

November 18, 2024

Inland Wetlands and Watercourses Agency
Town of Glastonbury
2155 Main Street
Glastonbury, Connecticut 06033

Re: Proposed Hopewell Crossing Redevelopment
32 and 36 Hopewell Road, Glastonbury, CT
APT Project No.: CT788100

Dear Agency Members:

On behalf of the Applicant, Morello Realty, LLC (the "Applicant"), All-Points Technology Corp., P.C. ("APT") is pleased to submit a Wetland Assessment Report to the Town of Glastonbury Inland Wetlands and Watercourse Agency ("IWWA") for proposed redevelopment of property at 36 Hopewell Road in Glastonbury, Connecticut (the "Site" or "Subject Property"). APT understands that the Application proposes a 3.5 story, 42-unit, multi-family building along with renovation of the existing 6-unit multi-family building, construction of a new stormwater management system, parking, and landscaping.

This Wetland Assessment Report supports materials submitted by the Applicant and its representatives as part of a Town of Glastonbury Inland Wetland and Watercourse Agency wetland permit application. In preparation of this report, the following materials were reviewed by APT.

- Completed Town of Glastonbury Inland Wetlands and Watercourses Agency Application for Permit form
- Project Narrative, dated August 16, 2024, prepared by Alter & Pearson, LLC
- Wetland and Watercourse Delineation Report, dated January 30, 2023, prepared by Davison Environmental
- CTDEEP NDDB Determination Letter (No. 202401315), dated January 30, 2024
- Site Engineering Design Report, dated April 30, 2024, prepared by Rose, Tiso & Co. LLC
- Hopewell Crossing Residential Development, 32 & 36 Hopewell Road, Glastonbury, CT site plan set, latest revision date November 13, 2024, prepared by Rose, Tiso & Co. LLC
- Landscape Plan, dated November 12, 2024, prepared by Robert C. Schechinger, Jr. ASLA, LLC

The following narrative provides a description of wetland resources located proximate to the Site (no wetland resources occur on Site), the encroachment into the 100-foot upland review area regulated activities that are proposed, evaluation of impacts to wetland and upland review area functions and values by the proposed activity, and recommended mitigation measures.

Introduction

The Subject Property, which is approximately 2.34 acres, is situated on the south side of Hopewell Road ±350 feet east of the intersection with Main Street. Currently the Site consists of a 6-unit multifamily building on the easterly portion of the Site together with a garage, accessory building and shed.

The Applicant is proposing to renovate the existing 6-unit multifamily building and construct a new 42-unit multifamily apartment building on the west side of the Site. The Applicant is proposing to capture runoff in catch basins and route the stormwater to an underground stormwater storage system designed to accommodate the 1.3" water quality volume. The report notes that peak flows are reduced in the 2, 5, 10, 25, 50 and 100-year storms.

Representative photographs of the Site are provided in Attachment A.

Wetland Resources

Dean Gustafson, a Connecticut registered Professional Soil Scientist with APT, conducted an inspection of the Site on November 17, 2024 to determine the presence or absence of wetlands and watercourses and verify the previous wetland investigation performed by Davison Environmental. The delineation methodology followed is consistent with the Connecticut Inland Wetlands and Watercourses Act ("IWWA") regulations.

No wetlands or watercourses are located on the Site. The Site is predominately developed with the multifamily building, paved access and parking lot, and landscaping. Patch upland forest is present along the western and southwestern margins of the Site. An investigation of soils during the November 17th inspection revealed the Site is located on a glacial outwash plateau situated between the Connecticut River alluvial floodplain to the west and glacial till to the east. One wetland was observed on the adjacent parcel to the south/southwest at the toe of a moderately steep forested outwash slope. This off-Site wetland was observed from the southern property boundary of the Site. The approximate limits of this wetland feature as noted in the Davison Environmental report and as depicted on the referenced project site plans was found to be substantially correct. This hillside seep wetland system is dominated by red map (*Acre rubrum*) and spicebush (*Lindera benzoin*) and appears to be seasonally saturated with limited inundation (estimated to be less than 2-4 inches at peak hydroperiod) as the wetland gently slopes to the west into the town closed drainage system associated with Main Street that discharges to Hopewell Brook and eventually the Connecticut River.

Representative photographs of the wetland are provided in Attachment A.

Soil Classification

Soil types encountered during the wetland investigation were generally consistent with digitally available soil survey information obtained from the Natural Resources Conservation Service ("NRCS"). Detailed descriptions of wetland and upland soil types are provided below.

