FUSS & O'NEILL
One Financial Plaza, 15th Floor
Hartford, CT 06103
860.646.2469
www.fando.com

Stormwater Pollution Control Plan
Riverfront Land Incorporated

Parcel 1: 228 Leibert Road, Hartford/ 100 Meadow Road, Windsor
Parcel 2: 590 Leibert Road, Hartford
Parcel 3: 600 Leibert Road, Hartford/ 120 Meadow Road, Windsor
Parcel 4: 610 Leibert Road, Hartford
Parcel 5: Windsor Meadows State Park

July 31, 2025

Prepared for:

Riverfront Recapture, Inc.
50 Columbus Blvd
Hartford, CT, 06106

Table of Contents

Stormwater Pollution Control Plan
Riverfront Recapture, Inc., Connecticut

1 Introduction 1

1.1 Permitting History 1

2 Site Description 2

2.1 Scope of Construction Activities 3

2.2 Area of Disturbance 4

2.3 Stormwater Discharge Information 4

2.4 Receiving Waters 4

2.5 Wetlands & Watercourses 4

3 Construction Sequencing 5

4 Control Measures 7

4.1 Erosion and Sediment Control Measures 8

4.1.1 Stabilization Practices and Protection 8

4.1.2 Structural Measures 10

4.1.3 Maintenance 11

4.2 Dewatering Wastewaters 12

4.3 Post-Construction Stormwater Management 12

4.3.1 Standards 12

4.3.2 Control Measures 12

4.3.3 Long Term Maintenance 13

4.4 Other Controls 13

4.4.1 Impacted Material Management 13

4.4.2 Waste Disposal 13

4.4.3 Construction Materials 13

4.4.4 Decontamination Area 13

4.4.5 Vehicle Tracking and Dust Control 14

4.4.6 Chemical and Petroleum Products 14

4.4.7 Fertilizers 14

4.4.8 Spill Control Practices 15

5 Runoff Reduction and Low Impact Development (LID) Information 15

6 Inspections 16

6.1 Plan Implementation and Inspections 16

6.2 Routine Inspections 16
6.3 Post-Construction Inspection 17
6.4 Corrective Actions 18
7 Contractors 18
7.1 General 18
7.2 Certification Statement 18
8 Additional Requirements 18
8.1 Endangered and Threatened Species 18
8.2 Historical Preservation Review 19
9 Termination 19

Figures

End of Report

1 Site Location Map
2 NRCS Web Soil Survey Map
3 FEMA Map
4 Drainage Basin Map

Appendices

End of Report

A CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities Registration Form and General Permit (Not included in electronic submission)
B Identification of Contractor and Certification Statements
C RLI Project / Connecticut River Hydraulic & Floodway Report
D Site Plan Drawings and Details
E Notice of Termination Form
F Sedimentation and Erosion Control Inspection Report Form
G National Diversity Data Base Map and Determination Letter
H Historic Preservation Review

1 Introduction

This Stormwater Pollution Control Plan (Plan) is required as part of the registration process under the *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* (General Permit), dated November 25, 2022. The General Permit is included as *Appendix A* of this Plan.

Riverfront Recapture, Inc. – Riverfront Land Development Project at 100 Meadow Road, Windsor, Connecticut ("Project") is considered a construction activity in accordance with the CT DEEP General Permit. The purpose of this plan is to specify parameters to follow to prevent or minimize the discharge of pollutants from construction activities during and after construction is completed. Erosion and sediment control requirements are also shown on the construction plans. A site location map of the project is attached as *Figure 1*.

During construction, the contractor(s) shall be responsible for implementing all elements of the erosion and sedimentation control measures as defined on the drawings and in this plan. Major construction activities will be phased to minimize areas of disturbance throughout construction. Erosion and sedimentation controls will be implemented and adjusted as needed throughout construction to minimize soil erosion.

Throughout the construction process, the Owner (Riverfront Land, Inc., a wholly owned subsidiary of Riverfront Recapture, Inc.) or Owner's agent meeting the qualifications as a Qualified Inspector shall periodically inspect erosion control measures. The agent shall observe potential off-site impacts due to erosion during these inspections. After construction, the Contractor shall be responsible for maintaining these erosion and sedimentation control measures until permanent stabilization is achieved. The Project will not be considered complete until erosion has been repaired, temporary erosion control measures have been removed as called for on the plans, and disturbed areas have been satisfactorily stabilized for at least one full growing season. The Owner is responsible for the site's long-term stormwater maintenance post-construction.

The general contractor(s) and subcontractor(s) will be required to sign the certification statement located in *Appendix B* of this plan.

1.1 Permitting History

This project has been reviewed by multiple regulatory agencies since initial consultations were submitted in 2020. Submission of permit applications to DEEP and USACE followed in 2022 and 2023 based on design plans titled RLI Riverwalk Extension (prepared by Fuss & O'Neill, dated March 2022). This initial design included a smaller cove (9 acres) primarily on the eastern side of the Site and grading of an elevated pad for future development on the western side of the Site. Since the initial submissions, additional rare species surveys, wetland delineation, and analysis have been performed, and supplemental information has been provided to regulatory agencies. The design included in this submission is the result of numerous conference calls and cooperation between agencies to develop a permittable design that meets the project goals. The project has obtained or is in the process of obtaining several regulatory authorizations to support the improvements.

100%

The proposed improvements on the Windsor Meadows State Park parcel received an Inland Wetlands and Watercourses Permit from the Town of Windsor. Permit number 23-152 was approved on June 6, 2023, and expiries on June 6, 2028.

Fuss & O'Neill Inc. (Fuss & O'Neill) has prepared a CT DEEP Permit Application for Flood Management Certification with Exemption Request as the project is within floodplains. To support the Flood Management Certification Fuss & O'Neill also prepared an Engineering Report titled RLI Project / Connecticut River Hydraulic & Floodway Report (prepared by Fuss & O'Neill, dated June 2025). The Engineering Report is included as *Appendix C* of this Plan. The Flood Management Certification was submitted in June 2025.

The following permits are in progress with tentative submission dates of July 2025:

- Structures, Dredging and Fill General Permit
- Non-Consumptive Water Diversion
- U.S. Army Corps of Engineers (USACE) Individual Permits
- Form O (for work on the Windsor Meadows State Park parcel)

2 Site Description

The proposed redevelopment for the Project includes the following 4 parcels collectively known as:

- Parcel 1: 228 Leibert Road, Hartford/ 100 Meadow Road, Windsor
- Parcel 2: 590 Leibert Road, Hartford
- Parcel 3: 600 Leibert Road, Hartford/ 120 Meadow Road, Windsor
- Parcel 4: 610 Leibert Road, Hartford

Included in the proposed redevelopment is a portion of the 73 Meadow Road property in the Town of Windsor, which is known as Windsor Meadows State Park. The properties in the City of Hartford are currently zoned as Industrial (ID-2) while the properties in the Town of Windsor are currently zoned Agricultural Zone (AG). The project site is bounded to the west by an Amtrak right of way, to the north by a commercial parcel, a residential parcel and the remaining portions of Windsor Meadows State Park on the north side of Deckers Brook, to the east by the Connecticut River, and to the south by Meadow Brook and the North Meadows Levee. A site location map for the project site can be found in *Figure 1*.

100%

The hydrologic characteristics of the development include the following pertinent information:

- The Natural Resources Conservation Service (NCRS) characterizes the development as:

Map Unit Symbol	*Map Unit Name*	*Soil Rating*
308	Udorthents, smoothed	B
101	Occum fine sandy loam	B
105	Hadley silt loam	B
106	Winooski silt loam	B/D
107	Limerick and Lim soils, 0 to 3 percent slopes, frequently flooded	B/D
704A	Enfield silt loam, 0 to 3 percent slopes	B
704B	Enfield silt loam, 3 to 8 percent slopes	B
W	Water	-

The site soils are comprised of Hydraulic Soil Groups 'B' and 'D'. A map of the soils within the development can be found in *Figure 2*.

The site is located within the Connecticut Major Stem Regional Basin of the Connecticut Major Basin, specifically, the Connecticut River sub-basin area as presented in *Figure 3.*

The Project site is located within a FEMA Special Flood Hazard Area with (base flood elevation 32 feet NAVD88) and contains area within the floodway (FEMA Map 09003C0367G & 09003C0366G, dated September 16, 2011). The FEMA flood mapping is presented as *Figure 4.*

2.1 Scope of Construction Activities

Construction is expected to begin in October 2025. Permanent site stabilization is anticipated in December 2026. Proposed construction activities consist of the following:

- Installation of erosion controls as necessary to control stormwater runoff, dust, sediment, and debris from exiting the site in accordance with the Erosion and Sediment Control Plans.
- Excavation and regrading of remedial areas
- Temporary stockpiling of impacted soils
- Excavation of Proposed Cove area.
- Filling and regrading of area adjacent to Amtrak ROW
- Grading of proposed hill and berm

100%

- Establishment of proposed inland wetland enhancement area
- Establishment of proposed tidal wetland enhancement area
- Restoration of existing Inland Wetland area
- Restoration of existing Tidal Wetland area
- Establishment of pygmyweed benches (Grading and transplanting)
- Transplanting/relocation of select plant and mussel species

It is anticipated that excavation of the proposed cove will be completed using mechanical dredging methods, e.g. long reach excavators or clamshell bucket on land-based cranes to the required elevations below groundwater or Connecticut River water elevations.

2.2 Area of Disturbance

The total area of disturbance for construction of Riverfront Recapture will be approximately 57.8 acres. The phased approach of the Project will minimize areas of disturbance throughout construction.

2.3 Stormwater Discharge Information

Drainage areas and stormwater flow patterns of the completed Project will remain consistent with existing conditions. Impervious surface coverage of the completed Project condition will not differ from that of the existing conditions. No additional impervious surfacing is proposed.

Hydrologic evaluation determined that the completed Project area will drain to the following outfalls:

- Design Discharge #1: Connecticut River
- Design Discharge #2: Meadows Brook (Connecticut River)
- Design Discharge #3: Deckers Brook (Connecticut River)
- Design Discharge #4: Inland Wetland (Meadows Brook)
- Design Discharge #5: Tidal Wetland (Proposed Cove)
- Design Discharge #6: Proposed Cove (Connecticut River)

2.4 Receiving Waters

Runoff generated on the existing Project site presently flows eastward overland to the Connecticut River, located adjacent to the site. Some site area drains to Meadow Brook, Deckers Brook, and onsite wetlands, which all ultimately discharge to the Connecticut River. Runoff will continue to drain to The Connecticut River and its contributing brooks and wetlands following the completion of the Project.

2.5 Wetlands & Watercourses

The Project site is bordered by two tributaries to the Connecticut River: Deckers Brook to the north and Meadow Brook to the south. Meadow Brook is a channelized watercourse that flows southeast to its confluence with the Connecticut River at the southeast corner of the site. Deckers Brook flows east along the northern boundary of the site. The site's eastern boundary is the Connecticut River, which is regulated as a tidal river up to the Massachusetts-Connecticut State Line. Therefore, the activities involved with constructing the proposed cove, which will be directly connected to the

100%

Connecticut River, will be regulated as tidal.1.23 acres of tidal wetlands was determined during a September 2024 tidal wetland delineation completed by TRC. All existing wetland elevations are above the Coastal Jurisdiction Limit (3.8 feet NAVD88 for Hartford).

The Project work will impact existing wetlands at the site. Because of this, proposed enhancement inland and tidal wetlands will be established for mitigation. Fuss & O'Neill completed a wetland delineation in March 2020 as a process of the Site redevelopment design which will raise portions of the Site out of the 100-year flood zone. A palustrine scrub-shrub/emergent wetland extends north towards Meadow Road's railway crossing. The majority of this wetland occupies a narrow depression in the land which is bound by moderately steep banks to the surrounding floodplain. Along the southeastern boundary, the smaller lobe of emergent wetland contains a nearly level transition to the surrounding floodplain. A Wetland Delineation Report was prepared by TRC in September 2024 identifies two wetland types within the Survey Area. Within the palustrine system, both are emergent and persistent with one being semipermanent flooded hydrology (PEM1F) and the other being seasonally flooded/saturated hydrology (PEM1E).

Mapping completed in 2022 by DEEP indicates that state wetlands, distinguished by alluvial/floodplain soils, are located along eastern portions of the site. National Wetland Inventory wetlands and wetland soils are also located on the central, southeast, and northern portions of the site.

Proposed inland and tidal wetland enhancement areas will be created to boost ecological function and improve wildlife habitats. The proposed inland wetland enhancement area will be located in the southwest corner of the former agricultural field and the proposed tidal wetland enhancement area will be located North of the existing tidal wetland area. Both proposed wetland areas will be enhanced through excavation of upland soils, grading, and planting. Prior to excavation, silt socks and silt barriers will be installed around the in-place restoration area for both the inland and tidal wetland to prevent any deterioration during the activity. Daily inspections of the silt barrier during excavation activities will be performed and the silt barrier will be removed after permanent stabilization is achieved.

3 Construction Sequencing

Work is restricted to City of Hartford normal working hours of 7 A.M. to 5 P.M. on Monday through Friday.

Preconstruction activities holding a stormwater preconstruction meeting and site walk conducted by the permittee at the project site. The qualified inspector(s), site contractor and subcontractor(s) are also required to be in attendance.

The general Construction Sequencing for construction activities is as follows:

Phase 1B (October 2025):

- Install erosion controls as necessary to control stormwater runoff, dust, sediment, and debris from exiting the site in accordance with the Erosion and Sediment Control Plans.
- Install turtle exclusion fencing.

100%

- Utilize reuseable soil from central Cover area to establish minimum elevations at Contractor Laydown Area
- Excavate and backfill remedial areas
- Establish temporary stockpiles of impacted soils

Phase 2A (October 2025 to February 2026):

- Install erosion controls as necessary to control stormwater runoff, dust, sediment, and debris from exiting the site in accordance with the Erosion and Sediment Control Plans.
- Install turtle exclusion fencing.
- Excavate enhancement inland wetland area
- Excavate central cove area, mitigation tidal wetland, and pygmyweed benches
- Transplant plant species (Short-awned meadow-foxtail, Georgia bulrush, Cattail sedge), by Owner
- Fill and regrade northwest area adjacent to Amtrak ROW
- Establish plantings within enhancement inland and mitigation tidal wetland areas, by Owner
- Transplant pygmyweed to new benches, by Owner
- Relocate mussels, by Owner

Phase 2B (March 2026 to July 2026):

- Establish floating turbidity curtain, temporary riprap barrier, and waterside work area.
- Install erosion controls as necessary to control stormwater runoff, dust, sediment, and debris from exiting the site in accordance with the Erosion and Sediment Control Plans.
- Install turtle exclusion fencing.
- Excavate eastern Cove area
- Fill and regrade southwest area adjacent to Amtrak ROW
- Transplant pygmyweed to new benches, by Owner
- Establish plantings within existing inland wetland and existing tidal wetland areas, by Owner

Phase 2C (August 2026 to December 2026):

- Install erosion controls as necessary to control stormwater runoff, dust, sediment, and debris from exiting the site in accordance with the Erosion and Sediment Control Plans.
- Install turtle exclusion fencing.
- Excavate western Cove area
- Fill and grade proposed hill and berm
- Final restoration, permanent seeding, and stabilization monitoring.

Wherever practicable, site construction activities shall be phased to avoid the disturbance of over five acres at one time by excavating/filling to grade and implementing stabilization methods. The contractor shall be aware that grubbing, stripping, and associated earthwork operations all have significant potential to cause erosion and sedimentation until complete stabilization of the site has occurred.

Construction is a dynamic operation significantly affected by weather and unanticipated conditions. Therefore, the layout of erosion and sediment controls shown on the plans will likely be modified to best manage changing field conditions, especially forecasted inclement weather. The Owner shall work in concert with the Engineer, Construction Manager, and Regulatory agencies to ensure that the intent of the Guidelines is met until all areas are permanently stabilized. The Permittee is responsible for keeping their Plan current (in compliance with the is General Permit at all times), including but not limited to plan amendments and/or addressing agency comments. Any person

100%

keeping this Plan or part thereof current, under the Keeping Plans Current section of this permit, has qualifications that would be required under this general permit to initially prepare the Plan or part thereof.

4 Control Measures

The following paragraphs address the controls and measures to be implemented on site both during and after construction to minimize stormwater pollution to the waters of the State of Connecticut. Controls during the construction activities are also located on the erosion and sediment control plans included with the project drawings as *Appendix D*.

4.1 Flood Contingency Plan

4.1.1 General Description

This Flood Contingency Plan has been prepared for the proposed construction activities associated with the Project. This Plan describes the measures to be taken during construction to help protect life and property and prevent pollution during significant precipitation events. The proposed activities project area is prone to flooding.

The contact information in this Plan regarding emergency service agencies should be reviewed immediately prior to the onset of construction and updated as necessary. No provision will be made for post construction flooding since any changes to the flooding dynamics as a result of the Project have been demonstrated by hydraulic modeling to be negligible.

The actions outlined in this Flood Contingency Plan below shall be performed for any significant rainfall event that occurs during construction at the project site. For the purpose of this Plan, a "significant rainfall event" is defined as a storm in which more than 2.4 inches of rainfall may occur in a one-hour period (thunder showers), or more than 3.1 inches may fall in a 24-hour period (a storm with potential return period of at least 2 years).

4.1.2 Flood Contingency Procedures

The Contractor, who is responsible for oversight of construction activities at the site, is responsible for implementing this Plan. The Contractor shall use best efforts to notify the Owner of any impending significant rainfall event or any flooding event as soon as practicable and, if possible, no less than twenty-four (24) hours before the onset of precipitation.
The owner is:

Riverfront Recapture, Inc.
50 Columbus Boulevard, 1st Floor
Hartford, CT 06106
Contacts: Marc Nicol (860) 713-3131x334; mnicol@riverfront.org
Michael Zaleski (860) 713-3131x331; mzaleski@riverfront.org

The Contractor shall then perform the following actions to minimize the potential for damage to downstream life and property, and/or pollution.

100%

- All construction equipment, tools, heavy equipment, vehicles, storage containers, etc. shall be relocated to upland storage areas or areas protected from flooding. Such areas, identified before the start of construction activities, shall be located outside of flood hazard areas, flood prone areas, and areas that may experience significant overland flow of water during precipitation events.

- All fuel and maintenance fluids shall be located to an upland storage area. If practicable, these fluids should be placed in an enclosed structure; at a minimum they shall be covered with tarps and placed in an upland storage area that is bermed to prevent run-on of surface water.

- All work areas shall be inspected to ensure that items under construction (e.g., access roads) are stabilized.

- All work areas and any stockpiles shall be inspected to ensure that erosion control measures are in place and in such condition as to allow their proper function during the rainfall event.

- Access to all work areas shall be closed to the public and non-essential work personnel. Access points to areas under construction shall be barricaded and posted as being closed during construction.

- In addition to notifying the Owner, the Contractor shall notify emergency service agencies if conditions are observed which may pose an imminent danger to downstream residents or property:
    - Local Fire and/or Police: Tel. 911
    - Connecticut Department of Energy and Environmental Protection Inland Water Resources Division Tel. (860) 424-3706

As soon as practicable after a significant rainfall event or severe storm, the site should be inspected for damage caused by flooding.

4.2 Erosion and Sediment Control Measures

The goal of this plan is to control erosion on the site and to control movement of sediment into adjacent wetlands, watercourses or storm sewer systems. Note that erosion and sediment controls shall conform to the requirements of the *Connecticut Guidelines for Soil Erosion and Sediment Control*, effective March 2024, which will hereafter be referred to as the "Guidelines", and the *Connecticut Stormwater Quality Manual*, effective March 2024, which will hereafter be referred to as the "Standards". To meet these goals, stabilization, structural and maintenance practices shall be implemented by the Contractor as outlined below.

4.2.1 Stabilization Practices and Protection

Both temporary and permanent stabilization practices shall be implemented throughout the project to minimize erosion of soil from the disturbed site. Temporary and permanent stabilization measures

100%

are proposed to provide protection against erosion both during and after construction. Existing vegetation shall be preserved to the maximum extent practicable.

When construction activities have permanently ceased or when final grades are reached in any portion of the site, stabilization and protection practices shall be implemented within seven days. Areas that will remain disturbed but inactive for at least 14 days shall receive temporary seeding or soil protection within seven days in accordance with the Guidelines. Areas that will remain disturbed beyond the seeding season shall receive long term non-vegetative stabilization and protection measures sufficient to protect the site through the winter. In all cases, stabilization and protection measures shall be implemented as soon as possible in accordance with the Guidelines.

The stabilization practices to be implemented during the construction of the proposed project are as follows:

- **Temporary Soil Protection**: Stabilize all exposed areas within 7 days of the suspension of grading for areas that will be inactive for a period of 30 or more consecutive days, but less than 5 months using mulch or other materials appropriate for use as a temporary soil protector when the establishment of a vegetative cover is not possible (usually during winter and mid-summer). Acceptable materials include but are not limited to straw; wood waste, chips, or bark; or erosion control blankets.

- **Temporary Vegetative Cover:** All exposed areas that will be inactive for more than seven days, or immediately for stockpiles not to be used for 14 days, and areas that have not yet reached finished grades shall receive temporary vegetative cover during the planting season of March 15 to July 1 and August 1 to October 15. This temporary vegetative cover shall consist of perennial rye grass. The rye grass shall be planted at a rate of 2lbs./1,000 sq. ft. at a depth of ½ inch. Limestone (equivalent to 50% calcium plus magnesium oxide) shall be applied as seedbed prepared at a rate of 90lbs./1,000 sq. ft. Where grass predominates, fertilize according to a soil test at a minimum application rate of 1 lb. of nitrogen per area to be left bare before finish grading and seeding outside of planting seasons shall receive an air-dried woodchip mulch, free of coarse matter, treated with 12 lbs. of nitrogen per ton, applied at a rate of 185—275 lbs./1,000 sq. ft.

- **Permanent Vegetative Cover:** Maintain temporary vegetative cover until grasses are considered established or the Owner proceeds with a subsequent phase disturbing the temporary vegetative cover. Leave temporary erosion control blankets to biodegrade/photodegrade in place as the vegetative cover becomes established.

- **Fugitive Dust Control:** Control fugitive dust by using water sprays on soil surfaces and sweeping paved areas daily or after work that creates excessive dust. The use of calcium chloride is not permitted.

100%

4.2.2 Structural Measures

Structural practices shall be implemented to control the movement of sediment and minimize any discharge of pollutants from the site, divert flows away from exposed soils, store flows, and limit runoff. The structural practices to be implemented during construction are as follows:

- **Geotextile Sediment Filter Fence (Silt Fence):** A row of geotextile sediment filter fence shall be placed around stockpiles during stockpiling operations. Geotextile sediment filter fence shall be removed only when the stockpiles are removed. Where site disturbance occurs within fifty (50) feet upgradient of a wetland, wetlands, or waters as defined in Section 2 of the general permit, a double row of silt fence shall be installed in accordance with the Guidelines between the disturbed area and any such downgradient wetland, wetlands or waters.

  Silt Socks: To minimize the transport of sediment from the disturbed areas to receiving wetlands and/or roadway systems, silt socks have been shown on the plans at select areas around the site to filter runoff from the disturbed areas. Silt socks details and locations are provided on the drawings. Silt socks shall be removed only when the entire site has been permanently stabilized. Where site disturbance occurs within fifty (50) feet upgradient of a wetland, wetlands, or waters as defined in Section 2 of the general permit, a double row of sediment barrier shall be installed in accordance with the Guidelines between the disturbed area and any such downgradient wetland, wetlands, or waters.

- **Construction Entrance:** To prevent soil or sediment from being carried off site by construction equipment, construction entrances will be installed for construction traffic into and out of the project areas. The width of the construction entrances shall not be less than the width of the ingress or egress. Adjacent roadways shall be swept daily to remove material that may be tracked onto pavement.

- **Temporary Erosion Control Blanket:** To provide temporary surface protection, temporary erosion control blankets will be installed in sensitive areas, as indicated on the plans. Temporary erosion control blankets shall comply with the Guidelines.

- **Floating Turbidity Curtain:** To prevent sediment transport from the disturbed areas to receiving waters, a floating turbidity curtain will be utilized. A floating turbidity curtain detail and location are provided on the drawings. The floating turbidity curtain shall be removed only when the entire site has been stabilized.

- **Temporary Stone Berm:** To protect the project site from the rise and fall of the Connecticut River during construction, a temporary stone berm will be constructed across the existing cove outlet. Constructed out of standard riprap, the berm will be used for water and sedimentation control and removed following site stabilization.

- **Riprap Stabilization:** To protect slopes from the erosive effects of water flow, riprap stabilization will be installed at the banks of the cove inlet. Standard riprap size is proposed, underlain by a geotextile fabric and granular bedding material.

100%

4.2.3 Maintenance

The erosion and sediment controls must be maintained in a condition that will protect waters of the State from pollution during site construction. The Contractor shall conduct the following maintenance to promote the proper performance of erosion and sediment control measures.

- **Temporary and Permanent Vegetation:** At any eroded areas, repair by filling to finished grades, replace vegetative support material and seed, fertilizer and lime, as specified for temporary and permanent stabilization. Add additional mulch as required in upland areas. Grasses shall not be considered established until a ground cover is achieved which is mature enough to control soil erosion and to survive severe weather conditions (approximately 80% vegetative surface cover).

- **Silt Fence and Silt Socks:** Inspect silt barriers (silt fence and compost filter socks) daily during the excavation/filling activities to ensure the integrity of the protection as well as immediately after each rainfall and at least daily during prolonged rainfall. Any required repairs should be made immediately. Should the barrier decompose or become ineffective while the barrier is still needed, the barrier shall be replaced promptly. Sediment deposits should be removed when they reach approximately one-half the height of the barrier. Sediment shall be disposed of on-site as non-structural fill. Sediment deposits remaining in place after the silt fence or straw bales are no longer required shall be removed and placed in a stockpile surrounded by silt fence in a location suitable to the Permittee.

- **Construction Entrances:** Maintain the entrance in a condition which will prevent tracking and washing sediment onto paved surfaces. Provide periodic top dressing with additional stone of additional length as conditions demand. Repair any measures used to trap sediment as needed. Immediately remove all sediment spilled, dropped, washed or tracked onto paved surfaces. Adjacent roadways shall be left clean at the end of each day. If the construction is properly maintained and the action of a vehicle traveling over the stone pad is not sufficient to remove the majority of the sediment then either (1) increase the length of the construction entrance, (2) modify the construction access road surface, or (3) install washing racks and associated settling area or similar devices before the vehicle enters a paved surface.

- **Temporary Erosion Control Blanket:** Inspect the blanket at least once a week and within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater for failures. If failures are discovered, re-install the blanket after regrading and re-seeding, ensuring that blanket installation still meets the design specifications. When repetitive failures are observed at the same location, review conditions and limitations for use and determine if diversions, stone check dams, or other measures are needed to reduce failure rate.

- **Pavement Sweeping:** Sweep paved surfaces adjacent to the construction entrances, the soil management areas, and designated haul routes daily. Properly dispose of sediment or debris collected during sweeping.

100%

- **Floating Turbidity Curtain:** Inspect turbidity curtain assembly daily for damage. Remove accumulated sediment when the function of the curtain is impaired or if accumulated sediment poses a possibility of resuspension.

- **Temporary Stone Berm:** Inspect the temporary stone berm at least once a week, within 24 hours of the end of a storm with a rainfall amount of 0.5 inch or greater, and within 24 hours following the Connecticut River's rise above and fall below elevation 5 for failures.

- **Riprap Stabilization:** Inspect riprap stabilization periodically to determine if high flows have caused scour beneath the riprap or filter blanket or dislodged any of the riprap or filter blanket materials. Periodic removal of vegetation may be required to ensure the integrity of the riprap.

4.3 Dewatering Wastewaters

Dewatering for this Project is not anticipated; however, it is anticipated that site excavation will be completed using mechanical dredging methods, e.g. long reach excavators or clamshell bucket on land-based cranes to the required elevations below groundwater or Connecticut River water elevations.

4.4 Post-Construction Stormwater Management

4.4.1 Standards

Detailed erosion and sedimentation controls in accordance with the Standards have been proposed for this site. The water quality of runoff from the stabilized, developed project area will be improved using widely accepted Best Management Practices (BMP's).

4.4.2 Control Measures

At the end of construction, areas disturbed by construction activities shall be stabilized. As a result, the potential for erosion at this site after construction is minimal. Grassed areas will also serve as a filter to remove sediment from runoff if permanently stabilized areas are properly maintained. Perimeter controls (e.g., silt fence, silt socks) will be actively maintained until final stabilization of those portions of the site up-gradient of the perimeter control. Temporary perimeter controls will be removed after final stabilization of the development.

The contractor shall be responsible for cleaning all post-construction stormwater structures and removal of remaining perimeter controls before filing a termination notice, a copy of which is included as *Appendix E.* After filing the termination, maintenance and cleaning of the development shall become the responsibility of the Owner.

The design will meet the requirements of the Connecticut Stormwater Quality Manual, the Connecticut Guidelines for Soil Erosion and Sediment Control, and federal stormwater regulations.

100%

4.4.3 Long Term Maintenance

Impervious surface coverage of the completed Project condition will not differ from that of the existing conditions. No additional impervious surfacing is proposed.

Existing stormwater runoff sheet flows east to the Connecticut River, Meadow Brook, Deckers Brook, and onsite wetlands. This stormwater runoff is currently not treated for water quality. Stormwater will continue to flow as such following the completion of the Project.

The Owner is responsible for the site's long-term stormwater maintenance post-construction.

4.5 Other Controls

Good housekeeping will be maintained to minimize impacts of protected areas by pollutants, soil, and fugitive sediment.

4.5.1 Impacted Material Management

Excavation and handling of any soils will conform to the requirements outlined in the Remedial Action Plan, RLI Project, Hartford/Windsor, CT, prepared for Riverfront Recapture Inc., prepared by Fuss & O'Neill, Inc. dated July 2025 which can be provided by request.

4.5.2 Waste Disposal

The following BMPs shall be implemented to minimize the discharge of litter, debris, or similar materials to waters of the State:

- Construction waste will be removed from the site and disposed of legally.
- Waste will be removed from the site as soon as practical.
- Containers will be appropriate for the material stored.
- Where necessary, containers will be sealed/covered to prevent waste from escaping the container.
- Containers will only be located where approved by the Engineer or regulatory agency.
- Waste storage areas shall be located, designed, and operated to prevent polluted runoff from leaving the waste storage area.
- Fences or covers shall be provided to prevent waste from blowing out of the waste storage area.

4.5.3 Construction Materials

The construction materials needed for this project will be properly stored in a neat and orderly manner until used. Construction materials shall not be stored within any buffers and at least 50 feet from property lines.

4.5.4 Decontamination Area

Decontamination of all personnel, equipment and supplies that enter the contaminated work area or are exposed to impacted materials shall be conducted in a designed washout area. Containerize

100%

decontamination waste, there shall be no surface discharge of washout wastewater from this area. Decontamination waste will be collected in US DOT approved drums and disposed of legally offsite at an applicable disposal facility.

To eliminate overflows during rainfall or after snowmelt all wash water shall be directed into a pit or otherwise collected and contained. This area shall be at least 100 feet from any sensitive resource identified onsite. The area shall be completely self-contained and clearly marked. In addition, dumping of liquid waste in storm sewers is prohibited. All waste, including hardened concrete waste from washouts, shall be disposed of legally at an off-site location. At least once per week, all containers or pits used for washout should be inspected for structural integrity, adequate holding capacity, and to check for leaks or overflows. If any deficiencies are discovered, corrective action shall be taken immediately. Washout areas shall be emptied when levels reach ½ the height of the container or pit.

4.5.5 Vehicle Tracking and Dust Control

As shown on the plans, construction entrances shall be installed and maintained to prevent vehicles from tracking sediment onto City and State roads. The Contractor shall be responsible for performing dust suppression techniques during construction, including but not limited to:

- Spraying water as necessary to control dust from construction activities. The volume of water sprayed for controlling dust shall be minimized to prevent runoff of water. No discharge of dust control water shall contain or cause a visible oil sheen, floating solids, visible discoloration, or foaming. The use of calcium chloride is not permitted for control dust.
- Sweeping surfaces adjacent to the construction entrances and the soil management areas daily. The designated haul routes will be swept as required.

If at any time fugitive dust is observed to be generated from the construction site, the Contractor shall be responsible for employing additional dust suppression techniques to remedy the situation.

4.5.6 Chemical and Petroleum Products

Chemical and petroleum products should not be stored within the 100-year (elevation 31.92) or 500-year floodplain (elevation 36.59). As the entire site is contained within the 500-year floodplain store chemical and petroleum products contained within vehicles and equipment. Refuel equipment utilizing a mobile lube truck or fuel delivery service that is demobilized from the site when refueling is complete.

On-site vehicles shall be monitored for leaks and receive maintenance as needed.

4.5.7 Fertilizers

Fertilizers, if used in conjunction with the seeding operation, will be applied only in the amounts recommended by the manufacturer. Notification and signage of fertilizing applications must be provided in accordance with all local and State regulations. Commercial grade complete fertilizer of neutral character will be used and consist of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium. Once applied, fertilizer will be worked into the soil with smooth raking to limit exposure to stormwater prior to roller

100%

compaction (see plans). Storage will be in a covered area. The contents of any partially used bags of fertilizer will be transferred to a sealable plastic bin to avoid spills.

Fertilizers will be applied at least 24 hours before any anticipated rainfall and swept or removed from paved or hard surfaces to limit runoff into local waterways and storm sewer systems.

Fertilizers will not be applied within 25 feet of streams, rivers, lakes, ponds, wetlands, etc.

4.5.8 Spill Control Practices

The following practices shall be implemented during construction activities to mitigate spills of material and prevent their release to the waters of the State:

- Manufacturers' recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.
- Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include but not be limited to brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- Spills will be cleaned up immediately after discovery.
- Spills of toxic or hazardous material will be reported to the appropriate State and local government agency, regardless of size.

5 Runoff Reduction and Low Impact Development (LID) Information

Runoff reduction practices have been utilized throughout the Project. Detailed erosion control site plans have been prepared for the development. During construction, measures will be taken to reduce erosion and manage sedimentation from disturbed surfaces. The following LID BMP's will be employed:

- Silt fence, straw bales, and silt sock will be installed at the down-gradient perimeter of disturbed surfaces within the project limit.
- Floating turbidity curtain and a temporary stone berm will be utilized to prevent migration of sediments to the river during waterside work.

Impervious surface coverage of the completed Project condition will not differ from that of the existing conditions. No additional impervious surfacing is proposed.

The proposed re-grading of overbank areas has minimal impact on water surface elevation compared to the existing conditions. No new permanent negative hydraulic impact is anticipated to surrounding properties due to this regrading.

The hydraulic analyses indicate that for proposed conditions there is an inconsequential increase in the FEMA base flood water surface elevations and no increase for FEMA floodway water surface elevations. Therefore, in accordance with the DEEP Hydraulic Analysis Guidance Document, a notification letter to FEMA is not required upon completion of the project. Refer to the RLI Project / Connecticut River Hydraulic & Floodway Report (prepared by Fuss & O'Neill, dated June 2025) included as Appendix C of this Plan for pre- and post-construction floodplain calculations.

100%

6 Inspections

6.1 Inspector Qualifications

"Qualified Inspector" means an individual possessing either (1) a professional license or certification by a professional organization recognized by the commissioner related to agronomy, civil engineering, landscape architecture, soil science, and two years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects in accordance with the Guidelines; or (2) five years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects in accordance with the Guidelines; or (3) certification by the DOT.

6.2 Plan Implementation and Inspections

Within the first 30 days following commencement of each phase of the construction activity, the Permittee shall contact the designing qualified professional and the appropriate District to ensure all required inspections are conducted. For each phase of construction, the site shall be inspected at least once within the first 30 days of construction activity and at least three times during the first 90 days of construction activity to confirm compliance with the General Permit and proper initial implementation of all control measures designated in the Plan for the site for the initial construction stage.

6.3 Routine Inspections

As required, the Permittee shall routinely inspect the site for compliance with the General Permit and the Plan until a Notice of Termination has been submitted. Inspection procedures for these routine inspections shall be addressed and implemented in the following manner:

- The Permittee shall maintain a rain gauge on-site to document rainfall amounts.
- The Permittee shall engage a qualified inspector, as defined by the General Permit, to inspect the site at least once every seven calendar days and within 24 hours of the end of a storm that generates a discharge.
- An inspection is required within 24 hours following storms that equal or exceed 0.5 inches that end on a weekend, holiday or other time after which normal working hours will not commence within 24 hours.
- For storms of less than 0.5 inches, an inspection shall occur immediately upon the start of the subsequent normal working hours.
- Where areas have been temporarily or finally stabilized, inspection shall be conducted at least once every month for three months to confirm compliance with the General Permit.

The items to be inspected shall include, at a minimum, the following:

- Disturbed areas of the construction activity that have not been permanently stabilized
- All erosion and sediment control measures
- All structural control measures
- Stockpile areas
- Washout areas

100%

- Locations where vehicles enter or exit the site

Disturbed areas and areas used for storage of materials that are exposed to precipitation shall be inspected for evidence of, or the potential for, pollutant discharge. Erosion and sediment control measures identified in the plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be visually inspected to ascertain whether erosion control measures are effective in preventing significant impacts, such as turbidity to receiving waters. Locations where vehicles enter or exit the site shall be inspected for evidence of off-site sediment tracking.

Based on the results of the inspection, the description of potential sources and pollution prevention measures identified in the plan shall be revised as appropriate by the Owner or their agent as soon as practicable after such inspection.

A report shall be prepared for every inspection and retained as part of the plan. The report shall, at a minimum, summarize the following:

- The scope of the inspection
- Name(s) and qualifications of personnel making the inspection
- Date(s) of the inspection
- Weather conditions including precipitation information
- Major observations relating to the implementation of the storm water pollution control plan
- Descriptions of the stormwater discharge(s) from the site
- Statement that, in the judgment of the qualified inspector(s), the site is either in compliance with or out of compliance with the terms and conditions of the Plan and General Permit.

The report shall be signed by both the qualified inspector and the permittee or his/her authorized representative in accordance with the General Permit. A blank copy of the inspection report is provided in *Appendix F.*

If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance. During the period in which any corrective actions are being developed and have not yet been fully implemented, interim measures shall be implemented to minimize the potential for the discharge of pollutants to the site.

6.4 Post-Construction Inspection

Once all post-construction stormwater measures have been installed and cleaned of any construction sediment or debris, the Permittee shall engage one of the following to inspect the site to confirm compliance with the post-construction stormwater management requirements: (1) the appropriate Conservation District, (2) a qualified soil and erosion control professional, (3) qualified professional engineer. A report shall be prepared and certified by the inspector to indicate compliance with this requirement on the Notice of Termination Form.

Once the site has achieved final stabilization for at least one full growing season (April – October) in the year following the end of construction, the Permittee shall have the site inspected by a qualified

100%

inspector to confirm such stabilization is maintained. The Permittee shall indicate compliance with this requirement on the Notice of Termination form.

6.5 Corrective Actions

If at any time an inspection determines that the site is out of compliance with the terms and conditions of this Plan and the General Permit, corrective actions shall be taken immediately. Non-engineered corrective actions (as identified in the Guidelines) shall be implemented on site within 24 hours and incorporated into a revised Plan within three calendar days of the date of inspection unless another schedule is specified in the Guidelines. Engineered corrective actions (as identified in the Guidelines) shall be implemented on site within seven days and incorporated into a revised Plan within ten calendar days of the date of inspection unless another schedule is specified in the Guidelines.

7 Contractors

7.1 General

All contractors and subcontractors who will perform actions on site that may reasonably be expected to cause or have the potential to cause pollution of the waters of the State will be identified in *Appendix B*.

7.2 Certification Statement

All contractors and subcontractors must sign the certification included in *Appendix B*. All certifications will be included in the Stormwater Pollution Control Plan.

8 Additional Requirements

8.1 Endangered and Threatened Species

A determination from the Connecticut Department of Energy and Environmental Protection's online EZ File service *(Appendix G)* verified that there are State-listed species documented within the impact area of the proposed project. A Natural Diversity Data Base Determination Letter (NDDB) (#202308189) is included as *Appendix G*.

Reptile and Amphibian Construction Best Management Practices will be implemented to address concerns of disturbance to the listed species. All plant monitoring will be conducted under the oversight of the qualified botanist as well as no modifications in the Riparian Buffer. Any encounter with a listed species will be submitted to the Natural Diversity Database. A Mitigation Plan was prepared by TRC Environmental Corporation documenting the State-listed species or State protected habitat that needs to be accounted for during the development of this site.is included as *Appendix G.* State-listed species identified within the impact area of the proposed project are as follows:

- Tidewater mucket (*Leptodea ochracea*)
- Yellow lampmussel (*Lampsilis cariosa*)

100%

- Riverine clubtail (*Stylurus Amnicola*)
- Eastern box turtle (*Terrapene carolina carolina*)
- Common mudpuppy (*Necturus maculosus*)
- Wood turtle (*Glyptemys insculpta*)
- Atlantic coast leopard frog (*Lithobates [Rana] kauffeldi*)
- Bristly buttercup (*Ranunculus pensylvanicus*)

The following botanical species will be transplanted or relocated as part of the mitigation plan:

- Pygmyweed (*Crassula aquatica*)
- Short-awned meadow-foxtail (*Alopecurus aequalis*)
- Cattail sedge (*Carex typhina*)
- Georgia bulrush (*Scirpus georgianus*).

Short-awned meadow-foxtail will be transplanted to translocation sites that will be prepared ahead of time. Pgymyweed benches will be created during the excavation of the property and will be in protected areas that are not anticipated to be affected by storm surges or severe flooding that may erode the area the benches are established in. Cattail sedge will be removed from the site and transferred to a greenhouse to be held until the new Inland Wetland has been created. Eventually, the Georgia bulrush will be removed from its on-site location and installed directly to the mitigated wetland. Some of the population will also be held in the nursery of the greenhouse as a contingency.

8.2 Historical Preservation Review

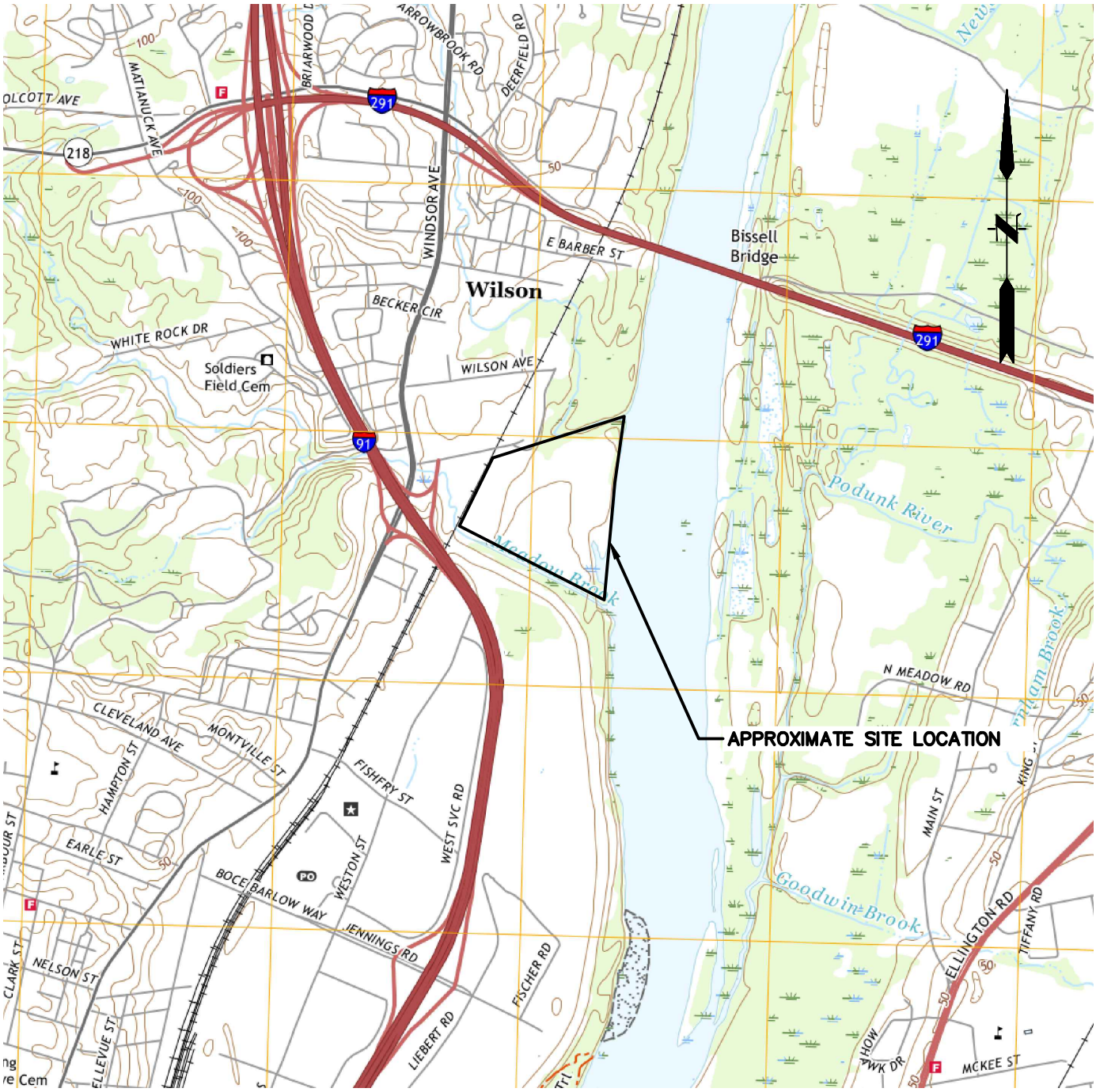
Heritage Consultants prepared a Phase 1A Cultural Resources Assessment Survey of the Site and indicated that it is unlikely that the Site contains intact archaeological deposits and that no historic properties will be affected. The Phase 1A Cultural Resources Assessment Survey is included as *Appendix H*.

9 Termination

Once the site has been stabilized and all final inspections have occurred, the registrant shall file a termination notice. The Project shall be complete after all-post construction measures are installed, cleaned and functioning and the site has been stabilized for one full growing season following the cessation of construction activities. The site is considered stabilized when there is no active evidence of sedimentation present, and no disturbed areas remain exposed for all phases. Once the site has been stabilized for one full growing season, the registrant shall have the site inspected by a qualified inspector to confirm final stabilization. The registrant shall indicate compliance with this requirement on the Notice of Termination form. A blank copy of the termination form is provided in *Appendix E.*

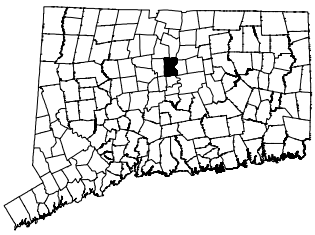
100%

Figures



MAP REFERENCE

THIS MAP WAS PREPARED FROM THE FOLLOWING
7.5 MINUTE USGS TOPOGRAPHICAL MAP:
HARTFORD NORTH, CONNECTICUT, 2021



SCALE:	
HORZ.:	1" = 2000'
VERT.:	-
DATUM:	
HORZ.:	-
VERT.:	-

0 1000' 2000'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

NEW PARK PROJECT

SITE LOCATION MAP

RIVERFRONT RECAPTURE, INC.

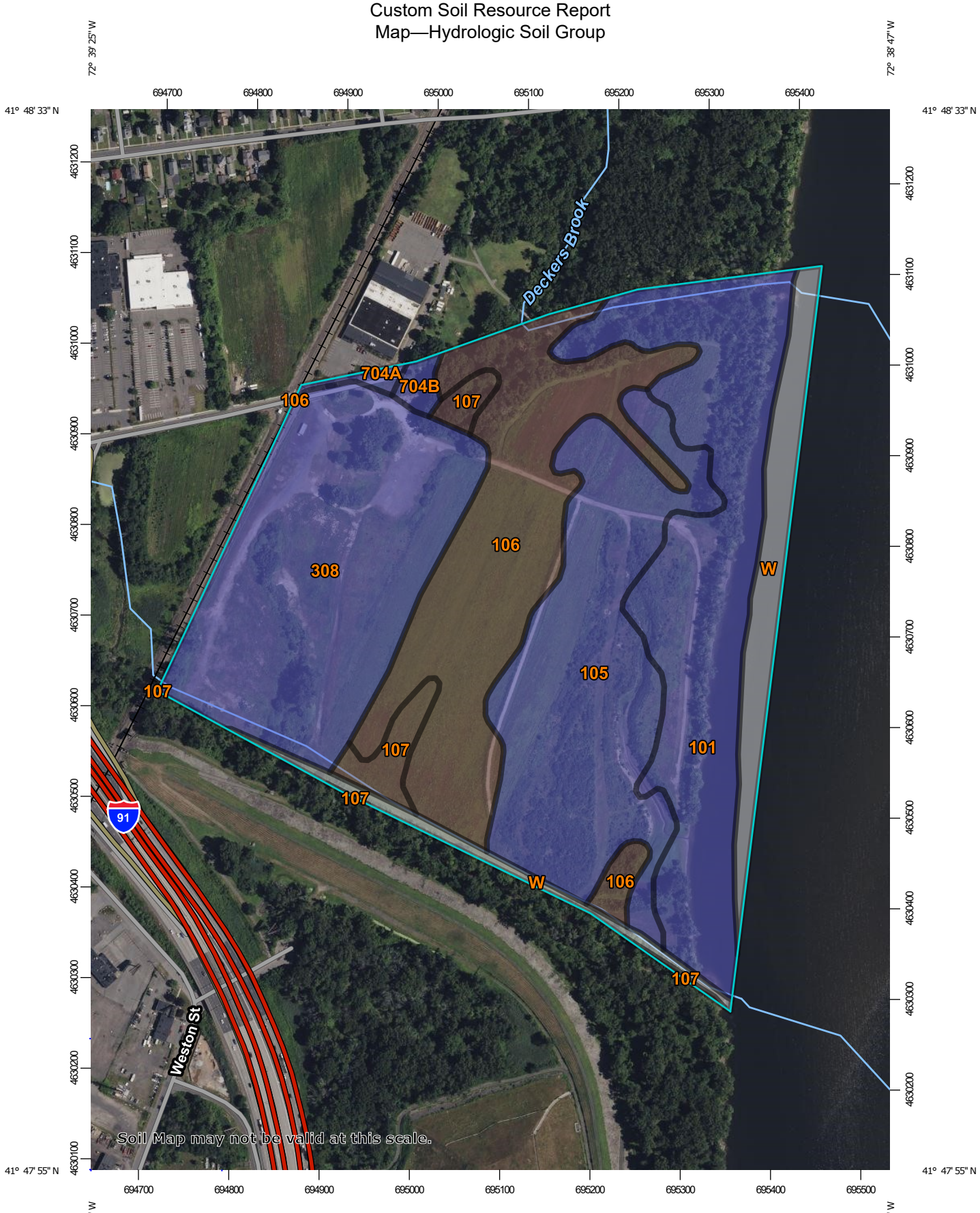
100 MEADOWS ROAD WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JUNE 2025

FIGURE 1

File: J:\DWG\P2017\0277\S10\Civil\Plan\20170277S10_LOC.dwg Layout: FIGURE-1 Plotted: 2025-05-29 10:04 AM Saved: 2025-05-27 4:31 PM User: Daniel.Chiburis
PC3: DWG TO PDF.PC3 STB/CTB: FO.STB
MS VIEW: LAYER STATE:

Custom Soil Resource Report
Map—Hydrologic Soil Group



Map Scale: 1:5,700 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

PROJ. No.: 20170277.S10
DATE: JUNE 2025

Figure 2

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: State of Connecticut, Western Part
Survey Area Data: Version 2, Aug 30, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 14, 2022—Oct 6, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

PROJ. No.: 20170277.S10
DATE: JUNE 2025

Figure 2

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
101	Occum fine sandy loam	B	20.6	22.7%
105	Hadley silt loam	B	19.3	21.4%
106	Winooski silt loam	B/D	18.9	20.9%
107	Limerick and Lim soils, 0 to 3 percent slopes, frequently flooded	B/D	2.2	2.5%
308	Udorthents, smoothed	B	21.9	24.1%
704A	Enfield silt loam, 0 to 3 percent slopes	B	0.4	0.4%
704B	Enfield silt loam, 3 to 8 percent slopes	B	0.6	0.6%
W	Water		6.6	7.3%
Totals for Area of Interest			**90.5**	**100.0%**

Rating Options—Hydrologic Soil Group

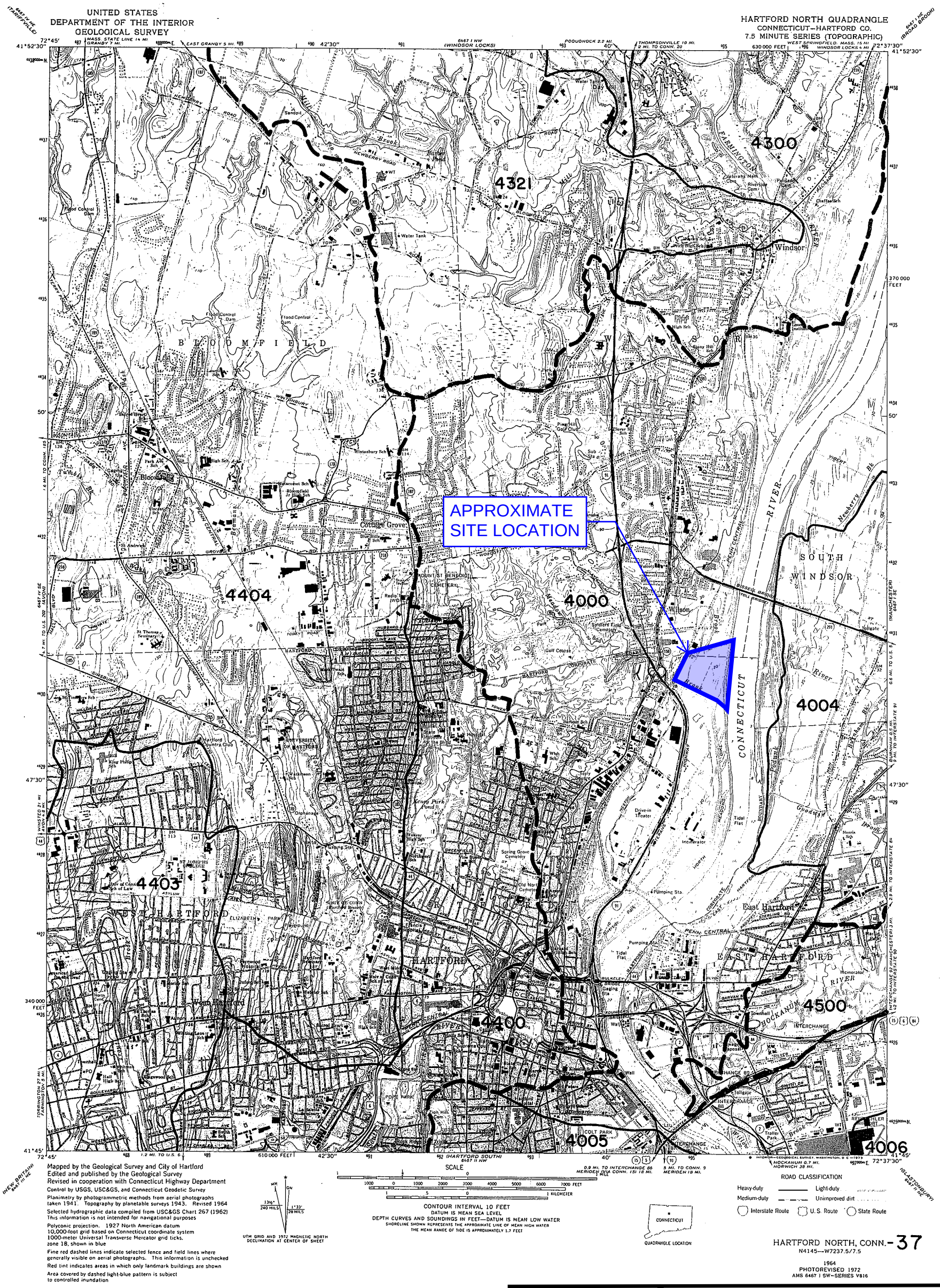
Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

PROJ. No.: 20170277.S10
DATE: JUNE 2025

Figure 2



Notes:

4 Connecticut Major Basin
40 Connecticut Main Stem Regional Basin
4000 Connecticut River

Riverfront Recapture, Inc.

Drainage Basin Map

100 Meadow Road, Windsor, CT

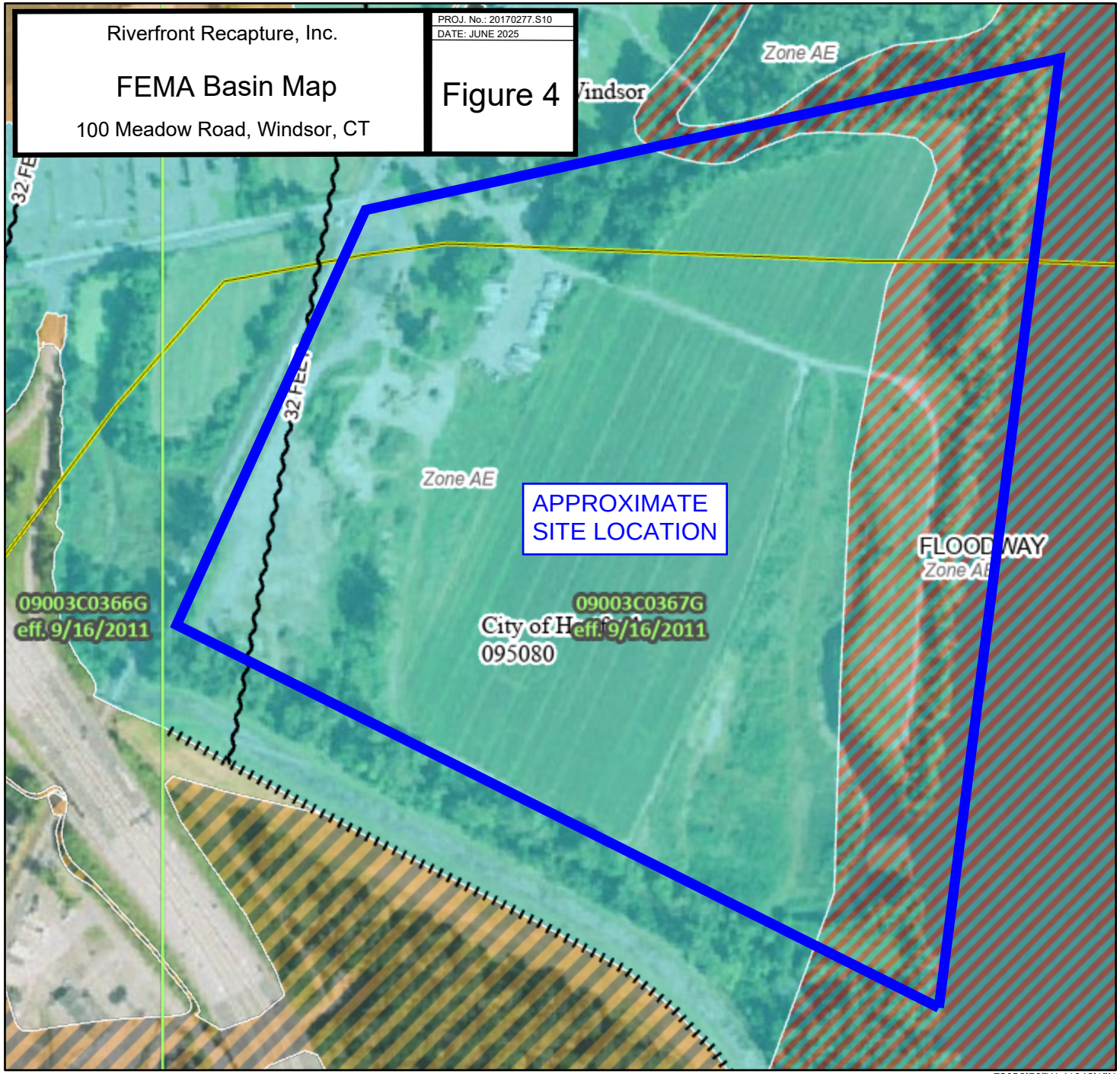
PROJ. No.: 20170277.S10
DATE: JUNE 2025

Figure 3

National Flood Hazard Layer FIRMette

FEMA

72°39'28"W 41°48'28"N



72°38'50"W 41°48'1"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 5/28/2025 at 3:56 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix A

CTDEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities Registration Form and General Permit (as submitted via e-filing)

(To be included with the General Permit to the Contractor prior to construction)

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

Bureau of Materials Management and Compliance Assurance

Notice of Permit Authorization

September, 03 2025

MARC NICOL
RIVERFRONT LAND, INC.
50 Columbus Blvd
Hartford, CT 06106

Subject: General Permit Registration for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities
Application NO.: 202505650

MARC NICOL:

The Department of Energy and Environmental Protection, Water Permitting and Enforcement Division of the Bureau of Materials Management and Compliance Assurance, has completed the review of the Riverfront Land Development Project (located at 100 Meadow Road, Windsor) registration for the **General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 12/31/2020, modified 11/25/2022 (general permit)** . The project is compliant with the requirements of the general permit and the discharge(s) associated with this project is (are) authorized to commence as of the date of this letter. Permit No. GSN004255 has been assigned to authorize the stormwater discharge(s) from this project.

Questions can be emailed to deep.stormwater@ct.gov.

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13 (electronic form)

Prior to completing this form, you **must** read the instructions for the subject general permit at **DEEP-WPED-INST-015**.
This form must be filled out electronically before being printed.
You must submit the registration fee along with this form.

The status of your registration can be checked on the DEEP's ezFile. Portal. Please note that DEEP will no longer mail certificates of registration.

CPPU USE ONLY

App #: _____

Doc #: _____

Check #: _____

Program: **Stormwater**

Part I: Registration Type

Select the appropriate boxes identifying the registration type and registration deadline.

	Registration Type			Registration Timeline
☐	**Re-registration** **Existing Permit No. GSN** _____			**On or before February 1, 2014*** *Note: Failure to renew a permit by this date will require submission of new registration. Re-registrants must only complete Parts I, II, III, IV - Question 1, VII and submit Attachment A.
☑	**New Registration** (Refer to Section 2 of the permit for definitions of Locally Exempt and Locally Approvable Projects)	☑ **Locally Approvable** **Size of soil disturbance:** 57.82		**New registration - Sixty (60) days prior to the initiation of the construction activity for:** For sites with a total soil disturbance area of 5 or more acres
		☐ **Locally Exempt** **Size of soil disturbance:** _____	☐	**New registration - Sixty (60) days prior to the initiation of the construction activity for:** Sites with a total disturbance area of one (1) to twenty (20) acres except those with discharges to impaired waters or tidal wetlands
			☐	**New registration - Ninety (90) days prior to the initiation of the construction activity for:** (i) Sites with a total soil disturbance area greater than twenty (20) acres, or (ii) Sites discharging to a tidal wetland (that is not fresh-tidal and is located within 500 feet), or (iii) Sites discharging to the impaired water listed in the "Impaired Waters Table for Construction Stormwater Discharges"

Part II: Fee Information

1. New Registrations

   a. Locally approvable projects (registration only):

☑ $625

   b. Locally exempt projects (registration and Plan):

☐ $3,000 total soil disturbance area ≥ one (1) and < twenty (20) acres.

☐ $4,000 total soil disturbance ≥ twenty (20) acres and < fifty (50) acres.

☐ $5,000 total soil disturbance ≥ fifty (50) acres.

2. Re-Registrations

☐ $625 (sites previously registered prior to September 1, 2012)

☐ $0 (sites previously registered between to September 1, 2012 and effective date of this permit)

Total Fee: $625.00

The fees for municipalities shall be half of those indicated in subsections (a), (b) and (c) above pursuant to Section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by certified check or money order payable to the Department of Energy and Environmental Protection.

Part III: Registrant Information

- If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of the State. If applicable, the registrant's name shall be stated **exactly** as it is registered with the Secretary of the State. This information can be accessed at **CONCORD**
- If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Registrant /Client Name: RIVERFRONT LAND, INC.

   Registrant Type: Business Entity

   Secretary of the State business ID #:

   Mailing Address: 50 Columbus Blvd

   City/Town: Hartford State: CT Zip Code: 06106

   Business Phone: (860) 713-3131 ext.: 334

   Example:(xxx) xxx-xxxx

   Contact Person: MARC NICOL Title : DIRECTOR OF PARK PLANNING & DEV

   E-Mail: mnicol@riverfront.org

2. List billing contact:

   Name: RIVERFRONT LAND, INC.

   Mailing Address: 50 Columbus Blvd

   City/Town: Hartford State: CT Zip Code: 06106

   Business Phone: (860) 713-3131 ext.: 334

   Contact Person: MARC NICOL Title : DIRECTOR OF PARK PLANNING & DEV

3. List primary contact for departmental correspondence and inquiries:
   Name: RIVERFRONT RECAPTURE, INC.
   Mailing Address: 50 COLUMBUS BLVD
   City/Town: HARTFORD State: CT Zip Code: 06106
   Business Phone: (860) 713-3131 ext. 334
   Contact Person: MARC NICOL Title:

4. List owner of the property on which the activity will take place:
   Name: RIVERFRONT LAND, INC.
   Mailing Address: 50 Columbus Blvd
   City/Town: Hartford State: CT Zip Code: 06106
   Business Phone: (860) 713-3131 ext. 334
   Contact Person: MARC NICOL
5. List preparer:
   Name: FUSS & O'NEILL, INC.
   Mailing Address: 1 Financial Plz
   City/Town: Hartford State: CT Zip Code: 06103
   Business Phone: (860) 533-5131 ext.
   Contact Person: DANIEL CHIBURIS Title: CIVIL ENGINEER
6. List design professional:
   Name: FUSS & O'NEILL, INC.
   Mailing Address: 1 Financial Plz
   City/Town: Hartford State: CT Zip Code: 06103
   Business Phone: (860)783-4762 ext.
   Contact Person: NICHOLAS ROY Title: SENIOR CIVIL ENGINEER
7. List Reviewing Qualified Professional (for locally approvable projects only):
   Name: MARTINEZ COUCH & ASSOCIATES L.L.C.
   Mailing Address: 1084 Cromwell Ave
   City/Town: Rocky Hill State: CT Zip Code: 06067
   Business Phone: (860) 463-4634 ext.
   Contact Person: Rima Laukaitis Title: Senior Engineer

Part IV: Site Information

1. Site Name: Riverfront Land Development Project
   Street Address or Description of Location: 100 Meadow Road
   City/Town: Windsor State: CT Zip Code: 06095
   Brief Description of construction activity:
   Construction activity includes excavation and stockpiling of soils, regrading, transplanting of vegetation, establishment of mitigation wetlands.
   Project Start Date: 6 Oct 2025 Anticipated Completion Date: 27 Feb 2026
   Normal working hours: 7AM to 5PM

2. **MINING** : Is the activity on the site in question part of mining operations (i.e. sand and gravel)? ☐Yes ☑No

If yes, mining is not authorized by this general permit. You must submit the Registration Form for the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

3. **COMBINED OR SANITARY SEWER:** Does all of the stormwater from the proposed activity discharge to a combined or sanitary sewer (i.e. a sewage treatment plant)? ☐ Yes ☑No

If yes, this activity is not regulated by this permit. Contact the Water Permitting & Enforcement Division at 860-424-3018.

4. **INDIAN LANDS:** Is or will the facility be located on federally recognized Indian lands? ☐ Yes ☑No

5. **COASTAL BOUNDARY:** Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEEP approved coastal boundary maps? ☐ Yes ☑No

The coastal boundaries fall within the following towns: Branford, Bridgeport, Chester, Clinton, Darien, Deep River, East Haven, East Lyme, Essex, Fairfield, Greenwich, Groton (City and Town), Old Lyme, Guilford, Hamden, Ledyard, Lyme, Madison, Milford, Montville, New London, New Haven, North Haven, Norwalk, Norwich, Old Saybrook, Orange, Preston, Shelton, Stamford, Stonington (Borough and Town), Stratford, Waterford, West Haven, Westbrook and Westport.

If "yes", and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, you must provide documentation to the DEEP Office of Long Island Sound Programs or the local governing authority has issued a coastal site plan approval or determined the project is exempt from coastal site plan review. Provide this documentation with your registration as Attachment B. See guidance in Appendix D of the general permit. Information on the coastal boundary is available at the local town hall or on the **Connecticut Coastal Resources Map** . Additional DEEP Maps and Publications are available by contacting DEEP Staff at 860-424-3555.

6. **ENDANGERED OR THREATENED SPECIES:**

In order to be eligible to register for this General permit, each registrant must either perform a self-assessment, obtain a limited one-year determination, or obtain a safe-harbor determination regarding threatened and endangered species. This may include the need to develop and implement a mitigation plan. While each alternative has different limitations, the alternatives are not mutually exclusive; a registrant may register for this General Permit using more than one alternative, See Appendix A of the general Permit. Each registrant must complete this AND Attachment C to this Registration form and a registrant who does not or cannot do so is not eligible to register under this General Permit.

Each registration must perform a review of the Department's Natural Diversity Database maps to determine if the site of the construction activity is located within or in proximity (within ¼ mile) to a shaded area.

a. Provide the date of the NDDB maps were reviewed: 5 Aug 2025 (Print a copy of the NDDB map you viewed since it must be submitted with this registration as part of Attachment C.)

b. For a registrant using a limited one-year determination or safe harbor determination to register for this General Permit, provide the Department's Wildlife Division NDDB identification number for any such determination:

202308189 (The number is on the determination issued by the Department's Wildlife Division).

For more information on threatened and endangered species requirements, refer to Appendix A and section 3(b)(2) of this General Permit, Visit the DEEP website at **Natural Diversity Data Base** or call the NDDB at 860-424-3011.

c. I verify that I have completed Attachment C to this Registration Form. ☑ Yes

7. **WILD AND SCENIC RIVERS:** Is the proposed project within the watershed of a designated Wild and Scenic River? (See Appendix H for guidance) ☐ Yes ☑ No

8. **AQUIFER PROTECTION AREAS:** Is the site located within a mapped **Aquifer Protection Area** , as defined in Section 22a-354h of the CT General Statutes? (For additional guidance, please refer to Appendix C of the General Permit) ☐ Yes ☑ No

9. **Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines:** Is the activity in accordance with Connecticut Guidelines for Soil Erosion and Sediment Control Guidelines and local erosion & sediment control ordinances, where applicable? ☑ Yes ☐ No

10. **HISTORIC AND/OR ARCHAEOLOGICAL RESOURCES:**

Has the site of the proposed activity been reviewed (using the process outlined in Appendix G of this permit) for historic and/or archaeological resources? ☑ Yes ☐ No

a. The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR ☑ Yes ☐ No

b. The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism, OR ☐ NA ☐ Yes ☑ No

c. The proposed activity has been reviewed and authorized under an Army Corps of Engineers Section 404 wetland permit. ☐ NA ☐ Yes ☑ No

11. **CONSERVATION OR PRESERVATION RESTRICTION:**

Is the property subject to a conservation or preservation restriction? ☐ Yes ☑ No

If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying this registration is in compliance with the terms of the restriction, must be submitted as Attachment D.

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude *(Format: -xx.xxxxx)*	Latitude *(Format: xx.xxxxx)*	
1	Swale			-72.649228	41.802067	ezFile Portal Map
2	Swale			-72.649228	41.802067	ezFile Portal Map
3	Swale			-72.649228	41.802067	ezFile Portal Map
4	Swale			-72.649228	41.802067	ezFile Portal Map
5	Swale			-72.649228	41.802067	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	**Dates when this outfall will be active:**	**a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)**	**b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)**	**c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges"?**	***If you answered yes to question c.1, then answer the question below*** **c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?**	**For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)**	**For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)**
1	Start: 6 Oct 2025 End:	Waterbody		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
2	Start: 6 Oct 2025 End:	Waterbody		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
3	Start: 6 Oct 2025 End:	Waterbody		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
4	Start: 6 Oct 2025 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
5	Start: 6 Oct 2025 End:	Storm Sewer or Wetlands		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
Provide the total effective impervious area for the entire site(sq ft):						0	0

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO . A decimal format is required here. Directions on how to use CT ECO to find lat. /long. and conversions can be found in in Part V, section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude *(Format: -xx.xxxxx)*	Latitude *(Format: xx.xxxxx)*	
6	Swale			-72.649228	41.802067	ezFile Portal Map

Part V: Stormwater Discharge Information Continued

Table 2

2. Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site, either directly or through the storm sewer system:							
Outfall #	**Dates when this outfall will be active:**	**a) To what system or receiving water does your stormwater runoff discharge? either "storm sewer or wetlands" or "waterbody" (If you select storm sewer or wetlands, columns c.1&2 of this table are not required to be completed)**	**b) What is your watershed ID (freshwater) or 305b ID (estuary)? (Section 3.b, of the DEP-GP-INST-015 explains how to find this information)**	**c.1) Is your receiving water identified as an impaired water in the "Impaired Waters Table for Construction Stormwater Discharges"?**	***If you answered yes to question c.1, then answer the question below*** **c.2) Has any Total Maximum Daily Load (TMDL) been approved for your receiving waterbody?**	**For the drainage area associated with each outfall: Effective Impervious Area Before Construction (sq ft)**	**For the drainage area associated with each outfall: Effective Impervious Area After Construction (sq ft)**
6	Start: 6 Oct 2025 End:	Waterbody		☐ Y ☐ N ☑ NA	☐ Y ☐ N ☑ NA	0	0
	Start: End:	Select One		☐ Y ☐ N ☐ NA	☐ Y ☐ N ☐ NA		
	Start: End:	Select One		Y N NA	Y N NA		
	Start: End:	Select One		Y N NA	Y N NA		
	Start: End:	Select One		Y N NA	Y N NA		
Provide the total effective impervious area for the entire site(sq ft):						0	0

Part V: Stormwater Discharge Information (continued)

Impaired waters: If you answered "yes" to Table 2, question 2.c.1, **verify** that the project's Pollution Control Plan (Plan) addresses the control measures below in Question 1 or 2, as appropriate.

1. **If the impaired water does not have a TMDL,** confirm compliance by selecting 1.a. or 2.b. below:

a. No more than 3 acres is disturbed at any time; ☐ Yes

OR

b. Stormwater runoff from a 2 yr, 24 rain event is **retained.** ☐ Yes

2. **If the impaired water has a TMDL,** confirm compliance by selecting 2.a. and 2.b. below and either question 2.c.1. or 2.c.2. below:

a. The Plan documents there is sufficient remaining Waste Load Allocations (WLA) in the TMDL for the proposed discharge, ☐ Yes

AND

b. Control measures shall be implemented to assure the WLA will not be exceeded, ☐ Yes

AND

c. 1. Stormwater discharges will be monitored for the indicator pollutant identified in the TMDL, ☐ Yes

OR

2. The Plan documents specific requirements for stormwater discharges specified in the TMDL. ☐ Yes

Part VI: Pollution Control Plan Availability (check one of the following four categories)

☐ I am registering a Locally Exempt project and submitting the required electronic Plan (in Adobe™ PDF or similarly publically available format) pursuant to Section 3(c)(2)(E) of this permit.

- ☐ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally Approvable project and have chosen not to submit the Plan with this registration pursuant to Section 3(c)(1) of this permit.

☑ I am registering a Locally Approvable project and have chosen to make my Plan electronically available pursuant to Section 4(c)(2)(N) of this permit.

- ☑ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL): _____

☐ I am registering a Locally exempt project and do not have the capability to submit the Plan electronically. Therefore, I am submitting a paper copy with this registration as Attachment E.

Part VII: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all required signatures are provided.

For New Registrants:

"I hereby certify that I am making this certification in connection with a registration under such general permit, submitted to the commissioner by RIVERFRONT LAND, INC. for an activity located at 100 Meadow Road, Windsor, CT 06095 and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(b) (8) (B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

For Re-registrants:

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____ and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that all designs and plans for such activity meet the current terms and conditions of the general permit in accordance with Section 5(b)(5)(C) of such general permit and that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I verify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this verification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and an other applicable law."

Signature of Registrant	
MARC NICOL	DIRECTOR OF PARK PLANNING & DEVELOPME
Name of Registrant (print or type)	Title (if applicable)
Signature of Preparer and Date (if different than above)	
DANIEL CHIBURIS	CIVIL ENGINEER
Name of Preparer (print or type)	Title (if applicable)

Part VIII: Professional Engineer (or Landscape Architect, where appropriate) Design Certification (for publically approvable and exempt projects)

The following certification must be signed by a Professional Engineer, or Landscape Architect where appropriate.

"I hereby certify that I am a licensed in the State of Connecticut.

I am making this certification in connection with a registration under such general permit, submitted to the commissioner by RIVERFRONT LAND, INC. for an activity located at 100 Meadow Road, Windsor, CT 06095.

I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Design Professional and Date	
NICHOLAS ROY	30292
Name of Professional (print or type)	License Number

Affix P.E/L.A Stamp Here

Part IX: Reviewing Qualified Professional Certification

The following certification must be signed by a) a Conservation District reviewer OR, b) a qualified soil erosion and sediment control and/ or professional engineer

☐ **Review Certification by Conservation District:**

1.) District: _____

Date of Affirmative Determination: _____

" I am making this certification in connection with a registration under General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by _____ for an activity located at _____.

I have personally examined and am familiar with the information that provides the basis for this certification, and I affirm, based on the review described in Section 3(b)(11)(C) of this general permit and on the standard of care for such projects, that the Stormwater Pollution Control Plan is adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit and that all stormwater management systems: (i) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual; (ii) will function properly as designed; (iii) are adequate to ensure compliance with the terms and conditions of this general permit; and (iv) will protect the waters of the state from pollution."

_____

Signature of District Professional and Date

_____ _____

Name of District Professional License Number (if applicable)

Or

☑ **Review Certification by Qualified Professional:**

Company Name: MARTINEZ COUCH & ASSOCIATES L.L.C.

Name: Rima Laukaitis

License #: 24917

Level of independency of professional:

Required for all projects disturbing over 1 acre:

1. I verify I am not an employee of the registrant. ☑ Yes
2. I verify I have no ownership interest of any kind in the project for which the registration is being submitted. ☑ Yes

Required for projects with 15 or more acres of site disturbance (in addition to questions 1&2):

3. I verify I did not engage in any activities associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant. ☑ Yes
4. I verify I am not under the same employ as any person associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or stormwater management systems plan for this registrant. ☑ Yes

Part IX: Reviewing Qualified Professional Certification (continued)

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in Sections 3(b)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by RIVERFRONT LAND, INC. for an activity located at 100 Meadow Road, Windsor, CT 06095 .
I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(b)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of all information described in Section 3(b)(11)(C) of such general permit and on the standard of care for such projects, that I have made an affirmative determination in accordance with Sections 3(b)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes, as amended by Public Act 12-172, and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Reviewing Qualified Professional

MARTINEZ COUCH & ASSOCIATES L.L.C. 24917

Name of Reviewing Qualified Professional License No.

