FIFTEEN ROPE FERRY ROAD WATERFORD, CT 06385-2886

Date: May 24, 2022

To: Waterford Conservation Commission
From: Maureen FitzGerald, Environmental Planner

Re: **Inland Wetland Application #22-04: 934, 940 Hartford Turnpike**
Proposed Self-Storage Facility
Findings for Consideration

Proposed Activity:
The application is for construction of 2 two-story self-storage buildings and associated paved access drives, parking spaces, a paved parking area for RV storage and construction of a stormwater detention /treatment basin on lands up-gradient of inland wetlands and Jordan Brook, a perennial Class A quality stream supporting brook trout. All permanent site improvements are located beyond the 100 ft. Upland Review Area of wetlands with the exception of grading at the west side of the northern building and within the abandoned roadbed under the power lines parallel to Harford Turnpike.

Regulated Activities:

- Clearing, grading and excavation for construction of two buildings and associated parking area and a stormwater detention/treatment basin up-gradient of inland wetlands and watercourses;
- Fill and grading of 3,700 ft.2 +/- within the 100 ft. upland review area to re-grade a portion of the utility line access road and the fill slope west of Hartford Turnpike.
- Discharge of site stormwater run-off up-gradient of Jordan Brook.

Wetland Resources:
The on-site wetlands are part of the Jordan Brook mainstem corridor (JCM-1), ranked as very high quality wetlands in the watershed and a wetland of special significance. The Jordan Brook watershed management plan (2000) recommendations for this wetland are to protect water quality, treat stormwater run-off to attain no net increase in pollutant loading, control post-development stormwater discharge, support groundwater recharge and maintain a minimum 100 ft. width vegetated buffer between the riparian wetland corridor along the perennial stream and adjacent development.

Two wetland pockets also occur on site. One ponded containment is located between Rte 85 and the old roadway bed which serves as an access way to the overhead utility lines. The other is an isolated pocket of forested wetland located at the southeastern end of the property. This wetland forest pocket lies within the right-of-way of the 2 water mains which traverse the property. According to the wetland report, these two areas are not viable vernal pool habitats.

Wetland Impacts:
No direct wetland fill, excavation, grading or other alteration of inland wetlands or watercourses is associated with the proposed development. Temporary impacts to soils within the upland review area

include fill and grading of 3,700 ft.2 +/- to re-grade a portion of the utility line access road and the fill slope west of Hartford Turnpike. The wetland assessment report submitted for the application identifies concerns for potential impacts to on-site and downstream wetland resources from construction and post-construction storm water.

Mitigation for these potential impacts consists of implementing an erosion and sediment control plan during construction and the treatment of post-construction stormwater discharge through a water quality basin designed as a wet pond. The basins outlet discharges 100 ft. up-gradient of the inland wetlands associated with the mainstem corridor of Jordan Brook.

The Conservation Commission determined at their April 28, 2022 scheduled meeting that the proposal does not involve significant impact activity and that a public hearing is not required.

Application & Plan Revisions

Revised plans were submitted on May 19, 2022 to address staff and Commission comments.
The revisions included additional details in the erosion and sediment control narrative and plans, timing of construction for the permanent stormwater basin, inclusion of an oil/water separator and a maintenance access way to the stormwater pond. An addendum to the hydrology report was submitted showing results of the SCS TR-55 run-off model for the site in addition to written responses to staff and Commission comments.

To demonstrate the development will not increase pollutant loadings to Jordan Brook, the applicant's agent submitted a response referencing research conducted by the University of New Hampshire Stormwater Center on the efficiency removal of stormwater practices for pollutants of concern such as Nitrogen, Phosphorus, Total Suspended Solids and Zinc. The written response notes that if a 2 inch depth of run-off from the impervious surface area is contained and infiltrated by the stormwater control, the reduction of these pollutants in site stormwater is 99-100%. It was indicated that the forebay of the basin can hold that amount of run-off.

Considerations For Decision:

The following findings have been developed for the Commission's consideration of this application in accordance with SECTION 10.2 - Considerations For Decision.

1. The proposed activity does not have direct impacts to wetlands or watercourses. Permanent construction improvements are located a minimum distance of 100 feet from the adjacent wetland boundary.

2. The stormwater treatment system as designed will capture and treat up to 5 times the calculated water quality volume from impervious surface areas and reduce the peak rate of surface run-off prior to discharge to the receiving wetland. The TR-55 run-off calculations indicate the project will decrease peak discharge to receiving wetlands for the 2-yr through 100-yr storm event, and retain site run-off (no discharge to ground surface) up to the 25-yr storm event.

3. The stormwater basin design incorporates a wet pond that increases residence time of stormwater in the pond to attenuate pollutant and thermal loadings prior to discharge to shallow sub-surface flow.

4. The site design is consistent with the recommendations of the Jordan Brook Watershed Management Plan for stormwater quality treatment, groundwater recharge, and protection of wetland vegetated buffer areas between the wetland resource and adjacent development. Monitoring of the basin stabilization and wetland plantings is proposed for 2 years following project completion.

5. Short-term impacts are minimized through the implementation of a detailed erosion and sediment control plan, a phased construction sequence and required monitoring of construction erosion and sediment control measures.

6. Long-term impacts are mitigated by the stormwater treatment basin in controlling water quality impacts, maintaining groundwater recharge and detaining peak flows.

The following conditions of approval are proposed for consideration:

Recommended Conditions

a. The limit of permanent clearing and disturbance shall be identified as the wetland non-encroachment boundary. No activity, including but not limited to clearing, grading, filling or removal of vegetation shall be conducted within the non-encroachment area without specific authorization from the Conservation Commission. The purpose of the non-encroachment area is to protect inland wetland resources from direct and indirect impacts associated with adjacent land development.

b. The wetland non-encroachment boundary shall be located in the field prior to the start of site clearing and approved by the Commission's agent. Following construction, the non-encroachment boundary shall be permanently marked at 50 ft. intervals with identification markers provided by the Conservation Commission affixed to trees or 4x4 wooden posts.

c. During construction, the stormwater treatment basins shall be inspected by the design engineer to verify the specified type, depths, and permeability of the fill materials applied are consistent with the approved plans. Accumulated construction sediments shall be removed from the basin and the basin grading and planting completed and stabilized prior to receiving site stormwater run-off.

d. An as-built survey of the stormwater treatment system components shall be submitted to the Commission's agent with written verification from a licensed engineer that the system was constructed in accordance with the approved design plans. This submittal shall be completed prior to the issuance of a Certificate of Compliance for the building.

e. Monitoring of the stormwater basin plantings, slope stabilization and substrate stabilization shall be conducted by a wetland scientist or other qualified professional for a period of two (2) years following completion of the basin to document vegetation establishment and functioning of the stormwater basins. Total herbaceous cover of the basin bottom shall equal or exceed 80% at the end of the second monitoring year. Eroded side-slopes and basin substrate areas shall be repaired and re-seeded as required. The outlet control structures shall be inspected and cleaned of sediment, trash and debris. Invasive plant species such as *Lythrum* and *Phragmites* shall be removed from the basin.

f. A monitoring report shall be submitted to the Commission's agent by October 30th of each monitoring year documenting basin soil stabilization, vegetation establishment, ponded depth and basin discharge and corrective actions taken or required to maintain basin functionality.

g. At all times during site construction, temporary diversion swales and sediment traps shall be installed and maintained to control construction run-off and prevent sediment discharge to wetlands.