

**STAFF REPORT**  
**Application # IWW, WPL -11049-20**  
**Bayberry Lane Extension Bridge**  
**Bridge over Aspetuck River (BRG. #04969)**  
**Public Hearing September 23, 2020**  
**Prepared August 21, 2020 and last revised September 15, 2020**

**Receipt Date:** September 9, 2020

**Application Classification:** Plenary

**Application Request:**

The Town of Westport is requesting to replace an existing bridge, which conveys Bayberry Lane Extension over the Aspetuck River in approximate place and kind. The project is within the watercourse, the wetlands, the upland review area from wetlands, and within the WPLO from the Aspetuck River.

**IWW and WPLO Regulated Areas:**

IWW setbacks determined for this property include 20' non-disturbance buffer for the proposed site work and work within wetland boundaries.

The Waterway Protection Line Ordinance (WPLO) dictates that the WPL boundary be located 15' from the 25-year floodplain. The bridgework is proposed within the WPLO.

**Plans reviewed:**

“Replacement of Bridge No. 04969 Bayberry Lane #2 Over Aspetuck River”, Prepared for Town of Westport, Scale: As-Noted, dated August 11, 2020, prepared by AI Engineers, Inc., 8 sheets PMT-01 to WPL-25y

“Preliminary Fisheries Review – Replacement of Bayberry Lane #2 Bridge over the Aspetuck River” From DEEP-Fisheries Division to Office of Environmental Planning, DOT, Dated March 1, 2018

“Wetland Description Report, Bayberry Lane Bridge (no. 0469) over Aspetuck River Westport, CT” Soils report by Soil Science and Environmental Services, Inc., Dated February 13, 2019

Wetland/Watercourse Delineation Report by Soil Science and Environmental Services, Inc., Dated January 28, 2019:

“Hydraulic Design Report Replacement of Bayberry Lane Extension Bridge over Aspetuck River (Bridge No. 04969) Town of Westport, CT” prepared by EcoDesign LLC, Dated November 2019 and last revised August 2020, 270 pgs.

**Background Information:**

1. The pre-existing bridge spans the Aspetuck River and was reportedly completed in 1957. The existing bridge consists of seven steel beams topped with a reinforced concrete deck with asphalt road surface. The span length is approximately 23 feet.
2. The existing bridge shows signs of structural deficiencies and evidence of scour around the abutments.
3. The bridge location is approximately 650 ft. north of the intersection of Bayberry Lane Extension and Easton Road (Rt. 136)
4. The average daily traffic at the bridge is estimated to be 636 vehicles per day.
5. It is located in the Aspetuck River watershed. The river flows from east to west across the project site. The confluence with the main reach of the Saugatuck River is approximately 7,680 ft. to the west. A FEMA flood zone is associated with this property as shown on the plans.
6. The site **is not** within the Aquifer Protection Overlay Zone.
7. This site does **not** exist within the Coastal Areas Management Zone.
8. Wetland/Watercourse Delineation Report by Soil Science and Environmental Services, Inc., Dated January 28, 2019:
  - Wetland soils identified include: **Walpole sandy loam** (13), **Rippowam fine sandy loam** (103), and **Fluvaquents-Udifuvents** (109) within the work area. The Walpole soil is a poorly drained soil formed in glacial outwash. The Rippowam and Fluvaquents soils are formed in alluvial sediments deposited by the river.
  - The non-wetland soils were identified as Udorthents, Agawam, and Ninigret and Tisbury series soils.
9. Flood & Erosion Control Board reviewed this application pursuant to the WPLO on September 2, 2020

**Previous Permits/Applications filed:**

#AA-WPL/E 9520-13: emergency bridge repairs.

**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 existing bridge structure consists of a single span. The bridge shows structural issues including deterioration of steel beams and scour around the abutments. The proposed bridge is designed to increase the span to 45' compared to the existing 23 ft. span. Staff

feels this design widening the span beyond the streambank is a benefit to establishing natural flow patterns and flow rates through this portion of the river. The proposed bridge reduces the upstream backwater of floodwaters for a 100-year storm event.

The DEEP Fisheries Division established several conditions to ensure the protection of fish and habitat. The contractors should maintain proper sediment and erosion controls through the project to reduce the risk of sediment movement and turbidity that would affect downstream fish habitat. The unconfined in-stream work is limited to July 1 to September 30 timeframe to reduce possible impacts to diadromous fish. The project shall minimize the amount of riprap needed for scour protection and areas of riprap shall be covered with natural streambed material or rounded stone.