Affix P.E./ L.A. Stamp Here

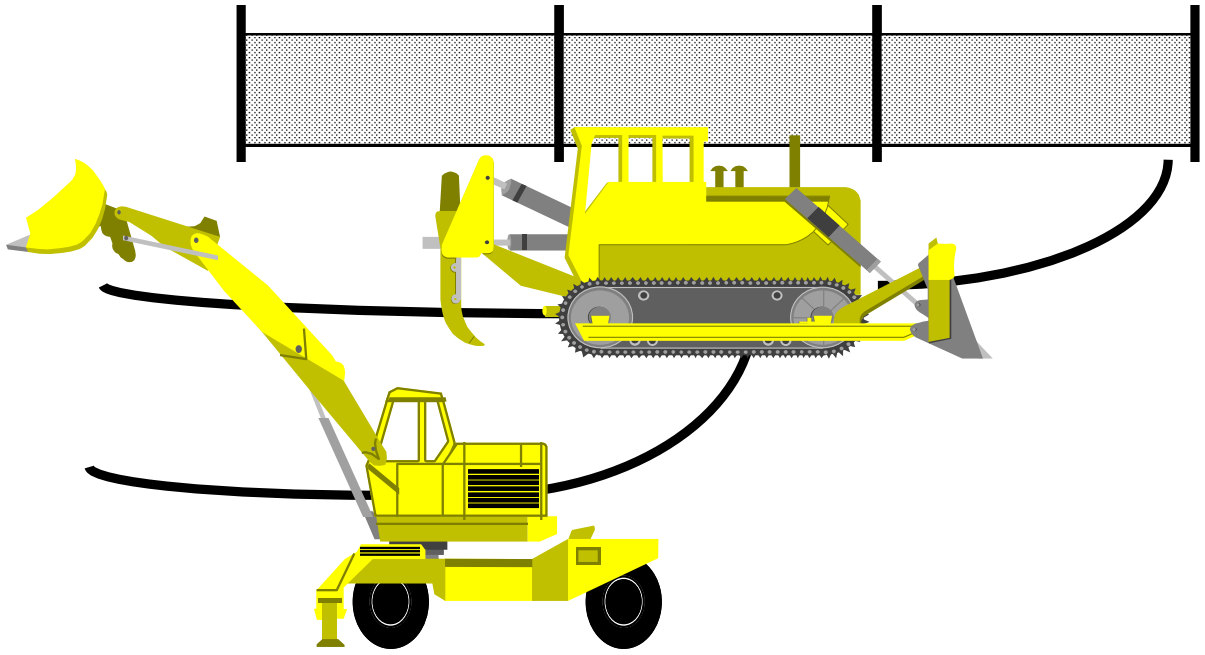
Note: Please submit the fee along with a completed, printed and signed Registration Form and all additional supporting documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities



Effective Date: December 31, 2020
Modification Date: November 25, 2022
Expiration Date: December 20, 2025

Printed on recycled paper

General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Table of Contents

Section 1. Authority **4**

Section 2. Definitions **4**

Section 3. Authorization Under This General Permit **10**
- ***(a) Eligible Activities*** ***10***
- ***(b) Requirements for Authorization*** ***10***
- ***(c) Registration*** ***19***
- ***(d) Small Construction*** ***19***
- ***(e) Geographic Area*** ***19***
- ***(f) Effective Date and Expiration Date of this General Permit*** ***19***
- ***(g) Effective Date of Authorization*** ***20***
- ***(h) Revocation of an Individual Permit*** ***20***
- ***(i) Issuance of an Individual Permit*** ***20***

Section 4. Registration Requirements **21**
- ***(a) Who Must File a Registration*** ***21***
- ***(b) Scope of Registration*** ***21***
- ***(c) Registration Procedure*** ***21***
- ***(d) Contents of Registration*** ***23***
- ***(e) How to Submit a Registration*** ***27***
- ***(f) Availability of Registration and Plan*** ***28***
- ***(g) Additional Information*** ***28***
- ***(h) Additional Notification*** ***28***
- ***(i) Action by Commissioner*** ***28***

Section 5. Conditions of this General Permit **29**
- ***(a) General Conditions*** ***29***
- ***(b) Stormwater Pollution Control Plan*** ***30***
- ***(c) Reporting and Record Keeping Requirements*** ***44***
- ***(d) Regulations of Connecticut State Agencies Incorporated into this General Permit*** ***46***
- ***(e) Reliance on Registration*** ***46***
- ***(f) Duty to Correct and Report Violations*** ***46***
- ***(g) Duty to Provide Information*** ***46***
- ***(h) Certification of Documents*** ***47***
- ***(i) Date of Filing*** ***47***
- ***(j) False Statements*** ***47***
- ***(k) Correction of Inaccuracies*** ***47***
- ***(l) Transfer of Authorization*** ***47***
- ***(m) Other Applicable Requirements*** ***48***
- ***(n) Other Rights*** ***48***

Section 6. Termination Requirements **48**
- ***(a) Notice of Termination*** ***48***
- ***(b) Termination Form*** ***48***
- ***(c) Where to File a Termination Form*** ***49***

Section 7. Commissioner's Powers 49
(a) Abatement of Violations 49
(b) General Permit Revocation, Suspension, or Modification 49
(c) Filing of an Individual Application 49

Appendix A Endangered and Threatened Species
Appendix B Low Impact Development Guidance Information and Fact Sheet
Appendix C Aquifer Protection Guidance Information
Appendix D Coastal Management Act Determination Form
Appendix E Memorandum of Agreement Between DEEP and Conservation Districts For Locally Approvable Projects
Appendix F Memorandum of Agreement Between DEEP and Conservation Districts For Locally Exempt Projects
Appendix G Historic Preservation Review
Appendix H Wild & Scenic Rivers Guidance
Appendix I Stormwater Management at Solar Array Construction Projects
Appendix J CTDEEP Financial Assurance Irrevocable Letter of Credit

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Section 1. Authority

This general permit is issued under the authority of section 22a-430b of the Connecticut General Statutes.

Section 2. Definitions

The definitions of terms used in this general permit shall be the same as the definitions contained in section 22a-423 of the Connecticut General Statutes and section 22a-430-3(a) of the Regulations of Connecticut State Agencies. All references to an Appendix in this general permit means the applicable Appendix of this general permit. As used in this general permit, the following definitions shall apply:

"*x-year, 24-hour rainfall event*" means the maximum 24-hour precipitation event with a probable recurrence interval of once in the given number of years (i.e. x=2, 25 or 100), as defined by the National Oceanic and Atmospheric Administration (NOAA) Atlas 14, Volume 10, Version 2, Point Precipitation Frequency Estimates (as amended), or equivalent regional or state rainfall probability information developed therefrom.

"*Annual sediment load*" means the total amount of sediment carried by stormwater runoff on an annualized basis.

"*Aquifer protection area*" has the same meaning as provided in section 22a-354h of the Connecticut General Statutes.

"*Best engineering practices*" means the design of engineered control measures to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable.

"*CFR*" means the Code of Federal Regulations.

"*Coastal area*" means coastal area as defined in section 22a-93(3) of the Connecticut General Statutes.

"*Coastal waters*" means coastal waters as defined in section 22a-93(5) of the Connecticut General Statutes.

"*Commissioner*" means the Commissioner of Energy and Environmental Protection or the Commissioner's designee.

"*Construction activity*" means any activity and discharges associated with construction at a site or the site's preparation for construction, including, but not limited to, clearing, grubbing, pile driving, soil disturbance, soil compaction by construction equipment, staging and stockpiling, cleaning and washout, grading, excavation, and dewatering.

"*DOT"* means the State of Connecticut Department of Transportation.

"*Department*" means the Department of Energy and Environmental Protection.

"*Designing qualified professional*" means the qualified professional engineer or qualified soil erosion and sediment control professional, as defined below, who developed the original Stormwater Pollution Control Plan for which authorization was granted under this general permit.

"*Developer*" means a person who or municipality which is responsible, either solely or partially through contract, for the design and construction of a project site.

"*Dewatering wastewater*" means wastewater associated with the construction activity generated from the lowering of the groundwater table, the pumping of accumulated stormwater or uncontaminated groundwater from an excavation, the pumping of surface water from a cofferdam, or pumping of other surface water that has been diverted into a construction site.

"*District*" means a soil and water conservation district established pursuant to section 22a-315 of the Connecticut General Statutes. Appendices E and F list the Districts, their geographic delineations, and contact information.

"*Disturbance*" means the area on a site where soil will be exposed or susceptible to erosion during any construction activity.

"*Effective Impervious Cover*" is the area of impervious cover that is hydraulically connected to a water or wetland by means of continuous paved surfaces, gutters, swales, ditches, drain pipes or other conventional conveyance and detention structures that do not reduce runoff volume. Impervious cover is a surface composed of any material that impedes or prevents infiltration of water into the soil. Impervious surfaces shall include, but are not limited to, roofs, solid decks, driveways, patios, sidewalks, parking areas, tennis courts, concrete or asphalt streets, or compacted soils or compacted gravel surfaces.

"*Engineered stormwater management system*" means any control measure and related appurtenances which requires engineering analysis and/or design by a professional engineer.

"*Erosion*" means the detachment and movement of soil or rock fragments by water, wind, ice and gravity.

"*Final stabilization*" for a site authorized by this general permit means that no disturbed areas remain exposed, there is no active erosion or sedimentation present on the site, and that vegetation or permanent non-vegetative ground cover, as specified in the Permittee's Plan, have been fully established over the entire site.

"*Fresh-tidal wetland*" means a tidal wetland with an average salinity level of less than 0.5 parts per thousand.

"*General Permit*" means the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities issued by the Commissioner effective on December 31, 2020.

"*Groundwater*" means those waters of the state that naturally exist or flow below the surface of the ground.

"*Guidelines*" means the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, established pursuant to section 22a-328 of the Connecticut General Statutes.

"*High Quality Waters*" means those waters defined as high quality waters in RCSA 22a-426-1, as may be amended.

"*Impaired water(s)*" means those surface waters of the state designated by the commissioner as impaired pursuant to Section 303(d) of the Clean Water Act and as identified in the most recent State of Connecticut Integrated Water Quality Report.

"*In Responsible charge*" means professional experience for which the Commissioner determines that a professional's primary duties consistently involve a high level of responsibility and decision making in the planning and designing of engineered stormwater management systems or in the planning and designing of soil erosion and sediment controls for residential and commercial construction projects. The Commissioner

shall consider the following in determining whether a professional's experience qualifies as responsible charge experience:

(i) the level of independent decision-making exercised;

(ii) the number of individuals and the disciplines of the other professionals that the professional supervised or coordinated;

(iii) the extent to which a professional's responsibilities consistently involved the review of work performed by other professionals involved the planning and designing of engineered stormwater management systems or the planning and designing of soil erosion and sediment controls for residential and commercial construction projects;

(iv) the extent to which a professional's responsibilities consistently involved the planning and designing of engineered stormwater management systems or the planning and designing of soil erosion and sediment controls for residential and commercial construction projects and whether such responsibilities were an integral and substantial component of the professional's position;

(v) the nature of a professional's employer's primary business interests and the relation of those interests to planning and designing of engineered stormwater management systems or to planning and designing of soil erosion and sediment controls for residential and commercial construction projects;

(vi) the extent to which a professional has engaged in the evaluation and selection of scientific or technical methodologies for planning and designing of engineered stormwater management systems or for planning and designing of soil erosion and sediment controls for residential and commercial construction projects;

(vii) the extent to which a professional drew technical conclusions, made recommendations, and issued opinions based on the results of planning and designing of engineered stormwater management systems or of planning and designing of soil erosion and sediment controls for residential and commercial construction projects; or

(viii) any other factor that the Commissioner deems relevant.

"*Individual permit*" means a permit issued to a specific permittee under section 22a-430 of the Connecticut General Statutes.

"*Inland wetland*" means wetlands as defined in section 22a-38 of the Connecticut General Statutes.

"*Landscape Architect*" means a person with a currently effective license issued in accordance with chapter 396 of the Connecticut General Statutes.

"*Linear Project*" includes the construction of roads, railways, bridges, bikeways, conduits, substructures, pipelines, sewer lines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities in a long, narrow area.

"*Locally approvable project*" means a construction activity for which the registration is not for a municipal, state or federal project and is required to obtain municipal approval for the project.

"*Locally exempt project*" means a construction activity for which a registration is required under this general permit and which is not a locally approvable project.

"*Low Impact Development*" or "*LID*" means a site design strategy that maintains, mimics or replicates pre-development hydrology through the use of numerous site design principles and small-scale treatment practices distributed throughout a site to manage runoff volume and water quality at the source.

"*Minimize*", for purposes of implementing the control measures in Section 5(*b*)(2) of this general permit, means to reduce and/or eliminate to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.

"*Municipal separate storm sewer system*" or "*MS4*" means conveyances for stormwater (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels or storm drains) owned or operated by any municipality, DOT or by any other state or federal institution (as defined in the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems) and discharging to surface waters of the state.

"*Municipality*" has the same meaning as provided in section 22a-423 of the Connecticut General Statutes.

"*Normal Working Hours*" are considered to be, at a minimum, Monday through Friday, between the hours of 8:00 am and 6:00 pm, unless additional working hours are specified by the permittee.

"*Permittee*" means any person who or municipality which initiates, creates or maintains a discharge in accordance with Section 3 of this general permit.

"*Person*" means person as defined in section 22a-423 of the Connecticut General Statutes.

"*Phase*" means a portion of a project possessing a distinct and complete set of activities that have a specific functional goal wherein the work to be completed in the phase is not dependent upon the execution of work in a later phase in order to make it functional.

"*Point Source*" means any discernible, confined and discrete stormwater conveyance (including but not limited to, any pipe, ditch, channel, tunnel, conduit, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft) from which pollutants are or may be discharged.

"*Professional Engineer*" or *"P.E.*" means a person with a currently effective license issued in accordance with chapter 391 of the Connecticut General Statutes.

"*Qualified Inspector*" means an individual possessing either (1) a professional license or certification by a professional organization recognized by the commissioner related to agronomy, civil engineering, landscape architecture, soil science, and two years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects in accordance with the Guidelines; or (2) five years of demonstrable and focused experience in erosion and sediment control plan reading, installation, inspection and/or report writing for residential and commercial construction projects in accordance with the Guidelines; or (3) certification by the DOT. For purposes of solar array projects, a Qualified Inspector shall be selected as specified in Appendix I of the general permit.

"*Qualified professional engineer*" means a professional engineer who has, for a minimum of eight years, engaged in the planning and designing of engineered stormwater management systems for residential and commercial construction projects in accordance with the Guidelines and the Stormwater Quality Manual including, but not limited to, a minimum of four years in responsible charge of the planning and designing of engineered stormwater management systems for such projects. Such qualified professional engineer shall remain in good standing with the Connecticut Department of Consumer Protection and the Commissioner.

"*Qualified soil erosion and sediment control professional*" means a landscape architect or a professional engineer who: (1) has for a minimum of eight years engaged in the planning and designing of soil erosion and sediment controls for residential and commercial construction projects in accordance with the Guidelines including, but not limited to, a minimum of four years in responsible charge of the planning and designing of soil erosion and sediment controls for such projects; or (2) is currently certified as a professional in erosion and sediment control as designated by EnviroCert International, Incorporated (or other certifying organization acceptable to the commissioner) and has, for a minimum of six years, engaged in the planning and designing of soil erosion and sediment controls for residential and commercial construction projects in accordance with the Guidelines including, but not limited to, a minimum of four years in responsible charge in the planning and designing of soil erosion and sediment controls for such projects. Such qualified soil erosion and sediment control professional shall remain in good standing with the Connecticut Department of Consumer Protection and the Commissioner.

"*Registrant*" means a person or municipality that files a registration.

"*Registration*" means a registration filed with the commissioner pursuant to Section 4 of this general permit.

"*Regulated Municipal Separate Storm Sewer System*" or "*Regulated MS4*" means any MS4 (as defined above) authorized by the most recently issued General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems, as well as the separate storm sewer system of the DOT and the City of Stamford including all those located partially or entirely within an Urbanized Area and those additional MS4s located outside an Urbanized Area as may be designated by the commissioner.

"*Retain*" means to hold runoff on-site to promote vegetative uptake and groundwater recharge through the use of runoff reduction or LID practices or other measures. In addition, it means there shall be no subsequent point source release to surface waters from a storm event defined in this general permit or as approved by the commissioner.

"*Runoff reduction practices*" means those post-construction stormwater management practices used to reduce post-development runoff volume delivered to the receiving water, as defined by retaining the volume of runoff from a storm up to the first half inch or one inch of rainfall. Runoff reduction is quantified as the total annual post-development runoff volume reduced through canopy interception, soil amendments, evaporation, rainfall harvesting, engineered infiltration, extended filtration or evapo-transpiration.

"*Sediment*" means solid material, either mineral or organic, that is in suspension, is transported, or has been moved from its site of origin by erosion.

"*Site*" means geographically contiguous land on which a construction activity takes place or on which a construction activity for which authorization is sought under this general permit is proposed to take place. Non-contiguous land or water owned by the same person shall be deemed the same site if such land is part of a linear project (as defined in this section) or is otherwise connected by a right-of-way, which such person controls.

"*Soil*" means any unconsolidated mineral and organic material of any origin.

"*Soil Scientist*" shall be as defined in Conn. Gen. Stat. § 22a-38.

"*Solar array*" means an on-the-ground installation of arrays of photovoltaic cell panels, supporting structures and related equipment for the production of electricity.

"*Stabilize"* means the use of measures as outlined in the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, or as approved by the commissioner, to prevent the visible movement of soil particles and development of rills.

"*Standard of care*", as used in Section 3(*b*), means to endeavor to perform in a manner consistent with that degree of care and skill ordinarily exercised by members of the same profession currently practicing under similar circumstances.

"*Structural measure*" means a measure constructed for the temporary storage and/or treatment of stormwater runoff.

"*Stormwater*" means waters consisting of rainfall runoff, including snow or ice melt during a rain event.

"*Stormwater Pollution Control Plan*", "*SWPCC*", or "*Plan*" means the stormwater pollution control plan required under Section 5(*b*) of the general permit and approved by Commissioner as part of the approval of a registration.

"*Stormwater Quality Manual*" means the 2004 Connecticut Stormwater Quality Manual published by the Connecticut Department of Energy & Environmental Protection, as amended.

"*Surface water*" means that portion of waters, as the term "waters" is defined in section 22a-423 of the Connecticut General Statutes, located above the ground surface.

"*Tidal wetland*" means a wetland as that term is defined in section 22a-29(2) of the Connecticut General Statutes.

"*Total disturbance*" means the total area of disturbance on a site during all phases of construction activity.

"*Total Maximum Daily Load*" or "*TMDL*" means the maximum capacity of a surface water to assimilate a pollutant as established by the commissioner, including pollutants contributed by point and non-point sources and a margin of safety.

"*Upland soils*" means soils which are not designated as poorly drained, very poorly drained, alluvial, or flood plain by the National Cooperative Soils Survey, as may be amended, of the Natural Resources Conservation Service of the United States Department of Agriculture and/or the inland wetlands agency of the municipality in which the project will take place.

"*Water company*" means water company as defined in section 25-32a of the Connecticut General Statutes.

"*Waters*" shall be as defined in Conn. Gen. Stat. § 22a-423, and for clarification shall include vernal pools and intermittent waters.

"*Water Quality Standards*" means the water quality standards in RCSA 22a-426-1 et seq, and the classification maps adopted pursuant to section 22a-426 of the Connecticut General Statutes, as both may be amended.

"*Water Quality Volume*" or "*WQV*" means the volume of runoff generated by one inch of rainfall on a site as defined in the 2004 Connecticut Stormwater Quality Manual, as amended.

"*Wetland*" shall mean and include both "wetland" as defined in Conn. Gen. Stat. § 22a-29 and "wetlands" as defined in Conn. Gen. Stat. § 22a-38.

Section 3. Authorization Under This General Permit

(a) Eligible Activities

This general permit authorizes construction activities and associated stormwater and dewatering wastewater discharges on a site, as defined in this general permit, with a total disturbance of one or more acres of land area on a site, *regardless of project phasing*.

In the case of a larger plan of development (such as a subdivision), the estimate of total acres of site disturbance shall include, but is not limited to, road and utility construction, individual lot construction (e.g. house, driveway, septic system, etc.), and all other construction associated with the overall plan, regardless of the individual parties responsible for construction of these various elements.

(b) Requirements for Authorization

This general permit authorizes the construction activity and associated discharges listed in the "Eligible Activities" section (Section 3(*a*)) of this general permit provided:

(1) Coastal Management Act

Such construction activity must be consistent with all applicable goals and policies in section 22a-92 of the Connecticut General Statutes, and must not cause adverse impacts to coastal resources as defined in section 22a-93(15) of the Connecticut General Statutes. Please refer to the Appendix D for additional guidance.

(2) Endangered and Threatened Species

Such activity must not threaten the continued existence of any species listed pursuant to section 26-306 of the Connecticut General Statutes as endangered or threatened and must not result in the destruction or adverse modification of habitat designated as essential to such species. See Appendix A for conditions and requirements for compliance.

(3) Aquifer Protection Areas

Such construction activity, if it is located within an aquifer protection area as mapped under section 22a-354b of the General Statutes, must comply with regulations adopted pursuant to section 22a-354i of the General Statutes. Please refer to the Appendix C for additional guidance.

For any construction activity regulated pursuant to sections 22a-354i-8(c) and 9(b) of the Regulations of Connecticut State Agencies (Aquifer Protection Regulations), the Stormwater Pollution Control Plan (Plan) must assure that stormwater run-off generated from the regulated construction activity (i) is managed in a manner so as to prevent pollution of groundwater, and (ii) complies with all the requirements of this general permit.

(4) Mining Operations Exception

The stormwater discharge resulting from an activity classified by the Standard Industrial Classification 10 and 12 through 14 (the mining industry) is not eligible to be authorized by this general permit and is regulated under the most recently issued General Permit for the Discharge of Stormwater Associated with Industrial Activity.

(5) Discharge to POTW

The stormwater is *not* discharged to a Publicly Owned Treatment Works (POTW).

(6) Discharge to Groundwater

The stormwater is *not* discharged entirely to groundwater under all conditions before, during or after construction.

(7) Such construction activity must be consistent with the Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) for those river components and tributaries which have been designated as Wild and Scenic by the United States Congress. Further, such construction activities must not have a direct and adverse effect on the values for which such river designation was established. Please refer to Appendix H for additional guidance.

(8) Certification Requirements for Registrants and other Individuals

As part of the registration for this general permit, the registrant and any other individual or individuals responsible for preparing the registration submits to the commissioner a written certification which, at a minimum, complies with the following requirements:

(A) The registrant and any other individual or individuals responsible for preparing the registration and signing the certification has completely and thoroughly reviewed, at a minimum, this general permit and the following regarding the activities to be authorized under such general permit:

(i) all registration information provided in accordance with Section 4(*c*)(2) of such general permit;

(ii) the project site, based on a site inspection;

(iii) the Stormwater Pollution Control Plan; and

(iv) any plans and specifications and any Department approvals regarding such Stormwater Pollution Control Plan;

(B) The registrant and any other individual or individuals responsible for preparing the registration and signing the certification pursuant to this general permit has, based on the review described in section 3(*b*)(8)(A) of this general permit, made an affirmative determination to:

(i) comply with the terms and conditions of this general permit;

(ii) maintain compliance with all plans and documents prepared pursuant to this general permit including, but not limited to, the Stormwater Pollution Control Plan;

(iii) properly implement and maintain the elements of the Stormwater Pollution Control Plan; and

(iv) properly operate and maintain all stormwater management systems in compliance with the terms and conditions of this general permit to protect the waters of the state from pollution;

(C) Such registrant and any other individual or individuals responsible for preparing the registration certifies to the following statement: "I hereby certify that I am making this certification in connection with a registration under such general permit, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT

ADDRESS OF PROJECT OR ACTIVITY] and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(*b*)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(9) The registrant has submitted to the commissioner a written certification by a professional engineer or, where appropriate, a landscape architect licensed in the State of Connecticut for the preparation, planning and design of the Stormwater Pollution Control Plan ("Plan" or "SWPCP") and stormwater management systems:

The professional engineer or landscape architect shall certify to the following statement:

"I hereby certify that I am a [professional engineer][landscape architect] licensed in the State of Connecticut. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY]. I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(10) Plan Review and Certification by a District for Locally Approvable Projects

For locally approvable Plans not reviewed in accordance with Section 3(*b*)(11), below, the registrant has submitted to the commissioner a written certification by the appropriate regional District for the review of the Stormwater Pollution Control Plan pursuant to Appendix E, which, at a minimum, complies with the following requirements:

(A) the Plan Review Certification must be signed by the District. Information on the District review process is outlined in the Memorandum of Agreement provided in Appendix E. In cases where the District is unable to complete review of the Plan within the time limits

specified in the Memorandum of Agreement in Appendix E, a notice to that effect signed by the District may be submitted in lieu of the certification.

(B) the Stormwater Pollution Control Plan has been prepared in accordance with the requirements of Section 5(*b*) of the general permit.

(11) Plan Review and Certification by a Qualified Soil Erosion and Sediment Control Professional and Qualified Professional Engineer for Locally Approvable Projects

For those Plans not reviewed in accordance with Section 3(*b*)(10), above, the registrant has submitted to the commissioner a written certification by a qualified professional engineer or a qualified soil erosion and sediment control professional in accordance with the following requirements:

(A) for projects disturbing more than one acre and less than fifteen (15) acres, such qualified soil erosion and sediment control professional or qualified professional engineer:

(i) is not an employee, as defined by the Internal Revenue Service in the Internal Revenue Code of 1986, of the registrant; and

(ii) has no ownership interest of any kind in the project for which the registration is being submitted.

(B) for projects disturbing fifteen (15) acres or more, such qualified soil erosion and sediment control professional or qualified professional engineer:

(i) is not an employee, as defined by the Internal Revenue Service in the Internal Revenue Code of 1986, of the registrant;

(ii) did not engage in any activities associated with the preparation, planning, designing or engineering of such plan for soil erosion and sediment control or plan for stormwater management systems on behalf of such registrant;

(iii) is not under the same employ as any person who engaged in any activities associated with the preparation, planning, designing or engineering of such plans and specifications for soil erosion and sediment control or plans and specifications for stormwater management systems on behalf of such registrant; and

(iv) has no ownership interest of any kind in the project for which the registration is being submitted.

(C) The qualified professional engineer or qualified soil erosion and sediment control professional signing the certification has, at a minimum, completely and thoroughly reviewed this general permit and the following regarding the discharges to be authorized under such general permit:

(i) all registration information provided in accordance with Section 4(*c*)(1) of such general permit;

(ii) the site, based on a site inspection;

(iii) the Stormwater Pollution Control Plan;

(iv) the Guidelines;

(v) the Stormwater Quality Manual, if applicable; and

(vi) all non-engineered and engineered stormwater management systems, including any plans and specifications and any Department approvals regarding such stormwater management systems.

(D) Affirmative Determination

(i) The qualified soil erosion and sediment control professional signing the certification must have made an affirmative determination, based on the review described in section 3(*b*)(11)(C) of this general permit that:

(a) the Stormwater Pollution Control Plan prepared and certified pursuant to the registration is adequate to assure that the project or activity authorized under this general permit, if implemented in accordance with the Stormwater Pollution Control Plan, will comply with the terms and conditions of such general permit; and

(b) all non-engineered stormwater management systems:

(*1*) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual;

(*2*) will function properly as designed;

(*3*) are adequate to ensure compliance with the terms and conditions of this general permit; and

(*4*) will protect the waters of the state from pollution.

(ii) The qualified professional engineer signing the certification must have made an affirmative determination, based on the review described in section 3(*b*)(11)(C) of this general permit that:

(a) the Stormwater Pollution Control Plan prepared and certified pursuant to the registration is adequate to assure that the activity authorized under this general permit, if implemented in accordance with the Stormwater Pollution Control Plan, will comply with the terms and conditions of such general permit; and

(b) all non-engineered and engineered stormwater management systems:

(*1*) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual;

(*2*) will function properly as designed;

(*3*) are adequate to ensure compliance with the terms and conditions of this general permit; and

(*4*) will protect the waters of the state from pollution.

(E) The qualified professional engineer or qualified soil erosion and sediment control professional shall, provided it is true and accurate, certify to the following statement:

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in sections 3(*b*)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY]. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I further certify that I have made the affirmative determination in accordance with Sections 3(*b*)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(12) Plan Review and Certification for Projects Conducted by State Agencies

For projects conducted by a state agency (e.g. DOT, DAS, etc.), the registering agency has submitted to the commissioner a written certification by a qualified professional engineer or a qualified soil erosion and sediment control professional in accordance with the following requirements:

(A) the registering agency or another state agency has developed a process to establish a list of qualified professional engineers and qualified soil erosion and sediment control professionals for which the process to qualify has been approved in writing by the commissioner;

(B) the qualified professional engineer or qualified soil erosion and sediment control professional reviewing and certifying the Plan is included on the list prepared by a state agency and for which the process to establish the list has been approved by the commissioner pursuant to Section 3(*b*)(12)(A), above;

(C) the qualified professional engineer or qualified soil erosion and sediment control professional signing the certification has, at a minimum, completely and thoroughly reviewed this general permit and the following regarding the discharges to be authorized under such general permit:

(i) all registration information provided in accordance with Section 4(*c*)(2) of such general permit;

(ii) the site, based on a site inspection;

(iii) the Stormwater Pollution Control Plan;

(iv) the Guidelines;

(v) the Stormwater Quality Manual, if applicable; and

(vi) all non-engineered and engineered stormwater management systems, including any plans and specifications and any Department approvals regarding such stormwater management systems.

(D) Affirmative Determination

(i) The qualified soil erosion and sediment control professional signing the certification must have made an affirmative determination, based on the review described in section 3(*b*)(12)(C) of this general permit that:

(a) the Stormwater Pollution Control Plan prepared and certified pursuant to the registration is adequate to assure that the project or activity authorized under this general permit, if implemented in accordance with the Stormwater Pollution Control Plan, will comply with the terms and conditions of such general permit; and

(b) all non-engineered stormwater management systems:

(*1*) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual;

(*2*) will function properly as designed;

(*3*) are adequate to ensure compliance with the terms and conditions of this general permit; and

(*4*) will protect the waters of the state from pollution.

(ii) The qualified professional engineer signing the certification must have made an affirmative determination, based on the review described in section 3(*b*)(12)(C) of this general permit that:

(a) the Stormwater Pollution Control Plan prepared and certified pursuant to the registration is adequate to assure that the activity authorized under this general permit, if implemented in accordance with the Stormwater Pollution Control Plan, will comply with the terms and conditions of such general permit; and

(b) all non-engineered and engineered stormwater management systems:

(*1*) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual;

(*2*) will function properly as designed;

(*3*) are adequate to ensure compliance with the terms and conditions of this general permit; and

(*4*) will protect the waters of the state from pollution.

(E) The qualified professional engineer or qualified soil erosion and sediment control professional shall, provided it is true and accurate, certify to the following statement:

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in sections 3(*b*)(12)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY]. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(12)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I further certify that I have made the affirmative determination in accordance with Sections 3(*b*)(12)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(F) Projects conducted by a state agency under this subparagraph (Section 3(*b*)(12)) shall be submitted in accordance with the requirements in Sections 3(*c*), 3(*g*)(1)(B) and 4(*c*)(2)(A)(i).

(13) New Discharges to Impaired Waters

(A) For impaired waters identified in the State's most recent Integrated Water Quality Report, new stormwater discharges proposed in a registration submitted under this general permit that will discharge directly to such waters must comply with the requirements of (13)(B), below, if such report indicates the cause or potential cause of the impairment as one of the following:

(i) Site Clearance (Land Development or Redevelopment)

(ii) Post-Development Erosion and Sedimentation

(iii) Source Unknown (if cause of impairment is Sedimentation/Siltation)

(B) Such stormwater discharge is authorized if the permittee complies with the requirements of Section 5(*b*)(3) of this permit and receives a written affirmative determination from the commissioner that the discharge meets the requirements of that section. In such case, the permittee must keep a copy of the written determination onsite with the Plan. If the permittee does not receive such affirmative determination, the construction activity is not authorized by this general permit and must obtain an individual permit.

(14) Solar Arrays

For constructions activities associated with the development of a solar array that is locally exempt, as those respective terms are defined in Section 2, in addition to the other requirements of this general permit a Permittee shall also comply with the requirements in Appendix I.

(15) Cold Water Stream Habitat

Unless otherwise authorized in writing by the Commissioner, a Permittee shall maintain a one-hundred (100) foot buffer of undisturbed soil and well-established vegetation between any construction activity and any stream, river, or tributary that is included within a Cold Water Stream Habitat as defined at: https://portal.ct.gov/DEEP/Water/Inland-Water-Monitoring/Cold-Water-Stream-Habitat-Map.

(16) Other Requirements for Authorization

The following requirements for authorization shall apply to all projects:

(A) Prior to commencement of any construction activity, the Permittee shall conduct a preconstruction meeting with the qualified professional who designed the project, the qualified inspector who will be conducting inspections, and all site contractors and subcontractors to be involved in construction. Such meeting shall convey the design, stormwater control measures, erosion and sediment controls, plan implementation and routine site inspections, and contract requirements for the project prior to earth disturbance. Such meeting shall also include a site walk of the project site. In the case of solar arrays and any other projects that may be reviewed and/or inspected by a District, the preconstruction meeting and site walk shall also include the appropriate District personnel. The Permittee shall ensure that the date of such meeting and a report summarizing the meeting shall be prepared and retained in the Permittee's Plan.

(B) The following contractor certification shall be signed by all contractors and subcontractors that will perform construction activities on the site that have the potential to cause pollution of the waters of the State:

"I certify under penalty of the law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as a contractor or subcontractor at the site, I am authorized by this general permit, and must comply with the terms and conditions of this general permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for the site."

Such signed certifications shall be maintained with the Plan on-site at all times.

(C) The designing qualified professional shall conduct the Plan Implementation Inspection(s) pursuant to Section 5(*b*)(4)(A) and shall submit such Plan Implementation Inspection report(s) to the commissioner confirming compliance with the general permit and proper initial implementation of all control measures designated in the Plan for the initial phase of construction. In the case of solar arrays and any other projects that may be reviewed and/or inspected by a District, the Plan Implementation Inspection(s) shall also include the appropriate District personnel.

(D) For locally approvable projects, the permittee shall indicate whether any financial assurance was required by the town in which the project is being conducted and, if so, indicate what type of assurance was required and in what amount.

(E) Nothing in this subsection or permit shall be construed to authorize District personnel, a qualified soil erosion and sediment control professional or a qualified professional engineer to engage in any profession or occupation requiring a license under any other provision of the general statutes without such license.

(F) Failure to comply with any provisions of Section 3(*b*)(16) is a violation of this general permit and shall be grounds for the commissioner to revoke authorization.

(G) Specific Provisions Applicable to Projects Conducted by State Agencies

(i) Permittee shall conduct a preconstruction meeting with the contractor that conveys the design, stormwater control measures, plan implementation and routine site inspections, erosion and sediment controls, and contract requirements for the project prior to earth disturbance. Such meeting shall include a site walk of the project site.

(ii) The DOT District Engineer, District Environmental Coordinator, or the designated employee of another state agency shall conduct the Plan Implementation Inspection(s) pursuant to Section 5(*b*)(4)(A) of the general permit and shall submit such Plan Implementation Inspection report(s) to the Commissioner confirming compliance with the general permit and proper initial implementation of all control measures designated in the Plan for the initial phase of construction.

(iii) The State is not required to provide evidence of financial assurance.

(c) Registration

Pursuant to the "Registration Requirements" section (Section 4) of this general permit, a completed registration with respect to the construction activity shall be filed with the commissioner.

(d) Small Construction

For construction projects with a total disturbance of between one and five acres, the permittee shall adhere to the erosion and sediment control land use regulations of the municipality in which the construction activity is conducted, as well as the Guidelines and the Stormwater Quality Manual.

No registration or Plan review and certification shall be required for such construction activity provided a land-use commission of the municipality (i.e. planning/zoning, wetland, conservation, etc) reviews and issues a written approval of the proposed erosion and sediment control measures, pursuant to the requirements of section 22a-329 of the Connecticut General Statutes. In the absence of a municipal commission to review and approve such activity, the permittee shall register with the DEEP under the requirements for a Locally Exempt Project and comply with all applicable conditions of this general permit.

(e) Geographic Area

This general permit applies throughout the State of Connecticut.

(f) Effective Date and Expiration Date of this General Permit

This General Permit shall be effective at 12:00 a.m. on December 31, 2020. The provisions of this General Permit shall expire as of 11:59 p.m. on December 30, 2025.

(g) Effective Date of Authorization

A construction activity is not authorized by this general permit unless a registration has been approved by the Commissioner and the following conditions have been met:

(1) General Timelines

(A) for locally approvable projects, sixty (60) days have elapsed after the submission of a complete and sufficient registration form required by Section 4(*c*) of the general permit, or

(B) for locally exempt projects with a total disturbed area of under fifteen (15) acres, sixty (60) days have elapsed after the submission of a complete and sufficient registration form required by Section 4(*c*), or

(C) for locally exempt projects with a total disturbed area equal to or more than fifteen (15) acres, ninety (90) days have elapsed after the submission of a complete and sufficient registration form required by Section 4(*c*) of the general permit.

(2) Exceptions to Authorization Timelines

If one of the following conditions applies, that condition shall supersede those of subsection (1), above:

(A) for sites for which the registration and Plan availability and review provisions of Section 4(*e*) of the general permit are completed prior to the elapse of the authorization periods in subdivision (1), above, the commissioner may authorize the activity upon such completion, or

(B) for sites for which the conditions of Section 3(*b*)(2), 3(*b*)(13) or Section 5(*a*)(2) of the general permit apply, the activity is authorized only upon the date of the commissioner's affirmative determination and/or approval of a registration, or

(C) for sites authorized by any previous version of this general permit and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" of that general permit, the activity is authorized effective December 31, 2020. Authorization under this general permit shall cease if a re-registration form is not submitted within one hundred twenty (120) days of the effective date of this general permit.

(h) Revocation of an Individual Permit

No person shall seek authorization under this general permit for a construction activity authorized by an individual permit. If a construction activity is eligible for authorization under this general permit and such activity is presently authorized by an individual permit, the existing individual permit may be revoked by the commissioner upon a written request by the permittee. If the commissioner revokes such individual permit in writing, such revocation shall take effect on the effective date of authorization of such activity under this general permit.

(i) Issuance of an Individual Permit

If the commissioner issues an individual permit under section 22a-430 of the Connecticut General Statutes, authorizing a construction activity authorized by this general permit, this general permit shall cease to authorize that activity beginning on the date such individual permit is issued.

Section 4. Registration Requirements

(a) Who Must File a Registration

With the exception noted in the "Small Construction" section (Section 3(*d*)) of this general permit, any person or municipality which initiates, creates, originates or maintains a discharge described in the "Eligible Activities" section (Section 3(*a*)) of this general permit shall file with the commissioner a registration form (or, for existing permittees, a re-registration form) that meets the requirements of the "Contents of Registration" section (Section 4(*d*)) of this general permit (or a re-registration form) and the applicable fee within the timeframes and in the amounts specified in Sections 4(*c*) and 4(*d*)(1)(A), respectively. Any such person or municipality filing a registration remains responsible for maintaining compliance with this general permit.

(b) Scope of Registration

Each registration shall be limited to the discharge at or from one site; no registration shall cover discharges at or from more than one site.

(c) Registration Procedure

(1) Locally Approvable Projects

The registration must:

(A) Be electronically submitted, along with all required elements in subsections (B) through (E), below, at least sixty (60) days prior to the planned commencement of the construction activity. Failure to include any of these required submissions shall, among other potential reasons, be grounds to reject the registration.

(B) Include the electronic Registration Form (available at www.ct.gov/deep/stormwater).

(C) Include any additional forms and information that may be required pursuant to the "Requirements for Authorization" section (Section 3(*b*) of the general permit) regarding compliance and/or consistency with the Coastal Management Act, Impaired Waters (including TMDL requirements), Endangered and Threatened Species, and Aquifer Protection Areas.

(D) Include an electronic copy of the Stormwater Pollution Control Plan. The electronic Plan shall be in Adobe™ PDF format or similar publicly available format in common use. **DO NOT INCLUDE** in this electronic copy any pages or other material that do not pertain to stormwater management or erosion and sediment control (such as electrical and lighting plans, boundary or lot surveys, building plans, non-stormwater related detail sheets, etc.).

(E) Include a Plan Review Certification in accordance with the plan review certification requirements of either Section 5(*b*)(10) or 5(*b*)(11) of the general permit.

(2) Locally Exempt Projects

The registration must be electronically submitted, along with all required elements in subsections (B), (C) and (D) of this section. The sixty (60) or ninety (90) day periods cited in subparagraph (A) of this subdivision shall not begin until all required elements have been submitted. Failure to include any of these required submissions shall be grounds to reject the registration. A registration shall:

(A) Be submitted at least:

(i) sixty (60) days prior to the planned commencement of the construction activity if the site has a total disturbance of between one (1) and fifteen (15) acres; ***or***

(ii) ninety (90) days prior to the planned commencement of construction activity if the site:

(a) has a total disturbance greater than fifteen (15) acres;

(b) discharges to a tidal wetland (that is not a fresh-tidal wetland) within 500 feet of the discharge point; ***or***

(c) is subject to the impaired waters provisions of Section 3(*b*)(13) of the general permit.

(B) Include the electronic Registration Form (available at www.ct.gov/deep/stormwater).

(C) Include any additional forms and information that may be required pursuant to Section 3(*b*)) of the general permit, "Requirements of Authorization", regarding compliance and/or consistency with the Coastal Management Act, Impaired Waters (including TMDL requirements), Endangered and Threatened Species, Solar Array provisions and Aquifer Protection.

(D) Include an electronic copy of the Stormwater Pollution Control Plan (Plan) (or a web address where the electronic Plan can be downloaded) for the commissioner's review. The electronic Plan shall be in Adobe™ PDF format or similar publicly available format in common use. **DO NOT INCLUDE** in this electronic copy any pages or other material that do not pertain to stormwater management or erosion and sediment control (such as electrical and lighting plans, A-2 boundary or similar lot surveys, building plans, non-stormwater related detail sheets, etc.).

(3) Re-Registration of Existing Projects

(A) *Re-Registration*. In order for discharges to continue to be authorized, a Permittee with a registration previously approved by the Commissioner under any previous version of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" of that general permit shall submit a re-registration. Any such registration shall:

(i) be submitted no later than one hundred twenty (120) days after the effective date of this general permit using an electronic Re-Registration Form (available at www.ct.gov/deep/stormwater) pursuant to Section 4(*c*)(3) of the general permit; and

(ii) be accompanied by the fee set forth in Section 4(*d*)(1)(A)(iii) of the general permit unless that section provides for the waiver of such fee. Resubmission of a Permittee's Plan is not required with a re-registration provided, however, that such Plan shall be provided to, if requested by, the commissioner. Such Plan shall be provided within the time frame provided for in any request, or if no timeframe is provided, within thirty (30) days of the date of any such request.

(B) *Existing Projects that are not re-registered.* Discharges at or emanating from a site, for a Permittee with a registration previously approved by the Commissioner, that is not re-registered in accordance with this section shall no longer be authorized. Any re-registration

received more than one hundred twenty (120) days after the effective date of this general permit shall be considered to be a new registration, and shall not be eligible for any exemption from, or waiver of, any condition or requirement of this general permit, as specified in this section, and shall instead be required to comply with this general permit as if it were a new project, i.e., a project that had not been previously registered.

(C) *Exemption for Existing Projects Upon Re-Registration.* A Permittee that submits a re-registration in compliance with this section shall, except as provided in this section, comply with the terms and conditions of this general permit, including, but not limited to, the Plan in effect for the site. Any such Permittee shall be exempt from compliance with Sections 3(*b*)(15) and 5(*b*)(2)(D)(vi) of this general permit and, for a Permittee submitting a re-registration for construction of a solar array, shall be exempt from paragraphs (1) and (2) of Section I, Design and Construction requirements, in Appendix I and Section II, Design requirements for post-constriction stormwater management measures in Appendix I.

Note: For clarification purposes, the provisions of this general permit, including any updates to a Permittee's Plan, shall not apply retroactively to construction activities that may have already commenced – or been completed - before a Permittee submits a re-registration pursuant to section 4(*c*)(3) of this general permit. For example, the plan implementation inspections required by Section 5(*b*)(4)(A) of this general permit would not be applicable to a phase of construction already begun at the time a re-registration is submitted. By contrast, compliance with those same plan implementation inspection requirements would be required for each phase of construction that commences after a re-registration is submitted.

(4) Latest Date for New Registrations

Unless another date is specified by the Commissioner on the Department's Internet website (www.ct.gov/deep/stormwater), no person shall submit a registration under this general permit on or after October 1, 2025.

(d) Contents of Registration

(1) Fees

(A) Registration Fee

A registration, if required, shall not be deemed complete unless the registration fee has been paid in full.

(i) Locally Approvable Projects

A registration fee of $625.00 shall be submitted to the Department with the registration form.

(ii) Locally Exempt Projects

A registration fee shall be submitted with a registration form as follows:

(a) For sites with total disturbance of one (1) or more acres, but less than fifteen (15) acres, the fee shall be $3,000.

(b) For sites with total disturbance equal to or greater than fifteen (15) acres and less than fifty (50) acres, the fee shall be $4,000.

(c) For sites with total disturbance equal to or greater than fifty (50) acres, the fee shall be $5,000.

The fees for municipalities shall be half of those indicated in subsections (a), (b) and (c) above pursuant to section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection.

(iii) Re-registration

(a) For sites that registered under the previous version of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities prior to August 1, 2019 and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" section (Section 6), the re-registration fee shall be $625 payable with submission of the re-registration form within one hundred twenty (120) days from the effective date of this general permit. If a Notice of Termination is submitted prior to January 1, 2020, no re-registration or associated fee are required.

(b) For sites that registered under the previous version of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities on or after August 1, 2019 and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" section (Section 6), the permittee shall re-register and there is no re-registration fee.

(B) The registration fee shall be paid electronically or by check or money order payable to the Department of Energy & Environmental Protection in accordance with the instructions on the registration form.

(C) The registration fee is non-refundable.

(2) Registration Form

A registration shall be filed electronically on forms prescribed and provided by the commissioner (available at: www.ct.gov/deep/stormwater).

A registration shall include, but not be limited to, the following:

(A) Legal name, address, email address, and telephone number of the registrant. If the registrant is a person (as defined in Section 2 of this permit) transacting business in Connecticut and is registered with the Connecticut Secretary of the State, provide the exact name as registered with the Connecticut Secretary of the State.

(B) Legal name, address, email address, and telephone number of the owner of the property on which the construction activity will take place.

(C) Legal name, address, email address, and telephone number of the primary contact for departmental correspondence and inquiries, if different from the registrant.

(D) Legal name, address, email address, and telephone number of the developer of the property on which the construction activity is to take place.

(E) Legal name, address, email address, and daytime and off-hours telephone numbers of the general contractor(s) or other representative(s), if different from the developer.

(F) Legal name, address, email address, and telephone number of any consultant(s), engineer(s) or landscape architect(s) retained by the permittee to prepare the registration and Stormwater Pollution Control Plan.

(G) Location address or description of the site for which the registration is filed.

(H) The estimated duration of the construction activity.

(I) Indication of the normal working hours at the site.

(J) A brief description of the construction activity, including, but not limited to:

(i) Total number of acres to be disturbed, regardless of phasing.

(ii) Verification that construction is in accordance with the Guidelines and local erosion and sediment control ordinances, where applicable.

(iii) For sites in the Coastal Boundary, documentation that the DEEP Office of Long Island Sound Programs or local governing authority has issued a coastal site plan approval or a determination that the project is exempt from coastal site plan review (see Appendix D) in accordance with section 22a-92 and 22a-93(15) of the Connecticut General Statutes.

(iv) Documentation that the construction activity will not threaten the continued existence of any species listed pursuant to section 26-306 of the Connecticut General Statutes as endangered or threatened and will not result in the destruction or adverse modification of habitat designated as essential to such species (see Appendix A).

(v) For sites discharging to certain impaired waters, as specified in Section 3(*b*)(13) of the general permit, documentation that the construction activity meets the requirements of that section and Section 5(*b*)(3) of the general permit for authorization under this general permit.

(vi) Verification that the construction activity is not located within an aquifer protection area (see Appendix C) as mapped under section 22a-354b of the Connecticut General Statutes or, if it is located within an aquifer protection area, that the construction activity will comply with regulations adopted pursuant to section 22a-354i of the Connecticut General Statutes.

(vii) For a proposed locally approvable project, a plan review certification from the appropriate District, qualified soil erosion and sediment control professional, and/or qualified professional engineer in accordance with Section 5(*b*)(10) or (11) or a notice from the District that they were unable to complete the Plan review within the time limits specified in the Memorandum of Agreement in Appendix E.

(viii) For construction activities within one-hundred (100) feet of any stream, river, or tributary that is included within a Cold Water Stream Habitat, as may be authorized by the Commissioner pursuant to Section 3(b)(15) of this general permit, a completed Fisheries Consultation Form or documentation of official interagency coordination between the Fisheries Division and other state agency staff.

(K) A brief description of the stormwater discharge, including:

(i) The name of the municipal separate storm sewer system or immediate surface water body or wetland to which the stormwater runoff will discharge;

(ii) Verification of whether or not the site discharges to a tidal wetland (that is not a fresh-tidal wetland) within 500 feet of the discharge point, to a high quality water or to an impaired water with or without a TMDL;

(iii) The name of the watershed or nearest waterbody to which the site discharges.

(iv) Location of the stormwater discharge(s) including latitude and longitude.

(L) The total effective impervious cover for the site before and after the proposed construction activity.

(M) Documentation that the proposed construction activity has been reviewed for consistency with state Historic Preservation statutes, regulations, and policies including identification of any potential impacts on property listed or eligible for listing on the Connecticut Register of Historic Places. A review conducted for an Army Corps of Engineers Section 404 wetland permit would meet this qualification. Refer to Appendix G for guidance on conducting the required review.

(N) An electronic copy of their Plan. The electronic Plan shall be in Adobe™ PDF format or similar publicly available format in common use. **DO NOT INCLUDE** in this Plan any pages or other material that do not pertain to stormwater management or erosion and sediment control (such as electrical and lighting plans, boundary or lot surveys, building plans, non-stormwater related detail sheets, etc.).

(O) The certification of the registrant and of the individual or individuals responsible for actually preparing the registration, in accordance with Section 3(*b*)(8) of the general permit.

(P) A design certification must be signed by a professional engineer or, where appropriate, a landscape architect in accordance with Section 3(*b*)(9) of the general permit.

(Q) For registrations for locally approvable projects a review certification must be signed by either: (i) a District representative in accordance with Section 3(*b*)(10) of the general permit, or (ii) a qualified soil erosion and sediment control professional and/or qualified professional engineer in accordance with either Section 3(*b*)(11) of the general permit.

If the registrant is not capable of submitting electronically, contact the DEEP stormwater staff at DEEP.stormwaterstaff@ct.gov.

(3) Re-Registration Form

For sites previously registered under any previous version of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" in Section 6 of the general permit, a re-registration is required. Such re-registration shall be filed electronically on forms prescribed and provided by the commissioner (available at: www.ct.gov/deep/stormwater) and shall include, but not be limited to, the following:

(A) Legal name, address, email address, and telephone number of the registrant. If the registrant is a person transacting business in Connecticut and is registered with the Connecticut

Secretary of the State, provide the exact name as registered with the Connecticut Secretary of the State.

(B) The previously issued permit number (beginning with GSN).

(C) Legal name, address, email address, and telephone number of the owner of the property on which the construction activity will take place.

(D) Legal name, address, email address, and telephone number of the primary contact for departmental correspondence and inquiries, if different from the registrant.

(E) Legal name, address, email address, and telephone number of the developer of the property on which the subject construction activity is to take place.

(F) Legal name, address, email address, and daytime and off-hours telephone numbers of the general contractor(s) or other representative(s), if different from the developer.

(G) Legal name, address, email address, and telephone number of any consultant(s) or engineer(s) retained by the permittee to prepare the registration and Stormwater Pollution Control Plan.

(H) Location address or description of the site for which the re-registration is filed.

(I) Indication of the normal working hours at the site.

(J) The estimated duration of the construction activity.

(K) The signature of the registrant and of the individual or individuals responsible for actually preparing the re-registration, each of who shall certify in writing as follows:

"I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY] and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that all designs and plans for such activity meet the current terms and conditions of the general permit in accordance with Section 5(b)(5)(C) of such general permit and that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

(e) How to Submit a Registration

A registration or re-registration (available at: www.ct.gov/deep/stormwater) shall be filed electronically with the commissioner in accordance with Section 4(*d*)(2) or (3) of the general permit. If a permittee is not capable of submitting electronically, contact the DEEP stormwater staff at DEEP.stormwaterstaff@ct.gov.

(f) Availability of Registration and Plan

The commissioner shall post on the DEEP website a list of registrations submitted. Plans will be posted electronically with the corresponding registration. On or before thirty (30) days from the date such registration is accessible to the public through posting by the commissioner, members of the public may review and comment on a registration and/or Plan. This provision shall not apply to Permittee's submitting a re-registration for sites registered under any previous version of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and for which no Notice of Termination has been submitted pursuant to the "Termination Requirements" in Section 6 of the general permit.

(g) Additional Information

The commissioner may require a Permittee to submit additional information that the commissioner deems necessary to evaluate compliance of the subject construction activity with the requirements for authorization under this general permit.

(h) Additional Notification

(1) No later than five (5) days after submitting a registration to the commissioner, the Permittee shall provide the following additional notifications:

(A) For discharges authorized by this general permit to a regulated municipal separate storm sewer system, a notification that a registration has been submitted to the Department shall also be submitted to the owner and operator of that system.

(B) For discharges authorized by this general permit to a DOT separate storm sewer system, a copy of the registration and all attachments thereto shall also be submitted to the DOT upon request.

(C) For discharges within a public drinking water supply watershed or aquifer protection area, a copy of the registration and the Plan described in subsection 5(*b*) of this general permit shall be submitted to the water company.

(D) For discharges to river components and tributaries which have been designated as Wild and Scenic under the Wild and Scenic Rivers Act, a copy of the registration and the Plan described in 5(*b*) of this general permit shall be submitted to the applicable Wild and Scenic Coordinating Committee. Please refer to Appendix H for additional guidance.

(2) The Permittee shall ensure that a copy of the registration submitted to the Commissioner and the Plan shall be available upon request to the local inland wetlands agency established pursuant to section 22a-42 of the Connecticut General Statutes, or its duly authorized agent.

(i) Action by Commissioner

(1) The commissioner may reject without prejudice a registration that the commissioner deems insufficient. For example, if it does not satisfy the requirements of the "Contents of Registration"

section (subsection 4(*d*)) of this general permit. Any registration refiled after such a rejection shall be accompanied by the fee specified in the "Fees" subsection (subsection 4(*d*)(1)) of this general permit.

(2) The commissioner may disapprove a registration if it does not comply with the requirements of this general permit or for any other reason provided for by law. For example, if it is inconsistent with the requirements for authorization under the "Requirements for Authorization" section (Section 3(*b*)) of this general permit, or an individual permit is required pursuant to Conn. Gen. Stat. § 22a-430b(c). Disapproval of a registration under this subsection shall constitute notice to the registrant that the subject construction activity must be authorized under an individual permit.

(3) Rejection or disapproval of a registration by the commissioner shall be in writing and state the reasons for such rejection or disapproval.

(4) Pursuant to Conn. Gen. Stat. § 22a-430b(c), the commissioner may require that a person or municipality obtain an individual permit, in which case, such person or municipality will be ineligible for authorization under this general permit.

(5) When approving a registration, the commissioner may include in any such approval any term or condition the commissioner deems necessary to protect human health and the environment..

Section 5. Conditions of this General Permit

The permittee shall comply with all of the requirements of this general permit at all times. In addition, a permittee shall be responsible for conducting authorized construction activities in accordance with the following conditions:

(a) General Conditions

(1) Structures and Dredging in Coastal and Tidal Areas

Any person who or municipality that discharges stormwater into coastal tidal waters for which a permit is required under section 22a-361 of the Connecticut General Statutes (structures and dredging) or section 22a-32 of the Connecticut General Statutes (Tidal Wetlands Act), shall obtain such permit(s) from the commissioner. A tidal wetland permit is required for any regulated activity conducted within a tidal wetland, including, but no limited to, the placement of any sediment upon a tidal wetland, whether it is deposited directly or indirectly.

(2) Discharges to Tidal Wetlands

Any site which has a post-construction stormwater discharge to a tidal wetland (that is not a fresh-tidal wetland) where such discharge is within 500 feet of the tidal wetland, shall discharge such stormwater through a system designed to retain and infiltrate the volume of stormwater runoff generated by 1 inch of rainfall on the site. If there are site constraints that would prevent retention of this volume on-site (e.g., brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be submitted, for the commissioner's review and written approval, which explains the site limitations and offers an alternative retention volume. In such cases, the portion of 1 inch that cannot be retained must be provided with additional stormwater treatment so as to protect water quality. Any such treatment shall be designed, installed and maintained in accordance with the Stormwater Quality Manual.

For sites unable to comply with this section, the commissioner, at the commissioner's sole discretion, may require the submission of an individual permit in lieu of authorization under this general permit.

(3) Toxicity to Aquatic and Marine Life/Risk to Human Health

Any discharge authorized under this general permit shall not cause pollution due to acute or chronic toxicity to aquatic and marine life, impair the biological integrity of aquatic or marine ecosystems, or result in an unacceptable risk to human health.

(4) Water Quality Standards

Any discharge authorized under this general permit shall not cause or contribute to an exceedance of the applicable Water Quality Standards in the receiving water.

(5) High Quality Waters

Any new or increased discharge authorized under this general permit to high quality waters shall be discharged in accordance with the Anti-Degradation Implementation requirements in the Water Quality Standards, section 22a-426-8 of RCSA.

(b) Stormwater Pollution Control Plan

All Permittees shall develop and maintain on-site a Stormwater Pollution Control Plan ("Plan" or "SWPCP") for the construction activity authorized by this general permit. Once the construction activity begins, the permittee shall perform all actions required by such Plan and shall maintain compliance with the Plan at all times. The permittee shall ensure that the design and implementation of the Plan minimizes: (1) soil erosion and sedimentation during and after construction; and (2) stormwater pollution from the site after construction is completed.

(1) Development and Contents of Plan

(A) The Plan shall consist of site plan drawings and a narrative. The Plan shall be prepared in accordance with sound engineering practices, and shall be consistent with the Guidelines, the Stormwater Quality Manual (available at http://www.ct.gov/deep/stormwater) and any applicable requirements of this general permit. The Plan shall also be consistent with any remedial action plan, closure plan or other plan required by any other DEEP permit.

(B) The Plan shall include, at a minimum, the following items:

(i) Site Plan

Site drawings indicating drainage patterns and approximate slopes anticipated after major grading activities, areas of soil disturbance, the location of major structural and non-structural controls (as specified in subsection 5(*b*)(2), below), the location of areas where stabilization practices are expected to occur, areas which will be vegetated following construction, surface waters, impaired waters (identifying those with and without a TMDL), high quality waters, inland wetlands, tidal wetlands, fresh-tidal wetlands, and locations where stormwater will be discharged to a surface water (both during and post-construction);

(ii) Site Description

(a) A narrative description of the nature of the construction activity;

(b) An estimate of the total area of the site and the total area of the site that is expected to be disturbed by construction activities;

(c) An estimate of the average runoff coefficient of the site after construction activities are completed;

(d) The name of the immediate receiving water(s) and the ultimate receiving water(s) of the discharges authorized by this general permit; and

(e) Extent of wetland acreage on the site.

(iii) Construction Sequencing

The Plan shall clearly identify the expected sequence of all construction activities on the site and corresponding erosion and sediment controls and shall include an estimated timetable for all construction activities, which shall be revised as necessary to keep the Plan current. Wherever practicable, site construction activities shall be phased to avoid the disturbance of over five acres at one time (or a lesser area of disturbance as required in Section 5(*b*)(3) of the general permit regarding "Impaired Waters". In addition, permanent stormwater control measures, including, but not limited to, stormwater basins should be constructed, where practicable, in the early phases of the construction sequence. The Plan shall clearly show the limits of total disturbance for the construction activity and for each phase.

(iv) Control Measures

The Plan shall include a description, in a separate narrative and on the site plan drawings, of control measures that will be implemented at the site to minimize the discharge of pollutants. Control measures shall be implemented in accordance with Section 5(*b*)(2) of the general permit. In addition, the following information shall be provided:

(a) Calculations supporting the design of sediment and floatables removal controls pursuant to Section 5(*b*)(2)(C)(ii)(b) of the general permit.

(b) Calculations supporting the design of velocity dissipation controls pursuant to Section 5(*b*)(2)(C)(ii)(c) of the general permit.

(v) Runoff Reduction and Low Impact Development (LID) Information

Where runoff reduction practices and/or LID measures are utilized, the following information shall be included in the site plan and narrative (refer to Appendix B for guidance):

(a) The location of the site's streams, floodplains, all wetlands, riparian buffers, slopes 3:1 and steeper, and vegetation identified for preservation and non-disturbance during construction such as forested areas, hay fields, and old fields;

(b) Natural drainage patterns, swales, and other drainage ways, that are not streams, floodplains, or wetlands;

(c) The location of all areas with soils suitable for infiltration[1] and areas of the site best suited for infiltration for the siting of runoff reduction practices and LID design measures;

1 Infiltration rates must be measured by a field permeability test. The measured field design infiltration rate is equal to one-half the field-measured infiltration rate.

(d) The location of all areas unsuitable or least suitable for infiltration for the siting of areas of development/building;

(e) The location of all post-construction stormwater management measures, runoff reduction practices and LID design measures developed pursuant to subsection 5(*b*)(2)(C)(i) of the general permit;

(f) Identification of areas inappropriate for the infiltration of stormwater runoff from land uses with a significant potential for groundwater pollution;

(g) A narrative describing the nature, purpose, implementation and long-term maintenance of post-construction stormwater management measures, runoff reduction practices and LID design measures;

(h) Calculations, for measures developed pursuant to Section 5(*b*)(2)(C)(i) of the general permit, illustrating the retention of the water quality volume or half the water quality volume for the site, as applicable, including a discussion of the impact of any runoff reduction and/or LID practices on these calculations;

(i) A narrative describing any site constraints that prevent retention of the appropriate volume specified in Section 5(*b*)(2)(C)(i) of the general permit including: an explanation of the site limitations; a description of the runoff reduction practices implemented; an explanation of why the amount retained constitutes the maximum extent achievable; an alternative retention volume; and a description of the measures used to provide additional stormwater treatment for sediment, floatables and nutrients above the alternate volume up to the water quality volume; and

(j) Calculations showing the proposed effective impervious cover for the site and, where required or proposed for linear projects pursuant to Section 5(*b*)(2)(C)(i) of the general permit, each outfall drainage area.

(vi) Inspections

(a) Plan Implementation Inspections

The Plan shall include a Plan Implementation inspection checklist, a schedule for conducting inspections, and identification of the designing qualified professional (and District personnel, as appropriate) conducting such inspections and their responsibilities and procedures pursuant to subsection 5(*b*)(4)(A) of the general permit. The Plan shall also include documentation of the qualifications of the inspector and the findings, actions and results of all inspections conducted at the site. For inspection requirements for solar arrays (as defined in Section 2), see Appendix I.

(b) Routine Inspections

The Plan shall include a routine inspection checklist, schedule for conducting inspections, and identification of the qualified inspector(s) conducting the routine inspections and their responsibilities and procedures pursuant to subsection 5(*b*)(4)(B) of the general permit. The Plan shall also include documentation of the qualifications of the inspector(s) and the findings, actions and results of all inspections conducted at the site.

(c) For additional Plan Implementation and Routine Inspection requirements for solar arrays, see Appendix I.

(d) Inspection Checklists

The checklists required by (vi)(a) and (vi)(b) of this subparagraph shall include the information described in the checklist forms found at: www.ct.gov/deep/stormwater. Such inspection checklists shall comply with the requirements and conditions of Section 5(*b*)(4) of the general permit, and include a space for the qualified professional's signature and professional stamp.

(vii) Contractors

(a) The Plan shall clearly identify each contractor and subcontractor that will perform construction activities on the site that have the potential to cause pollution of the waters of the State. The Plan shall also include a copy of the certification statement pursuant to "Other Requirements for Authorization" in Section 3(*b*)(16) of the general permit, signed by each such contractor and subcontractor.

(b) Subdivisions

Where individual lots in a subdivision or other common plan of development are conveyed or otherwise the responsibility of another person or municipality, those individual lot contractors shall be required to comply with the provisions of this general permit and the Stormwater Pollution Control Plan, regardless of lot size or disturbed area. In such cases, the permittee shall provide a copy of the Plan to each individual lot contractor, obtain signed certifications pursuant to Section 3(*b*)(16)(B) of the general permit from such contractors and retain all signed certifications in the Plan.

(viii) Impaired Waters

For construction activities that discharge to impaired waters, as specified in "New Discharges to Impaired Waters" (Section 3(*b*)(13)), the Plan shall include a description of the provisions for controlling the construction and post-construction stormwater discharges to these waters pursuant to subsection 5(*b*)(3) below.

(2) Stormwater Control Measures

Control Measures are required Best Management Practices (BMPs) that the permittee must implement to minimize the discharge of pollutants from the permitted activity. The term "minimize" is defined in Section 2 of this general permit. The Permittee shall comply with the following requirements.

Control Measures shall be designed in accordance with the Guidelines, the Stormwater Quality Manual or the DOT Qualified Products List (https://portal.ct.gov/-/media/DOT/documents/dresearch/ConnDOT-Qualified-Product-List.pdf?la=en). Use of control measures to comply with the "Erosion and Sediment Controls" section (subsection (A) below) of this general permit that are not included in such references must be approved by the commissioner. The narrative and drawings of controls shall address the following minimum components:

(A) Erosion and Sediment Controls

(i) Soil Stabilization and Protection

The Plan shall include a narrative and drawings of interim and permanent soil stabilization practices for managing disturbed areas and soil stockpiles, including a schedule for implementing the practices. The Permittee shall ensure that existing vegetation is preserved to the maximum extent practicable and that disturbed portions of the site are minimized and stabilized throughout the duration of the construction activity at the site.

Regardless of any provisions for erosion control barriers prescribed in the Guidelines, the Permittee shall ensure that two rows of erosion control barriers are installed and maintained on sites with slopes equal to or greater than eight percent (8%) within the contributing drainage area to such barrier. Notwithstanding the foregoing, use of two rows of erosion control barriers shall not be required on the sites specified in this paragraph when: (i) the Commissioner determines, for a limited section or portion of such erosion control barriers, that it is necessary to accommodate animal crossing or animal movement; (ii) the Commissioner approves a Plan that includes an erosion control system whose performance is equivalent to, or exceeds, two rows of erosion control barriers; or (iii) for *linear projects*, the Commissioner has determined that two rows of erosion control barriers, when compared to one row, will cause greater adverse impact to wetlands, waters, or other sensitive resources. In such situation the Commissioner may approve a Plan with one row of erosion control barriers or an alternative erosion control system. When implementing this paragraph the Commissioner may consider the contributing disturbed area, drainage area, length of the slope, flow conditions to maintain sheet flow, the efficacy of the proposed barrier, any adverse impacts from the use of one or two rows of erosion control barriers, and any other factor the Commissioner deems necessary.

Where construction activities have permanently ceased or when final grades are reached in any portion of the site, stabilization and protection practices as specified in Chapter 5 of the Guidelines or as approved by the commissioner shall be implemented within seven days. Notwithstanding any provisions of the Guidelines, areas that will remain disturbed but inactive for at least fourteen calendar days shall receive temporary seeding or soil protection within seven days in accordance with the Guidelines unless site conditions warrant shorter time periods for these provisions.

Areas that will remain disturbed beyond the seeding season as identified in the Guidelines, shall receive long-term, non-vegetative stabilization and protection sufficient to protect the site through the winter. In all cases, stabilization and protection measures shall be implemented as soon as possible in accordance with the Guidelines or as approved by the commissioner.

Temporary or permanent vegetation or other ground cover shall be maintained at all times in all areas of the site, except those undergoing active disturbance, in order to prevent erosion and soil compaction during construction activities. All new temporary and permanent vegetation shall consist of native plant species. With respect to such vegetation, the Permittee shall not use chemical fertilization, herbicides, or pesticides except as necessary to establish such vegetation.

A reverse slope bench is required for any slope steeper than 3:1 (horizontal: vertical) that exceeds 15 feet vertically, except when engineered slope stabilization structures or measures are included or a detailed soil mechanics analysis has been conducted to

verify stability. Engineered analyses and measures must be designed by a CT licensed Professional Engineer with experience in geotechnical engineering or soil mechanics.

(ii) Wetland Protection

Where site disturbance occurs within fifty (50) feet upgradient of a wetland, wetlands, or waters as defined in Section 2 of the general permit, a double row of sediment barrier (e.g. hay bales, silt fence, wattles, etc.) shall be installed in accordance with the Guidelines between the disturbed area and any such downgradient wetland, wetlands or waters.

(iii) Structural Measures

The Plan shall include a narrative and drawings of structural measures to divert flows away from exposed soils, store flows or otherwise limit runoff and minimize the discharge of pollutants from the site. Unless otherwise specifically approved in writing by the commissioner, or if otherwise authorized by another state or federal permit, structural measures shall be installed on upland soils.

For points of discharge from disturbed sites with a total contributing drainage area of between two to five acres, a temporary sediment trap or temporary sediment basin shall be designed and installed in accordance with the Guidelines. For points of discharge from disturbed sites with a total contributing drainage area greater than five acres, a temporary sediment basin shall be designed and installed in accordance with the Guidelines. Such trap(s) or basin(s) must be maintained until final stabilization of the contributing area as defined in "Notice of Termination" (Section 6(*a*)).

The requirement for sediment traps or basins shall not apply to flows from off-site areas and flows from areas of the site that are either undisturbed or have undergone final stabilization, provided such flows are diverted around the temporary sediment trap or basin and are approved in writing by the commissioner.

(iv) Maintenance

The Plan shall include a narrative of the procedures to maintain, in good and effective operating condition, all erosion and sediment control measures, including vegetation, and all other protective measures identified in the Plan. Maintenance of all erosion and sediment controls shall be performed in accordance with the Guidelines, or more frequently as necessary.

(B) Dewatering Wastewaters

Dewatering wastewaters shall be managed in accordance with the Guidelines. Dewatering wastewaters discharged to surface waters shall be discharged in a manner that minimizes the discoloration of the receiving waters. The Plan shall include a narrative and drawings of the operational and structural measures that will be used to ensure that all dewatering wastewaters will not cause scouring or erosion or contain suspended solids in amounts that could reasonably be expected to cause pollution of surface waters of the State. Unless otherwise specifically approved in writing by the commissioner, or if otherwise authorized by another state or federal permit, dewatering measures shall be installed on upland soils.

No discharge of dewatering wastewater(s) shall contain or cause a visible oil sheen, floating solids, or foaming in the receiving water.

(C) Post-Construction Stormwater Management

The Plan shall include a narrative and drawings of measures that will be installed during the construction process to minimize the discharge of pollutants in stormwater discharges that will occur after construction operations have been completed. Post-construction stormwater management measures shall be designed and implemented in accordance with the Stormwater Quality Manual, the DOT Qualified Products List or as approved by the commissioner. Unless otherwise specifically provided by the commissioner in writing, or authorized by another state or federal permit, structural measures shall be placed on upland soils. The Plan shall include provisions to address the long-term maintenance of any post-construction stormwater management measure installed.

(i) Post-Construction Performance Standards

The permittee shall utilize runoff reduction practices (as defined in Section 2 of the general permit) to meet runoff volume requirements based on the conditions below.

(a) Redevelopment

For sites that are currently developed with an effective impervious cover of forty percent or more and for which the permittee is proposing redevelopment, the permittee shall design the site in such a manner as to retain on-site half the water quality volume (as defined in Section 2 of the general permit) for the site and provide additional stormwater treatment without retention for discharges up to the full water quality volume for sediment, floatables and nutrients to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In cases where the permittee is not able to retain half the water quality volume (e.g., brownfields, capped landfills, bedrock, elevated groundwater, etc.), the permittee shall design the redevelopment to retain runoff volume to the maximum extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice. In such cases, additional stormwater treatment up to the full water quality volume is still required. Any such treatment shall be designed, installed and maintained in accordance with the Stormwater Quality Manual. If retention of half the water quality volume is not achieved, the permittee shall submit a report for the commissioner's review and written approval describing: the measures taken to maximize runoff reduction practices on the site; the reasons why those practices constitute the maximum extent achievable; the alternative retention volume; and a description of the measures used to provide additional stormwater treatment above the alternate volume up to the water quality volume.

(b) Linear Redevelopment

In the case of linear redevelopment projects (e.g. roadway reconstruction or widening or public utility rights of way) for the developed portion of the right of way: (1) for projects that may be unable to comply with the retention of the appropriate portion of the water quality volume specified in subparagraphs (a) and (c) of this subsection, the alternate retention and treatment provisions may also be applied as specified in such subparagraphs, or (2) for projects that will not increase the effective impervious cover within a given watershed, the permittee shall implement the additional stormwater treatment measures referenced in subsections (a) and (c) of this subsection, but will not be required to retain the appropriate portion of the water quality volume specified in such paragraphs.

(c) Other Development

The following performance standard applies to all sites that are currently undeveloped or are currently developed with less than forty percent effective impervious cover. For these sites, the permittee shall design the site to retain the water quality volume for the site. If there are site constraints that would prevent retention of this volume on-site (e.g., brownfields, capped landfills, bedrock, elevated groundwater, etc.), documentation must be submitted, for the commissioner's review and written approval, which: explains the site limitations; provides a description of the runoff reduction practices implemented; provides an explanation of why this constitutes the maximum extent achievable; offers an alternative retention volume; and provides a description of the measures used to provide additional stormwater treatment for sediment, floatables and nutrients above the alternate volume up to the water quality volume. In the case of linear projects that do not involve impervious surfaces (e.g. electrical transmission rights-of-way or natural gas pipelines), retention of the water quality volume is not required as long as the post-development runoff characteristics do not differ significantly from pre-development conditions.

(ii) Post-Construction Control Measures

(a) Runoff Reduction and Low Impact Development ("LID") Practices

The site design shall incorporate runoff reduction practices, low impact development ("LID") practices or other post-construction control measures to meet the performance standards in subsection (i) above, promote groundwater recharge and minimize post-construction impacts to water quality. Please refer to Appendix B for additional guidance information.

(b) Suspended Solids and Floatables Removal

The permittee shall install post-construction stormwater control measures designed to minimize the discharge of suspended solids and floatables (e.g. oil and grease, other floatable liquids, floatable solids, trash, etc.) from stormwater. A goal of 80 percent removal of the annual sediment load from the stormwater discharge shall be used in designing and installing such stormwater control measures. The Plan shall provide calculations supporting the capability of such measures in achieving this goal and any third-party verification, as applicable, of the sediment removal efficiencies of such measures. This goal is not intended to limit local approval authorities from requiring a higher standard pursuant to local requirements.

(c) Velocity Dissipation

Velocity dissipation devices shall be placed at discharge locations and along the length of any outfall channel as necessary to provide a non-erosive velocity flow to receiving waters so that the natural physical and biological characteristics and functions of such waters are maintained and protected.

(D) Other Controls

The following additional controls shall be implemented:

(i) Waste Disposal

Best management practices shall be implemented to minimize the discharge of litter, debris, building materials, hardened concrete waste, or similar materials to waters of the State. A narrative of these practices shall be provided in the Plan. In addition, the dumping of liquid wastes in storm sewers is prohibited.

(ii) Washout Areas

Washout of applicators, containers, vehicles and equipment for concrete, paint and other materials shall be conducted in a designated washout area. There shall be no surface discharge of washout wastewaters from this area. Such washout shall be conducted: (1) outside of any buffers and at least 50 feet from any stream, wetland or other sensitive resource; or (2) in an entirely self-contained washout system. The permittee shall clearly flag off and designate areas to be used for washing and conduct such activities only in these areas. The permittee shall direct all washwater into a container or pit designed such that no overflows can occur during rainfall or after snowmelt. At least once per week, the permittee shall inspect all of the containers or pits used for washout to ensure structural integrity, adequate holding capacity, and to check for leaks or overflows. If there are signs of leaks, holes or overflows in the containers or pits that could lead to a discharge, the permittee shall repair them prior to further use.

For concrete washout areas, the permittee shall remove hardened concrete waste whenever the hardened concrete has accumulated to a height of ½ of the container or pit or as necessary to avoid overflows. The permittee shall remove and dispose of such hardened concrete waste in accordance with the practices developed for "Waste Disposal" (see Section 5(*b*)(2)(D)(i) of this general permit).

A narrative of maintenance procedures and a record of maintenance and inspections shall be included in the Plan.

(iii) Off-site Vehicle Tracking/Dust Suppression

Off-site vehicle tracking of sediments and the generation of dust shall be minimized. Wet dust suppression shall be used, in accordance with section 22a-174-18(c) of the Regulations of Connecticut State Agencies, for any construction activity that causes airborne particulates. The volume of water sprayed for controlling dust shall be minimized so as to prevent the runoff of water. No discharge of dust control water shall contain a visible oil sheen, floating solids, visible discoloration, or foaming agents or cause a visible sheen, floating solids, visible discoloration, or foaming in any receiving waters.

(iv) Cleaning

All post-construction stormwater structures shall be cleaned of construction sediment and any remaining silt fence shall be removed upon stabilization of the site.

(v) Storage of Chemical and Petroleum Products

All chemical and petroleum product containers stored on the site (excluding those contained within vehicles and equipment) shall be stored within an impermeable containment system that is free of gaps and cracks, can contain any leaks or spills and accumulated precipitation until the collected materials are detected and removed, and

which can hold at least 110% of the volume of the largest container, or 10% of the total volume of all containers in the area, whichever is larger, without overflow from the containment system. In addition, all chemicals and petroleum products shall be stored under a roofed area except for those chemicals stored in containers of 100 gallon capacity or more, in which case a roof is not required. Double-walled tanks satisfy the requirements of this paragraph for containment and roofing.

(vi) Cold Water Stream Habitat

For construction activities within one hundred (100) feet of any stream, river, or tributary that is included within a Cold Water Stream Habitat, as may be authorized by the Commissioner pursuant to Section 3(*b*)(15) of this general permit, any mitigation strategies authorized by the commissioner must be verified post-construction.

(3) Additional Control Measures for Impaired Waters

Construction activities discharging directly to impaired waters that do not comply with this subsection are not authorized by this general permit. For construction activities that discharge directly to impaired waters, as specified in "New Discharges to Impaired Waters" (Section 3(*b*)(13) of this general permit), the Plan shall include the following provisions:

(A) In lieu of the provisions regarding "Construction Sequencing" in Section 5(*b*)(1)(B)(iii) of this general permit, no more than 3 acres may be disturbed at any one time. For those areas for which construction activity will be temporarily suspended for a period of greater than 14 days, temporary stabilization measures shall be implemented within 3 days of such suspension of activity. For all areas, permanent stabilization shall be implemented within 30 days of disturbance; ***or***

(B) The Plan shall document that measures are in place to ensure that there will be no discharge to the impaired water from rain events up to a 2-year, 24-hour rain event while construction activity is occurring; ***or***

(C) For discharges to impaired waters with an established TMDL, the requirements for stormwater discharges specified in the TMDL shall be met, or:

(i) the Plan shall document that there is sufficient remaining Waste Load Allocation (WLA) in the TMDL to allow the discharge;

(ii) measures shall be implemented to ensure the WLA will not be exceeded; ***and***

(iii) stormwater discharges shall be monitored, if applicable, for any indicator pollutant identified in the TMDL for every rain event that produces a discharge to ensure compliance with the WLA.

(4) Inspections

All construction activities authorized by this general permit shall be inspected initially for Plan implementation and then weekly for routine inspections. Upon project completion and prior to submission of a Notice of Termination, post-construction and final stabilization inspections shall also be conducted. For inspections at solar arrays, see additional requirements in Appendix I.

(A) Plan Implementation Inspections

Prior to commencement of each phase of the construction activity on the site, the permittee shall contact the designing qualified professional and, for locally exempt projects including, but not limited to, solar arrays subject to Appendix I, the appropriate District to ensure that all required inspections are conducted. For each phase of construction, the site shall be inspected at least once within the first thirty (30) days of construction activity and at least three times, with seven (7) or more days between inspections, within the first ninety (90) days of construction activity to confirm compliance with the general permit and proper initial implementation of all control measures designated in the Plan for each phase of construction. The following conditions shall apply:

(i) for all projects not conducted by a state agency and which disturb more than one (1) acre, the inspector shall be someone who:

(a) is not an employee, as defined by the Internal Revenue Service in the Internal Revenue Code of 1986, of the registrant, and

(b) has no ownership interest of any kind in the project for which the registration is being submitted.

(ii) for projects conducted by a state agency and which disturb more than one (1) acre, the inspector shall be someone who:

(a) meets the requirements in subparagraph (i), above, or

(b) is included in the list of qualified professionals specified in Section 3(*b*)(12)(B) of the general permit.