Wetland Soils:

The **Walpole** series (associated with the off-Site wetland) consists of very deep, poorly drained sandy soils formed in water-sorted glacial outwash and stratified drift. They are nearly level to gently sloping soils in low-lying positions on terraces and plains. Walpole soils have a water table within 1' of the soil surface much of the year.

Upland Soils:

The **Enfield** series consists of very deep, well drained loamy soils formed in silty mantled glacial outwash; the area of the proposed 42-unit building is predominately Enfield silt loam soils. They are nearly level to sloping soils on outwash plains and terraces. Permeability of the Enfield soils is moderate in the surface layer and subsoil and rapid or very rapid in the substratum. Slopes range from 0 to 15 percent, but are generally less than 8 percent. The soils formed in a silty mantle over stratified sandy and gravelly fluvial materials derived from a variety of acid rocks.

The **Manchester** series consists of very deep, excessively drained soils formed in sandy and gravelly outwash and stratified drift; the area of the proposed level spreader is predominately Manchester gravelly sandy loam soils. They are nearly level to steep soils on outwash plains, terraces, kames, deltas and eskers. Slope ranges from 0 to 45 percent. Permeability is rapid in the surface layer, rapid or very rapid in the subsoil, and very rapid in the substratum.

Udorthents-Urban Land Complex is a miscellaneous land type consisting mostly of disturbed soils (cutting, filling & grading) such that the original soil profile can no longer be discerned, buildings, paved roads and parking lots. The developed and disturbed areas of the Site associated with the existing development are mapped as this soil unit.

Preliminary Wetland Evaluation

There are many methods of evaluating wetlands, all incorporating different parameters to assess these resources. This study uses methodology recommended by the U.S. Army Corps of Engineers (the "Corps"), *The Highway Methodology Workbook Supplement, Wetland Functions and Values: A Descriptive Approach* issued by the Corps, dated September 1999. This evaluation provides a qualitative approach in which wetland functions can be considered Principal, Secondary, or unlikely to be provided at a significant level. Functions and values can be Principal if they are an important physical component of a wetland ecosystem (function only), and/or are considered of special value to society, from a local, regional, and/or national perspective. The Corps recommends that wetland values and functions be determined through "best professional judgment" based on a qualitative description of the physical attributes of wetlands and the functions and values exhibited.

The basis for determination of this qualitative approach relies on over 30 years of field experience and extensive knowledge of other scientific methods used for wetland evaluation purposes.

These functions and values can be grouped into four basic categories as follows:

Biological Functions

Fish and Shellfish Habitat — This function considers the effectiveness of seasonal or permanent waterbodies associated with the wetland in question for fish and shellfish habitat.

Wildlife Habitat — This function considers the effectiveness of the wetland to provide habitat for various types and populations of animals typically associated with wetlands and the wetland edge.

Production Export (Nutrient) — This function relates to the effectiveness of the wetland to produce food or usable products for humans or other living organisms.

Hydrologic Functions

Floodflow Alteration (Storage & Desynchronization) — This function considers the effectiveness of the wetland in reducing flood damage by attenuation of floodwaters for prolonged periods following precipitation events.

Groundwater Recharge/Discharge — This function considers the potential for a wetland to serve as a groundwater recharge and/or discharge area. Recharge should relate to the potential for the wetland to contribute water to an aquifer. Discharge should relate to the potential for the wetland to serve as an area where groundwater can be discharged to the surface.

Water Quality Functions

Sediment/Toxicant/Pathogen Retention — This function reduces or prevents degradation of water quality. It relates to the effectiveness of the wetland as a trap for sediments, toxicants, or pathogens.

Nutrient Removal/Retention/Transformation — This function relates to the effectiveness of the wetland to prevent adverse effects of excess nutrients entering aquifers or surface waters such as ponds, lakes, streams, rivers, or estuaries.

Sediment/Shoreline Stabilization — This function relates to the effectiveness of a wetland to stabilize streambanks and shorelines against erosion.

Societal Values

Recreation (Consumptive and Non-Consumptive) — This value considers the effectiveness of the wetland and associated watercourses to provide recreational opportunities such as canoeing, boating, fishing, hunting, and other active or passive recreational activities. Consumptive activities consume or diminish the plants, animals, or other resources that are intrinsic to the wetland, whereas non-consumptive activities do not.

Educational/Scientific Value — This value considers the effectiveness of the wetland as a site for an “outdoor classroom” or as a location for scientific study or research.

