



Consulting
Engineers and
Scientists

Ecological Summary Report

UW Vintage Lane
475 & R006B Governors Highway, 5 & 25 Talbot Lane
South Windsor, Connecticut

Submitted to:

Bob Urso
Murray Real Estate
400 Hebron Avenue
Glastonbury, CT 06033

Bradford Wainman
H-M Realty, LLC
PO Box 504
South Glastonbury, CT 06073

Submitted by:

GEI Consultants, Inc.
455 Winding Brook Drive
Glastonbury, CT 06033
860-368-5300

August 25, 2021

2101698



Emily Perko
Project Ecologist

Matthew Glunt, P.E.
Senior Consultant

Table of Contents

1.	Introduction	1
2.	Current Site Description	2
2.1	General Description	2
2.2	Wildlife Habitat	3
3.	Site Development	4
3.1	Planting Plan	4
3.2	Wetland Creation	4
3.3	Storm Water Quality Basin	5
4.	Conclusion	6

MG/EP/ah H:\WPROC\Project\Urso\475 Governors Highway\Eco Summary report\Ecological Summary Report 8-25-2021.docx

1. Introduction

The proposed development at 475 & R006B Governors Highway, 5 & 25 Talbot Lane, South Windsor, Connecticut, referred to as the Site, comprises (+/-) 30.37 acres of land. The Site is currently undeveloped, vacant land and bound by Governors Highway to the north, Temple Beth Hillel and residential properties to the east, a residential subdivision to the south, Carla's Pasta and Barker Steel to the west. Historically, sizeable portions of the subject property were utilized for agriculture. Tilled fields were formerly located in the eastern and northern portions of the Site. Two, deep drainage ditches were excavated between the eastern fields. At one time these ditches extended easterly to Beldon Road. All of the agricultural fields were abandoned well over 20 years ago. At this time the former fields have grown into a dense mixture of old field vegetation, shrubs, briar, vines, and young trees. A new 359,640 square foot industrial building is proposed with paved parking areas, driveways, and utilities. As a result of this development, two man-made watercourses will be impacted and on-site mitigation is proposed through the creation of 0.32-acres of wetlands.

2. Current Site Description

2.1 General Description

The Site was found to consist of an oak-maple-beech forest with a canopy dominated by red oak (*Quercus rubra*), pin oak (*Quercus palustris*), and beech (*Fagus grandifolia*), interspersed with red maple (*Acer rubrum*) and sugar maple (*Acer saccharum*). Oaks were found to dominate the upland canopy. The understory of upland areas included sweet pepperbush (*Clethra alnifolia*), witch hazel (*Hamamelis virginiana*), Eastern white pine (*Pinus strobus*) and common greenbrier (*Smilax rotundifolia*). Ostrich fern (*Matteuccia struthiopteris*) dominated the herbaceous cover in the eastern section of the Site.

Sections of the Site, primarily in the northwestern corner and along the eastern property boundary, can be characterized as shrub dominated or herbaceous successional agricultural field habitat. Disturbance resulting from historic agricultural use has resulted in a variety of plant species. Alternating patches of dense herbaceous cover occupied this ecological community including common species such as: interrupted fern (*Osmunda claytonian*); common milkweed (*Asclepias syriaca*), goldenrod (*Solidago* sp.), and Canada thistle (*Cirsium arvens*), poison ivy (*Rhus radicans*), and sweet fern (*Comptonia peregrina*). Shrub dominated areas including multiflora rose (*Rosa multiflora*) with clusters of paper birch (*Betula papyrifera*), tree-of-heaven (*Ailanthus altissima*), staghorn sumac (*Rhus typhina*), maple (*Acer* spp.), and autumn olive (*Elaeagnus umbellata*). Several invasive plants commonly associated with disturbed habitat are also located in this area.

An isolated palustrine, broad-leaved forested wetland is present in the northeastern corner of the Site along the previous agricultural field edge. This wetland has been disturbed as evident by the fill piles and landscape debris. It is dominated by red maple, sugar maple, white ash, spicebush, firebush (invasive), cinnamon fern, sensitive fern, oak seedlings, Asiatic bittersweet (invasive), and poison ivy. The dominant hydrologic regimes within this wooded swamp are seasonally saturated and seasonally flooded and the wetland's hydro-geomorphic classification (HGM) is groundwater and surface water slope.

A second palustrine, broad-leaved forested wetland was identified in the southwestern portion of the Site. This wetland includes a man-made excavated ditched watercourse that follows the southwestern property line. Dominant vegetation observed were red maple, sugar maple, sweet pepperbush, green brier, royal fern, woodferns, and areas of sedges. The dominant hydrologic regimes within this wooded swamp are seasonally saturated and seasonally flooded and the wetland's hydro-geomorphic classification (HGM) is groundwater and surface water slope.

Two linear excavated watercourses approximately 3-to 4-feet deep and 400-500 feet long were delineated in an east-west direction at the central and eastern side of the Site. The watercourses reportedly supported former agriculture uses at the Site. At the time of the Site visits, standing water was present in some areas of the unvegetated ditches, and some areas were observed to be dry. There was no flowing water observed in the watercourses nor was hydrophytic vegetation present.

2.2 Wildlife Habitat

The two delineated watercourses on the east side of the parcel, and wooded wetland in the northeastern part of the Site were evaluated to determine suitable turtle habitat. Both watercourses were found to be forested with standing water in some areas. The watercourses had areas of exposed sandy substrate with occasional scattered cobbles. Water depth in the at the time of the Site visit was approximately 0 to 4 inches. No aquatic vegetation was present in either of the man-made watercourses.