(B) Routine Inspections

The permittee shall routinely inspect the site for compliance with the general permit, including, but not limited to, compliance with the Plan for the site, until a Notice of Termination under Section 6 of the general permit has been submitted to the Commissioner. Inspection procedures for these routine inspections shall comply with the following:

(i) The permittee shall maintain a rain gauge on-site to document rainfall amounts. At least once a week and within 24 hours of the end of a storm that generates a discharge, a qualified inspector (provided by the permittee), shall inspect, at a minimum, the following: disturbed areas of the construction activity that have not been finally stabilized; all erosion and sediment control measures; all structural control measures; all soil stockpile areas; all washout areas and locations where vehicles enter or exit the site. For storms that end on a weekend, holiday or other time after which normal working hours will not commence within 24 hours, a routine inspection is required within 24 hours only for storms that equal or exceed 0.5 inches. For storms of less than 0.5 inches, an inspection shall occur immediately upon the start of the subsequent normal working hours.

In areas of the site where temporary stabilization has been implemented, a routine inspection shall be conducted at least weekly until final stabilization has been achieved. Once all post-construction stormwater measures have been installed in accordance with the Post-Construction Stormwater Management section (subsection 5(*b*)(2)(C) of this general permit) and cleaned of any construction sediment or debris, a post-construction inspection shall be conducted in accordance with subsection (C), below. For sites that

have implemented final stabilization, a routine inspection shall be conducted in accordance with subsection (D), below.

(ii) During each routine inspection the qualified inspector(s) shall, among other things, evaluate the effectiveness of erosion and sediment controls, structural controls, stabilization practices, and any other controls implemented to prevent pollution and determine if it is necessary to install, maintain, or repair such controls and/or practices to improve the quality of stormwater discharge(s). In addition, during each routine inspections the site including, but not limited to, all of the areas noted in the preceding paragraph, shall be inspected for evidence of, or the potential for, pollutants discharging to waters, or entering the drainage system and impacts to the receiving waters. Locations where vehicles enter or exit the site shall also be inspected for evidence of off-site sediment tracking.

(iii) The qualified inspector conducting routine inspections shall prepare a report of each inspection. Each such report shall be retained as part of the Plan. A copy of each inspection report shall be submitted electronically in accordance with Section 5(*c*)(2) of the general permit. This report shall summarize: the scope of the inspection; name(s) and qualifications of personnel conducting the inspection; the date(s) of the inspection; weather conditions including precipitation information; major observations relating to erosion and sediment controls and the implementation of the Plan; a description of the stormwater discharge(s) from the site; and any water quality monitoring performed during the inspection. The report shall be signed by the permittee or his/her authorized representative in accordance with the "Certification of Documents," see Section 5(*h*) of this general permit.

The report shall include a statement that, in the judgment of the qualified inspector(s) conducting the site inspection, the site is either in compliance or out of compliance with the terms and conditions of the Plan and permit. If the site inspection indicates that the site is out of compliance, the inspection report shall include a summary of the remedial actions required to bring the site back into compliance. Non-engineered corrective actions (as identified in the Guidelines) shall be implemented on site within 24 hours and incorporated into a revised Plan within three (3) calendar days of the date of inspection unless another schedule is specified in the Guidelines. Engineered corrective actions (as identified in the Guidelines) shall be implemented on site within seven (7) calendar days and incorporated into a revised Plan within ten (10) calendar days of the date of inspection, unless another schedule is specified in the Guidelines or is approved by the commissioner. During the period in which any corrective actions are being developed and have not yet been fully implemented, interim measures shall be implemented to minimize the potential for the discharge of pollutants from the site.

(iv) Inspectors from the DEEP and the appropriate District, where applicable, may inspect the site to verify compliance with this general permit at any time construction activities are ongoing, and upon completion of construction activities, until a Notice of Termination has been accepted by the Commissioner pursuant to Section 6 of the general permit.

(C) Post-Construction Inspection

(i) For locally approvable projects, once all post-construction stormwater measures have been installed in accordance with Section 5(*b*)(2)(C) of the general permit, Post-Construction Stormwater Management, and cleaned of any construction sediment or debris, the Permittee shall ensure that the appropriate Conservation District or a qualified soil erosion and sediment control professional or a qualified professional

engineer, as appropriate, inspects the site to confirm compliance with the post-construction stormwater management requirements. The permittee shall ensure that the person inspecting the site pursuant to this paragraph is not an employee, as defined by the Internal Revenue Service in the Internal Revenue Code of 1986, of the Permittee and that such person has no ownership interest of any kind in the project for which the site's registration was submitted. A report shall be prepared and certified in accordance with Sections 6(*a*) and (*b*) of the general permit to indicate compliance with this requirement on the Notice of Termination form.

(ii) For locally exempt projects except those conducted by state agencies, once all post-construction stormwater measures have been installed in accordance with the Section 5(*b*)(2)(C) of the general permit, "Post-Construction Stormwater Management", and cleaned of any construction sediment or debris, the permittee shall ensure that a qualified soil erosion and sediment control professional or a qualified professional engineer inspects the site to confirm compliance with the post-construction stormwater management requirements of the general permit. A report shall be prepared and certified in accordance with Sections 6(*a*) and (*b*) of the general permit to indicate compliance with this requirement on the Notice of Termination form.

(iii) For projects conducted by state agencies, once all post-construction stormwater measures have been installed in accordance with the Post-Construction Stormwater Management section (subsection 5(*b*)(2)(C)) and cleaned of any construction sediment or debris, the DOT District Engineer or his/her designee and/or DOT District Environmental Coordinator, or the designated employee of another state agency, will inspect the site to confirm compliance with the post-construction stormwater management requirements of the general permit.

(D) Final Stabilization Inspection

For all projects, once the site has achieved final stabilization for at least one full growing season (April – October) in the year following the end of construction, the Permittee shall have the site inspected by a qualified inspector to confirm such stabilization is maintained. The Permittee shall indicate compliance with this requirement on the Notice of Termination form.

(5) Keeping Plans Current

The Permittee is responsible for keeping their Plan in compliance with this general permit at all times. This may involve any or all of the following:

(A) The permittee shall amend the Plan if the actions required by the Plan fail to prevent pollution or unauthorized discharges to the waters of the state, or fail to comply with any other provision of this general permit. The Plan shall also be amended whenever there is an addition of or change in contractors or subcontractors at the site, the designing qualified professional, District personnel, or a change in design, construction, operation, or maintenance at the site which has not otherwise been addressed in the Plan.

The permittee shall submit a new registration to the commissioner in accordance with Section 4 of this general permit if the amount of disturbed area increases from the amount specified in the registration approved by the Commissioner or there are changes to engineered or non-engineered construction or post-construction control measures that have the potential to increase the quantity or quantity of pollution in the site's stormwater discharges. Such new registration shall be submitted before any such increases or changes are implemented.

(B) The commissioner may notify the permittee at any time that the Plan or the site does not meet one or more requirements of this general permit. Within seven (7) days of such notice, or such other time as the commissioner may allow, the permittee shall make the required changes to the Plan and perform all actions required by such revised Plan. Within 15 days of such notice, or such other time as the commissioner may allow, the permittee shall submit to the commissioner a written certification that the requested changes have been made and implemented and such other information as the commissioner requires. Any such certification or information shall be submitted in accordance with the 'Duty to Provide Information" and "Certification of Documents," Sections 5(*g*) and 5(*h*) of this general permit.

(C) For any stormwater discharges authorized under any previous version of this general permit, the Permittee shall, excluding any provisions for which an exemption is provided for in Section 4(*c*)(3)(C) of the general permit, update their Plan prior to their re-registration pursuant to Section 4(*c*)(3) of the general permit, and in no case later than one hundred twenty (120) days after the effective date of this general permit to ensure and maintain compliance with any applicable term and condition of this general permit. For previously authorized sites discharging to impaired waters or other sensitive areas, the commissioner may require additional control measures or provide authorization under an individual permit pursuant to Sections 4(*i*) and 3(*i*).

(D) The Permittee shall ensure that any person keeping this Plan or part thereof current, under the Keeping Plans Current section of this permit, has qualifications that would be required under this general permit to initially prepare the Plan or part thereof.

(E) The permittee shall retain as part of the Plan all modifications, and any documentation associated with each modification, made under this section.

(6) Failure to Prepare, Maintain or Update Plan

In no event shall failure to complete, maintain or update a Plan, in accordance with the "Development of Contents of the Plan" and "Keeping Plans Current" sections (subsections 5(*b*)(1) and 5(*b*)(5)) of this general permit, excuse non-compliance or relieve a permittee of responsibility to implement any actions required to protect the waters of the state or comply with the requirements of this permit.

(7) Plan Signature

The Plan shall be signed and certified as follows:

(A) The Plan shall be signed by the permittee in accordance with the Section 5(*h*) of this general permit, "Certification of Documents".

(B) The Plan shall include certification by all contractors and subcontractors in accordance with Section 5(*b*)(1)(B)(vii)) of this general permit, "Contractors".

(C) The Plan shall include a copy of the certification by a professional engineer or landscape architect made in accordance with Section 3(*b*)(9) of this general permit.

(8) Plan Review Certification

For a locally approvable project pursuant to Section 4(*c*) of this general permit, a copy of the Plan review certification made in accordance with Section 3(*b*)(10) or (11) of this general permit, as

applicable, shall be maintained with the Plan. (Note: Construction activities reviewed and certified pursuant to those sections are still subject to the local erosion and sediment control and stormwater management regulations of the municipality in which the activity is conducted.)

(9) Plan Submittal

The Permittee shall ensure that the Plan is submitted to the commissioner and other parties as follows:

(A) For all Locally Exempt Projects with greater than one acre of soil disturbance, the Permittee shall submit an electronic copy of the Plan and a completed Registration Form to the commissioner.

(B) For Locally Approvable projects, the permittee shall provide an electronic copy of the Plan and a completed Registration Form to the commissioner. In addition, a completed Registration Form for this general permit shall be submitted to the following persons immediately upon request:

(i) The municipal planning commission, zoning commission and/or inland wetlands agency, or its respective enforcement officer or designated agent; and

(ii) In the case of a stormwater discharge through a municipal separate storm sewer system, the municipal operator of the system; and

(iii) In the case of a stormwater discharge located within a public drinking water supply watershed or aquifer area, the water company responsible for that water supply.

DO NOT SUBMIT any information that does not pertain to stormwater management or erosion and sediment control (such as electrical and lighting plans, boundary or lot surveys, building plans, non-stormwater related detail sheets, etc.). Any plans stamped "not for construction" will not be accepted.

(c) Reporting and Record Keeping Requirements

(1) Record Keeping

(A) For a period of at least five years from the date the Notice of Termination is accepted by the Commissioner, the permittee shall retain copies of the Plan and all reports required by this general permit, and records of all data used to complete the registration for this general permit, unless the commissioner specifies another time period in writing.

(B) The permittee shall retain an updated copy of the Plan required by this general permit at the construction site from the date construction is initiated at the site until the date construction at the site is completed.

(C) Inspection records must be retained as part of the Plan for a period of five (5) years after the date of inspection. In addition, the following inspection reports shall be kept on-site with the Plan and shall be submitted to the Commissioner upon request:

(i) Plan Implementation Inspections conducted in accordance with Section 5(*b*)(4)(A) and recorded on checklist forms prepared pursuant to Section 5(*b*)(1)(B)(vi)(a).

(ii) Routine Inspections conducted in accordance with Section 5(*b*)(4)(B) and recorded on checklist forms prepared pursuant to Section 5(*b*)(1)(B)(vi)(b).

(D) Plan Modification

Plan modifications made pursuant to Section 5(*b*)(5) of this general permit and any documentation associated with such modification shall be kept on-site with the Plan.

(2) Reporting

(A) The reports specified in this section shall be provided to the Commissioner within the timeframe specified in any request by the Commissioner, and if no timeframe is specified, no later than thirty (30) days after the date of any such request. If requested by the Commissioner, the reports shall be submitted to the Commissioner using NetDMR in the manner specified in subsection (B), below.

(B) NetDMR Reporting

The permittee shall submit all reporting of inspections, Plan updates or other reporting electronically using NetDMR, a web-based tool that allows Permittees to electronically submit stormwater reports through a secure internet connection. Unless otherwise approved in writing by the commissioner, no later than thirty (30) days after authorization under this permit the Permittee shall begin reporting electronically using NetDMR. Specific requirements regarding subscription to NetDMR and submittal of data and reports in hard copy form and for submittal using NetDMR are described below:

(i) Submittal of NetDMR Subscriber Agreement

At or before the time the Permittee submits a registration for this permit, the Permittee and/or the person authorized to sign the Permittee's reports ("Signatory Authority") as described in RCSA Section 22a-430-3(b)(2) shall contact the Department at deep.netdmr@ct.gov and initiate the NetDMR subscription process for electronic submission of Stormwater Report information. Information on NetDMR is available on the Department's website at www.ct.gov/deep/netdmr. On or before the date of authorization under this permit the Permittee shall submit a signed and notarized copy of the *Connecticut DEEP NetDMR Subscriber Agreement* to the Department.

(ii) Submittal of Reports and other documents Using NetDMR

Unless otherwise approved by the commissioner, on or before thirty (30) days following authorization under this permit, the Permittee and/or the Signatory Authority shall electronically submit reports and any other documents required under this permit or by request of the Commissioner to the Department using NetDMR in satisfaction of the requirements of Section 5(*c*)(2)(A) of this permit.

Reports shall be submitted electronically to the Department no later than fifteen (15) days following the completed reporting period. NetDMR is accessed from: http://www.epa.gov/netdmr.

(iii) Submittal of NetDMR Opt-Out Requests

If the Permittee is able to demonstrate a reasonable basis, such as technical or administrative infeasibility, that precludes the use of NetDMR for electronically submitting reports, the commissioner may approve an alternative for the submission of reports. Any such request shall be submitted in writing to the Department for written approval on or before the Permittee's date of permit authorization. This demonstration shall be valid for twelve (12) months from the date of the Department's approval and

shall thereupon expire. At such time, reports shall be submitted electronically to the Department using NetDMR unless the Permittee submits a renewed request for an alternative and such request is approved by the Department.

All requests under this provision and requests for the NetDMR subscriber form should be sent to the following address or by email at deep.netdmr@ct.gov:

Attn: NetDMR Coordinator
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

(d) Regulations of Connecticut State Agencies Incorporated into this General Permit

The permittee shall comply with sections 22a-430-3 and 22a-430-4 of the Regulations of Connecticut State Agencies which are hereby incorporated into this general permit, as if fully set forth herein.

(e) Reliance on Registration

In evaluating a registration submitted under this general permit, the commissioner has relied on information provided by the registrant. If such information proves to be false or incomplete, any authorization reliant on such information may be suspended or revoked in accordance with law, and the commissioner may take any other action authorized by law.

(f) Duty to Correct and Report Violations

Upon learning of any violation of this general permit, including, but not limited to, any failure to follow the Plan or any adverse impacts on wetlands or waters a permittee shall immediately cease all construction activities and take all reasonable action to determine the cause of such violation, return to compliance, correct and mitigate the results of such violation, and prevent such violation from recurring. Construction activities shall not recommence until such reasonable action(s) have been taken and such violation and/or adverse impacts have been corrected and compliance has been restored. The permittee shall ensure that any violations of the terms and conditions of the general permit, including but not limited to, the Plan, identified during an inspection or at any other time, that result in the potential to discharge pollutants to waters of the state are reported to the commissioner within two (2) hours of discovery, or, for those violations discovered outside normal business hours, at the start of the next business day. Violations shall be reported to the DEEP stormwater staff at deep.stormwaterstaff@ct.gov and by calling (860) 424-3025. Furthermore, within five (5) days of discovery of a violation, the Permittee shall prepare and submit to the commissioner a written report signed by the Permittee, which documents the cause of the violation, duration including dates and times, and corrective action taken to address the violation and any action taken or planned to prevent future occurrences. Such information shall be filed in accordance with Section 5(*h*) of this general permit, "Certification of Documents".

In addition, nothing in this section shall affect any other action the commissioner is authorized to take regarding a violation of this general permit.

(g) Duty to Provide Information

The commissioner may request any information pertinent to the construction activity or concerning the Permittee's compliance with this general permit. If requested, the permittee shall provide any such information within fifteen (15) days of such request or other time period as may be specified in writing by the commissioner.

(h) Certification of Documents

Unless otherwise specified in this general permit, any document, including but not limited to any notice, information or report, which is submitted to the commissioner under this general permit shall be signed by the permittee, or a duly authorized representative of the permittee, and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

(i) Date of Filing

For purposes of this general permit, the date of filing with the commissioner of any document is the date such document is received by the commissioner. The word "day" as used in this general permit means the calendar day; if any date specified in the general permit falls on a Saturday, Sunday, or legal holiday, such deadline shall be the next business day thereafter.

(j) False Statements

Any false statement in any information submitted pursuant to this general permit may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes.

(k) Correction of Inaccuracies

Within fifteen (15) days after the date a permittee becomes aware of a change in any information submitted pursuant to this general permit, or becomes aware that any such information is inaccurate or misleading or that any relevant information has been omitted, such permittee shall correct the inaccurate or misleading information or supply the omitted information in writing to the commissioner. Such information shall be filed in accordance with the certification requirements prescribed in Section 5(*h*) of this general permit.

(l) Transfer of Authorization

Any authorization issued by the commissioner under this general permit is transferable only in accordance with the provisions of section 22a-6o of the General Statutes. Any person or municipality proposing to transfer any such authorization shall submit a license transfer form to the commissioner. For state projects, the Permittee must be contractually authorized to conduct the transfer. The transferee is not authorized to conduct any activities under this general permit until the transfer is approved by the commissioner. The transferee may adopt by reference the Plan developed by the transferor. The transferee shall update the Plan as required by Section 5(*b*)(5) of this general permit, "Keeping Plans Current".

(m) Other Applicable Requirements

Nothing in this general permit shall relieve the permittee of the obligation to comply with any other applicable federal, state and local requirements, including but not limited to the obligation to obtain any other required authorizations or licenses.

(n) Other Rights

This general permit is subject to and does not derogate any present or future rights or powers of the State of Connecticut and conveys no rights in real or personal property nor any exclusive privileges, and is subject to all public and private rights and to any federal, state, and local laws pertinent to the property or construction activity affected by such general permit. In conducting any construction activity authorized hereunder, the permittee shall not cause pollution, impairment, or destruction of the air, water, or other natural resources of this state. The issuance of this general permit shall not create any presumption that this general permit should or will be renewed.

Section 6. Termination Requirements

(a) Notice of Termination

At the completion of a construction project the Permittee shall submit a Notice of Termination in accordance with the requirements of this section. A project shall be considered complete after all post-construction measures are installed, cleaned, functioning, and inspected and the site has achieved final stabilization and inspection (see Sections 5(*b*)(4)(C) & (D) of the general permit, respectively) for at least one full growing season (i.e. April through October) in the year following the cessation of construction activities. Final stabilization must be achieved for all phases of construction, and for solar projects, any additional requirements in Appendix I complied with, before a Notice of Termination may be submitted.

(b) Termination Form

A Notice of Termination shall be filed on forms prescribed and provided by the commissioner and shall include the following:

(1) The permit number as provided to the permittee on the permit certificate;

(2) The name of the registrant as reported on the general permit registration form (DEEP-PED-REG-015), or if a license transfer has been approved by the commissioner, the name of the permittee on a license transfer form;

(3) The address of the completed construction site;

(4) The dates when:

(A) Construction was completed;

(B) All storm drainage structures were cleaned of construction debris pursuant to the "Other Controls" section (subsection 5(*b*)(2)(D)) of this general permit;

(C) The post-construction inspection was conducted pursuant to Section 5(*b)(*4)(C);

(D) The final stabilization inspection was conducted pursuant to Section 5(*b*)(4)(D).

(5) A description of the post-construction activities at the site; and

(6) Signatures of:

(A) The permittee; and

(B) The person who conducted the post-construction inspection pursuant to Section 5(*b*)(4)(C) of the general permit.

(C) The person who conducted the final stabilization inspection pursuant to Section 5(*b*)(4)(D) of the general permit.

(c) Where to File a Termination Form

A termination form shall be filed with the commissioner at the following address:

WATER PERMITTING AND ENFORCEMENT DIVISION/STORMWATER GROUP
BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Section 7. Commissioner's Powers

(a) Abatement of Violations

The commissioner may take any action provided by law to abate a violation of this general permit, including but not limited to penalties of up to $25,000 per violation per day under Chapter 446k of the Connecticut General Statutes, for such violation. The commissioner may, by summary proceedings or otherwise and for any reason provided by law, including violation of this general permit, revoke a permittee's authorization hereunder in accordance with sections 22a-3a-2 through 22a-3a-6, inclusive, of the Regulations of Connecticut State Agencies. Nothing herein shall be construed to affect any remedy available to the commissioner by law.

(b) General Permit Revocation, Suspension, or Modification

The commissioner may, for any reason provided by law, by summary proceedings or otherwise, revoke or suspend this general permit or modify to establish any appropriate conditions, schedules of compliance, or other provisions which may be necessary to protect human health or the environment.

(c) Filing of an Individual Permit Application

If the commissioner notifies a permittee in writing that such permittee must obtain an individual permit, the permittee shall file an application for an individual permit within thirty (30) days of receiving the commissioner's notice or such other time that the commissioner specified in the notice to the permittee. While such application is pending before the commissioner, the permittee shall continue to comply with the terms and conditions of this general permit. Nothing herein shall affect the commissioner's power to revoke a permittee's authorization under this general permit at any time.

Issued: November 25, 2022

for Katherine S. Dykes
Commissioner

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

APPENDIX A

Endangered and Threatened Species

In order to be eligible for coverage under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("GP" or "the GP"), under section 3(*b*)(2) of the GP, a registrant must ensure that the construction activity, as defined in Section 2 of the GP, does not threaten the continued existence of any state or federal species listed as endangered or threatened ("listed species") or result in the destruction or adverse modification of any habitat associated with such species.

In order to prevent significant, unforeseen delays in the processing of a registration under the GP, registrants should assess compliance with section 3(*b*)(2) early in the planning stages of a project. The Department of Energy and Environmental Protection ("the Department") strongly recommends that this assessment *be initiated up to one year, or more,* prior to the projected construction initiation date, and even before the purchase of the site of the construction activity. At a minimum, registrants must assess compliance with section 3(*b*)(2) prior to submission of the Registration Form for the GP.

This Appendix describes the ways that a registrant can comply with section 3(*b*)(2) of the GP. In connection with the filing of a registration a registrant can perform a self-assessment described in Section 1, seek a limited two-year determination or a safe harbor determination from the Department's Wildlife Division under Sections 2 or 3, respectively, or stipulate in writing to the presence of listed species or any habitat associated with such species and develop a mitigation plan pursuant to Section 5 of this Appendix. While some means of compliance are more limited than others, the options set out in this Appendix are not mutually exclusive and all options remain available to a registrant. For example, a registrant may perform a self-assessment under Section 1 and seek a safe harbor determination under Section 3 of this Appendix. Provided the requirements of this Appendix are met, the choice of how to proceed is the registrant's.

Section 1. Self Assessment through Natural Diversity Database Map Review and Screening

Before submission of a registration for coverage under this GP, a registrant must review the current versions of the Department's Natural Diversity Data Base ("NDDB") maps. Except as provided for in Sections 2, 3 or 5 of this Appendix, such review must occur no more than six months before such submission. Such review provides a method for screening whether the Department is already aware of listed species that may be present on the site of the construction activity. These maps can be viewed online at:

CT DEEP Natural Diversity Data Base Maps
CTECO Webpage (in the interactive Map Viewer)

Screening

The site of the construction activity must be compared to the shaded areas depicted on the NDDB map to determine if the site is entirely or partially within a shaded area. If the site is entirely or partially within a shaded area for a listed species a registrant can only achieve compliance with section 3(*b*)(2) of the GP by obtaining a limited two-year determination under Section 2, a safe harbor determination under Section 3, or an approved mitigation plan under Section 5 of this Appendix from the Department's Wildlife Division.

If the site of the construction activity is not entirely or partially within a shaded area, then the Department is not aware of any listed species at the site of the construction activity. Based upon this screening, and provided the registrant has no reasonably available verifiable, scientific or other credible information that the construction activity could reasonably be expected to violate section 3(*b*)(2) of the GP, when completing the Registration Form for this GP a registrant may check the box that indicates that the construction activity will not impact federal or state listed species.

A registrant using only self-assessment under this section may utilize the results of any such self-assessment for up to, but no more than, six months from the date of such assessment. Note, however, that the NDDB maps are not the result of comprehensive state-wide field investigations, but rather serve as a screening tool. Using such maps as a screening tool does not provide a registrant with an assurance that listed species or their associated habitat may not be encountered at the site of the construction activity. Notwithstanding the NDDB screening results, if a listed species is encountered at the site of the construction activity, the registrant shall promptly contact the Department and may need to take additional action to ensure that the registrant does not violate section 3(*b*)(2) of the GP.

Section 2. Obtaining a Limited Two-Year Determination

A registrant may seek a written determination from the Department's Wildlife Division, good for two years, that the proposed construction activity complies with section 3(*b*)(2) of the GP. To obtain this limited two-year determination, a registrant must, in addition to conducting the NDDB map review in Section 1 of this Appendix, provide the Department's Wildlife Division with (1) any reasonably available verifiable, scientific or other credible information about whether the construction activity could reasonably be expected to result in a violation of section 3(*b*)(2) of the GP, and (2) limited information about the site of the proposed construction activity, but less information than would be necessary for a safe harbor determination under Section 3 of this Appendix. The limited information necessary for a two-year determination is on the current "Request for Natural Diversity Database (NDDB) State Listed Species Review" form on the Department's website. The form and instructions for seeking such a limited two-year determination are available at www.ct.gov/DEEP/nddbrequest.

Provided the registrant's information is accurate and the Department's Wildlife Division determines that the construction activity will not violate section 3(*b*)(2) of the GP, the registrant shall receive a limited two-year determination from the Department. Any such determination may indicate that the construction activity will not impact listed species or their associated habitat, or it may include specific conditions to be implemented to avoid or significantly minimize any impacts that may be encountered at the site of the construction activity. For purposes of submitting a registration for the GP, any such limited two-year determination can be relied upon by the person receiving such determination for two years from the date of such determination. Like, however, the NDDB screening procedure in Section 1 of this Appendix, a limited two-year determination does not provide a registrant with an assurance that listed species or their associated habitat may not be encountered at the site of the construction activity. If a listed species is encountered, the registrant shall promptly contact the Department and may need to take additional action to ensure that the construction activity does not violate section 3(*b*)(2) of the GP.

If a registrant receives a limited two-year determination from the Department, the registrant should check the limited two-year determination box on the GP registration form and include the Department's two-year limited determination letter with the GP Registration form. Checking the limited two-year determination box on the registration form and failing to provide the determination letter from the Department's Wildlife Division with the GP Registration form will delay and may prevent processing of a registration.

If based upon the information provided by a registrant seeking a limited two-year determination the Department's Wildlife Division determines that the construction activity could impact listed species or their associated habitat, or that the Department needs additional information to make a limited two-year determination, the registrant may still achieve compliance with section 3(*b*)(2) of the GP through providing additional information pursuant to Section 4 or developing a mitigation plan pursuant to Section 5 of this Appendix.

A registrant may request one or more one-year extensions to a limited two-year determination under this section. If the Department's Wildlife Division has prescribed a form for requesting an extension, any such request shall be made using the prescribed form. There is a presumption that requests for a one-year extension of a limited two-year determination shall be granted. However, this presumption can be rebutted if the Department determines that a change in any of the following has occurred since an initial limited two-year determination or any extension was granted: the construction activity affecting or potentially affecting listed species or their associated habitat; the NDDB maps for the site of the construction activity; the limited information upon which a limited two-year determination or any extension was granted; or other information indicative of a change in circumstance affecting listed species or their associated habitat. Any one-year extension granted under this paragraph shall run from the date the Department's Wildlife Division issues its determination to grant an extension and shall be treated under the same conditions as a limited two-year determination as provided for in this section. Any letter granting a one-year extension shall be included with a registration along with the original limited two-year determination as provided for in this section.

Section 3. Obtaining a Safe Harbor Determination

A registrant may seek a written determination from the Department's Wildlife Division, good for three years, with the potential to be extended for an additional year, that proposed construction activity complies with section 3(*b*)(2) of the GP. Any such determination shall constitute a "safe harbor" for purposes of section 3(*b*)(2) of the GP.

To obtain a safe harbor determination, a registrant must, in addition to conducting the NDDB review in section 1 of this Appendix, provide the Department's Wildlife Division with any reasonably available verifiable, scientific or other credible information about whether the construction activity could reasonably be expected to result in a violation of section 3(*b*)(2) of the GP and specific information about the site of the construction activity. The specific information necessary for a safe harbor determination is listed in Attachment A to this Appendix. This information must be sufficient to allow the Wildlife Division to adequately assess the site for potential risks to listed species and their associated habitat. While the Department recognizes certain information is necessary to make a safe harbor determination, it also recognizes that a registrant may need to obtain a safe harbor determination early in its project's approval process in order to make prudent business decisions about purchasing a site or proceeding to final project designs. The form and instructions for seeking a safe harbor determination are available at www.ct.gov/DEEP/nddbrequest.

Provided the registrant's information is accurate and the Department's Wildlife Division determines that the construction activity will not violate section 3(*b*)(2) of the GP, the registrant shall receive a safe harbor determination from the Department. A safe harbor determination may indicate that the construction activity will not impact listed species or their associated habitat, or it may include specific conditions to be implemented to avoid or significantly minimize any impacts that may be encountered at the site of the construction activity. The Department shall honor the safe harbor determination for three years from the date it is issued, meaning that unlike the NDDB review in Section 1 or the limited two-year determination in Section 2 of this Appendix, if the Department makes a safe harbor determination and a registrant remains in compliance with any conditions in any such determination, irrespective of what may be found at the site of the construction activity, a registrant shall be considered in compliance with section 3(*b*)(2) of the GP. However, a safe harbor determination shall

not be effective if a construction activity may threaten the continued existence of any federally listed species or its critical habitat under federal law. If a federally listed species or its critical habitat is encountered on the site of the construction activity, the registrant shall promptly contact the Department and may need to take additional action to ensure that the construction activity does not violate federal law or section 3(*b*)(2) of the GP.

If a registrant receives a safe harbor determination from the Department, the registrant should check the safe harbor determination box on the GP registration form and include the Department's safe harbor determination with the GP Registration form. Checking the safe harbor box on the registration form and failing to provide the safe harbor determination letter from the Department's Wildlife Division with the GP Registration form will delay and may prevent processing of a registration.

If based upon the information provided by a registrant seeking a safe harbor determination the Department's Wildlife Division determines that the construction activity could impact listed species or their associated habitat, or that the Department needs additional information to make a safe harbor determination, the registrant may still achieve compliance with section 3(*b*)(2) of the GP through providing additional information pursuant to Section 4 or developing a mitigation plan pursuant to Section 5 of this Appendix.

If a registrant receives a safe harbor determination from the Department's Wildlife Division, anytime during the third year of such safe harbor, a registrant may request a one-year extension of that safe harbor. If the Department's Wildlife Division has prescribed a form for requesting an extension, any such request shall be made using the prescribed form. There is a presumption that a request for a one-year extension of a safe harbor shall be granted. However, this presumption can be rebutted if the Department determines that a change in any of the following has occurred since the safe harbor was granted: the construction activity affecting or potentially affecting listed species or their associated habitat; the NDDB maps for the site of the construction activity; the information upon which the safe harbor was granted; or other information indicative of a change in circumstance affecting listed species or their associated habitat. A registrant may seek only one extension, for one year, to a safe harbor determination. Any one-year extension granted under this paragraph shall run from the date of the Department's Wildlife Division issues its determination to grant an extension and shall be honored by the Department in the same manner as a safe harbor determination noted above. Any letter granting a one-year extension shall be included with a registration along with the original safe harbor determination as provided for in this section.

Section 4. Providing Additional Information

For the Department's Wildlife Division to make a limited two-year determination under Section 2 or a safe harbor determination under section 3 of this Appendix, limited additional information may be required to determine if the construction activity would impact listed species or their associated habitat. If the species in question is a state listed endangered or threatened species under section 26-306 of the general statutes, a registrant shall, in consultation with the Department's Wildlife Division, provide the limited additional information requested by the Department's Wildlife Division. Such information may include, but is not limited to, a survey of specific listed species in question. If the species in question is a federally listed threatened or endangered species, in addition to the Department's Wildlife Division, a registrant shall also consult with the U.S. Fish and Wildlife Service and shall provide any additional information requested by that agency. A registrant that initially sought or obtained a limited two-year determination may, after providing the additional information required under this section request a safe harbor determination under Section 3 of this Appendix.

At any time, as an alternative to proceeding under Section 2, 3 or 4 of this Appendix, a registrant may stipulate, in writing, to the presence of one or more listed species or their associated habitat. A registrant choosing this alternative shall proceed to develop a mitigation plan under Section 5 of this Appendix.

If based upon any additional information provided to the Department's Wildlife Division, and as applicable, the U.S. Fish & Wildlife Service, the Department's Wildlife division determines that construction activity will be in compliance with section 3(*b*)(2) of the GP, a registrant shall receive a limited two-year determination under Section 2 or a safe harbor determination under Section 3 of this Appendix, as applicable.

If the Department's Wildlife Division determines that additional information is necessary to determine if the construction activity has the potential to impact listed species or their associated habitat, and a registrant chooses to not provide such information, a registrant shall proceed with the self-assessment through an NDDB review under Section 1 of this Appendix, or stipulate to the existence of a listed species or associated habitat and develop a mitigation plan under Section 5 or such registrant shall not be eligible to register under the GP.

Section 5. Developing a Mitigation Plan

The Department's Wildlife Division may determine that the construction activity has the potential to adversely impact listed species or their associated habitat. However, it may be possible to modify the construction activity or undertake certain on-site measures to avoid or significantly minimize such impacts. If the species or associated habitat in question is a state listed endangered or threatened species under section 26-306 of the general statutes, a registrant shall consult with the Department's Wildlife Division to determine if an acceptable mitigation plan can be developed so impacts can be avoided or minimized such that a registrant remains in compliance with section 3(*b*)(2). If the species in question is a federally listed threatened or endangered species, any such consultation shall also include the U.S. Fish and Wildlife Service.

If a registrant in consultation with the Department's Wildlife Division, and as applicable, the U.S. Fish & Wildlife Service, develops a mitigation plan that is approved by the Department's Wildlife Division, or as applicable, the U.S. Fish & Wildlife Service, the registrant shall receive a limited two-year determination under Section 2 or a safe harbor determination under Section 3 of this Appendix. In this situation, in addition to checking the two-year determination box or the safe harbor determination box, as applicable, on the registration form, the registrant shall also check the box on the registration form indicating that it has an approved mitigation plan and provide a status update on the registration form as to whether it has completed or is still in the process of implementing the approved mitigation plan.

If an approved mitigation plan has not been fully implemented by the time a registration is submitted, completing all remaining tasks in the plan shall become an enforceable condition of any registration issued to the registrant.

If the Department determines that the construction activity has the potential to adversely impact listed species or their associated habitat and the registrant and the Department, and as applicable, the U.S. Fish & Wildlife Service, are not able to agree on an acceptable mitigation plan that is approved by the Department, and as applicable, the U.S. Fish & Wildlife Service, any such registrant shall not be eligible to register under the GP.

APPENDIX A
ATTACHMENT A

Specific Information Needed to Apply for a Safe Harbor Determination

A Safe Harbor Determination will be made upon the submission of a detailed report that fully addresses the matters noted below. For the Department's Wildlife Division to make a safe harbor determination, the report should synthesize and analyze this information, not simply compile information. Those providing synthesis and analysis need appropriate qualifications and experience. A request for a safe harbor determination shall include:

1) Habitat Information, including GIS mapping overlays, identifying:

- wetlands, including wetland cover types;
- plant community types;
- topography;
- soils;
- bedrock geology;
- floodplains, if any;
- land use history; and
- water quality classifications/criteria.

2) Photographs - The report should also include photographs of the site, including all reasonably available aerial or satellite photographs and an analysis of such photographs.

3) Inspection - The report should include a visual inspection(s) of the site, preferably when the ground is visible. This inspection can also be helpful in confirming or further evaluating the items noted above.

4) Biological Surveys - The report should include all biological surveys of the site where construction activity will take place that are reasonably available to a registrant. A registrant shall notify the Department's Wildlife Division of biological studies of the site where construction activity will take place that a registrant is aware of but are not reasonably available to the registrant.

5) Based on items #1 through 4 above, the report shall include a Natural Resources Inventory of the site of the construction activity. This inventory should also include a review of reasonably available scientific literature and any recommendations for minimizing adverse impacts from the proposed construction activity on listed species or their associated habitat.

6) In addition, to the extent the following is available at the time a safe harbor determination is requested, a request for a safe harbor determination shall include and assess:

- Information on Site Disturbance Estimates/Site Alteration information

- Vehicular Use

- Construction Activity Phasing Schedules, if any; and

- Alternation of Drainage Patterns

APPENDIX B

Connecticut Department of Energy & Environmental Protection
Inland Water Resources Division Fact Sheet
Considering Low Impact Development Principles in Site Design

In order to reduce the impact of development and address stormwater quality issues, the Department requires the use of Low Impact Development (LID) measures in accordance with Sections 5(*b*)(2)(C)(i) and (ii) of the general permit. LID is a site design strategy intended to maintain or replicate predevelopment hydrology through the use of small-scale controls, integrated throughout the site, to manage stormwater runoff as close to its source as possible. Infiltration of stormwater through LID helps to remove sediments, nutrients, heavy metals, and other types of pollutants from runoff.

Key Strategies for LID

Key strategies for effective LID include: infiltrating, filtering, and storing as much stormwater as feasible, managing stormwater close to where the rain/snow falls, managing stormwater at multiple locations throughout the landscape, conserving and restoring natural vegetation and soils, preserving open space and minimizing land disturbance, designing the site to minimize impervious surfaces, and providing for maintenance and education. Water quality and quantity benefits are maximized when multiple techniques are grouped together. In areas of compacted and/or possibly contaminated soils, soil suitability should be further investigated prior to selecting optimum treatment and/or remediation measures. Where soil conditions permit, the DEEP encourages the utilization of one, or a combination of, the following measures:

- the use of pervious pavement or grid pavers (which are very compatible for parking lot and fire lane applications), or impervious pavement without curbs or with notched curbs to direct runoff to properly designed and installed infiltration areas;
- the use of vegetated swales, tree box filters, and/or infiltration islands to infiltrate and treat stormwater runoff (from building roofs, roads, and parking lots);
- the minimization of access road widths and parking lot areas to the maximum extent possible to reduce the area of impervious surface;
- the use of dry wells to manage runoff from building roofs;
- incorporation of proper physical barriers or operational procedures for special activity areas where pollutants could potentially be released (e.g. loading docks, maintenance and service areas, dumpsters, etc.);
- the installation of rainwater harvesting systems to capture stormwater from building roofs for the purpose of reuse for irrigation (i.e. - rain barrels for residential use and cisterns for larger developments);
- the use of residential rain gardens to manage runoff from roofs and driveways;
- the use of vegetated roofs (green roofs) to detain, absorb, and reduce the volume of roof runoff; and
- providing for pollution prevention measures to reduce the introduction of pollutants to the environment.

The 2004 Stormwater Quality Manual LID Appendix and the 2002 Erosion and Sediment Control Guidelines LID Appendix both provide guidance on implementing LID measures. A guide to LID resources can also be found in the DEEP Low Impact Development Resources Factsheet (PDF).

LID in Urban Areas

If the proposed site is located in a highly urbanized area, it is likely underlain by urban land complex soils. The Natural Resources Conservation Service (NRCS) Soil Web Survey (http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm) provides information on soil textures, parent materials, slopes, height of seasonal high water table, depth to restrictive layer, and permeability. In highly developed areas, infiltration may be limited due to the high percentage of impervious cover. However, infiltration practices may be suitable at urban sites depending on:

- Potential contamination of soils in historically industrialized areas. The siting of areas for infiltration must consider any existing soil or groundwater contamination.

- Site specific soil conditions. NRCS mapping consists of a minimum 3 acres map unit and soils may vary substantially within each mapping unit. Test pits should be dug in areas planned for infiltration practices to verify soil suitability and/or limitations.

- Investigation of areas of compacted soils and the utilization of proper construction staging. Planning should insure that areas to be used for infiltration are not compacted during the construction process by vehicles or machinery.

Even if infiltration is limited at a site, it is still possible to implement LID practices. Specifically, potential exists for the installation of green roofs on buildings and/or the use of cisterns to capture and reuse rainwater.

LID in Areas with a High Seasonal Water Table or Hardpan Layer

- The impact of stormwater runoff to any streams and/or wetlands near the site should be considered. Water quality treatment is influenced by hydraulic conductivity and time of travel. If stormwater infiltration is limited by an impermeable layer close to the surface, the water may run laterally through the ground and discharge to the stream or wetlands, providing limited water quality treatment. However, a longer time of travel may provide sufficient treatment. Proper soil testing for infiltration potential will increase the likelihood of successful BMP design.

- In areas with a high seasonal water table, bioretention areas/rain gardens should be planted with water tolerant/wetland plants. The presence of a high seasonal water table suggests that water may drain slowly or not at all during certain parts of the year. Planting native wetland vegetation will help to ensure plant survival and increase the effectiveness of bioretention practices. Information on native plantings that are both drought tolerant and tolerant of wet conditions can be found in The UConn Cooperative Extension System's guide to building a rain garden at http://nemo.uconn.edu/publications/rain_garden_broch.pdf. Native plant lists for Connecticut can also be found at http://www.fhwa.dot.gov/environment/rdsduse/ct.htm.

LID Guidance for Federal Projects

- LID techniques have been utilized by Department of Defense (DoD) agencies during the last several years. The effectiveness of these projects in managing runoff as well as reducing construction and maintenance costs has created significant interest in LID. The DoD has created a Unified Facilities Criteria document, Low Impact Development that provides guidelines for integrating LID planning and design into a facility's regulatory and resource protection programs. It is available on-line at: http://www.wbdg.org/ccb/DOD/UFC/ufc_3_210_10.pdf.

- Section 438 of the Energy Independence and Security Act (EISA) of 2007 requires federal agencies to reduce stormwater runoff from federal development projects to protect water resources. In December 2009, the EPA developed a technical guidance document on implementing the stormwater runoff requirements for federal projects under Section 438 of EISA. The document contains guidance on how compliance with Section 438 can be achieved, measured and evaluated and can be found at: http://www.epa.gov/owow/NPS/lid/section438/pdf/final_sec438_eisa.pdf.

For more information contact the CT DEEP Watershed Management/Low Impact Development Program call (860)424-3716.

List of Runoff Reduction/LID Practices

Re-Forestation
Disconnection of Rooftop Runoff
Disconnection of Non-Rooftop Runoff
Sheetflow to Conservation Areas
Green Roof
Permeable Pavement
Rainwater Harvesting
Submerged Gravel Wetlands
Micro-Infiltration
Rain Gardens
Bioretention
Landscape Infiltration
Grass Swales
Bio-swales
Wet Swales
Stormwater Ponds
Stormwater Wetlands
Stormwater Filtering Systems
Stormwater Infiltration

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

APPENDIX C

AQUIFER PROTECTION AREAS AND OTHER GROUNDWATER DRINKING SUPPLY AREAS GUIDANCE INFORMATION

The Stormwater Pollution Control Plan ("the Plan") shall consider measures to reduce or mitigate potential impacts to both ground water (aquifers) and surface waters, taking into consideration both quantity and quality of the runoff. The emphasis should be to minimize, to the extent possible, changes between pre-development and post-development runoff rates and volumes.

The basic stormwater principals for Aquifer Protection Areas (and other groundwater drinking supply areas) are to prevent inadvertent pollution discharges/releases to the ground, while encouraging recharge of stormwater where it does not endanger groundwater quality. Measures include:

- prevent illicit discharges to storm water, including fuel/chemical pollution releases to the ground;
- minimize impervious coverage and disconnect large impervious areas with natural or landscape areas;
- direct paved surface runoff to aboveground type land treatment structures – sheet flow, surface swales, depressed grass islands, detention/retention and infiltration basins, and wet basins. These provide an opportunity for volatilization of volatile organic compounds to the extent possible before the stormwater can infiltrate into the ground;
- provide necessary impervious pavement in high potential pollutant release areas. These "storm water hot spots" include certain land use types or storage and loading areas, fueling areas, intensive parking areas and roadways (see table below);
- only use subsurface recharge structures such as dry wells, galleries, or leaching trenches, to directly infiltrate clean runoff such as rooftops, or other clean surfaces. These structures do not adequately allow for attenuation of salts, solvents, fuels or other soluble compounds in groundwater that may be contained in runoff; and
- restrict pavement deicing chemicals, or use an environmentally suitable substitute such as sand only, or alternative de-icing agents such as calcium chloride or calcium magnesium.

Infiltration of stormwater should be **restricted** under the following site conditions:

- ***Land Uses or Activities with Potential for Higher Pollutant Loads:*** Infiltration of stormwater from these land uses or activities (refer to Table 7-5 below), also referred to as stormwater "hotspots," can contaminate public and private groundwater supplies. Infiltration of stormwater from these land uses or activities may be allowed by the review authority with appropriate pretreatment. Pretreatment could consist of one or a combination of the primary or secondary treatment practices described in the Stormwater Quality Manual provided that the treatment practice is designed to remove the stormwater contaminants of concern.

- ***Subsurface Contamination:*** Infiltration of stormwater in areas with soil or groundwater contamination such as brownfield sites and urban redevelopment areas can mobilize contaminants.

- ***Groundwater Supply and Wellhead Areas:*** Infiltration of stormwater can potentially contaminate groundwater drinking water supplies in immediate public drinking water wellhead areas.

Land Uses or Activities with Potential for Higher Pollutant Loads
Table 7-5 of the 2004 Stormwater Quality Manual

Land Use/Activities	
• Industrial facilities subject to the DEEP Industrial Stormwater General Permit or the U.S. EPA National Pollution Discharge Elimination System (NPDES) Stormwater Permit Program • Vehicle salvage yards and recycling facilities • Vehicle fueling facilities (gas stations and other facilities with on-site vehicle fueling) • Vehicle service, maintenance, and equipment cleaning facilities • Fleet storage areas (cars, buses, trucks, public works) • Commercial parking lots with high intensity use (shopping malls, fast food restaurants, convenience stores, supermarkets, etc.) • Public works storage areas	• Road salt storage facilities (if exposed to rainfall) • Commercial nurseries • Flat metal rooftops of industrial facilities • Facilities with outdoor storage and loading/unloading of hazardous substances or materials, regardless of the primary land use of the facility or development • Facilities subject to chemical inventory reporting under Section 312 of the Superfund Amendments and Reauthorization Act of 1986 (SARA), if materials or containers are exposed to rainfall • Marinas (service and maintenance) • Other land uses and activities as designated by the review authority

For further information regarding the design of stormwater collection systems in Aquifer Protection Areas, contact the Aquifer Protection Area Program at (860) 424-3020 or visit www.ct.gov/deep/aquiferprotection.

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

APPENDIX D

Coastal Management Act Determination Form

For sites within the Coastal Boundary, please attach this form and written approval from the local governing authority (or verification of exemption) to the Registration Form for the Discharge of Stormwater and Dewatering Wastewaters From Construction Activities.

SITE INFORMATION

Future Permittee _____

Mailing Address _____

Business Phone _____ ext.: _____ Fax: _____

Contact Person _____ Title: _____

Site Name _____

Site Address/ Location _____

Site Latitude and Longitude _____

Receiving Water (name, basin) _____

Project Description _____

_____

STATEMENT OF REVIEW:

The above referenced project is consistent with the goals and policies in section 22a-92 of the Connecticut General Statutes and will not cause adverse impacts to coastal resources as defined in section 22a-93(15) of the Connecticut General Statutes.

Date of Coastal Site Plan Approval: _____

☐ Copy of written approval attached, or

☐ Verification of exemption attached

APPENDIX E

Memorandum of Agreement
Between
The Connecticut Department of Energy & Environmental Protection
and the
the Five Conservation Districts of Connecticut
for
Technical Assistance for Locally Approvable Stormwater Construction General Permits

WHEREAS, the Commissioner of the Department of Energy and Environmental Protection ("Department" or "DEEP ") is authorized by section 22a-6(a)(2)(3) and (4) of the Connecticut General Statutes ("CGS") to enter into this Agreement; and

WHEREAS, the five Conservation Districts of Connecticut (collectively, the "Districts"), are not-for-profit corporations duly authorized, organized and existing under the laws of the State of Connecticut and are authorized by section 22a-315 of the CGS and section 22a-315-14 of the Regulations of Connecticut State Agencies to enter into this Agreement; and

WHEREAS, section 22a-430b of the Connecticut General Statutes authorizes the Department to regulate stormwater discharges from construction activities under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("the Construction General Permit" or "CGP"), which has been or shall be issued on October 1, 2019. The Construction General Permit requires the implementation of erosion and sediment controls to control the discharge of sediment from construction and post-construction discharges; and

WHEREAS, Construction General Permits require the preparation and implementation of a Stormwater Pollution Control Plan ("Plan" or "SWPCP") to prevent erosion and the discharge of sediment to the waters of the state; and

WHEREAS, pursuant to section 22a-315 of the CGS, soil and water conservation districts and boards were established to advise the Commissioner on matters of soil and water conservation and erosion and sediment control and to assist the Commissioner in implementing programs related to soil and water conservation and erosion and sediment control; and

WHEREAS, pursuant to section 22a-315 of the CGS, the soil and water conservation districts and boards may receive funds from private sources for services provided to promote soil and water conservation and to assist the Commissioner in the implementation of related programs; and

WHEREAS, section 22a-326 of the CGS declares the policy of the state "to strengthen and extend its erosion and sediment control activities and programs and to establish and implement, through the Council on Soil and Water Conservation, soil and water conservation districts, the municipalities and the Commissioner of Energy and Environmental Protection, a state-wide coordinated erosion and sediment control program which shall reduce the danger from storm water runoff, minimize nonpoint sediment pollution from land being developed and conserve and protect the land, water, air and other environmental resources of the state;" and

WHEREAS, the Districts have understanding and experience in reviewing erosion and sediment control plans because of their longstanding participation in the municipal approval process, as required by section 22a-329 of the CGS; and

WHEREAS, DEEP and the Districts are jointly dedicated to protecting the waters of the state by controlling the discharge of sediment and the pollution resulting from stormwater runoff.

NOW, THEREFORE, in consideration of the mutual covenants and conditions hereinafter stated, the Parties agree as follows:

Special Conditions

I. REQUIREMENTS FOR TECHNICAL ASSISTANCE BY DISTRICTS

A. SWPCP technical assistance shall be conducted by a District representative having one or more of the following minimum qualifications: (i) a bachelor's degree in hydrology, engineering (agricultural, civil, environmental, or chemical), landscape architecture, geology, soil science, environmental science, natural resources management, or a related field and two years of professional and field experience, or (ii) the EnviroCert International, Inc. designation as a Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion, Sediment and Stormwater Inspector (CESSWI), or a Certified Professional in Stormwater Quality (CPSWQ).

B. All technical assistance on SWPCPs undertaken by a District shall be conducted in accordance with the guidelines and procedures established by DEEP in consultation with the Districts, as further described below.

II. LOCALLY APPROVABLE PROJECTS

For locally approvable projects, as defined in the Construction General Permit, with five (5) or more acres of soil disturbance, the appropriate District (as indicated in Exhibit 2 of this agreement) shall review Stormwater Pollution Control Plans submitted to the District in accordance with Section 3(*b*)(10) of the CGP, shall determine whether each such SWPCP is consistent with the requirements of the CGP, and shall advise the Commissioner in writing of its determination regarding the SWPCP's consistency. The appropriate District may request assistance from another District or re-assign a project to another District upon mutual consent of the Districts. The Commissioner will be notified in writing of any re-assignment.

A. Components of the SWPCP Review by the Districts

1. Requirements for Conducting a Review:

   The District shall begin a SWPCP review upon the receipt of the all of following: the developer's request for review, two hard copies and a digital copy of the proposed SWPCP, a non-refundable down payment from the permittee as per the Fee Schedule in Exhibit 1 and the written permission of the developer to enter onto and inspect the project site. Once the District is in receipt of all the documents and the fee as delineated above, the developer's SWPCP shall be considered submitted to the District.

2. Determinations of Consistency by the District after Review of the SWPCP and Subsequent Procedures

   (a) If the District determines the developer's SWPCP is:

   (i) Consistent with the requirements of the Construction General Permit, the District shall issue an affirmative determination notice to both the developer or such developer's designee and to DEEP in order to advise them of the adequacy of the SWPCP. The District shall also provide a copy of the SWPCP to DEEP if requested by the Commissioner.

   (ii) Not consistent with the requirements of the Construction General Permit, the District shall provide a written notice of such inconsistency to the developer or such developer's designee; such notice shall include a list of the SWPCP's deficiencies and any appropriate explanatory comments.

(b) If the developer's SWPCP is found to be inconsistent with the CGP, the developer may revise the SWPCP (the "Revised SWPCP") to address any deficiencies noted by the District and resubmit its Revised SWPCP to the District for review.

(c) If the District receives a Revised SWPCP in accordance with subsection (b) above, the District shall perform a review of the Revised SWPCP. If the Revised SWPCP is deemed:

(i) Consistent with the requirements of the Construction General Permit, the District shall (1) issue an affirmative determination notice to both the project developer or such project developer's designee and to DEEP to advise them of the adequacy of the SWPCP and (2) provide a copy of the SWPCP to the DEEP if requested by the Commissioner; or

(ii) Not consistent with the requirements of the CGP after this review, the District shall provide a written notice of such inconsistency to the developer or such developer's designee. This notice shall include a list of all remaining SWPCP deficiencies and any explanatory comments as appropriate.

(d) In the event the District determines after review of the Revised SWPCP in accordance with subsection (c), above, that the Revised SWPCP remains inconsistent with the requirements of the Construction General Permit, the developer shall continue to resubmit a Revised SWPCP in accordance with subsection (c), above, until such time as the District determines that the SWPCP is consistent with the requirements of the Construction General Permit and issues an affirmative determination notice. As such, the resubmitted Revised SWPCP shall be reviewed by the District in accordance with the timeframes set forth in Section II.B., and other applicable sections of this document, and the fee shall remain in accordance with the Fee Schedule in Exhibit 1.

(e) Revisions to a SWPCP subsequent to the District's prior approval of developer's SWPCP

In the event the developer revises a SWPCP after the District has determined that the developer's SWPCP, prior to this revision, was consistent with the requirements of the Construction General Permit, the SWPCP shall be considered a Post-Approval Resubmission. In such a case, the District shall review the SWPCP in accordance with the timeframes set forth in Section II.B., and other applicable sections of this document, and the fee shall be in accordance with the Fee Schedule in Exhibit 1.

B. Plan Review Timeframes

1. The District shall review a new submission of a SWPCP submitted by a developer or such developer's designee and provide review comments or issue an affirmative determination notice within thirty (30) calendar days of the date of a complete submission as specified in Section II.A.1.

2. If the District identifies deficiencies in the SWPCP, the District shall allow the developer or such developer's designee the opportunity to revise their SWPCP and resubmit it to the District within fifteen (15) calendar days after the date of mailing or delivery of the District's written comments to the developer or such developer's designee.

3. The District shall review any SWPCP revised in accordance with subsection II.B.2., above, and provide a written determination of the SWPCP's consistency or inconsistency within fifteen (15) calendar days after the submission of the revised SWPCP. Subsequent resubmissions of a revised SWPCP shall be in accordance with the same timeframes.

4. At the request of the District or the developer and with the agreement of both the District and the developer, the deadlines stated in subsections 1. – 3., above, may be extended. However, any such

extensions shall be limited to no more than double the original amount of time allowed above for the relevant action.

5. Expedited review of a SWPCP may be requested by a developer. However, the Districts shall have complete discretion to accept or decline such request for an expedited review based on the District's circumstances, including, but not limited to: their existing workload, vacation schedules and staffing. If a District grants an expedited review, the timeframe shall be reduced to no more than one third of the timeframes noted in subsection 1. – 3., above, and the fee and non-refundable down payment shall be twice those amounts listed in Exhibit 1.

6. In the event a District does not complete the review of the SWPCP within sixty (60) days (or within the time allowed under any resubmissions or authorized extension pursuant to subsections B.3 and B.4, above, but in no circumstance later than 120 days) of the date the SWPCP was initially submitted to the District, and provided such delay is not the result of the developer's or such developer's designee's failure to address SWPCP deficiencies as noted in subsection B.2, above, the District shall:

   (a) not later than three (3) days after the District's deadline, notify the DEEP that the developer shall be initiating the registration process for the Construction General Permit in accordance with section II.B of this Agreement, for completion of the SWPCP review, and;

   (b) provide to the DEEP, upon request, the District's complete file, including supporting documentation the developer's SWPCP consistency determination, including, but not limited to, the SWPCP, any other documentation submitted to the District by or on behalf of a developer, and any analysis already performed by the District; and

   (c) not later than seven (7) days after the District's deadline, in accordance with section II.B of this Agreement, for completion of the SWPCP review, transfer to the DEEP all fees that were originally submitted by the developer.

C. Inspections of the Project Site

1. Prior to the commencement of project construction and during the course of the SWPCP review process, the District shall conduct at least one inspection of the project site.

2. Once the construction of the project has begun, the District shall make at least one, but not more than three, inspection(s) of the project site to verify that the developer's SWPCP is being implemented as approved by the District. The District shall report the results of the inspection(s) to the developer or such developer's designee and to DEEP in a manner prescribed by the Commissioner.

3. Upon notification from the developer or developer's designee, in accordance with Section 6(a)(1) of the CGP, that construction of the stormwater collection and management system is complete, the District shall conduct one inspection of the project site to verify that the post-construction stormwater management measures were completed in accordance with the approved SWPCP. The District shall report the results of this inspection to DEEP in a manner prescribed by the Commissioner.

D. Audits

The District agrees that all records pertaining to this Agreement shall be maintained for a period of not less than five (5) years. Such records shall be made available to the DEEP and to the state auditors upon request. For the purposes of this Agreement, "Records" are all working papers and such information and materials as may have been accumulated by the District in performing the Agreement, including, but not limited to, documents, data, analysis, plans, books, computations, drawings, specifications, notes, reports, records, estimates, summaries and correspondence, kept or stored in any form.

III. FEE SCHEDULE.

A. A District may assess fees for the services it renders in conjunction with its SWPCP reviews. Such fees shall be assessed in accordance with the Fee Schedule in Exhibit 1. All fees shall be submitted by the developer to the District with the developer's request for review and inspections. These fees are non-refundable.

B. The Fee Schedule shall be reviewed annually by the Parties. The Fee Schedule may be adjusted as warranted, without a formal amendment to this Agreement, by mutual agreement between the Districts and the Commissioner.

IV. RESPONSIBILITIES OF DEEP.

A. In accordance with the Construction General Permit requirements for SWPCP reviews of locally approvable projects by a third party, DEEP shall conduct outreach to inform the development community that a District may review SWPCPs for consistency with the requirements of the Construction General Permit. DEEP shall also inform the development community that a registration form for authorization of a locally approvable project under the Construction General Permit may only be submitted to DEEP if: the District, or other third party in accordance with Section 3(b)(11) of the CGP, determines that the SWPCP is consistent with the requirements of the CGP, or in the event the time schedule is exceeded for a District review as described in section II.B.6, above.

B. In order to institute standard SWPCP review guidelines and procedures, DEEP shall coordinate with the Districts to prepare a SWPCP checklist. The standard review guidelines and procedures established shall be consistent with the requirements of the Construction General Permit, the 2002 CT Guidelines for Soil Erosion and Sediment Control, and the 2004 Stormwater Quality Manual, as respectively amended. The Commissioner shall have final approval of the review guidelines and procedures.

C. DEEP shall provide initial training regarding SWPCP requirements for District staff involved in SWPCP reviews. The frequency of subsequent training shall be determined by the Commissioner.

D. DEEP shall retain final decision making authority regarding the determination that a SWPCP is or is not consistent with the requirements of the Construction General Permit and shall oversee the permitting process for Construction General Permit coverage.

E. Once a SWPCP has been approved, DEEP shall oversee any subsequent compliance and/or enforcement matters related to a developer's adherence to the requirements of the Construction General Permit.

F. DEEP shall have the discretion to review any of the Districts' records pertaining to any aspect this Agreement.

V. POINTS OF CONTACT.

The following shall be points of contact for this Agreement unless otherwise agreed to by all Parties, notwithstanding section VI. All notices, demands, requests, consents, approvals or other communications required or permitted to be given or which are given with respect to this Agreement (for the purpose of this section collectively called "Notices") shall be deemed to have been effected at such time as the notice is placed in the U.S. mail, first class and postage prepaid, return receipt requested, or, placed with a recognized, overnight express delivery service that provides for a return receipt. All such Notices shall be in writing and shall be addressed as follows:

A. DEEP
Director
Water Permitting & Enforcement Division
Bureau of Material Management & Compliance Assurance
Department of Energy & Environmental Protection
79 Elm St.
Hartford, CT 06106
Phone: 860-424-3018
Fax: 860-424-4074

B. Conservation District
Board Chairperson
Address & Phone of appropriate District:

Northwest Conservation District
1185 New Litchfield Street
Torrington, CT 06790
Ph: 860-626-7222
Fax: 860-626-7222
Email: info@nwcd.org

Eastern Connecticut Conservation District
238 West Town Street
Norwich, CT 06360-2111
Ph**:** 860-319-8806
Email: Dan.Mullins@comcast.net

Connecticut River Coastal Conservation District, Inc.
deKoven House Community Center
27 Washington Street
Middletown, CT 06457
Ph: 860-346-3282
Email: ctrivercoastal@conservect.org

Southwest Conservation District
51 Mill Pond Road
Hamden, CT 06514
Ph: 203-859-7014
Email: csullivan@conservect.org

North Central Conservation District
24 Hyde Avenue
Vernon, CT 06066
Ph: 860-875-3881
Email: tollandc@snet.net

General Conditions

VI. EXECUTIVE ORDERS AND ANTI-DISCRIMINATION. This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which

are incorporated into and are made a part of the Contract as if they had been fully set forth in it. The Contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order 14 and/or Executive Order 49 are applicable, they are deemed to be incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Client Agency or DAS shall provide a copy of these orders to the Contractor.

VII. AMENDMENTS. Either the DEEP or the Districts may recommend revisions to this Agreement as circumstances may warrant; however, any revisions must be upon mutual agreement of DEEP and all five Conservation Districts. Unless otherwise stated in this Agreement, formal written amendment is required for changes to any of the terms and conditions specifically stated in the Agreement, any prior amendments to the Agreement, and any other Agreement revisions determined material by the Department.

VIII. SEVERABILITY. The provisions of this Agreement are severable. If any part of it is found unenforceable, all other provisions shall remain fully valid and enforceable, unless the unenforceable provision is an essential element of the bargain.

IX. SOVEREIGN IMMUNITY. The Parties acknowledge and agree that nothing in the Agreement shall be construed as a modification, compromise or waiver by the State of any rights or defenses of any immunities provided by federal law or the laws of the State of Connecticut to the State or any of the State's, which they may have had, now have or shall have with respect to all matters arising out of the Agreement. To the extent that this section conflicts with any other section, this section shall govern.

X. FORUM AND CHOICE OF LAW. The Agreement shall be deemed to have been made in the City of Hartford, State of Connecticut. Both Parties agree that it is fair and reasonable for the validity and construction of the Agreement to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by federal law or the laws of the State of Connecticut do not bar an action against the State or the Districts, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Districts waive any objection which they may now have or shall have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

XI. TERMINATION. Notwithstanding any provisions in this Agreement, DEEP, through a duly authorized employee, may terminate the Agreement whenever the Agency makes a written determination that such Termination is in the best interests of the State. The Agency shall notify the Districts in writing sent by certified mail, return receipt requested, which notice shall specify the effective date of Termination and the extent to which the Districts must complete its Performance under the Agreement prior to such date; or (b) The Districts may terminate the Agreement for good cause. The Districts shall notify DEEP by written notice at least one hundred eighty (180) days prior to the effective date of termination. In order for the Districts to terminate this Agreement, (1) there must be a consensus between all five Conservation Districts that each District shall be terminating this Agreement with the DEEP; (2) such proof of consensus shall be submitted to the DEEP in the form of a letter signed by the duly authorized agent for each District by certified mail, return receipt requested, at least one hundred eighty (180) days prior to the Districts' intention to cancel or terminate. Upon the Termination of this Agreement by either Party, the Districts shall deliver to the Agency copies of all Records no later than thirty (30) days after the Termination of the Agreement, or fifteen (15) days after the Non-terminating Party receives a written request from the Terminating Party for the Records. The Districts shall deliver those Records that exist in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, PDF, ASCII or .TXT. Upon receipt of a written notice of

Termination from the Agency, the Districts shall cease operations as the Agency directs in the notice, and take all actions that are necessary or appropriate, or that the Agency may reasonably direct, for the protection, and preservation of records. Except for any work which the Agency directs the Districts to Perform in the notice prior to the effective date of Termination, and except as otherwise provided in the notice, the Districts shall terminate or conclude all existing subcontracts and purchase orders and shall not enter into any further subcontracts, purchase orders or commitments. Upon Termination of the Agreement, all rights and obligations shall be null and void, so that no Party shall have any further rights or obligations to any other Party, except with respect to the sections which survive Termination. All representations, warranties, agreements and rights of the Parties under the Agreement shall survive such Termination to the extent not otherwise limited in the Agreement and without each one of them having to be specifically mentioned in the Agreement. Termination of the Agreement pursuant to this section shall not be deemed to be a breach of Agreement by the Agency.

XII. DURATION OF AGREEMENT. This Agreement shall be effective on July 1, 2019 or on the date of the last signature below, whichever is later, and shall continue in force unless canceled or terminated by either party in accordance with paragraph XI above.

XIII. VOID AB INITIO. Notwithstanding paragraphs XI and XII, the Agreement shall be void *ab initio* if the Construction General Permit is reissued, revoked or modified to eliminate the need for the Districts to review the SWPCP pursuant to such general permit's terms and conditions or if the Construction General Permit expires and is not reissued.

XIV. INTERPRETATION. The Agreement contains numerous references to statutes and regulations. For purposes of interpretation, conflict resolution and otherwise, the content of those statutes and regulations shall govern over the content of the reference in the Agreement to those statutes and regulations.

XV. ENTIRETY OF AGREEMENT. This Agreement is the entire agreement between the Parties with respect to its subject matter, and supersedes all prior agreements, proposals, offers, counteroffers and understandings of the Parties, whether written or oral. The Agreement has been entered into after full investigation, neither Party relying upon any statement or representation by the other unless such statement or representation is specifically embodied in the Agreement.

XVI. PROTECTION OF STATE CONFIDENTIAL INFORMATION.

A. The Districts or District Parties, at their own expense, have a duty to and shall protect from a Confidential Information Breach any and all Confidential Information which they come to possess or control, wherever and however stored or maintained, in a commercially reasonable manner in accordance with current industry standards. Confidential Information is any information that a party claims to be exempt from the state Freedom of Information Act (Section 1-210 et seq of the Connecticut General Statutes, also called FOIA) as specified in that Act.

B. Each District or District Party shall develop, implement and maintain a comprehensive data-security program for the protection of Confidential Information. The safeguards contained in such program shall be consistent with and comply with the safeguards for protection of Confidential Information, and information of a similar character, as set forth in all applicable federal and state law and written policy of the Department or State concerning the confidentiality of Confidential Information. Such data-security program shall include, but not be limited to, the following:

1. A security policy for employees related to the storage, access and transportation of data containing Confidential Information;

2. Reasonable restrictions on access to records containing Confidential Information, including access to any locked storage where such records are kept;

3. A process for reviewing policies and security measures at least annually;

4. Creating secure access controls to Confidential Information, including but not limited to passwords; and

5. Encrypting of Confidential Information that is stored on laptops, portable devices or being transmitted electronically.

C. The District and District Parties shall notify the Department and the Connecticut Office of the Attorney General as soon as practical, but no later than twenty-four (24) hours, after they become aware of or suspect that any Confidential Information which Parties have come to possess or control has been subject to a Confidential Information Breach. If a Confidential Information Breach has occurred, the District shall, within three (3) business days after the notification, present a credit monitoring and protection plan to the Commissioner of Administrative Services, the Department and the Connecticut Office of the Attorney General, for review and approval. Such credit monitoring or protection plan shall be made available by the District at its own cost and expense to all individuals affected by the Confidential Information Breach. Such credit monitoring or protection plan shall include, but is not limited to, reimbursement for the cost of placing and lifting one (1) security freeze per credit file pursuant to Connecticut General Statutes §36a-701a. Such credit monitoring or protection plans shall be approved by the State in accordance with this Section and shall cover a length of time commensurate with the circumstances of the Confidential Information Breach. The District's costs and expenses for the credit monitoring and protection plan shall not be recoverable from the Department, any State of Connecticut entity or any affected individuals.

D. The District shall incorporate the requirements of this Section in all subAgreements requiring each District Party to safeguard Confidential Information in the same manner as provided for in this Section.

E. Nothing in this Section shall supersede in any manner the District's and/ or the District Parties' obligations pursuant to HIPAA or the provisions of this Agreement concerning the obligations of the District as a Business Associate of the Department.

XVII. AMERICANS WITH DISABILITIES ACT. The Districts shall be and remain in compliance with the Americans with Disabilities Act of 1990 ("Act"), to the extent applicable, during the term of the Agreement. The DEEP may cancel the Agreement if the District and District Parties fail to comply with the Act.

XVIII. ADA PUBLICATION STATEMENT. The following statement shall be incorporated into all **publications** prepared under the terms of this Agreement:

"The Department of Energy and Environmental Protection is an affirmative action/equal opportunity employer and service provider. In conformance with the Americans with Disabilities Act, DEEP makes every effort to provide equally effective services for persons with disabilities. Individuals with disabilities who need this information in an alternative format, to allow them to benefit and/or participate in the agency's programs and services, should call DEEP's Human Resources Office at (860) 424-3006, send a fax to (860) 424-3896, or email DEEP.MedRecs@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number 711."

When advertising any **public meetings** conducted under the terms of this Agreement, the above publications language should be used as well as the following statement:

"Requests for accommodations must be made at least two weeks prior to the program date."

All **videos** produced under the terms of this Agreement must be made available with closed captioning.

XIX. PUBLICATION OF MATERIALS. The District must obtain written approval from the State of Connecticut prior to distribution or publication of any printed material prepared under the terms of this Agreement. Unless specifically authorized in writing by the State, on a case by case basis, the District shall have no right to use, and shall not use, the name of the State of Connecticut, its officials, agencies, or employees or the seal of the State of Connecticut or its agencies: (1) in any advertising, publicity, promotion; or (2) to express or to imply any endorsement of District's products or services; or (3) to use the name of the State of Connecticut, its officials agencies, or employees or the seal of the State of Connecticut or its agencies in any other manner (whether or not similar to uses prohibited by (1) and (2) above), except only to manufacture and deliver in accordance with this Agreement such items as are hereby contracted for by the State. In no event may the Districts use the State Seal in any way without the express written consent of the Secretary of State.

XX. CHANGES IN PRINCIPAL PROJECT STAFF. Any changes in District staff qualified to review Plans must be requested in writing and approved in writing by the Commissioner at the Commissioner's sole discretion. In the event of any unapproved change in District staff, the Commissioner may, in the Commissioner's sole discretion, terminate this Agreement.

XXI. FURTHER ASSURANCES. The Parties shall provide such information, execute and deliver any instruments and documents and take such other actions as may be necessary or reasonably requested by the other Party which are not inconsistent with the provisions of this Agreement and which do not involve the vesting of rights or assumption of obligations other than those provided for in the Agreement, in order to give full effect to the Agreement and to carry out the intent of the Agreement.

XXII. ASSIGNMENT. The Districts shall not assign any of their rights or obligations under the Agreement, voluntarily or otherwise, in any manner without the prior written consent of the Agency. The Agency may void any purported assignment in violation of this section and declare the District in breach of this Agreement. Any termination by the Agency for a breach is without prejudice to the Agency's or the State's rights or possible Claims.

XXIII. EXHIBITS. All exhibits referred to in, and attached to, this Agreement are incorporated in this Agreement by such reference and shall be deemed to be a part of it as if they had been fully set forth in it.

XXIV. FORCE MAJEUR. Events that materially affect the cost of the Goods or Services or the time schedule within which to Perform and are outside the control of the party asserting that such an event has occurred, including, but not limited to, labor troubles unrelated to District(s), failure of or inadequate permanent power, unavoidable casualties, fire not caused by a District, extraordinary weather conditions, disasters, riots, acts of God, insurrection or war.

XXV. INDEMNIFICATION. The Districts shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all (1) Claims arising, directly or indirectly, in connection with the Agreement, including the acts of commission or omission (collectively, the "Acts") of the District or District Parties; and (2) liabilities, damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Agreement. The Districts obligations under this section to indemnify, defend and hold harmless against Claims includes Claims concerning confidentiality of any part of or all of the Districts' Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance. The Districts shall not be responsible for indemnifying or holding the State harmless from any liability arising due to the negligence of the State or any other person or entity acting under the direct control or supervision of the State. The Districts shall reimburse the State for any and all damages to the real or personal property of the State caused by the Acts of the Districts or any District Parties. The State shall give the Districts reasonable notice of any such Claims. The Districts shall carry and maintain at all times during the term of the Agreement, and during the time that any

provisions survive the term of the Agreement, sufficient general liability insurance to satisfy its obligations under this Agreement. The Districts shall name the State as an additional insured on the policy and shall provide a copy of the policy to the Agency prior to the effective date of the Agreement. The Districts shall not begin Performance until the delivery of the policy to the Agency. The Agency shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that the Agency or the State is contributorily negligent. This section shall survive the Termination of the Agreement and shall not be limited by reason of any insurance coverage.

XXVI. DISTRICT PARTIES. A District's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the District is in privity of oral or written contract and the District intends for such other person or entity to Perform under the Agreement in any capacity

XXVII. CAMPAIGN CONTRIBUTION RESTRICTION. For all State contracts as defined in P.A. 07-1 having a value in a calendar year of $50,000 or more or a combination or series of such agreements or contracts having a value of $100,000 or more, the authorized signatory to this Agreement expressly acknowledges receipt of the State Elections Enforcement Commission's notice advising state contractors of state campaign contribution and solicitation prohibitions, and will inform its principals of the contents of the notice. See SEEC Form 11.

Authorizing Signatures

For DEEP: _____ _____
Katherine S. Dykes, Commissioner Date

For Northwest Conservation District: _____ _____
Signature Date

_____
Title

For Eastern Connecticut Conservation District: _____ _____
Signature Date

_____
Title

For Connecticut River Coastal Conservation District, Inc.: _____ _____
Signature Date

_____
Title

For Southwest Conservation District: _____ _____
Signature Date

_____
Title

For North Central Conservation District: _____ _____
Signature Date

_____
Title

Exhibit 1

Fee Schedule

The Districts will be paid $120/hour for technical assistance work performed.

Non-refundable down payments required with submission:
$2,500 for sites ≤ 20 acres
$4,000 for sites > 20 acres

Exhibit 2

Conservation Districts of Connecticut
Regional Delineations and Contact Information

Northwest Conservation District
1185 New Litchfield Street
Torrington, CT 06790
Ph: 860-626-7222
Fax: 860-626-7222
Email: info@nwcd.org

Eastern Connecticut Conservation District
238 West Town Street
Norwich, CT 06360-2111
Ph**:** 860-319-8806
Email: Dan.Mullins@comcast.net

Connecticut River Coastal Conservation District, Inc.
deKoven House Community Center
27 Washington Street
Middletown, CT 06457
Ph: 860-346-3282Email: ctrivercoastal@conservect.org

Southwest Conservation District
51 Mill Pond Road
Hamden, CT 06514
Ph: 203-859-7014
Email: csullivan@conservect.org

North Central Conservation District
24 Hyde Avenue
Vernon, CT 06066
Ph: 860-875-3881
Email: tollandc@snet.net

NORTHWEST	SOUTHWEST	NORTH CENTRAL	CT RIVER COASTAL	EASTERN
Barkhamsted	Ansonia	Avon	Berlin	Andover
Bethel	Beacon Falls	Bloomfield	Chester	Ashford
Bethlehem	Bethany	Bolton	Clinton	Bozrah
Bridgewater	Branford	Bristol	Colchester	Brooklyn
Brookfield	Bridgeport	Burlington	Cromwell	Canterbury
Canaan	Cheshire	Canton	Deep River	Chaplin
Colebrook	Darien	Coventry	Durham	Columbia
Cornwall	Derby	East Granby	East Haddam	Eastford
Danbury	East Haven	East Hartford	East Hampton	East Lyme
Goshen	Easton	East Windsor	Essex	Franklin
Hartland	Fairfield	Ellington	Haddam	Griswold
Harwinton	Greenwich	Enfield	Hebron	Groton
Kent	Guilford	Farmington	Killingworth	Hampton
Litchfield	Hamden	Glastonbury	Lyme	Killingly
Morris	Meriden	Granby	Madison	Lebanon
New Fairfield	Middlebury	Hartford	Marlborough	Ledyard
New Hartford	Milford	Manchester	Middlefield	Lisbon
New Milford	Monroe	Plainville	Middletown	Mansfield
Newtown	Naugatuck	Simsbury	Newington	Montville
Norfolk	New Canaan	Somers	New Britain	New
North Canaan	New Haven	South Windsor	Old Lyme	London
Plymouth	North Branford	Stafford	Old Saybrook	North
Roxbury	North Haven	Suffield	Portland	Stonington
Salisbury	Norwalk	Tolland	Rocky Hill	Norwich
Sharon	Orange	Vernon	Salem	Plainfield
Sherman	Oxford	West Hartford	Westbrook	Pomfret
Southbury	Prospect	Wethersfield		Preston
Thomaston	Redding	Willington		Putnam
Torrington	Ridgefield	Windsor		Scotland
Warren	Seymour	Windsor Locks		Sprague
Washington	Shelton			Sterling
Watertown	Southington			Stonington
Winchester	Stamford			Thompson
Woodbury	Stratford			Union
	Trumbull			Voluntown
	Wallingford			Waterford
	Waterbury			Windham
	West Haven			Woodstock
	Weston			
	Westport			
	Wilton			
	Wolcott			
	Woodbridge			

Exhibit 3

CONSERVATION DISTRICT PLAN REVIEW CERTIFICATION

Registrations submitted to DEEP for which a Conservation District has performed the Plan review pursuant to Section 3(*b*)(10) of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities shall include the following certification:

"I hereby certify that I am an employee of the [INSERT NAME OF DISTRICT] Conservation District and that I meet the qualifications to review Stormwater Pollution Control Plans as specified in the Memorandum of Agreement between the Connecticut Department of Energy & Environmental Protection and the Five Conservation Districts of Connecticut for Technical Assistance for Locally Approvable Construction General Permits. I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY]. I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify, based on my review of the requirements of such general permit and on the standard of care for such projects, that the Plan is in compliance with the requirements of the general permit. I understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Registrations submitted to DEEP for which the District review was begun but ***could not be completed*** within the time limits specified in the Memorandum of Agreement shall include the following statement:

"I hereby certify that I am an employee of the [INSERT NAME OF DISTRICT] Conservation District and that I meet the qualifications to review Stormwater Pollution Control Plans as specified in the Memorandum of Agreement between the Connecticut Department of Energy & Environmental Protection and the Five Conservation Districts of Connecticut for Technical Assistance for Locally Approvable Construction General Permits. I am making this statement in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner by [INSERT NAME OF REGISTRANT] for an activity located at [INSERT ADDRESS OF PROJECT OR ACTIVITY]. I hereby state that the review of the Stormwater Pollution Control Plan (Plan) for such registration was not completed within the time frames specified in the Memorandum of Agreement. Consequently, I cannot certify that the Plan is in compliance with the requirements of the general permit."

