

STAFF REPORT
Application #IWW-WPL/E-11984-24
28 Charcoal Hill Road
Assessor's Map: E15 Tax Lot: 033
Prepared: September 23, 2024 and last revised October 9, 2024
Public Hearing: October 16, 2024

Application Classification: Plenary

Application Request: The application is proposing to construct a two-story garage addition with new entry to second floor, reconfigured driveway and new patios with associated site work. Portions of the work are within the upland review area setbacks of wetlands and watercourses.

IWW and WPLO Regulated Areas:

IWW review areas determined for this property include the following:

- 50' review area from wetland for a residential addition. The addition is within the review area.
- 50' review area from wetland for a septic system. The B100 septic location is located outside the review area.
- 30' review area from wetland for the construction of the driveway and walkway. The proposed driveway and walkway are within the review area.
- 30' review area from wetland for the construction of patios. The patios proposed between the existing pool and the residence are outside the review area.
- 20' review area for the proposed stormwater management system and propane tank. The proposed stormwater detention units are located outside of the review area.
- 20' review area for proposed grading. The grading is located outside the review area.

The Waterway Protection Line Ordinance dictates that the WPL boundary be located 15' from the wetland boundary. No work is proposed within the WPL.

Plans Reviewed:

- a.) **Environmental Assessment of the Wetlands & Watercourses**, Located at 28 Charcoal Hill Road, Westport, CT, prepared by Aleksandra Moch, Soil & Wetland Scientist, dated February 6, 2024.
- b.) **Improvement Location Survey**, prepared for Survey for Vivian Hsu, 28 Charcoal Hill Road, Westport, Connecticut, prepared by Land Surveying Services, LLC, dated December 28, 2023, last revised to February 02, 2024, Scale: 1" = 20'.
- c.) **Site Plan, Details & Notes**, Site Improvements Plan for a Proposed Addition to an Existing Single Family Dwelling and a Proposed Pool, prepared for Vivian Hsu, 28 Charcoal Hill Rd, Westport, CT, Chappa Site Consulting, LLC, dated July 25, 2024. Scale: 1" = 20'
- d.) **Drainage Computations (report)**, for the Proposed Garage, Pool, Patios and Site Improvements at 28 Charcoal Hill Rd, Westport, CT, prepared for Vivian Hsu, prepared Chappa Site Consulting, LLC, dated July 26, 2024.
- e.) **Conservation Planting Plan**, Hsu Residence, 28 Charcoal Hill Road, Westport, CT 06880, prepared by Kelly McGovern Garden Design dated August 3, 2024, Scale: 1" = 10'

f.) **Hsu Residence, Additions and Renovations** (Architectural Renderings), 28 Charcoal Hill Road, Westport, CT, prepared by CD Design, dated September 11, 2024, dated June 26, 2023, revised October 25, 2023.

i.	Existing First Floor Plan	Sheet X-1
ii.	Existing Second Floor Plan	Sheet X-2
iii.	Demolition Plans	Sheet D-0
iv.	Partial Foundation & First Floor Plans	Sheet A-1
v.	Second Floor & Roof Plans	Sheet A-2
vi.	Proposed Elevations	Sheet A-3
vii.	Proposed Elevations	Sheet A-4
viii.	Sections	Sheet A-5
ix.	Sections	Sheet A-6

Past Permits: AA-WPLE-11586-22 – Installation of Generator and Propane Tanks
IWW/M-11887-24 – Wetland Map Amendment

Wetland soils found on the property

Leicester fine sandy loam (4): This soil occurs on upland drainageways and depression landforms. The parent material consists of melt-out till derived from granite, schist, and gneiss. The drainage class is poorly drained. This Leicester soil has a seasonal high water table at a depth of about 6 inches from fall until late spring. Most areas of this soil are wooded. The seasonal high water table limits this soil for community development; sites for on-site septic systems commonly need extensive filling and require special design and installation. Where suitable outlets are available, footing drains help prevent wet basements. Even when drained, the soil remains wet for several days after heavy rains. Wetness makes this soil poorly suited for trees. The shallow rooting depth to the seasonal high water table causes the uprooting of many trees during windy periods.

Non-wetland soils found on the property

Charlton-Chatfield complex, 3 to 15 percent slopes, very rocky (73C): This component occurs on upland hill landforms. The parent material consists of melt-out till derived from schist, granite, and gneiss. The slope ranges from 3 to 15 percent and the runoff class is low. The depth to a restrictive feature is 20 to 40 inches or greater than 60 inches. The drainage class is well drained.