The majority of the work for the bridge will be conducted from the existing roadway. Temporary cofferdams are proposed to contain most of the abutment work. A row of silt fencing will be installed around the work site. An area for a dewatering basin is identified on the upstream northeast roadside edge. Staff recommends relocating this dewatering area to the downstream, southern side of the bridge to reduce the amount of water entering the worksite and allowing for an area beyond the steep slopes to manage runoff.

A wetland area consisting of 525 sq. ft. is proposed to have permanent impacts as part of this proposal and 695 sq. ft. of waterway area will have temporary impacts during site construction activities. A total of 1,220 sq. ft. of anticipated impacts. Soil stockpile areas will be within the right-of-way roadway approaches.

## **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:**

A dewatering basin is provided along the northeastern embankment. Staff feels this is a critical portion of the construction activity. Staff recommends relocating this dewatering area to the downstream, southern side of the bridge to reduce the amount of water entering the worksite and allowing for an area beyond the steep slopes to manage runoff. The Commission may wish to condition the application approval by assigning a site monitor to conduct weekly sediment and erosion control inspections and provide those reports to the Conservation Office.

Seven trees are highlighted for removal on the downstream, southern side of the bridge. Rip-rap scour protection is proposed along the slope for stabilization. Conservation Staff recommends the Commission consider restoration of the vegetative buffer adjacent to the watercourse after bridge installation. Vegetation restoration adjacent to the work area will help to safeguard natural resources by providing additional stormwater runoff filtration prior to discharge into the river. The reduction of water velocities from stormwater runoff allows vegetation to absorb some non-point pollutants such as oils, road sands and salts, fertilizers, or herbicides that may otherwise discharge into the watercourse.

Three leak-offs for stormwater are found in the roadway to the north of the bridge, as indicated on the plans. Staff recommends the Commission consider having the contractor improve the condition of these leak-offs to reduce erosion from runoff and consider plantings to aid in biofiltration treatment of stormwater.

### **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:**

Specific erosion control methods are described in the application including silt fencing, temporary cofferdams, and dewatering basin. All erosion and sediment structures should be inspected and maintained on a regular basis. Staff feels the Commission should condition the application by assigning a site monitor to conduct weekly sediment and erosion control inspections and provide those reports to the Conservation Office. Staff additionally recommends the Commission consider requiring the applicant, the general contractor, site monitor, and Conservation Staff meet onsite at the start of the project to review Sediment and Erosion controls and discuss the need for extra measures.

Staff recommends relocating the dewatering area to the downstream, southern side of the bridge to reduce the amount of water entering the worksite and allowing for an area beyond the steep slopes to manage runoff. Staff previously approved emergency repairs to the bridge abutment under permit # AA-WPL/E-9520-13 which was carried out in July of 2013. During that time, a suitable dewatering area was identified on the southern embankment of the downstream side of the bridge. Staff feels that this should be an adequate location once again for a dewatering activities.

#### **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:**

As the area and amount of disturbance adjacent to the watercourse is limited, it is not anticipated to affect habitat. The proposed plan limits the amount of work within the wetlands and watercourse areas including temporary and permanent disturbance. The contractor will be directed to conduct activities from within the travel-way as much as possible in order to complete tasks.

Any unconfined work within the river is restricted to July 1 to September 30 timeframe to protect fish life cycles. All areas should be restored to pre-construction conditions upon completion. This should assure that plant and aquatic life will not be significantly affected long term.

As stated in the “Preliminary Fisheries Review – Replacement of Bayberry Lane #2 Bridge over the Aspetuck River” From DEEP-Fisheries Division” letter, this reach of the Aspetuck River is stocked annually with trout, and they have targeted this area for restoration for the passage of diadromous fish. The proposed work should not impact fish habitat and migration if conditions are met.

#### **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 Flood and Erosion Board approved this project at their meeting on September 2, 2020.

Bayberry Lane will continue to be overtopped during a 100-year storm event. The hydraulic analysis for the existing structure shows ~0.6 ft. of upstream backwater for the 100-year Design Discharge. The analysis for proposed replacement shows ~0.1 ft. of upstream backwater for the 100-year Design Discharge. Staff feels this proposal will reduce the current backwater related to the bridge and will slightly improve flooding conditions near the bridge. The proposed bridge should minimize impacts to the capacity of any wetland or watercourse to transmit or absorb flood waters, will not increase flooding and will not adversely affect the velocity of flood waters into and out of the wetlands.