APPENDIX F
Memorandum of Agreement
Between
The Connecticut Department of Energy & Environmental Protection
and
the Five Conservation Districts of Connecticut
for
Technical Assistance for Locally Exempt Stormwater Construction General Permits

WHEREAS, the Commissioner of the Department of Energy and Environmental Protection ("Department" or "DEEP ") is authorized by section 22a-6(a)(2)(3) and (4) of the Connecticut General Statutes ("CGS") to enter into this Agreement; and

WHEREAS, the five Conservation Districts of Connecticut (collectively, the "Districts"), are not-for-profit corporations duly authorized, organized and existing under the laws of the State of Connecticut and are authorized by section 22a-315 of the CGS and section 22a-315-14 of the Regulations of Connecticut State Agencies to enter into this Agreement; and

WHEREAS, section 22a-430b of the Connecticut General Statutes authorizes the Department to regulate stormwater discharges from construction activities under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("the Construction General Permit" or "CGP"), which has been or shall be issued on October 1, 2019. The Construction General Permit requires the implementation of erosion and sediment controls to control the discharge of sediment from construction and post-construction discharges; and

WHEREAS, the Construction General Permit requires the preparation and implementation of a Stormwater Pollution Control Plan ("Plan" or "SWPCP") to prevent erosion and the discharge of sediment to the waters of the state; and

WHEREAS, pursuant to section 22a-315 of the CGS, soil and water conservation districts and boards were established to advise the Commissioner on matters of soil and water conservation and erosion and sediment control and to assist the Commissioner in implementing programs related to soil and water conservation and erosion and sediment control; and

WHEREAS, pursuant to section 22a-315 of the CGS, the soil and water conservation districts and boards may receive funds from private sources for services provided to promote soil and water conservation and to assist the Commissioner in the implementation of related programs; and

WHEREAS, section 22a-326 of the CGS declares the policy of the state "to strengthen and extend its erosion and sediment control activities and programs and to establish and implement, through the Council on Soil and Water Conservation, soil and water conservation districts, the municipalities and the Commissioner of Energy and Environmental Protection, a state-wide coordinated erosion and sediment control program which shall reduce the danger from storm water runoff, minimize nonpoint sediment

pollution from land being developed and conserve and protect the land, water, air and other environmental resources of the state;" and

WHEREAS, the Districts have understanding and experience in reviewing erosion and sediment control plans because of their longstanding participation in the municipal approval process, as required by section 22a-329 of the CGS; and

WHEREAS, DEEP and the Districts are jointly dedicated to protecting the waters of the state by controlling the discharge of sediment and the pollution resulting from stormwater runoff.

NOW, THEREFORE, in consideration of the mutual covenants and conditions hereinafter stated, the Parties agree as follows:

Special Conditions

II. REQUIREMENTS FOR TECHNICAL ASSISTANCE BY DISTRICTS

A. SWPCP technical assistance shall be conducted by a District representative having one or more of the following minimum qualifications: (i) a bachelor's degree in hydrology, engineering (agricultural, civil, environmental, or chemical), landscape architecture, geology, soil science, environmental science, natural resources management, or a related field and two years of professional and field experience, or (ii) the EnviroCert International, Inc. designation as a Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion, Sediment and Stormwater Inspector (CESSWI), or a Certified Professional in Stormwater Quality (CPSWQ).

B. All technical assistance on SWPCPs undertaken by a District shall be conducted in accordance with the guidelines and procedures established by DEEP in consultation with the Districts, as further described below.

III. LOCALLY EXEMPT PROJECTS

For locally exempt projects, as defined in the Construction General Permit, with five (5) or more acres of soil disturbance, the appropriate District (as specified in the CGP and as indicated in Exhibit 2 appended hereto) shall, upon request by DEEP, provide technical assistance to DEEP for ensuring implementation of the Stormwater Pollution Control Plan in compliance with the CGP.

A. SWPCP Compliance Technical Assistance

1. The District shall be responsible for inspections to ensure that the SWPCP is properly implemented in accordance with the CGP by coordinating with the permittee (or designee) and conducting on-site inspections. Technical assistance will begin upon a written request from DEEP, the receipt of two copies of the approved SWPCP, and a down payment from the permittee as per the fee schedule in Exhibit 1. Once the District is in receipt of the documents and such down payment, the permittee's SWPCP shall be considered submitted to the District and the District will begin the required review in accordance with this agreement and the CGP.

2. Pre-construction Preparation**:** The District will review the approved SWPCP and any other relevant site plans, conduct an on-site visit, and set a date for the pre-construction meeting.

3. Pre-construction Meeting: Before the start of any construction, including any clearing of vegetation or installation of erosion and sediment controls (E&S controls), the District will meet with the permittee (or designee), contractor(s) and the qualified professional engineer who designed the project (designing qualified professional engineer) to review E&S control plans for construction and post-construction stormwater controls. Such meeting will include review of the construction schedule/phasing plan, inspection schedule, exchange of contacts, and discussion of any potential problem areas. If construction begins prior to this meeting, the District shall notify DEEP of non-compliance with the CGP.

4. Plan Implementation Inspection: The permittee (or designee) will notify the District when the E&S controls are installed and coordinate with the designing qualified professional engineer to schedule the Plan Implementation Inspection. The District will conduct the initial on-site inspection accompanied by the permittee (or designee) and the designing qualified professional engineer. If it is determined that the controls are installed properly and are in compliance with the approved SWPCP, the District will issue a notice that construction may proceed according to the SWPCP phasing plan. If the controls are not installed properly, the District will provide written notification to the permittee (or designee) of any action needed to comply with the SWPCP. The District shall re-inspect the site upon notification by the permittee (or designee) that the site is ready for re-inspection and in accordance with the Plan Implementation Inspection requirements in the CGP. Once the controls are properly installed and are in compliance with the approved SWPCP, the District will issue a notice that construction may proceed according to the SWPCP phasing plan.

5. Interim Inspections

   (a) As determined at the pre-construction meeting and according to the approved SWPCP or as otherwise directed by the Commissioner, interim inspections shall be conducted to verify compliance with the CGP and the SWPCP, including but not limited to, verification of site stabilization at the end of each construction phase and proper installation of controls prior to the beginning of the next phase of construction. Similar to the Plan Implementation Inspection, the permittee (or designee) will notify the District that an inspection is needed for either the closeout of one phase and/or the beginning of another.

   (b) Random inspections shall be conducted at least every 6 weeks if needed between scheduled inspections.

   (c) Additional inspections may be scheduled if E&S control objectives are not being met.

   (d) A written report will be generated following each inspection noting site conditions and any action required to maintain proper E&S controls during construction. The report will note whether or not the site is in compliance with the SWPCP and the CGP.

6. Post-Construction Inspection: Once construction is completed the District will conduct a post-construction site inspection with the permittee (or designee), designing qualified professional engineer and contractor to verify that all post-construction stormwater measures

are installed properly in accordance with the CGP and the SWPCP. The District will conduct at least one follow-up site visit after the post-construction site inspection. Additional inspections may be needed if the site is not stable and remedial action is needed. Reports and required actions will follow the same protocol as outlined in II.A.5.(d), above.

7. Final Stabilization Inspection: A final site inspection with the District, contractor, and designing qualified professional engineer will be conducted to ensure the site has been fully stabilized and all post-construction stormwater Best Management Practices (BMPs) are in place and functioning. The final stabilization inspection shall not take place prior to the completion of one (1) full growing season (April – October) following a successful post-construction inspection. The District will notify DEEP to confirm the site has achieved final stabilization. Subsequent to such notification, the permittee shall submit a Notice of Termination in accordance with the CGP.

B. Audits

The District agrees that all records pertaining to this Agreement shall be maintained for a period of not less than five (5) years. Such records shall be made available to the DEEP and to the state auditors upon request. For the purposes of this Agreement, "Records" are all working papers and such information and materials as may have been accumulated by the District in performing the Agreement, including, but not limited to, documents, data, analysis, plans, books, computations, drawings, specifications, notes, inspection reports and records, estimates, summaries and correspondence, kept or stored in any form.

IV. FEE SCHEDULE

A. A District will assess fees for the services it renders in conjunction with its SWPCP technical assistance in accordance with the Fee Schedule provided in Exhibit 1 to this agreement. Fees will be calculated on an hourly basis and paid for by the permittee. A down payment will be required prior to the start of any assistance.

B. The Fee Schedule shall be reviewed annually by the Parties. The Fee Schedule may be adjusted as warranted by mutual written agreement between the Districts and the Commissioner.

V. RESPONSIBILITIES OF DEEP

A. DEEP is responsible for formal review of all locally exempt SWPCPs submitted as part of the CGP and will require performance assurance (in accordance with the CGP) or similar financial mechanisms of the permittee to ensure payments will be made to Districts for technical assistance work.

B. In order to institute standard SWPCP review guidelines and procedures, DEEP shall coordinate with the Districts to prepare a SWPCP checklist. The standard review guidelines and procedures established shall be consistent with the requirements of the Construction General Permit, the 2002 CT Guidelines for Soil Erosion and Sediment Control (as amended), and the 2004 Stormwater Quality Manual (as amended). The Commissioner shall have final approval of the review guidelines and procedures.

C. DEEP shall provide initial training regarding SWPCP requirements for District staff involved in SWPCP technical assistance. The frequency of subsequent training shall be determined by the Commissioner.

D. DEEP shall retain final decision making authority regarding the determination that a construction site is in compliance or not with the SWPCP requirements of the Construction General Permit and shall oversee the permitting process for Construction General Permit coverage.

E. DEEP shall oversee any subsequent compliance and/or enforcement matters related to a permittee's adherence to the requirements of the Construction General Permit.

F. DEEP shall have the discretion to review any of the Districts' records pertaining to any aspect this Agreement.

VI. POINTS OF CONTACT

The following shall be points of contact for this Agreement unless otherwise agreed to by all Parties. All notices, demands, requests, consents, approvals or other communications required or permitted to be given or which are given with respect to this Agreement (for the purpose of this section collectively called "Notices") shall be deemed to have been effected at such time as the notice is emailed, or placed in the U.S. mail, first class and postage pre-paid, return receipt requested, or placed with a recognized overnight express delivery service that provides for a return receipt. All such Notices shall be in writing and shall be addressed as follows:

DEEP
Director Water Permitting & Enforcement Division
Bureau of Material Management & Compliance Assurance
Department of Energy & Environmental Protection
79 Elm St.
Hartford, CT 06106
Phone: 860-424-3018
Fax: 860-424-4074

Conservation District Executive Director and/or Board Chairperson
Address & Phone of appropriate District:

Northwest Conservation District
1185 New Litchfield Street
Torrington, CT 06790
Ph: 860-626-7222
Fax: 860-626-7222
Email: info@nwcd.org

Eastern Connecticut Conservation District
238 West Town Street
Norwich, CT 06360-2111
Ph: 860-319-8806
Email: Dan.Mullins@comcast.net

Connecticut River Coastal Conservation District, Inc.
deKoven House Community Center
27 Washington Street
Middletown, CT 06457
Ph: 860-346-3282
Email: ctrivercoastal@conservect.org

Southwest Conservation District
51 Mill Pond Road
Hamden, CT 06514
Ph: 203-859-7014
Email: csullivan@conservect.org

North Central Conservation District
24 Hyde Avenue
Vernon, CT 06066
Ph: 860-875-3881
Email: tollandc@snet.net

General Conditions

VII. EXECUTIVE ORDERS AND ANTI-DISCRIMINATION.

Executive Orders. . This Contract is subject to the provisions of Executive Order No. Three of Governor Thomas J. Meskill, promulgated June 16, 1971, concerning labor employment practices, Executive Order No. Seventeen of Governor Thomas J. Meskill, promulgated February 15, 1973, concerning the listing of employment openings and Executive Order No. Sixteen of Governor John G. Rowland promulgated August 4, 1999, concerning violence in the workplace, all of which are incorporated into and are made a part of the Contract as if they had been fully set forth in it. The Contract may also be subject to Executive Order No. 14 of Governor M. Jodi Rell, promulgated April 17, 2006, concerning procurement of cleaning products and services and to Executive Order No. 49 of Governor Dannel P. Malloy, promulgated May 22, 2015, mandating disclosure of certain gifts to public employees and contributions to certain candidates for office. If Executive Order 14 and/or Executive Order 49 are applicable, they are deemed to be incorporated into and are made a part of the Contract as if they had been fully set forth in it. At the Contractor's request, the Client Agency or DAS shall provide a copy of these orders to the Contractor.

VIII. AMENDMENTS. Either the DEEP or the Districts may recommend revisions to this Agreement as circumstances may warrant; however, any revisions must be upon mutual agreement of DEEP and all five Conservation Districts. Unless otherwise stated in this Agreement, formal written amendment is required for changes to any of the terms and conditions specifically stated in the Agreement, any prior amendments to the Agreement, and any other Agreement revisions determined

material by the Department.

IX. SEVERABILITY. The provisions of this Agreement are severable. If any part of it is found unenforceable, all other provisions shall remain fully valid and enforceable, unless the unenforceable provision is an essential element of the bargain.

X. SOVEREIGN IMMUNITY. The Parties acknowledge and agree that nothing in the Agreement shall be construed as a modification, compromise or waiver by the State of Connecticut ("State") of any rights or defenses of any immunities provided by federal law or the laws of the State of Connecticut to the State or any of the State's, which they may have had, now have or shall have with respect to all matters arising out of the Agreement. To the extent that this section conflicts with any other section, this section shall govern.

XI. FORUM AND CHOICE OF LAW. The Agreement shall be deemed to have been made in the City of Hartford, State of Connecticut. Both Parties agree that it is fair and reasonable for the validity and construction of the Agreement to be, and it shall be, governed by the laws and court decisions of the State of Connecticut, without giving effect to its principles of conflicts of laws. To the extent that any immunities provided by federal law or the laws of the State of Connecticut do not bar an action against the State or the Districts, and to the extent that these courts are courts of competent jurisdiction, for the purpose of venue, the complaint shall be made returnable to the Judicial District of Hartford only or shall be brought in the United States District Court for the District of Connecticut only, and shall not be transferred to any other court, provided, however, that nothing here constitutes a waiver or compromise of the sovereign immunity of the State of Connecticut. The Districts waive any objection which they may now have or shall have to the laying of venue of any Claims in any forum and further irrevocably submits to such jurisdiction in any suit, action or proceeding.

XII. TERMINATION. Notwithstanding any provisions in this Agreement, DEEP, through a duly authorized employee, may terminate the Agreement whenever the Department makes a written determination that such Termination is in the best interests of the State. The Department shall notify the Districts in writing sent by certified mail, return receipt requested, which notice shall specify the effective date of Termination and the extent to which the Districts must complete its Performance under the Agreement prior to such date; or (b) The Districts may terminate the Agreement for good cause. The Districts shall notify DEEP by written notice at least one hundred eighty (180) days prior to the effective date of termination. In order for the Districts to terminate this Agreement, (1) there must be a consensus between all five Conservation Districts that each District shall be terminating this Agreement with the DEEP; (2) such proof of consensus shall be submitted to the DEEP in the form of a letter signed by the duly authorized agent for each District by certified mail, return receipt requested, at least one hundred eighty (180) days prior to the Districts' intention to cancel or terminate. Upon the Termination of this Agreement by either Party, the Districts shall deliver to the Department copies of all Records no later than thirty (30) days after the Termination of the Agreement, or fifteen (15) days after the Non-terminating Party receives a written request from the Terminating Party for the Records. The Districts shall deliver those Records that exist in electronic, magnetic or other intangible form in a non-proprietary format, such as, but not limited to, PDF, ASCII or .TXT. Upon receipt of a written notice of Termination from the Department, the Districts shall cease operations as the Department directs in the notice, and take all actions that are necessary or appropriate, or that the Department may reasonably direct, for the protection, and preservation of records. Except for any work which the Department directs the Districts to Perform in the notice prior to the effective date of Termination, and except as otherwise provided in the notice, the

Districts shall terminate or conclude all existing subcontracts and purchase orders and shall not enter into any further subcontracts, purchase orders or commitments. Upon Termination of the Agreement, all rights and obligations shall be null and void, so that no Party shall have any further rights or obligations to any other Party, except with respect to the sections which survive Termination. All representations, warranties, agreements and rights of the Parties under the Agreement shall survive such Termination to the extent not otherwise limited in the Agreement and without each one of them having to be specifically mentioned in the Agreement. Termination of the Agreement pursuant to this section shall not be deemed to be a breach of Agreement by the Department.

XIII. DURATION OF AGREEMENT. This Agreement shall be effective on January 1, 2019 or on the date of the last signature below, whichever is later, and shall continue in force unless canceled or terminated by either party in accordance with paragraph X above.

XIV. VOID AB INITIO. Notwithstanding paragraphs X and XI, the Agreement shall be void ab initio if, in the Commissioner's sole discretion, the Construction General Permit is reissued, revoked or modified to eliminate the need for the Districts to review the SWPCP pursuant to such general permit's terms and conditions or if the Construction General Permit expires and is not reissued.

XV. INTERPRETATION. The Agreement contains numerous references to statutes and regulations. For purposes of interpretation, conflict resolution and otherwise, the content of those statutes and regulations shall govern over the content of the reference in the Agreement to those statutes and regulations.

XVI. ENTIRETY OF AGREEMENT. This Agreement is the entire agreement between the Parties with respect to its subject matter, and supersedes all prior agreements, proposals, offers, counteroffers and understandings of the Parties, whether written or oral. The Agreement has been entered into after full investigation, neither Party relying upon any statement or representation by the other unless such statement or representation is specifically embodied in the Agreement.

XVII. PROTECTION OF STATE CONFIDENTIAL INFORMATION

A. The Districts or District Parties, at their own expense, have a duty to and shall protect from a Confidential Information Breach any and all Confidential Information which they come to possess or control, wherever and however stored or maintained, in a commercially reasonable manner in accordance with current industry standards.

B. Each District or District Party shall develop, implement and maintain a comprehensive data-security program for the protection of Confidential Information. The safeguards contained in such program shall be consistent with and comply with the safeguards for protection of Confidential Information, and information of a similar character, as set forth in all applicable federal and state law and written policy of the Department or State concerning the confidentiality of Confidential Information. Such data-security program shall include, but not be limited to, the following:

1. A security policy for employees related to the storage, access and transportation of data containing Confidential Information;

2. Reasonable restrictions on access to records containing Confidential Information, including access to any locked storage where such records are kept;

3. A process for reviewing policies and security measures at least annually;

4. Creating secure access controls to Confidential Information, including but not limited to passwords; and

5. Encrypting of Confidential Information that is stored on laptops, portable devices or being transmitted electronically.

C. The District and District Parties shall notify the Department and the Connecticut Office of the Attorney General as soon as practical, but no later than twenty-four (24) hours, after they become aware of or suspect that any Confidential Information which Parties have come to possess or control has been subject to a Confidential Information Breach. If a Confidential Information Breach has occurred, the District shall, within three (3) business days after the notification, present a credit monitoring and protection plan to the Commissioner of Administrative Services, the Department and the Connecticut Office of the Attorney General, for review and approval. Such credit monitoring or protection plan shall be made available by the District at its own cost and expense to all individuals affected by the Confidential Information Breach. Such credit monitoring or protection plan shall include, but is not limited to, reimbursement for the cost of placing and lifting one (1) security freeze per credit file pursuant to Connecticut General Statutes §36a-701a. Such credit monitoring or protection plans shall be approved by the State in accordance with this Section and shall cover a length of time commensurate with the circumstances of the Confidential Information Breach. The District's costs and expenses for the credit monitoring and protection plan shall not be recoverable from the Department, any State of Connecticut entity or any affected individuals.

D. The District shall incorporate the requirements of this Section in all subAgreements requiring each District Party to safeguard Confidential Information in the same manner as provided for in this Section.

E. Nothing in this Section shall supersede in any manner the District's and/ or the District Parties' obligations pursuant to HIPAA or the provisions of this Agreement concerning the obligations of the District as a Business Associate of the Department.

XVIII. AMERICANS WITH DISABILITIES ACT. The Districts shall be and remain in compliance with the Americans with Disabilities Act of 1990 ("Act"), to the extent applicable, during the term of the Agreement. The DEEP may cancel the Agreement if the District and District Parties fail to comply with the Act.

XIX. ADA PUBLICATION STATEMENT. The following statement shall be incorporated into all publications prepared under the terms of this Agreement:

"The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to complying with the requirements of the Americans with Disabilities Act (ADA). Please contact us at (860) 418-5910 or deep.accommodations@ct.gov if you: have a disability and need a communication aid or service;

have limited proficiency in English and may need information in another language; or if you wish to file an ADA or Title VI discrimination complaint."

When advertising any public meetings conducted under the terms of this Agreement, the above publications language should be used as well as the following statement:

"Requests for accommodations must be made at least two weeks prior to the program date."

All videos produced under the terms of this Agreement must be made available with closed captioning.

XX. PUBLICATION OF MATERIALS. The District must obtain written approval from the State of Connecticut prior to distribution or publication of any printed material prepared under the terms of this Agreement. Unless specifically authorized in writing by the State, on a case by case basis, the District shall have no right to use, and shall not use, the name of the State of Connecticut, its officials, agencies, or employees or the seal of the State of Connecticut or its agencies: (1) in any advertising, publicity, promotion; or (2) to express or to imply any endorsement of District's products or services; or (3) to use the name of the State of Connecticut, its officials agencies, or employees or the seal of the State of Connecticut or its agencies in any other manner (whether or not similar to uses prohibited by (1) and (2) above), except only to manufacture and deliver in accordance with this Agreement such items as are hereby contracted for by the State. In no event may the Districts use the State Seal in any way without the express written consent of the Secretary of State.

XXI. CHANGES IN PRINCIPAL PROJECT STAFF. Any changes in the principal project staff must be requested in writing and approved in writing by the Commissioner at the Commissioner's sole discretion. In the event of any unapproved change in principal project staff, the Commissioner may, in the Commissioner's sole discretion, terminate this Agreement.

XXII. FURTHER ASSURANCES. The Parties shall provide such information, execute and deliver any instruments and documents and take such other actions as may be necessary or reasonably requested by the other Party which are not inconsistent with the provisions of this Agreement and which do not involve the vesting of rights or assumption of obligations other than those provided for in the Agreement, in order to give full effect to the Agreement and to carry out the intent of the Agreement.

XXIII. ASSIGNMENT. The Districts shall not assign any of their rights or obligations under the Agreement, voluntarily or otherwise, in any manner without the prior written consent of the Department. The Department may void any purported assignment in violation of this section and declare the District in breach of this Agreement. Any termination by the Department for a breach is without prejudice to the Agency's or the State's rights or possible Claims.

XXIV. EXHIBITS. All exhibits referred to in, and attached to, this Agreement are incorporated in this Agreement by such reference and shall be deemed to be a part of it as if they had been fully set forth in it.

XXV. FORCE MAJEUR. Events that materially affect the cost of the Goods or Services or the time schedule within which to Perform and are outside the control of the party asserting that such an event has occurred, including, but not limited to, labor troubles unrelated to District(s), failure of or inadequate permanent power, unavoidable casualties, fire not caused by a District, extraordinary

weather conditions, disasters, riots, acts of God, insurrection or war.

XXVI. INDEMNIFICATION. The Districts shall indemnify, defend and hold harmless the State and its officers, representatives, agents, servants, employees, successors and assigns from and against any and all (1) Claims arising, directly or indirectly, in connection with the Agreement, including the acts of commission or omission (collectively, the "Acts") of the District or District Parties; and (2) liabilities, damages, losses, costs and expenses, including but not limited to, attorneys' and other professionals' fees, arising, directly or indirectly, in connection with Claims, Acts or the Agreement. The Districts obligations under this section to indemnify, defend and hold harmless against Claims includes Claims concerning confidentiality of any part of or all of the Districts' Records, any intellectual property rights, other proprietary rights of any person or entity, copyrighted or uncopyrighted compositions, secret processes, patented or unpatented inventions, articles or appliances furnished or used in the Performance. The Districts shall not be responsible for indemnifying or holding the State harmless from any liability arising due to the gross negligence of the State or any other person or entity acting under the direct control or supervision of the State. The Districts shall reimburse the State for any and all damages to the real or personal property of the State caused by the Acts of the Districts or any District Parties. The State shall give the Districts reasonable notice of any such Claims. The Districts shall carry and maintain at all times during the term of the Agreement, and during the time that any provisions survive the term of the Agreement, sufficient general liability insurance to satisfy its obligations under this Agreement. The Districts shall name the State as an additional insured on the policy and shall provide a copy of the policy to the Department prior to the effective date of the Agreement. The Districts shall not begin Performance until the delivery of the policy to the Department. The Department shall be entitled to recover under the insurance policy even if a body of competent jurisdiction determines that the Department or the State is contributorily negligent. This section shall survive the Termination of the Agreement and shall not be limited by reason of any insurance coverage.

XXVII. DISTRICT PARTIES. A District's members, directors, officers, shareholders, partners, managers, principal officers, representatives, agents, servants, consultants, employees or any one of them or any other person or entity with whom the District is in privity of oral or written contract and the District intends for such other person or entity to Perform under the Agreement in any capacity

Authorizing Signatures

For DEEP: _____ _____
Katherine S. Dykes, Commissioner Date

For Northwest Conservation District:

_____ _____
Signature Date
_____
Title

For Eastern Connecticut Conservation District:

_____ _____
Signature Date
_____
Title

For Connecticut River Coastal Conservation District, Inc.:

_____ _____
Signature Date
_____
Title

For Southwest Conservation District:

_____ _____
Signature Date
_____
Title

For North Central Conservation District:

_____ _____
Signature Date
_____
Title

Exhibit 1

Fee Schedule effective as of January 1, 2019

The Districts will be paid $120/hour for technical assistance work performed. Interim inspections must be estimated based on phasing and complexity of site.

Down payments:
$2,500 for sites ≤ 20 acres
$4,000 for sites > 20 acres

Exhibit 2

Conservation Districts of Connecticut
Regional Delineations and Contact Information

Northwest Conservation District
1185 New Litchfield Street
Torrington, CT 06790
Ph: 860-626-7222
Fax: 860-626-7222
Email: info@nwcd.org

Eastern Connecticut Conservation District
238 West Town Street
Norwich, CT 06360-2111
Ph**:** 860-319-8806
Email: Dan.Mullins@comcast.net

Connecticut River Coastal Conservation District, Inc.
deKoven House Community Center
27 Washington Street
Middletown, CT 06457
Ph: 860-346-3282
Email: ctrivercoastal@conservect.org

Southwest Conservation District
51 Mill Pond Road
Hamden, CT 06514
Ph: 203-859-7014
Email: csullivan@conservect.org

North Central Conservation District
24 Hyde Avenue
Vernon, CT 06066
Ph: 860-875-3881
Email: tollandc@snet.net

NORTHWEST	SOUTHWEST	NORTH CENTRAL	CT RIVER COASTAL	EASTERN
Barkhamsted	Ansonia	Avon	Berlin	Andover
Bethel	Beacon Falls	Bloomfield	Chester	Ashford
Bethlehem	Bethany	Bolton	Clinton	Bozrah
Bridgewater	Branford	Bristol	Colchester	Brooklyn
Brookfield	Bridgeport	Burlington	Cromwell	Canterbury
Canaan	Cheshire	Canton	Deep River	Chaplin
Colebrook	Darien	Coventry	Durham	Columbia
Cornwall	Derby	East Granby	East Haddam	Eastford
Danbury	East Haven	East Hartford	East Hampton	East Lyme
Goshen	Easton	East Windsor	Essex	Franklin
Hartland	Fairfield	Ellington	Haddam	Griswold
Harwinton	Greenwich	Enfield	Hebron	Groton
Kent	Guilford	Farmington	Killingworth	Hampton
Litchfield	Hamden	Glastonbury	Lyme	Killingly
Morris	Meriden	Granby	Madison	Lebanon
New Fairfield	Middlebury	Hartford	Marlborough	Ledyard
New Hartford	Milford	Manchester	Middlefield	Lisbon
New Milford	Monroe	Plainville	Middletown	Mansfield
Newtown	Naugatuck	Simsbury	Newington	Montville
Norfolk	New Canaan	Somers	New Britain	New
North Canaan	New Haven	South Windsor	Old Lyme	London
Plymouth	North Branford	Stafford	Old Saybrook	North
Roxbury	North Haven	Suffield	Portland	Stonington
Salisbury	Norwalk	Tolland	Rocky Hill	Norwich
Sharon	Orange	Vernon	Salem	Plainfield
Sherman	Oxford	West Hartford	Westbrook	Pomfret
Southbury	Prospect	Wethersfield		Preston
Thomaston	Redding	Willington		Putnam
Torrington	Ridgefield	Windsor		Scotland
Warren	Seymour	Windsor Locks		Sprague
Washington	Shelton			Sterling
Watertown	Southington			Stonington
Winchester	Stamford			Thompson
Woodbury	Stratford			Union
	Trumbull			Voluntown
	Wallingford			Waterford
	Waterbury			Windham
	West Haven			Woodstock
	Weston			
	Westport			
	Wilton			
	Wolcott			
	Woodbridge			

APPENDIX G

Historic Preservation Review

Chapter 184a, Section 10-387 of the Connecticut General Statutes states that DEEP shall review, in consultation with the State Historic Preservation Office (SHPO) within the Department of Economic and Community Development, its policies and practices for consistency with the preservation and study of the state's archaeological and historical sites. Pursuant to this requirement, DEEP has outlined the following process for assessing the potential for a proposed development to impact these important resources. DEEP advises a review for resources identified below to ***be initiated up to one year*** prior to registration for this permit and in conjunction with the local project approval process.

Question 1
Will the proposed project will be authorized under an Army Corps of Engineers Section 404 wetland permit?

☐ Yes – Stop here – the Section 404 permit will satisfy all requirements for Appendix G
☐ No – Please answer the following questions

Question 2
Is the project site within an area of significance?

☐ Yes ☐ No ☐ Do Not Know or Unable to Determine

This can be determined by consulting the following resources:

1. National Register of Historic Places found at the link below: https://www.nps.gov/maps/full.html?mapId=7ad17cc9-b808-4ff8-a2f9-a99909164466
2. The municipality of the proposed development site for locally designated properties (including local historic districts) and any municipal ordinance pertaining to properties over 50 years old.

Question 3
Does the area of anticipated construction or ground disturbance include soils defined by the United States Department of Agriculture as "Loam, Sandy Loam, or Loamy Sand" that also may be Fine or Gravelly with slopes less than or equal to 15% (Soil mapping information is available at: https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)?

☐ Yes ☐ No ☐ Do Not Know or Unable to Determine

Question 4
Are there buildings or structures over 50 years in age within the project site or evidence of prior human land use (i.e., buildings foundations, wells, stone walls, or other built stone features)?

☐ Yes ☐ No ☐ Do Not Know or Unable to Determine

How to Proceed

If you answered "Yes" or "Do Not Know or Unable to Determine" to any or all of Questions 2, 3, or 4 above; please contact Catherine Labadia at SHPO for additional guidance (email: catherine.labadia@ct.gov or direct phone: 860-500-2329).

If you answered "No" to each one of Questions 2, 3, or 4 above; report in the Registration Form for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities that a self-review has been conducted and report the results provided above.

Appendix H
Wild & Scenic Rivers Guidance

Overview: Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act (WSRA) charges administration of rivers in the National Wild and Scenic Rivers System (National System) to four federal land management agencies (Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, and U.S. Forest Service). However, to protect and enhance river values as directed in the WSRA, it is essential to use the authorities of a number of other federal agencies in administering the water column, river bed/bank, and upland river corridor.

Congress declared a policy to protect selected rivers in the nation through the WSRA. The river-administering agencies are to protect the river's identified values, free-flowing condition, and associated water quality. Specifically, each component is to be "administered in such manner as to protect and enhance the (outstandingly remarkable) values (**ORVs**) which caused it to be included in said system. . . ."

The WSRA also directs other federal agencies to protect river values. It explicitly recognizes the Federal Energy Regulatory Commission, Environmental Protection Agency, Army Corps of Engineers and any other federal department or agency with lands on or adjacent to designated (or congressionally authorized study) rivers or that permit or assist in the construction of water resources projects.

Pertinent Sections of the Wild and Scenic Rivers Act

The full Wild and Scenic Rivers Act can be found at the website: www.rivers.gov
Pertinent Sections related to the mandate to protect river values through coordinated federal actions is found in several sections of the WSRA:

Section 1(b)	Section 7(a)	Section 10(a)
Section 12(a)	Section 12(c)	

Designated Rivers under the Wild and Scenic Rivers Act and Contact Information

The full listing of designated rivers can be found on the website www.rivers.gov
As of the date of this publication, there are two designated rivers in Connecticut, both of which are managed under the Partnership Wild and Scenic Rivers Program, through a Coordinating Committee consisting of representatives from local communities and organizations, state government and the National Park Service. More information about these rivers, their watersheds, approved management plans, the Wild and Scenic Coordinating Committees and specific contact information can be found on the websites.

1. Farmington (West Branch) River: farmingtonriver.org
2. Farmington (Lower) & Salmon Brook: lowerfarmingtonriver.org
3. Eightmile River: eightmileriver.org
4. Wood & Pawcatuck Rivers: wpwildrivers.org

APPENDIX I
Stormwater Management at
Solar Array Construction Projects

Solar development has expanded over the last several years as Connecticut and other states have invested in this important resource to further greenhouse gas emission reductions and other renewable policy objectives. However, construction of a large-scale solar array is unlike most other construction activities regulated under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities ("general permit") and entails challenges not encountered in traditional development projects. If not properly managed, stormwater discharged during and after the construction of solar arrays can be a significant source of pollution resulting from increased runoff, erosion, and sedimentation, which can adversely impact wetlands or other natural resources. It is vitally important to stabilize soil, minimize soil disturbance and soil compaction, and manage the total runoff volume and velocity. Proper stormwater management practices can significantly mitigate the loss of topsoil, erosion and sediment discharges from disturbed areas and stormwater outlets, and erosion along downstream channels and streambanks. The opportunities to properly manage runoff decrease as site imperviousness increases.

Therefore, in addition to the terms and conditions of the general permit, registrations for construction of a Solar Array (as that term is defined in Section 2 of the general permit) shall, at a minimum, adhere to the conditions listed below. Depending on site-specific conditions for a particular solar array construction project, additional analyses may be required.

(I) Design and construction requirements

(1) Roadways, gravel surfaces and transformer pads within the solar array are considered effective impervious cover for the purposes of calculating Water Quality Volume (WQV). In addition to these impervious surfaces, all solar panels in the array shall also be considered effective impervious cover for the purposes of calculating Water Quality Volume if the proposed post-construction slopes at a site are equal to or greater than 15% or if the post-construction slopes at a site are less than 15% and the conditions in (a) – (d), inclusive, below have not been met:

(a) The vegetated area receiving runoff between rows of solar panels (see Figures 1 and 2, below) is equal to or greater than the average width of the row of solar panels draining to the vegetated area;

(b) Overall site conditions and solar panel configuration within the array are designed and constructed such that stormwater runoff remains as sheet flow across the entire site and flows towards the intended stormwater management controls;

(c) The following conditions are satisfied regarding the design of the post-construction slope of the site:

(i) For slopes less than or equal to 5%, appropriate vegetation shall be established that will ensure sheet flow conditions and that will provide sufficient ground cover throughout the site; and

(ii) For slopes greater than 5%, but less than 10%, practices including, but not limited to, level spreaders, terraces or berms as described in Figure 2, below, shall be used to ensure long term sheet flow conditions; and

(iii) For slopes greater than or equal to 8%, erosion control blankets or stump grindings or erosion control mix mulch or hydroseed with tackifier shall be applied within 72 hours of final grading, or when a rainfall of 0.5 inches or greater is predicted within 24 hours of final grading, whichever time period is less; and

(iv) For slopes equal to or greater than 10% and less than 15%, the Plan includes specific engineered stormwater control measures with detailed specifications that are designed to provide permanent stabilization and non-erosive conveyance of runoff to the property line of the site or downgradient from the site.

(d) The solar panels shall be designed and constructed in such a manner as to allow the growth of native

vegetation beneath and between the panels. Pollinator-friendly vegetation is strongly encouraged. With respect to such vegetation, the Permittee shall not use chemical fertilization, herbicides, or pesticides except as necessary to establish such vegetation.

(2) (a) Prior to commencing construction activities, the Permittee shall ensure that the following setback and buffer shall be delineated and maintained on the site:

(i) No solar panel associated with a solar array shall be located within one-hundred (100) feet of any wetland or waters ("the 100-foot setback") that, prior to or after construction, is located downgradient of such construction activity or within fifty (50) feet of any property boundary ("the 50-foot setback") that, prior to or after construction, is located downgradient of such construction activity; and

(ii) Except as provided in section 2(a)(iii), there shall be an undisturbed buffer of at least fifty (50) feet between any construction activity at a site and any wetland or waters that, prior to or after construction, is located downgradient of such construction activity ("the 50-foot buffer"). Such buffer shall be comprised of existing dense herbaceous vegetative ground cover (e.g. not forested area). If the entirety of such buffer is not comprised of existing dense herbaceous vegetative ground cover, such buffer shall be at least one-hundred (100) feet ("the 100-foot buffer").

(iii) There shall be an undisturbed buffer of at least ten (10) feet between any construction activity at a site associated with an access road or the electrical interconnection necessary for the solar array and any wetland or waters that, prior to or after construction, is located downgradient of such construction activity ("10-foot buffer"), except if the access road or electrical interconnection passes between two wetland or waters and the undisturbed buffer cannot be achieved. Any crossing through a wetland or waters for an access road or electrical interconnection is exempt from such buffer requirement.

(b) Notwithstanding section 2(a)(ii), the 50-foot buffer or 100-foot buffer, as applicable, may be reduced, only where necessary, but by no more than fifty percent (50%), only if all of the following have been demonstrated to the satisfaction of the commissioner by approval of a Registration:

(i) Stormwater control measures for managing stormwater discharges that will enter or be received by a wetland or waters shall be designed and installed in accordance with the following conditions:

(A) a minimum sediment load reduction of ninety percent (90%) shall be achieved before such discharges enter or are received by a wetland or waters. The required sediment load reduction shall be calculated based solely on the stormwater controls used; no sediment load reduction from conditions on the site (i.e., from any remaining buffer) shall be considered when calculating the sediment load reduction from such stormwater controls. The sediment load reduction may be calculated using a range of available models that are available to facilitate this calculation, including USDA's RUSLE-series programs and the WEPP erosion model, SEDCAD, SEDIMOT, or other equivalent independent third party model or method acceptable to the commissioner;

(B) those portions of a solar array from which stormwater discharges enter or will be received by a wetland or waters shall be deemed effective impervious cover for the purposes of calculating Stream Channel Protection in accordance with Section 7.6.1 of the Stormwater Quality Manual, even if those portions of such array are less than one (1) acre; and

(C) the buffer into which stormwater discharges shall have a slope of less than or equal to fifteen percent (15%)

(c) A soil scientist, as that term is defined in Section 2 of the general permit, shall delineate all wetland or waters by field survey. The location of all wetland or waters and all required setbacks and buffers shall be shown on all mapping and prior to the start of construction be clearly marked on the site with flags, stakes, tape, or a similar marking device by a surveyor licensed in Connecticut.

(d) Delineation of the 100-foot setback and any buffer required under this section shall be measured perpendicularly and laterally from the nearest part of the solar array or construction activity, as applicable, to:

(i) in the case of waters, the ordinary high water mark of the water body, defined as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, and/or the presence of litter and debris;

(ii) the nearest edge of the stream or river bank, bluff, or cliff, as applicable; and

(iii) the nearest edge of any wetland, as determined by a soil scientist.

(e) The Plan shall indicate how compliance with this section will be achieved.

(f) Prior to the approval of a registration, the commissioner may determine that the 100 foot-setback or any buffer required under this section is not adequate to protect water quality or natural resources (i.e., a vernal pool, cold-water perennial streams, perennial headwater seeps or similar sensitive wetland or waters, or other sensitive habitat). In such a case, the commissioner may reject or disapprove the registration, or may impose additional terms and conditions in the approval of such registration, including, but not limited to, an additional setback, buffer or other control measure.

(g) Nothing in this section is intended to or shall prevent improvements, as may be directed by the commissioner in the approval of a registration, to enhance the water quality benefits or the natural resource value of any buffer required under this section.

(h) The terms "wetland", "wetlands", and "waters" shall be as defined in Section 2 of the general permit. In addition, the term "access road" shall mean a road used for the sole purpose of gaining access to the site from a public road or right-of-way or a road used solely to provide access between separate internal areas of fenced solar arrays. Access road shall *not* include any other road, including, but not limited to, a road around the perimeter of a solar array or a road used to service solar arrays.

(3) The lowest vertical clearance of the solar panels above the ground should not be greater than ten (10) feet. The panels shall, however, be at an adequate height to support vegetative growth and maintenance beneath and between the panels. If the lowest vertical clearance of the solar panels above the ground is greater than ten (10) feet, non-vegetative control measures will be required to prevent/control erosion and scour along the drip line or otherwise provide energy dissipation from water running off the panels. This section does not apply to solar carports that are installed over asphalt pavement.

(4) In addition to the pre-construction meeting required by Section 3(*b*)(15) of the general permit, prior to each phase of any construction activity, the Permittee shall ensure that a preconstruction meeting takes place with the designing qualified professional, qualified inspector, and all site contractors and subcontractors to be involved in construction, and the appropriate District personnel. Such meeting shall include a site walk of the project site. The Permittee shall ensure that a record of the date of such meeting and a report summarizing the meeting shall be prepared and retained in the Permittee's Plan, with a copy sent to all parties who attended the preconstruction meeting.

(5) (a) The Permittee shall retain the designing qualified professional and a qualified inspector (as those terms are defined in Section (2)) to conduct the Plan Implementation and Routine inspections pursuant to Section 5(*b*)(4), provided that any qualified inspector shall be chosen by the designing qualified professional. Unless otherwise approved in writing by the Commissioner, such designing qualified professional and qualified inspector shall be retained for the duration of the construction project until the Notice of Termination has been submitted to the Commissioner and determined to be acceptable, as described below in paragraph (8) below.

(b) Plan Implementation Inspections: Notwithstanding the schedule of inspections set forth in Section 5(*b*)(4) of the general permit, the Permittee shall ensure that the designing qualified professional and the qualified

inspector chosen by such designing qualified professional conduct Plan Implementation Inspections beginning with the commencement of construction activities and through each phase of construction until all perimeter controls, initial erosion and sediment control measures, and construction stormwater traps, basins, swales, and other control measures associated with each phase have been installed and stabilized. In addition, once all of these measures have been installed and stabilized, the Permittee shall ensure that the designing qualified professional certifies in writing to their completion in the applicable inspection report in accordance with the Plan. The Permittee shall ensure that the designing qualified professional conducts a Plan Implementation Inspection of the site at least once a month and the qualified inspector chosen by such designing qualified professional conducts such inspection at least once a week. (The qualified inspector does not need to conduct a weekly inspection during the week the qualified designing professional conducts a monthly inspection).

(c) Routine Inspections: Following the completion of the Plan Implementation Inspections (i.e., after the designing qualified professional has certified that stormwater control measures have been installed and stabilized) and notwithstanding the requirements of Section 5(*b*)(4)(B) of the general permit, either the designing qualified professional or the qualified inspector shall conduct weekly Routine Inspections pursuant to Section 5(*b*)(4)(B) of the general permit, provided that the designing qualified professional shall inspect the site at least once a month, or more frequently if necessary, to confirm that the site is in compliance with the general permit and determine if it is necessary to install, modify, maintain, or repair such controls and/or measures to improve the quality of stormwater discharges.

(d) In addition to any requirements of Section 5(*b*)(4)(B) of the general permit, the designing qualified professional shall seal and certify to the truth and accuracy of each inspection undertaken pursuant to this section regardless of whether the inspection is performed by such designing qualified professional or the qualified inspector. On or before five (5) days after the completion of each inspection, the Permittee shall ensure that certified inspection reports of all inspections undertaken pursuant to this section are provided by the designing qualified professional directly to the Permittee and shall ensure that a copy of the certified inspection report of each such inspection is provided to the appropriate District personnel and submitted electronically to the Department via email at DEEP.stormwaterstaff@ct.gov.

(e) Unless otherwise provided for in this section, the Permittee shall comply with section 5(*b*)(4) of the general permit, including, but not limited to, taking action if an inspection indicates that the site is not in compliance with the terms and conditions of the Plan or the general permit.

(f) The Permittee shall also ensure that the proposed inspection checklist prepared by the designing qualified professional is submitted for the review and approval of the Commissioner and is included with the registration for the general permit. No other professionals may serve as the designing qualified professional or qualified inspector without the prior submittal of relevant credentials and inspection checklist for the Commissioner's review and written approval.

(6) In addition to the requirements of this general permit regarding inspection checklists, the Permittee shall ensure that a copy of all such checklists are submitted electronically to the Department email (DEEP.stormwaterstaff@ct.gov) and the appropriate District within five (5) days from the date an inspection of the site was performed.

(7) The Permittee shall ensure, after completion of a construction project, that a Notice of Termination is filed in compliance with Section 6 of this general permit, including the requirement that such Notice of Termination be signed by a District representative certifying that such District representative has personally conducted a Post-Construction Inspection and Final Stabilization Inspection in accordance with Section 6(*a*) of this general permit and verified compliance with the requirements of that section. The Notice of Termination shall not be submitted until two (2) full growing seasons have passed following final stabilization. Monthly post-construction inspections shall be conducted by the qualified inspector following final stabilization until the Notice of Termination is submitted.

(8) (a) Prior to undertaking any construction activity, the Permittee shall secure and maintain a letter of credit in

accordance with the requirements of this section.

(b) For sites with a total disturbance of twenty (20) acres or more, the amount of the Letter of Credit shall be $15,000.00 per acre of disturbance. For sites with a total disturbance of less than twenty (20) acres, the amount of the Letter of Credit shall be $7,500.00 per acre of disturbance. Should a project developer locate more than one project with a total disturbance of less than twenty (20) acres in the same vicinity, for purposes of this section, the Commissioner reserves the right to combine such projects and consider them as being a site with a total disturbance of twenty (20) acres or more.

(c) The wording of such letter of credit must be identical to the wording specified in Appendix J of the general permit. The Permittee shall maintain such letter of credit in effect until the Commissioner notifies the permittee that the Notice of Termination, filed in compliance with Section 6 of the general permit has been accepted by the Commissioner.

(d) At the option of the Permittee, the amount of the letter of credit required under section 8(b) of Appendix I may be reduced:

(i) By forty (40) percent of the amount of the original letter of credit, only upon a determination by the Commissioner or, after designation of a District by the Commissioner, a representative from such District, that all perimeter controls, initial erosion and sediment control measures, and construction stormwater traps, basins, swales, and other control measures have been installed, functioning and stabilized in accordance with the general permit and the Plan;

(ii) By forty (40) percent of the amount of the original letter of credit, only upon a determination by the Commissioner or, after designation of a District by the Commissioner, a representative from such District, that all post-construction stormwater management measures specified in the SWPCP have been installed, functioning and stabilized in accordance with the general permit and the Plan; and

(iii) Upon the Commissioner's acceptance of the Notice of Termination filed in compliance with Section 6 of the general permit, the letter of credit may be terminated.

(e) The process for reducing the amount of the letter of credit in accordance with section 8(d) of Appendix I shall be as follows: the Permittee shall first submit a new letter of credit identical in all respects to the letter of credit in Appendix J, except for the reduced amount. Once the new letter of credit is received and the Commissioner determines that it is satisfactory, the Commissioner shall follow any reasonable instructions from the issuing bank regarding the termination or return of the previous letter of credit.

II. Design requirements for post-construction stormwater management measures.

(1) Post-construction stormwater control measures shall be designed and constructed to provide permanent stabilization and non-erosive conveyance of runoff on the site, to the property line of the site or downgradient from the site to ensure protection of on- and off-site wetland, wetlands, and waters (as those terms are defined in Section 2 of the general permit) or other natural resources.

(2) Orientation of panels shall be considered with respect to drainage pattern, flow concentration, drainage area and velocity.

(3) The permittee shall conduct a hydrologic analysis that:

(a) Evaluates and controls the 2, 25, 50 and 100-year 24-hour rainfall event post-development peak discharge to the corresponding pre-development peak discharge rates in accordance with the Stormwater Quality Manual, with the following exceptions: that sheet flow is maintained for a maximum length of 100 feet; shallow concentrated flow is calculated using velocity factors per NRCS Part 630 National Engineering Handbook Chapter 15 (the use of TR-55 paved or unpaved velocity factors are not acceptable); if swales are used to convey or control stormwater, such swales shall convey and control stormwater from a 100-year, 24-hour

rainfall event; and

(b) Is based on site specific soil mapping to confirm soil types; and

(c) Is able to determine and confirm the infiltrative capacity of any stormwater management measures . In addition, in areas where grading exceeds a two (2) foot difference between existing and proposed grades, the runoff curve number shall increase by one full HSG (e.g. runoff curve number for soils of HSG B shall be considered HSB C). For the remainder of the entire site, the runoff curve number associated with the Hydrologic Soil Group present on-site shall increase by one half (1/2) the difference between the Hydrologic Soil Group present on-site and the next higher Hydrologic Soil Group (e.g. half the difference between the runoff curve number for HSG B versus HSG C) to account for the compaction of soils that results from extensive machinery traffic over the course of the construction of the array; and

(d) Is based on slope gradient, surveyed soil type (adjusted per subparagraph (c), above), infiltration rate, length of slope, occurrence of bedrock, and change in drainage patterns. Pre- and post-development drainage area maps shall be provided showing this information; and

(e) For an engineered stormwater management system, demonstrates no net increase in peak flows, erosive velocities or volumes, or adverse impacts to downstream properties in accordance with the general permit and the Stormwater Quality Manual.

Figure 1
Solar Panel Installation with Slopes ≤ 5%

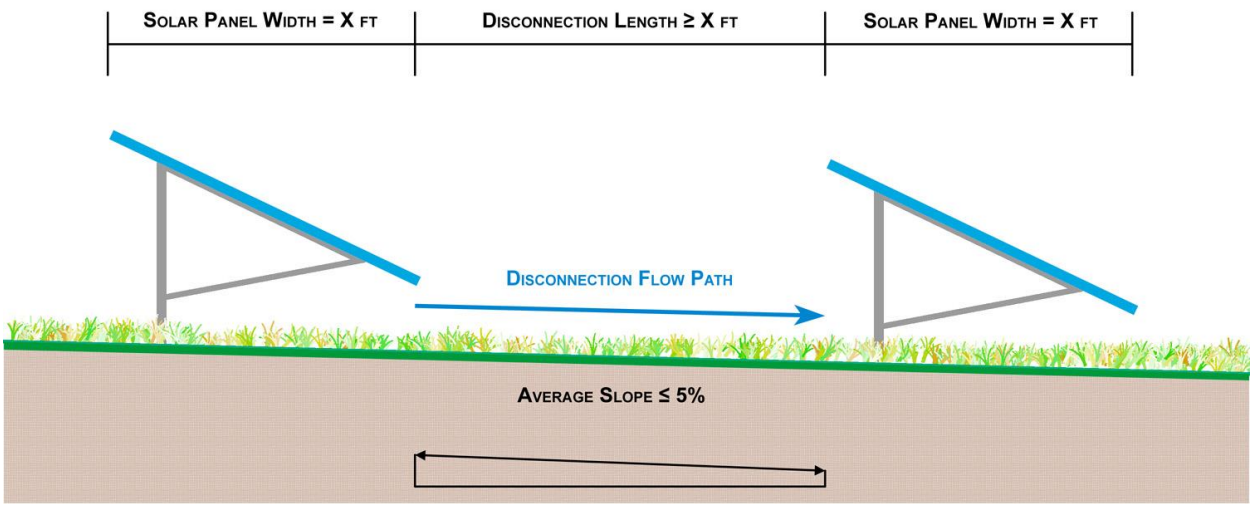
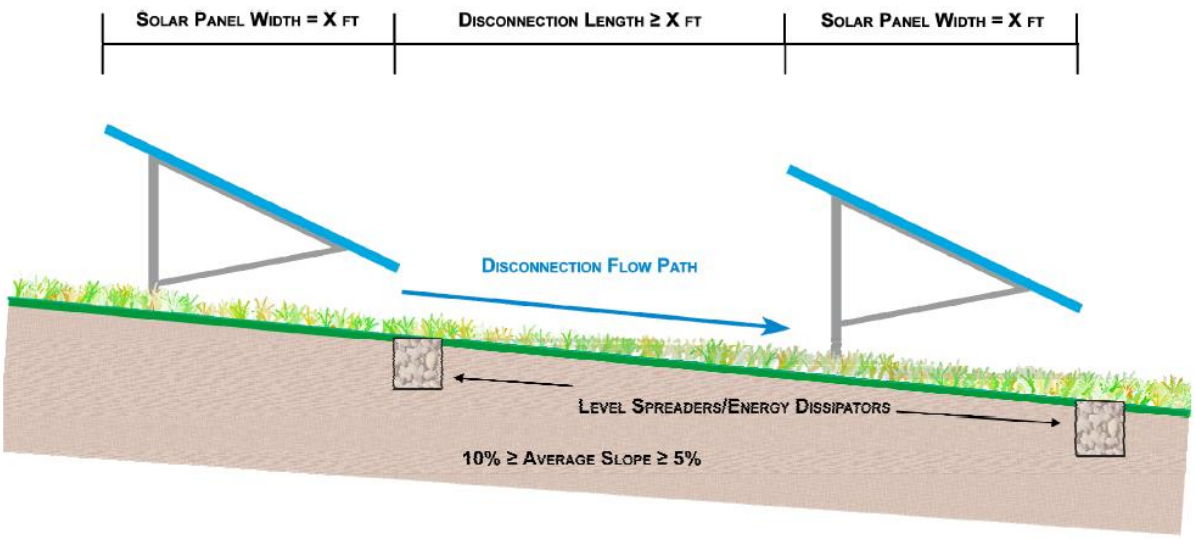


Figure 2
Solar Panel Installation with Slopes > 5% and ≤ 10%



Source: Maryland Department of the Environment: Stormwater Design Guidance – Solar Panel Installations

APPENDIX J
CTDEEP Financial Assurance Irrevocable Letter of Credit

[NAME OF ISSUING BANK]

IRREVOCABLE STANDBY LETTER OF CREDIT NUMBER: [XXXX]

ISSUANCE DATE: [MONTH, DATE, YEAR]

TOTAL AMOUNT: U.S. $[X,XXX.00]

BENEFICIARY: Commissioner, Connecticut Department of Energy and Environmental Protection

APPLICANT: [APPLICANT NAME AND ADDRESS]

Commissioner
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit No. [XXXX] in your favor, at the request and for the account of the Applicant, [APPLICANT NAME AND ADDRESS], up to the aggregate total amount of [XXX] U.S. Dollars ($[X,XXX].00). We hereby authorize the Commissioner of the Connecticut Department of Energy and Environmental Protection ("Commissioner") to draw at sight on us, [NAME AND ADDRESS OF ISSUING BANK], an aggregate amount up to the total amount, available upon presentation of:

(1) your sight draft, bearing reference to this Letter of Credit No. [XXXX], and

(2) your signed, dated statement reading as follows: "I certify that the amount of the draft is payable because I have determined one or more of the following has occurred or is occurring:

(a) one or more violations of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities issued by the Commissioner and which is currently in effect, or one or more violations of any other requirement or approval applicable to the management of stormwater at or emanating from [ADDRESS OF SITE] ("the Property"), or

(b) stormwater at or emanating from the Property is or has become a potential source of pollution (as that term is defined in Conn. Gen. Stat. § 22a-423) which has not been

remedied to my satisfaction within five (5) business days of the Applicant's receipt of a written notice from me that a pollution condition exists, or

(c) the Applicant, or any other entity in which the Applicant has a controlling interest, no longer owns, leases, or can control the use of the Property, or no longer owns, operates, or has a controlling interest in the solar array facility located at the Property, or

(d) the issuing bank has notified me that it has decided not to extend this letter of credit beyond the current expiration date."

This letter of credit is effective as of [MONTH, DATE, YEAR] and shall expire on [MONTH, DATE, YEAR AT LEAST ONE YEAR LATER], but such expiration date shall be automatically extended for a period of one year and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and Applicant, [APPLICANT NAME], by certified mail or nationally recognized courier service that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of this letter of credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by you, as shown on the signed return receipts or evidence of courier delivery.

Multiple and partial draws on this letter of credit are expressly permitted, up to an aggregate amount not to exceed the total amount. Whenever this letter of credit is drawn on under and in compliance with the terms of this letter of credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into a Connecticut Department of Energy and Environmental Protection dedicated account in accordance with your instructions.

All banking and other charges under this letter of credit are for the account of the Applicant.

This letter of credit is issued subject to the edition of the Uniform Customs and Practice for Documentary Credits, published and copyrighted by the International Chamber of Commerce, in effect on the date this Letter of Credit is issued.

By signing, the signatory below certifies, under penalty of law, that the issuing institution is an entity which has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a Federal or State agency.

_____

[SIGNATURE(S) OF OFFICIAL(S) OF ISSUING INSTITUTION]

_____

[TITLE(S) OF OFFICIAL(S) OF ISSUING INSTITUTION]

Date: [MONTH, DATE, YEAR]

Appendix B

Identification of Contractor and Certification Statements

RIVERFRONT RECAPTURE
Windsor, Connecticut

General Contractor	Point of Contact	Phone

Subcontractors	Point of Contact	Phone

RIVERFRONT RECAPTURE
Windsor, Connecticut

GENERAL CONTRACTOR

"I certify under penalty of law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as a contractor at the site, I am authorized by this general permit, and must comply with the terms and conditions of this general permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for the site."

Signed:_____ Date:_____

Printed Name: _____ Telephone:_____

Title: _____

Firm:_____

Address:_____

_____

_____

_____

RIVERFRONT RECAPTURE
Windsor, Connecticut

SUBCONTRACTOR

"I certify under penalty of law that I have read and understand the terms and conditions of the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities. I understand that as a subcontractor at the site, I am authorized by this general permit, and must comply with the terms and conditions of this general permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for the site."

Signed:_____ Date:_____

Printed Name: _____ Telephone:_____

Title: _____

Firm:_____

Address:_____

_____

_____

_____

Appendix C

RLI Project / Connecticut River Hydraulic & Floodway Report

Connecticut Department of
Energy & Environmental Protection
Bureau of Water Protection & Land Reuse
Land & Water Resources Division

LWRD License Application
Engineering Report Cover Sheet

This Cover Sheet is a checklist of requirements that need to be completed and submitted with the engineering report. Please complete this checklist by identifying where each requirement listed is addressed in the engineering report (report title and page numbers). If an item is not applicable, place "NA" in the box. The engineer report must fully describe the design of the proposed facilities or other actions and the hydraulic and hydrologic effects thereof. This Cover Sheet is required to be signed and sealed by a professional engineer licensed in the State of Connecticut.

Stormwater Management

Engineering Report section title and page number	Requirement Description
Att 18 pg. 2-3	Description of the design storm frequency intensity, volume and duration
Att 18 Fig. 4	Watershed maps, existing and proposed
NA	Computations for Tc
NA	Imperviousness calculations
NA	NRCS runoff curve numbers, volumetric runoff coefficients
Att 18 Narrative	Computations used to determine peak runoff rates, and velocities for each watershed area (24-hour storm): • Stream Channel Protection: 1-year, 2-year frequency ("over-control" of 2-year storm) • Conveyance Protection: 10-year frequency • Peak Runoff Attenuation: 2-year, 10-year, 25 year, and 100-year frequency • Emergency Outlet Sizing: safely pass the 100-year frequency or larger storm
Att 18 pg. 2-3	Hydrograph routing calculations
NA	Description, schematics, and calculations for drainage and stormwater management systems
Att 14 Planset	Infiltration rates, geotechnical information, test pit data, perc test data, conductivity testing data
Att 18 Narrative	Documentation of sources
Att 18 Appendix E	Electronic files in native format for any computer modelling generated for analysis.

Stormwater Management

Engineering Report section title and page number	Requirement Description
NA	Detention basin analysis including timing and duration of expected outflow, stream stability analysis and hydrograph summation
NA	Erosion & sedimentation calculations for any engineered measures
NA	Calculations for any engineered water quality treatment measures

Floodway/Floodplain Assessment

Engineering Report section title and page number	Requirement Description
Att 18 pg. 2-10	Description of existing and proposed conditions upstream and downstream of the proposed activity
NA	For any bridge or culvert placement or replacement with a drainage area of 100 acres or more, plan sheets showing the existing and proposed inundation area for the 2, 10, 25, 50, and 100 year discharges, carried to convergence
Att 18 End of Report	Flood Contingency Plan
Att 18 pg. 5-10	A description and analysis of the floodplain modifications required to restore any flood conveyance and flood storage capacity
Att 18 pg. 5-10 & Appendix	Demonstration that backwater from the proposed activity will not impact an existing dam, dike, detention, or similar structure
Att 18 pg. 5-10 &Appendix	Backup data and complete hydraulic analysis for proposed modifications to the floodplain including location plan and plot for sections, profile sheet, summary sheet (for riverine modeling, refer to: https://www.fema.gov/sites/default/files/2020-02/Hydraulics_OneDimensionalAnalyses_Nov_2016.pdf)
Att 18 Appendix	Description, schematics, and calculations for bridges and culverts

Structures within a Coastal Floodplain

Engineering Report section title and page number	Requirement Description
NA	Longshore sediment transport impact report
NA	Wind, wave, load analysis for significant public access structures (Only for Flood Management Certification)
NA	Wind, wave, load analysis for flood and erosion control structures (e.g. seawalls, bulkheads, revetments, berms, jetties, etc.)
NA	Hydrologic / Hydraulic impact report for tide regulating / influencing structures (e.g. culverts, tidegates, flood berms / levees, etc.)

Professional Certification

For any engineering report submitted as part of the LWRD License application, the following certification must be signed and sealed by a professional engineer licensed to practice in Connecticut and submitted with the Engineering Report Cover Sheet.

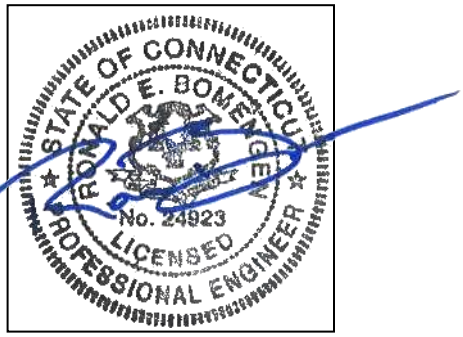
"I certify that in my professional judgement, each requirement listed in the Engineering Report Cover Sheet has been addressed in the engineering report submitted as part of the LWRD permit application and that the information is true, accurate and complete to the best of my knowledge and belief.

This certification is based on my review of the engineering report.

I understand that a false statement made in the submitted information may, pursuant to Section 22a-6 of the General Statutes, be punishable as a criminal offense under Section 53a-157b of the General Statutes, and may also be punishable under Section 22a-438 of the General Statutes."

Signature of Professional Engineer	Date: 7/17/2025
Name of Professional Engineer (print or type): Ronald Bomengen	P.E. Number (if applicable): #24923

Affix P.E. Stamp Here (if applicable)



FUSS & O'NEILL
One Financial Plaza, 15th Floor
Hartford, CT 06103
860.646.2469
www.fando.com

RLI Project / Connecticut River Hydraulic & Floodway Report

Riverfront Recapture, Inc.

50 Columbus Boulevard, 1st Floor
Hartford, CT 06106

State Project No. 63-721

June 2025 (Last Revised July 2025)

Table of Contents
RLI Project / Connecticut River
Hydraulic & Floodway Report

1 Executive Summary 1

2 Hydrology 2

2.1 Drainage Basin 2

2.2 FEMA Flood Insurance Study 2

3 Hydraulics 3

3.1 Hydraulic Model 3

3.2 Model Data 3

3.2.1 Geometric Data 3

3.2.2 Location of FEMA Cross-Sections 3

3.2.3 Elevation Datum 4

3.2.4 Expansion & Contraction Coefficients 4

3.2.5 Roughness (*n*) Values 4

3.2.6 Boundary Conditions 4

3.2.7 Bridge Modeling Approach 5

3.3 FEMA HEC-RAS "As-Is" Model 5

3.4 Existing Conditions Model 5

3.5 Proposed Conditions 6

4 FEMA Floodplain Analysis 6

4.1.1 Assessment of Potential Adverse Impacts 8

5 FEMA Floodway Analysis 8

6 Conclusions & Recommendations 10

Figures

End of Report

1. Site Location Map
2. Cross-Section Location Map
3. Site Grading Plan
4. Drainage Map

Appendices

End of Report

A. FEMA FIS
B. Existing vs. Proposed HEC-RAS Documentation – FEMA Floodplain
C. Existing vs. Proposed HEC-RAS Documentation – FEMA Floodway
D. HEC-RAS Model Files (CD)
E. Electronic Copy of Hydraulic & Floodway Report (CD)
F. Floodplain Contingency Plan

1 Executive Summary

This Hydraulic & Floodway Report has been prepared for the proposed development of a cove and community park in conjunction with extension of the existing Riverwalk Trail system. The project site extends from the north side of Meadow Brook northerly to Decker's Brook. The site will be developed into a public recreation space that incorporates a trail system, a 9-acre cove, park amenities and plantings that will create an inviting open space for the residents of Hartford to enjoy.

Riverfront Recapture has purchased 60 acres of riverfront land on the Hartford-Windsor town line to build a new community park. This acquisition will allow Riverfront Recapture to complete a regional trail connection between the Hartford and Windsor Riverwalks and connect even more people with the Connecticut River.

The master project includes development of a trail system south of Meadow Brook, installation of a new pedestrian bridge across Meadow Brook, development of a public park, trail, and new 9-acre cove between Meadow Brook and Decker's Brook, and installation of a new pedestrian bridge across Decker's Brook. The project funding sources vary, such that the project has been split into three sections for permitting purposes, as follows:

1. The trail system to just south of Meadow Brook;
2. The park, trail system, and new cove, located between Meadow Brook and Decker's Brook, including the proposed pedestrian bridge at Meadow Brook; and
3. Installation of the new pedestrian bridge over Decker's Brook.

This analysis and report cover the section of work under #2 above, including the park, trail system, and new cove between Meadow Brook and Decker's Brook. Reports of hydraulic analysis for the other park sections will be submitted separately.

The expanded cove will be home to RRI's new paddle sport and outdoors center; the park will support recreation, youth programs, large scale community events and festivals. The trail will close the final gap in a 7-plus mile Riverwalk system linking the region from Windsor to the south end of Hartford and East Hartford, creating a vital new regional asset and promoting non-motorized, carbon-free transportation in the area.

The proposed activities include:

- Excavation of clean alluvial sand in and adjacent to the existing cove;
- Expansion of the storage capacity of the existing floodplain;
- Grading to allow for future park improvements and development; and
- Installation of site plantings and vegetation.

Hydraulic analyses for the existing and proposed conditions were performed to assess the potential floodplain impacts for the 10-, 50-, 100- and 500-year floods. Floodway impacts were also assessed for the 100-year and 10-year encroached and un-encroached conditions.

The hydraulic analyses indicate that for proposed conditions there is an inconsequential increase in the FEMA 10-, 50-, 100-year, and 500-year water surface elevations. All increases or decreases in the 100-year water surface profiles between the proposed model and published information are less than 0.5 feet. Therefore, in accordance with the DEEP Hydraulic Analysis Guidance Document, a notification letter to FEMA is not required upon completion of the project.

Additionally, there are no predicted increases in water surface elevation for the encroached 100-year and 10-year conditions, and therefore no adverse floodway impacts. A site location map is provided as *Figure 1*.

2 Hydrology

2.1 Drainage Basin

The drainage area of the Connecticut River at the project site is approximately 10,465 square miles (according to the most recent effective Flood Insurance Study). This drainage area is provided in the FIS at a point 980 feet upstream of the confluence of Meadow Brook with the Connecticut River, adjacent to the location of the proposed cove. The drainage area is part of Connecticut River Basin No. 4000, as identified by the Connecticut Department of Energy & Environmental Protection (DEEP) in "Natural Drainage Basins in Connecticut"[1]. The drainage basin is part of the main stem of the Connecticut River. The contributing watershed is comprised of mixed use classes, with rural, residential, and commercially developed areas. The watershed has a main channel slope of approximately 2 ft/mile.

2.2 FEMA Flood Insurance Study

The most recent effective Flood Insurance Study (FIS) released by FEMA is dated May 6, 2017 and includes all communities in Hartford County[2]. However, the detailed flood study for the Connecticut River was most recently updated in the FIS dated September 26, 2008; this includes the hydraulic and hydrologic calculations which were performed by Roald Haestad, Inc., for FEMA under Contract No. EMB-2003-CO-0338 (completed in June 2006).[3]

The peak flood discharges for the restudy of the Connecticut River were developed by the USGS under a separate contract with FEMA and published in a report entitled "Estimates of the Magnitude and Frequency of Flood Flows in the Connecticut River in Connecticut"[4]. A log-Pearson Type III Frequency Analysis of the annual peak flow data for Thompsonville, Hartford, and Middletown gaging stations was used to determine the 10, 4-, 2-, 1-, and 0.2-percent-annual-chance peak discharges. New peak discharges for the Connecticut River at the confluence of major tributaries were calculated from the values published in the USGS Report based on ratio of watershed area. The watershed areas were taken from "Gazetteer of Drainage Areas in Connecticut"[5]. The calculated peak flood discharges are summarized in the following table:

[1] Department of Environmental Protection, State of Connecticut. (Revised 1991). "Natural Drainage Basins in Connecticut". Hartford, CT.
[2] Federal Emergency Management Agency, U.S. Department of Homeland Security. (May 16, 2017). "Flood Insurance Study, Hartford County, Connecticut". Washington, D.C.
[3] Federal Emergency Management Agency. (September 26, 2008). Vol, Page 19.
[4] U.S. Geological Survey. (2005). Estimates of the Magnitude and Frequency of Flood Flows in the Connecticut River in Connecticut, Open-File Report 2005-1369. Hartford, Connecticut.
[5] Connecticut Department of Environmental Protection. (1997). Gazetteer of Drainage Areas of Connecticut, Water Resources Bulletin No. 45. Thomas Nosal (author).

Table 3-1
FEMA Peak Discharges
Connecticut River approximately 980ft upstream of confluence of Meadow Brook

Return Frequency	Peak Discharge (cfs)
10-year	138,000
50-year	181,000
100-year	200,000
500-year	243,000

3 Hydraulics

3.1 Hydraulic Model

Hydraulic analyses were performed using the HEC-RAS hydraulic modeling program, Version 5.0.7, released by the U.S. Army Corps of Engineers. Existing and proposed conditions analyses were performed using published FEMA discharges.

The hydraulic analyses presented in this Hydraulic & Floodway Report have been performed in accordance with the CTDEEP Hydraulic Analysis Guidance Document.

3.2 Model Data

A detailed FEMA study was completed for this portion of the Connecticut River using the HEC-RAS hydraulic modeling program. As a starting point, the HEC-RAS model hydraulic back-up (input) data was obtained from FEMA. The existing and proposed models were developed by modifying the FEMA model for use specific to this project. The data and assumptions applied to the models are discussed below.

3.2.1 Geometric Data

The HEC-RAS model includes the reach of the Connecticut River between FEMA Sections U and AC; a copy of the Flood Insurance Rate Map (FIRM) is provided in *Appendix A*. This reach includes Bridge No. 01431 (River Station 281798) and a downstream railroad bridge crossing (Bridge No. 05862) at River Station 267186. A cross-section location map is provided as *Figure 2*.

3.2.2 Location of FEMA Cross-Sections

Cross-section designations and stationing used in the original FEMA HEC-RAS analysis were maintained in the updated HEC-RAS model. The river stations at each FEMA lettered section are listed in *Table 3-2*.

Table 3-2
FEMA Cross-Section Locations

FEMA Section Letter	River Station
U	264,191
V	266,003
W	266,798
X	267,478
Y	271,465
Z	276,987
AA	281,000
AB	282,550
AC	288,987

3.2.3 Elevation Datum

The survey information and the project design plans for this project are in US customary units and are referenced to NAVD 1988. The summary tables included in this report are provided in NAVD 1988. All other elevations listed in this report are referenced to NAVD 1988 unless otherwise noted.

3.2.4 Expansion & Contraction Coefficients

Contraction and expansion coefficients applied to the original FEMA HEC-RAS analysis were 0.3 and 0.5, respectively, in the vicinity of the bridge crossings and 0.1 and 0.3, respectively. for locations without significant changes in cross-sectional area; this is in accordance with the current guidance provided in the HEC-RAS Hydraulic Reference Manual. Therefore, these coefficients were not revised for the existing and proposed conditions models.

3.2.5 Roughness (*n*) Values

Roughness (n) values applied to the FEMA HEC-RAS analysis ranged from 0.03 – 0.15 for overbank areas and 0.03 – 0.1 within the channel banks. These values were found to be valid based upon a comparison of the roughness values currently suggested in the HEC-RAS Hydraulic Reference Manual, a review of aerial photography to identify current land use, and field observations. The overbank roughness values of the three cross sections that pass through the site were altered to reflect the proposed park planting and vegetation scheme. Outside of these cross-sections, the roughness values were not revised in the existing and proposed conditions models.

3.2.6 Boundary Conditions

Known water surface elevations (obtained from the FIS) were used as the downstream boundary condition for analyses utilizing FEMA discharges. Upstream boundary conditions were not required for analyses utilizing FEMA discharges since these analyses were performed utilizing a subcritical flow regime.

3.2.7 Bridge Modeling Approach

The bridge modeling approach for low flows and high flows (i.e., the upstream water surface elevation is greater than the low chord) were based on the energy equation for both the existing and proposed conditions.

3.3 FEMA HEC-RAS "As-Is" Model

Guidelines provided by DEEP in the Hydraulic Analysis Guidance Document require that the FEMA hydraulic model be used as the starting point for any analysis on a watercourse that has been mapped as part of the National Flood Insurance Program. Therefore, the FEMA HEC-RAS model used in the detailed flood study based upon hydraulic back-up data provided by FEMA was used as the starting point for this analysis. The latest model was created by Roald Haestad, Inc. and was provided to Fuss & O'Neill at a later date.

The Hydraulic Analysis Guidance Document requires that as a first step the back-up data provided by FEMA should be run "as-is" with no modifications to reflect current conditions. The intent of this requirement is to check for differences in water surface elevations that are only related to the use of different modeling software.

The downstream boundary condition for each analyzed flow event was based upon the published FEMA water surface elevations listed at Section AC, the section located at our downstream limit of analysis.

A comparison of the water surface elevations between those indicated within the FIS and the HEC-RAS output data produced a direct match. Detailed results and documentation are provided in *Appendix B*.

3.4 Existing Conditions Model

The existing conditions model was developed by modifying FEMA's "as-is" HEC-RAS model. Modifications included adding new cross sections locations and updating cross sections elevations with information obtained from detailed project survey. The upstream and downstream limits of the model were selected to extend past model convergence between existing and proposed conditions. The HEC-RAS model extent included components for both the Cove Park redevelopment as well as the afore-mentioned extension of the existing Riverwalk Trail system. The revised cross-sections for the Cove Park modifications extend from Section 279,999 to Section 264,493. The overbank and channel geometry data at these revised locations was obtained from the project survey.

The downstream boundary conditions for both analyses were based upon the published FEMA water surface elevations listed at Section AC. Upstream starting water surface elevation was not necessary since flow through this reach is entirely subcritical.

The existing condition model output summary tables, cross section plots, and profile plots are included in Appendix B. The results of this hydraulic model match the profiles presented in the FEMA FIS and the calibrated FEMA HEC-RAS model to within less than 0.2 feet for all flood events. A summary comparison of the water surface elevations (WSE's) listed in the FEMA FIS and the results of the existing condition HEC-RAS model are provided in the table below.

Table 3-3
Comparison of Calibrated FEMA Model & Existing Cond. Model – 100-year Profile

Section Number	FEMA Section Letter	Calibrated FEMA Model NAVD	Existing Cond. Model NAVD	□ WSE (feet)
264,191	U	30.61	30.61	0.00
266,003	V	30.78	30.77	0.01
266,798	W	30.80	30.80	0.00
267,186	Bridge No. 05862			
267,478	X	30.83	30.83	0.00
271,465	Y	31.39	31.38	0.01
276,987	Z	31.81	31.83	-0.02
281,000	AA	31.93	31.96	-0.03
281798	Bridge No. 01431			
282,550	AB	32.13	32.16	0.03
288,987	AC	32.69	32.72	-0.03

3.5 Proposed Conditions

The existing conditions geometry data was modified to reflect the proposed activities, which includes re-grading in overbank areas, installation of a trail system, landscape plantings, and excavation to create the cove. Existing and proposed elevation contours are displayed on *Figure 3*. Comparison of the cross-section layout and the proposed activities indicates potential impacts at Sections 277,324, 277,487, 278,006, 278,520, and 278,987. The proposed re-grading activities resulted in minor fill and excavation within these affected cross-sections. The proposed geometry of these cross-sections was modified to reflect this change.

Downstream boundary conditions applied to the proposed conditions analysis remained the same as those applied for the existing conditions.

4 FEMA Floodplain Analysis

Federal and State regulatory requirements prohibit adverse hydraulic impacts to floodplains based on the published FEMA discharge for the base flood (100-year flood). As such, analyses were performed with the FEMA 100-year discharge for both the existing and proposed conditions.

The FEMA published discharges were modeled for existing and proposed conditions to ensure that the FEMA base flood (100-year) elevation is not increased by more than 1.0-foot. Downstream boundary conditions were based upon the water surface elevation data published in the FEMA FIS profile.

Results of the HEC-RAS model indicate negligible increases to the 100-year flood elevations because of the proposed activities. The greatest change in the 100-year water surface elevation is a 0.01-foot increase at multiple cross sections. Existing and proposed condition model output summary tables, cross-section plots, and profile plots are included in *Appendix B*; results are summarized in *Table 4-1*.

Table 4-1
Comparison of Existing & Proposed Conditions – 100-year FEMA Flow

Section Number	FEMA Section Letter	100-yr WSE (NAVD) Existing	Proposed	□ WSE (feet)
264,191	U	30.61	30.61	0.00
266,003	V	30.77	30.77	0.00
266,798	W	30.80	30.80	0.00
267,478	X	30.83	30.83	0.00
271,465	Y	31.38	31.38	0.00
276,987	Z	31.83	31.83	0.00
277,487	---	31.89	31.89	0.00
278,006	---	31.91	31.92	-0.01
278,520	---	31.91	31.92	-0.01
278,987	---	31.90	31.91	-0.01
281,000	AA	31.96	31.97	-0.01
282,550	AB	32.16	32.16	0.00
288,987	AC	32.72	32.72	0.00

Like the 100-year scenario, the results of the analysis also show minor increases in the 10-year, 50-year, and 100-year flood profiles. Corresponding profile plots and output summary tables are provided in *Appendix B*.

The 100-year water surface elevations published in the FEMA FIS were also compared to the results for the proposed conditions analysis, as given in *Table 4*-2. All increased or decreases in the 100-year water surface profiles between the proposed model and published information are less than 0.5 feet. Therefore, in accordance with the DEEP Hydraulic Analysis Guidance Document, a notification letter to FEMA is not required upon completion of the project.

Table 4-2
Comparison of Proposed Condition & FEMA FIS
Water Surface Elevations for FEMA 100-year Flood Flow

Section Number	FEMA Section Letter	Proposed 100-yr WSE NAVD	FEMA FIS WSE (NAVD)	□ WSE (feet)
264,191	U	30.6	30.6	0.0
266,003	V	30.8	30.8	0.0
266,798	W	30.8	30.8	0.0
267,186	Bridge No. 05862			
267,478	X	30.8	30.8	0.0
271,465	Y	31.4	31.4	0.0
276,987	Z	31.8	31.8	0.0
281,000	AA	31.9	31.9	0.0
281798	Bridge No. 01431			
282,550	AB	32.1	32.1	0.0
288,987	AC	32.7	32.7	0.0

4.1.1 Assessment of Potential Adverse Impacts

Potential impacts to surrounding properties were considered as part of this analysis. Based upon a review of the project survey information and aerial photography, there are no infrastructure, industrial, or residential properties that could potentially be impacted in the area between FEMA Sections U and AC.

5 FEMA Floodway Analysis

The Hydraulic Analysis Guidance Document requires that proposed project activities must not result in an increase in the 10- or 100-year floodway water surface elevations, measured to 0.00-feet. Encroachment stationing was obtained from the calibrated FEMA HEC-RAS input data. Review of that data reveals that the encroachment stationing for some of the cross-sections from the FEMA HEC-RAS input does not correspond to the floodway widths listed in in the "Table 10, Floodway Data" in the FEMA FIS (*Appendix A*).