Udorthents, smoothed (308): This component occurs on leveled land and fill landforms.

Property Description and Facts Relative to the Map Amendment Application:

- The existing house was built in 1977. It is served by a septic system.
- The property is 2.03 acres (88,332 sq. ft.) in size; located in Residential Zone AAA.
- The parcel is shown as located within the Aspetuck River watershed (subregional watershed ID #7202-13). The Aspetuck River is located ~3800' to the northwest. The wetlands onsite are associated with intermittent watercourses. The site drains to the west.
- Property is situated in Flood Zone X as shown on F.I.R.M. Panel 09001C0412F Map revised to June 18, 2010.
- The property is **not** within the Aquifer Protection Overlay Zone.
- Property is **not** within the Coastal Area Management Zone.
- The Waterway Protection Line is established 15' from the surveyed wetland boundary. The WPLO boundaries are not shown on the survey.

- The inground pool will be applied for in a future Commission application.
 - Gross Lot Area: **88,332 sq. ft (2.028 acres)**
 - Base Lot Area: **65,829 sq. ft (1.511 acres)**
 - Existing Site Coverage: **10.3% (6,784 sq. ft.)**
 - Proposed Site Coverage: **8.09% (5,325 sq. ft.)**
 - Existing Building Coverage: **6.0% (3,917 sq. ft.)**
 - Proposed Building Coverage: **6.7% (4,417 sq. ft.)**
 - Existing Average Site Grade Elevation: **176.7 ft.**
 - Proposed Average Site Grade Elevation: **176.8 ft.**

Discussion:

Conformance to Section 6 of the Inland Wetlands and Watercourses Regulations

6.1 GENERAL STANDARDS

- a) disturbance and pollution are minimized;
- b) minimize height, width, length of structures are limited to the minimum; dimension to accomplish the intended function;
- c) loss of fish, other beneficial organisms, wildlife and vegetation are prevented;
- d) potable fresh water supplies are protected from dangers of drought, overdraft, pollution, misuse and mismanagement;
- e) maintain conservation, economic, recreational and aesthetic qualities;
- f) consider historical sites

Discussion:

The onsite resource consists of a forested wetland associated with intermittent watercourses. The wetland drains towards the north. The existing development onsite consists of a single family residence, improved with driveway, patios, and walkways.

The Town of Westport Conservation Compliance Offer issued a Notice of Violation (NOV) for the unauthorized demolition of a garage and construction of a residential addition within the upland review area of wetlands on the property. The Compliance Officer allowed for the violation to be corrected through applying for a Commission permit. Besides the construction of the garage addition, patios and walkways will be constructed. The site indicates a B-100A alternate septic system to accommodate the expansion in living area. The inground pool will be applied for in a future Commission application. The proposed addition will be constructed ~ 40' from the feet from the nearest wetland boundary. The limit of grading will be located ~25' from the nearest wetland boundary.

There are no existing stormwater retention units. The development plan proposes 72 linear feet of pre-cast concrete stormwater retention galleries to account for the new impervious coverage. The plan demonstrates the retention units will be located under the proposed driveway and adjacent to the proposed rear patios. Staff considers this as a significant improvement to existing drainage conditions.

Staff notes that the extents of proposed development will be substantially within the existing envelope of development. The garage addition will be constructed in the same location and rear patios will be constructed in the area of the existing deck. Staff feels the site plan prioritizes maximizing the size of the

rear patios. Staff finds the overall reduction of site coverage as a benefit to minimizing long term impacts to wetland. Considering intermittent streams are not preferential habitat for macroinvertebrates or fish, staff does not expect impacts to fish habitat. Implementation of the appropriate erosion controls will assist in minimizing short term impacts of sedimentation and pollution of the surrounding surface water sources.

In a memo from the Town's Engineering Department to the Conservation Commission dated October 9, 2024, Edward Gill stated "*The existing driveway has two watercourse crossings that are only delineated on the survey and site plan with wetlands flagging. The pipes through which these watercourses drain shall be: (A) Located and added to the survey and site plan prior to the issuance of a Zoning Permit. (B) Investigated before and after construction activities, with necessary protections in place throughout construction. (C) Any impacts from construction will be remedied prior to obtaining a Zoning Certificate of Compliance.*"