Uniqueness/Heritage — This value relates to the effectiveness of the wetland or its associated waterbodies to produce certain special values. Special values may include such things as archaeological sites, unusual aesthetic quality, historical events, or unique plants, animals, or geologic features.

Visual Quality/Aesthetics — This value relates to the visual and aesthetic qualities of the wetland.

Threatened or Endangered Species Habitat — This value relates to the effectiveness of the wetland or associated waterbodies to support threatened, endangered, or special concern species.

The degree to which a wetland provides each of these functions is determined by one or more of the following factors: landscape position, substrate, hydrology, vegetation, history of disturbance, and size. Each wetland may provide one or more of the listed functions at Principal levels.

The determining factors that affect the level of function provided by a wetland can often be broken into two categories. The effectiveness of a wetland to provide a specified function is generally dependent on factors within the wetland whereas the opportunity to provide a function is often

influenced by the wetland's position in the landscape and adjacent land uses. For example, a depressed wetland with a restricted outlet may be considered highly effective in trapping sediment due to the long residence time of runoff water passing through the system. If this wetland is located in gently sloping woodland, however, there is no significant source of sediment in the runoff therefore the wetland is considered to have limited opportunity to provide this function.

Based on remote sensing data collected on the off-Site wetland, this wetland feature appears to support functions and values typical of a headwater wetland that has had its ecological integrity compromised by the surrounding residential and commercial development and relatively high level of human activity. Principal functions would likely consist of groundwater discharge/recharge, water quality nutrient renovation, and wildlife habitat. The surrounding 100-foot upland review area supports its own functions to the benefit of the subject wetland including water quality and wildlife habitat functions. The level of development surrounding this off-Site wetland and encroachment into the 100-foot upland review area diminishes the effectiveness of some of those functions. In particular the predominance of invasive woody shrubs in the forest understory limits the full potential of the upland review area to support wildlife habitat. A special importance of the wildlife habitat function to support rare wildlife habitat is not associated with the Site or the off-Site wetland or surrounding properties as the NDDB Determination letter revealed there are no known populations of Federal or State rare species within the project area.

Proposed Regulated Activities

The following section summarizes proposed redevelopment activities classified as "regulated activities" as defined by the IWWA's regulations. The IWWA regulates activities in wetland and watercourses and upland areas within 100 feet of wetlands and watercourses, known as upland review areas ("URA"). The Project design as represented avoids direct impacts to the off-site wetland. However, the proposed redevelopment results in activities within the upland review area as regulated by the IWWA, with most of the encroachment occurring in the outer 50 feet of the 100-foot URA.

There is 10,039± s.f. (0.23± acres) of 100-foot URA located on Site and the proposed development will disturb 6,271± s.f. (0.14± acres) of the URA review area with 4,500± s.f. (0.10± acres) occurring in existing forested undeveloped areas. Please note that the majority of this undeveloped URA that will be encroached by the project is dominated by invasive plants.

Stormwater Management

The Project has been designed in compliance with DEEP's guidance and recommendations contained in the *2024 Connecticut Stormwater Quality Manual* ("SQM"). A primary goal of the SQM is to provide a comprehensive framework for the long-term protection of natural resources in and around the Site from degradation as a result of stormwater discharges. Another goal of the SQM is to ensure that long-term post-development stormwater quality is protected and that there will be no erosion caused by the development. Details of this analysis are provided in the previously submitted stormwater management report and summarized below.

This project incorporates a number of stormwater quality measures, including primary treatment practices, secondary treatment practices, and innovative/emerging technologies as defined by the SQM. The proposed system will treat the Water Quality Volume ("WQV") through infiltration practices and a hydrodynamic separator. Additional treatment measures include added landscaped

areas and sumped catch basins. This comprehensive stormwater management plan will adequately protect stormwater discharge from the Site to the off-Site wetland both during and post construction activities and represent a significant improvement to stormwater treatment and renovation over existing conditions where no treatment (either volume or water quality) currently exists.

Impact Analysis

The fundamental concept of wetland impact analysis is based on the precept that wetland impacts should first be avoided where possible. Secondly, if practicable alternatives do not exist to avoid wetland impacts, then impacts should be minimized. Thirdly, mitigation should be considered for unavoidable wetland impacts, with consideration given to the loss of wetland functions and values that are important to the local region. Comprehensive mitigation measures are discussed in the following section.