Floodway analyses were be run using encroachment Method 1 as stipulated in the form titled "Flood Management Certification Program for Municipal Projects Funded by the Department of Transportation".

The downstream boundary condition for the un-encroached 10-year and 100-year profiles were based upon the corresponding water surface elevations shown on the FEMA flood profile. The downstream boundary condition for the 100-year encroached condition was increased by 0.8 feet to account for the impact of downstream encroachments as modeled in the FEMA analysis. This increase is based upon the floodway data in the FEMA FIS Floodway Data Table for the downstream cross-section (FEMA Section U). Because the FEMA FIS does not include data for the 10-year encroached condition, the downstream boundary condition for that scenario was

similarly adjusted by 0.8 feet. An upstream starting water surface elevation was not necessary since the floodway analysis was modeled as subcritical flow.

The results of the analyses indicate there are no adverse impacts related to the proposed activities. The results of the 10- and 100-year analyses are summarized in *Table 5-1* and *Table 5-2*, respectively. Detailed documentation of the floodway analyses is provided in *Appendix C*; this includes additional comparison tables of the existing and proposed encroached and un-encroached 100-year and 10-year water surface elevations, cross-section plots, and water surface profile plots.

Table 5-1
100-year Floodway Analysis – Encroached WSE's

Section Number	FEMA Section Letter	100-yr WSE (NAVD) Existing	100-yr WSE (NAVD) Proposed	□ WSE (feet)
264,191	U	31.42	31.42	0.00
266,003	V	31.57	31.57	0.00
266,798	W	31.59	31.59	0.00
267,478	X	31.64	31.64	0.00
271,465	Y	32.15	32.15	0.00
276,987	Z	32.54	32.54	0.00
277,487	---	32.66	32.66	0.00
278,520	---	32.70	32.70	0.00
278,987	---	32.71	32.71	0.00
280,500	---	32.82	32.82	0.00
281,000	AA	32.84	32.84	0.00
282,550	AB	33.00	33.00	0.00
283,016	---	33.04	33.04	0.00
283,955	---	33.20	33.20	0.00
288,987	AC	33.58	33.57	0.01

Table 5-2
10-year Floodway Analysis – Encroached WSE's

Section Number	FEMA Section Letter	10-yr WSE (NAVD) Existing	10-yr WSE (NAVD) Proposed	WSE (feet)
264,191	U	28.00	28.00	0.00
266,003	V	28.10	28.10	0.00
266,798	W	28.12	28.12	0.00
267,478	X	28.13	28.13	0.00
271,465	Y	28.46	28.46	0.00
276,987	Z	28.74	28.74	0.00
277,487	---	28.82	28.82	0.00
278,520	---	28.85	28.85	0.00
278,987	---	28.86	28.86	0.00
280,500	---	28.95	28.94	0.01
281,000	AA	28.96	28.96	0.00
282,550	AB	29.07	29.07	0.00
283,016	---	29.09	29.09	0.00
283,955	---	29.20	29.20	0.00
288,987	AC	29.50	29.50	0.00

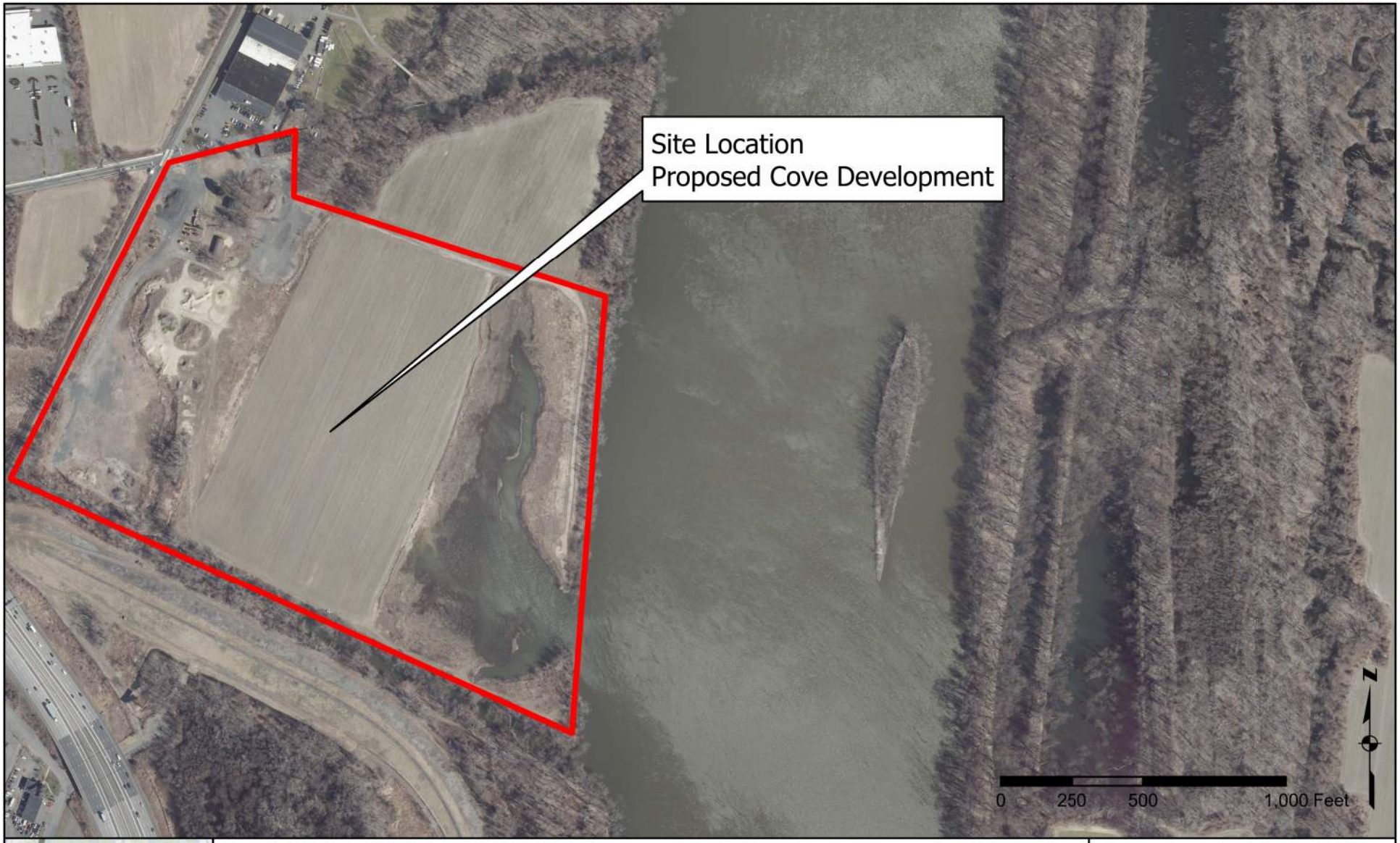
6 Conclusions & Recommendations

The existing brownfield is proposed to be replaced with a cove though the excavation of clean alluvial sand. The proposed re-grading of overbank areas has minimal impact on water surface elevation compared to the existing conditions. No new permanent negative hydraulic impact is anticipated to surrounding properties due to this regrading.

The hydraulic analyses indicate that for proposed conditions there is an inconsequential increase in the FEMA base flood water surface elevations and no increase for FEMA floodway water surface elevations. Therefore, in accordance with the DEEP Hydraulic Analysis Guidance Document, a notification letter to FEMA is not required upon completion of the project.

Figure 1

Site Location Map





Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

Site Location Plan

RLI Project

Hartford Connecticut

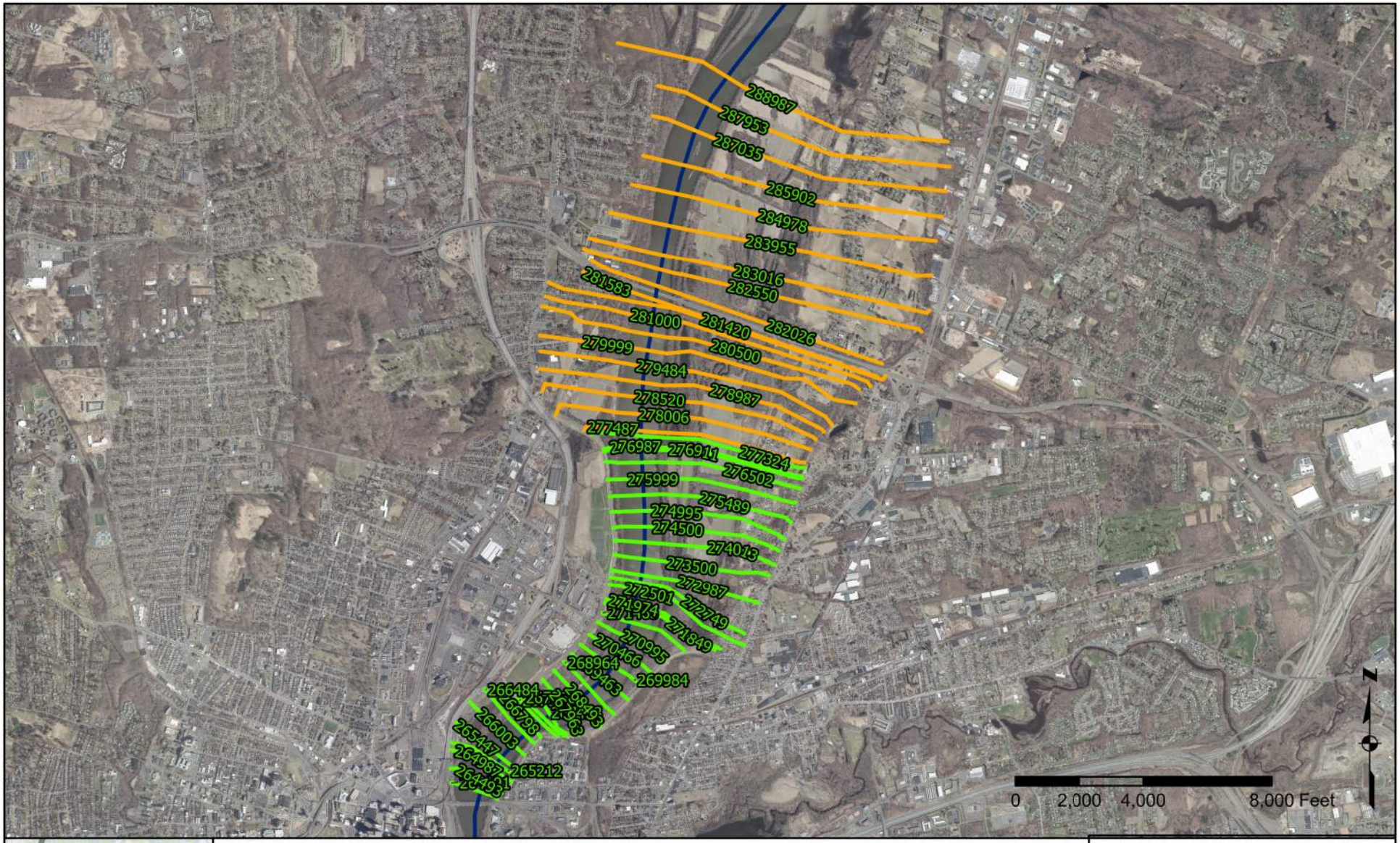
FUSS & O'NEILL
1 Financial Plaza, 15th Floor
Hartford, CT 06103
860.646.2469 | www.fando.com

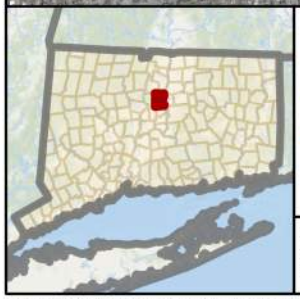
Figure #1

K:\P2017\0277\A30\MXD\Cove Park\CovePark.aprx

Figure 2

Cross-Section Location Map





Legend

- Project Area Cross Sections
- Remaining Model Cross Sections
- River Reach

Data Source(s):
1. GeoHEC-RAS Ver: 3.0.0.456 Hydraulic Model

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

Cross Section Location Plan

RLI Project

Hartford — Connecticut

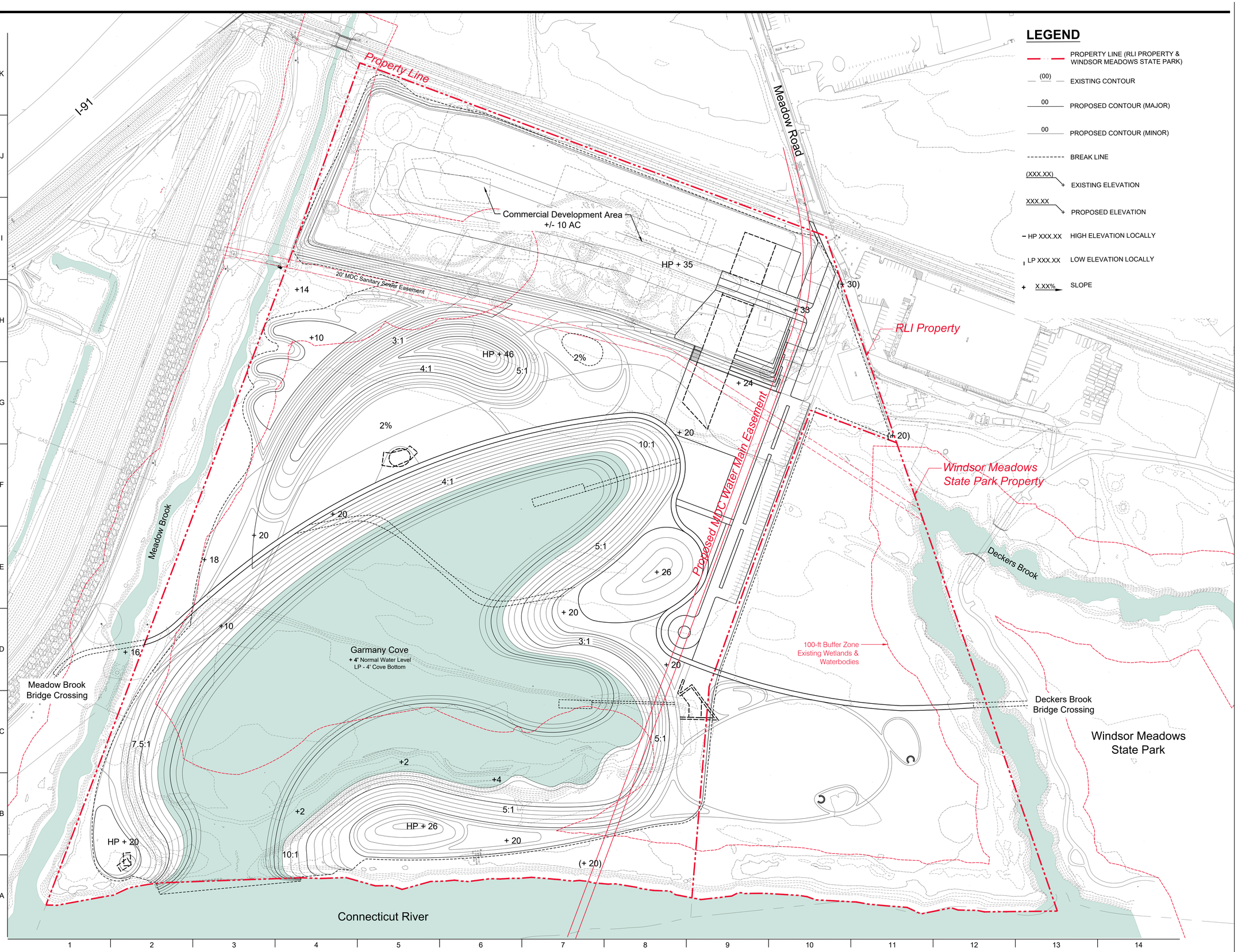
FUSS & O'NEILL
1 Financial Plaza, 15th Floor
Hartford, CT 06103
860.646.2469 | www.fando.com

Figure #2

K:\P2017\0277\A30\MXD\Cove Park\CovePark.aprx

Figure 3

Site Grading Plan



PROJECT INFORMATION

RIVERFRONT RECAPTURE FUTURE PARK

CITY OF HARTFORD & TOWN OF WINDSOR, CONNECTICUT

Owner
RIVERFRONT RECAPTURE
50 Columbus Boulevard, First Floor Hartford, CT 06106
www.riverfront.org

Prime Consultant & Landscape Architecture
HARGREAVES JONES
30 Broad St, 39th Floor, New York, NY 10004
www.hargreaves.com

Civil Engineering, Structural Engineering, MEP Engineering, Coastal Engineering, Environmental Engineering & Permitting
FUSS & O'NEILL
One Financial Plaza, 15th Floor, Hartford, CT 06103
www.fando.com

Architecture
SAGE & COOMBE ARCHITECTS
45 Main Street, Suite 230, Brooklyn, NY 11201
www.sageandcoombe.com

Ecology & Landscape Management Planning
BIOHABITATS
www.biohabitats.com

SEAL/SIGNATURE

FOR REVIEW — NOT FOR CONSTRUCTION

PERMIT SET
CONFIDENTIAL
NOT FOR CONSTRUCTION

ISSUE/REVISIONS

NO.	DESCRIPTION	DATE
	PERMIT SET	06/05/2025

KEY MAP

SHEET INFORMATION

Project No.: RRP 2301
Drawn By: JM
Checked By: ML
Date: 7/15/2025
Scale: 1" = 100'

SHEET TITLE

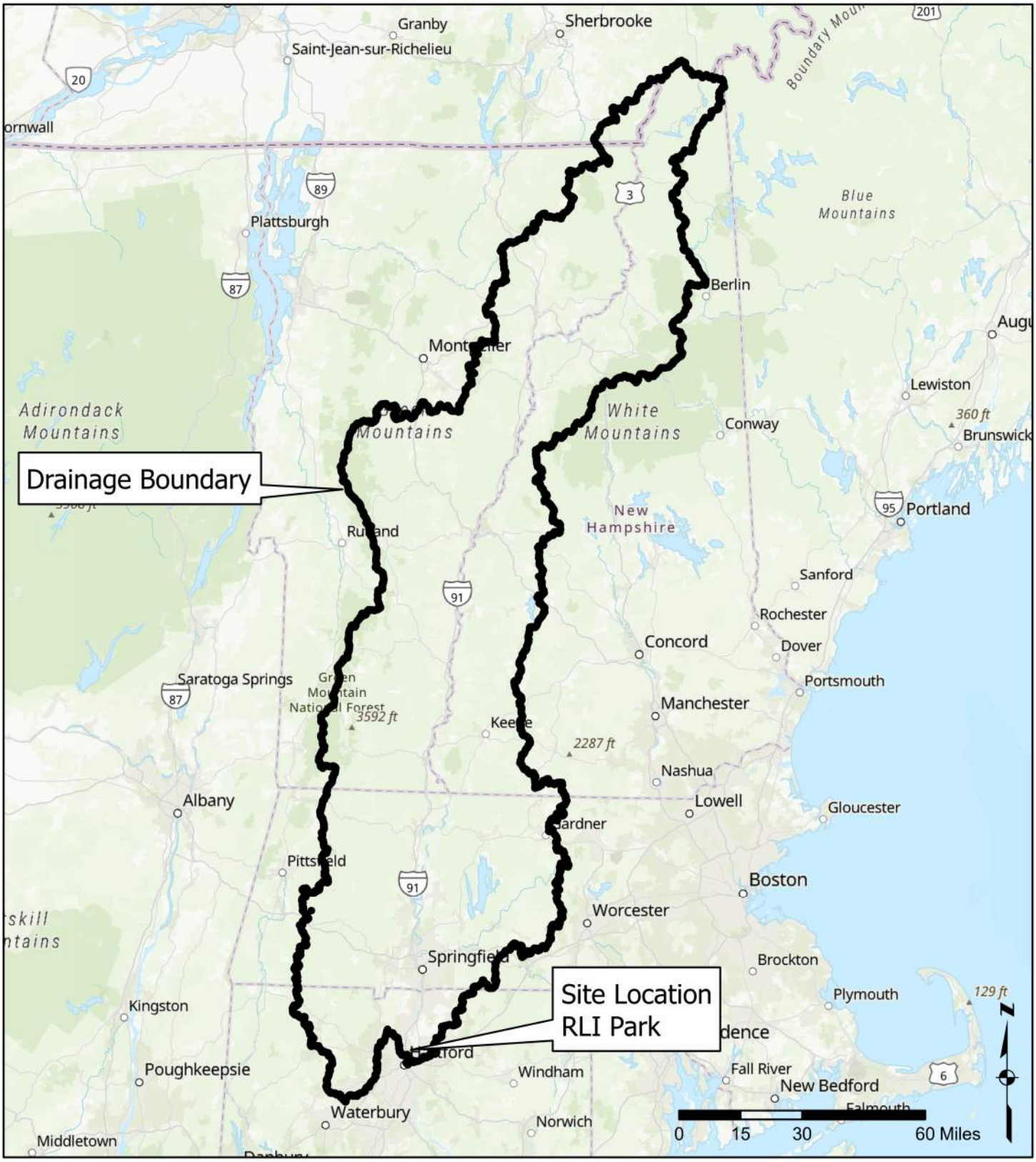
LANDSCAPE GRADING PLAN

SHEET NO.

L-111

Figure 4

Drainage Map



Drainage Area Map

RLI Park / Connecticut River

Hartford Connecticut

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoritative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

FUSS & O'NEILL
1 Financial Plaza, 15th Floor
Hartford, CT 06103
860.646.2469 | www.fando.com

Figure #4

Folder: K:\P2017\0277\A30\MXD\Cove Park\

Appendix A

FEMA FIS

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

Accredited Lower Notes to Users. Check with your local community to obtain more information such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, or the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/business/nfip/index.shtm.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 18N. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at http://www.ngs.noaa.gov, or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, N/NGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at **(301) 713- 3242**, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided in digital format by Connecticut Department of Environment (CT DEP). This information was derived from digital orthophotography dated 2005.

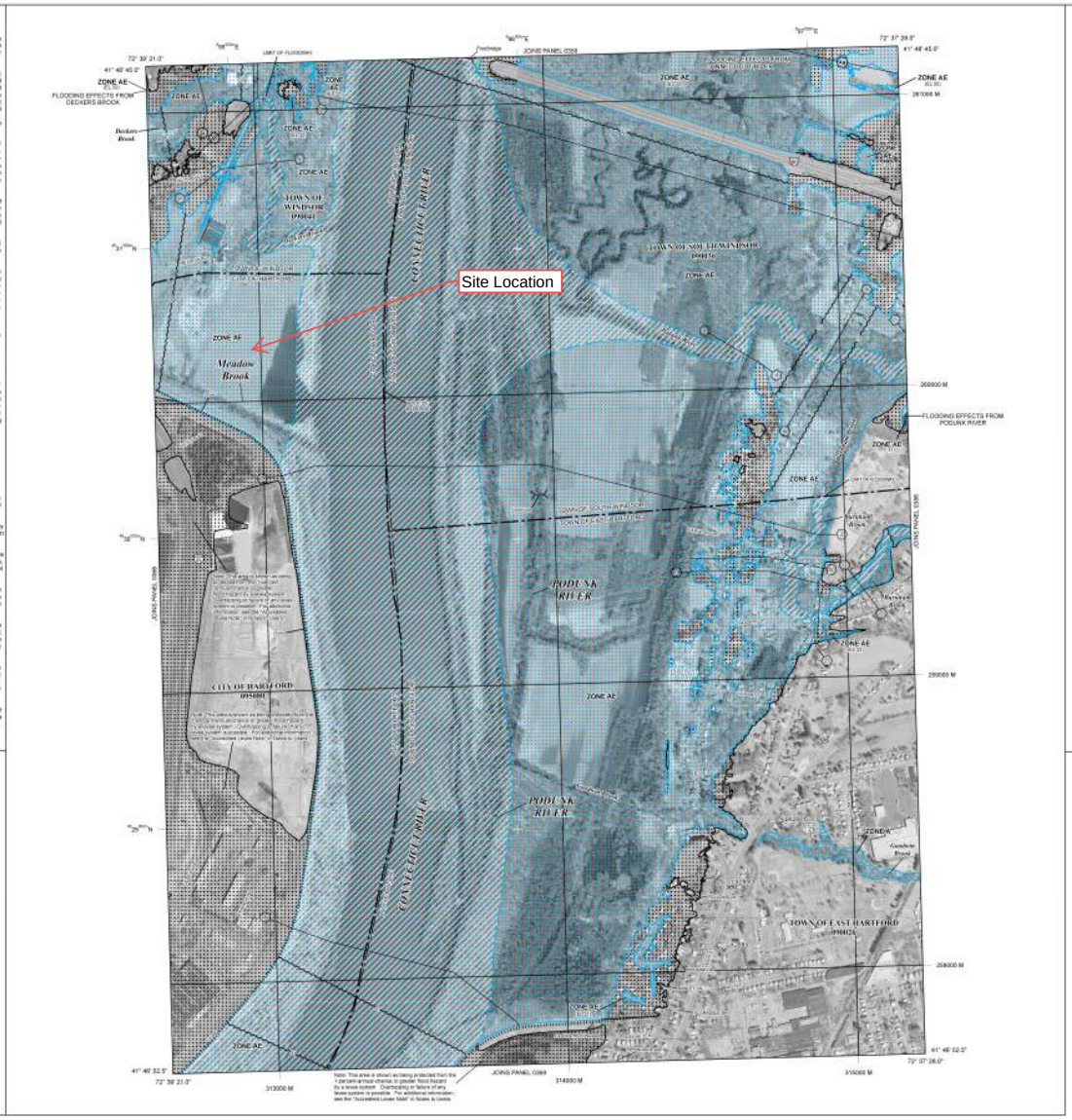
The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/business/nfip.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the Base Flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** — No Base Flood Elevations determined.
- **ZONE AE** — Base Flood Elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** — Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** — Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** — Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** — Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

- **ZONE X** — Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside the 0.2% annual chance floodplain.
- **ZONE D** — Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway Boundary
- Zone D Boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- A — A — Cross section line
- 23 — 23 — Transect line
- Culvert
- Bridge
- 45° 02' 08", 93° 02' 12" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) (Western Hemisphere)
- 4989000 m — 1000-meter Universal Transverse Mercator grid values, zone 18N
- 5000 ft — 1000-meter Universal Transverse Mercator grid values, zone 18N
- 5000000 FT — Black tick marks supplement to Values to User's section of this FIRM panel
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL
September 16, 2011 - To change map notes and flood boundaries to reflect the accreditation of formerly provisionally-accredited levees.

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

MAP SCALE 1" = 500'

1000 0 1000 2000 FEET
500 0 500 1000 METERS

PANEL 0367G

FIRM

FLOOD INSURANCE RATE MAP

HARTFORD COUNTY, CONNECTICUT
(ALL JURISDICTIONS)

PANEL 367 OF 675
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
EAST HARTFORD, TOWN OF	090076	0367	G
HARTFORD, CITY OF	090082	0367	G
SOUTH WINDSOR, TOWN OF	090078	0367	G
WINDSOR, TOWN OF	090081	0367	G

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
09003C0367G
MAP REVISED
SEPTEMBER 16, 2011

Federal Emergency Management Agency

NATIONAL FLOOD INSURANCE PROGRAM

FLOOD INSURANCE STUDY

FEDERAL EMERGENCY MANAGEMENT AGENCY

VOLUME 1 OF 11



HARTFORD COUNTY, CONNECTICUT

(ALL JURISDICTIONS)

COMMUNITY NAME	NUMBER
TOWN OF AVON	090021
TOWN OF BERLIN	090022
TOWN OF BLOOMFIELD	090122
CITY OF BRISTOL	090023
TOWN OF BURLINGTON	090145
TOWN OF CANTON	090135
TOWN OF EAST GRANBY	090025
TOWN OF EAST HARTFORD	090026
TOWN OF EAST WINDSOR	090027
TOWN OF ENFIELD	090028
TOWN OF FARMINGTON	090029
TOWN OF GLASTONBURY	090124
TOWN OF GRANBY	090125
CITY OF HARTFORD	095080
TOWN OF HARTLAND	090146
TOWN OF MANCHESTER	090031
TOWN OF MARLBOROUGH	090148
CITY OF NEW BRITAIN	090032
TOWN OF NEWINGTON	090033
TOWN OF PLAINVILLE	090034
TOWN OF ROCKY HILL	090142
TOWN OF SIMSBURY	090035
TOWN OF SOUTH WINDSOR	090036
TOWN OF SOUTHINGTON	090037
TOWN OF SUFFIELD	090038
TOWN OF WEST HARTFORD	095082
TOWN OF WETHERSFIELD	090040
TOWN OF WINDSOR	090041
TOWN OF WINDSOR LOCKS	090042

REVISED:

MAY 16, 2017

FLOOD INSURANCE STUDY NUMBER
09003CV001C

Version Number 2.3.3.2

FEMA

Table 2: Flooding Sources Included in this FIS Report

Flooding Source	Community	Downstream Limit	Upstream Limit	HUC-8 Sub-Basin(s)	Length (mi) (streams or coastlines)	Area (mi^2) (estuaries or ponding)	Floodway (Y/N)	Zone shown on FIRM	Date of Analysis
Cherry Brook	Town of Canton	Confluence with Farmington River	Approximately 1,580 feet upstream of State Route 179	01080207	7.1		Y	AE	5/1/1988
Chidsey Brook	Town of Avon	Confluence with Big Brook	Country Club Road	01080207	1.6		Y	AE	6/1/1984
Connecticut River	many	County limits	County limits	01080205	33.2		Y	AE	9/26/2008
Copper Mine Brook	City of Bristol	Confluence with Pequabuck River	Corporate limits with Burlington	01080207	4.5		Y	AE	3/1/1978
Creamery Brook	Town of Windsor	Confluence with Farmington River	Lennox Avenue	01080207	1.0		Y	AE	6/1/1977
Creamery Brook	Town of East Granby	Confluence with Sheldens Brook	Approximately 1 mile upstream of Hillcrest Drive	01080205	2.3		N	AE	3/1/1995
Creamery Brook	Town of Granby	Confluence with East Branch Salmon Brook	Approximately 900 feet upstream of Creamery Hill Road	01080207	1.3		N	AE	5/1/1995
Crooked Brook	Town of Berlin	Confluence with Belcher Brook	Railroad	01080205	0.9		N	AE	5/1/1991
Deckers Brook	Town of Windsor	Confluence with Connecticut River	Approximately 1,200 feet upstream of Windsor Avenue	01080205	2.3		Y	AE	1/1/1982
DeGrayes Brook	Town of East Granby	Corporate limits with Suffield	Approximately 500 feet upstream of Nicholson Road	01080205	1.2		N	AE	3/1/1995

Table 5: Basin Characteristics

HUC-8 Sub-Basin Name	HUC-8 Sub-Basin Number	Primary Flooding Source	Description of Affected Area	Drainage Area (square miles)
Lower Connecticut	01080205	Connecticut River	The Connecticut River is the longest river in the New England. The Connecticut River originates at the U.S. border with Quebec, Canada, and discharges at Long Island Sound and flows southward for 410 miles through four U.S. states. Its watershed encompasses five U.S. states and one Canadian province – 11,260 square miles– via 148 tributaries, 38 of which are major rivers. The Connecticut River produces about 70% of Long Island Sound's freshwater. The river as it enters Connecticut is regulated by 8 hydroelectric generation dams, by several lakes and reservoirs. Flooding along the main stem has been greatly reduced by reservoirs that control runoff from 20 percent of the basin. Flood dikes were built in 1940 to protect Hartford and East Hartford from floods, such as the March 1936 flood. Flooding of small uncontrolled streams and the Connecticut and Farmington River is expected to continue. One such flood occurred in 1984 (the 3rd largest flood ever recorded).	1085
Westfield	01080206	Westfield River	The Westfield River is a major tributary of the Connecticut River. The Westfield River is 78.1 miles long and has a drainage area of 517 mi^2. The river has three major tributaries-- Middle Branch, West Branch, and North Branch. It originates in the Berkshire Hills of Massachusetts, and flows southeastwardly to join the Connecticut River in Agawam, Massachusetts. The USACE operate 2 large flood-control dams in the Westfield River Basin, both are located in Huntington, Massachusetts.	517
Farmington	01080207	Farmington River	The Farmington River is a 46.7-mile-long river located in northwest Connecticut, with major tributaries extending into Massachusetts. The Farmington River's watershed is 609 square miles. Its two main branches start in southwestern Massachusetts and converge in New Hartford, Connecticut. The upper reaches of the river flow mostly southward, but the river turns northward in Farmington, Connecticut and continues to it's confluence with the Connecticut River, flowing in a mostly northern and easterly direction. In both October 2005 and May 2006, heavy rains deluged the Farmington River Valley. The Farmington River rose to flood numerous forests and fields near the Towns of Simsbury and East Granby.	609

Table 10: Summary of Discharges

Flooding Source	Location	Drainage Area (Square Miles)	Peak Discharge (cfs)				
			10% Annual Chance	4% Annual Chance	2% Annual Chance	1% Annual Chance	0.2% Annual Chance
Cattle Lot Brook	At confluence with Dickinson Creek	1.99	*	*	*	360	*
Cherry Brook	At confluence with Farmington River	14	1,340	*	2,820	3,740	8,000
Cherry Brook	Above Barbour Brook	10.8	1,040	*	2,160	2,880	6,170
Cherry Brook	Above West Road	8.23	790	*	1,650	2,200	4,700
Chidsey Brook	At confluence with Thompson Brook	2.16	180	*	360	460	740
Chidsey Brook	Upstream of Scoville Road	1.48	120	*	240	310	500
Chidsey Brook	Downstream of West Avon Road	1.18	100	*	190	250	400
Chidsey Brook	Upstream of West Avon Road	0.77	65	*	130	170	270
Connecticut River	At confluence of Roaring Brook	10,715.00	141,000	*	186,000	206,000	256,000
Connecticut River	At confluence of Salmon Brook	10,678.00	140,000	*	185,000	205,000	254,000
Connecticut River	At confluence of the Park River and Hockanum River	10,647.00	139,000	*	183,000	202,000	248,000
Connecticut River	Approximately 980 feet upstream of the confluence of Meadow Brook	10,465.00	138,000	*	181,000	200,000	243,000
Connecticut River	At confluence of Farmington River	10,458.00	140,000	*	181,000	200,000	243,000
Connecticut River	At confluence of Scantic River	9,846.00	140,000	*	180,000	198,000	240,000
Connecticut River	At Connecticut/Massachusetts State line	9,603.00	140,000	*	180,000	198,000	239,000
Copper Mine Brook	At confluence with Pequabuck River	18.6	2,140	*	3,630	4,340	7,000

*Not calculated for this Flood Risk Project

Table 13: Summary of Hydrologic and Hydraulic Analyses

Flooding Source	Downstream Limit	Upstream Limit	Hydrologic Model or Method Used	Hydraulic Model or Method Used	Date Analyses Completed	Flood Zone on FIRM	Special Considerations
Cemetery Brook	Confluence with South Branch Park River	Approximately 550 feet upstream of Sherbrooke Avenue	N/A	N/A	June, 2011	AE	
Cherry Brook	Confluence with Farmington River	Approximately 1,580 feet upstream of State Route 179	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	May, 1988	AE	
Chidsey Brook	Confluence with Big Brook	Country Club Road	USGS Floodflow Formulas (Weiss, 1975)	Step-backwater computer program, E431 and J635 for areas with critical flow, (Shearman, 1976)	June, 1984	AE	
Connecticut River	County limits	County limits	LPIII analysis of Connecticut River gages at Hartford and at Thompsonville (Ahearn, 2005)	HEC-RAS (USACE, 2005)	September, 2008	AE	
Copper Mine Brook	Confluence with Pequabuck River	Corporate limits with Burlington	USGS Floodflow Formulas (Weiss, 1975)	HEC-2 (USACE, 1973)	March, 1978	AE	
Creamery Brook	Confluence with Sheldens Brook	Approximately 1 mile upstream of Hillcrest Drive	USGS Regional Regression Equations (Weiss, 1983)	WSPRO (Shearman, 1990)	March, 1995	AE	

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
A	195,394	1,600	45,652	4.5	25.6	25.6	26.6	1.0
B	198,335	1,240	40,793	5.1	25.9	25.9	26.8	0.9
C	199,472	1,103	38,857	5.3	26.0	26.0	26.9	0.9
D	200,986	1,690	48,811	4.2	26.3	26.3	27.2	0.9
E	203,475	1,950	49,249	4.2	26.4	26.4	27.3	0.9
F	206,225	2,230	57,041	3.6	26.9	26.9	27.7	0.8
G	213,291	6,200	125,673	1.6	27.4	27.4	28.2	0.8
H	216,866	7,000	132,504	1.6	27.5	27.5	28.4	0.9
I	223,860	8,200	164,330	1.3	27.6	27.6	28.5	0.9
J	231,140	7,415	162,289	1.3	27.7	27.7	28.7	1.0
K	239,116	5,460	116,483	2.3	27.8	27.8	28.8	1.0
L	241,034	5,519	131,446	2.0	28.4	28.4	29.3	0.9
M	245,844	5,222[2]	125,561	1.6	28.4	28.4	29.4	1.0
N	250,930	1,182[2]	39,553	5.1	28.5	28.5	29.4	0.9
O	255,927	1,244[2]	44,790	4.5	29.0	29.0	29.9	0.9
P	257,503	1,303[2]	39,580	5.1	29.1	29.1	30.0	0.9
Q	260,007	1,006[2]	34,998	5.8	29.3	29.3	30.2	0.9
R	262,003	821[2]	30,188	6.6	29.5	29.5	30.3	0.8
S	262,580	860[2]	30,828	6.5	29.7	29.7	30.5	0.8
T	263,674	1,150[2]	47,429	4.2	30.3	30.3	31.1	0.8
U	264,191	1,490[2]	48,257	4.1	30.6	30.6	31.4	0.8
V	266,003	2,356[2]	61,575	3.4	30.8	30.8	31.6	0.8
W	266,798	1,951[2]	61,483	3.8	30.8	30.8	31.7	0.9
X	267,478	1,906[2]	47,404	4.2	30.8	30.8	31.7	0.9

[1]Feet above Saybrook Breakwater Light
[2]Includes flood control structures

TABLE 24

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARTFORD COUNTY, CONNECTICUT

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: CONNECTICUT RIVER

LOCATION		FLOODWAY			1% ANNUAL CHANCE FLOOD WATER SURFACE ELEVATION (FEET NAVD88)			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC)	REGULATORY	WITHOUT FLOODWAY	WITH FLOODWAY	INCREASE
Y	271,465	2,444[2]	61,355	3.3	31.4	31.4	32.2	0.8
Z	276,987	2,313[2]	56,017	3.6	31.8	31.8	32.5	0.7
AA	281,000	1,800	53,207	3.8	31.9	31.9	32.8	0.9
AB	282,550	1,900	57,701	3.5	32.1	32.1	32.9	0.8
AC	288,987	4,050	86,844	2.3	32.7	32.7	33.5	0.8
AD	294,884	4,700	92,218	2.2	32.9	32.9	33.8	0.9
AE	298,932	5,800	98,465	2.0	33.0	33.0	34.0	1.0
AF	303,625	4,450	88,545	2.2	33.2	33.2	34.2	1.0
AG	307,502	3,250	69,092	2.9	33.4	33.4	34.4	1.0
AH	311,444	3,120	56,784	3.5	33.7	33.7	34.7	1.0
AI	312,948	1,751	52,911	3.7	33.9	33.9	34.8	0.9
AJ	316,517	1,537	49,018	4.0	34.1	34.1	35.1	1.0
AK	320,470	1,360	43,484	4.6	34.4	34.4	35.4	1.0
AL	321,759	1,183	37,007	5.4	34.5	34.5	35.5	1.0
AM	325,324	1,174	34,418	5.8	35.1	35.1	36.0	0.9
AN	326,003	1,097	33,537	5.9	35.2	35.2	36.2	1.0
AO	328,850	1,366	37,877	5.2	35.8	35.8	36.8	1.0
AP	331,161	1,333	31,214	6.3	36.1	36.1	37.0	0.9
AQ	332,396	1,269	26,908	7.4	36.7	36.7	37.6	0.9
AR	334,471	2,486	31,296	6.3	37.7	37.7	38.4	0.7
AS	337,216	2,919	25,264	7.8	39.1	39.1	39.7	0.6
AT	339,006	1,355	21,889	9.1	40.2	40.2	40.7	0.5
AU	340,500	854	18,812	10.5	41.0	41.0	41.5	0.5
AV	343,496	859	16,102	12.3	43.7	43.7	44.0	0.3

[1]Feet above Saybrook Breakwater Light
[2]Includes flood control structures

TABLE 24

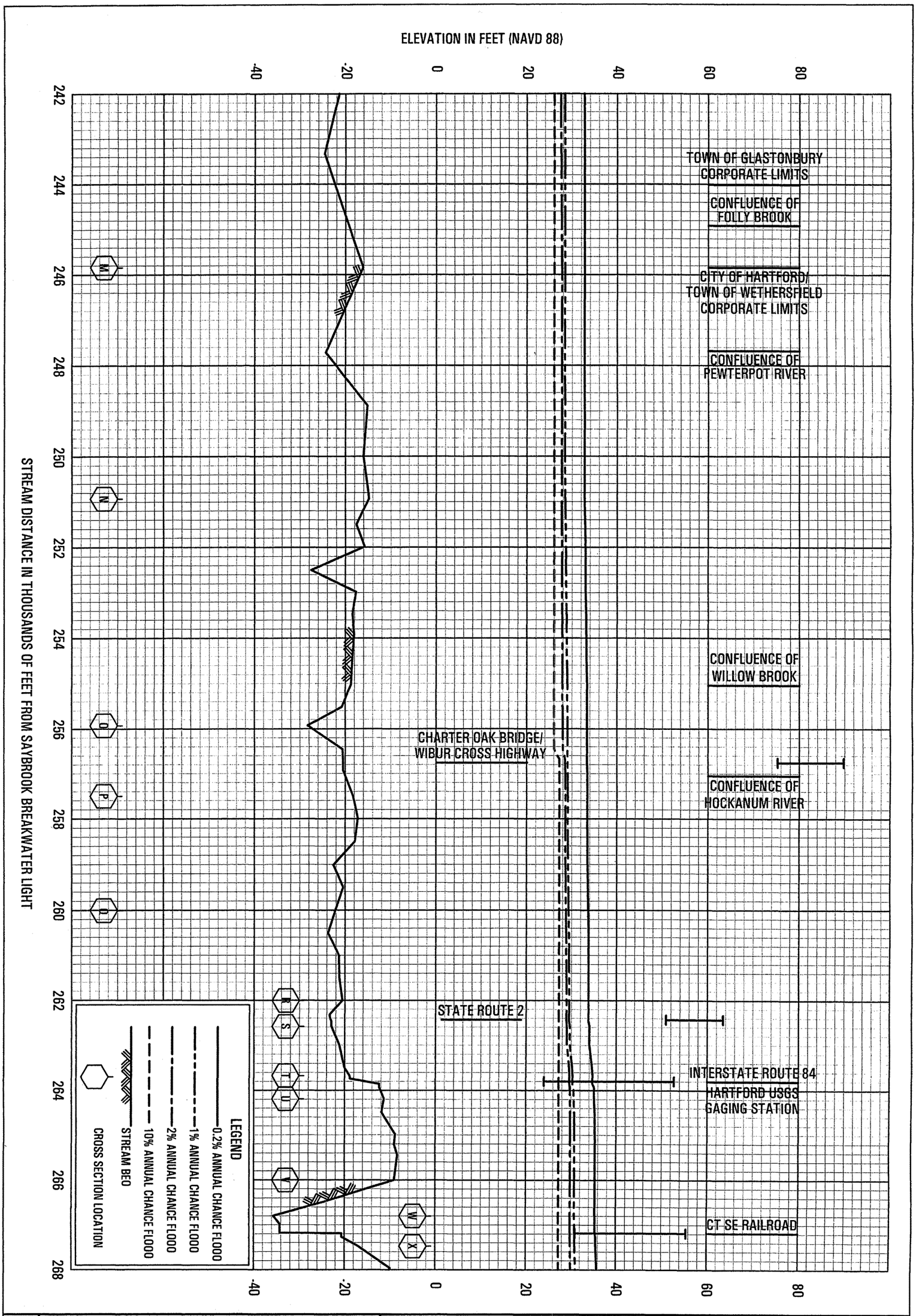
FEDERAL EMERGENCY MANAGEMENT AGENCY

HARTFORD COUNTY, CONNECTICUT

(ALL JURISDICTIONS)

FLOODWAY DATA

FLOODING SOURCE: CONNECTICUT RIVER



63P

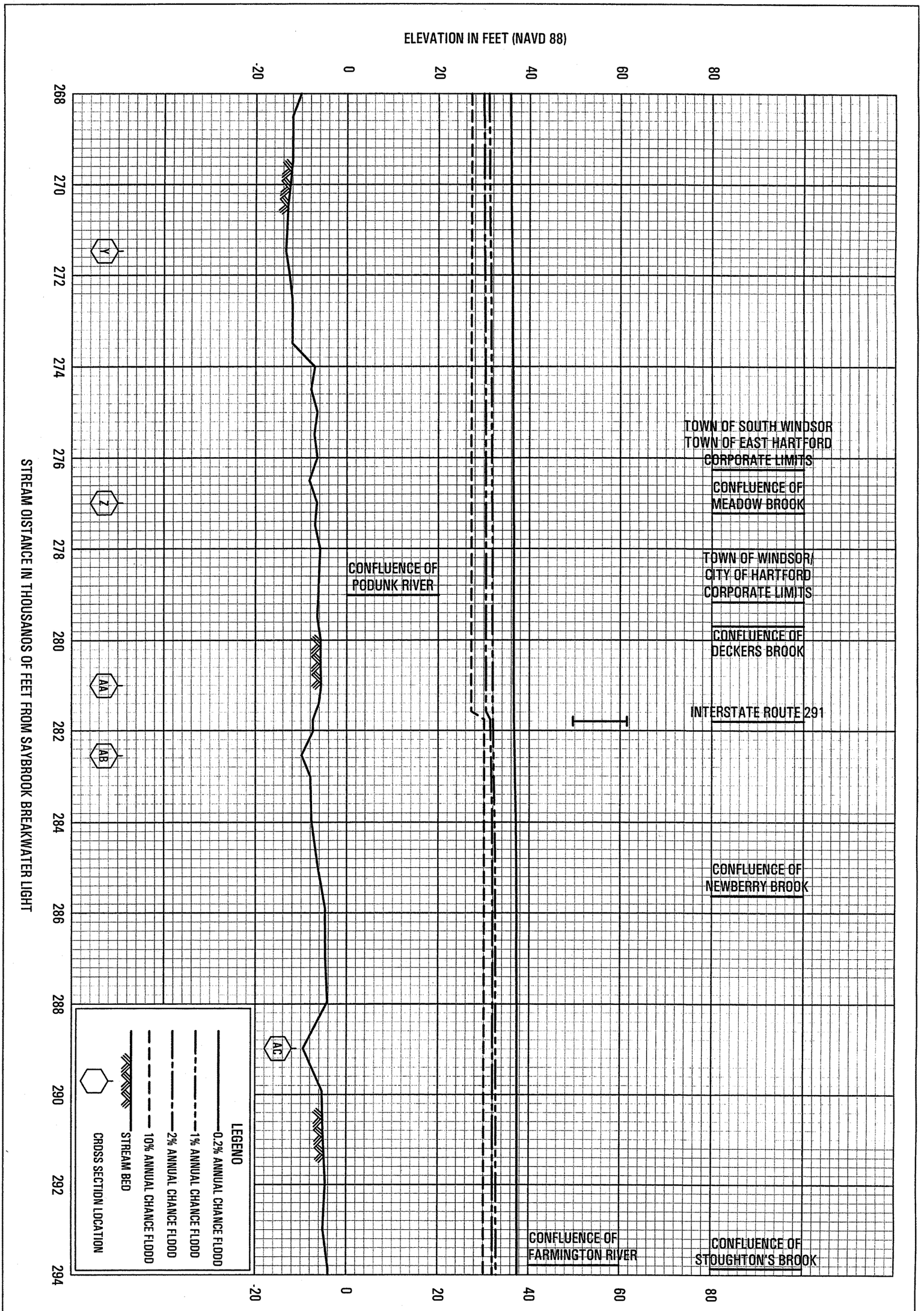
FEDERAL EMERGENCY MANAGEMENT AGENCY

HARTFORD COUNTY, CT

(ALL JURISDICTIONS)

FLOOD PROFILES

CONNECTICUT RIVER



64P

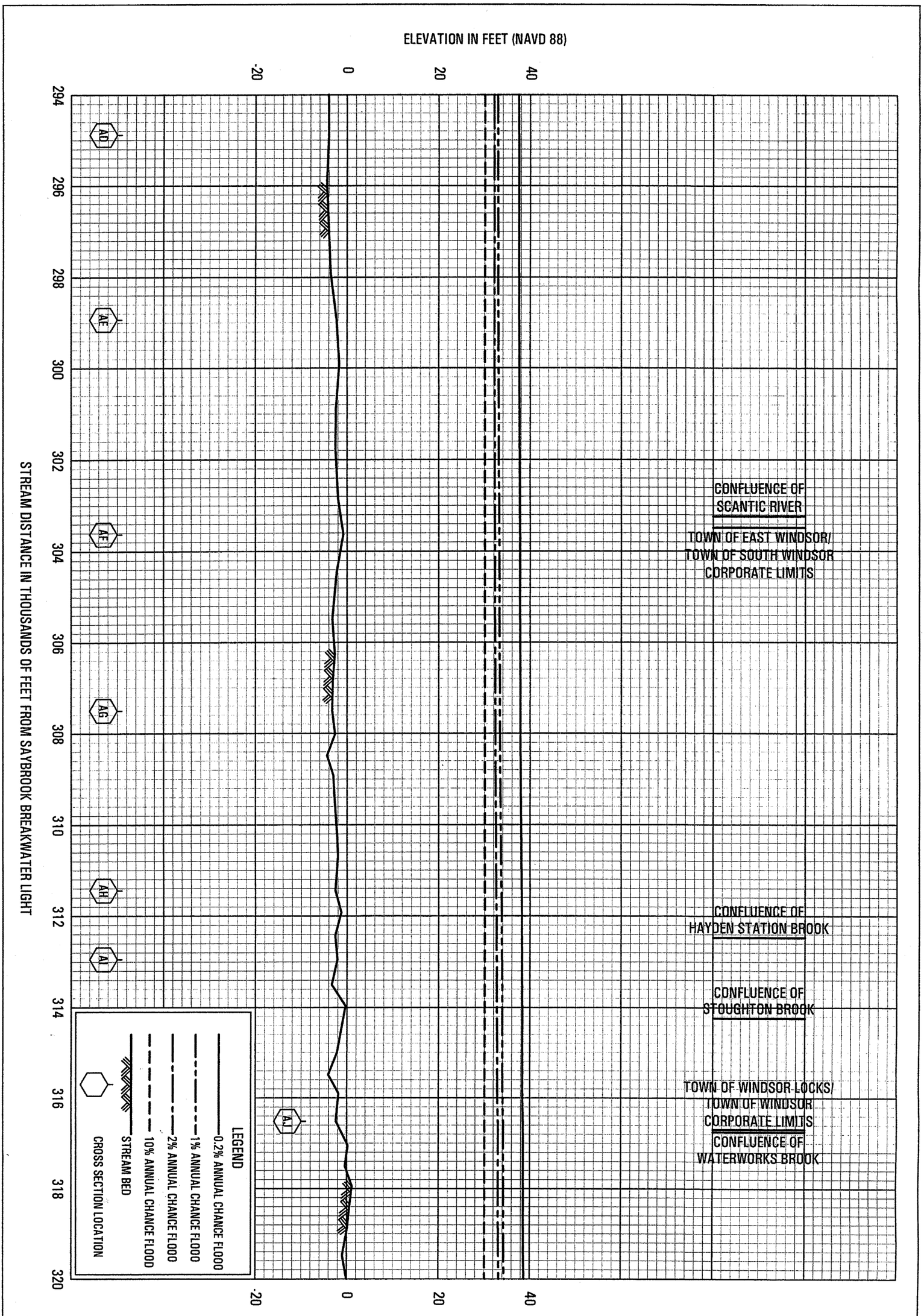
FEDERAL EMERGENCY MANAGEMENT AGENCY

HARTFORD COUNTY, CT

(ALL JURISDICTIONS)

FLOOD PROFILES

CONNECTICUT RIVER



65P

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARTFORD COUNTY, CT

(ALL JURISDICTIONS)

FLOOD PROFILES

CONNECTICUT RIVER

Appendix B

Existing vs. Proposed HEC-RAS Documentation – FEMA Floodplain

HEC-RAS River: Conn River Reach: Restudy Reach

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	364871	10-Year	Floodplain As Is	140000.00	26.11	52.77	37.96	52.99	0.000115	3.95	47929.68	5579.58	0.15
Restudy Reach	364871	50-Year	Floodplain As Is	180000.00	26.11	55.84	39.25	56.09	0.000112	4.28	59277.03	5682.21	0.16
Restudy Reach	364871	100-Year	Floodplain As Is	198000.00	26.11	57.14	39.76	57.41	0.000111	4.40	64079.84	5693.59	0.16
Restudy Reach	364871	500-Year	Floodplain As Is	239000.00	26.11	59.62	40.88	59.92	0.000113	4.73	73268.59	5710.65	0.16
Restudy Reach	364430	10-Year	Floodplain As Is	140000.00	26.39	52.73	37.76	52.94	0.000106	3.90	47320.49	5570.38	0.15
Restudy Reach	364430	50-Year	Floodplain As Is	180000.00	26.39	55.80	39.03	56.04	0.000106	4.25	57744.61	5611.15	0.15
Restudy Reach	364430	100-Year	Floodplain As Is	198000.00	26.39	57.10	39.55	57.36	0.000105	4.39	62161.38	5633.62	0.15
Restudy Reach	364430	500-Year	Floodplain As Is	239000.00	26.39	59.57	40.68	59.87	0.000108	4.74	70608.38	5646.79	0.16
Restudy Reach	363985	10-Year	Floodplain As Is	140000.00	26.66	52.64	37.23	52.89	0.000123	4.20	42020.99	5287.61	0.16
Restudy Reach	363985	50-Year	Floodplain As Is	180000.00	26.66	55.70	38.65	55.99	0.000123	4.60	50733.38	5455.73	0.16
Restudy Reach	363985	100-Year	Floodplain As Is	198000.00	26.66	57.00	39.26	57.30	0.000123	4.76	54423.21	5500.82	0.17
Restudy Reach	363985	500-Year	Floodplain As Is	239000.00	26.66	59.46	40.56	59.81	0.000128	5.16	61461.42	5511.85	0.17
Restudy Reach	363488	10-Year	Floodplain As Is	140000.00	25.30	52.50	36.24	52.82	0.000139	4.70	35601.72	2068.70	0.17
Restudy Reach	363488	50-Year	Floodplain As Is	180000.00	25.30	55.52	37.76	55.91	0.000147	5.25	41876.44	2084.77	0.18
Restudy Reach	363488	100-Year	Floodplain As Is	198000.00	25.30	56.80	38.41	57.22	0.000150	5.47	44546.47	2152.05	0.19
Restudy Reach	363488	500-Year	Floodplain As Is	239000.00	25.30	59.22	39.80	59.73	0.000161	6.00	49633.73	2415.09	0.19
Restudy Reach	362495	10-Year	Floodplain As Is	140000.00	25.49	52.32	35.84	52.67	0.000150	4.91	30825.90	1638.41	0.18
Restudy Reach	362495	50-Year	Floodplain As Is	180000.00	25.49	55.33	37.48	55.76	0.000159	5.48	35765.47	2031.08	0.19
Restudy Reach	362495	100-Year	Floodplain As Is	198000.00	25.49	56.60	38.18	57.06	0.000162	5.71	37866.93	2228.71	0.19
Restudy Reach	362495	500-Year	Floodplain As Is	239000.00	25.49	59.00	39.66	59.56	0.000175	6.26	41863.71	2528.86	0.20
Restudy Reach	361987	10-Year	Floodplain As Is	140000.00	24.27	52.27	35.06	52.60	0.000110	4.43	30704.28	1670.22	0.16
Restudy Reach	361987	50-Year	Floodplain As Is	180000.00	24.27	55.27	36.66	55.68	0.000117	4.91	35474.73	2295.74	0.16
Restudy Reach	361987	100-Year	Floodplain As Is	198000.00	24.27	56.54	37.33	56.99	0.000119	5.11	37523.91	2445.59	0.17
Restudy Reach	361987	500-Year	Floodplain As Is	239000.00	24.27	58.94	38.79	59.48	0.000127	5.58	41471.51	2808.10	0.17
Restudy Reach	361744	10-Year	Floodplain As Is	140000.00	23.55	52.21	34.94	52.57	0.000137	4.98	30607.27	1524.02	0.17
Restudy Reach	361744	50-Year	Floodplain As Is	180000.00	23.55	55.19	36.58	55.65	0.000151	5.62	35223.70	1898.21	0.19
Restudy Reach	361744	100-Year	Floodplain As Is	198000.00	23.55	56.46	37.27	56.95	0.000156	5.88	37234.80	2190.94	0.19
Restudy Reach	361744	500-Year	Floodplain As Is	239000.00	23.55	58.84	38.75	59.44	0.000171	6.49	41074.45	2845.81	0.20
Restudy Reach	361490	10-Year	Floodplain As Is	140000.00	23.02	52.13	34.83	52.53	0.000149	5.17	29406.09	1539.84	0.18
Restudy Reach	361490	50-Year	Floodplain As Is	180000.00	23.02	55.10	36.50	55.60	0.000164	5.85	34001.51	1595.19	0.19
Restudy Reach	361490	100-Year	Floodplain As Is	198000.00	23.02	56.36	37.20	56.91	0.000169	6.12	35962.36	1699.04	0.20
Restudy Reach	361490	500-Year	Floodplain As Is	239000.00	23.02	58.73	38.73	59.38	0.000186	6.75	39669.15	2243.42	0.21
Restudy Reach	361247	10-Year	Floodplain As Is	140000.00	22.02	52.11	34.68	52.49	0.000147	5.06	29886.80	1504.79	0.18
Restudy Reach	361247	50-Year	Floodplain As Is	180000.00	22.02	55.09	36.38	55.56	0.000161	5.70	34392.70	1766.20	0.19
Restudy Reach	361247	100-Year	Floodplain As Is	198000.00	22.02	56.34	37.13	56.86	0.000165	5.96	36323.69	2001.63	0.20
Restudy Reach	361247	500-Year	Floodplain As Is	239000.00	22.02	58.71	38.68	59.33	0.000181	6.57	40068.80	2329.15	0.21
Restudy Reach	361008	10-Year	Floodplain As Is	140000.00	20.63	52.11	34.75	52.44	0.000131	4.77	31217.48	1678.31	0.17
Restudy Reach	361008	50-Year	Floodplain As Is	180000.00	20.63	55.08	36.49	55.50	0.000143	5.39	35839.24	2106.26	0.18
Restudy Reach	361008	100-Year	Floodplain As Is	198000.00	20.63	56.34	37.17	56.80	0.000147	5.64	37834.96	2241.82	0.19
Restudy Reach	361008	500-Year	Floodplain As Is	239000.00	20.63	58.71	38.65	59.27	0.000162	6.22	41664.25	2452.86	0.20
Restudy Reach	360705	10-Year	Floodplain As Is	140000.00	22.22	52.02	35.46	52.39	0.000158	5.06	29466.13	1959.71	0.18
Restudy Reach	360705	50-Year	Floodplain As Is	180000.00	22.22	54.98	37.18	55.45	0.000169	5.68	34124.27	2216.44	0.20
Restudy Reach	360705	100-Year	Floodplain As Is	198000.00	22.22	56.24	37.90	56.75	0.000173	5.93	36168.78	2389.88	0.20
Restudy Reach	360705	500-Year	Floodplain As Is	239000.00	22.22	58.60	39.44	59.21	0.000188	6.52	40166.32	2459.85	0.21
Restudy Reach	360497	10-Year	Floodplain As Is	140000.00	21.79	51.98	35.75	52.36	0.000153	5.06	29472.54	2008.83	0.18
Restudy Reach	360497	50-Year	Floodplain As Is	180000.00	21.79	54.95	37.43	55.42	0.000165	5.68	34174.41	2163.72	0.19
Restudy Reach	360497	100-Year	Floodplain As Is	198000.00	21.79	56.21	38.14	56.71	0.000169	5.93	36209.90	2227.92	0.20
Restudy Reach	360497	500-Year	Floodplain As Is	239000.00	21.79	58.56	39.65	59.17	0.000184	6.52	40060.78	2253.82	0.21
Restudy Reach	359999	10-Year	Floodplain As Is	140000.00	21.55	51.90	36.42	52.28	0.000169	5.04	30270.58	1771.37	0.19
Restudy Reach	359999	50-Year	Floodplain As Is	180000.00	21.55	54.86	38.15	55.33	0.000179	5.63	35614.90	1835.84	0.20
Restudy Reach	359999	100-Year	Floodplain As Is	198000.00	21.55	56.12	38.82	56.63	0.000181	5.87	37935.94	1851.31	0.20
Restudy Reach	359999	500-Year	Floodplain As Is	239000.00	21.55	58.47	40.40	59.08	0.000194	6.43	42334.61	1900.45	0.21
Restudy Reach	358992	10-Year	Floodplain As Is	140000.00	23.73	51.78	35.99	52.11	0.000144	4.60	31671.83	1764.86	0.17
Restudy Reach	358992	50-Year	Floodplain As Is	180000.00	23.73	54.73	37.42	55.15	0.000154	5.18	36952.30	1846.34	0.18
Restudy Reach	358992	100-Year	Floodplain As Is	198000.00	23.73	55.99	38.00	56.44	0.000157	5.41	39344.20	1968.63	0.19
Restudy Reach	358992	500-Year	Floodplain As Is	239000.00	23.73	58.33	39.26	58.88	0.000171	5.97	44103.32	2070.30	0.20
Restudy Reach	358492	10-Year	Floodplain As Is	140000.00	25.16	51.67		52.03	0.000166	4.79	29790.27	1713.36	0.19
Restudy Reach	358492	50-Year	Floodplain As Is	180000.00	25.16	54.62		55.06	0.000175	5.38	34874.67	2214.15	0.20
Restudy Reach	358492	100-Year	Floodplain As Is	198000.00	25.16	55.87		56.35	0.000177	5.61	37136.00	2496.36	0.20
Restudy Reach	358492	500-Year	Floodplain As Is	239000.00	25.16	58.20		58.78	0.000190	6.17	41514.36	2657.76	0.21
Restudy Reach	358003	10-Year	Floodplain As Is	140000.00	25.43	51.58	36.03	51.95	0.000158	4.87	28838.91	1573.30	0.18
Restudy Reach	358003	50-Year	Floodplain As Is	180000.00	25.43	54.50	37.44	54.98	0.000173	5.51	33060.93	1792.58	0.20
Restudy Reach	358003	100-Year	Floodplain As Is	198000.00	25.43	55.75	38.06	56.26	0.000179	5.77	34935.93	2060.60	0.20
Restudy Reach	358003	500-Year	Floodplain As Is	239000.00	25.43	58.05	39.37	58.68	0.000196	6.38	38768.20	2359.22	0.21
Restudy Reach	357383	10-Year	Floodplain As Is	140000.00	24.61	51.43	36.14	51.84	0.000174	5.13	27423.08	2248.55	0.19
Restudy Reach	357383	50-Year	Floodplain As Is	180000.00	24.61	54.37	37.61	54.86	0.000182	5.70	34680.25	2305.03	0.20
Restudy Reach	357383	100-Year	Floodplain As Is	198000.00	24.61	55.61	38.23	56.15	0.000187	5.96	36648.38	2327.86	0.21
Restudy Reach	357383	500-Year	Floodplain As Is	239000.00	24.61	57.90	39.55	58.56	0.000205	6.60	40315.27	2378.56	0.22
Restudy Reach	357010	10-Year	Floodplain As Is	140000.00	23.02	51.36	36.07	51.77	0.000185	5.17	27132.91	1917.50	0.20
Restudy Reach	357010	50-Year	Floodplain As Is	180000.00	23.02	54.26	37.63	54.79	0.000199	5.85	31303.59	2114.66	0.21
Restudy Reach	357010	100-Year	Floodplain As Is	198000.00	23.02	55.49	38.29	56.07	0.000204	6.11	33142.36	2143.87	0.21
Restudy Reach	357010	500-Year	Floodplain As Is	239000.00	23.02	57.76	39.63	58.47	0.000222	6.76	36559.27	2194.70	0.23
Restudy Reach	356522	10-Year	Floodplain As Is	140000.00	27.76	51.12	37.27	51.65	0.000257	5.85	23969.14	1203.68	0.23
Restudy Reach	356522	50-Year	Floodplain As Is	180000.00	27.76	53.99	38.94	54.66	0.000272	6.58	27653.54	1321.98	0.24
Restudy Reach	356522	100-Year	Floodplain As Is	198000.00	27.76	55.21	39.65	55.94	0.000277	6.87	29281.22	1343.60	0.25
Restudy Reach	356522	500-Year	Floodplain As Is	239000.00	27.76	57.44	41.15	58.33	0.000300	7.58	32324.59	1537.06	0.26
Restudy Reach	355957	10-Year	Floodplain As Is	140000.00	26.00	51.05	37.21	51.50	0.000209	5.35	26337.42	1309.77	0.21
Restudy Reach	355957	50-Year	Floodplain As Is	180000.00	26.00	53.93	38.65	54.49	0.000224	6.02	30131.50	1331.00	0.22
Restudy Reach	355957	100-Year	Floodplain As Is	198000.00	26.00	55.15	39.24	55.76	0.000228	6.29	31764.61	1359.24	0.22
Restudy Reach	355957	500-Year	Floodplain As Is	239000.00	26.00	57.38	40.51	58.13	0.000248	6.96	34784.28	1418.54	0.24
Restudy Reach	355504	10-Year	Floodplain As Is	140000.00	26.77	50.94	39.28	51.39	0.000253	5.39	25982.07	1449.86	0.22
Restudy Reach	355504	50-Year	Floodplain As Is	180000.00	26.77	53.83	40.56	54.38	0.000256	5.97	30185.58	1466.42	0.23
Restudy Reach	355504	100-Year	Floodplain As Is	198000.00	26.77	55.05	41.09	55.65	0.000256	6.20	31987.80	1474.05	0.23
Restudy Reach	355504	500-Year	Floodplain As Is	239000.00	26.77	57.29	42.24	58.00	0.000270	6.79	35302.32	1489.23	0.24
Restudy Reach	355217	10-Year	Floodplain As Is	140000.00	27.45	50.79	40.26	51.31	0.000309	5.79	24245.00	1426.88	0.25
Restudy Reach	355217	50-Year	Floodplain As Is	180000.00	27.45	53.66	41.50	54.29	0.000305	6.37	28362.56	1438.66	0.25
Restudy Reach	355217	100-Year	Floodplain As Is	198000.00	27.45	54.88	42.04	55.56	0.000303	6.61	30123.94	1443.67	0.25
Restudy Reach	355217	500-Year	Floodplain As Is	239000.00	27.45	57.10	43.20	57.91	0.000317	7.22	33338.72	1452.77	0.26

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	354997	10-Year	Floodplain As Is	140000.00	26.70	50.54	40.87	51.21	0.000431	6.57	21292.86	1311.33	0.29
Restudy Reach	354997	50-Year	Floodplain As Is	180000.00	26.70	53.39	42.26	54.20	0.000424	7.18	25073.93	1337.79	0.29
Restudy Reach	354997	100-Year	Floodplain As Is	198000.00	26.70	54.61	42.85	55.46	0.000421	7.41	26707.47	1349.06	0.29
Restudy Reach	354997	500-Year	Floodplain As Is	239000.00	26.70	56.80	44.11	57.81	0.000433	8.06	29687.30	1369.95	0.30
Restudy Reach	354512	10-Year	Floodplain As Is	140000.00	25.43	50.29	39.83	51.00	0.000406	6.76	20713.55	1169.62	0.28
Restudy Reach	354512	50-Year	Floodplain As Is	180000.00	25.43	53.11	41.30	53.98	0.000417	7.49	24029.92	1184.80	0.29
Restudy Reach	354512	100-Year	Floodplain As Is	198000.00	25.43	54.31	41.92	55.25	0.000419	7.78	25455.14	1191.27	0.30
Restudy Reach	354512	500-Year	Floodplain As Is	239000.00	25.43	56.45	43.26	57.59	0.000444	8.53	28024.36	1208.08	0.31
Restudy Reach	353949	10-Year	Floodplain As Is	140000.00	22.06	50.08	37.76	50.79	0.000357	6.75	20747.42	1079.63	0.27
Restudy Reach	353949	50-Year	Floodplain As Is	180000.00	22.06	52.86	39.42	53.76	0.000379	7.60	23791.78	1110.52	0.28
Restudy Reach	353949	100-Year	Floodplain As Is	198000.00	22.06	54.04	40.13	55.02	0.000385	7.93	25113.56	1123.71	0.29
Restudy Reach	353949	500-Year	Floodplain As Is	239000.00	22.06	56.14	41.67	57.33	0.000422	8.78	27490.27	1148.22	0.31
Restudy Reach	353485	10-Year	Floodplain As Is	140000.00	22.57	49.94		50.63	0.000301	6.69	21407.99	1061.20	0.25
Restudy Reach	353485	50-Year	Floodplain As Is	180000.00	22.57	52.69		53.59	0.000333	7.62	24351.96	1076.71	0.27
Restudy Reach	353485	100-Year	Floodplain As Is	198000.00	22.57	53.86		54.85	0.000345	8.00	25613.58	1083.29	0.28
Restudy Reach	353485	500-Year	Floodplain As Is	239000.00	22.57	55.91		57.14	0.000388	8.93	27848.05	1100.57	0.30
Restudy Reach	353253	10-Year	Floodplain As Is	140000.00	22.10	49.93	35.72	50.55	0.000262	6.30	22433.31	1060.75	0.24
Restudy Reach	353253	50-Year	Floodplain As Is	180000.00	22.10	52.69	37.48	53.49	0.000293	7.20	25383.31	1077.32	0.25
Restudy Reach	353253	100-Year	Floodplain As Is	198000.00	22.10	53.86	38.22	54.75	0.000303	7.56	26648.88	1084.35	0.26
Restudy Reach	353253	500-Year	Floodplain As Is	239000.00	22.10	55.91	39.73	57.02	0.000343	8.45	28890.03	1096.69	0.28
Restudy Reach	353019	10-Year	Floodplain As Is	140000.00	20.59	49.91	34.44	50.47	0.000237	6.04	23169.74	1033.78	0.22
Restudy Reach	353019	50-Year	Floodplain As Is	180000.00	20.59	52.67	36.29	53.41	0.000266	6.92	26046.15	1051.31	0.24
Restudy Reach	353019	100-Year	Floodplain As Is	198000.00	20.59	53.84	37.12	54.66	0.000277	7.28	27282.77	1060.48	0.25
Restudy Reach	353019	500-Year	Floodplain As Is	239000.00	20.59	55.89	38.78	56.92	0.000314	8.15	29476.81	1075.30	0.27
Restudy Reach	352703	10-Year	Floodplain As Is	140000.00	18.94	49.84		50.40	0.000237	6.00	23367.04	1047.86	0.22
Restudy Reach	352703	50-Year	Floodplain As Is	180000.00	18.94	52.59		53.32	0.000267	6.87	26268.21	1060.59	0.24
Restudy Reach	352703	100-Year	Floodplain As Is	198000.00	18.94	53.76		54.57	0.000278	7.22	27510.76	1066.00	0.25
Restudy Reach	352703	500-Year	Floodplain As Is	239000.00	18.94	55.80		56.82	0.000316	8.09	29699.66	1075.60	0.27
Restudy Reach	352688	10-Year	Floodplain As Is	140000.00	18.81	49.83		50.39	0.000238	6.00	23371.37	1047.62	0.22
Restudy Reach	352688	50-Year	Floodplain As Is	180000.00	18.81	52.59		53.32	0.000268	6.87	26271.30	1060.25	0.24
Restudy Reach	352688	100-Year	Floodplain As Is	198000.00	18.81	53.75		54.56	0.000279	7.22	27513.25	1065.62	0.25
Restudy Reach	352688	500-Year	Floodplain As Is	239000.00	18.81	55.80		56.81	0.000317	8.09	29700.59	1075.00	0.27
Restudy Reach	352676	10-Year	Floodplain As Is	140000.00	18.70	49.83		50.39	0.000242	6.01	23296.14	1048.56	0.22
Restudy Reach	352676	50-Year	Floodplain As Is	180000.00	18.70	52.58		53.31	0.000272	6.89	26198.93	1062.23	0.24
Restudy Reach	352676	100-Year	Floodplain As Is	198000.00	18.70	53.75		54.56	0.000283	7.24	27443.04	1068.04	0.25
Restudy Reach	352676	500-Year	Floodplain As Is	239000.00	18.70	55.79		56.81	0.000322	8.11	29634.73	1078.38	0.27
Restudy Reach	352209	10-Year	Floodplain As Is	140000.00	22.20	49.70		50.27	0.000240	6.11	23396.65	1161.37	0.23
Restudy Reach	352209	50-Year	Floodplain As Is	180000.00	22.20	52.43		53.19	0.000271	7.00	26612.14	1192.58	0.24
Restudy Reach	352209	100-Year	Floodplain As Is	198000.00	22.20	53.59		54.43	0.000282	7.35	28005.90	1206.34	0.25
Restudy Reach	352209	500-Year	Floodplain As Is	239000.00	22.20	55.61		56.66	0.000321	8.24	30471.25	1246.18	0.27
Restudy Reach	351952	10-Year	Floodplain As Is	140000.00	21.98	49.64	33.97	50.21	0.000228	6.07	23654.59	1207.67	0.22
Restudy Reach	351952	50-Year	Floodplain As Is	180000.00	21.98	52.37	35.72	53.11	0.000258	6.95	26988.43	1236.37	0.24
Restudy Reach	351952	100-Year	Floodplain As Is	198000.00	21.98	53.53	36.47	54.35	0.000269	7.30	28431.00	1247.79	0.25
Restudy Reach	351952	500-Year	Floodplain As Is	239000.00	21.98	55.55	38.04	56.57	0.000306	8.17	31032.51	1345.34	0.27
Restudy Reach	351739	10-Year	Floodplain As Is	140000.00	23.26	49.48	35.43	50.15	0.000311	6.56	21657.85	1169.99	0.25
Restudy Reach	351739	50-Year	Floodplain As Is	180000.00	23.26	52.19	37.32	53.04	0.000337	7.41	24871.09	1200.10	0.27
Restudy Reach	351739	100-Year	Floodplain As Is	198000.00	23.26	53.35	38.10	54.28	0.000346	7.75	26262.04	1216.55	0.28
Restudy Reach	351739	500-Year	Floodplain As Is	239000.00	23.26	55.35	39.74	56.48	0.000385	8.62	28680.64	1245.12	0.30
Restudy Reach	351482	10-Year	Floodplain As Is	140000.00	23.17	49.54	34.81	50.02	0.000214	5.59	26910.52	1596.58	0.21
Restudy Reach	351482	50-Year	Floodplain As Is	180000.00	23.17	52.29	36.42	52.90	0.000234	6.33	31344.06	1631.98	0.23
Restudy Reach	351482	100-Year	Floodplain As Is	198000.00	23.17	53.46	37.09	54.12	0.000241	6.62	33259.85	1643.75	0.23
Restudy Reach	351482	500-Year	Floodplain As Is	239000.00	23.17	55.48	38.61	56.31	0.000269	7.36	36610.62	1663.32	0.25
Restudy Reach	351057	10-Year	Floodplain As Is	140000.00	27.06	49.36		49.91	0.000289	5.97	23758.58	1354.60	0.24
Restudy Reach	351057	50-Year	Floodplain As Is	180000.00	27.06	52.08		52.78	0.000304	6.70	27495.01	1389.38	0.25
Restudy Reach	351057	100-Year	Floodplain As Is	198000.00	27.06	53.24		54.00	0.000309	6.99	29114.23	1396.42	0.26
Restudy Reach	351057	500-Year	Floodplain As Is	239000.00	27.06	55.24		56.17	0.000339	7.75	31914.67	1408.41	0.27
Restudy Reach	350533	10-Year	Floodplain As Is	140000.00	26.49	49.19		49.75	0.000344	5.99	23389.66	1401.82	0.26
Restudy Reach	350533	50-Year	Floodplain As Is	180000.00	26.49	51.92		52.60	0.000347	6.61	27242.11	1416.77	0.27
Restudy Reach	350533	100-Year	Floodplain As Is	198000.00	26.49	53.09		53.82	0.000347	6.85	28900.08	1422.30	0.27
Restudy Reach	350533	500-Year	Floodplain As Is	239000.00	26.49	55.09		55.97	0.000370	7.53	31758.84	1454.79	0.28
Restudy Reach	350002	10-Year	Floodplain As Is	140000.00	26.84	48.84		49.53	0.000441	6.65	21102.25	1316.55	0.29
Restudy Reach	350002	50-Year	Floodplain As Is	180000.00	26.84	51.55		52.38	0.000436	7.32	24696.34	1355.43	0.30
Restudy Reach	350002	100-Year	Floodplain As Is	198000.00	26.84	52.71		53.60	0.000432	7.58	26268.58	1360.43	0.30
Restudy Reach	350002	500-Year	Floodplain As Is	239000.00	26.84	54.65		55.73	0.000462	8.34	28921.90	1368.82	0.31
Restudy Reach	349521	10-Year	Floodplain As Is	140000.00	25.54	48.46		49.28	0.000554	7.27	19304.76	1254.89	0.32
Restudy Reach	349521	50-Year	Floodplain As Is	180000.00	25.54	51.15		52.13	0.000539	7.97	22709.85	1276.48	0.33
Restudy Reach	349521	100-Year	Floodplain As Is	198000.00	25.54	52.30		53.35	0.000532	8.25	24184.56	1285.71	0.33
Restudy Reach	349521	500-Year	Floodplain As Is	239000.00	25.54	54.19		55.46	0.000568	9.07	26630.59	1300.89	0.35
Restudy Reach	349134	10-Year	Floodplain As Is	140000.00	24.30	48.01	39.51	49.02	0.000669	8.06	17363.26	1094.31	0.36
Restudy Reach	349134	50-Year	Floodplain As Is	180000.00	24.30	50.65	41.08	51.88	0.000673	8.88	20269.87	1108.91	0.37
Restudy Reach	349134	100-Year	Floodplain As Is	198000.00	24.30	51.78	41.80	53.10	0.000671	9.20	21527.83	1115.13	0.37
Restudy Reach	349134	500-Year	Floodplain As Is	239000.00	24.30	53.58	43.20	55.18	0.000735	10.15	23543.33	1125.03	0.39
Restudy Reach	349023			Bridge									
Restudy Reach	348943	10-Year	Floodplain As Is	140000.00	23.69	47.57		48.74	0.000837	8.66	16171.23	1082.64	0.39
Restudy Reach	348943	50-Year	Floodplain As Is	180000.00	23.69	50.18		51.57	0.000830	9.45	19039.34	1109.04	0.40
Restudy Reach	348943	100-Year	Floodplain As Is	198000.00	23.69	51.31		52.79	0.000818	9.76	20291.05	1114.35	0.40
Restudy Reach	348943	500-Year	Floodplain As Is	239000.00	23.69	53.03		54.83	0.000890	10.76	22221.39	1122.49	0.43
Restudy Reach	348760	10-Year	Floodplain As Is	140000.00	25.90	47.16		48.54	0.001098	9.43	14849.09	1074.71	0.45
Restudy Reach	348760	50-Year	Floodplain As Is	180000.00	25.90	49.77		51.38	0.001023	10.19	17677.04	1093.38	0.44
Restudy Reach	348760	100-Year	Floodplain As Is	198000.00	25.90	50.89		52.60	0.000992	10.49	18910.93	1101.55	0.44
Restudy Reach	348760	500-Year	Floodplain As Is	239000.00	25.90	52.55		54.63	0.001069	11.56	20746.92	1113.59	0.47
Restudy Reach	348696	10-Year	Floodplain As Is	140000.00	27.18	47.61	40.10	48.28	0.000539	6.56	21342.93	1563.23	0.31
Restudy Reach	348696	50-Year	Floodplain As Is	180000.00	27.18	50.31	41.32	51.08	0.000489	7.04	25583.06	1572.90	0.31
Restudy Reach	348696	100-Year	Floodplain As Is	198000.00	27.18	51.48	41.77	52.29	0.000471	7.23	27415.56	1577.61	0.30
Restudy Reach	348696	500-Year	Floodplain As Is	239000.00	27.18	53.28	42.88	54.25	0.000495	7.92	30261.33	1585.10	0.32
Restudy Reach	348595			Inl Struct									