6.2 WATER QUALITY

- a) flushing rates, freshwater sources, existing basin characteristics and channel contours will not be adversely altered;
- b) water stagnation will neither be contributed nor caused;
- c) water pollution will not affect fauna, flora, physical or chemical nature of a regulated area, or the propagation and habitats of fish and wildlife, will not result;
- d) pollution of groundwater or a significant aquifer will not result (*groundwater recharge area or Aquifer Protection Overlay Zone*);
- e) all applicable state and local health codes shall be met;
- f) water quality will be maintained or improved in accordance with the standards set by federal, state, and local authority including section 25-54(e) of the Connecticut General Statutes
- g) prevents pollution of surface water

Discussion:

Intermittent watercourses on the property eventually drain to the Aspetuck River, State Surface Water ID: CT7202-00_01. The surface water quality classification for The Aspetuck River (Connecticut Environmental Conditions Online, <http://www.cteco.uconn.edu/>), is Class A water. The Class A designation indicates that the water quality is suitable for habitat of fish or other aquatic organisms, wildlife, and recreation activities. referenced UConn's CLEAR Local Watershed Assessment Tool. The local watershed basin (ID: ID #7202-13) for Aspetuck River has a combined condition index (CCI) score of 0.15. A CCI score of less than 0.29 indicates the watershed basin may be significantly impaired. The Tool defines Aspetuck River's Recovery Status as "Mitigation", identifying that the watershed condition can be improved with mitigation efforts such as restoring naturalized riparian zones and enhancing tree canopy.

There is no existing stormwater storage on 10.3% (6,784 sq. ft.) of impervious coverage and the proposed site coverage is 8.09% (5,325 sq. ft.). The application proposes two new areas of stormwater storage. The drainage report states the proposed stormwater management system is designed to treat the first 1" of rainfall from all the proposed development (water quality volume) and the additional volume produced during a 25- year storm event. Roof drainage will be conveyed to the stormwater galleries beneath the driveway. Stormwater runoff from the patio will be collected by the drains within the patio

surface and conveyed toward the galleries adjacent to the patio. The stormwater retention area is sized with a volume of 577.8 cu. ft., which is greater than the 389.33 cu.ft. required. The stormwater galleries can overflow and discharge downgradient across the lawn. A detail for the drainage units is provided on the site plan and details.

In a memo from the Town's Engineering Department to the Conservation Commission dated October 9, 2024, Edward Gill stated "*The storm water drainage system as depicted on the plans substantially complies with the Town of Westport Engineering Department Drainage Standards.*"

Staff feels the highest risk of potential impacts to water quality would be temporary impacts due to potential sediment releases during demolition of the existing structures closest to the wetland boundary. The moderate amount of excavation may cause destabilized areas to be inundated during storm events, facilitating erosion, accelerating sediment transport and expanding distribution of suspended sediment. With the stormwater system and a planting plan both installed, Staff does not anticipate adverse long-term impacts to water quality resulting from the proposed site development.

Staff feels full implementation of the wetland planting plan and abandonment of lawn will provide biofiltration and groundwater infiltration of stormwater runoff from water not captured by the stormwater retention units. With the stormwater system and a planting plan both installed, Staff does not anticipate adverse long-term impacts to water quality resulting from the proposed site development.

6.3 EROSION AND SEDIMENT

- a) temporary erosion control measures shall be utilized during construction and for the stabilization period following construction;
- b) permanent erosion control measures shall be utilized using nonstructural alternatives whenever possible and structural alternatives when avoidable;
- c) existing circulation patterns, water velocity, or exposure to storm and flood conditions shall not be adversely altered;
- d) formation of deposits harmful to aquatic life and or wetlands habitat will not occur;
- e) applicable state, federal and local guidelines shall be met.

Discussion:

The S&E plan provides details for the silt fence and construction entrance. Proper installation and continued maintenance of these features should be adequate to control sedimentation. Groundwater was encountered in test holes 101, 103 and 104 at 75", 51", and 58" below ground surface, respectively. The groundwater is encountered around el. 167' - el. 170'. Staff does not anticipate that work will encounter groundwater during the excavation activities for the residential crawl space or stormwater basins. The site plan does not specify a dewatering method or location. Staff recommends the Commission require a dewatering plan be included as a contingency if groundwater is encountered. The revision to the plan shall be approved by staff prior to the issuance of a Zoning permit.

Staff feels the greatest risk of potential impacts from sedimentation is construction of the rear patios. Stormwater can transport loose sediments downgradient towards the wetlands. The silt fence and tracking pad should be adequate to controlling sedimentation in the wetlands and associated watercourses.

