layer and subsoil, although some areas may have rapid permeability in the substratum. This complex is suitable for community development but is limited by the stony and bouldery surface.

**Rf** - Ridgebury, Whitman, and Leicester – This complex consists of nearly level, poorly drained and very poorly drained soils of drainageways and depressions of glacial till uplands. These three soil types all have similar land-use implications and are therefore mapped together. The permeability of the Ridgebury and Whitman soils is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. Leicester soils have moderate or moderately rapid permeability in the surface layer and subsoil and moderate to rapid in the substratum. The highwater table makes this soil poorly suited to community development.



Area of Soil Map Units from the USDA NRCS Web Soil Survey

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### **Existing Upland Vegetation:**

The majority of the upland areas of the property contain stands of Red Maple (*Acer rubrum*), Red Oak (*Quercus rubra*), American Chestnut (*Castanea dentata*), White Oak (*Quercus alba*), and White Pine (*Pinus strobus*). The understory consists mostly of saplings of the above-mentioned species, as well as Highbush Blueberry (*Vaccinium corymbosum*).

### **Existing Freshwater Wetlands and Associated Buffer Zones:**

The subject property is located within River Protection Region 2 according to the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act (250-RICR-150-15-3). Under these wetland regulations, the Rhode Island Department of Environmental Management (RIDEM) maintains a 100' jurisdictional area (JA) from the edge of all vegetated freshwater wetlands and a 200' JA from all streams and rivers. In addition, freshwater wetlands receive buffer zones depending on both their classification and size. An additional 25' buffer zone will be added to the buffer zone width when one or more differing freshwater wetland types or subtypes are present within 50' inward of the freshwater wetland edge. Two freshwater wetlands were identified on the subject property and are described in greater detail below.

Wetland Area 1 is a deciduous forested swamp that bisects the northeastern portion of the property. This wetland extends north and south off the property and has a total area of approximately 7 acres. The deciduous forested swamp transitions to a scrub-shrub swamp south of the property. Hydrological indicators suggest that the soils in this area are saturated to seasonally flooded. Vegetation within this wetland is relatively uniform and is dominated by Red Maple (*A. rubrum*). Other species observed within the wetland include Swamp White Oak (*Quercus bicolor*), White Pine (*P. strobus*), Southern Arrow-wood (*Viburnum dentatum*), Cinnamon Fern (*Osmunda cinnamomea*), Skunk Cabbage (*Symplocarpus foetidus*), and Sphagnum Moss (*Sphagnum* sp.). Based on the wetland type and size, this wetland will receive a 50' buffer zone. The scrub-shrub wetland located offsite will receive a 75' buffer zone.

Wetland Area 2 is a deciduous forested swamp that bisects the southern portion of the property. Topographically, this wetland complex is a drainageway that begins offsite, north of Buxton Street. The wetland extends through the southern portion of the property and continues offsite to the south. This wetland area has a total size greater than 10 acres. USGS topographic maps depict an intermittent stream within this area. Field observations support this depiction. Vegetation within this wetland area is like that observed within the northern wetland area. Based upon the wetland type and size, the deciduous forested swamp will receive a 75' buffer zone, and the intermittent stream will receive a 100' buffer zone. In some places, the intermittent stream is within 50' of the deciduous forested swamp edge, increasing the swamp buffer zone to 100'.

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A summary of the wetland types and their associated buffer zones is shown below.

Wetland Complex	Wetland Classification	Buffer Zone
Wetland Complex 1	Deciduous forested swamp, 1 – 10 acres	50'
Wetland Complex 1	Scrub-shrub swamp, >1 acre (offsite)	75'
Wetland Complex 2	Deciduous forested swamp, >10 acres	75' (100')*
Wetland Complex 2	Intermittent Stream (within the deciduous forested swamp)	100'

\*Buffer zone increased from 75' to 100' where intermittent stream is within 50' of wetland edge.

#### **Natural Heritage Areas:**

Mapping available from RIDEM depict the property intersecting portions of a Natural Heritage Area. Correspondence with RIDEM lists several plants and animal species that are listed as either "State Concern" or "State Endangered" within this Natural Heritage Area. A refined map provided by RIDEM shows observed locations of these rare or endangered species. All observed instances of these rare species are located offsite to the west of the subject property.

#### **Summary:**

The proposed project is located within a land parcel consisting of approximately 23 acres of upland habitat and 5 acres of forested wetland habitat. Freshwater wetland resources within the subject property are typical of those found within Rhode Island and have been designated buffer zones in accordance with the new Freshwater Wetland Rules. Portions of the property are located within a Natural Heritage Area. However, documented sightings of rare species occur to the west of the property and are not expected to be impacted by the proposed project.

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