The narrow strip of wetland in the northeastern part of the Site is dominated by a canopy of maples and an understory of ostrich fern. No standing water was observed in this area.

No suitable habitat characteristics beyond being a narrow strip of wooded wetland was identified that that would support turtle habitat requirements in this area. Additionally, the delineated watercourses do not provide the necessary conditions to support fish and shellfish habitat due to the lack of surface water flow.

The on-site wetlands may provide habitat for populations of resident and migrating species typically associated with wetlands, edge, and early successional habitats. Given the lack of surface water function and vegetation within the delineated watercourses, there is minimal possibility to support wildlife habitat.

Stagnant water, freshwater swamps and woodland pools are ideal habitats for mosquitos to breed. Many mosquito species in Connecticut will deposit eggs in the fall which will not hatch until the following spring. The delineated wetlands and watercourses are a potential habitats for mosquito breeding.

3. Site Development

Land clearing will occur across the Site as the result of construction of this development. An effort has been made to limit the disturbance of woody vegetation to the extent possible, by maintaining a sufficient wooded and/or planted buffer to both of the Site's wetland resources. The north, east, and southern portions of the Site will be developed with a vegetated berm to provide screening, enhance wetland buffers, and upland habitat food sources for wildlife.

3.1 Planting Plan

The proposed planting plan will bring a variety of shrubs, deciduous and evergreen trees to the Site. Deciduous trees include autumn blaze maple (*Acer freemanii*), autumn brilliance serviceberry (*Amelanchier grandiflora*), heritage river birch (*Betula nigra*), milky way dogwood (*Cornus kosa*), sweetgum (*Liquidambar styraciflua*), sugar tyme crabapple (*Malus*), pointed flowering plum (*Prunus cerasifera*), swamp white oak (*Quercus bicolor*), silk tree lilac (*Syringa reticulata*), greenspire littleleaf linden (*Tilia cordata*) and village green zelkova (*Zelkova serrata*). Evergreen trees include balsam fir (*Abies balsamea*), white fir (*Abies concolor*), white spruce (*Picea glauca*), serbian spruce (*Picea omorika*), eastern white pine (*Pinus strobus*), mission arborvitae (*Thuja occidentalis*). Shrubs include red chokecherry (*Aronia arbutifolia*), redosier dogwood (*Cornus sericea*), winterberry (*Ilex verticillata*), compact pfitzer juniper (*Juniper chinensis*), Youngstown Andorra juniper (*Juniperus horizontalis*), northern bayberry (*Myrica pensylvanica*), summer wine ninebark (*Physocarpus opulifolius*), compact rhododendron (*rhododendron*), arborvitae (*Thuja occidentalis*), high bush blueberry (*Vaccinium corymbosum*) and American cranberry (*Viburnum opulus*). Perennial flowers and ornamental grasses are also proposed on site, they include Stella D'Oro daylily (*Hemerocallis*), autumn fire stonecrop (*Sedum spectabile*), and feather reed grass (*Calamagrostis acutiflora*). Fruit producing trees will provide food sources for birds and other local wildlife.

3.2 Wetland Creation

Approximately 0.32-acres of the delineated watercourses will be impacted with the proposed development. These man-made watercourses are intermittent in nature, do not maintain a continual surface water flow or hydrophytic vegetation. As a result of the direct impact, 0.32 acres of wetlands will be created in the southwestern portion of the Site adjacent to the current wetland. This currently established palustrine, broad-leaved forested wetland offers three principal functions: groundwater recharge/discharge, sediment/toxicant/pathogen retention, and nutrient removal/retention/transportation. Additionally, this wetland functions as flood flow alteration and wildlife habitat. Creating another adjacent wetland will expand and enhance these functions.

3.3 Storm Water Quality Basin

Flows generated from the proposed development will be intercepted and conveyed through a formal storm water management system which includes catch basins, below-ground infiltrators with water quality isolator rows, and a large water quality basin, with a properly sized sediment forebay. The proposed water quality basin and forebay were sized in accordance with the 2004 Connecticut Stormwater Quality Manual, to provide a pond volume that exceeds the determined water quality volume. The proposed forebay was also sized to store over 10% of this water quality volume as recommended by the 2004 Connecticut Stormwater Quality Manual. Cultec Isolator rows will also be utilized to address water quality for pavement surfaces draining to them. The number of isolator rows provided will be more than adequate to treat the required water quality flow rate based on the determined water quality flow and manufacture specs for treated flow rate per chamber. The water quality volume (WQV) far exceeds what is required as well as at least 80% total suspended solid removal prior to discharge.

There are currently no waterbodies on the Site for species that favor an aquatic habitat. The storm water quality basin is a potential habitat for species such as the snapping turtle that have the ability to adapt to changing landscapes and urban wetlands. As stated previously, mosquitos favor stagnant water for breeding. Although this basin will be receiving in-flow from the storm water management system and outlet into an off-site system, there is still a potential for stagnant water depending on seasonal flow variations. Larvicides are proposed to be utilized for mosquito control and remaining larvae will attract wildlife that prey on mosquitos as a food source.

4. Conclusion

The proposed development will result in the creation of wetlands that will provide multiple functions and values as well as enhancing wildlife habitat. The watercourses that were delineated are intermittent in nature and do not have a continual flow that is conducive for supporting aquatic life such as turtles, fish, shellfish, or frogs. A storm water quality basin will retain water and have the potential to support aquatic wildlife that is adaptive to changing conditions such as the snapping turtle. Based on the information presented and review of development plans, with diligent monitoring of erosion and sediment controls there will not be significant adverse impacts to the inland wetland habitats remaining on site.