The proposed Project has been designed to avoid impact to wetland resources and minimize development in the 100-foot URA while satisfying the need for redevelopment that includes a new stormwater management system that will significantly improve the treatment of stormwater leaving the Site. As previously discussed, the proposed Project consists of no direct impact to wetlands with ±24,205 square feet of activities within the 100-foot upland review area; 8,274 square feet of which consists of reconstruction within existing impervious areas with the remaining balance occurring within either historic/existing developed or disturbed areas. Through thoughtful design and use of engineering controls, the project has designed to provide significant improvements to the Site's stormwater treatment since none currently exists.

Mitigation Measures

To compensate for unavoidable resource impacts associated with the proposed Project, which are principally confined to existing developed and disturbed areas, various protection measures have been incorporated into the project design as discussed below.

The Project's proposed regulated activities will be properly balanced with protective measures that will not result in a diminishment of wetland resources or functions and values within the Town of Glastonbury either on Site or downstream of the Site.

The following mitigation measures are proposed to prevent short- and long-term indirect impacts to the off-Site wetland resource areas and compensate for unavoidable activities associated with the proposed redevelopment.

Level Spreader and Native Plantings

The proposed stormwater management systems underground infiltration chambers will infiltrate treated stormwater during all the design storms at nearly 100 percent. This recharge to the local groundwater will ensure that the off-Site wetland system's hydrology will not be adversely affected by the proposed redevelopment since this wetland area's hydrology is comprised primarily of seasonal discharge of local groundwater.

Also, the small volume of stormwater runoff that is not infiltrated will be properly treated with a level spreader structure that will prevent a point discharge and ensure stormwater runoff is slowly dissipated within the level spreader that will create a shallow sheet flow onto the forested slope that contains coarse sandy and gravelly soils that have a relatively high infiltration capacity. This

stormwater treatment structure will prevent the formation of a single discharge point that could create an eroded swale and potentially result in sediment discharge to the downslope wetland.

In addition, native shrubs are proposed along the downslope side of the proposed level spreader as detailed on the previously submitted landscape plan. These shrubs will provide further stabilization of the slope immediately adjacent to the level spreader as well as provide wildlife habitat improvements since the understory is dominated by invasive woody shrubs.

Erosion and Sedimentation Controls

An erosion and sediment control plan has also been designed in accordance with the *2024 Connecticut Guidelines for Soil Erosion and Sediment Control* to protect nearby wetlands and watercourses during construction activities. A variety of erosion and sedimentation controls were developed to avoid temporary impacts to wetland resource areas and represent an important element of the Project to avoid wetland impacts. A general summary of the erosion and sedimentation control plan is provided below.

The Erosion & Sediment Control Plan calls for the use of the latest erosion and sediment control measures in order to minimize and control disturbance during construction and provide a stable site under completed conditions. These measures may include, but are not limited to the following, depending on conditions experienced during construction:

- Stabilized construction entrance
- Geotextile silt fence and haybale backing with wood chips
- Staked compost filter socks
- Temporary soil stockpile areas
- Temporary sediment basin
- Temporary seeding of exposed soils
- Erosion control blankets

The BMPs identified in this plan and discussed below include, but are not limited to, providing measures to minimize exposed soil areas through careful sequencing and temporary stabilization; placement of sediment and erosion controls suitable for the type of work and environment; and implementation of appropriate Site restoration and rehabilitation techniques as soon as practicable.

The following general measures will be employed to minimize impacts to the jurisdictional resource areas:

- ▶ The Contractor will be required to maintain a reserve supply of erosion control BMPs on-site for use as required;
- ▶ Protective measures will be inspected regularly and after significant precipitation events and repaired, as necessary;
- ▶ Erosion control measures shall remain in place until soils are clearly stabilized – either by erosion control blankets, or by robust, growing vegetation. Once soils are stable, erosion controls shall be removed and properly disposed; and
- ▶ Erosion controls shall be removed and properly disposed following vegetative colonization of all disturbed soils.

Conclusion

The proposed redevelopment has been thoughtfully designed to avoid direct wetland impacts and minimize encroachment into the 100-foot upland review area while satisfying the needs of the project. A comprehensive suite of erosion and sedimentation control measures and protection measure BMPs will be implemented to prevent direct and indirect impacts to the nearby off-Site wetland resource. With implementation of these protection measures, the proposed project will not result in a likely adverse impact to nearby wetland resources. These efforts along with installation of the proposed stormwater management system will actually result in an improvement to functions and values supported by the nearby wetland, enhancing this resource through proper water quality and volume treatments to stormwater runoff.