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	348492	10-Year	Floodplain As Is	140000.00	25.57	47.33	39.17	47.97	0.000476	6.43	21773.79	1670.24	0.30
Restudy Reach	348492	50-Year	Floodplain As Is	180000.00	25.57	49.99	40.37	50.75	0.000452	6.99	25757.80	1706.37	0.30
Restudy Reach	348492	100-Year	Floodplain As Is	198000.00	25.57	51.13	40.88	51.94	0.000443	7.21	27474.56	1716.13	0.30
Restudy Reach	348492	500-Year	Floodplain As Is	239000.00	25.57	53.03	41.98	53.84	0.000401	7.31	33268.11	1732.82	0.29
Restudy Reach	347645	10-Year	Floodplain As Is	140000.00	27.85	45.58	40.64	47.23	0.001382	10.31	13584.16	1227.83	0.50
Restudy Reach	347645	50-Year	Floodplain As Is	180000.00	27.85	48.10	42.18	50.03	0.001280	11.14	16182.91	1252.51	0.49
Restudy Reach	347645	100-Year	Floodplain As Is	198000.00	27.85	49.18	42.83	51.23	0.001242	11.47	17304.86	1257.47	0.49
Restudy Reach	347645	500-Year	Floodplain As Is	239000.00	27.85	51.50	44.23	53.28	0.000949	10.93	22602.54	1277.14	0.44
Restudy Reach	347490	10-Year	Floodplain As Is	140000.00	27.85	45.27	40.64	47.00	0.001496	10.56	13264.00	1215.32	0.52
Restudy Reach	347490	50-Year	Floodplain As Is	180000.00	27.85	47.82	42.18	49.82	0.001360	11.35	15890.69	1251.74	0.51
Restudy Reach	347490	100-Year	Floodplain As Is	198000.00	27.85	48.91	42.83	51.02	0.001311	11.66	17022.86	1255.96	0.50
Restudy Reach	347490	500-Year	Floodplain As Is	239000.00	27.85	51.31	44.23	53.13	0.000982	11.04	22361.90	1275.51	0.45
Restudy Reach	347004	10-Year	Floodplain As Is	140000.00	24.60	45.03	38.62	46.28	0.000958	8.98	15584.74	1398.70	0.42
Restudy Reach	347004	50-Year	Floodplain As Is	180000.00	24.60	47.65	40.11	49.13	0.000908	9.76	18448.59	1546.48	0.42
Restudy Reach	347004	100-Year	Floodplain As Is	198000.00	24.60	48.77	40.74	50.34	0.000888	10.07	19682.38	1586.39	0.42
Restudy Reach	347004	500-Year	Floodplain As Is	239000.00	24.60	51.19	42.11	52.62	0.000685	9.62	24940.78	1658.01	0.38
Restudy Reach	346485	10-Year	Floodplain As Is	140000.00	25.09	44.74	37.02	45.80	0.000714	8.22	17031.32	1368.26	0.37
Restudy Reach	346485	50-Year	Floodplain As Is	180000.00	25.09	47.38	38.51	48.65	0.000704	9.04	19925.39	1513.33	0.37
Restudy Reach	346485	100-Year	Floodplain As Is	198000.00	25.09	48.51	39.14	49.87	0.000699	9.36	21171.69	1552.05	0.38
Restudy Reach	346485	500-Year	Floodplain As Is	239000.00	25.09	50.98	40.51	52.24	0.000584	9.27	27253.94	1639.95	0.35
Restudy Reach	346045	10-Year	Floodplain As Is	140000.00	21.22	44.48	35.59	45.49	0.000614	8.08	17337.41	1223.42	0.35
Restudy Reach	346045	50-Year	Floodplain As Is	180000.00	21.22	47.10	37.17	48.35	0.000634	8.99	20017.42	1435.00	0.36
Restudy Reach	346045	100-Year	Floodplain As Is	198000.00	21.22	48.22	37.84	49.58	0.000638	9.35	21172.64	1475.84	0.36
Restudy Reach	346045	500-Year	Floodplain As Is	239000.00	21.22	50.66	39.30	51.98	0.000562	9.45	26867.26	1528.50	0.35
Restudy Reach	345487	10-Year	Floodplain As Is	140000.00	21.90	43.06	36.99	44.92	0.001366	10.92	12814.91	965.54	0.50
Restudy Reach	345487	50-Year	Floodplain As Is	180000.00	21.90	45.50	39.05	47.75	0.001370	12.03	14966.39	1083.37	0.52
Restudy Reach	345487	100-Year	Floodplain As Is	198000.00	21.90	46.56	39.86	48.97	0.001358	12.45	15906.37	1163.40	0.52
Restudy Reach	345487	500-Year	Floodplain As Is	239000.00	21.90	49.16	41.57	51.45	0.001133	12.38	20098.22	1267.27	0.48
Restudy Reach	344855	10-Year	Floodplain As Is	140000.00	19.80	42.54	35.82	44.07	0.001044	9.90	14138.78	1005.93	0.44
Restudy Reach	344855	50-Year	Floodplain As Is	180000.00	19.80	45.00	37.53	46.88	0.001069	10.98	16396.56	1102.93	0.46
Restudy Reach	344855	100-Year	Floodplain As Is	198000.00	19.80	46.08	38.25	48.09	0.001069	11.39	17390.53	1114.28	0.46
Restudy Reach	344855	500-Year	Floodplain As Is	239000.00	19.80	48.75	39.83	50.72	0.000905	11.41	21460.79	1157.98	0.44
Restudy Reach	344502	10-Year	Floodplain As Is	140000.00	19.88	41.91	36.09	43.64	0.001261	10.57	13247.60	959.87	0.48
Restudy Reach	344502	50-Year	Floodplain As Is	180000.00	19.88	44.32	37.80	46.44	0.001268	11.69	15403.86	984.91	0.50
Restudy Reach	344502	100-Year	Floodplain As Is	198000.00	19.88	45.38	38.52	47.66	0.001260	12.11	16354.66	995.93	0.50
Restudy Reach	344502	500-Year	Floodplain As Is	239000.00	19.88	48.02	40.09	50.33	0.001089	12.31	19662.00	1033.33	0.47
Restudy Reach	344001	10-Year	Floodplain As Is	140000.00	20.00	40.78	36.33	42.87	0.001748	11.58	12091.86	907.47	0.56
Restudy Reach	344001	50-Year	Floodplain As Is	180000.00	20.00	43.23	38.07	45.68	0.001656	12.58	14314.95	933.87	0.56
Restudy Reach	344001	100-Year	Floodplain As Is	198000.00	20.00	44.31	38.79	46.91	0.001614	12.94	15307.70	960.87	0.56
Restudy Reach	344001	500-Year	Floodplain As Is	239000.00	20.00	46.83	40.36	49.65	0.001468	13.51	17872.05	1036.85	0.54
Restudy Reach	343496	10-Year	Floodplain As Is	140000.00	19.99	40.17	34.52	42.03	0.001339	10.93	12808.90	893.63	0.50
Restudy Reach	343496	50-Year	Floodplain As Is	180000.00	19.99	42.61	36.28	44.88	0.001337	12.08	14923.40	927.77	0.51
Restudy Reach	343496	100-Year	Floodplain As Is	198000.00	19.99	43.70	37.02	46.12	0.001322	12.50	15871.22	933.68	0.51
Restudy Reach	343496	500-Year	Floodplain As Is	239000.00	19.99	46.32	38.64	48.92	0.001198	13.01	18615.32	946.65	0.50
Restudy Reach	342992	10-Year	Floodplain As Is	140000.00	19.84	39.62	33.54	41.35	0.001197	10.55	13278.11	925.88	0.47
Restudy Reach	342992	50-Year	Floodplain As Is	180000.00	19.84	42.07	35.28	44.19	0.001209	11.70	15413.37	941.11	0.49
Restudy Reach	342992	100-Year	Floodplain As Is	198000.00	19.84	43.16	36.02	45.45	0.001198	12.12	16377.18	947.95	0.49
Restudy Reach	342992	500-Year	Floodplain As Is	239000.00	19.84	45.87	37.62	48.29	0.001080	12.58	19483.18	964.81	0.48
Restudy Reach	342479	10-Year	Floodplain As Is	140000.00	19.97	39.13	32.86	40.71	0.001155	10.08	13889.83	991.35	0.46
Restudy Reach	342479	50-Year	Floodplain As Is	180000.00	19.97	41.62	34.59	43.53	0.001133	11.08	16257.66	1002.00	0.47
Restudy Reach	342479	100-Year	Floodplain As Is	198000.00	19.97	42.75	35.32	44.78	0.001110	11.44	17331.81	1006.81	0.47
Restudy Reach	342479	500-Year	Floodplain As Is	239000.00	19.97	45.51	36.90	47.69	0.000995	11.89	20353.57	1018.60	0.46
Restudy Reach	341998	10-Year	Floodplain As Is	140000.00	19.62	38.58	32.45	40.16	0.001127	10.07	13922.65	976.27	0.46
Restudy Reach	341998	50-Year	Floodplain As Is	180000.00	19.62	41.07	34.10	42.99	0.001117	11.11	16263.79	989.79	0.47
Restudy Reach	341998	100-Year	Floodplain As Is	198000.00	19.62	42.20	34.79	44.25	0.001096	11.47	17334.39	995.95	0.47
Restudy Reach	341998	500-Year	Floodplain As Is	239000.00	19.62	45.04	36.31	47.21	0.000972	11.87	20415.10	1011.58	0.45
Restudy Reach	341467	10-Year	Floodplain As Is	140000.00	16.58	38.11	30.65	39.57	0.000958	9.71	14418.20	922.21	0.43
Restudy Reach	341467	50-Year	Floodplain As Is	180000.00	16.58	40.59	32.46	42.39	0.000999	10.79	16687.34	960.33	0.45
Restudy Reach	341467	100-Year	Floodplain As Is	198000.00	16.58	41.73	33.23	43.67	0.000986	11.17	17752.06	966.33	0.45
Restudy Reach	341467	500-Year	Floodplain As Is	239000.00	16.58	44.60	34.89	46.70	0.000891	11.64	20689.23	982.68	0.44
Restudy Reach	340981	10-Year	Floodplain As Is	140000.00	11.32	37.95	28.23	39.10	0.000645	8.62	16242.04	954.20	0.36
Restudy Reach	340981	50-Year	Floodplain As Is	180000.00	11.32	40.42	30.19	41.89	0.000701	9.74	18482.37	1007.43	0.38
Restudy Reach	340981	100-Year	Floodplain As Is	198000.00	11.32	41.56	30.96	43.16	0.000706	10.14	19528.64	1022.51	0.39
Restudy Reach	340981	500-Year	Floodplain As Is	239000.00	11.32	44.50	32.61	46.22	0.000649	10.59	22930.79	1116.18	0.38
Restudy Reach	340500	10-Year	Floodplain As Is	140000.00	9.13	37.49	28.13	38.76	0.000699	9.06	15448.46	843.72	0.37
Restudy Reach	340500	50-Year	Floodplain As Is	180000.00	9.13	39.87	30.05	41.52	0.000777	10.31	17468.64	897.33	0.40
Restudy Reach	340500	100-Year	Floodplain As Is	198000.00	9.13	40.99	30.87	42.78	0.000791	10.75	18429.90	998.30	0.41
Restudy Reach	340500	500-Year	Floodplain As Is	239000.00	9.13	43.87	32.55	45.85	0.000747	11.35	21352.74	1247.24	0.40
Restudy Reach	339987	10-Year	Floodplain As Is	140000.00	5.66	37.25	26.76	38.38	0.000621	8.52	16478.50	1061.92	0.35
Restudy Reach	339987	50-Year	Floodplain As Is	180000.00	5.66	39.63	28.74	41.08	0.000687	9.68	18950.87	1147.69	0.38
Restudy Reach	339987	100-Year	Floodplain As Is	198000.00	5.66	40.83	29.56	42.32	0.000665	9.86	20810.89	1184.40	0.37
Restudy Reach	339987	500-Year	Floodplain As Is	239000.00	5.66	43.77	31.36	45.40	0.000616	10.33	24446.54	1315.50	0.37
Restudy Reach	339504	10-Year	Floodplain As Is	140000.00	13.81	36.90	29.77	38.03	0.000872	8.54	16462.26	1330.84	0.40
Restudy Reach	339504	50-Year	Floodplain As Is	180000.00	13.81	39.34	31.30	40.68	0.000841	9.31	19662.11	1462.97	0.40
Restudy Reach	339504	100-Year	Floodplain As Is	198000.00	13.81	40.54	32.02	41.94	0.000802	9.52	21304.35	1543.99	0.40
Restudy Reach	339504	500-Year	Floodplain As Is	239000.00	13.81	43.59	33.43	45.03	0.000673	9.70	26078.64	1675.30	0.38
Restudy Reach	339006	10-Year	Floodplain As Is	140000.00	18.28	36.35	31.22	37.53	0.001138	8.71	16150.24	1441.72	0.44
Restudy Reach	339006	50-Year	Floodplain As Is	180000.00	18.28	38.91	32.52	40.22	0.000989	9.21	19911.88	1509.11	0.43
Restudy Reach	339006	100-Year	Floodplain As Is	198000.00	18.28	40.16	33.07	41.50	0.000908	9.31	21849.39	1609.39	0.42
Restudy Reach	339006	500-Year	Floodplain As Is	239000.00	18.28	43.33	34.28	44.65	0.000702	9.26	27102.59	1669.75	0.38
Restudy Reach	338474	10-Year	Floodplain As Is	140000.00	20.00	36.06	30.50	36.91	0.000857	7.40	18929.48	1763.99	0.39
Restudy Reach	338474	50-Year	Floodplain As Is	180000.00	20.00	38.75	31.67	39.66	0.000709	7.66	23673.45	1879.33	0.36
Restudy Reach	338474	100-Year	Floodplain As Is	198000.00	20.00	40.07	32.17	40.97	0.000626	7.63	26412.45	1900.90	0.35
Restudy Reach	338474	500-Year	Floodplain As Is	239000.00	20.00	43.35	33.24	44.21	0.000470	7.49	32745.60	1969.66	0.31
Restudy Reach	337994	10-Year	Floodplain As Is	140000.00	18.71	35.53	30.41	36.46	0.000991	7.73	18233.38	1753.95	0.41
Restudy Reach	337994	50-Year	Floodplain As Is	180000.00	18.71	38.35	31.60	39.30	0.000771	7.84	23607.72	1996.09	0.37
Restudy Reach	337994	100-Year	Floodplain As Is	198000.00	18.71	39.72	32.11	40.65	0.000678	7.79	26356.05	2026.91	0.35

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	337994	500-Year	Floodplain As Is	239000.00	18.71	43.11	33.18	43.98	0.000497	7.56	33344.43	2092.92	0.31
Restudy Reach	337644	10-Year	Floodplain As Is	140000.00	15.61	35.28		36.11	0.000830	7.32	19248.04	1768.03	0.38
Restudy Reach	337644	50-Year	Floodplain As Is	180000.00	15.61	38.17		39.03	0.000647	7.45	24842.38	2042.68	0.35
Restudy Reach	337644	100-Year	Floodplain As Is	198000.00	15.61	39.56		40.41	0.000571	7.43	27694.54	2063.44	0.33
Restudy Reach	337644	500-Year	Floodplain As Is	239000.00	15.61	43.00		43.80	0.000423	7.25	34875.60	2114.35	0.29
Restudy Reach	337216	10-Year	Floodplain As Is	140000.00	15.60	34.69	29.07	35.70	0.001009	8.07	17495.32	1662.93	0.42
Restudy Reach	337216	50-Year	Floodplain As Is	180000.00	15.60	37.67	30.44	38.70	0.000783	8.18	22515.99	1853.57	0.39
Restudy Reach	337216	100-Year	Floodplain As Is	198000.00	15.60	39.10	30.98	40.12	0.000692	8.13	25083.06	1995.89	0.37
Restudy Reach	337216	500-Year	Floodplain As Is	239000.00	15.60	42.69	32.22	43.59	0.000486	7.69	33027.56	2136.65	0.32
Restudy Reach	336736	10-Year	Floodplain As Is	140000.00	12.06	34.39	27.58	35.26	0.000705	7.50	19008.18	2006.21	0.36
Restudy Reach	336736	50-Year	Floodplain As Is	180000.00	12.06	37.51	28.94	38.32	0.000538	7.40	27791.06	2388.56	0.34
Restudy Reach	336736	100-Year	Floodplain As Is	198000.00	12.06	38.99	29.50	39.77	0.000481	7.29	31632.19	2551.99	0.33
Restudy Reach	336736	500-Year	Floodplain As Is	239000.00	12.06	42.63	30.68	43.33	0.000362	6.95	40909.77	2672.22	0.28
Restudy Reach	336182	10-Year	Floodplain As Is	140000.00	20.24	33.82	29.11	34.77	0.001095	7.97	19717.21	1952.40	0.43
Restudy Reach	336182	50-Year	Floodplain As Is	180000.00	20.24	37.05	30.31	37.96	0.000753	7.80	26171.47	2189.21	0.37
Restudy Reach	336182	100-Year	Floodplain As Is	198000.00	20.24	38.55	30.79	39.44	0.000652	7.74	29380.95	2252.88	0.35
Restudy Reach	336182	500-Year	Floodplain As Is	239000.00	20.24	42.32	31.83	43.09	0.000433	7.27	38365.07	2336.02	0.30
Restudy Reach	335747	10-Year	Floodplain As Is	140000.00	18.83	33.61	27.91	34.30	0.000728	6.68	20975.30	1894.04	0.35
Restudy Reach	335747	50-Year	Floodplain As Is	180000.00	18.83	36.94	28.95	37.61	0.000513	6.59	27341.98	2025.41	0.31
Restudy Reach	335747	100-Year	Floodplain As Is	198000.00	18.83	38.47	29.40	39.14	0.000446	6.54	30308.95	2058.54	0.29
Restudy Reach	335747	500-Year	Floodplain As Is	239000.00	18.83	42.28	30.36	42.88	0.000311	6.23	38754.97	2168.71	0.25
Restudy Reach	335176	10-Year	Floodplain As Is	140000.00	17.66	32.63		33.72	0.001275	8.38	16710.58	1620.04	0.46
Restudy Reach	335176	50-Year	Floodplain As Is	180000.00	17.66	36.24		37.22	0.000796	7.95	22630.20	1658.52	0.38
Restudy Reach	335176	100-Year	Floodplain As Is	198000.00	17.66	37.85		38.80	0.000672	7.82	25311.85	1675.34	0.35
Restudy Reach	335176	500-Year	Floodplain As Is	239000.00	17.66	41.77		42.64	0.000461	7.48	32121.70	1791.55	0.30
Restudy Reach	334471	10-Year	Floodplain As Is	140000.00	17.26	32.20		32.94	0.000743	6.91	20270.70	1747.33	0.36
Restudy Reach	334471	50-Year	Floodplain As Is	180000.00	17.26	36.01		36.70	0.000485	6.67	27001.52	1784.16	0.30
Restudy Reach	334471	100-Year	Floodplain As Is	198000.00	17.26	37.67		38.35	0.000419	6.62	29970.31	1800.08	0.28
Restudy Reach	334471	500-Year	Floodplain As Is	239000.00	17.26	41.66		42.31	0.000304	6.44	37319.73	1886.17	0.25
Restudy Reach	334038	10-Year	Floodplain As Is	140000.00	15.51	32.17		32.63	0.000394	5.41	25916.48	2046.38	0.27
Restudy Reach	334038	50-Year	Floodplain As Is	180000.00	15.51	36.03		36.47	0.000275	5.34	33969.32	2112.77	0.23
Restudy Reach	334038	100-Year	Floodplain As Is	198000.00	15.51	37.70		38.14	0.000242	5.33	37514.51	2135.13	0.22
Restudy Reach	334038	500-Year	Floodplain As Is	239000.00	15.51	41.72		42.14	0.000182	5.26	46202.77	2195.60	0.20
Restudy Reach	333524	10-Year	Floodplain As Is	140000.00	15.84	31.99		32.43	0.000351	5.30	26415.39	1934.98	0.25
Restudy Reach	333524	50-Year	Floodplain As Is	180000.00	15.84	35.90		36.33	0.000260	5.28	34108.21	2008.09	0.23
Restudy Reach	333524	100-Year	Floodplain As Is	198000.00	15.84	37.58		38.02	0.000233	5.28	37518.65	2043.50	0.22
Restudy Reach	333524	500-Year	Floodplain As Is	239000.00	15.84	41.63		42.05	0.000180	5.22	46230.78	2216.13	0.19
Restudy Reach	332985	10-Year	Floodplain As Is	140000.00	13.46	31.62		32.21	0.000430	6.16	22736.02	1540.97	0.28
Restudy Reach	332985	50-Year	Floodplain As Is	180000.00	13.46	35.56		36.16	0.000325	6.23	28942.60	1619.38	0.26
Restudy Reach	332985	100-Year	Floodplain As Is	198000.00	13.46	37.25		37.86	0.000293	6.28	31693.89	1633.49	0.25
Restudy Reach	332985	500-Year	Floodplain As Is	239000.00	13.46	41.31		41.92	0.000230	6.28	38365.06	1651.41	0.22
Restudy Reach	332396	10-Year	Floodplain As Is	140000.00	14.86	31.00	23.10	31.88	0.000622	7.50	18657.36	1239.42	0.34
Restudy Reach	332396	50-Year	Floodplain As Is	180000.00	14.86	35.00	24.48	35.90	0.000476	7.61	23655.53	1312.61	0.31
Restudy Reach	332396	100-Year	Floodplain As Is	198000.00	14.86	36.71	25.07	37.62	0.000434	7.67	25808.90	1330.49	0.30
Restudy Reach	332396	500-Year	Floodplain As Is	239000.00	14.86	40.83	26.34	41.73	0.000338	7.63	31531.07	1359.19	0.27
Restudy Reach	331886	10-Year	Floodplain As Is	140000.00	11.05	30.86	21.14	31.51	0.000411	6.49	21571.36	1307.19	0.28
Restudy Reach	331886	50-Year	Floodplain As Is	180000.00	11.05	34.90	22.45	35.60	0.000332	6.69	26901.82	1326.42	0.26
Restudy Reach	331886	100-Year	Floodplain As Is	198000.00	11.05	36.62	23.05	37.34	0.000309	6.78	29187.40	1333.86	0.26
Restudy Reach	331886	500-Year	Floodplain As Is	239000.00	11.05	40.76	24.28	41.50	0.000256	6.87	34847.09	1418.93	0.24
Restudy Reach	331830			Bridge									
Restudy Reach	331768	10-Year	Floodplain As Is	140000.00	11.55	30.43	21.18	31.12	0.000453	6.66	21010.79	1317.38	0.29
Restudy Reach	331768	50-Year	Floodplain As Is	180000.00	11.55	34.50	22.53	35.22	0.000357	6.81	26413.48	1429.40	0.27
Restudy Reach	331768	100-Year	Floodplain As Is	198000.00	11.55	36.22	23.10	36.96	0.000331	6.89	28732.10	1451.63	0.26
Restudy Reach	331768	500-Year	Floodplain As Is	239000.00	11.55	40.39	24.35	41.13	0.000265	6.90	35102.12	1501.46	0.24
Restudy Reach	331161	10-Year	Floodplain As Is	140000.00	8.00	30.22		30.83	0.000371	6.29	22325.69	1367.43	0.27
Restudy Reach	331161	50-Year	Floodplain As Is	180000.00	8.00	34.33		34.99	0.000300	6.50	28032.62	1393.52	0.25
Restudy Reach	331161	100-Year	Floodplain As Is	198000.00	8.00	36.07		36.74	0.000279	6.59	30493.67	1496.18	0.24
Restudy Reach	331161	500-Year	Floodplain As Is	239000.00	8.00	40.26		40.96	0.000231	6.69	37095.13	1654.44	0.23
Restudy Reach	330950	10-Year	Floodplain As Is	140000.00	7.99	30.21	19.69	30.73	0.000312	5.80	24222.58	1526.04	0.25
Restudy Reach	330950	50-Year	Floodplain As Is	180000.00	7.99	34.34	20.95	34.90	0.000251	6.00	30209.01	1604.15	0.23
Restudy Reach	330950	100-Year	Floodplain As Is	198000.00	7.99	36.08	21.49	36.66	0.000233	6.10	32764.74	1689.13	0.22
Restudy Reach	330950	500-Year	Floodplain As Is	239000.00	7.99	40.28	22.65	40.88	0.000194	6.22	39023.88	1861.59	0.21
Restudy Reach	330470	10-Year	Floodplain As Is	140000.00	6.83	30.17	18.09	30.57	0.000224	5.10	27873.71	1628.48	0.21
Restudy Reach	330470	50-Year	Floodplain As Is	180000.00	6.83	34.32	19.35	34.76	0.000189	5.32	35202.32	1894.38	0.20
Restudy Reach	330470	100-Year	Floodplain As Is	198000.00	6.83	36.07	19.91	36.52	0.000177	5.42	38405.38	1920.20	0.19
Restudy Reach	330470	500-Year	Floodplain As Is	239000.00	6.83	40.30	21.11	40.76	0.000148	5.49	46909.65	1996.79	0.18
Restudy Reach	329981	10-Year	Floodplain As Is	140000.00	4.93	30.13	16.95	30.45	0.000176	4.58	30810.55	1692.50	0.19
Restudy Reach	329981	50-Year	Floodplain As Is	180000.00	4.93	34.30	18.19	34.65	0.000151	4.80	38191.48	1855.11	0.18
Restudy Reach	329981	100-Year	Floodplain As Is	198000.00	4.93	36.05	18.72	36.42	0.000143	4.90	41417.04	1901.21	0.17
Restudy Reach	329981	500-Year	Floodplain As Is	239000.00	4.93	40.29	19.89	40.67	0.000122	5.01	49726.55	1970.36	0.16
Restudy Reach	329467	10-Year	Floodplain As Is	140000.00	6.95	30.03	16.46	30.36	0.000178	4.64	30582.66	1673.91	0.19
Restudy Reach	329467	50-Year	Floodplain As Is	180000.00	6.95	34.21	17.75	34.57	0.000157	4.87	37658.59	1716.41	0.18
Restudy Reach	329467	100-Year	Floodplain As Is	198000.00	6.95	35.96	18.28	36.35	0.000149	4.97	40785.94	1820.23	0.18
Restudy Reach	329467	500-Year	Floodplain As Is	239000.00	6.95	40.21	19.43	40.61	0.000128	5.09	48854.16	1969.90	0.17
Restudy Reach	328850	10-Year	Floodplain As Is	140000.00	5.29	29.88	15.45	30.25	0.000170	4.89	29824.89	1638.20	0.19
Restudy Reach	328850	50-Year	Floodplain As Is	180000.00	5.29	34.05	16.81	34.47	0.000152	5.22	37279.14	1956.03	0.18
Restudy Reach	328850	100-Year	Floodplain As Is	198000.00	5.29	35.81	17.39	36.25	0.000145	5.34	40740.10	1976.59	0.18
Restudy Reach	328850	500-Year	Floodplain As Is	239000.00	5.29	40.06	18.64	40.52	0.000127	5.51	49518.01	2265.00	0.17
Restudy Reach	328356	10-Year	Floodplain As Is	140000.00	5.61	29.76	15.15	30.16	0.000175	5.08	29318.45	1576.41	0.19
Restudy Reach	328356	50-Year	Floodplain As Is	180000.00	5.61	33.95	16.53	34.39	0.000157	5.42	36853.60	2042.48	0.19
Restudy Reach	328356	100-Year	Floodplain As Is	198000.00	5.61	35.71	17.11	36.18	0.000151	5.54	40503.11	2100.66	0.19
Restudy Reach	328356	500-Year	Floodplain As Is	239000.00	5.61	39.98	18.38	40.46	0.000130	5.67	49766.16	2251.83	0.18
Restudy Reach	327885	10-Year	Floodplain As Is	140000.00	3.81	29.70	14.41	30.07	0.000164	4.91	29004.00	1545.33	0.19
Restudy Reach	327885	50-Year	Floodplain As Is	180000.00	3.81	33.89	15.79	34.32	0.000150	5.25	36777.49	2141.96	0.18
Restudy Reach	327885	100-Year	Floodplain As Is	198000.00	3.81	35.66	16.39	36.10	0.000143	5.36	40625.25	2257.15	0.18
Restudy Reach	327885	500-Year	Floodplain As Is	239000.00	3.81	39.94	17.67	40.39	0.000122	5.46	50721.13	2445.46	0.17

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	327424	10-Year	Floodplain As Is	140000.00	3.66	29.58	14.45	29.99	0.000183	5.17	27211.44	1456.81	0.20
Restudy Reach	327424	50-Year	Floodplain As Is	180000.00	3.66	33.77	15.88	34.24	0.000166	5.51	35168.34	2328.52	0.19
Restudy Reach	327424	100-Year	Floodplain As Is	198000.00	3.66	35.54	16.49	36.03	0.000158	5.62	39168.33	2373.77	0.19
Restudy Reach	327424	500-Year	Floodplain As Is	239000.00	3.66	39.85	17.81	40.33	0.000132	5.68	49966.29	2680.79	0.18
Restudy Reach	326906	10-Year	Floodplain As Is	140000.00	2.65	29.44	14.30	29.89	0.000198	5.39	26027.66	1381.28	0.20
Restudy Reach	326906	50-Year	Floodplain As Is	180000.00	2.65	33.64	15.80	34.14	0.000179	5.75	33543.10	2128.12	0.20
Restudy Reach	326906	100-Year	Floodplain As Is	198000.00	2.65	35.41	16.44	35.94	0.000170	5.86	37357.41	2255.06	0.20
Restudy Reach	326906	500-Year	Floodplain As Is	239000.00	2.65	39.72	17.83	40.25	0.000145	5.96	47008.41	2830.38	0.19
Restudy Reach	326473	10-Year	Floodplain As Is	140000.00	2.10	29.33	13.99	29.80	0.000192	5.49	25897.21	1358.51	0.20
Restudy Reach	326473	50-Year	Floodplain As Is	180000.00	2.10	33.53	15.48	34.07	0.000177	5.90	33064.53	2122.08	0.20
Restudy Reach	326473	100-Year	Floodplain As Is	198000.00	2.10	35.30	16.12	35.86	0.000170	6.04	36622.29	2397.88	0.20
Restudy Reach	326473	500-Year	Floodplain As Is	239000.00	2.10	39.63	17.50	40.19	0.000146	6.14	47742.36	2824.84	0.19
Restudy Reach	326003	10-Year	Floodplain As Is	140000.00	-1.35	29.27	13.14	29.70	0.000170	5.32	26923.56	1419.71	0.19
Restudy Reach	326003	50-Year	Floodplain As Is	180000.00	-1.35	33.47	14.66	33.97	0.000160	5.75	33169.36	1805.63	0.19
Restudy Reach	326003	100-Year	Floodplain As Is	198000.00	-1.35	35.24	15.31	35.77	0.000156	5.91	35921.63	1889.21	0.19
Restudy Reach	326003	500-Year	Floodplain As Is	239000.00	-1.35	39.57	16.72	40.12	0.000138	6.09	45752.23	2262.43	0.18
Restudy Reach	325763	10-Year	Floodplain As Is	140000.00	-3.23	29.24	12.36	29.65	0.000163	5.17	27078.49	1201.56	0.19
Restudy Reach	325763	50-Year	Floodplain As Is	180000.00	-3.23	33.43	13.87	33.93	0.000158	5.64	31966.12	1546.13	0.19
Restudy Reach	325763	100-Year	Floodplain As Is	198000.00	-3.23	35.21	14.53	35.74	0.000155	5.82	34038.59	1629.16	0.19
Restudy Reach	325763	500-Year	Floodplain As Is	239000.00	-3.23	39.52	15.92	40.07	0.000140	6.05	41968.88	2361.99	0.18
Restudy Reach	325688			Mult Open									
Restudy Reach	325611	10-Year	Floodplain As Is	140000.00	-0.40	29.20	12.17	29.58	0.000149	4.97	28170.24	1187.24	0.18
Restudy Reach	325611	50-Year	Floodplain As Is	180000.00	-0.40	33.39	13.66	33.85	0.000146	5.42	33185.41	1205.17	0.18
Restudy Reach	325611	100-Year	Floodplain As Is	198000.00	-0.40	35.16	14.28	35.65	0.000145	5.61	35320.12	1303.73	0.18
Restudy Reach	325611	500-Year	Floodplain As Is	239000.00	-0.40	39.37	15.64	39.91	0.000134	5.89	41541.98	2312.36	0.18
Restudy Reach	325324	10-Year	Floodplain As Is	140000.00	2.23	29.08	13.29	29.52	0.000185	5.32	27096.37	1548.75	0.20
Restudy Reach	325324	50-Year	Floodplain As Is	180000.00	2.23	33.28	14.89	33.79	0.000170	5.73	33758.43	1703.71	0.20
Restudy Reach	325324	100-Year	Floodplain As Is	198000.00	2.23	35.05	15.58	35.59	0.000165	5.90	36628.12	1942.94	0.20
Restudy Reach	325324	500-Year	Floodplain As Is	239000.00	2.23	39.27	17.01	39.85	0.000150	6.15	43806.97	2441.28	0.19
Restudy Reach	324984	10-Year	Floodplain As Is	140000.00	1.61	28.98	13.28	29.45	0.000193	5.52	25571.21	1315.27	0.20
Restudy Reach	324984	50-Year	Floodplain As Is	180000.00	1.61	33.18	14.86	33.73	0.000180	5.97	31611.74	1510.67	0.20
Restudy Reach	324984	100-Year	Floodplain As Is	198000.00	1.61	34.95	15.52	35.53	0.000175	6.14	34303.35	1660.31	0.20
Restudy Reach	324984	500-Year	Floodplain As Is	239000.00	1.61	39.17	16.95	39.80	0.000159	6.41	41071.48	2646.98	0.20
Restudy Reach	324501	10-Year	Floodplain As Is	140000.00	2.68	28.90	12.89	29.36	0.000179	5.40	26115.64	1405.38	0.20
Restudy Reach	324501	50-Year	Floodplain As Is	180000.00	2.68	33.11	14.43	33.63	0.000168	5.83	33117.83	1669.10	0.20
Restudy Reach	324501	100-Year	Floodplain As Is	198000.00	2.68	34.88	15.08	35.44	0.000164	6.00	36098.60	1752.07	0.20
Restudy Reach	324501	500-Year	Floodplain As Is	239000.00	2.68	39.11	16.48	39.71	0.000150	6.29	44232.47	3040.17	0.19
Restudy Reach	323998	10-Year	Floodplain As Is	140000.00	1.23	28.85	12.34	29.26	0.000165	5.16	27927.11	1545.92	0.19
Restudy Reach	323998	50-Year	Floodplain As Is	180000.00	1.23	33.06	13.85	33.54	0.000154	5.58	34868.66	1827.96	0.19
Restudy Reach	323998	100-Year	Floodplain As Is	198000.00	1.23	34.84	14.50	35.34	0.000150	5.75	37872.41	2116.69	0.19
Restudy Reach	323998	500-Year	Floodplain As Is	239000.00	1.23	39.07	15.89	39.63	0.000138	6.02	47016.06	2858.46	0.18
Restudy Reach	323495	10-Year	Floodplain As Is	140000.00	0.59	28.75	12.20	29.17	0.000177	5.23	27106.56	1416.14	0.19
Restudy Reach	323495	50-Year	Floodplain As Is	180000.00	0.59	32.97	13.73	33.46	0.000165	5.62	34047.21	2024.71	0.19
Restudy Reach	323495	100-Year	Floodplain As Is	198000.00	0.59	34.75	14.38	35.26	0.000159	5.77	37088.35	2294.46	0.19
Restudy Reach	323495	500-Year	Floodplain As Is	239000.00	0.59	39.01	15.79	39.55	0.000142	5.98	46125.96	2737.44	0.19
Restudy Reach	323018	10-Year	Floodplain As Is	140000.00	-0.31	28.67	11.50	29.09	0.000162	5.17	27140.60	1651.70	0.19
Restudy Reach	323018	50-Year	Floodplain As Is	180000.00	-0.31	32.89	13.10	33.38	0.000155	5.63	32735.31	2138.29	0.19
Restudy Reach	323018	100-Year	Floodplain As Is	198000.00	-0.31	34.70	13.76	35.18	0.000143	5.64	38725.64	2169.66	0.18
Restudy Reach	323018	500-Year	Floodplain As Is	239000.00	-0.31	38.97	15.17	39.48	0.000127	5.82	47189.58	2275.49	0.18
Restudy Reach	322403	10-Year	Floodplain As Is	140000.00	-0.29	28.53	10.76	28.98	0.000162	5.41	26524.34	1756.14	0.19
Restudy Reach	322403	50-Year	Floodplain As Is	180000.00	-0.29	32.80	12.39	33.29	0.000149	5.70	36512.13	1824.81	0.19
Restudy Reach	322403	100-Year	Floodplain As Is	198000.00	-0.29	34.59	13.08	35.09	0.000145	5.83	39786.50	1887.30	0.18
Restudy Reach	322403	500-Year	Floodplain As Is	239000.00	-0.29	38.88	14.57	39.40	0.000128	5.99	48130.26	1979.15	0.18
Restudy Reach	321759	10-Year	Floodplain As Is	140000.00	-1.14	28.48	10.46	28.84	0.000138	4.87	29028.71	1434.98	0.17
Restudy Reach	321759	50-Year	Floodplain As Is	180000.00	-1.14	32.74	12.06	33.17	0.000132	5.31	35018.76	1769.80	0.18
Restudy Reach	321759	100-Year	Floodplain As Is	198000.00	-1.14	34.52	12.73	34.99	0.000131	5.49	37781.33	1805.88	0.18
Restudy Reach	321759	500-Year	Floodplain As Is	239000.00	-1.14	38.80	14.19	39.32	0.000121	5.77	44859.27	2039.11	0.17
Restudy Reach	321365	10-Year	Floodplain As Is	140000.00	-2.86	28.47	9.56	28.75	0.000105	4.26	32937.62	1821.27	0.15
Restudy Reach	321365	50-Year	Floodplain As Is	180000.00	-2.86	32.74	10.97	33.08	0.000102	4.66	39006.44	2107.06	0.15
Restudy Reach	321365	100-Year	Floodplain As Is	198000.00	-2.86	34.53	11.57	34.89	0.000100	4.82	41563.25	2162.56	0.15
Restudy Reach	321365	500-Year	Floodplain As Is	239000.00	-2.86	38.82	12.87	39.22	0.000093	5.06	49540.18	2246.44	0.15
Restudy Reach	321185			Bridge									
Restudy Reach	321004	10-Year	Floodplain As Is	140000.00	-1.94	28.43	9.06	28.68	0.000090	3.97	35272.76	1832.63	0.14
Restudy Reach	321004	50-Year	Floodplain As Is	180000.00	-1.94	32.70	10.41	33.00	0.000089	4.35	41473.10	2266.92	0.14
Restudy Reach	321004	100-Year	Floodplain As Is	198000.00	-1.94	34.49	10.99	34.80	0.000087	4.49	45002.52	2391.56	0.14
Restudy Reach	321004	500-Year	Floodplain As Is	239000.00	-1.94	38.79	12.23	39.13	0.000081	4.72	52256.60	2638.42	0.14
Restudy Reach	320470	10-Year	Floodplain As Is	140000.00	-0.88	28.36	9.51	28.62	0.000095	4.12	34008.20	1439.62	0.15
Restudy Reach	320470	50-Year	Floodplain As Is	180000.00	-0.88	32.62	10.86	32.94	0.000093	4.53	39917.08	1640.76	0.15
Restudy Reach	320470	100-Year	Floodplain As Is	198000.00	-0.88	34.42	11.43	34.75	0.000091	4.65	43774.45	1667.83	0.15
Restudy Reach	320470	500-Year	Floodplain As Is	239000.00	-0.88	38.72	12.66	39.08	0.000084	4.88	50999.65	1711.25	0.14
Restudy Reach	320022	10-Year	Floodplain As Is	140000.00	-0.07	28.33	9.75	28.58	0.000092	4.02	34811.06	1629.64	0.14
Restudy Reach	320022	50-Year	Floodplain As Is	180000.00	-0.07	32.59	11.10	32.89	0.000090	4.41	40936.61	2224.52	0.14
Restudy Reach	320022	100-Year	Floodplain As Is	198000.00	-0.07	34.39	11.64	34.70	0.000087	4.50	46132.60	2309.79	0.14
Restudy Reach	320022	500-Year	Floodplain As Is	239000.00	-0.07	38.70	12.82	39.03	0.000079	4.68	54595.62	2351.99	0.14
Restudy Reach	319486	10-Year	Floodplain As Is	140000.00	-1.01	28.23	9.70	28.52	0.000108	4.31	32458.27	1486.76	0.15
Restudy Reach	319486	50-Year	Floodplain As Is	180000.00	-1.01	32.49	11.08	32.84	0.000105	4.72	38711.00	1795.46	0.16
Restudy Reach	319486	100-Year	Floodplain As Is	198000.00	-1.01	34.28	11.67	34.65	0.000102	4.86	42979.27	1836.72	0.16
Restudy Reach	319486	500-Year	Floodplain As Is	239000.00	-1.01	38.58	12.95	38.98	0.000094	5.10	50992.82	1891.67	0.15
Restudy Reach	318866	10-Year	Floodplain As Is	140000.00	0.08	28.15	10.05	28.45	0.000117	4.38	31987.35	1909.94	0.16
Restudy Reach	318866	50-Year	Floodplain As Is	180000.00	0.08	32.42	11.46	32.77	0.000111	4.76	38205.09	2130.43	0.16
Restudy Reach	318866	100-Year	Floodplain As Is	198000.00	0.08	34.24	12.06	34.57	0.000100	4.70	47361.72	2150.84	0.15
Restudy Reach	318866	500-Year	Floodplain As Is	239000.00	0.08	38.56	13.37	38.91	0.000089	4.86	56757.88	2201.12	0.15
Restudy Reach	318453	10-Year	Floodplain As Is	140000.00	0.49	28.13	9.41	28.40	0.000095	4.11	34487.63	2119.63	0.14
Restudy Reach	318453	50-Year	Floodplain As Is	180000.00	0.49	32.40	10.75	32.72	0.000093	4.51	40659.09	2424.82	0.15
Restudy Reach	318453	100-Year	Floodplain As Is	198000.00	0.49	34.23	11.33	34.52	0.000083	4.44	51581.72	2504.69	0.14
Restudy Reach	318453	500-Year	Floodplain As Is	239000.00	0.49	38.56	12.55	38.86	0.000075	4.59	61934.06	2639.98	0.14

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	317943	10-Year	Floodplain As Is	140000.00	1.09	28.10	9.53	28.34	0.000089	4.00	36449.88	2434.70	0.14
Restudy Reach	317943	50-Year	Floodplain As Is	180000.00	1.09	32.39	10.84	32.66	0.000081	4.26	48450.85	2951.20	0.14
Restudy Reach	317943	100-Year	Floodplain As Is	198000.00	1.09	34.20	11.39	34.48	0.000077	4.31	57018.70	3119.34	0.14
Restudy Reach	317943	500-Year	Floodplain As Is	239000.00	1.09	38.53	12.59	38.82	0.000070	4.48	68161.44	3672.11	0.13
Restudy Reach	317503	10-Year	Floodplain As Is	140000.00	-0.44	28.09	8.83	28.30	0.000073	3.62	41435.28	3112.71	0.13
Restudy Reach	317503	50-Year	Floodplain As Is	180000.00	-0.44	32.39	10.07	32.61	0.000069	3.90	51824.51	3890.20	0.13
Restudy Reach	317503	100-Year	Floodplain As Is	198000.00	-0.44	34.20	10.60	34.44	0.000067	4.00	56274.70	4019.59	0.13
Restudy Reach	317503	500-Year	Floodplain As Is	239000.00	-0.44	38.54	11.76	38.78	0.000059	4.09	72118.85	4083.16	0.12
Restudy Reach	317049	10-Year	Floodplain As Is	140000.00	0.19	28.07	9.05	28.26	0.000071	3.54	42640.50	2806.03	0.13
Restudy Reach	317049	50-Year	Floodplain As Is	180000.00	0.19	32.36	10.29	32.58	0.000067	3.83	52183.55	3034.68	0.13
Restudy Reach	317049	100-Year	Floodplain As Is	198000.00	0.19	34.17	10.82	34.40	0.000066	3.94	56238.45	3349.23	0.12
Restudy Reach	317049	500-Year	Floodplain As Is	239000.00	0.19	38.51	11.95	38.75	0.000058	4.03	72850.65	4206.01	0.12
Restudy Reach	316517	10-Year	Floodplain As Is	140000.00	-2.45	28.02	8.83	28.22	0.000072	3.59	41331.35	2299.74	0.13
Restudy Reach	316517	50-Year	Floodplain As Is	180000.00	-2.45	32.32	10.07	32.54	0.000069	3.88	50574.25	2813.14	0.13
Restudy Reach	316517	100-Year	Floodplain As Is	198000.00	-2.45	34.13	10.60	34.37	0.000067	3.98	54966.57	3109.70	0.13
Restudy Reach	316517	500-Year	Floodplain As Is	239000.00	-2.45	38.46	11.73	38.72	0.000061	4.14	65768.01	3375.81	0.12
Restudy Reach	315901	10-Year	Floodplain As Is	140000.00	-1.84	27.91	9.41	28.17	0.000094	4.10	38273.97	2339.77	0.14
Restudy Reach	315901	50-Year	Floodplain As Is	180000.00	-1.84	32.21	10.78	32.49	0.000086	4.37	47963.76	2762.30	0.14
Restudy Reach	315901	100-Year	Floodplain As Is	198000.00	-1.84	34.03	11.36	34.32	0.000084	4.47	52089.88	2931.29	0.14
Restudy Reach	315901	500-Year	Floodplain As Is	239000.00	-1.84	38.37	12.63	38.67	0.000075	4.61	62039.65	3165.71	0.14
Restudy Reach	315492	10-Year	Floodplain As Is	140000.00	-4.10	27.88	8.80	28.13	0.000091	4.03	37812.64	2562.72	0.14
Restudy Reach	315492	50-Year	Floodplain As Is	180000.00	-4.10	32.18	10.18	32.45	0.000083	4.29	47969.10	2838.38	0.14
Restudy Reach	315492	100-Year	Floodplain As Is	198000.00	-4.10	34.00	10.76	34.28	0.000080	4.38	52288.79	3116.92	0.14
Restudy Reach	315492	500-Year	Floodplain As Is	239000.00	-4.10	38.34	12.03	38.64	0.000072	4.51	62743.49	3614.28	0.13
Restudy Reach	315010	10-Year	Floodplain As Is	140000.00	-2.22	27.85	8.80	28.08	0.000084	3.84	38567.00	2278.94	0.14
Restudy Reach	315010	50-Year	Floodplain As Is	180000.00	-2.22	32.15	10.12	32.41	0.000078	4.12	48496.18	2330.54	0.13
Restudy Reach	315010	100-Year	Floodplain As Is	198000.00	-2.22	33.97	10.68	34.24	0.000076	4.23	52757.77	2479.08	0.13
Restudy Reach	315010	500-Year	Floodplain As Is	239000.00	-2.22	38.32	11.88	38.60	0.000068	4.38	63529.09	3108.31	0.13
Restudy Reach	313969	10-Year	Floodplain As Is	140000.00	-0.33	27.81	8.27	27.99	0.000066	3.41	42169.25	1931.65	0.12
Restudy Reach	313969	50-Year	Floodplain As Is	180000.00	-0.33	32.11	9.45	32.32	0.000063	3.70	50719.85	2377.98	0.12
Restudy Reach	313969	100-Year	Floodplain As Is	198000.00	-0.33	33.93	9.95	34.15	0.000061	3.81	54395.67	2531.95	0.12
Restudy Reach	313969	500-Year	Floodplain As Is	239000.00	-0.33	38.28	11.04	38.52	0.000057	4.00	63303.79	3335.79	0.12
Restudy Reach	313500	10-Year	Floodplain As Is	140000.00	-3.32	27.79	7.91	27.95	0.000058	3.20	44642.39	2182.42	0.11
Restudy Reach	313500	50-Year	Floodplain As Is	180000.00	-3.32	32.10	9.05	32.29	0.000055	3.48	53797.79	2967.16	0.11
Restudy Reach	313500	100-Year	Floodplain As Is	198000.00	-3.32	33.92	9.54	34.12	0.000054	3.59	57705.91	3111.16	0.11
Restudy Reach	313500	500-Year	Floodplain As Is	239000.00	-3.32	38.27	10.58	38.49	0.000050	3.76	67236.65	3608.25	0.11
Restudy Reach	312948	10-Year	Floodplain As Is	140000.00	-2.12	27.73	8.75	27.91	0.000074	3.43	42038.22	2600.77	0.13
Restudy Reach	312948	50-Year	Floodplain As Is	180000.00	-2.12	32.05	10.03	32.25	0.000068	3.66	53048.47	3107.14	0.12
Restudy Reach	312948	100-Year	Floodplain As Is	198000.00	-2.12	33.87	10.56	34.08	0.000065	3.73	58258.55	3359.81	0.12
Restudy Reach	312948	500-Year	Floodplain As Is	239000.00	-2.12	38.25	11.73	38.46	0.000057	3.81	71253.98	3618.44	0.12
Restudy Reach	312427	10-Year	Floodplain As Is	140000.00	-2.60	27.66	8.77	27.87	0.000096	3.65	39914.32	2654.25	0.14
Restudy Reach	312427	50-Year	Floodplain As Is	180000.00	-2.60	31.98	10.32	32.21	0.000089	3.85	52590.62	3839.80	0.13
Restudy Reach	312427	100-Year	Floodplain As Is	198000.00	-2.60	33.81	10.98	34.04	0.000086	3.93	59148.63	4076.55	0.13
Restudy Reach	312427	500-Year	Floodplain As Is	239000.00	-2.60	38.19	12.35	38.42	0.000075	3.99	74829.84	4311.54	0.12
Restudy Reach	311929	10-Year	Floodplain As Is	140000.00	-1.26	27.62	9.27	27.82	0.000085	3.58	41213.90	2689.34	0.13
Restudy Reach	311929	50-Year	Floodplain As Is	180000.00	-1.26	31.95	10.65	32.17	0.000076	3.77	55076.47	3613.34	0.13
Restudy Reach	311929	100-Year	Floodplain As Is	198000.00	-1.26	33.78	11.23	34.00	0.000073	3.84	62340.51	4150.09	0.13
Restudy Reach	311929	500-Year	Floodplain As Is	239000.00	-1.26	38.17	12.49	38.38	0.000061	3.84	82175.80	4655.80	0.12
Restudy Reach	311444	10-Year	Floodplain As Is	140000.00	-2.57	27.50	9.18	27.76	0.000114	4.16	35224.61	2707.17	0.16
Restudy Reach	311444	50-Year	Floodplain As Is	180000.00	-2.57	31.85	10.68	32.12	0.000098	4.26	49644.47	3648.55	0.15
Restudy Reach	311444	100-Year	Floodplain As Is	198000.00	-2.57	33.69	11.31	33.96	0.000092	4.27	56910.47	4012.31	0.14
Restudy Reach	311444	500-Year	Floodplain As Is	239000.00	-2.57	38.11	12.64	38.35	0.000073	4.14	75234.55	4307.50	0.13
Restudy Reach	311029	10-Year	Floodplain As Is	140000.00	-2.24	27.46	9.08	27.71	0.000101	4.04	37109.59	2993.70	0.15
Restudy Reach	311029	50-Year	Floodplain As Is	180000.00	-2.24	31.82	10.56	32.08	0.000088	4.18	52392.90	4034.18	0.14
Restudy Reach	311029	100-Year	Floodplain As Is	198000.00	-2.24	33.67	11.43	33.91	0.000081	4.17	60873.48	4109.23	0.13
Restudy Reach	311029	500-Year	Floodplain As Is	239000.00	-2.24	38.09	12.65	38.31	0.000065	4.08	79172.61	4162.54	0.12
Restudy Reach	310691	10-Year	Floodplain As Is	140000.00	-1.99	27.43	8.54	27.68	0.000094	4.06	39898.50	3324.65	0.14
Restudy Reach	310691	50-Year	Floodplain As Is	180000.00	-1.99	31.80	9.93	32.05	0.000080	4.18	55380.18	3993.80	0.14
Restudy Reach	310691	100-Year	Floodplain As Is	198000.00	-1.99	33.65	10.51	33.89	0.000073	4.16	63717.73	4137.65	0.13
Restudy Reach	310691	500-Year	Floodplain As Is	239000.00	-1.99	38.08	11.80	38.29	0.000058	4.03	82155.66	4180.37	0.12
Restudy Reach	310302	10-Year	Floodplain As Is	140000.00	-2.13	27.40	7.93	27.64	0.000090	4.08	41259.75	3624.09	0.14
Restudy Reach	310302	50-Year	Floodplain As Is	180000.00	-2.13	31.77	9.41	32.01	0.000075	4.15	58810.42	4233.44	0.13
Restudy Reach	310302	100-Year	Floodplain As Is	198000.00	-2.13	33.63	10.03	33.86	0.000069	4.13	66674.26	4253.35	0.13
Restudy Reach	310302	500-Year	Floodplain As Is	239000.00	-2.13	38.06	11.37	38.26	0.000054	4.00	85675.60	4308.05	0.12
Restudy Reach	309400	10-Year	Floodplain As Is	140000.00	-2.76	27.20	8.30	27.54	0.000117	4.86	39969.66	3600.58	0.16
Restudy Reach	309400	50-Year	Floodplain As Is	180000.00	-2.76	31.60	9.95	31.93	0.000099	4.94	57353.24	4206.58	0.15
Restudy Reach	309400	100-Year	Floodplain As Is	198000.00	-2.76	33.46	10.64	33.78	0.000092	4.94	65198.61	4222.74	0.15
Restudy Reach	309400	500-Year	Floodplain As Is	239000.00	-2.76	37.92	12.10	38.20	0.000074	4.84	84266.41	4399.52	0.14
Restudy Reach	308923	10-Year	Floodplain As Is	140000.00	-3.04	27.16	8.23	27.48	0.000112	4.69	41142.37	3571.90	0.16
Restudy Reach	308923	50-Year	Floodplain As Is	180000.00	-3.04	31.57	9.83	31.87	0.000095	4.78	57505.34	3816.93	0.15
Restudy Reach	308923	100-Year	Floodplain As Is	198000.00	-3.04	33.43	10.51	33.73	0.000089	4.81	64652.47	3920.74	0.15
Restudy Reach	308923	500-Year	Floodplain As Is	239000.00	-3.04	37.89	11.96	38.16	0.000073	4.74	83818.96	4599.53	0.14
Restudy Reach	308488	10-Year	Floodplain As Is	140000.00	-4.41	27.15	7.97	27.42	0.000104	4.37	42752.02	3559.51	0.15
Restudy Reach	308488	50-Year	Floodplain As Is	180000.00	-4.41	31.55	9.53	31.82	0.000087	4.45	58868.27	3705.46	0.14
Restudy Reach	308488	100-Year	Floodplain As Is	198000.00	-4.41	33.42	10.19	33.68	0.000081	4.47	65797.06	3742.82	0.14
Restudy Reach	308488	500-Year	Floodplain As Is	239000.00	-4.41	37.88	11.63	38.12	0.000068	4.46	83808.56	4271.66	0.13
Restudy Reach	308021	10-Year	Floodplain As Is	140000.00	-2.64	27.12	8.03	27.37	0.000095	4.21	45154.32	3848.36	0.15
Restudy Reach	308021	50-Year	Floodplain As Is	180000.00	-2.64	31.53	9.55	31.77	0.000079	4.27	61371.03	4081.77	0.14
Restudy Reach	308021	100-Year	Floodplain As Is	198000.00	-2.64	33.40	10.18	33.64	0.000074	4.29	68248.79	4098.57	0.13
Restudy Reach	308021	500-Year	Floodplain As Is	239000.00	-2.64	37.87	11.55	38.08	0.000060	4.23	89470.42	4222.24	0.12
Restudy Reach	307502	10-Year	Floodplain As Is	140000.00	-3.27	27.10	7.61	27.31	0.000081	3.89	47642.08	3627.56	0.13
Restudy Reach	307502	50-Year	Floodplain As Is	180000.00	-3.27	31.52	9.03	31.73	0.000069	3.98	63790.58	3685.35	0.13
Restudy Reach	307502	100-Year	Floodplain As Is	198000.00	-3.27	33.38	9.64	33.59	0.000065	4.01	70737.09	3779.08	0.12
Restudy Reach	307502	500-Year	Floodplain As Is	239000.00	-3.27	37.85	10.95	38.05	0.000054	4.01	88556.16	4208.41	0.12
Restudy Reach	306838	10-Year	Floodplain As Is	140000.00	-3.14	27.06	7.64	27.25	0.000073	3.70	49628.89	3585.57	0.13
Restudy Reach	306838	50-Year	Floodplain As Is	180000.00	-3.14	31.49	9.04	31.68	0.000062	3.78	65690.40	3656.25	0.12
Restudy Reach	306838	100-Year	Floodplain As Is	198000.00	-3.14	33.35	9.62	33.54	0.000058	3.81	72529.33	3716.09	0.12
Restudy Reach	306838	500-Year	Floodplain As Is	239000.00	-3.14	37.83	10.89	38.01	0.000049	3.82	89163.15	4220.19	0.11

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	306251	10-Year	Floodplain As Is	140000.00	-2.69	27.01	7.88	27.21	0.000078	3.73	47942.59	3501.93	0.13
Restudy Reach	306251	50-Year	Floodplain As Is	180000.00	-2.69	31.43	9.25	31.64	0.000067	3.84	63563.40	3548.08	0.13
Restudy Reach	306251	100-Year	Floodplain As Is	198000.00	-2.69	33.30	9.82	33.51	0.000063	3.89	70202.53	3570.52	0.12
Restudy Reach	306251	500-Year	Floodplain As Is	239000.00	-2.69	37.78	11.07	37.98	0.000053	3.91	86239.40	4245.07	0.12
Restudy Reach	305489	10-Year	Floodplain As Is	140000.00	-3.25	26.96	7.37	27.15	0.000074	3.61	49774.87	4029.98	0.13
Restudy Reach	305489	50-Year	Floodplain As Is	180000.00	-3.25	31.41	8.76	31.58	0.000061	3.60	67797.33	4091.39	0.12
Restudy Reach	305489	100-Year	Floodplain As Is	198000.00	-3.25	33.28	9.36	33.45	0.000056	3.60	75488.41	4112.08	0.11
Restudy Reach	305489	500-Year	Floodplain As Is	239000.00	-3.25	37.78	10.64	37.93	0.000046	3.53	94074.77	4534.27	0.10
Restudy Reach	304469	10-Year	Floodplain As Is	140000.00	-2.30	26.90	7.03	27.07	0.000063	3.43	54080.13	4645.64	0.12
Restudy Reach	304469	50-Year	Floodplain As Is	180000.00	-2.30	31.37	8.33	31.52	0.000050	3.40	74935.29	4687.88	0.11
Restudy Reach	304469	100-Year	Floodplain As Is	198000.00	-2.30	33.25	8.89	33.39	0.000046	3.38	83759.92	4699.81	0.11
Restudy Reach	304469	500-Year	Floodplain As Is	240000.00	-2.30	37.75	10.12	37.88	0.000037	3.32	104981.40	5198.07	0.10
Restudy Reach	303625	10-Year	Floodplain As Is	140000.00	-0.84	26.87	7.44	27.01	0.000060	3.28	61203.42	5459.55	0.12
Restudy Reach	303625	50-Year	Floodplain As Is	180000.00	-0.84	31.35	8.83	31.47	0.000045	3.16	85913.02	5549.06	0.10
Restudy Reach	303625	100-Year	Floodplain As Is	198000.00	-0.84	33.23	9.41	33.35	0.000040	3.12	96381.45	5562.00	0.10
Restudy Reach	303625	500-Year	Floodplain As Is	240000.00	-0.84	37.74	10.73	37.84	0.000032	3.02	121525.70	5593.16	0.09
Restudy Reach	302872	10-Year	Floodplain As Is	140000.00	-1.96	26.84	6.90	26.96	0.000049	3.05	67479.10	5660.88	0.11
Restudy Reach	302872	50-Year	Floodplain As Is	180000.00	-1.96	31.33	8.17	31.43	0.000038	2.99	92957.79	5702.66	0.10
Restudy Reach	302872	100-Year	Floodplain As Is	198000.00	-1.96	33.21	8.71	33.31	0.000035	2.98	103727.10	5717.90	0.09
Restudy Reach	302872	500-Year	Floodplain As Is	240000.00	-1.96	37.72	9.90	37.81	0.000028	2.92	129598.40	5755.30	0.08
Restudy Reach	301757	10-Year	Floodplain As Is	140000.00	-2.58	26.71	7.36	26.89	0.000073	3.59	57410.29	5075.73	0.13
Restudy Reach	301757	50-Year	Floodplain As Is	180000.00	-2.58	31.22	8.71	31.38	0.000057	3.55	83480.06	6191.25	0.12
Restudy Reach	301757	100-Year	Floodplain As Is	198000.00	-2.58	33.11	9.29	33.26	0.000051	3.50	95242.90	6202.46	0.11
Restudy Reach	301757	500-Year	Floodplain As Is	240000.00	-2.58	37.65	10.58	37.78	0.000039	3.35	123438.70	6230.27	0.10
Restudy Reach	300884	10-Year	Floodplain As Is	140000.00	-2.48	26.67	6.77	26.83	0.000060	3.34	56561.61	5370.45	0.12
Restudy Reach	300884	50-Year	Floodplain As Is	180000.00	-2.48	31.19	8.07	31.32	0.000047	3.27	84112.59	6432.05	0.11
Restudy Reach	300884	100-Year	Floodplain As Is	198000.00	-2.48	33.09	8.62	33.22	0.000042	3.23	96428.49	6526.34	0.10
Restudy Reach	300884	500-Year	Floodplain As Is	240000.00	-2.48	37.63	9.87	37.74	0.000031	3.05	126186.10	6568.92	0.09
Restudy Reach	299919	10-Year	Floodplain As Is	140000.00	-1.72	26.62	8.23	26.76	0.000070	3.22	62066.61	6295.35	0.12
Restudy Reach	299919	50-Year	Floodplain As Is	180000.00	-1.72	31.16	9.50	31.27	0.000049	3.00	92350.27	6839.63	0.10
Restudy Reach	299919	100-Year	Floodplain As Is	198000.00	-1.72	33.07	10.03	33.16	0.000042	2.92	105421.90	6866.41	0.09
Restudy Reach	299919	500-Year	Floodplain As Is	240000.00	-1.72	37.62	11.21	37.70	0.000031	2.73	136859.60	6944.03	0.08
Restudy Reach	298932	10-Year	Floodplain As Is	140000.00	-2.34	26.51	8.44	26.68	0.000075	3.58	62235.96	6792.87	0.13
Restudy Reach	298932	50-Year	Floodplain As Is	180000.00	-2.34	31.09	9.86	31.22	0.000051	3.30	94239.39	7068.68	0.11
Restudy Reach	298932	100-Year	Floodplain As Is	198000.00	-2.34	33.01	10.45	33.12	0.000044	3.21	107804.40	7085.62	0.10
Restudy Reach	298932	500-Year	Floodplain As Is	240000.00	-2.34	37.58	11.75	37.67	0.000032	3.00	140250.50	7129.19	0.09
Restudy Reach	297896	10-Year	Floodplain As Is	140000.00	-3.62	26.41	7.13	26.60	0.000077	3.79	66380.86	6962.72	0.13
Restudy Reach	297896	50-Year	Floodplain As Is	181000.00	-3.62	31.01	8.68	31.16	0.000056	3.61	99283.01	7264.21	0.12
Restudy Reach	297896	100-Year	Floodplain As Is	200000.00	-3.62	32.93	9.35	33.07	0.000050	3.55	113257.90	7274.32	0.11
Restudy Reach	297896	500-Year	Floodplain As Is	243000.00	-3.62	37.51	10.79	37.63	0.000038	3.39	146648.00	7298.41	0.10
Restudy Reach	296980	10-Year	Floodplain As Is	140000.00	-4.00	26.45	6.55	26.52	0.000033	2.50	81862.25	8017.53	0.09
Restudy Reach	296980	50-Year	Floodplain As Is	181000.00	-4.00	31.04	8.26	31.10	0.000024	2.38	118106.10	8634.29	0.08
Restudy Reach	296980	100-Year	Floodplain As Is	200000.00	-4.00	32.96	9.00	33.01	0.000021	2.35	133355.80	8646.04	0.07
Restudy Reach	296980	500-Year	Floodplain As Is	243000.00	-4.00	37.54	10.53	37.58	0.000016	2.25	169759.80	8685.08	0.06
Restudy Reach	295932	10-Year	Floodplain As Is	140000.00	-4.45	26.40	6.32	26.48	0.000038	2.78	86761.81	7878.85	0.09
Restudy Reach	295932	50-Year	Floodplain As Is	181000.00	-4.45	31.01	7.93	31.07	0.000028	2.63	123395.00	7985.48	0.08
Restudy Reach	295932	100-Year	Floodplain As Is	200000.00	-4.45	32.93	8.63	32.99	0.000025	2.59	138808.60	8048.15	0.08
Restudy Reach	295932	500-Year	Floodplain As Is	243000.00	-4.45	37.51	10.13	37.56	0.000019	2.48	176014.90	8138.95	0.07
Restudy Reach	294884	10-Year	Floodplain As Is	140000.00	-4.00	26.38	6.51	26.44	0.000031	2.53	90575.79	7773.42	0.08
Restudy Reach	294884	50-Year	Floodplain As Is	181000.00	-4.00	30.99	8.12	31.04	0.000023	2.42	126679.00	7868.61	0.07
Restudy Reach	294884	100-Year	Floodplain As Is	200000.00	-4.00	32.91	8.87	32.96	0.000021	2.40	141839.60	7884.01	0.07
Restudy Reach	294884	500-Year	Floodplain As Is	243000.00	-4.00	37.50	10.32	37.54	0.000017	2.34	178856.90	8378.84	0.07
Restudy Reach	293847	10-Year	Floodplain As Is	140000.00	-4.02	26.35	6.86	26.41	0.000028	2.13	83954.90	8216.86	0.08
Restudy Reach	293847	50-Year	Floodplain As Is	181000.00	-4.02	30.97	8.47	31.02	0.000019	1.90	118774.30	8429.65	0.07
Restudy Reach	293847	100-Year	Floodplain As Is	200000.00	-4.02	32.89	9.16	32.94	0.000017	1.85	134144.50	8473.61	0.06
Restudy Reach	293847	500-Year	Floodplain As Is	243000.00	-4.02	37.48	10.60	37.53	0.000013	1.72	170962.40	8695.09	0.05
Restudy Reach	292986	10-Year	Floodplain As Is	140000.00	-5.12	26.26	6.68	26.37	0.000056	3.05	71529.32	6718.54	0.12
Restudy Reach	292986	50-Year	Floodplain As Is	181000.00	-5.12	30.91	8.35	30.99	0.000040	2.77	107835.60	7283.64	0.10
Restudy Reach	292986	100-Year	Floodplain As Is	200000.00	-5.12	32.84	9.06	32.92	0.000036	2.71	121986.60	7472.79	0.09
Restudy Reach	292986	500-Year	Floodplain As Is	243000.00	-5.12	37.45	10.51	37.51	0.000028	2.55	156661.80	8531.89	0.08
Restudy Reach	291974	10-Year	Floodplain As Is	140000.00	-4.62	26.22	6.21	26.32	0.000048	2.73	74057.42	6887.54	0.11
Restudy Reach	291974	50-Year	Floodplain As Is	181000.00	-4.62	30.88	7.79	30.95	0.000034	2.49	113338.90	6975.35	0.09
Restudy Reach	291974	100-Year	Floodplain As Is	200000.00	-4.62	32.82	8.45	32.88	0.000031	2.46	126950.80	7088.22	0.08
Restudy Reach	291974	500-Year	Floodplain As Is	243000.00	-4.62	37.43	9.83	37.48	0.000024	2.35	160749.70	8168.22	0.07
Restudy Reach	290849	10-Year	Floodplain As Is	140000.00	-5.15	26.15	4.86	26.26	0.000050	2.88	74979.24	6916.23	0.11
Restudy Reach	290849	50-Year	Floodplain As Is	181000.00	-5.15	30.83	6.29	30.91	0.000035	2.63	118521.50	7412.82	0.09
Restudy Reach	290849	100-Year	Floodplain As Is	200000.00	-5.15	32.77	6.91	32.85	0.000032	2.62	133030.00	7541.95	0.08
Restudy Reach	290849	500-Year	Floodplain As Is	243000.00	-5.15	37.39	8.23	37.46	0.000026	2.55	168347.00	8858.37	0.08
Restudy Reach	289927	10-Year	Floodplain As Is	140000.00	-5.35	26.07	7.51	26.20	0.000072	3.21	66976.96	7160.70	0.12
Restudy Reach	289927	50-Year	Floodplain As Is	181000.00	-5.35	30.78	9.34	30.87	0.000048	2.89	108448.70	8215.15	0.10
Restudy Reach	289927	100-Year	Floodplain As Is	200000.00	-5.35	32.73	10.14	32.81	0.000043	2.84	122718.50	8631.76	0.09
Restudy Reach	289927	500-Year	Floodplain As Is	243000.00	-5.35	37.35	11.81	37.43	0.000033	2.71	157532.90	9701.12	0.08
Restudy Reach	288987	10-Year	Floodplain As Is	140000.00	-9.53	26.04	5.12	26.14	0.000042	2.81	79915.44	6358.63	0.10
Restudy Reach	288987	10-Year	Floodplain Existing	140000.00	-9.53	28.70	5.12	28.77	0.000027	2.40	97057.33	6601.91	0.08
Restudy Reach	288987	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-9.53	28.70	5.12	28.77	0.000027	2.40	97066.95	6602.05	0.08
Restudy Reach	288987	50-Year	Floodplain As Is	181000.00	-9.53	30.75	6.59	30.84	0.000032	2.77	110845.90	6857.96	0.09
Restudy Reach	288987	50-Year	Floodplain Existing	181000.00	-9.53	31.69	6.59	31.77	0.000028	2.64	117333.90	6895.77	0.08
Restudy Reach	288987	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-9.53	31.69	6.59	31.77	0.000028	2.64	117354.40	6895.85	0.08
Restudy Reach	288987	100-Year	Floodplain As Is	200000.00	-9.53	32.69	7.32	32.78	0.000030	2.78	124253.40	6921.36	0.09
Restudy Reach	288987	100-Year	Floodplain Existing	200000.00	-9.53	32.72	7.32	32.81	0.000030	2.77	124439.10	6921.82	0.09
Restudy Reach	288987	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-9.53	32.72	7.32	32.81	0.000030	2.77	124463.50	6921.89	0.09
Restudy Reach	288987	500-Year	Floodplain As Is	243000.00	-9.53	37.32	8.53	37.40	0.000024	2.74	157712.10	7808.86	0.08
Restudy Reach	288987	500-Year	Floodplain Existing	243000.00	-9.53	37.35	8.53	37.43	0.000024	2.73	157899.80	7836.42	0.08
Restudy Reach	288987	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-9.53	37.35	8.53	37.43	0.000024	2.73	157918.30	7839.27	0.08
Restudy Reach	287953	10-Year	Floodplain As Is	140000.00	-4.23	25.98	5.03	26.10	0.000045	2.95	71312.02	5512.85	0.10
Restudy Reach	287953	10-Year	Floodplain Existing	140000.00	-4.23	28.66	5.03	28.74	0.000029	2.54	86620.46	5959.49	0.08
Restudy Reach	287953	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-4.23	28.66	5.03	28.74	0.000029	2.53	86629.20	5959.63	0.08
Restudy Reach	287953	50-Year	Floodplain As Is	181000.00	-4.23	30.70	6.42	30.80	0.000036	2.94	98989.29	6163.14	0.09
Restudy Reach	287953	50-Year	Floodplain Existing	181000.00	-4.23	31.65	6.42	31.74	0.000031	2.80	104875.10	6272.46	0.09

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	287953	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-4.23	31.65	6.42	31.74	0.000031	2.80	104893.90	6273.54	0.09
Restudy Reach	287953	100-Year	Floodplain As Is	200000.00	-4.23	32.64	7.02	32.75	0.000033	2.95	111280.30	6515.25	0.09
Restudy Reach	287953	100-Year	Floodplain Existing	200000.00	-4.23	32.67	7.02	32.77	0.000033	2.95	111456.40	6519.16	0.09
Restudy Reach	287953	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-4.23	32.68	7.02	32.78	0.000033	2.95	111479.40	6519.62	0.09
Restudy Reach	287953	500-Year	Floodplain As Is	243000.00	-4.23	37.28	8.29	37.37	0.000027	2.91	142344.30	7474.09	0.08
Restudy Reach	287953	500-Year	Floodplain Existing	243000.00	-4.23	37.31	8.29	37.40	0.000027	2.90	142516.00	7495.29	0.08
Restudy Reach	287953	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-4.23	37.31	8.29	37.40	0.000027	2.90	142533.00	7497.38	0.08
Restudy Reach	287035	10-Year	Floodplain As Is	140000.00	-4.66	25.93	6.66	26.05	0.000053	3.07	70553.19	5591.01	0.11
Restudy Reach	287035	10-Year	Floodplain Existing	140000.00	-4.66	28.63	6.66	28.71	0.000034	2.63	86104.86	5968.73	0.09
Restudy Reach	287035	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-4.66	28.63	6.66	28.71	0.000034	2.63	86113.66	5968.78	0.09
Restudy Reach	287035	50-Year	Floodplain As Is	181000.00	-4.66	30.65	7.95	30.77	0.000042	3.05	98327.99	6083.54	0.10
Restudy Reach	287035	50-Year	Floodplain Existing	181000.00	-4.66	31.61	7.95	31.71	0.000036	2.91	104153.00	6118.46	0.09
Restudy Reach	287035	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-4.66	31.61	7.95	31.71	0.000036	2.91	104171.40	6118.56	0.09
Restudy Reach	287035	100-Year	Floodplain As Is	200000.00	-4.66	32.60	8.51	32.71	0.000038	3.06	110274.50	6191.01	0.10
Restudy Reach	287035	100-Year	Floodplain Existing	200000.00	-4.66	32.63	8.51	32.74	0.000038	3.06	110442.40	6192.21	0.10
Restudy Reach	287035	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-4.66	32.63	8.51	32.74	0.000038	3.06	110464.40	6192.33	0.10
Restudy Reach	287035	500-Year	Floodplain As Is	243000.00	-4.66	37.24	9.70	37.35	0.000032	3.04	139692.30	7187.98	0.09
Restudy Reach	287035	500-Year	Floodplain Existing	243000.00	-4.66	37.27	9.70	37.37	0.000031	3.04	139859.70	7204.97	0.09
Restudy Reach	287035	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-4.66	37.27	9.70	37.38	0.000031	3.04	139876.10	7206.60	0.09
Restudy Reach	285902	10-Year	Floodplain As Is	140000.00	-4.76	25.83	6.46	25.99	0.000067	3.40	68024.65	5332.19	0.12
Restudy Reach	285902	10-Year	Floodplain Existing	140000.00	-4.76	28.56	6.46	28.67	0.000043	2.91	82636.75	5423.03	0.10
Restudy Reach	285902	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-4.76	28.57	6.46	28.67	0.000043	2.91	82644.78	5423.08	0.10
Restudy Reach	285902	50-Year	Floodplain As Is	181000.00	-4.76	30.58	7.96	30.71	0.000053	3.38	93471.92	5496.49	0.11
Restudy Reach	285902	50-Year	Floodplain Existing	181000.00	-4.76	31.54	7.96	31.66	0.000047	3.22	98681.97	5521.97	0.10
Restudy Reach	285902	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-4.76	31.54	7.96	31.67	0.000047	3.22	98698.36	5522.07	0.10
Restudy Reach	285902	100-Year	Floodplain As Is	200000.00	-4.76	32.53	8.62	32.67	0.000050	3.40	104049.20	5612.19	0.11
Restudy Reach	285902	100-Year	Floodplain Existing	200000.00	-4.76	32.56	8.62	32.69	0.000050	3.39	104198.20	5619.95	0.11
Restudy Reach	285902	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-4.76	32.56	8.62	32.70	0.000050	3.39	104217.20	5620.93	0.11
Restudy Reach	285902	500-Year	Floodplain As Is	243000.00	-4.76	37.18	10.02	37.31	0.000041	3.38	129779.70	7783.87	0.10
Restudy Reach	285902	500-Year	Floodplain Existing	243000.00	-4.76	37.20	10.02	37.33	0.000041	3.37	129925.40	7805.65	0.10
Restudy Reach	285902	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-4.76	37.21	10.02	37.34	0.000041	3.37	129939.70	7807.78	0.10
Restudy Reach	284978	10-Year	Floodplain As Is	140000.00	-6.36	25.80	5.03	25.92	0.000054	3.29	68313.61	5291.30	0.11
Restudy Reach	284978	10-Year	Floodplain Existing	140000.00	-6.36	28.55	5.03	28.63	0.000033	2.74	82983.59	5354.20	0.09
Restudy Reach	284978	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.36	28.55	5.03	28.63	0.000033	2.74	82991.60	5354.21	0.09
Restudy Reach	284978	50-Year	Floodplain As Is	181000.00	-6.36	30.56	6.68	30.66	0.000040	3.15	93762.04	5368.70	0.10
Restudy Reach	284978	50-Year	Floodplain Existing	181000.00	-6.36	31.53	6.68	31.62	0.000034	2.98	98964.29	5485.77	0.09
Restudy Reach	284978	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.36	31.53	6.68	31.62	0.000034	2.98	98980.63	5485.88	0.09
Restudy Reach	284978	100-Year	Floodplain As Is	200000.00	-6.36	32.52	7.40	32.62	0.000036	3.13	104292.70	5548.33	0.09
Restudy Reach	284978	100-Year	Floodplain Existing	200000.00	-6.36	32.54	7.40	32.64	0.000036	3.12	104440.40	5550.20	0.09
Restudy Reach	284978	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.36	32.55	7.40	32.65	0.000036	3.12	104459.50	5550.44	0.09
Restudy Reach	284978	500-Year	Floodplain As Is	243000.00	-6.36	37.17	8.93	37.26	0.000029	3.04	130060.40	8441.51	0.09
Restudy Reach	284978	500-Year	Floodplain Existing	243000.00	-6.36	37.20	8.93	37.29	0.000029	3.04	130205.40	8455.12	0.09
Restudy Reach	284978	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.36	37.20	8.93	37.29	0.000029	3.04	130219.60	8456.53	0.09
Restudy Reach	283955	10-Year	Floodplain As Is	140000.00	-7.75	25.66	4.73	25.84	0.000071	3.84	56168.82	5354.82	0.13
Restudy Reach	283955	10-Year	Floodplain Existing	140000.00	-7.75	28.45	4.73	28.58	0.000045	3.25	68468.00	5569.77	0.10
Restudy Reach	283955	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-7.75	28.45	4.73	28.58	0.000045	3.25	68474.68	5569.89	0.10
Restudy Reach	283955	50-Year	Floodplain As Is	181000.00	-7.75	30.43	6.48	30.60	0.000056	3.77	77213.37	5681.10	0.12
Restudy Reach	283955	50-Year	Floodplain Existing	181000.00	-7.75	31.42	6.48	31.56	0.000048	3.59	81555.04	5728.86	0.11
Restudy Reach	283955	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.75	31.42	6.48	31.57	0.000048	3.59	81568.65	5728.98	0.11
Restudy Reach	283955	100-Year	Floodplain As Is	200000.00	-7.75	32.40	7.24	32.56	0.000052	3.77	85893.16	5795.56	0.11
Restudy Reach	283955	100-Year	Floodplain Existing	200000.00	-7.75	32.42	7.24	32.58	0.000051	3.77	86016.34	5798.04	0.11
Restudy Reach	283955	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.75	32.43	7.24	32.59	0.000051	3.77	86032.23	5798.36	0.11
Restudy Reach	283955	500-Year	Floodplain As Is	243000.00	-7.75	37.07	8.85	37.22	0.000042	3.71	108158.70	8234.52	0.10
Restudy Reach	283955	500-Year	Floodplain Existing	243000.00	-7.75	37.09	8.85	37.24	0.000042	3.71	108284.60	8249.01	0.10
Restudy Reach	283955	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.75	37.10	8.85	37.24	0.000042	3.71	108297.00	8250.43	0.10
Restudy Reach	283016	10-Year	Floodplain As Is	140000.00	-8.00	25.44	3.59	25.74	0.000097	4.59	45301.61	5546.56	0.15
Restudy Reach	283016	10-Year	Floodplain Existing	140000.00	-8.00	28.29	3.59	28.50	0.000065	3.99	54345.26	5667.24	0.12
Restudy Reach	283016	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-8.00	28.29	3.59	28.50	0.000065	3.99	54350.20	5667.31	0.12
Restudy Reach	283016	50-Year	Floodplain As Is	181000.00	-8.00	30.20	5.53	30.50	0.000084	4.74	60584.33	5935.47	0.14
Restudy Reach	283016	50-Year	Floodplain Existing	181000.00	-8.00	31.21	5.53	31.47	0.000074	4.54	63883.20	5990.90	0.14
Restudy Reach	283016	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-8.00	31.21	5.53	31.47	0.000074	4.54	63893.54	5991.40	0.14
Restudy Reach	283016	100-Year	Floodplain As Is	200000.00	-8.00	32.16	6.40	32.46	0.000081	4.81	67032.05	6227.63	0.14
Restudy Reach	283016	100-Year	Floodplain Existing	200000.00	-8.00	32.19	6.40	32.48	0.000080	4.81	67125.92	6236.58	0.14
Restudy Reach	283016	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-8.00	32.19	6.40	32.49	0.000080	4.81	67138.02	6237.73	0.14
Restudy Reach	283016	500-Year	Floodplain As Is	243000.00	-8.00	36.83	8.19	37.12	0.000070	4.88	83556.41	9060.26	0.14
Restudy Reach	283016	500-Year	Floodplain Existing	243000.00	-8.00	36.86	8.19	37.15	0.000070	4.88	83651.14	9065.70	0.14
Restudy Reach	283016	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-8.00	36.86	8.19	37.15	0.000070	4.88	83660.45	9066.24	0.14
Restudy Reach	282550	10-Year	Floodplain As Is	140000.00	-9.94	25.43	2.86	25.67	0.000077	4.12	49432.45	5845.15	0.13
Restudy Reach	282550	10-Year	Floodplain Existing	140000.00	-9.94	28.27	2.86	28.46	0.000054	3.69	56660.55	6018.40	0.11
Restudy Reach	282550	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-9.94	28.28	2.86	28.46	0.000054	3.69	56664.52	6018.53	0.11
Restudy Reach	282550	50-Year	Floodplain As Is	181000.00	-9.94	30.18	4.62	30.45	0.000073	4.46	61602.69	6276.47	0.13
Restudy Reach	282550	50-Year	Floodplain Existing	181000.00	-9.94	31.18	4.62	31.43	0.000066	4.31	64230.36	6550.52	0.13
Restudy Reach	282550	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-9.94	31.18	4.62	31.44	0.000066	4.31	64238.63	6551.96	0.13
Restudy Reach	282550	100-Year	Floodplain As Is	200000.00	-9.94	32.13	5.38	32.42	0.000073	4.61	66741.90	7148.39	0.14
Restudy Reach	282550	100-Year	Floodplain Existing	200000.00	-9.94	32.16	5.38	32.45	0.000073	4.61	66817.29	7161.83	0.14
Restudy Reach	282550	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-9.94	32.16	5.38	32.45	0.000073	4.61	66827.02	7163.66	0.14
Restudy Reach	282550	500-Year	Floodplain As Is	243000.00	-9.94	36.77	7.05	37.08	0.000069	4.85	80260.37	9451.16	0.13
Restudy Reach	282550	500-Year	Floodplain Existing	243000.00	-9.94	36.80	7.05	37.11	0.000068	4.84	80341.20	9453.64	0.13
Restudy Reach	282550	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-9.94	36.80	7.05	37.11	0.000068	4.84	80349.13	9453.85	0.13
Restudy Reach	282026	10-Year	Floodplain As Is	140000.00	-7.38	25.35	3.59	25.62	0.000085	4.23	36575.30	5152.26	0.14
Restudy Reach	282026	10-Year	Floodplain Existing	140000.00	-7.38	28.21	3.59	28.43	0.000060	3.79	41368.03	5437.78	0.12
Restudy Reach	282026	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-7.38	28.21	3.59	28.43	0.000060	3.79	41370.61	5437.87	0.12
Restudy Reach	282026	50-Year	Floodplain As Is	181000.00	-7.38	30.09	5.28	30.40	0.000081	4.59	44505.50	5807.96	0.14
Restudy Reach	282026	50-Year	Floodplain Existing	181000.00	-7.38	31.10	5.28	31.39	0.000073	4.43	46196.27	6251.94	0.13
Restudy Reach	282026	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.38	31.10	5.28	31.39	0.000073	4.43	46201.59	6253.45	0.13
Restudy Reach	282026	100-Year	Floodplain As Is	200000.00	-7.38	32.03	6.01	32.36	0.000080	4.75	47763.87	6813.65	0.14
Restudy Reach	282026	100-Year	Floodplain Existing	200000.00	-7.38	32.06	6.01	32.39	0.000080	4.74	47811.79	6824.89	0.14
Restudy Reach	282026	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.38	32.07	6.01	32.40	0.000080	4.74	47817.97	6826.15	0.14
Restudy Reach	282026	500-Year	Floodplain As Is	243000.00	-7.38	36.67	7.54	37.03	0.000076	5.01	55833.02	8486.81	0.14
Restudy Reach	282026	500-Year	Floodplain Existing	243000.00	-7.38	36.69	7.54	37.05	0.000075	5.00	55881.28	8492.01	0.14
Restudy Reach	282026	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.38	36.69	7.54	37.06	0.000075	5.00	55886.02	8492.52	0.14
Restudy Reach	281798			Mult Open									
Restudy Reach	281583	10-Year	Floodplain As Is	140000.00	-6.75	25.30	3.57	25.53	0.000073	3.89	37598.95	5668.24	0.13
Restudy Reach	281583	10-Year	Floodplain Existing	140000.00	-6.75	28.18	3.57	28.36	0.000052	3.49	42415.27	6124.97	0.11
Restudy Reach	281583	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.75	28.18	3.57	28.36	0.000052	3.49	42417.86	6125.22	0.11
Restudy Reach	281583	50-Year	Floodplain As Is	181000.00	-6.75	30.04	5.11	30.31	0.000070	4.23	45532.78	6422.09	0.13
Restudy Reach	281583	50-Year	Floodplain Existing	181000.00	-6.75	31.05	5.11	31.31	0.000063	4.09	47231.67	6567.10	0.12
Restudy Reach	281583	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.75	31.06	5.11	31.31	0.000063	4.09	47237.01	6567.47	0.12
Restudy Reach	281583	100-Year	Floodplain As Is	200000.00	-6.75	31.99	5.76	32.28	0.000069	4.38	48792.10	6994.06	0.13
Restudy Reach	281583	100-Year	Floodplain Existing	200000.00	-6.75	32.02	5.76	32.30	0.000069	4.38	48840.26	7004.07	0.13