In a memo from the Town's Engineering Department to the Conservation Commission dated October 9, 2024, Edward Gill stated "*The plan depicts silt fencing and an anti-tracking pad construction entrance. Thus, the project substantially complies with Sedimentation & Erosion Control requirements.*"

6.4 NATURAL HABITAT STANDARDS

- a) critical habitats areas,
- b) the existing biological productivity of any Wetland and Watercourse shall be maintained or improved;
- c) breeding, nesting and or feeding habitats of wildlife will not be significantly altered;
- d) movements and lifestyles of fish and wildlife (plant and aquatic life) will not be significantly affected;
- e) periods of seasonal fish runs and bird migrations shall not be impeded;
- f) conservation or open space easements will be deeded whenever appropriate to protect these natural habitats.

Discussion:

CT ECO map viewer shows there are no critical habitats or Natural Diversity Database areas on or adjacent to the subject property. The intermittent watercourse could provide habitat for aquatic macroinvertebrates and amphibians.

Staff feels the greatest risk to the wetland and watercourse resource would be temporary impacts due to potential sediment release into the wetland during the demolition of the existing house and construction of the proposed house and associated grading. A release of sediment into the wetland could cause adverse impacts to amphibians and aquatic macroinvertebrate communities within the forested wetland.

The "Conservation Planting Plan" proposes to install 19 native trees and 79 native shrubs and 58 native herbaceous perennials within buffer areas upgradient of wetlands. Most of the plantings are concentrated around the driveway and residential addition. The trees include shadblow, river birch, Florida dogwood, and American holly. The shrubs include summersweet, fragrant sumac, and smooth arrowwood. The inclusion of this planting should help reestablish some vegetated upland, demarcating the limit of lawn from sensitive wetland habitat. The trees and shrubs provide some habitat and forage value. The other part of the plan is to plant native trees around the property. Staff feels this will have positive effects on the sites capacity to enhance stormwater runoff as well as provide low lying habitat for birds, small mammals and pollinating insects.

6.5 DISCHARGE AND RUNOFF

- a) the potential for flood damage on adjacent or adjoining properties will not be increased;
- b) the velocity or volume of flood waters both into and out of Wetlands and Watercourses will not be adversely altered;
- c) the capacity of any wetland or watercourse to transmit or absorb flood waters will not be significantly reduced;
- d) flooding upstream or downstream of the location site will not be significantly increased;
- e) the activity is acceptable to the Flood & Erosion Control Board and or the Town Engineer of the municipality of Westport

Discussion:

The proposed stormwater management system is sized to handle the first inch of runoff for water quality as well as meeting the Town of Westport Drainage Standards for a 25-year storm event. Staff feels this proposed system will be an improvement over the existing site condition without drainage. The site grading around the proposed house will generally follow the existing site grades and therefore, it is not anticipated to have an impact to the adjacent or adjoining properties, as shown on the site plan.

The stormwater retention of roof and patio runoff should significantly reduce the amount of runoff volume and energy into the wetland. The proposed grading may minimally change how the site transmits flood water, but the density of vegetation within the restoration planting will provide some water quality treatment and energy dissipation through the riparian corridor during storm events. Additionally, the approved planting should enhance the existing wetland and watercourse function.

In a memo from the Town's Engineering Department to the Conservation Commission dated October 9, 2024, Edward Gill stated "The proposed grading as depicted on the plans substantially complies with the Town of Westport Zoning Regulations, Sec. 32-8: Excavation and Filling of Land."

6.6 RECREATIONAL AND PUBLIC USES

- a) access to and use of public recreational and open space facilities, both existing and planned, will not be prevented;
- b) navigable channels and or small craft navigation will not be obstructed;
- c) open space, recreational or other easements will be deeded whenever appropriate to protect these existing or potential recreational or public uses;
- d) wetlands and watercourses held in public trust will not be adversely affected.

Discussion:

The proposed activities will not significantly impact recreational and public uses.

Alternatives for reduction of impacts:

1. No build alternative.
2. Approve Application with the following modifications to plans listed above and special conditions to ensure wetland protection:
 - a) Install erosion control prior to construction commencement just outside the limit of disturbance as shown on the site plan.
 - b) Conservation Department to be contacted 48 hours prior to construction commencement.
 - c) The design engineer shall witness and certify the construction of all site drainage proposed for this project and submit said certification to the Conservation Department prior to the issuance of a Conservation Certificate of Compliance.
 - d) All plantings proposed in the wetland shall be installed by hand. The plantings shall be installed prior to the issuance of a Conservation Certificate of Compliance.
 - e) The applicant shall submit a planting bond to cover the cost of any proposed planting prior to the issuance of a Zoning Permit or a performance bond to cover the cost of plantings and sediment and erosion controls prior to the issuance of a Zoning Permit.