**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 bridge currently provides public use for a secondary thoroughfare in town and for our neighbors to the north entering from Weston. The proposed development will not affect public use beyond the detours required while under construction. The recreational use is minimal. This stretch of the Aspetuck River lies within a trout management area. Protection of the trout habitat against excess turbidity and sediment, and alteration of natural stream bottom is important. Plan designs and timing construction appear to take this into account.

**CRITERIA TO BE CONSIDERED BY THE COMMISSION**

In carrying out the purposes and policies of the IWW regulations for the Town of Westport Section 5.0 and Sections 22a-36 to 22a-45(a,) inclusive, of the Connecticut General Statutes, including matters relating to regulating, permitting and enforcing of the provisions thereof, the Commission shall take into consideration all relevant facts and circumstances, including, but not limited to:

- (a) The environmental impact of the proposed regulated activity on wetlands or watercourses;
- (b) The applicant’s purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands or watercourses;
- (c) The relationship between the **short-term** and **long-term impacts** of the proposed regulated activity on wetland or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses.

- (d) Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity **would foreclose a future ability to protect**, enhance or restore such resource and any mitigation measures which may be considered as a condition of issuing a permit for such activity
- (e) The character and degree of injury to, or interference with, safety, health or reasonable use of property which is caused or threatened by the proposed regulated activity
- (f) Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and **future activities** associated with, or reasonably related to, the proposed regulated activity **which are made inevitable** by the proposed regulated activity and which may have an impact on wetlands or watercourses. ; and
- (g) The degree to which the proposed activity is consistent with all applicable goals and policies set forth in Section 1.3 and 1.4 of these Regulations and Section 22a-36 of the Connecticut General Statutes, as amended.

**Waterway Protection Line Ordinance**

*Section 148-9 of the Waterway Protection Line Ordinance states that the applicant shall submit information to the Conservation Commission showing that such activity will not cause water pollution, erosion and/or environmentally related hazards to life and property and will not have an adverse impact on the preservation of the natural resources and ecosystem of the waterway, including but not limited to impact on ground and surface water, aquifers, plant and aquatic life, nutrient exchange and supply, thermal energy flow, natural pollution filtration and decomposition, habitat diversity, viability and productivity and the natural rates and processes of erosion and sedimentation.*

The Waterway Protection Line boundary exists 15’ from the 25-year flood line onsite. The Flood & Erosion Control Board has approved this application on September 2, 2020 with standard conditions.

Staff supports the Town’s efforts to upgrade deteriorating infrastructure for the safety of its citizens. The new bridge’s design and placement increases the amount of floodwaters able to pass for a 100-year storm, which in turn, reduces the amount of water that can be backed up. As stated in the “Hydraulic Design Report”, the bridge should be passable during a 10-year storm event where it currently is not passable. Additionally this work is proposed to address structural deficiencies in the bridge and to reduce risk for the public use. Staff feels this will not significantly impact resources as they are protected under the Waterway Protection Line Ordinance.

Alternatives for reduction of impacts:

1. No build alternative.
2. Approve Application with the following modifications to plans listed above:

- a) A site monitor shall be retained for the duration of this project's construction and completion. Said monitor shall ensure compliance with the sediment and erosion control plans. Said monitor shall conduct weekly inspections and after storm events greater than 1 inch with written reports submitted to the Conservation Department on a weekly basis.
- b) The applicant, the general contractor, site monitor, and Conservation Staff shall meet onsite at the start of the project to review Sediment and Erosion controls and discuss the need for extra measures, such as a turbidity curtain.
- c) Relocate dewatering location to south side of bridge.
- d) Provide a planting plan, prior to startup of onsite construction, to Conservation Department Staff for the disturbed areas around bridge abutments to ensure slope stabilization and biofiltration.
- e) All planting within 20' from the wetland area shall be done by hand. Mulching within this area shall be done with organic leaf mulch. Plantings must be installed prior to the issuance of a CCC.
- f) Conservation Department to be contacted 48 hours prior to construction commencement.
- g) In-stream work should be restricted to the period July 1 and September 30.