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	281583	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.75	32.02	5.76	32.31	0.000069	4.38	48846.49	7005.26	0.13
Restudy Reach	281583	500-Year	Floodplain As Is	243000.00	-6.75	36.62	7.15	36.94	0.000066	4.63	56878.32	9151.05	0.13
Restudy Reach	281583	500-Year	Floodplain Existing	243000.00	-6.75	36.65	7.15	36.97	0.000065	4.63	56929.20	9152.53	0.13
Restudy Reach	281583	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.75	36.65	7.15	36.97	0.000065	4.63	56934.20	9152.68	0.13
Restudy Reach	281420	10-Year	Floodplain As Is	140000.00	-6.14	25.27	3.96	25.51	0.000079	4.01	38444.11	5671.85	0.13
Restudy Reach	281420	10-Year	Floodplain Existing	140000.00	-6.14	28.15	3.96	28.35	0.000056	3.60	44332.19	6241.37	0.11
Restudy Reach	281420	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.14	28.15	3.96	28.35	0.000055	3.60	44335.36	6241.62	0.11
Restudy Reach	281420	50-Year	Floodplain As Is	181000.00	-6.14	30.01	5.44	30.29	0.000075	4.36	48135.13	6721.64	0.13
Restudy Reach	281420	50-Year	Floodplain Existing	181000.00	-6.14	31.02	5.44	31.29	0.000068	4.21	50237.64	7031.54	0.13
Restudy Reach	281420	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.14	31.03	5.44	31.29	0.000068	4.21	50244.25	7032.62	0.13
Restudy Reach	281420	100-Year	Floodplain As Is	200000.00	-6.14	31.95	6.09	32.26	0.000075	4.51	52157.58	7660.18	0.14
Restudy Reach	281420	100-Year	Floodplain Existing	200000.00	-6.14	31.98	6.09	32.29	0.000075	4.51	52217.30	7685.35	0.14
Restudy Reach	281420	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.14	31.99	6.09	32.29	0.000075	4.51	52225.03	7688.62	0.14
Restudy Reach	281420	500-Year	Floodplain As Is	243000.00	-6.14	36.58	7.49	36.92	0.000071	4.78	63074.69	9668.84	0.13
Restudy Reach	281420	500-Year	Floodplain Existing	243000.00	-6.14	36.61	7.49	36.95	0.000071	4.77	63138.64	9675.02	0.13
Restudy Reach	281420	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.14	36.61	7.49	36.95	0.000071	4.77	63144.93	9675.72	0.13
Restudy Reach	281000	10-Year	Floodplain As Is	140000.00	-5.64	25.24	4.09	25.47	0.000081	3.94	42440.00	6175.59	0.14
Restudy Reach	281000	10-Year	Floodplain Existing	140000.00	-5.64	28.14	4.09	28.32	0.000056	3.51	48787.50	6590.02	0.11
Restudy Reach	281000	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-5.64	28.14	4.09	28.32	0.000056	3.51	48790.96	6590.29	0.11
Restudy Reach	281000	50-Year	Floodplain As Is	181000.00	-5.64	29.99	5.81	30.25	0.000076	4.24	52941.67	7087.71	0.13
Restudy Reach	281000	50-Year	Floodplain Existing	181000.00	-5.64	31.01	5.81	31.25	0.000067	4.09	55263.51	7498.50	0.13
Restudy Reach	281000	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-5.64	31.01	5.81	31.26	0.000067	4.09	55270.86	7499.58	0.13
Restudy Reach	281000	100-Year	Floodplain As Is	200000.00	-5.64	31.93	6.52	32.22	0.000074	4.38	57404.05	8092.83	0.13
Restudy Reach	281000	100-Year	Floodplain Existing	200000.00	-5.64	31.96	6.52	32.24	0.000074	4.38	57471.07	8107.07	0.13
Restudy Reach	281000	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-5.64	31.97	6.52	32.25	0.000074	4.38	57479.73	8108.98	0.13
Restudy Reach	281000	500-Year	Floodplain As Is	243000.00	-5.64	36.57	8.12	36.88	0.000068	4.59	70362.80	9689.02	0.13
Restudy Reach	281000	500-Year	Floodplain Existing	243000.00	-5.64	36.60	8.12	36.90	0.000068	4.59	70436.17	9697.53	0.13
Restudy Reach	281000	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-5.64	36.60	8.12	36.90	0.000068	4.59	70443.38	9698.37	0.13
Restudy Reach	280500	10-Year	Floodplain As Is	140000.00	-6.01	25.22	3.71	25.42	0.000071	3.74	48418.46	6535.05	0.13
Restudy Reach	280500	10-Year	Floodplain Existing	140000.00	-6.01	28.12	3.71	28.28	0.000049	3.33	56056.25	6913.38	0.11
Restudy Reach	280500	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.01	28.12	3.71	28.28	0.000049	3.33	56060.45	6913.56	0.11
Restudy Reach	280500	50-Year	Floodplain As Is	181000.00	-6.01	29.97	5.30	30.20	0.000065	3.98	64664.75	7188.78	0.12
Restudy Reach	280500	50-Year	Floodplain Existing	181000.00	-6.01	31.00	5.30	31.20	0.000058	3.83	67788.05	7899.39	0.12
Restudy Reach	280500	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.01	31.00	5.30	31.21	0.000058	3.83	67797.87	7902.89	0.12
Restudy Reach	280500	100-Year	Floodplain As Is	200000.00	-6.01	31.92	5.95	32.16	0.000064	4.10	70617.66	8357.61	0.12
Restudy Reach	280500	100-Year	Floodplain Existing	200000.00	-6.01	31.95	5.95	32.19	0.000063	4.09	70706.16	8371.52	0.12
Restudy Reach	280500	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.01	31.96	5.95	32.19	0.000063	4.09	70717.63	8373.31	0.12
Restudy Reach	280500	500-Year	Floodplain As Is	243000.00	-6.01	36.57	7.32	36.82	0.000058	4.27	86276.78	9656.66	0.12
Restudy Reach	280500	500-Year	Floodplain Existing	243000.00	-6.01	36.60	7.32	36.84	0.000058	4.27	86370.06	9661.06	0.12
Restudy Reach	280500	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.01	36.60	7.32	36.85	0.000058	4.27	86379.23	9661.59	0.12
Restudy Reach	279999	10-Year	Floodplain As Is	140000.00	-5.75	25.19	4.27	25.38	0.000068	3.62	52881.93	7198.56	0.12
Restudy Reach	279999	10-Year	Floodplain Existing	140000.00	-5.75	28.11	4.27	28.25	0.000046	3.19	63233.70	7359.76	0.10
Restudy Reach	279999	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-5.75	28.11	4.27	28.25	0.000046	3.19	63239.25	7359.84	0.10
Restudy Reach	279999	50-Year	Floodplain As Is	181000.00	-5.75	29.95	5.76	30.16	0.000061	3.83	69569.57	7675.98	0.12
Restudy Reach	279999	50-Year	Floodplain Existing	181000.00	-5.75	30.98	5.76	31.16	0.000054	3.68	73652.15	8331.32	0.11
Restudy Reach	279999	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-5.75	30.98	5.76	31.17	0.000054	3.68	73663.90	8333.26	0.11
Restudy Reach	279999	100-Year	Floodplain As Is	200000.00	-5.75	31.90	6.41	32.12	0.000059	3.93	76582.77	8881.90	0.12
Restudy Reach	279999	100-Year	Floodplain Existing	200000.00	-5.75	31.93	6.41	32.15	0.000059	3.92	77136.58	8939.51	0.12
Restudy Reach	279999	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-5.75	31.94	6.41	32.15	0.000059	3.92	77150.30	8942.24	0.12
Restudy Reach	279999	500-Year	Floodplain As Is	243000.00	-5.75	36.56	7.80	36.78	0.000053	4.05	96501.31	9980.76	0.12
Restudy Reach	279999	500-Year	Floodplain Existing	243000.00	-5.75	36.58	7.80	36.80	0.000053	4.04	97075.36	9924.27	0.12
Restudy Reach	279999	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-5.75	36.59	7.80	36.80	0.000053	4.04	97086.45	9924.66	0.12
Restudy Reach	279484	10-Year	Floodplain As Is	140000.00	-6.51	25.16	4.58	25.34	0.000065	3.53	58157.43	8023.72	0.12
Restudy Reach	279484	10-Year	Floodplain Existing	140000.00	-6.51	28.09	4.58	28.22	0.000043	3.10	69979.48	8096.93	0.10
Restudy Reach	279484	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.51	28.09	4.58	28.22	0.000043	3.10	69985.85	8096.95	0.10
Restudy Reach	279484	50-Year	Floodplain As Is	181000.00	-6.51	29.93	5.97	30.12	0.000057	3.71	77687.21	8406.90	0.12
Restudy Reach	279484	50-Year	Floodplain Existing	181000.00	-6.51	30.96	5.97	31.13	0.000051	3.56	81854.02	8554.94	0.11
Restudy Reach	279484	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.51	30.96	5.97	31.13	0.000051	3.56	81867.66	8555.46	0.11
Restudy Reach	279484	100-Year	Floodplain As Is	200000.00	-6.51	31.89	6.57	32.08	0.000055	3.79	85985.02	8733.28	0.12
Restudy Reach	279484	100-Year	Floodplain Existing	200000.00	-6.51	31.91	6.57	32.11	0.000055	3.79	85902.10	8710.50	0.12
Restudy Reach	279484	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.51	31.92	6.57	32.11	0.000055	3.79	85918.19	8710.71	0.12
Restudy Reach	279484	500-Year	Floodplain As Is	243000.00	-6.51	36.55	7.87	36.73	0.000046	3.77	116927.40	9549.96	0.11
Restudy Reach	279484	500-Year	Floodplain Existing	243000.00	-6.51	36.58	7.88	36.76	0.000046	3.77	116873.70	9550.09	0.11
Restudy Reach	279484	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.51	36.58	7.88	36.76	0.000046	3.77	116886.50	9550.10	0.11
Restudy Reach	278987	10-Year	Floodplain As Is	140000.00	-6.22	25.14	5.12	25.30	0.000067	3.45	63209.02	7807.10	0.12
Restudy Reach	278987	10-Year	Floodplain Existing	140000.00	-6.22	28.08	5.12	28.19	0.000043	2.98	75865.44	7874.73	0.10
Restudy Reach	278987	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.22	28.08	5.12	28.19	0.000043	2.98	75482.36	7836.77	0.10
Restudy Reach	278987	50-Year	Floodplain As Is	181000.00	-6.22	29.92	6.62	30.07	0.000054	3.50	85064.81	8659.94	0.11
Restudy Reach	278987	50-Year	Floodplain Existing	181000.00	-6.22	30.95	6.62	31.09	0.000048	3.36	89242.83	8818.29	0.11
Restudy Reach	278987	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.22	30.95	6.62	31.09	0.000048	3.37	88430.97	8642.62	0.11
Restudy Reach	278987	100-Year	Floodplain As Is	200000.00	-6.22	31.88	7.27	32.03	0.000051	3.54	94359.17	9114.30	0.11
Restudy Reach	278987	100-Year	Floodplain Existing	200000.00	-6.22	31.90	7.27	32.06	0.000052	3.56	93766.20	8988.41	0.11
Restudy Reach	278987	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.22	31.91	7.27	32.07	0.000052	3.57	92790.79	8839.50	0.11
Restudy Reach	278987	500-Year	Floodplain As Is	243000.00	-6.22	36.55	8.68	36.69	0.000040	3.43	129041.00	9170.67	0.10
Restudy Reach	278987	500-Year	Floodplain Existing	243000.00	-6.22	36.58	8.68	36.71	0.000040	3.45	128453.30	9170.78	0.10
Restudy Reach	278987	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.22	36.58	8.68	36.72	0.000041	3.46	127420.00	9170.78	0.10
Restudy Reach	278520	10-Year	Floodplain As Is	140000.00	-6.11	25.13	5.04	25.25	0.000051	3.06	70444.48	7245.23	0.11
Restudy Reach	278520	10-Year	Floodplain Existing	140000.00	-6.11	28.08	5.04	28.16	0.000032	2.59	84436.80	7710.81	0.09
Restudy Reach	278520	10-Year	Floodplain Run Proposed 7-2-2025	140000.00	-6.11	28.09	5.04	28.15	0.000027	2.42	90522.27	7510.93	0.08
Restudy Reach	278520	50-Year	Floodplain As Is	181000.00	-6.11	29.92	6.76	30.03	0.000039	3.01	95260.02	8003.27	0.10
Restudy Reach	278520	50-Year	Floodplain Existing	181000.00	-6.11	30.95	6.76	31.05	0.000034	2.88	99794.79	8147.72	0.09
Restudy Reach	278520	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.11	30.96	6.76	31.05	0.000031	2.72	105109.20	7805.04	0.09
Restudy Reach	278520	100-Year	Floodplain As Is	200000.00	-6.11	31.88	7.54	31.99	0.000036	3.01	106082.10	8361.53	0.09
Restudy Reach	278520	100-Year	Floodplain Existing	200000.00	-6.11	31.91	7.54	32.02	0.000037	3.04	105146.50	8390.48	0.09
Restudy Reach	278520	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.11	31.92	7.54	32.01	0.000033	2.88	110135.30	8037.08	0.09
Restudy Reach	278520	500-Year	Floodplain As Is	243000.00	-6.11	36.56	9.00	36.65	0.000026	2.81	145018.60	8640.67	0.08
Restudy Reach	278520	500-Year	Floodplain Existing	243000.00	-6.11	36.59	9.00	36.67	0.000027	2.83	144134.00	8624.83	0.08
Restudy Reach	278520	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.11	36.59	9.00	36.67	0.000026	2.79	148362.20	8624.85	0.08
Restudy Reach	278006	10-Year	Floodplain As Is	138000.00	-5.89	25.13	4.82	25.21	0.000038	2.68	83150.59	7023.99	0.09
Restudy Reach	278006	10-Year	Floodplain Existing	138000.00	-5.89	28.07	4.82	28.13	0.000025	2.31	98328.44	7494.60	0.08
Restudy Reach	278006	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-5.89	28.08	4.82	28.13	0.000021	2.12	104429.90	7004.20	0.07
Restudy Reach	278006	50-Year	Floodplain As Is	181000.00	-5.89	29.92	6.30	29.99	0.000030	2.67	111487.40	7630.02	0.08
Restudy Reach	278006	50-Year	Floodplain Existing	181000.00	-5.89	30.95	6.30	31.02	0.000027	2.58	115571.70	7721.34	0.08
Restudy Reach	278006	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-5.89	30.96	6.30	31.02	0.000024	2.42	120321.60	7270.62	0.08
Restudy Reach	278006	100-Year	Floodplain As Is	200000.00	-5.89	31.88	6.88	31.96	0.000028	2.66	123268.30	7804.79	0.08
Restudy Reach	278006	100-Year	Floodplain Existing	200000.00	-5.89	31.91	6.88	31.99	0.000029	2.72	121318.40	7809.14	0.08
Restudy Reach	278006	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-5.89	31.92	6.88	31.99	0.000026	2.56	125646.60	7372.44	0.08
Restudy Reach	278006	500-Year	Floodplain As Is	243000.00	-5.89	36.56	8.14	36.62	0.000020	2.49	163861.40	8118.92	0.07
Restudy Reach	278006	500-Year	Floodplain Existing	243000.00	-5.89	36.59	8.14	36.65	0.000021	2.54	161928.30	8121.56	0.07
Restudy Reach	278006	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-5.89	36.59	8.14	36.65	0.000020	2.47	165281.90	8099.27	0.07

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	277487	10-Year	Floodplain As Is	138000.00	-7.03	25.11	4.44	25.19	0.000036	2.62	83579.45	5905.45	0.09
Restudy Reach	277487	10-Year	Floodplain Existing	138000.00	-7.03	28.06	4.44	28.12	0.000022	2.21	98740.64	6143.05	0.07
Restudy Reach	277487	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-7.03	28.06	4.44	28.12	0.000022	2.22	99229.13	6142.98	0.07
Restudy Reach	277487	50-Year	Floodplain As Is	181000.00	-7.03	29.90	5.81	29.98	0.000029	2.67	108625.20	6256.69	0.08
Restudy Reach	277487	50-Year	Floodplain Existing	181000.00	-7.03	30.94	5.81	31.01	0.000026	2.53	113817.70	6287.36	0.08
Restudy Reach	277487	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.03	30.94	5.81	31.01	0.000026	2.54	114304.40	6287.33	0.08
Restudy Reach	277487	100-Year	Floodplain As Is	200000.00	-7.03	31.86	6.37	31.94	0.000028	2.69	118923.90	6437.87	0.08
Restudy Reach	277487	100-Year	Floodplain Existing	200000.00	-7.03	31.89	6.37	31.97	0.000028	2.67	118839.50	6453.15	0.08
Restudy Reach	277487	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.03	31.89	6.37	31.97	0.000028	2.69	119325.70	6452.79	0.08
Restudy Reach	277487	500-Year	Floodplain As Is	243000.00	-7.03	36.54	7.59	36.61	0.000022	2.65	151759.30	6967.67	0.08
Restudy Reach	277487	500-Year	Floodplain Existing	243000.00	-7.03	36.56	7.60	36.64	0.000022	2.63	151673.30	6968.30	0.08
Restudy Reach	277487	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.03	36.56	7.60	36.64	0.000023	2.65	152158.70	6968.28	0.08
Restudy Reach	277324	10-Year	Floodplain Existing	138000.00	-7.03	28.04	4.45	28.11	0.000025	2.36	89936.66	5862.86	0.08
Restudy Reach	277324	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-7.03	28.04	4.45	28.11	0.000025	2.36	89674.07	5862.51	0.08
Restudy Reach	277324	50-Year	Floodplain Existing	181000.00	-7.03	30.91	5.82	30.99	0.000029	2.69	104149.60	6003.91	0.08
Restudy Reach	277324	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.03	30.91	5.82	30.99	0.000029	2.69	103886.30	6003.55	0.08
Restudy Reach	277324	100-Year	Floodplain Existing	200000.00	-7.03	31.86	6.39	31.95	0.000032	2.85	108878.80	6074.49	0.09
Restudy Reach	277324	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.03	31.86	6.39	31.95	0.000032	2.85	108615.20	6074.12	0.09
Restudy Reach	277324	500-Year	Floodplain Existing	243000.00	-7.03	36.55	7.62	36.62	0.000024	2.73	139480.80	6685.35	0.08
Restudy Reach	277324	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.03	36.55	7.62	36.62	0.000024	2.73	139216.30	6685.00	0.08
Restudy Reach	276987	10-Year	Floodplain As Is	138000.00	-6.61	25.04	5.13	25.17	0.000053	3.11	66750.55	5118.73	0.11
Restudy Reach	276987	10-Year	Floodplain Existing	138000.00	-6.61	28.01	5.13	28.09	0.000032	2.62	81568.30	5383.46	0.09
Restudy Reach	276987	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-6.61	28.01	5.13	28.09	0.000032	2.62	81568.30	5383.46	0.09
Restudy Reach	276987	50-Year	Floodplain As Is	181000.00	-6.61	29.84	6.59	29.96	0.000042	3.13	89950.79	5597.23	0.10
Restudy Reach	276987	50-Year	Floodplain Existing	181000.00	-6.61	30.88	6.59	30.98	0.000036	2.97	95497.90	5719.00	0.09
Restudy Reach	276987	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.61	30.88	6.59	30.98	0.000036	2.97	95497.90	5719.00	0.09
Restudy Reach	276987	100-Year	Floodplain As Is	200000.00	-6.61	31.81	7.21	31.92	0.000039	3.14	99521.87	5929.94	0.10
Restudy Reach	276987	100-Year	Floodplain Existing	200000.00	-6.61	31.83	7.21	31.94	0.000039	3.13	100132.00	5933.00	0.10
Restudy Reach	276987	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.61	31.83	7.21	31.94	0.000039	3.13	100132.00	5933.00	0.10
Restudy Reach	276987	500-Year	Floodplain As Is	243000.00	-6.61	36.48	8.51	36.59	0.000033	3.13	122340.20	6238.26	0.09
Restudy Reach	276987	500-Year	Floodplain Existing	243000.00	-6.61	36.51	8.51	36.61	0.000032	3.12	122960.20	6241.72	0.09
Restudy Reach	276987	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.61	36.51	8.51	36.61	0.000032	3.12	122960.20	6241.72	0.09
Restudy Reach	276911	10-Year	Floodplain Existing	138000.00	-6.61	28.00	5.12	28.08	0.000032	2.56	79365.12	5339.16	0.09
Restudy Reach	276911	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-6.61	28.00	5.12	28.08	0.000032	2.56	79365.12	5339.16	0.09
Restudy Reach	276911	50-Year	Floodplain Existing	181000.00	-6.61	30.87	6.64	30.96	0.000035	2.88	93216.20	5603.71	0.09
Restudy Reach	276911	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.61	30.87	6.64	30.96	0.000035	2.88	93216.20	5603.71	0.09
Restudy Reach	276911	100-Year	Floodplain Existing	200000.00	-6.61	31.82	7.27	31.92	0.000038	3.04	97880.88	5728.20	0.09
Restudy Reach	276911	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.61	31.82	7.27	31.92	0.000038	3.04	97880.88	5728.20	0.09
Restudy Reach	276911	500-Year	Floodplain Existing	243000.00	-6.61	36.50	8.59	36.59	0.000030	2.96	130647.20	6219.72	0.09
Restudy Reach	276911	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.61	36.50	8.59	36.59	0.000030	2.96	130647.20	6219.72	0.09
Restudy Reach	276502	10-Year	Floodplain As Is	138000.00	-8.24	25.02	4.35	25.14	0.000052	3.12	66860.64	4644.69	0.11
Restudy Reach	276502	10-Year	Floodplain Existing	138000.00	-8.24	27.98	4.35	28.06	0.000032	2.65	81160.98	4934.27	0.09
Restudy Reach	276502	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-8.24	27.98	4.35	28.06	0.000032	2.65	81160.98	4934.27	0.09
Restudy Reach	276502	50-Year	Floodplain As Is	181000.00	-8.24	29.82	5.86	29.94	0.000043	3.18	88996.53	5244.62	0.10
Restudy Reach	276502	50-Year	Floodplain Existing	181000.00	-8.24	30.84	5.86	30.94	0.000037	3.02	94400.86	5405.68	0.09
Restudy Reach	276502	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-8.24	30.84	5.86	30.94	0.000037	3.02	94400.86	5405.68	0.09
Restudy Reach	276502	100-Year	Floodplain As Is	200000.00	-8.24	31.78	6.49	31.90	0.000040	3.20	98146.51	5591.12	0.10
Restudy Reach	276502	100-Year	Floodplain Existing	200000.00	-8.24	31.78	6.49	31.90	0.000039	3.19	98813.38	5590.71	0.10
Restudy Reach	276502	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-8.24	31.78	6.49	31.90	0.000039	3.19	98813.38	5590.71	0.10
Restudy Reach	276502	500-Year	Floodplain As Is	243000.00	-8.24	36.46	7.84	36.58	0.000033	3.20	119995.40	6092.57	0.09
Restudy Reach	276502	500-Year	Floodplain Existing	243000.00	-8.24	36.46	7.84	36.58	0.000033	3.20	120662.00	6093.01	0.09
Restudy Reach	276502	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-8.24	36.46	7.84	36.58	0.000033	3.20	120662.00	6093.01	0.09
Restudy Reach	275999	10-Year	Floodplain As Is	138000.00	-6.49	24.97	4.48	25.11	0.000055	3.24	64999.50	4582.56	0.11
Restudy Reach	275999	10-Year	Floodplain Existing	138000.00	-6.49	27.95	4.48	28.05	0.000035	2.78	78665.00	4940.49	0.09
Restudy Reach	275999	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-6.49	27.95	4.48	28.05	0.000035	2.78	78665.00	4940.49	0.09
Restudy Reach	275999	50-Year	Floodplain As Is	181000.00	-6.49	29.77	5.95	29.91	0.000048	3.37	86271.55	4991.35	0.11
Restudy Reach	275999	50-Year	Floodplain Existing	181000.00	-6.49	30.79	5.95	30.92	0.000041	3.21	91375.13	5135.86	0.10
Restudy Reach	275999	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.49	30.79	5.95	30.92	0.000041	3.21	91375.13	5135.86	0.10
Restudy Reach	275999	100-Year	Floodplain As Is	200000.00	-6.49	31.73	6.56	31.88	0.000045	3.42	95074.65	5671.68	0.11
Restudy Reach	275999	100-Year	Floodplain Existing	200000.00	-6.49	31.73	6.56	31.88	0.000045	3.41	95600.79	5671.88	0.10
Restudy Reach	275999	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.49	31.73	6.56	31.88	0.000045	3.41	95600.79	5671.88	0.10
Restudy Reach	275999	500-Year	Floodplain As Is	243000.00	-6.49	36.41	7.87	36.56	0.000039	3.48	116327.60	5916.89	0.10
Restudy Reach	275999	500-Year	Floodplain Existing	243000.00	-6.49	36.41	7.87	36.56	0.000039	3.47	116858.00	5917.32	0.10
Restudy Reach	275999	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.49	36.41	7.87	36.56	0.000039	3.47	116858.00	5917.32	0.10
Restudy Reach	275489	10-Year	Floodplain As Is	138000.00	-7.15	24.96	4.18	25.08	0.000049	3.05	63317.91	4135.64	0.10
Restudy Reach	275489	10-Year	Floodplain Existing	138000.00	-7.15	27.94	4.18	28.03	0.000031	2.61	76134.62	4565.24	0.09
Restudy Reach	275489	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-7.15	27.94	4.18	28.03	0.000031	2.61	76134.62	4565.24	0.09
Restudy Reach	275489	50-Year	Floodplain As Is	181000.00	-7.15	29.76	5.61	29.88	0.000042	3.15	83358.34	4631.44	0.10
Restudy Reach	275489	50-Year	Floodplain Existing	181000.00	-7.15	30.78	5.60	30.90	0.000036	3.01	88097.10	4846.33	0.09
Restudy Reach	275489	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.15	30.78	5.60	30.90	0.000036	3.01	88097.10	4846.33	0.09
Restudy Reach	275489	100-Year	Floodplain As Is	200000.00	-7.15	31.72	6.18	31.85	0.000040	3.20	91629.61	5071.53	0.10
Restudy Reach	275489	100-Year	Floodplain Existing	200000.00	-7.15	31.73	6.19	31.85	0.000039	3.19	92064.75	5073.42	0.10
Restudy Reach	275489	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.15	31.73	6.19	31.85	0.000039	3.19	92064.75	5073.42	0.10
Restudy Reach	275489	500-Year	Floodplain As Is	243000.00	-7.15	36.41	7.44	36.53	0.000034	3.24	111448.00	5655.75	0.09
Restudy Reach	275489	500-Year	Floodplain Existing	243000.00	-7.15	36.41	7.44	36.53	0.000034	3.23	111887.20	5656.34	0.09
Restudy Reach	275489	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.15	36.41	7.44	36.53	0.000034	3.23	111887.20	5656.34	0.09
Restudy Reach	274995	10-Year	Floodplain As Is	138000.00	-6.52	24.93	3.90	25.06	0.000049	3.10	64131.11	4006.70	0.11
Restudy Reach	274995	10-Year	Floodplain Existing	138000.00	-6.52	27.91	3.90	28.01	0.000032	2.69	75210.38	4038.21	0.09
Restudy Reach	274995	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-6.52	27.91	3.90	28.01	0.000032	2.69	75210.38	4038.21	0.09
Restudy Reach	274995	50-Year	Floodplain As Is	181000.00	-6.52	29.72	5.35	29.86	0.000044	3.28	81580.72	4691.80	0.10
Restudy Reach	274995	50-Year	Floodplain Existing	181000.00	-6.52	30.75	5.35	30.88	0.000039	3.14	85558.78	4932.40	0.10
Restudy Reach	274995	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-6.52	30.75	5.35	30.88	0.000039	3.14	85558.78	4932.40	0.10
Restudy Reach	274995	100-Year	Floodplain As Is	200000.00	-6.52	31.69	5.95	31.83	0.000043	3.36	88752.37	5179.37	0.10
Restudy Reach	274995	100-Year	Floodplain Existing	200000.00	-6.52	31.69	5.95	31.83	0.000043	3.35	88980.27	5179.76	0.10
Restudy Reach	274995	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-6.52	31.69	5.95	31.83	0.000043	3.35	88980.27	5179.76	0.10
Restudy Reach	274995	500-Year	Floodplain As Is	243000.00	-6.52	36.36	7.23	36.51	0.000038	3.46	105883.30	5373.49	0.10
Restudy Reach	274995	500-Year	Floodplain Existing	243000.00	-6.52	36.37	7.23	36.51	0.000038	3.44	106113.60	5373.88	0.10
Restudy Reach	274995	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-6.52	36.37	7.23	36.51	0.000038	3.44	106113.60	5373.88	0.10
Restudy Reach	274500	10-Year	Floodplain As Is	138000.00	-7.90	24.91	3.56	25.03	0.000047	3.08	62133.16	4100.05	0.10
Restudy Reach	274500	10-Year	Floodplain Existing	138000.00	-7.90	27.90	3.56	27.99	0.000030	2.64	73750.05	4294.28	0.08
Restudy Reach	274500	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-7.90	27.90	3.56	27.99	0.000030	2.64	73750.05	4294.28	0.08
Restudy Reach	274500	50-Year	Floodplain As Is	181000.00	-7.90	29.71	5.03	29.84	0.000041	3.19	79975.33	4580.50	0.10
Restudy Reach	274500	50-Year	Floodplain Existing	181000.00	-7.90	30.74	5.03	30.86	0.000035	3.04	84330.12	4789.67	0.09
Restudy Reach	274500	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.90	30.74	5.03	30.86	0.000035	3.04	84330.12	4789.67	0.09
Restudy Reach	274500	100-Year	Floodplain As Is	200000.00	-7.90	31.68	5.63	31.80	0.000039	3.25	87311.21	4895.60	0.10
Restudy Reach	274500	100-Year	Floodplain Existing	200000.00	-7.90	31.68	5.63	31.81	0.000039	3.23	87827.29	4897.11	0.10
Restudy Reach	274500	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.90	31.68	5.63	31.81	0.000039	3.23	87827.29	4897.11	0.10
Restudy Reach	274500	500-Year	Floodplain As Is	243000.00	-7.90	36.36	6.95	36.49	0.000034	3.30	104826.10	4952.78	0.09
Restudy Reach	274500	500-Year	Floodplain Existing	243000.00	-7.90	36.36	6.95	36.49	0.000034	3.29	105358.50	4956.92	0.09
Restudy Reach	274500	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.90	36.36	6.95	36.49	0.000034	3.29	105358.50	4956.92	0.09

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	274013	10-Year	Floodplain As Is	138000.00	-7.06	24.87	3.72	25.01	0.000052	3.23	63144.54	3854.31	0.11
Restudy Reach	274013	10-Year	Floodplain Existing	138000.00	-7.06	27.88	3.72	27.97	0.000033	2.78	74992.00	4183.91	0.09
Restudy Reach	274013	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-7.06	27.88	3.72	27.97	0.000033	2.78	74992.00	4183.91	0.09
Restudy Reach	274013	50-Year	Floodplain As Is	181000.00	-7.06	29.67	5.22	29.81	0.000046	3.38	81256.34	4490.15	0.10
Restudy Reach	274013	50-Year	Floodplain Existing	181000.00	-7.06	30.71	5.22	30.84	0.000040	3.23	85714.06	4515.97	0.10
Restudy Reach	274013	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-7.06	30.71	5.22	30.84	0.000040	3.23	85714.06	4515.97	0.10
Restudy Reach	274013	100-Year	Floodplain As Is	200000.00	-7.06	31.64	5.83	31.78	0.000044	3.44	88701.32	4532.04	0.10
Restudy Reach	274013	100-Year	Floodplain Existing	200000.00	-7.06	31.64	5.83	31.78	0.000043	3.43	89252.71	4533.12	0.10
Restudy Reach	274013	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-7.06	31.64	5.83	31.78	0.000043	3.43	89252.71	4533.12	0.10
Restudy Reach	274013	500-Year	Floodplain As Is	243000.00	-7.06	36.32	7.16	36.47	0.000038	3.52	106508.20	4684.19	0.10
Restudy Reach	274013	500-Year	Floodplain Existing	243000.00	-7.06	36.33	7.16	36.47	0.000038	3.50	107071.00	4686.73	0.10
Restudy Reach	274013	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-7.06	36.33	7.16	36.47	0.000038	3.50	107071.00	4686.73	0.10
Restudy Reach	273500	10-Year	Floodplain As Is	138000.00	-12.00	24.81	3.06	24.97	0.000058	3.39	59820.97	4105.91	0.12
Restudy Reach	273500	10-Year	Floodplain Existing	138000.00	-12.00	27.83	3.07	27.95	0.000039	2.95	72135.56	4327.20	0.10
Restudy Reach	273500	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.83	3.07	27.95	0.000039	2.95	72135.56	4327.20	0.10
Restudy Reach	273500	50-Year	Floodplain As Is	181000.00	-12.00	29.60	4.58	29.78	0.000054	3.62	78455.28	4393.74	0.11
Restudy Reach	273500	50-Year	Floodplain Existing	181000.00	-12.00	30.65	4.58	30.81	0.000047	3.46	83110.86	4417.09	0.11
Restudy Reach	273500	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.65	4.58	30.81	0.000047	3.46	83110.86	4417.09	0.11
Restudy Reach	273500	100-Year	Floodplain As Is	200000.00	-12.00	31.57	5.22	31.75	0.000052	3.71	86118.42	4425.25	0.11
Restudy Reach	273500	100-Year	Floodplain Existing	200000.00	-12.00	31.57	5.22	31.76	0.000051	3.69	86721.08	4425.69	0.11
Restudy Reach	273500	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.57	5.22	31.76	0.000051	3.69	86721.08	4425.69	0.11
Restudy Reach	273500	500-Year	Floodplain As Is	243000.00	-12.00	36.25	6.62	36.44	0.000047	3.83	104434.00	4575.73	0.11
Restudy Reach	273500	500-Year	Floodplain Existing	243000.00	-12.00	36.25	6.62	36.44	0.000046	3.81	105047.30	4580.12	0.11
Restudy Reach	273500	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	36.25	6.62	36.44	0.000046	3.81	105047.30	4580.12	0.11
Restudy Reach	272987	10-Year	Floodplain As Is	138000.00	-12.00	24.80	3.16	24.94	0.000052	3.13	63436.50	3986.20	0.11
Restudy Reach	272987	10-Year	Floodplain Existing	138000.00	-12.00	27.83	3.16	27.93	0.000034	2.71	76622.82	4051.86	0.09
Restudy Reach	272987	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.83	3.16	27.93	0.000034	2.71	76622.82	4051.86	0.09
Restudy Reach	272987	50-Year	Floodplain As Is	181000.00	-12.00	29.60	4.85	29.75	0.000047	3.32	82783.66	4061.88	0.11
Restudy Reach	272987	50-Year	Floodplain Existing	181000.00	-12.00	30.65	4.84	30.78	0.000041	3.16	88060.83	4070.44	0.10
Restudy Reach	272987	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.65	4.84	30.78	0.000041	3.16	88060.83	4070.44	0.10
Restudy Reach	272987	100-Year	Floodplain As Is	200000.00	-12.00	31.57	5.53	31.72	0.000046	3.39	90780.93	4075.02	0.10
Restudy Reach	272987	100-Year	Floodplain Existing	200000.00	-12.00	31.57	5.54	31.72	0.000045	3.37	91830.09	4076.52	0.10
Restudy Reach	272987	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.57	5.54	31.72	0.000045	3.37	91830.09	4076.52	0.10
Restudy Reach	272987	500-Year	Floodplain As Is	243000.00	-12.00	36.25	7.03	36.41	0.000041	3.48	110248.50	4443.19	0.10
Restudy Reach	272987	500-Year	Floodplain Existing	243000.00	-12.00	36.26	7.04	36.41	0.000040	3.47	111313.00	4446.42	0.10
Restudy Reach	272987	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	36.26	7.04	36.41	0.000040	3.47	111313.00	4446.42	0.10
Restudy Reach	272749	10-Year	Floodplain As Is	138000.00	-12.00	24.77	2.95	24.92	0.000060	3.37	61976.02	3803.51	0.12
Restudy Reach	272749	10-Year	Floodplain Existing	138000.00	-12.00	27.81	2.94	27.92	0.000039	2.90	74733.60	3842.36	0.09
Restudy Reach	272749	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.81	2.94	27.92	0.000039	2.90	74733.60	3842.36	0.09
Restudy Reach	272749	50-Year	Floodplain As Is	181000.00	-12.00	29.57	4.77	29.73	0.000055	3.57	80361.77	3901.93	0.11
Restudy Reach	272749	50-Year	Floodplain Existing	181000.00	-12.00	30.62	4.77	30.77	0.000048	3.38	85576.32	3964.61	0.11
Restudy Reach	272749	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.62	4.77	30.77	0.000048	3.38	85576.32	3964.61	0.11
Restudy Reach	272749	100-Year	Floodplain As Is	200000.00	-12.00	31.53	5.61	31.70	0.000053	3.64	87969.85	4062.37	0.11
Restudy Reach	272749	100-Year	Floodplain Existing	200000.00	-12.00	31.54	5.62	31.71	0.000052	3.61	89153.81	4065.03	0.11
Restudy Reach	272749	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.54	5.62	31.71	0.000052	3.61	89153.81	4065.03	0.11
Restudy Reach	272749	500-Year	Floodplain As Is	243000.00	-12.00	36.22	7.34	36.39	0.000048	3.74	108428.60	4455.90	0.11
Restudy Reach	272749	500-Year	Floodplain Existing	243000.00	-12.00	36.23	7.33	36.40	0.000047	3.70	109634.30	4460.93	0.11
Restudy Reach	272749	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	36.23	7.33	36.40	0.000047	3.70	109634.30	4460.93	0.11
Restudy Reach	272501	10-Year	Floodplain As Is	138000.00	-12.06	24.75	3.06	24.90	0.000062	3.30	60988.60	3800.81	0.12
Restudy Reach	272501	10-Year	Floodplain Existing	138000.00	-12.06	27.80	3.06	27.91	0.000040	2.85	73699.59	3828.22	0.09
Restudy Reach	272501	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.06	27.80	3.06	27.91	0.000040	2.85	73699.59	3828.22	0.09
Restudy Reach	272501	50-Year	Floodplain As Is	181000.00	-12.06	29.56	4.98	29.72	0.000056	3.48	79319.34	3837.34	0.11
Restudy Reach	272501	50-Year	Floodplain Existing	181000.00	-12.06	30.61	4.98	30.75	0.000048	3.32	84481.25	3846.61	0.10
Restudy Reach	272501	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.06	30.61	4.98	30.75	0.000048	3.32	84481.25	3846.61	0.10
Restudy Reach	272501	100-Year	Floodplain As Is	200000.00	-12.06	31.52	5.74	31.69	0.000054	3.55	86878.21	3867.16	0.11
Restudy Reach	272501	100-Year	Floodplain Existing	200000.00	-12.06	31.53	5.74	31.69	0.000053	3.53	88029.30	3869.17	0.11
Restudy Reach	272501	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.06	31.53	5.74	31.69	0.000053	3.53	88029.30	3869.17	0.11
Restudy Reach	272501	500-Year	Floodplain As Is	243000.00	-12.06	36.21	7.33	36.38	0.000048	3.64	106412.50	4436.58	0.11
Restudy Reach	272501	500-Year	Floodplain Existing	243000.00	-12.06	36.22	7.34	36.39	0.000047	3.62	107587.30	4441.13	0.10
Restudy Reach	272501	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.06	36.22	7.34	36.39	0.000047	3.62	107587.30	4441.13	0.10
Restudy Reach	271974	10-Year	Floodplain As Is	138000.00	-12.68	24.71	2.88	24.87	0.000069	3.38	58951.11	3689.44	0.12
Restudy Reach	271974	10-Year	Floodplain Existing	138000.00	-12.68	27.77	2.88	27.89	0.000045	2.92	71160.13	3721.27	0.10
Restudy Reach	271974	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.68	27.77	2.88	27.89	0.000045	2.92	71160.13	3721.27	0.10
Restudy Reach	271974	50-Year	Floodplain As Is	181000.00	-12.68	29.51	4.91	29.68	0.000063	3.57	76757.69	3728.05	0.12
Restudy Reach	271974	50-Year	Floodplain Existing	181000.00	-12.68	30.57	4.91	30.72	0.000055	3.40	81616.40	3746.31	0.11
Restudy Reach	271974	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.68	30.57	4.91	30.72	0.000055	3.40	81616.40	3746.31	0.11
Restudy Reach	271974	100-Year	Floodplain As Is	200000.00	-12.68	31.48	5.95	31.65	0.000061	3.65	84107.63	3751.45	0.11
Restudy Reach	271974	100-Year	Floodplain Existing	200000.00	-12.68	31.49	5.95	31.66	0.000060	3.63	85055.77	3756.99	0.11
Restudy Reach	271974	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.68	31.49	5.95	31.66	0.000060	3.63	85055.77	3756.99	0.11
Restudy Reach	271974	500-Year	Floodplain As Is	243000.00	-12.68	36.17	8.11	36.35	0.000054	3.74	102007.80	3910.39	0.11
Restudy Reach	271974	500-Year	Floodplain Existing	243000.00	-12.68	36.18	8.11	36.36	0.000053	3.72	102983.50	3913.75	0.11
Restudy Reach	271974	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.68	36.18	8.11	36.36	0.000053	3.72	102983.50	3913.75	0.11
Restudy Reach	271849	10-Year	Floodplain Existing	138000.00	-12.68	27.74	2.88	27.86	0.000045	2.98	68346.24	3599.43	0.10
Restudy Reach	271849	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.68	27.74	2.88	27.86	0.000045	2.98	68346.24	3599.43	0.10
Restudy Reach	271849	50-Year	Floodplain Existing	181000.00	-12.68	30.53	4.75	30.70	0.000055	3.48	78434.83	3627.06	0.11
Restudy Reach	271849	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.68	30.53	4.75	30.70	0.000055	3.48	78434.83	3627.06	0.11
Restudy Reach	271849	100-Year	Floodplain Existing	200000.00	-12.68	31.44	5.80	31.63	0.000060	3.71	81747.77	3634.68	0.12
Restudy Reach	271849	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.68	31.44	5.80	31.63	0.000060	3.71	81747.77	3634.68	0.12
Restudy Reach	271849	500-Year	Floodplain Existing	243000.00	-12.68	36.14	7.70	36.33	0.000054	3.82	98905.33	3679.14	0.11
Restudy Reach	271849	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.68	36.14	7.70	36.33	0.000054	3.82	98905.33	3679.14	0.11
Restudy Reach	271465	10-Year	Floodplain As Is	138000.00	-13.45	24.64	2.83	24.83	0.000069	3.55	46475.27	2732.56	0.12
Restudy Reach	271465	10-Year	Floodplain Existing	138000.00	-13.45	27.70	2.83	27.84	0.000045	3.10	55740.45	2773.44	0.10
Restudy Reach	271465	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-13.45	27.70	2.83	27.84	0.000045	3.10	55740.45	2773.44	0.10
Restudy Reach	271465	50-Year	Floodplain As Is	181000.00	-13.45	29.43	5.23	29.65	0.000064	3.82	59687.72	2775.64	0.12
Restudy Reach	271465	50-Year	Floodplain Existing	181000.00	-13.45	30.48	5.23	30.67	0.000056	3.66	63465.41	2791.55	0.12
Restudy Reach	271465	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-13.45	30.48	5.23	30.67	0.000056	3.66	63465.41	2791.55	0.12
Restudy Reach	271465	100-Year	Floodplain As Is	200000.00	-13.45	31.39	6.09	31.62	0.000062	3.93	65151.82	2795.07	0.12
Restudy Reach	271465	100-Year	Floodplain Existing	200000.00	-13.45	31.38	6.09	31.60	0.000061	3.91	65992.20	2797.18	0.12
Restudy Reach	271465	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-13.45	31.38	6.09	31.60	0.000061	3.91	65992.20	2797.18	0.12
Restudy Reach	271465	500-Year	Floodplain As Is	243000.00	-13.45	36.08	7.70	36.32	0.000056	4.09	78309.16	2823.97	0.12
Restudy Reach	271465	500-Year	Floodplain Existing	243000.00	-13.45	36.07	7.70	36.30	0.000055	4.06	79167.10	2825.77	0.12
Restudy Reach	271465	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-13.45	36.07	7.70	36.30	0.000055	4.06	79167.10	2825.77	0.12
Restudy Reach	270995	10-Year	Floodplain As Is	138000.00	-13.20	24.60	2.19	24.80	0.000064	3.58	43442.75	2270.80	0.12
Restudy Reach	270995	10-Year	Floodplain Existing	138000.00	-13.20	27.67	2.19	27.82	0.000043	3.16	51228.59	2312.94	0.10
Restudy Reach	270995	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-13.20	27.67	2.19	27.82	0.000043	3.16	51228.59	2312.94	0.10
Restudy Reach	270995	50-Year	Floodplain As Is	181000.00	-13.20	29.38	4.89	29.62	0.000062	3.93	54405.93	2314.43	0.12
Restudy Reach	270995	50-Year	Floodplain Existing	181000.00	-13.20	30.43	4.89	30.64	0.000055	3.76	57641.72	2329.54	0.12
Restudy Reach	270995	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-13.20	30.43	4.89	30.64	0.000055	3.76	57641.72	2329.54	0.12
Restudy Reach	270995	100-Year	Floodplain As Is	200000.00	-13.20	31.34	5.51	31.59	0.000062	4.06	58949.55	2328.37	0.12
Restudy Reach	270995	100-Year	Floodplain Existing	200000.00	-13.20	31.33	5.51	31.57	0.000061	4.03	59735.02	2335.30	0.12
Restudy Reach	270995	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-13.20	31.33	5.51	31.57	0.000061	4.03	59735.02	2335.30	0.12

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	270995	500-Year	Floodplain As Is	243000.00	-13.20	36.02	6.87	36.29	0.000057	4.27	69927.78	2364.84	0.12
Restudy Reach	270995	500-Year	Floodplain Existing	243000.00	-13.20	36.01	6.86	36.27	0.000056	4.24	70734.16	2364.91	0.12
Restudy Reach	270995	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-13.20	36.01	6.86	36.27	0.000056	4.24	70734.16	2364.91	0.12
Restudy Reach	270466	10-Year	Floodplain As Is	138000.00	-12.97	24.51	2.48	24.76	0.000081	3.97	39707.34	2207.24	0.13
Restudy Reach	270466	10-Year	Floodplain Existing	138000.00	-12.97	27.61	2.48	27.79	0.000054	3.50	47214.10	2231.70	0.11
Restudy Reach	270466	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.97	27.61	2.48	27.79	0.000054	3.50	47214.10	2231.70	0.11
Restudy Reach	270466	50-Year	Floodplain As Is	181000.00	-12.97	29.29	4.78	29.57	0.000077	4.34	50329.61	2240.25	0.14
Restudy Reach	270466	50-Year	Floodplain Existing	181000.00	-12.97	30.35	4.78	30.61	0.000068	4.16	53356.30	2248.05	0.13
Restudy Reach	270466	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.97	30.35	4.78	30.61	0.000068	4.16	53356.30	2248.05	0.13
Restudy Reach	270466	100-Year	Floodplain As Is	200000.00	-12.97	31.25	5.55	31.55	0.000076	4.48	54722.77	2252.18	0.14
Restudy Reach	270466	100-Year	Floodplain Existing	200000.00	-12.97	31.24	5.55	31.53	0.000076	4.46	55351.83	2253.32	0.14
Restudy Reach	270466	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.97	31.24	5.55	31.53	0.000076	4.46	55351.83	2253.32	0.14
Restudy Reach	270466	500-Year	Floodplain As Is	243000.00	-12.97	35.92	7.32	36.25	0.000070	4.70	65322.75	2279.06	0.13
Restudy Reach	270466	500-Year	Floodplain Existing	243000.00	-12.97	35.92	7.32	36.24	0.000070	4.68	65967.03	2281.12	0.13
Restudy Reach	270466	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.97	35.92	7.32	36.24	0.000070	4.68	65967.03	2281.12	0.13
Restudy Reach	269984	10-Year	Floodplain As Is	138000.00	-12.45	24.47	2.00	24.72	0.000079	4.05	40054.55	2174.93	0.13
Restudy Reach	269984	10-Year	Floodplain Existing	138000.00	-12.45	27.58	2.00	27.77	0.000053	3.56	47839.87	2192.33	0.11
Restudy Reach	269984	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.45	27.58	2.00	27.77	0.000053	3.56	47839.87	2192.33	0.11
Restudy Reach	269984	50-Year	Floodplain As Is	181000.00	-12.45	29.25	4.22	29.54	0.000077	4.43	50505.59	2199.43	0.14
Restudy Reach	269984	50-Year	Floodplain Existing	181000.00	-12.45	30.31	4.22	30.57	0.000067	4.24	53853.62	2206.30	0.13
Restudy Reach	269984	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.45	30.31	4.22	30.57	0.000067	4.24	53853.62	2206.30	0.13
Restudy Reach	269984	100-Year	Floodplain As Is	200000.00	-12.45	31.20	5.19	31.51	0.000076	4.58	54818.58	2211.28	0.14
Restudy Reach	269984	100-Year	Floodplain Existing	200000.00	-12.45	31.20	5.19	31.49	0.000075	4.54	55802.85	2211.84	0.14
Restudy Reach	269984	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.45	31.20	5.19	31.49	0.000075	4.54	55802.85	2211.84	0.14
Restudy Reach	269984	500-Year	Floodplain As Is	243000.00	-12.45	35.88	6.89	36.21	0.000070	4.80	65232.55	2238.55	0.13
Restudy Reach	269984	500-Year	Floodplain Existing	243000.00	-12.45	35.88	6.89	36.20	0.000069	4.76	66228.54	2240.31	0.13
Restudy Reach	269984	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.45	35.88	6.89	36.20	0.000069	4.76	66228.54	2240.31	0.13
Restudy Reach	269463	10-Year	Floodplain As Is	138000.00	-12.00	24.45	2.38	24.67	0.000070	3.83	41118.75	2137.43	0.13
Restudy Reach	269463	10-Year	Floodplain Existing	138000.00	-12.00	27.56	2.38	27.74	0.000048	3.39	48456.84	2158.68	0.11
Restudy Reach	269463	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.56	2.38	27.74	0.000048	3.39	48456.84	2158.68	0.11
Restudy Reach	269463	50-Year	Floodplain As Is	181000.00	-12.00	29.23	4.04	29.49	0.000069	4.21	51405.77	2166.63	0.13
Restudy Reach	269463	50-Year	Floodplain Existing	181000.00	-12.00	30.29	4.04	30.54	0.000061	4.05	54369.93	2173.53	0.12
Restudy Reach	269463	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.29	4.04	30.54	0.000061	4.05	54369.93	2173.53	0.12
Restudy Reach	269463	100-Year	Floodplain As Is	200000.00	-12.00	31.18	4.73	31.46	0.000069	4.36	55655.28	2179.46	0.13
Restudy Reach	269463	100-Year	Floodplain Existing	200000.00	-12.00	31.17	4.73	31.45	0.000068	4.34	56285.15	2180.36	0.13
Restudy Reach	269463	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.17	4.73	31.45	0.000068	4.34	56285.15	2180.36	0.13
Restudy Reach	269463	500-Year	Floodplain As Is	243000.00	-12.00	35.86	6.20	36.17	0.000064	4.59	65916.27	2203.97	0.13
Restudy Reach	269463	500-Year	Floodplain Existing	243000.00	-12.00	35.86	6.20	36.16	0.000064	4.58	66559.17	2205.27	0.13
Restudy Reach	269463	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	35.86	6.20	36.16	0.000064	4.58	66559.17	2205.27	0.13
Restudy Reach	268964	10-Year	Floodplain As Is	138000.00	-12.00	24.41	1.57	24.63	0.000071	3.84	40490.75	2141.26	0.13
Restudy Reach	268964	10-Year	Floodplain Existing	138000.00	-12.00	27.54	1.57	27.71	0.000048	3.39	48362.46	2164.22	0.11
Restudy Reach	268964	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.54	1.57	27.71	0.000048	3.39	48362.46	2164.22	0.11
Restudy Reach	268964	50-Year	Floodplain As Is	181000.00	-12.00	29.19	3.32	29.46	0.000070	4.23	50789.52	2171.85	0.13
Restudy Reach	268964	50-Year	Floodplain Existing	181000.00	-12.00	30.26	3.32	30.50	0.000061	4.05	54277.93	2180.24	0.12
Restudy Reach	268964	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.26	3.32	30.50	0.000061	4.05	54277.93	2180.24	0.12
Restudy Reach	268964	100-Year	Floodplain As Is	200000.00	-12.00	31.14	4.06	31.43	0.000069	4.38	55050.56	2184.28	0.13
Restudy Reach	268964	100-Year	Floodplain Existing	200000.00	-12.00	31.14	4.06	31.42	0.000068	4.35	56190.97	2185.33	0.13
Restudy Reach	268964	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.14	4.06	31.42	0.000068	4.35	56190.97	2185.33	0.13
Restudy Reach	268964	500-Year	Floodplain As Is	243000.00	-12.00	35.83	5.64	36.14	0.000065	4.61	65342.19	2209.49	0.13
Restudy Reach	268964	500-Year	Floodplain Existing	243000.00	-12.00	35.82	5.64	36.13	0.000064	4.58	66497.38	2212.12	0.13
Restudy Reach	268964	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	35.82	5.64	36.13	0.000064	4.58	66497.38	2212.12	0.13
Restudy Reach	268493	10-Year	Floodplain As Is	138000.00	-12.00	24.33	1.92	24.60	0.000080	4.19	39831.16	2147.12	0.14
Restudy Reach	268493	10-Year	Floodplain Existing	138000.00	-12.00	27.48	1.92	27.68	0.000054	3.69	47756.24	2174.48	0.11
Restudy Reach	268493	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-12.00	27.48	1.92	27.68	0.000054	3.69	47756.24	2174.48	0.11
Restudy Reach	268493	50-Year	Floodplain As Is	181000.00	-12.00	29.10	3.73	29.42	0.000079	4.61	50174.61	2185.28	0.14
Restudy Reach	268493	50-Year	Floodplain Existing	181000.00	-12.00	30.19	3.74	30.47	0.000069	4.40	53657.28	2189.66	0.13
Restudy Reach	268493	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-12.00	30.19	3.74	30.47	0.000069	4.40	53657.28	2189.66	0.13
Restudy Reach	268493	100-Year	Floodplain As Is	200000.00	-12.00	31.06	4.48	31.39	0.000079	4.77	54454.42	2194.19	0.14
Restudy Reach	268493	100-Year	Floodplain Existing	200000.00	-12.00	31.06	4.49	31.38	0.000077	4.73	55556.81	2193.83	0.14
Restudy Reach	268493	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-12.00	31.06	4.49	31.38	0.000077	4.73	55556.81	2193.83	0.14
Restudy Reach	268493	500-Year	Floodplain As Is	243000.00	-12.00	35.74	6.10	36.10	0.000074	5.02	64807.61	2226.67	0.14
Restudy Reach	268493	500-Year	Floodplain Existing	243000.00	-12.00	35.74	6.11	36.09	0.000072	4.98	65912.97	2226.38	0.14
Restudy Reach	268493	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-12.00	35.74	6.11	36.09	0.000072	4.98	65912.97	2226.38	0.14
Restudy Reach	267963	10-Year	Floodplain As Is	138000.00	-9.98	24.30	1.37	24.55	0.000074	4.02	38889.89	1948.06	0.13
Restudy Reach	267963	10-Year	Floodplain Existing	138000.00	-9.98	27.46	1.37	27.65	0.000050	3.55	46292.86	1971.00	0.11
Restudy Reach	267963	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-9.98	27.46	1.37	27.65	0.000050	3.55	46292.86	1971.00	0.11
Restudy Reach	267963	50-Year	Floodplain As Is	181000.00	-9.98	29.07	3.15	29.37	0.000074	4.45	48269.26	1980.96	0.13
Restudy Reach	267963	50-Year	Floodplain Existing	181000.00	-9.98	30.16	3.15	30.43	0.000065	4.26	51633.74	1988.63	0.13
Restudy Reach	267963	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-9.98	30.16	3.15	30.43	0.000065	4.26	51633.74	1988.63	0.13
Restudy Reach	267963	100-Year	Floodplain As Is	200000.00	-9.98	31.03	3.88	31.35	0.000074	4.62	52153.00	1993.77	0.14
Restudy Reach	267963	100-Year	Floodplain Existing	200000.00	-9.98	31.03	3.88	31.34	0.000072	4.58	53352.50	1993.12	0.13
Restudy Reach	267963	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-9.98	31.03	3.88	31.34	0.000072	4.58	53352.50	1993.12	0.13
Restudy Reach	267963	500-Year	Floodplain As Is	243000.00	-9.98	35.71	5.45	36.06	0.000070	4.88	61546.77	2017.82	0.13
Restudy Reach	267963	500-Year	Floodplain Existing	243000.00	-9.98	35.71	5.45	36.05	0.000069	4.84	62750.95	2017.77	0.13
Restudy Reach	267963	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-9.98	35.71	5.45	36.05	0.000069	4.84	62750.95	2017.77	0.13
Restudy Reach	267478	10-Year	Floodplain As Is	138000.00	-17.03	24.15	0.82	24.50	0.000098	4.81	33722.25	1777.96	0.15
Restudy Reach	267478	10-Year	Floodplain Existing	138000.00	-17.03	27.34	0.82	27.62	0.000068	4.28	39927.26	1822.70	0.13
Restudy Reach	267478	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-17.03	27.34	0.82	27.62	0.000068	4.28	39927.26	1822.70	0.13
Restudy Reach	267478	50-Year	Floodplain As Is	181000.00	-17.03	28.89	2.86	29.32	0.000101	5.35	42330.48	1831.11	0.16
Restudy Reach	267478	50-Year	Floodplain Existing	181000.00	-17.03	29.99	2.86	30.38	0.000090	5.15	44773.66	1838.65	0.15
Restudy Reach	267478	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-17.03	29.99	2.86	30.38	0.000090	5.15	44773.66	1838.65	0.15
Restudy Reach	267478	100-Year	Floodplain As Is	200000.00	-17.03	30.83	3.70	31.29	0.000101	5.56	45902.16	1844.14	0.16
Restudy Reach	267478	100-Year	Floodplain Existing	200000.00	-17.03	30.83	3.70	31.28	0.000101	5.54	46315.48	1843.85	0.16
Restudy Reach	267478	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-17.03	30.83	3.70	31.28	0.000101	5.54	46315.48	1843.85	0.16
Restudy Reach	267478	500-Year	Floodplain As Is	243000.00	-17.03	35.50	5.51	36.01	0.000097	5.89	54573.46	1868.22	0.16
Restudy Reach	267478	500-Year	Floodplain Existing	243000.00	-17.03	35.50	5.51	36.00	0.000097	5.87	54991.77	1869.05	0.16
Restudy Reach	267478	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-17.03	35.50	5.51	36.00	0.000097	5.87	54991.77	1869.05	0.16
Restudy Reach	267268	10-Year	Floodplain As Is	138000.00	-20.64	24.18	-3.25	24.44	0.000065	4.12	35763.36	1654.89	0.13
Restudy Reach	267268	10-Year	Floodplain Existing	138000.00	-20.64	27.36	-3.25	27.57	0.000047	3.74	40164.56	1728.59	0.11
Restudy Reach	267268	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-20.64	27.36	-3.25	27.57	0.000047	3.74	40164.56	1728.59	0.11
Restudy Reach	267268	50-Year	Floodplain As Is	181000.00	-20.64	28.92	-1.32	29.25	0.000071	4.70	41842.42	1744.71	0.13
Restudy Reach	267268	50-Year	Floodplain Existing	181000.00	-20.64	30.01	-1.32	30.33	0.000064	4.55	43563.50	1752.79	0.13
Restudy Reach	267268	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-20.64	30.01	-1.32	30.33	0.000064	4.55	43563.50	1752.79	0.13
Restudy Reach	267268	100-Year	Floodplain As Is	200000.00	-20.64	30.86	-0.53	31.23	0.000073	4.93	44331.30	1758.72	0.14
Restudy Reach	267268	100-Year	Floodplain Existing	200000.00	-20.64	30.85	-0.53	31.22	0.000073	4.92	44639.27	1758.98	0.14
Restudy Reach	267268	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-20.64	30.85	-0.53	31.22	0.000073	4.92	44639.27	1758.98	0.14
Restudy Reach	267268	500-Year	Floodplain As Is	243000.00	-20.64	35.54	1.17	35.94	0.000071	5.22	56628.28	1790.20	0.14
Restudy Reach	267268	500-Year	Floodplain Existing	243000.00	-20.64	35.53	1.17	35.93	0.000071	5.21	56948.29	1790.31	0.14
Restudy Reach	267268	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-20.64	35.53	1.17	35.93	0.000071	5.21	56948.29	1790.31	0.14
Restudy Reach	267186			Bridge									

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	267113	10-Year	Floodplain As Is	138000.00	-34.25	24.16	-12.03	24.35	0.000037	3.50	41975.95	1442.86	0.10
Restudy Reach	267113	10-Year	Floodplain Existing	138000.00	-34.25	27.35	-12.03	27.51	0.000028	3.23	46100.98	1565.76	0.09
Restudy Reach	267113	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-34.25	27.35	-12.03	27.51	0.000028	3.23	46100.98	1565.76	0.09
Restudy Reach	267113	50-Year	Floodplain As Is	181000.00	-34.25	28.89	-9.52	29.15	0.000043	4.10	47888.43	1580.70	0.11
Restudy Reach	267113	50-Year	Floodplain Existing	181000.00	-34.25	29.99	-9.52	30.24	0.000040	3.99	49402.71	1590.62	0.10
Restudy Reach	267113	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-34.25	29.99	-9.52	30.24	0.000040	3.99	49402.71	1590.62	0.10
Restudy Reach	267113	100-Year	Floodplain As Is	200000.00	-34.25	30.83	-8.66	31.11	0.000046	4.33	50306.96	1596.99	0.11
Restudy Reach	267113	100-Year	Floodplain Existing	200000.00	-34.25	30.82	-8.66	31.11	0.000046	4.33	50443.75	1596.97	0.11
Restudy Reach	267113	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-34.25	30.82	-8.66	31.11	0.000046	4.33	50443.75	1596.97	0.11
Restudy Reach	267113	500-Year	Floodplain As Is	243000.00	-34.25	35.35	-6.84	35.69	0.000049	4.74	59955.97	1636.02	0.12
Restudy Reach	267113	500-Year	Floodplain Existing	243000.00	-34.25	35.35	-6.84	35.69	0.000049	4.74	60103.06	1636.41	0.12
Restudy Reach	267113	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-34.25	35.35	-6.84	35.69	0.000049	4.74	60103.06	1636.41	0.12
Restudy Reach	266798	10-Year	Floodplain As Is	138000.00	-35.68	24.13	-10.14	24.33	0.000043	3.67	42243.28	1852.46	0.10
Restudy Reach	266798	10-Year	Floodplain Existing	138000.00	-35.68	27.33	-10.14	27.50	0.000032	3.35	47403.23	1877.59	0.09
Restudy Reach	266798	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-35.68	27.33	-10.14	27.50	0.000032	3.35	47403.23	1877.59	0.09
Restudy Reach	266798	50-Year	Floodplain As Is	181000.00	-35.68	28.86	-7.96	29.13	0.000049	4.24	49225.49	1881.83	0.11
Restudy Reach	266798	50-Year	Floodplain Existing	181000.00	-35.68	29.96	-7.97	30.22	0.000045	4.11	51314.90	1895.14	0.11
Restudy Reach	266798	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-35.68	29.96	-7.97	30.22	0.000045	4.11	51314.90	1895.14	0.11
Restudy Reach	266798	100-Year	Floodplain As Is	200000.00	-35.68	30.80	-7.10	31.10	0.000052	4.47	52106.45	1893.59	0.12
Restudy Reach	266798	100-Year	Floodplain Existing	200000.00	-35.68	30.80	-7.11	31.09	0.000051	4.45	52551.65	1899.83	0.12
Restudy Reach	266798	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-35.68	30.80	-7.11	31.09	0.000051	4.45	52551.65	1899.83	0.12
Restudy Reach	266798	500-Year	Floodplain As Is	243000.00	-35.68	35.31	-5.25	35.67	0.000055	4.89	58891.76	1932.14	0.12
Restudy Reach	266798	500-Year	Floodplain Existing	243000.00	-35.68	35.32	-5.25	35.67	0.000054	4.87	59348.12	1938.11	0.12
Restudy Reach	266798	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-35.68	35.32	-5.25	35.67	0.000054	4.87	59348.12	1938.11	0.12
Restudy Reach	266484	10-Year	Floodplain As Is	138000.00	-24.48	24.11	-5.22	24.32	0.000049	3.74	42918.80	2043.89	0.11
Restudy Reach	266484	10-Year	Floodplain Existing	138000.00	-24.48	27.31	-5.22	27.49	0.000036	3.39	48803.64	2057.43	0.10
Restudy Reach	266484	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-24.48	27.31	-5.22	27.49	0.000036	3.39	48803.64	2057.43	0.10
Restudy Reach	266484	50-Year	Floodplain As Is	181000.00	-24.48	28.84	-3.30	29.12	0.000054	4.27	50861.09	2061.03	0.12
Restudy Reach	266484	50-Year	Floodplain Existing	181000.00	-24.48	29.95	-3.30	30.20	0.000049	4.13	53236.52	2074.65	0.11
Restudy Reach	266484	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-24.48	29.95	-3.30	30.20	0.000049	4.13	53236.52	2074.65	0.11
Restudy Reach	266484	100-Year	Floodplain As Is	200000.00	-24.48	30.78	-2.51	31.08	0.000056	4.48	54132.98	2077.39	0.12
Restudy Reach	266484	100-Year	Floodplain Existing	200000.00	-24.48	30.78	-2.51	31.08	0.000056	4.46	54639.09	2077.76	0.12
Restudy Reach	266484	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-24.48	30.78	-2.51	31.08	0.000056	4.46	54639.09	2077.76	0.12
Restudy Reach	266484	500-Year	Floodplain As Is	243000.00	-24.48	35.30	-0.78	35.65	0.000058	4.86	61808.60	2097.27	0.13
Restudy Reach	266484	500-Year	Floodplain Existing	243000.00	-24.48	35.31	-0.78	35.65	0.000057	4.84	62326.79	2098.27	0.12
Restudy Reach	266484	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-24.48	35.31	-0.78	35.65	0.000057	4.84	62326.79	2098.27	0.12
Restudy Reach	266003	10-Year	Floodplain As Is	138000.00	-9.10	24.08	2.08	24.29	0.000068	3.80	43627.01	2230.85	0.13
Restudy Reach	266003	10-Year	Floodplain Existing	138000.00	-9.10	27.30	2.08	27.46	0.000045	3.34	50978.61	2269.68	0.10
Restudy Reach	266003	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-9.10	27.30	2.08	27.46	0.000045	3.34	50978.61	2269.68	0.10
Restudy Reach	266003	50-Year	Floodplain As Is	181000.00	-9.10	28.83	3.70	29.08	0.000067	4.17	53533.09	2271.68	0.13
Restudy Reach	266003	50-Year	Floodplain Existing	181000.00	-9.10	29.94	3.70	30.17	0.000058	3.99	56497.97	2284.26	0.12
Restudy Reach	266003	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-9.10	29.94	3.70	30.17	0.000058	3.99	56497.97	2284.26	0.12
Restudy Reach	266003	100-Year	Floodplain As Is	200000.00	-9.10	30.78	4.38	31.04	0.000066	4.32	57605.80	2282.23	0.13
Restudy Reach	266003	100-Year	Floodplain Existing	200000.00	-9.10	30.77	4.38	31.04	0.000065	4.29	58239.64	2288.54	0.13
Restudy Reach	266003	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-9.10	30.77	4.38	31.04	0.000065	4.29	58239.64	2288.54	0.13
Restudy Reach	266003	500-Year	Floodplain As Is	243000.00	-9.10	35.31	5.81	35.61	0.000063	4.57	67141.90	2305.40	0.13
Restudy Reach	266003	500-Year	Floodplain Existing	243000.00	-9.10	35.32	5.81	35.61	0.000062	4.54	67790.41	2312.55	0.13
Restudy Reach	266003	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-9.10	35.32	5.81	35.61	0.000062	4.54	67790.41	2312.55	0.13
Restudy Reach	265447	10-Year	Floodplain As Is	138000.00	-8.36	24.06	2.94	24.25	0.000062	3.54	47187.73	2317.51	0.12
Restudy Reach	265447	10-Year	Floodplain Existing	138000.00	-8.36	27.29	2.94	27.43	0.000041	3.11	55281.57	2335.36	0.10
Restudy Reach	265447	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-8.36	27.29	2.94	27.43	0.000041	3.11	55281.57	2335.36	0.10
Restudy Reach	265447	50-Year	Floodplain As Is	181000.00	-8.36	28.82	4.40	29.04	0.000060	3.88	58263.84	2339.59	0.12
Restudy Reach	265447	50-Year	Floodplain Existing	181000.00	-8.36	29.93	4.40	30.13	0.000053	3.73	61459.77	2347.91	0.11
Restudy Reach	265447	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-8.36	29.93	4.40	30.13	0.000053	3.73	61459.77	2347.91	0.11
Restudy Reach	265447	100-Year	Floodplain As Is	200000.00	-8.36	30.76	5.00	31.00	0.000060	4.02	62827.59	2349.51	0.12
Restudy Reach	265447	100-Year	Floodplain Existing	200000.00	-8.36	30.76	5.00	30.99	0.000059	4.01	63410.75	2352.14	0.12
Restudy Reach	265447	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-8.36	30.76	5.00	30.99	0.000059	4.01	63410.75	2352.14	0.12
Restudy Reach	265447	500-Year	Floodplain As Is	243000.00	-8.36	35.30	6.30	35.56	0.000057	4.25	73546.73	2373.02	0.12
Restudy Reach	265447	500-Year	Floodplain Existing	243000.00	-8.36	35.31	6.30	35.56	0.000056	4.24	74157.02	2374.94	0.12
Restudy Reach	265447	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-8.36	35.31	6.30	35.56	0.000056	4.24	74157.02	2374.94	0.12
Restudy Reach	265212	10-Year	Floodplain As Is	138000.00	-9.11	24.06	3.01	24.22	0.000055	3.28	46367.88	2124.95	0.11
Restudy Reach	265212	10-Year	Floodplain Existing	138000.00	-9.11	27.30	3.00	27.42	0.000036	2.88	53764.22	2152.16	0.09
Restudy Reach	265212	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-9.11	27.30	3.00	27.42	0.000036	2.88	53764.22	2152.16	0.09
Restudy Reach	265212	50-Year	Floodplain As Is	181000.00	-9.11	28.82	4.39	29.01	0.000053	3.59	56551.04	2152.05	0.11
Restudy Reach	265212	50-Year	Floodplain Existing	181000.00	-9.11	29.94	4.39	30.11	0.000046	3.44	59472.00	2167.40	0.11
Restudy Reach	265212	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-9.11	29.94	4.39	30.11	0.000046	3.44	59472.00	2167.40	0.11
Restudy Reach	265212	100-Year	Floodplain As Is	200000.00	-9.11	30.77	4.96	30.97	0.000052	3.71	60754.32	2162.31	0.11
Restudy Reach	265212	100-Year	Floodplain Existing	200000.00	-9.11	30.77	4.97	30.97	0.000051	3.69	61277.77	2172.07	0.11
Restudy Reach	265212	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-9.11	30.77	4.97	30.97	0.000051	3.69	61277.77	2172.07	0.11
Restudy Reach	265212	500-Year	Floodplain As Is	243000.00	-9.11	35.32	6.18	35.54	0.000049	3.92	70638.52	2189.13	0.11
Restudy Reach	265212	500-Year	Floodplain Existing	243000.00	-9.11	35.32	6.18	35.54	0.000048	3.90	71219.63	2197.38	0.11
Restudy Reach	265212	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-9.11	35.32	6.18	35.54	0.000048	3.90	71219.63	2197.38	0.11
Restudy Reach	264987	10-Year	Floodplain As Is	138000.00	-8.91	24.03	3.53	24.21	0.000062	3.40	42547.75	1947.05	0.12
Restudy Reach	264987	10-Year	Floodplain Existing	138000.00	-8.91	27.27	3.53	27.41	0.000041	3.00	49476.18	2065.34	0.10
Restudy Reach	264987	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-8.91	27.27	3.53	27.41	0.000041	3.00	49476.18	2065.34	0.10
Restudy Reach	264987	50-Year	Floodplain As Is	181000.00	-8.91	28.79	4.85	29.00	0.000060	3.73	52280.77	2071.86	0.12
Restudy Reach	264987	50-Year	Floodplain Existing	181000.00	-8.91	29.90	4.85	30.10	0.000052	3.58	54934.98	2081.20	0.11
Restudy Reach	264987	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-8.91	29.90	4.85	30.10	0.000052	3.58	54934.98	2081.20	0.11
Restudy Reach	264987	100-Year	Floodplain As Is	200000.00	-8.91	30.73	5.40	30.96	0.000059	3.86	56325.26	2083.20	0.12
Restudy Reach	264987	100-Year	Floodplain Existing	200000.00	-8.91	30.73	5.40	30.95	0.000058	3.85	56658.62	2086.27	0.12
Restudy Reach	264987	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-8.91	30.73	5.40	30.95	0.000058	3.85	56658.62	2086.27	0.12
Restudy Reach	264987	500-Year	Floodplain As Is	243000.00	-8.91	35.28	6.58	35.52	0.000055	4.07	65848.48	2110.95	0.12
Restudy Reach	264987	500-Year	Floodplain Existing	243000.00	-8.91	35.28	6.58	35.53	0.000054	4.06	66210.55	2114.95	0.12
Restudy Reach	264987	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-8.91	35.28	6.58	35.53	0.000054	4.06	66210.55	2114.95	0.12
Restudy Reach	264493	10-Year	Floodplain As Is	138000.00	-11.89	24.00	3.45	24.18	0.000061	3.42	41336.47	1624.36	0.12
Restudy Reach	264493	10-Year	Floodplain Existing	138000.00	-11.89	27.24	3.45	27.39	0.000042	3.05	46536.64	1658.60	0.10
Restudy Reach	264493	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-11.89	27.24	3.45	27.39	0.000042	3.05	46536.64	1658.60	0.10
Restudy Reach	264493	50-Year	Floodplain As Is	181000.00	-11.89	28.75	4.78	28.97	0.000061	3.79	49166.86	1662.76	0.12
Restudy Reach	264493	50-Year	Floodplain Existing	181000.00	-11.89	29.86	4.78	30.07	0.000054	3.67	50899.83	1676.10	0.11
Restudy Reach	264493	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-11.89	29.86	4.78	30.07	0.000054	3.67	50899.83	1676.10	0.11
Restudy Reach	264493	100-Year	Floodplain As Is	200000.00	-11.89	30.69	5.33	30.93	0.000061	3.94	52417.49	1686.35	0.12
Restudy Reach	264493	100-Year	Floodplain Existing	200000.00	-11.89	30.69	5.33	30.92	0.000061	3.95	52279.58	1687.98	0.12
Restudy Reach	264493	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-11.89	30.69	5.33	30.92	0.000061	3.95	52279.58	1687.98	0.12
Restudy Reach	264493	500-Year	Floodplain As Is	243000.00	-11.89	35.22	6.51	35.49	0.000058	4.20	60239.72	1752.40	0.12
Restudy Reach	264493	500-Year	Floodplain Existing	243000.00	-11.89	35.23	6.51	35.50	0.000058	4.20	60121.95	1754.43	0.12
Restudy Reach	264493	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-11.89	35.23	6.51	35.50	0.000058	4.20	60121.95	1754.43	0.12
Restudy Reach	264191	10-Year	Floodplain As Is	138000.00	-11.35	23.94	2.65	24.16	0.000069	3.72	37604.14	1410.69	0.13
Restudy Reach	264191	10-Year	Floodplain Existing	138000.00	-11.35	27.20	2.65	27.37	0.000047	3.32	42223.87	1424.53	0.11
Restudy Reach	264191	10-Year	Floodplain Run Proposed 7-2-2025	138000.00	-11.35	27.20	2.65	27.37	0.000047	3.32	42223.87	1424.53	0.11
Restudy Reach	264191	50-Year	Floodplain As Is	181000.00	-11.35	28.68	4.13	28.94	0.000070	4.15	44332.62	1430.81	0.13