On behalf of the Applicant, thank you for your consideration of this wetland assessment in support of the proposed redevelopment project and we look forward to discussing this matter with the IWWA at its upcoming meeting. If you have any questions regarding the above-referenced information, please feel free to contact me by telephone at (860) 552-2033 or at dgustafson@allpointstech.com.

Sincerely,
All-Points Technology Corporation, P.C.



Dean Gustafson
Professional Soil Scientist
Senior Wetland Scientist

Enclosure

Attachment A

Photodocumentation



Photo 1: View of existing 6-unit multi-family building looking south. A portion of the western parking lot, the shed at the far end of the parking lot, and cleared/graded slope encroach into the 100-foot upland review area.



Photo 2: View of existing Site access drive looking south from Hopewell Road.



Photo 3: View of typical undeveloped 100-foot upland review area looking east.
Note understory is dominated by woody invasive shrubs.



Photo 4: View of proposed 42-unit building along west edge of access drive and
upland forest (right side of photo) looking north.



Photo 5: View of off-Site wetland near toe of slope looking southwest. Closest extent of wetland seep area to Site is located near large log laying on ground in right half of photo.

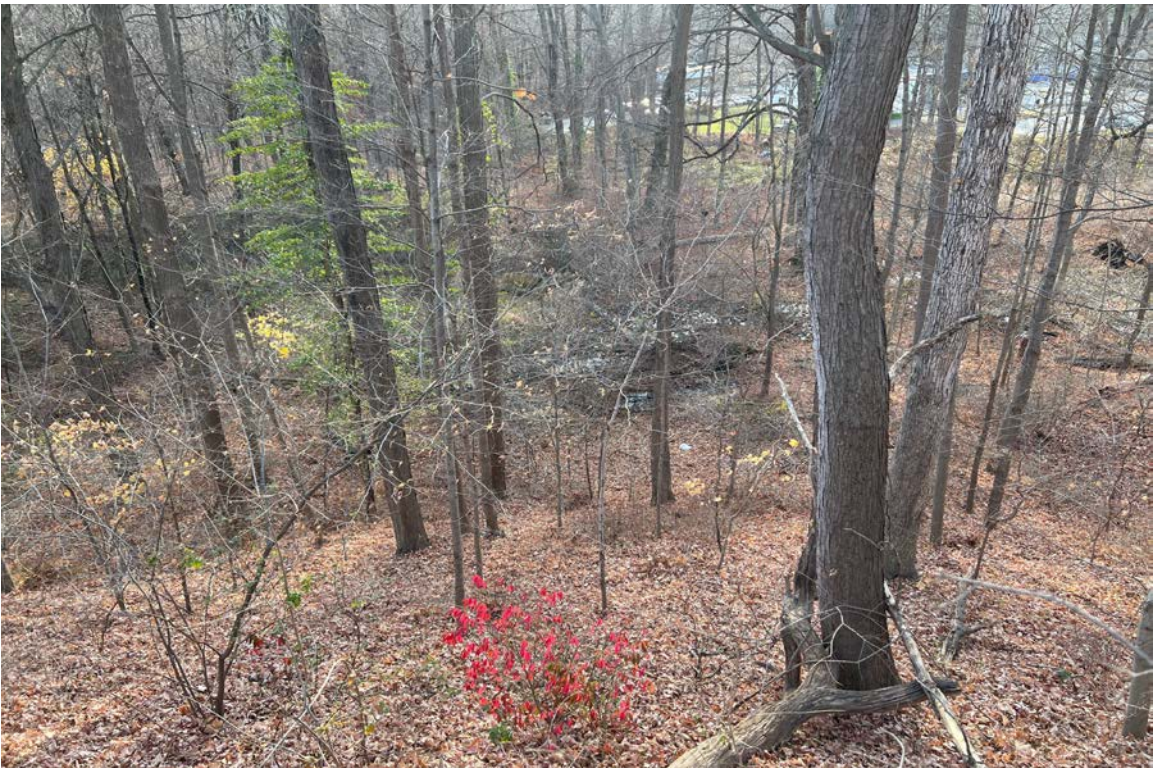


Photo 6: View of off-Site wetland near toe of slope looking south from proposed level spreader area.



Photo 7: View of proposed level spreader looking southeast from northwest end of spreader at proposed manhole junction box (pink flag in foreground of photo).
The southeast end of the level spreader is also noted with a pink flag.



Photo 8: View of proposed level spreader looking northwest from southeast end of spreader (white stake with pink flag in foreground of photo).
The northwest end of the level spreader is also noted with a pink flag.