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	264191	50-Year	Floodplain Existing	181000.00	-11.35	29.80	4.13	30.05	0.000062	4.01	45942.00	1435.59	0.12
Restudy Reach	264191	50-Year	Floodplain Run Proposed 7-2-2025	181000.00	-11.35	29.80	4.13	30.05	0.000062	4.01	45942.00	1435.59	0.12
Restudy Reach	264191	100-Year	Floodplain As Is	200000.00	-11.35	30.61	4.74	30.90	0.000070	4.32	47112.76	1439.32	0.13
Restudy Reach	264191	100-Year	Floodplain Existing	200000.00	-11.35	30.61	4.74	30.90	0.000070	4.32	47106.33	1439.30	0.13
Restudy Reach	264191	100-Year	Floodplain Run Proposed 7-2-2025	200000.00	-11.35	30.61	4.74	30.90	0.000070	4.32	47106.33	1439.30	0.13
Restudy Reach	264191	500-Year	Floodplain As Is	243000.00	-11.35	35.14	6.06	35.47	0.000068	4.62	53714.88	1486.55	0.13
Restudy Reach	264191	500-Year	Floodplain Existing	243000.00	-11.35	35.14	6.06	35.47	0.000068	4.62	53718.67	1486.63	0.13
Restudy Reach	264191	500-Year	Floodplain Run Proposed 7-2-2025	243000.00	-11.35	35.14	6.06	35.47	0.000068	4.62	53718.67	1486.63	0.13
Restudy Reach	263937	10-Year	Floodplain As Is	138000.00	-12.39	23.91	0.40	24.14	0.000066	3.81	36271.77	1214.72	0.12
Restudy Reach	263937	50-Year	Floodplain As Is	181000.00	-12.39	28.64	1.94	28.92	0.000070	4.31	42048.35	1231.17	0.13
Restudy Reach	263937	100-Year	Floodplain As Is	200000.00	-12.39	30.57	2.57	30.88	0.000072	4.51	44433.53	1237.90	0.13
Restudy Reach	263937	500-Year	Floodplain As Is	243000.00	-12.39	35.08	3.94	35.45	0.000073	4.86	50054.64	1253.61	0.14
Restudy Reach	263801			Bridge									
Restudy Reach	263674	10-Year	Floodplain As Is	138000.00	-18.97	23.76	-3.64	23.95	0.000049	3.54	39003.48	1132.43	0.11
Restudy Reach	263674	50-Year	Floodplain As Is	181000.00	-18.97	28.42	-1.91	28.68	0.000056	4.09	44315.97	1143.65	0.12
Restudy Reach	263674	100-Year	Floodplain As Is	200000.00	-18.97	30.32	-1.25	30.61	0.000059	4.30	46493.59	1147.35	0.12
Restudy Reach	263674	500-Year	Floodplain As Is	243000.00	-18.97	34.75	0.15	35.10	0.000062	4.71	51595.18	1155.97	0.12
Restudy Reach	263492	10-Year	Floodplain As Is	138000.00	-20.12	23.66	-1.95	23.93	0.000072	4.21	32757.16	1012.34	0.13
Restudy Reach	263492	50-Year	Floodplain As Is	181000.00	-20.12	28.30	-0.13	28.66	0.000080	4.83	37614.82	1081.60	0.14
Restudy Reach	263492	100-Year	Floodplain As Is	200000.00	-20.12	30.19	0.61	30.59	0.000083	5.07	39668.19	1090.42	0.14
Restudy Reach	263492	500-Year	Floodplain As Is	243000.00	-20.12	34.60	2.23	35.07	0.000085	5.51	44531.06	1109.65	0.15
Restudy Reach	262995	10-Year	Floodplain As Is	138000.00	-21.22	23.30	-1.59	23.86	0.000138	6.00	23676.23	817.01	0.18
Restudy Reach	262995	50-Year	Floodplain As Is	181000.00	-21.22	27.84	1.10	28.57	0.000155	6.90	27538.89	897.59	0.20
Restudy Reach	262995	100-Year	Floodplain As Is	200000.00	-21.22	29.69	2.19	30.49	0.000161	7.25	29240.65	936.41	0.20
Restudy Reach	262995	500-Year	Floodplain As Is	243000.00	-21.22	34.03	4.40	34.97	0.000165	7.87	33336.68	950.06	0.21
Restudy Reach	262580	10-Year	Floodplain As Is	138000.00	-22.96	23.28	-5.32	23.79	0.000113	5.76	24667.65	839.45	0.17
Restudy Reach	262580	50-Year	Floodplain As Is	181000.00	-22.96	27.82	-2.64	28.49	0.000128	6.64	28511.21	853.50	0.18
Restudy Reach	262580	100-Year	Floodplain As Is	200000.00	-22.96	29.67	-1.53	30.41	0.000134	6.98	30096.75	858.96	0.19
Restudy Reach	262580	500-Year	Floodplain As Is	243000.00	-22.96	34.02	0.84	34.88	0.000139	7.60	33860.02	872.25	0.19
Restudy Reach	262430			Bridge									
Restudy Reach	262311	10-Year	Floodplain As Is	138000.00	-23.31	23.18	-4.35	23.71	0.000118	5.84	24675.25	820.24	0.17
Restudy Reach	262311	50-Year	Floodplain As Is	181000.00	-23.31	27.68	-1.79	28.39	0.000136	6.78	28398.39	834.73	0.19
Restudy Reach	262311	100-Year	Floodplain As Is	200000.00	-23.31	29.51	-0.72	30.30	0.000143	7.15	29933.82	841.60	0.19
Restudy Reach	262311	500-Year	Floodplain As Is	243000.00	-23.31	33.82	1.57	34.75	0.000151	7.85	33588.43	857.17	0.20
Restudy Reach	262003	10-Year	Floodplain As Is	138000.00	-20.59	23.14	-2.88	23.67	0.000124	5.93	24263.77	823.00	0.17
Restudy Reach	262003	50-Year	Floodplain As Is	181000.00	-20.59	27.64	-0.27	28.34	0.000140	6.82	27971.31	823.00	0.19
Restudy Reach	262003	100-Year	Floodplain As Is	200000.00	-20.59	29.47	0.82	30.25	0.000146	7.17	29480.54	823.00	0.20
Restudy Reach	262003	500-Year	Floodplain As Is	243000.00	-20.59	33.79	3.08	34.70	0.000153	7.82	33028.38	823.00	0.20
Restudy Reach	261497	10-Year	Floodplain As Is	138000.00	-21.25	23.14	-2.04	23.59	0.000114	5.40	26111.94	877.63	0.16
Restudy Reach	261497	50-Year	Floodplain As Is	181000.00	-21.25	27.65	0.24	28.24	0.000126	6.19	30127.08	900.25	0.18
Restudy Reach	261497	100-Year	Floodplain As Is	200000.00	-21.25	29.49	1.18	30.14	0.000131	6.51	31791.78	909.57	0.18
Restudy Reach	261497	500-Year	Floodplain As Is	243000.00	-21.25	33.82	3.24	34.58	0.000135	7.08	35772.09	931.35	0.19
Restudy Reach	261002	10-Year	Floodplain As Is	138000.00	-21.35	23.10	-1.45	23.52	0.000111	5.26	26969.02	941.92	0.16
Restudy Reach	261002	50-Year	Floodplain As Is	181000.00	-21.35	27.62	1.42	28.17	0.000122	6.01	31279.10	965.42	0.17
Restudy Reach	261002	100-Year	Floodplain As Is	200000.00	-21.35	29.46	2.34	30.06	0.000126	6.31	33065.54	974.90	0.18
Restudy Reach	261002	500-Year	Floodplain As Is	243000.00	-21.35	33.79	4.25	34.50	0.000129	6.84	37343.02	999.84	0.18
Restudy Reach	260507	10-Year	Floodplain As Is	139000.00	-23.77	23.06	-1.35	23.46	0.000105	5.08	28016.76	958.89	0.16
Restudy Reach	260507	50-Year	Floodplain As Is	183000.00	-23.77	27.58	0.98	28.10	0.000115	5.82	32408.35	984.71	0.17
Restudy Reach	260507	100-Year	Floodplain As Is	202000.00	-23.77	29.43	1.90	29.99	0.000119	6.10	34233.22	995.66	0.17
Restudy Reach	260507	500-Year	Floodplain As Is	248000.00	-23.77	33.75	3.94	34.43	0.000124	6.68	38600.46	1024.82	0.18
Restudy Reach	260007	10-Year	Floodplain As Is	139000.00	-22.16	23.00	-1.17	23.41	0.000107	5.16	27814.20	972.89	0.16
Restudy Reach	260007	50-Year	Floodplain As Is	183000.00	-22.16	27.50	1.23	28.04	0.000119	5.93	32259.89	1004.11	0.17
Restudy Reach	260007	100-Year	Floodplain As Is	202000.00	-22.16	29.34	2.18	29.93	0.000122	6.21	34113.53	1010.71	0.18
Restudy Reach	260007	500-Year	Floodplain As Is	248000.00	-22.16	33.66	4.24	34.36	0.000127	6.81	38507.76	1024.14	0.18
Restudy Reach	259505	10-Year	Floodplain As Is	139000.00	-20.44	22.94	-1.11	23.35	0.000110	5.18	27235.56	955.68	0.16
Restudy Reach	259505	50-Year	Floodplain As Is	183000.00	-20.44	27.44	1.09	27.98	0.000122	5.93	31807.61	1078.02	0.17
Restudy Reach	259505	100-Year	Floodplain As Is	202000.00	-20.44	29.28	1.97	29.87	0.000125	6.21	33836.64	1114.72	0.18
Restudy Reach	259505	500-Year	Floodplain As Is	248000.00	-20.44	33.60	3.95	34.30	0.000130	6.78	38759.58	1169.12	0.18
Restudy Reach	259012	10-Year	Floodplain As Is	139000.00	-22.60	22.87	-3.00	23.30	0.000099	5.29	28492.65	1022.16	0.16
Restudy Reach	259012	50-Year	Floodplain As Is	183000.00	-22.60	27.35	-0.73	27.92	0.000114	6.13	33063.01	1158.85	0.17
Restudy Reach	259012	100-Year	Floodplain As Is	202000.00	-22.60	29.18	0.18	29.80	0.000119	6.45	35047.01	1234.53	0.18
Restudy Reach	259012	500-Year	Floodplain As Is	248000.00	-22.60	33.48	2.29	34.23	0.000127	7.10	40085.37	1518.01	0.18
Restudy Reach	258500	10-Year	Floodplain As Is	139000.00	-17.88	22.84	-0.94	23.24	0.000107	5.09	30134.17	1170.02	0.16
Restudy Reach	258500	50-Year	Floodplain As Is	183000.00	-17.88	27.33	1.18	27.84	0.000117	5.80	35643.02	1245.99	0.17
Restudy Reach	258500	100-Year	Floodplain As Is	202000.00	-17.88	29.17	2.04	29.72	0.000120	6.07	37939.87	1286.59	0.17
Restudy Reach	258500	500-Year	Floodplain As Is	248000.00	-17.88	33.48	4.13	34.14	0.000124	6.62	43466.37	1563.52	0.18
Restudy Reach	257999	10-Year	Floodplain As Is	139000.00	-17.24	22.80	-1.01	23.18	0.000105	4.98	29345.07	2709.36	0.16
Restudy Reach	257999	50-Year	Floodplain As Is	183000.00	-17.24	27.29	1.09	27.78	0.000114	5.68	34587.43	3125.96	0.17
Restudy Reach	257999	100-Year	Floodplain As Is	202000.00	-17.24	29.12	1.93	29.66	0.000117	5.93	36783.50	3249.86	0.17
Restudy Reach	257999	500-Year	Floodplain As Is	248000.00	-17.24	33.44	3.95	34.07	0.000119	6.46	42380.61	3654.94	0.18
Restudy Reach	257503	10-Year	Floodplain As Is	139000.00	-18.30	22.77	-1.21	23.12	0.000096	4.82	30959.48	4251.84	0.15
Restudy Reach	257503	50-Year	Floodplain As Is	183000.00	-18.30	27.26	0.84	27.71	0.000105	5.49	36311.57	4382.30	0.16
Restudy Reach	257503	100-Year	Floodplain As Is	202000.00	-18.30	29.09	1.68	29.59	0.000107	5.74	38507.94	4398.89	0.16
Restudy Reach	257503	500-Year	Floodplain As Is	248000.00	-18.30	33.41	3.59	34.00	0.000112	6.29	43802.63	4496.70	0.17
Restudy Reach	256938	10-Year	Floodplain As Is	139000.00	-20.47	22.73	-1.88	23.06	0.000086	4.75	34916.72	3173.84	0.14
Restudy Reach	256938	50-Year	Floodplain As Is	183000.00	-20.47	27.24	0.28	27.64	0.000091	5.32	42100.64	3203.82	0.15
Restudy Reach	256938	100-Year	Floodplain As Is	202000.00	-20.47	29.08	1.14	29.51	0.000093	5.53	45054.57	3214.33	0.15
Restudy Reach	256938	500-Year	Floodplain As Is	248000.00	-20.47	33.42	3.14	33.91	0.000094	5.95	52042.06	3288.73	0.16
Restudy Reach	256758			Mult Open									
Restudy Reach	256457	10-Year	Floodplain As Is	139000.00	-20.67	22.67	-2.87	23.01	0.000092	4.80	35601.07	2102.84	0.15
Restudy Reach	256457	50-Year	Floodplain As Is	183000.00	-20.67	27.17	-0.55	27.58	0.000097	5.38	43184.11	2259.66	0.15
Restudy Reach	256457	100-Year	Floodplain As Is	202000.00	-20.67	29.02	0.39	29.45	0.000098	5.59	46321.09	2521.29	0.16
Restudy Reach	256457	500-Year	Floodplain As Is	248000.00	-20.67	33.35	2.55	33.85	0.000099	6.02	53783.71	2853.94	0.16
Restudy Reach	255927	10-Year	Floodplain As Is	139000.00	-28.29	22.69	-4.73	22.94	0.000064	4.15	39276.95	2017.08	0.12
Restudy Reach	255927	50-Year	Floodplain As Is	183000.00	-28.29	27.18	-2.68	27.52	0.000071	4.75	46413.52	2393.34	0.13
Restudy Reach	255927	100-Year	Floodplain As Is	202000.00	-28.29	29.02	-1.84	29.39	0.000074	4.97	49383.85	2669.15	0.14
Restudy Reach	255927	500-Year	Floodplain As Is	248000.00	-28.29	33.35	0.07	33.78	0.000077	5.44	56438.46	3036.64	0.14

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	255515	10-Year	Floodplain As Is	139000.00	-20.73	22.68	-4.88	22.91	0.000058	3.87	40847.68	1715.89	0.12
Restudy Reach	255515	50-Year	Floodplain As Is	183000.00	-20.73	27.19	-2.84	27.48	0.000064	4.43	47920.03	2085.58	0.13
Restudy Reach	255515	100-Year	Floodplain As Is	202000.00	-20.73	29.03	-2.02	29.34	0.000066	4.64	50846.10	2148.64	0.13
Restudy Reach	255515	500-Year	Floodplain As Is	248000.00	-20.73	33.36	-0.15	33.74	0.000069	5.08	57793.02	2684.74	0.13
Restudy Reach	255015	10-Year	Floodplain As Is	139000.00	-18.79	22.67	-5.26	22.88	0.000051	3.67	38802.46	1582.75	0.11
Restudy Reach	255015	50-Year	Floodplain As Is	183000.00	-18.79	27.17	-3.38	27.44	0.000057	4.20	48860.82	1811.32	0.12
Restudy Reach	255015	100-Year	Floodplain As Is	202000.00	-18.79	29.01	-2.63	29.31	0.000059	4.40	52206.13	1867.73	0.12
Restudy Reach	255015	500-Year	Floodplain As Is	248000.00	-18.79	33.34	-0.86	33.69	0.000061	4.82	60178.88	1989.26	0.13
Restudy Reach	254508	10-Year	Floodplain As Is	139000.00	-19.02	22.57	-2.72	22.84	0.000070	4.19	34556.28	1386.95	0.13
Restudy Reach	254508	50-Year	Floodplain As Is	183000.00	-19.02	27.05	-0.76	27.40	0.000077	4.79	42463.75	1623.48	0.14
Restudy Reach	254508	100-Year	Floodplain As Is	202000.00	-19.02	28.88	0.02	29.26	0.000080	5.02	45504.02	1690.29	0.14
Restudy Reach	254508	500-Year	Floodplain As Is	248000.00	-19.02	33.19	1.82	33.65	0.000082	5.48	53083.14	1908.90	0.15
Restudy Reach	253924	10-Year	Floodplain As Is	139000.00	-18.08	22.53	-1.25	22.80	0.000073	4.13	34506.44	1225.79	0.13
Restudy Reach	253924	50-Year	Floodplain As Is	183000.00	-18.08	27.01	0.60	27.35	0.000079	4.71	40051.11	1252.65	0.14
Restudy Reach	253924	100-Year	Floodplain As Is	202000.00	-18.08	28.84	1.35	29.21	0.000081	4.93	42355.17	1263.64	0.14
Restudy Reach	253924	500-Year	Floodplain As Is	248000.00	-18.08	33.15	3.10	33.60	0.000084	5.39	47863.05	1289.54	0.15
Restudy Reach	253473	10-Year	Floodplain As Is	139000.00	-18.47	22.47	-0.27	22.76	0.000082	4.30	33433.62	1262.29	0.14
Restudy Reach	253473	50-Year	Floodplain As Is	183000.00	-18.47	26.94	1.55	27.31	0.000088	4.90	39155.36	1299.51	0.15
Restudy Reach	253473	100-Year	Floodplain As Is	202000.00	-18.47	28.77	2.30	29.17	0.000090	5.13	41541.61	1309.86	0.15
Restudy Reach	253473	500-Year	Floodplain As Is	248000.00	-18.47	33.08	4.02	33.55	0.000092	5.59	47339.83	1378.49	0.15
Restudy Reach	252982	10-Year	Floodplain As Is	139000.00	-17.67	22.43	-0.19	22.72	0.000083	4.35	32984.64	1220.81	0.14
Restudy Reach	252982	50-Year	Floodplain As Is	183000.00	-17.67	26.88	1.61	27.26	0.000090	4.96	38498.90	1255.07	0.15
Restudy Reach	252982	100-Year	Floodplain As Is	202000.00	-17.67	28.71	2.33	29.12	0.000092	5.20	40816.84	1290.09	0.15
Restudy Reach	252982	500-Year	Floodplain As Is	248000.00	-17.67	33.01	4.02	33.51	0.000095	5.68	46495.95	1337.41	0.16
Restudy Reach	252500	10-Year	Floodplain As Is	139000.00	-27.56	22.40	-1.50	22.68	0.000075	4.23	34350.68	1230.53	0.13
Restudy Reach	252500	50-Year	Floodplain As Is	183000.00	-27.56	26.85	0.39	27.22	0.000082	4.86	39883.49	1254.24	0.14
Restudy Reach	252500	100-Year	Floodplain As Is	202000.00	-27.56	28.68	1.16	29.08	0.000085	5.09	42179.03	1261.90	0.15
Restudy Reach	252500	500-Year	Floodplain As Is	248000.00	-27.56	32.98	2.89	33.46	0.000088	5.58	47743.96	1342.27	0.15
Restudy Reach	251990	10-Year	Floodplain As Is	139000.00	-15.83	22.35	-1.15	22.64	0.000078	4.30	33494.96	1198.17	0.14
Restudy Reach	251990	50-Year	Floodplain As Is	183000.00	-15.83	26.80	0.66	27.17	0.000086	4.93	38881.09	1222.96	0.15
Restudy Reach	251990	100-Year	Floodplain As Is	202000.00	-15.83	28.62	1.39	29.03	0.000088	5.17	41117.81	1232.19	0.15
Restudy Reach	251990	500-Year	Floodplain As Is	248000.00	-15.83	32.92	3.08	33.41	0.000092	5.67	46464.37	1256.50	0.16
Restudy Reach	251502	10-Year	Floodplain As Is	139000.00	-17.61	22.31	-1.14	22.60	0.000080	4.26	33113.55	1152.24	0.14
Restudy Reach	251502	50-Year	Floodplain As Is	183000.00	-17.61	26.76	0.71	27.13	0.000087	4.87	38290.10	1175.82	0.15
Restudy Reach	251502	100-Year	Floodplain As Is	202000.00	-17.61	28.58	1.45	28.98	0.000089	5.11	40440.58	1185.85	0.15
Restudy Reach	251502	500-Year	Floodplain As Is	248000.00	-17.61	32.88	3.12	33.36	0.000092	5.59	45585.30	1207.39	0.15
Restudy Reach	250930	10-Year	Floodplain As Is	139000.00	-14.81	22.24	-1.01	22.55	0.000086	4.46	31532.20	1100.10	0.14
Restudy Reach	250930	50-Year	Floodplain As Is	183000.00	-14.81	26.67	0.87	27.07	0.000095	5.12	36456.56	1124.51	0.15
Restudy Reach	250930	100-Year	Floodplain As Is	202000.00	-14.81	28.48	1.63	28.93	0.000097	5.37	38507.78	1135.36	0.16
Restudy Reach	250930	500-Year	Floodplain As Is	248000.00	-14.81	32.77	3.37	33.30	0.000101	5.89	43426.52	1160.96	0.16
Restudy Reach	250006	10-Year	Floodplain As Is	139000.00	-16.04	22.12	-1.94	22.46	0.000092	4.75	32486.52	1356.38	0.15
Restudy Reach	250006	50-Year	Floodplain As Is	183000.00	-16.04	26.53	0.05	26.98	0.000101	5.43	38550.76	1390.45	0.16
Restudy Reach	250006	100-Year	Floodplain As Is	202000.00	-16.04	28.34	0.86	28.83	0.000104	5.69	41082.21	1404.33	0.16
Restudy Reach	250006	500-Year	Floodplain As Is	248000.00	-16.04	32.62	2.71	33.20	0.000108	6.22	47159.20	2556.08	0.17
Restudy Reach	248883	10-Year	Floodplain As Is	139000.00	-15.22	22.07	-1.89	22.34	0.000079	4.22	39719.45	2344.81	0.14
Restudy Reach	248883	50-Year	Floodplain As Is	183000.00	-15.22	26.51	0.00	26.84	0.000082	4.72	50225.25	2387.02	0.14
Restudy Reach	248883	100-Year	Floodplain As Is	202000.00	-15.22	28.33	0.76	28.69	0.000083	4.90	54587.82	2433.58	0.14
Restudy Reach	248883	500-Year	Floodplain As Is	248000.00	-15.22	32.64	2.49	33.04	0.000082	5.25	65060.44	3127.69	0.15
Restudy Reach	247715	10-Year	Floodplain As Is	139000.00	-24.36	21.99	-2.24	22.24	0.000080	4.27	54758.80	3955.91	0.14
Restudy Reach	247715	50-Year	Floodplain As Is	183000.00	-24.36	26.45	0.06	26.73	0.000078	4.62	72474.86	3993.16	0.14
Restudy Reach	247715	100-Year	Floodplain As Is	202000.00	-24.36	28.28	0.94	28.57	0.000076	4.73	79791.12	4368.04	0.14
Restudy Reach	247715	500-Year	Floodplain As Is	248000.00	-24.36	32.62	2.88	32.92	0.000072	4.96	97182.09	7414.41	0.14
Restudy Reach	245844	10-Year	Floodplain As Is	139000.00	-16.16	22.10	-3.10	22.14	0.000010	1.54	88598.79	5252.83	0.05
Restudy Reach	245844	50-Year	Floodplain As Is	183000.00	-16.16	26.58	-1.03	26.63	0.000009	1.62	112206.90	5880.39	0.05
Restudy Reach	245844	100-Year	Floodplain As Is	202000.00	-16.16	28.42	-0.21	28.47	0.000009	1.65	121942.70	6891.82	0.05
Restudy Reach	245844	500-Year	Floodplain As Is	248000.00	-16.16	32.76	1.65	32.81	0.000008	1.71	145255.20	9276.65	0.05
Restudy Reach	243331	10-Year	Floodplain As Is	139000.00	-24.67	22.10	-3.26	22.12	0.000009	1.55	114430.00	6814.13	0.05
Restudy Reach	243331	50-Year	Floodplain As Is	183000.00	-24.67	26.58	-1.01	26.61	0.000009	1.65	141579.50	7348.12	0.05
Restudy Reach	243331	100-Year	Floodplain As Is	202000.00	-24.67	28.42	-0.13	28.45	0.000009	1.69	152767.90	8096.33	0.05
Restudy Reach	243331	500-Year	Floodplain As Is	248000.00	-24.67	32.76	1.89	32.79	0.000008	1.76	179632.70	9563.60	0.05
Restudy Reach	241034	10-Year	Floodplain As Is	139000.00	-19.04	22.04	-3.71	22.10	0.000018	2.01	76807.29	7584.83	0.06
Restudy Reach	241034	50-Year	Floodplain As Is	183000.00	-19.04	26.52	-1.35	26.58	0.000016	2.10	98316.52	7961.58	0.06
Restudy Reach	241034	100-Year	Floodplain As Is	202000.00	-19.04	28.38	-0.35	28.43	0.000014	2.06	125176.50	8368.87	0.06
Restudy Reach	241034	500-Year	Floodplain As Is	248000.00	-19.04	32.75	1.83	32.78	0.000011	1.91	193497.00	10245.59	0.05
Restudy Reach	240276	10-Year	Floodplain As Is	139000.00	-18.92	21.70	-3.63	22.00	0.000084	4.54	34059.15	4893.37	0.14
Restudy Reach	240276	50-Year	Floodplain As Is	183000.00	-18.92	26.09	-1.42	26.46	0.000091	5.14	41555.83	5845.89	0.15
Restudy Reach	240276	100-Year	Floodplain As Is	202000.00	-18.92	27.89	-0.53	28.29	0.000092	5.36	44774.54	6513.35	0.15
Restudy Reach	240276	500-Year	Floodplain As Is	248000.00	-18.92	32.52	1.50	32.72	0.000052	4.35	126854.40	8463.72	0.12
Restudy Reach	240133			Mult Open									
Restudy Reach	239973	10-Year	Floodplain As Is	139000.00	-22.00	21.64	-4.76	21.91	0.000078	4.27	37073.14	4775.67	0.14
Restudy Reach	239973	50-Year	Floodplain As Is	183000.00	-22.00	26.01	-2.62	26.36	0.000083	4.81	45190.55	5366.27	0.14
Restudy Reach	239973	100-Year	Floodplain As Is	202000.00	-22.00	27.82	-1.76	28.18	0.000084	5.00	48695.58	6196.96	0.15
Restudy Reach	239973	500-Year	Floodplain As Is	248000.00	-22.00	32.21	0.25	32.44	0.000057	4.43	110770.10	8292.02	0.12
Restudy Reach	239116	10-Year	Floodplain As Is	139000.00	-23.65	21.61	-2.89	21.80	0.000068	3.94	61475.74	5801.65	0.13
Restudy Reach	239116	50-Year	Floodplain As Is	183000.00	-23.65	26.01	-0.55	26.22	0.000066	4.23	79988.03	5948.57	0.13
Restudy Reach	239116	100-Year	Floodplain As Is	202000.00	-23.65	27.82	0.38	28.04	0.000065	4.34	87787.50	6338.02	0.13
Restudy Reach	239116	500-Year	Floodplain As Is	248000.00	-23.65	32.22	2.39	32.33	0.000036	3.48	151471.40	9393.26	0.10
Restudy Reach	234173	10-Year	Floodplain As Is	140000.00	-21.57	21.44	-3.91	21.55	0.000041	3.08	92838.59	7010.03	0.10
Restudy Reach	234173	50-Year	Floodplain As Is	185000.00	-21.57	25.88	-1.82	25.98	0.000036	3.12	124233.10	7264.00	0.09
Restudy Reach	234173	100-Year	Floodplain As Is	205000.00	-21.57	27.71	-0.96	27.81	0.000034	3.14	138193.30	8350.86	0.09
Restudy Reach	234173	500-Year	Floodplain As Is	254000.00	-21.57	32.12	1.02	32.21	0.000029	3.13	177662.20	9078.03	0.09
Restudy Reach	231140	10-Year	Floodplain As Is	140000.00	-32.44	21.45		21.48	0.000011	1.73	125999.00	9274.54	0.05
Restudy Reach	231140	50-Year	Floodplain As Is	185000.00	-32.44	25.90		25.92	0.000010	1.72	167409.00	9372.41	0.05
Restudy Reach	231140	100-Year	Floodplain As Is	205000.00	-32.44	27.72		27.75	0.000009	1.72	184598.40	9440.11	0.05
Restudy Reach	231140	500-Year	Floodplain As Is	254000.00	-32.44	32.13		32.16	0.000008	1.72	226736.30	9718.24	0.05
Restudy Reach	229368	10-Year	Floodplain As Is	140000.00	-32.98	21.32		21.44	0.000047	3.52	113411.50	9483.93	0.11

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	229368	50-Year	Floodplain As Is	185000.00	-32.98	25.80		25.89	0.000037	3.39	156072.50	9581.51	0.10
Restudy Reach	229368	100-Year	Floodplain As Is	205000.00	-32.98	27.64		27.72	0.000034	3.36	173713.60	9619.29	0.09
Restudy Reach	229368	500-Year	Floodplain As Is	254000.00	-32.98	32.06		32.14	0.000028	3.28	216496.20	9736.63	0.09
Restudy Reach	225743	10-Year	Floodplain As Is	140000.00	-20.17	21.25	-2.09	21.32	0.000032	2.63	105248.80	10230.99	0.09
Restudy Reach	225743	50-Year	Floodplain As Is	185000.00	-20.17	25.75	-0.23	25.81	0.000024	2.51	146913.00	11744.28	0.08
Restudy Reach	225743	100-Year	Floodplain As Is	205000.00	-20.17	27.60	0.54	27.65	0.000022	2.48	164002.60	12241.89	0.07
Restudy Reach	225743	500-Year	Floodplain As Is	254000.00	-20.17	32.03	2.35	32.08	0.000017	2.41	207617.30	13588.06	0.07
Restudy Reach	223860	10-Year	Floodplain As Is	140000.00	-34.26	21.21	-5.04	21.27	0.000029	2.70	121614.90	11228.79	0.08
Restudy Reach	223860	50-Year	Floodplain As Is	185000.00	-34.26	25.73	-1.60	25.77	0.000022	2.56	165819.10	11489.04	0.07
Restudy Reach	223860	100-Year	Floodplain As Is	205000.00	-34.26	27.57	-0.34	27.62	0.000020	2.53	183932.90	11542.73	0.07
Restudy Reach	223860	500-Year	Floodplain As Is	254000.00	-34.26	32.01	1.90	32.05	0.000017	2.47	227609.80	11661.57	0.07
Restudy Reach	221515	10-Year	Floodplain As Is	140000.00	-32.25	21.13	-7.57	21.21	0.000033	3.07	142816.60	11615.74	0.09
Restudy Reach	221515	50-Year	Floodplain As Is	185000.00	-32.25	25.67	-4.01	25.73	0.000025	2.91	195712.10	11702.45	0.08
Restudy Reach	221515	100-Year	Floodplain As Is	205000.00	-32.25	27.53	-2.64	27.58	0.000023	2.87	217435.80	11768.20	0.08
Restudy Reach	221515	500-Year	Floodplain As Is	254000.00	-32.25	31.98	0.48	32.02	0.000019	2.78	270209.60	11996.73	0.07
Restudy Reach	216866	10-Year	Floodplain As Is	140000.00	-24.65	21.05		21.11	0.000030	2.63	118275.30	9994.17	0.08
Restudy Reach	216866	50-Year	Floodplain As Is	185000.00	-24.65	25.62		25.66	0.000021	2.43	164038.70	10030.76	0.07
Restudy Reach	216866	100-Year	Floodplain As Is	205000.00	-24.65	27.47		27.52	0.000019	2.38	182711.00	10050.86	0.07
Restudy Reach	216866	500-Year	Floodplain As Is	254000.00	-24.65	31.94		31.97	0.000015	2.30	227814.40	10176.39	0.06
Restudy Reach	215695	10-Year	Floodplain As Is	140000.00	-18.14	21.00		21.07	0.000037	2.66	109590.40	9568.63	0.09
Restudy Reach	215695	50-Year	Floodplain As Is	185000.00	-18.14	25.58		25.63	0.000025	2.46	153533.40	9617.77	0.08
Restudy Reach	215695	100-Year	Floodplain As Is	205000.00	-18.14	27.45		27.49	0.000023	2.42	171457.60	9628.93	0.07
Restudy Reach	215695	500-Year	Floodplain As Is	254000.00	-18.14	31.91		31.95	0.000018	2.33	214612.00	9691.28	0.07
Restudy Reach	214595	10-Year	Floodplain As Is	140000.00	-21.08	20.95		21.03	0.000040	2.96	113140.00	8913.63	0.10
Restudy Reach	214595	50-Year	Floodplain As Is	185000.00	-21.08	25.54		25.60	0.000031	2.86	154109.20	8934.61	0.09
Restudy Reach	214595	100-Year	Floodplain As Is	205000.00	-21.08	27.40		27.47	0.000029	2.84	170792.20	8961.50	0.08
Restudy Reach	214595	500-Year	Floodplain As Is	254000.00	-21.08	31.88		31.93	0.000024	2.81	211062.50	9023.99	0.08
Restudy Reach	213291	10-Year	Floodplain As Is	140000.00	-21.38	20.90		20.98	0.000035	2.91	96927.65	7798.99	0.09
Restudy Reach	213291	50-Year	Floodplain As Is	185000.00	-21.38	25.50		25.57	0.000026	2.77	132931.40	7836.07	0.08
Restudy Reach	213291	100-Year	Floodplain As Is	205000.00	-21.38	27.37		27.43	0.000024	2.74	147586.80	7850.22	0.08
Restudy Reach	213291	500-Year	Floodplain As Is	254000.00	-21.38	31.85		31.91	0.000020	2.67	182829.40	7891.37	0.07
Restudy Reach	211239	10-Year	Floodplain As Is	141000.00	-18.26	20.81		20.91	0.000045	3.20	88643.11	6890.71	0.10
Restudy Reach	211239	50-Year	Floodplain As Is	186000.00	-18.26	25.43		25.52	0.000034	3.08	120565.90	6913.18	0.09
Restudy Reach	211239	100-Year	Floodplain As Is	206000.00	-18.26	27.31		27.39	0.000032	3.06	133528.00	6921.93	0.09
Restudy Reach	211239	500-Year	Floodplain As Is	256000.00	-18.26	31.79		31.87	0.000026	3.02	164642.40	6942.36	0.08
Restudy Reach	208063	10-Year	Floodplain As Is	141000.00	-17.49	20.67		20.80	0.000052	3.36	68029.03	5072.08	0.11
Restudy Reach	208063	50-Year	Floodplain As Is	186000.00	-17.49	25.32		25.44	0.000042	3.36	91986.05	5268.96	0.10
Restudy Reach	208063	100-Year	Floodplain As Is	206000.00	-17.49	27.20		27.31	0.000040	3.37	101948.30	5324.97	0.10
Restudy Reach	208063	500-Year	Floodplain As Is	256000.00	-17.49	31.70		31.81	0.000034	3.39	126039.00	5388.60	0.09
Restudy Reach	206225	10-Year	Floodplain As Is	141000.00	-22.38	20.41	-3.70	20.68	0.000082	4.33	45118.89	2763.16	0.14
Restudy Reach	206225	50-Year	Floodplain As Is	186000.00	-22.38	25.02	-1.31	25.33	0.000081	4.73	60166.63	3599.69	0.14
Restudy Reach	206225	100-Year	Floodplain As Is	206000.00	-22.38	26.89	-0.24	27.21	0.000079	4.85	66952.26	3639.69	0.14
Restudy Reach	206225	500-Year	Floodplain As Is	256000.00	-22.38	31.39	2.12	31.72	0.000074	5.06	83485.55	3711.83	0.14
Restudy Reach	204481	10-Year	Floodplain As Is	141000.00	-24.99	20.02	-4.46	20.49	0.000129	5.66	30084.35	2105.02	0.18
Restudy Reach	204481	50-Year	Floodplain As Is	186000.00	-24.99	24.61	-1.37	25.14	0.000128	6.15	40957.57	2471.07	0.18
Restudy Reach	204481	100-Year	Floodplain As Is	206000.00	-24.99	26.49	-0.28	27.03	0.000125	6.29	45734.36	2740.60	0.18
Restudy Reach	204481	500-Year	Floodplain As Is	256000.00	-24.99	31.00	2.22	31.55	0.000116	6.51	58549.71	2875.51	0.17
Restudy Reach	204000	10-Year	Floodplain As Is	141000.00	-25.82	20.03	-6.34	20.41	0.000102	5.11	33605.34	2181.56	0.16
Restudy Reach	204000	50-Year	Floodplain As Is	186000.00	-25.82	24.62	-3.89	25.06	0.000106	5.63	44229.79	2395.39	0.16
Restudy Reach	204000	100-Year	Floodplain As Is	206000.00	-25.82	26.49	-2.84	26.95	0.000104	5.77	48897.22	2577.93	0.16
Restudy Reach	204000	500-Year	Floodplain As Is	256000.00	-25.82	31.00	-0.35	31.48	0.000099	6.05	61098.83	2791.35	0.16
Restudy Reach	203475	10-Year	Floodplain As Is	141000.00	-25.33	19.97	-5.30	20.36	0.000096	5.13	35450.49	2193.69	0.15
Restudy Reach	203475	50-Year	Floodplain As Is	186000.00	-25.33	24.57	-2.90	25.01	0.000098	5.63	46686.30	2493.06	0.16
Restudy Reach	203475	100-Year	Floodplain As Is	206000.00	-25.33	26.44	-1.87	26.90	0.000098	5.80	51498.47	2632.98	0.16
Restudy Reach	203475	500-Year	Floodplain As Is	256000.00	-25.33	30.95	0.55	31.43	0.000095	6.12	64080.06	2846.93	0.16
Restudy Reach	203007	10-Year	Floodplain As Is	141000.00	-24.91	19.96	-5.05	20.30	0.000092	4.83	36106.00	2016.74	0.15
Restudy Reach	203007	50-Year	Floodplain As Is	186000.00	-24.91	24.55	-2.74	24.95	0.000094	5.31	46262.75	2166.01	0.15
Restudy Reach	203007	100-Year	Floodplain As Is	206000.00	-24.91	26.43	-1.80	26.84	0.000094	5.49	50427.32	2323.64	0.15
Restudy Reach	203007	500-Year	Floodplain As Is	256000.00	-24.91	30.93	0.41	31.38	0.000092	5.85	62044.17	2734.25	0.16
Restudy Reach	202226	10-Year	Floodplain As Is	141000.00	-20.50	19.91	-3.77	20.22	0.000088	4.64	38270.13	2363.67	0.15
Restudy Reach	202226	50-Year	Floodplain As Is	186000.00	-20.50	24.52	-1.57	24.86	0.000085	4.99	49377.36	2439.47	0.15
Restudy Reach	202226	100-Year	Floodplain As Is	206000.00	-20.50	26.40	-0.66	26.75	0.000084	5.12	53986.27	2464.95	0.15
Restudy Reach	202226	500-Year	Floodplain As Is	256000.00	-20.50	30.92	1.47	31.28	0.000079	5.37	65210.80	2501.98	0.15
Restudy Reach	201702	10-Year	Floodplain As Is	141000.00	-18.93	19.86	-3.61	20.17	0.000089	4.65	37035.90	1979.52	0.15
Restudy Reach	201702	50-Year	Floodplain As Is	186000.00	-18.93	24.46	-1.44	24.81	0.000088	5.07	46322.23	2055.19	0.15
Restudy Reach	201702	100-Year	Floodplain As Is	206000.00	-18.93	26.34	-0.56	26.70	0.000088	5.23	50201.67	2094.49	0.15
Restudy Reach	201702	500-Year	Floodplain As Is	256000.00	-18.93	30.84	1.53	31.24	0.000085	5.56	60210.43	2355.36	0.15
Restudy Reach	200986	10-Year	Floodplain As Is	141000.00	-17.53	19.82	-4.30	20.10	0.000081	4.48	38112.64	1955.36	0.14
Restudy Reach	200986	50-Year	Floodplain As Is	186000.00	-17.53	24.42	-2.16	24.75	0.000082	4.91	47225.28	2006.86	0.14
Restudy Reach	200986	100-Year	Floodplain As Is	206000.00	-17.53	26.29	-1.25	26.64	0.000082	5.07	51000.52	2025.75	0.14
Restudy Reach	200986	500-Year	Floodplain As Is	256000.00	-17.53	30.79	0.91	31.17	0.000080	5.41	60204.41	2063.18	0.15
Restudy Reach	200434	10-Year	Floodplain As Is	141000.00	-16.99	19.78	-4.28	20.06	0.000079	4.46	39260.52	1959.44	0.14
Restudy Reach	200434	50-Year	Floodplain As Is	186000.00	-16.99	24.38	-2.07	24.70	0.000079	4.89	48329.68	1985.84	0.14
Restudy Reach	200434	100-Year	Floodplain As Is	206000.00	-16.99	26.25	-1.15	26.59	0.000080	5.06	52054.88	1993.63	0.14
Restudy Reach	200434	500-Year	Floodplain As Is	256000.00	-16.99	30.75	0.92	31.13	0.000079	5.41	61065.42	2012.37	0.14
Restudy Reach	200002	10-Year	Floodplain As Is	141000.00	-16.78	19.76	-3.92	20.02	0.000078	4.30	39120.50	1883.88	0.14
Restudy Reach	200002	50-Year	Floodplain As Is	186000.00	-16.78	24.35	-1.84	24.66	0.000079	4.73	47833.91	1906.73	0.14
Restudy Reach	200002	100-Year	Floodplain As Is	206000.00	-16.78	26.23	-0.97	26.55	0.000079	4.90	51411.41	1916.04	0.14
Restudy Reach	200002	500-Year	Floodplain As Is	256000.00	-16.78	30.72	1.18	31.09	0.000078	5.25	60089.45	1946.73	0.14
Restudy Reach	199472	10-Year	Floodplain As Is	141000.00	-18.36	19.63		19.97	0.000089	4.65	30930.58	1060.52	0.15
Restudy Reach	199472	50-Year	Floodplain As Is	186000.00	-18.36	24.15		24.60	0.000099	5.37	35916.99	1296.23	0.16
Restudy Reach	199472	100-Year	Floodplain As Is	206000.00	-18.36	25.99		26.49	0.000103	5.65	38553.09	1609.24	0.16
Restudy Reach	199472	500-Year	Floodplain As Is	256000.00	-18.36	30.42		31.02	0.000108	6.24	45750.76	1639.60	0.17
Restudy Reach	198872	10-Year	Floodplain As Is	141000.00	-16.71	19.59		19.91	0.000092	4.56	31402.03	1251.51	0.15
Restudy Reach	198872	50-Year	Floodplain As Is	186000.00	-16.71	24.11		24.53	0.000099	5.21	37791.41	1438.26	0.16
Restudy Reach	198872	100-Year	Floodplain As Is	206000.00	-16.71	25.96		26.42	0.000102	5.46	40448.70	1447.59	0.16
Restudy Reach	198872	500-Year	Floodplain As Is	256000.00	-16.71	30.39		30.94	0.000106	6.02	46912.65	1470.04	0.17

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	198335	10-Year	Floodplain As Is	141000.00	-17.83	19.50	-2.84	19.86	0.000099	4.81	32380.02	1399.49	0.15
Restudy Reach	198335	50-Year	Floodplain As Is	186000.00	-17.83	24.02	-0.88	24.47	0.000107	5.47	38755.95	1423.27	0.16
Restudy Reach	198335	100-Year	Floodplain As Is	206000.00	-17.83	25.86	-0.06	26.35	0.000109	5.74	41379.76	1438.44	0.17
Restudy Reach	198335	500-Year	Floodplain As Is	256000.00	-17.83	30.28	1.86	30.88	0.000114	6.32	48514.72	1789.86	0.17
Restudy Reach	197705	10-Year	Floodplain As Is	141000.00	-17.85	19.46	-2.26	19.78	0.000097	4.57	32509.65	1399.70	0.15
Restudy Reach	197705	50-Year	Floodplain As Is	186000.00	-17.85	23.98	-0.28	24.39	0.000102	5.18	38930.66	1437.51	0.16
Restudy Reach	197705	100-Year	Floodplain As Is	206000.00	-17.85	25.82	0.53	26.27	0.000104	5.42	41583.27	1446.28	0.16
Restudy Reach	197705	500-Year	Floodplain As Is	256000.00	-17.85	30.25	2.45	30.79	0.000107	5.94	49808.48	2196.99	0.17
Restudy Reach	197005	10-Year	Floodplain As Is	141000.00	-19.87	19.37	-2.14	19.71	0.000102	4.71	31824.34	1275.82	0.15
Restudy Reach	197005	50-Year	Floodplain As Is	186000.00	-19.87	23.88	-0.13	24.32	0.000108	5.35	38073.89	1740.04	0.16
Restudy Reach	197005	100-Year	Floodplain As Is	206000.00	-19.87	25.71	0.70	26.19	0.000111	5.61	40859.35	1853.20	0.17
Restudy Reach	197005	500-Year	Floodplain As Is	256000.00	-19.87	30.14	2.63	30.71	0.000113	6.13	50748.80	2289.92	0.17
Restudy Reach	196387	10-Year	Floodplain As Is	141000.00	-20.56	19.31	-2.12	19.65	0.000104	4.74	34119.08	1487.17	0.16
Restudy Reach	196387	50-Year	Floodplain As Is	186000.00	-20.56	23.82	0.13	24.25	0.000110	5.36	40891.47	1735.35	0.16
Restudy Reach	196387	100-Year	Floodplain As Is	206000.00	-20.56	25.65	1.03	26.12	0.000112	5.60	43679.88	1832.79	0.17
Restudy Reach	196387	500-Year	Floodplain As Is	256000.00	-20.56	30.08	3.15	30.63	0.000113	6.11	53733.22	2355.28	0.17
Restudy Reach	195826	10-Year	Floodplain As Is	141000.00	-20.54	19.29	-2.18	19.58	0.000099	4.33	35044.98	1813.27	0.15
Restudy Reach	195826	50-Year	Floodplain As Is	186000.00	-20.54	23.82	0.38	24.17	0.000098	4.79	43311.50	1835.64	0.15
Restudy Reach	195826	100-Year	Floodplain As Is	206000.00	-20.54	25.66	1.34	26.03	0.000097	4.97	46703.98	1844.95	0.15
Restudy Reach	195826	500-Year	Floodplain As Is	256000.00	-20.54	30.11	3.77	30.54	0.000095	5.35	54971.02	1870.08	0.16
Restudy Reach	195394	10-Year	Floodplain As Is	141000.00	-19.04	19.24	-2.43	19.53	0.000096	4.40	34866.71	1734.24	0.15
Restudy Reach	195394	50-Year	Floodplain As Is	186000.00	-19.04	23.77	0.13	24.12	0.000096	4.86	42778.80	1756.04	0.15
Restudy Reach	195394	100-Year	Floodplain As Is	206000.00	-19.04	25.62	1.21	25.99	0.000096	5.04	46024.57	1764.12	0.15
Restudy Reach	195394	500-Year	Floodplain As Is	256000.00	-19.04	30.07	3.42	30.50	0.000094	5.42	53924.02	1783.62	0.15
Restudy Reach	194949	10-Year	Floodplain As Is	141000.00	-19.45	19.21	-3.80	19.49	0.000091	4.31	36844.49	1784.76	0.14
Restudy Reach	194949	50-Year	Floodplain As Is	186000.00	-19.45	23.73	-0.72	24.08	0.000094	4.82	44974.00	1809.15	0.15
Restudy Reach	194949	100-Year	Floodplain As Is	206000.00	-19.45	25.57	0.39	25.95	0.000094	5.03	48306.56	1816.29	0.15
Restudy Reach	194949	500-Year	Floodplain As Is	256000.00	-19.45	30.01	2.67	30.45	0.000095	5.47	56403.44	1832.14	0.16
Restudy Reach	194438	10-Year	Floodplain As Is	141000.00	-17.46	19.17	-4.04	19.44	0.000082	4.27	40424.80	1935.03	0.14
Restudy Reach	194438	50-Year	Floodplain As Is	186000.00	-17.46	23.69	-1.76	24.03	0.000086	4.80	49209.23	1948.48	0.15
Restudy Reach	194438	100-Year	Floodplain As Is	206000.00	-17.46	25.53	-0.90	25.90	0.000087	5.01	52795.68	1953.96	0.15
Restudy Reach	194438	500-Year	Floodplain As Is	256000.00	-17.46	29.97	1.14	30.40	0.000089	5.47	61497.60	1967.19	0.15
Restudy Reach	194032	10-Year	Floodplain As Is	141000.00	-17.28	19.13	-4.74	19.41	0.000079	4.31	39709.49	1883.92	0.14
Restudy Reach	194032	50-Year	Floodplain As Is	186000.00	-17.28	23.64	-2.76	24.00	0.000084	4.88	48260.18	1902.99	0.14
Restudy Reach	194032	100-Year	Floodplain As Is	206000.00	-17.28	25.48	-1.93	25.86	0.000086	5.10	51758.92	1910.74	0.15
Restudy Reach	194032	500-Year	Floodplain As Is	256000.00	-17.28	29.91	0.03	30.36	0.000089	5.58	60264.66	1927.32	0.15
Restudy Reach	193500	10-Year	Floodplain As Is	141000.00	-18.00	19.08	-5.17	19.37	0.000080	4.32	36453.41	1596.23	0.14
Restudy Reach	193500	50-Year	Floodplain As Is	186000.00	-18.00	23.58	-3.23	23.95	0.000086	4.92	43691.12	1618.04	0.15
Restudy Reach	193500	100-Year	Floodplain As Is	206000.00	-18.00	25.41	-2.40	25.81	0.000089	5.16	46659.09	1626.95	0.15
Restudy Reach	193500	500-Year	Floodplain As Is	256000.00	-18.00	29.83	-0.37	30.31	0.000092	5.67	53895.20	1647.37	0.16
Restudy Reach	192865	10-Year	Floodplain As Is	141000.00	-18.90	19.05	-4.15	19.31	0.000074	4.09	37076.02	1663.61	0.13
Restudy Reach	192865	50-Year	Floodplain As Is	186000.00	-18.90	23.56	-2.33	23.89	0.000079	4.65	45557.19	2110.24	0.14
Restudy Reach	192865	100-Year	Floodplain As Is	206000.00	-18.90	25.39	-1.56	25.75	0.000081	4.86	49431.18	2118.65	0.14
Restudy Reach	192865	500-Year	Floodplain As Is	256000.00	-18.90	29.82	0.21	30.24	0.000083	5.31	58859.99	2140.07	0.15
Restudy Reach	192497	10-Year	Floodplain As Is	141000.00	-21.62	19.02	-3.12	19.28	0.000079	4.11	36861.23	1658.99	0.14
Restudy Reach	192497	50-Year	Floodplain As Is	186000.00	-21.62	23.53	-1.28	23.86	0.000083	4.65	45318.07	2088.43	0.14
Restudy Reach	192497	100-Year	Floodplain As Is	206000.00	-21.62	25.36	-0.48	25.72	0.000084	4.86	49210.61	2151.85	0.14
Restudy Reach	192497	500-Year	Floodplain As Is	256000.00	-21.62	29.79	1.35	30.21	0.000086	5.29	58983.14	2228.44	0.15
Restudy Reach	191996	10-Year	Floodplain As Is	141000.00	-22.12	18.99	-2.51	19.24	0.000079	3.99	39750.41	2345.57	0.13
Restudy Reach	191996	50-Year	Floodplain As Is	186000.00	-22.12	23.51	-0.81	23.81	0.000080	4.44	50712.40	2444.32	0.14
Restudy Reach	191996	100-Year	Floodplain As Is	206000.00	-22.12	25.34	-0.09	25.66	0.000080	4.62	55207.98	2451.65	0.14
Restudy Reach	191996	500-Year	Floodplain As Is	256000.00	-22.12	29.78	1.60	30.15	0.000079	4.99	66132.61	2469.23	0.14
Restudy Reach	191540	10-Year	Floodplain As Is	141000.00	-20.99	18.96		19.20	0.000079	3.96	39747.72	2203.62	0.13
Restudy Reach	191540	50-Year	Floodplain As Is	186000.00	-20.99	23.47		23.77	0.000080	4.41	49935.18	2316.72	0.14
Restudy Reach	191540	100-Year	Floodplain As Is	206000.00	-20.99	25.31		25.63	0.000081	4.61	54393.91	2550.84	0.14
Restudy Reach	191540	500-Year	Floodplain As Is	256000.00	-20.99	29.75		30.11	0.000080	4.97	65844.03	2586.17	0.14
Restudy Reach	190834	10-Year	Floodplain As Is	141000.00	-16.80	18.91	-1.13	19.14	0.000080	3.91	41980.15	2750.55	0.13
Restudy Reach	190834	50-Year	Floodplain As Is	186000.00	-16.80	23.43	0.66	23.71	0.000079	4.31	54865.99	2890.58	0.14
Restudy Reach	190834	100-Year	Floodplain As Is	206000.00	-16.80	25.27	1.38	25.56	0.000078	4.46	60201.91	2923.61	0.14
Restudy Reach	190834	500-Year	Floodplain As Is	256000.00	-16.80	29.72	2.92	30.05	0.000075	4.77	73574.23	3024.50	0.14
Restudy Reach	189987	10-Year	Floodplain As Is	141000.00	-21.43	18.83	-1.66	19.07	0.000084	4.09	44782.02	3192.20	0.14
Restudy Reach	189987	50-Year	Floodplain As Is	186000.00	-21.43	23.38	0.32	23.64	0.000078	4.36	59783.69	3450.55	0.14
Restudy Reach	189987	100-Year	Floodplain As Is	206000.00	-21.43	25.22	1.09	25.49	0.000076	4.46	66168.91	3457.78	0.14
Restudy Reach	189987	500-Year	Floodplain As Is	256000.00	-21.43	29.70	2.77	29.98	0.000069	4.65	81670.02	3474.40	0.13
Restudy Reach	189473	10-Year	Floodplain As Is	141000.00	-20.66	18.84	-2.21	19.01	0.000068	3.71	49844.95	3467.17	0.12
Restudy Reach	189473	50-Year	Floodplain As Is	186000.00	-20.66	23.40	0.04	23.58	0.000058	3.79	66258.60	3662.64	0.12
Restudy Reach	189473	100-Year	Floodplain As Is	206000.00	-20.66	25.26	0.92	25.43	0.000055	3.83	73059.21	3671.30	0.12
Restudy Reach	189473	500-Year	Floodplain As Is	256000.00	-20.66	29.74	2.83	29.92	0.000048	3.89	89566.09	3692.24	0.11
Restudy Reach	188982	10-Year	Floodplain As Is	141000.00	-20.49	18.79	-2.81	18.98	0.000071	3.87	56221.02	3757.83	0.13
Restudy Reach	188982	50-Year	Floodplain As Is	186000.00	-20.49	23.35	-0.62	23.55	0.000063	4.05	73887.88	3958.69	0.12
Restudy Reach	188982	100-Year	Floodplain As Is	206000.00	-20.49	25.21	0.24	25.40	0.000061	4.11	81241.83	3974.16	0.12
Restudy Reach	188982	500-Year	Floodplain As Is	256000.00	-20.49	29.69	2.31	29.89	0.000055	4.24	99111.50	3997.83	0.12
Restudy Reach	188479	10-Year	Floodplain As Is	141000.00	-18.76	18.74	-3.10	18.94	0.000072	3.93	56287.57	3802.06	0.13
Restudy Reach	188479	50-Year	Floodplain As Is	186000.00	-18.76	23.30	-0.89	23.51	0.000066	4.16	74237.66	4081.14	0.13
Restudy Reach	188479	100-Year	Floodplain As Is	206000.00	-18.76	25.16	-0.04	25.37	0.000064	4.24	81842.74	4111.13	0.13
Restudy Reach	188479	500-Year	Floodplain As Is	256000.00	-18.76	29.64	1.97	29.86	0.000059	4.41	100317.20	4131.52	0.12
Restudy Reach	187845	10-Year	Floodplain As Is	141000.00	-18.24	18.74	-3.79	18.89	0.000056	3.43	63998.53	4216.59	0.11
Restudy Reach	187845	50-Year	Floodplain As Is	186000.00	-18.24	23.31	-1.78	23.46	0.000051	3.60	83757.77	4380.51	0.11
Restudy Reach	187845	100-Year	Floodplain As Is	206000.00	-18.24	25.16	-0.95	25.32	0.000049	3.67	91893.01	4391.53	0.11
Restudy Reach	187845	500-Year	Floodplain As Is	256000.00	-18.24	29.65	1.00	29.81	0.000045	3.82	111650.50	4415.09	0.11
Restudy Reach	186978	10-Year	Floodplain As Is	141000.00	-20.07	18.68	-4.06	18.84	0.000060	3.57	70783.64	4486.08	0.12
Restudy Reach	186978	50-Year	Floodplain As Is	186000.00	-20.07	23.25	-2.02	23.42	0.000056	3.78	91369.97	4526.23	0.12
Restudy Reach	186978	100-Year	Floodplain As Is	206000.00	-20.07	25.10	-1.17	25.27	0.000054	3.88	99783.39	4546.57	0.12
Restudy Reach	186978	500-Year	Floodplain As Is	256000.00	-20.07	29.59	0.81	29.77	0.000051	4.06	120264.50	4585.42	0.11
Restudy Reach	186294	10-Year	Floodplain As Is	141000.00	-20.20	18.63	-4.06	18.80	0.000062	3.67	68350.61	4438.71	0.12
Restudy Reach	186294	50-Year	Floodplain As Is	186000.00	-20.20	23.21	-1.81	23.38	0.000057	3.88	88818.88	4513.13	0.12
Restudy Reach	186294	100-Year	Floodplain As Is	206000.00	-20.20	25.06	-0.95	25.24	0.000056	3.97	97242.38	4572.45	0.12
Restudy Reach	186294	500-Year	Floodplain As Is	256000.00	-20.20	29.55	1.05	29.73	0.000052	4.15	117984.50	4654.43	0.12

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	185493	10-Year	Floodplain As Is	141000.00	-16.74	18.59	-4.29	18.74	0.000058	3.50	78503.61	4851.03	0.12
Restudy Reach	185493	50-Year	Floodplain As Is	186000.00	-16.74	23.17	-2.39	23.33	0.000054	3.74	100746.20	4873.72	0.11
Restudy Reach	185493	100-Year	Floodplain As Is	206000.00	-16.74	25.02	-1.60	25.19	0.000053	3.84	109796.90	4884.16	0.11
Restudy Reach	185493	500-Year	Floodplain As Is	256000.00	-16.74	29.51	0.24	29.69	0.000051	4.05	131771.20	4906.93	0.11
Restudy Reach	184768	10-Year	Floodplain As Is	141000.00	-13.14	18.56	-3.07	18.70	0.000053	3.24	84557.16	5803.90	0.11
Restudy Reach	184768	50-Year	Floodplain As Is	186000.00	-13.14	23.15	-1.27	23.29	0.000048	3.42	111298.60	5869.46	0.11
Restudy Reach	184768	100-Year	Floodplain As Is	206000.00	-13.14	25.00	-0.52	25.15	0.000047	3.50	122222.90	5889.84	0.11
Restudy Reach	184768	500-Year	Floodplain As Is	256000.00	-13.14	29.50	1.18	29.65	0.000043	3.66	148813.30	5940.13	0.10
Restudy Reach	184098	10-Year	Floodplain As Is	141000.00	-15.95	18.56	-1.52	18.65	0.000041	2.74	91675.20	6274.74	0.10
Restudy Reach	184098	50-Year	Floodplain As Is	186000.00	-15.95	23.15	-0.06	23.24	0.000035	2.86	120525.70	6300.45	0.09
Restudy Reach	184098	100-Year	Floodplain As Is	206000.00	-15.95	25.01	0.53	25.10	0.000034	2.91	132257.90	6313.35	0.09
Restudy Reach	184098	500-Year	Floodplain As Is	256000.00	-15.95	29.51	1.93	29.61	0.000031	3.02	160740.70	6349.02	0.09
Restudy Reach	183231	10-Year	Floodplain As Is	141000.00	-18.83	18.53	0.39	18.61	0.000038	2.47	88843.06	6106.19	0.09
Restudy Reach	183231	50-Year	Floodplain As Is	186000.00	-18.83	23.12	1.68	23.20	0.000032	2.55	117565.10	6339.44	0.09
Restudy Reach	183231	100-Year	Floodplain As Is	206000.00	-18.83	24.99	2.18	25.07	0.000030	2.59	129421.80	6396.15	0.08
Restudy Reach	183231	500-Year	Floodplain As Is	256000.00	-18.83	29.49	3.30	29.57	0.000026	2.67	158369.10	6454.26	0.08
Restudy Reach	182250	10-Year	Floodplain As Is	141000.00	-32.00	18.45	-0.55	18.55	0.000059	2.81	75480.41	5841.62	0.11
Restudy Reach	182250	50-Year	Floodplain As Is	186000.00	-32.00	23.05	1.08	23.15	0.000050	2.81	102962.90	6043.72	0.10
Restudy Reach	182250	100-Year	Floodplain As Is	206000.00	-32.00	24.92	1.73	25.02	0.000047	2.82	114288.10	6093.07	0.10
Restudy Reach	182250	500-Year	Floodplain As Is	256000.00	-32.00	29.43	3.28	29.53	0.000041	2.83	141991.50	6164.81	0.09
Restudy Reach	181451	10-Year	Floodplain As Is	141000.00	-28.48	18.40	-2.43	18.51	0.000053	2.86	73031.88	5981.00	0.11
Restudy Reach	181451	50-Year	Floodplain As Is	186000.00	-28.48	23.02	-0.59	23.11	0.000045	2.84	101677.80	6506.90	0.10
Restudy Reach	181451	100-Year	Floodplain As Is	206000.00	-28.48	24.89	0.10	24.98	0.000042	2.83	113879.70	6540.65	0.10
Restudy Reach	181451	500-Year	Floodplain As Is	256000.00	-28.48	29.41	1.76	29.50	0.000036	2.81	143816.80	6853.21	0.09
Restudy Reach	180471	10-Year	Floodplain As Is	141000.00	-23.45	18.36	-4.28	18.45	0.000044	2.77	94550.87	7404.56	0.10
Restudy Reach	180471	50-Year	Floodplain As Is	186000.00	-23.45	22.99	-2.11	23.07	0.000037	2.76	129844.30	7779.04	0.09
Restudy Reach	180471	100-Year	Floodplain As Is	206000.00	-23.45	24.86	-1.23	24.94	0.000034	2.77	144312.60	7809.65	0.09
Restudy Reach	180471	500-Year	Floodplain As Is	256000.00	-23.45	29.38	0.72	29.46	0.000030	2.78	179325.90	7900.24	0.08
Restudy Reach	179610	10-Year	Floodplain As Is	141000.00	-20.33	18.26	-4.55	18.40	0.000056	3.26	57010.05	4134.11	0.11
Restudy Reach	179610	50-Year	Floodplain As Is	186000.00	-20.33	22.88	-2.56	23.02	0.000050	3.41	76968.88	4370.49	0.11
Restudy Reach	179610	100-Year	Floodplain As Is	206000.00	-20.33	24.75	-1.72	24.89	0.000048	3.47	85156.32	4394.60	0.11
Restudy Reach	179610	500-Year	Floodplain As Is	256000.00	-20.33	29.26	0.20	29.42	0.000043	3.59	105320.00	4877.42	0.10
Restudy Reach	178882	10-Year	Floodplain As Is	141000.00	-22.96	18.05	-5.18	18.34	0.000095	4.61	42817.41	4409.04	0.15
Restudy Reach	178882	50-Year	Floodplain As Is	186000.00	-22.96	22.66	-2.25	22.96	0.000089	4.92	56328.03	4772.26	0.15
Restudy Reach	178882	100-Year	Floodplain As Is	206000.00	-22.96	24.52	-1.13	24.84	0.000088	5.04	61832.70	4861.45	0.15
Restudy Reach	178882	500-Year	Floodplain As Is	256000.00	-22.96	29.03	1.78	29.36	0.000082	5.28	75256.86	5138.83	0.15
Restudy Reach	177926	10-Year	Floodplain As Is	141000.00	-24.11	18.04	-8.49	18.23	0.000065	3.84	54815.46	4827.44	0.12
Restudy Reach	177926	50-Year	Floodplain As Is	186000.00	-24.11	22.64	-5.80	22.86	0.000063	4.14	69889.20	5286.51	0.12
Restudy Reach	177926	100-Year	Floodplain As Is	206000.00	-24.11	24.51	-4.80	24.73	0.000062	4.26	76041.97	5356.12	0.12
Restudy Reach	177926	500-Year	Floodplain As Is	256000.00	-24.11	29.02	-2.47	29.26	0.000060	4.51	90980.48	5581.62	0.12
Restudy Reach	176967	10-Year	Floodplain As Is	141000.00	-25.73	17.98	-7.94	18.17	0.000061	3.82	59571.14	4923.46	0.12
Restudy Reach	176967	50-Year	Floodplain As Is	186000.00	-25.73	22.58	-5.78	22.80	0.000060	4.14	76990.67	5116.76	0.12
Restudy Reach	176967	100-Year	Floodplain As Is	206000.00	-25.73	24.45	-4.89	24.68	0.000059	4.27	84075.13	5147.84	0.12
Restudy Reach	176967	500-Year	Floodplain As Is	256000.00	-25.73	28.96	-2.69	29.21	0.000057	4.52	101291.50	5217.53	0.12
Restudy Reach	176019	10-Year	Floodplain As Is	141000.00	-23.37	17.95	-4.74	18.11	0.000055	3.39	62040.09	4292.29	0.11
Restudy Reach	176019	50-Year	Floodplain As Is	186000.00	-23.37	22.57	-2.95	22.73	0.000051	3.60	82440.08	4500.17	0.11
Restudy Reach	176019	100-Year	Floodplain As Is	206000.00	-23.37	24.44	-2.21	24.61	0.000049	3.68	90887.53	4535.61	0.11
Restudy Reach	176019	500-Year	Floodplain As Is	256000.00	-23.37	28.96	-0.48	29.14	0.000046	3.84	111776.70	4674.45	0.11
Restudy Reach	175015	10-Year	Floodplain As Is	141000.00	-18.23	17.82	-1.96	18.04	0.000077	3.79	42626.44	2699.89	0.13
Restudy Reach	175015	50-Year	Floodplain As Is	186000.00	-18.23	22.41	-0.48	22.66	0.000074	4.16	56629.04	3351.50	0.13
Restudy Reach	175015	100-Year	Floodplain As Is	206000.00	-18.23	24.27	0.14	24.54	0.000073	4.29	63021.92	3490.86	0.13
Restudy Reach	175015	500-Year	Floodplain As Is	256000.00	-18.23	28.77	1.63	29.07	0.000070	4.56	79594.17	4012.12	0.13
Restudy Reach	173726	10-Year	Floodplain As Is	141000.00	-18.32	17.68	-2.65	17.93	0.000086	4.01	41085.84	2566.86	0.14
Restudy Reach	173726	50-Year	Floodplain As Is	186000.00	-18.32	22.28	-0.99	22.56	0.000083	4.39	53673.00	2961.94	0.14
Restudy Reach	173726	100-Year	Floodplain As Is	206000.00	-18.32	24.13	-0.31	24.44	0.000082	4.54	59270.86	3032.03	0.14
Restudy Reach	173726	500-Year	Floodplain As Is	256000.00	-18.32	28.64	1.31	28.97	0.000077	4.80	74244.56	3866.27	0.14
Restudy Reach	172964	10-Year	Floodplain As Is	141000.00	-18.33	17.62	-3.05	17.86	0.000087	4.00	40495.23	3021.56	0.14
Restudy Reach	172964	50-Year	Floodplain As Is	186000.00	-18.33	22.21	-1.31	22.50	0.000085	4.39	51518.19	4240.13	0.14
Restudy Reach	172964	100-Year	Floodplain As Is	206000.00	-18.33	24.06	-0.60	24.37	0.000084	4.55	56488.48	4379.40	0.14
Restudy Reach	172964	500-Year	Floodplain As Is	256000.00	-18.33	28.59	1.03	28.91	0.000076	4.73	87161.16	4613.91	0.14
Restudy Reach	171963	10-Year	Floodplain As Is	141000.00	-20.93	17.53	-4.47	17.77	0.000088	4.06	41600.79	3292.58	0.14
Restudy Reach	171963	50-Year	Floodplain As Is	186000.00	-20.93	22.15	-2.13	22.40	0.000078	4.26	63338.50	3484.12	0.14
Restudy Reach	171963	100-Year	Floodplain As Is	206000.00	-20.93	24.01	-1.28	24.28	0.000076	4.37	69850.44	3666.12	0.14
Restudy Reach	171963	500-Year	Floodplain As Is	256000.00	-20.93	28.54	0.45	28.83	0.000071	4.60	85980.46	4657.43	0.13
Restudy Reach	170999	10-Year	Floodplain As Is	141000.00	-28.83	17.39	-8.89	17.69	0.000075	4.41	35512.21	5398.64	0.13
Restudy Reach	170999	50-Year	Floodplain As Is	186000.00	-28.83	21.93	-6.87	22.31	0.000083	5.05	43730.00	6045.34	0.14
Restudy Reach	170999	100-Year	Floodplain As Is	206000.00	-28.83	23.77	-6.03	24.19	0.000085	5.29	47182.89	6350.24	0.15
Restudy Reach	170999	500-Year	Floodplain As Is	256000.00	-28.83	28.24	-4.04	28.73	0.000089	5.80	55636.97	7106.13	0.15
Restudy Reach	170002	10-Year	Floodplain As Is	141000.00	-17.43	17.34	-6.08	17.61	0.000077	4.20	34996.64	8393.03	0.14
Restudy Reach	170002	50-Year	Floodplain As Is	186000.00	-17.43	21.87	-4.27	22.22	0.000083	4.78	41271.46	8562.22	0.14
Restudy Reach	170002	100-Year	Floodplain As Is	206000.00	-17.43	23.70	-3.52	24.09	0.000086	5.02	43868.60	8655.33	0.15
Restudy Reach	170002	500-Year	Floodplain As Is	256000.00	-17.43	28.17	-1.71	28.63	0.000089	5.53	50413.78	8854.56	0.15
Restudy Reach	168942	10-Year	Floodplain As Is	141000.00	-17.51	17.28	-4.95	17.51	0.000076	3.83	37028.89	9042.91	0.13
Restudy Reach	168942	50-Year	Floodplain As Is	186000.00	-17.51	21.83	-3.33	22.12	0.000078	4.31	43813.92	10019.38	0.14
Restudy Reach	168942	100-Year	Floodplain As Is	206000.00	-17.51	23.67	-2.65	23.98	0.000079	4.50	46635.36	10334.67	0.14
Restudy Reach	168942	500-Year	Floodplain As Is	256000.00	-17.51	28.14	-1.07	28.52	0.000079	4.92	53550.29	10641.36	0.14
Restudy Reach	168435	10-Year	Floodplain As Is	141000.00	-30.79	17.28	-9.29	17.47	0.000057	3.52	40149.55	6968.62	0.12
Restudy Reach	168435	50-Year	Floodplain As Is	186000.00	-30.79	21.82	-7.06	22.07	0.000064	3.99	47075.19	8200.85	0.12
Restudy Reach	168435	100-Year	Floodplain As Is	206000.00	-30.79	23.66	-6.15	23.93	0.000066	4.18	50003.68	8761.88	0.13
Restudy Reach	168435	500-Year	Floodplain As Is	256000.00	-30.79	28.14	-4.14	28.47	0.000070	4.59	57601.25	9742.69	0.13
Restudy Reach	167874	10-Year	Floodplain As Is	141000.00	-29.10	17.09		17.41	0.000109	4.57	30832.51	7999.49	0.18
Restudy Reach	167874	50-Year	Floodplain As Is	186000.00	-29.10	21.63		22.01	0.000121	4.93	37747.00	8975.95	0.17
Restudy Reach	167874	100-Year	Floodplain As Is	206000.00	-29.10	23.47		23.87	0.000125	5.08	40686.74	9801.98	0.17
Restudy Reach	167874	500-Year	Floodplain As Is	256000.00	-29.10	27.96		28.40	0.000127	5.37	49940.60	10557.88	0.17
Restudy Reach	167503	10-Year	Floodplain As Is	141000.00	-35.09	17.08		17.36	0.000090	4.27	33058.12	7074.59	0.16
Restudy Reach	167503	50-Year	Floodplain As Is	186000.00	-35.09	21.62		21.96	0.000103	4.66	39941.43	8120.80	0.16
Restudy Reach	167503	100-Year	Floodplain As Is	206000.00	-35.09	23.46		23.82	0.000106	4.82	42984.57	8585.59	0.16

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	167503	500-Year	Floodplain As Is	256000.00	-35.09	27.97		28.34	0.000101	4.94	55908.64	9664.63	0.15
Restudy Reach	166940	10-Year	Floodplain As Is	141000.00	-32.24	16.99		17.31	0.000104	4.48	31506.62	5159.91	0.17
Restudy Reach	166940	50-Year	Floodplain As Is	186000.00	-32.24	21.52		21.89	0.000116	4.91	38322.59	5616.28	0.17
Restudy Reach	166940	100-Year	Floodplain As Is	206000.00	-32.24	23.35		23.75	0.000121	5.08	41189.99	5890.18	0.17
Restudy Reach	166940	500-Year	Floodplain As Is	256000.00	-32.24	27.83		28.27	0.000122	5.34	51406.53	6211.30	0.16
Restudy Reach	166573	10-Year	Floodplain As Is	142000.00	-32.26	16.97		17.26	0.000097	4.29	33137.96	3512.25	0.16
Restudy Reach	166573	50-Year	Floodplain As Is	190000.00	-32.26	21.49		21.84	0.000109	4.79	39970.92	3731.04	0.16
Restudy Reach	166573	100-Year	Floodplain As Is	211000.00	-32.26	23.32		23.70	0.000112	4.98	42773.15	3835.62	0.16
Restudy Reach	166573	500-Year	Floodplain As Is	265000.00	-32.26	27.77		28.22	0.000120	5.41	49983.61	4163.83	0.17
Restudy Reach	166005	10-Year	Floodplain As Is	142000.00	-34.69	16.94		17.20	0.000084	4.10	34638.22	2658.59	0.15
Restudy Reach	166005	50-Year	Floodplain As Is	190000.00	-34.69	21.45		21.78	0.000095	4.60	41345.27	3048.05	0.15
Restudy Reach	166005	100-Year	Floodplain As Is	211000.00	-34.69	23.28		23.63	0.000099	4.79	44200.06	3729.10	0.16
Restudy Reach	166005	500-Year	Floodplain As Is	265000.00	-34.69	27.73		28.15	0.000104	5.21	51547.10	3981.81	0.16
Restudy Reach	165580	10-Year	Floodplain As Is	142000.00	-38.05	16.87		17.16	0.000091	4.34	32721.37	2290.85	0.16
Restudy Reach	165580	50-Year	Floodplain As Is	190000.00	-38.05	21.36		21.73	0.000102	4.86	39387.37	2907.85	0.16
Restudy Reach	165580	100-Year	Floodplain As Is	211000.00	-38.05	23.19		23.58	0.000106	5.06	42164.76	3117.97	0.17
Restudy Reach	165580	500-Year	Floodplain As Is	265000.00	-38.05	27.63		28.10	0.000113	5.51	49369.38	3387.00	0.17
Restudy Reach	165043	10-Year	Floodplain As Is	142000.00	-27.60	16.84	-11.40	17.11	0.000080	4.20	33784.34	1317.47	0.14
Restudy Reach	165043	50-Year	Floodplain As Is	190000.00	-27.60	21.32	-8.56	21.68	0.000092	4.81	39668.46	2406.33	0.15
Restudy Reach	165043	100-Year	Floodplain As Is	211000.00	-27.60	23.13	-7.24	23.53	0.000097	5.05	42381.17	2816.59	0.16
Restudy Reach	165043	500-Year	Floodplain As Is	265000.00	-27.60	27.57	-3.48	28.04	0.000103	5.54	51255.59	3844.34	0.16
Restudy Reach	164803	10-Year	Floodplain As Is	142000.00	-25.91	16.83	-10.56	17.09	0.000083	4.09	34738.11	1258.15	0.14
Restudy Reach	164803	50-Year	Floodplain As Is	190000.00	-25.91	21.31	-8.06	21.65	0.000092	4.70	40570.27	1449.81	0.15
Restudy Reach	164803	100-Year	Floodplain As Is	211000.00	-25.91	23.12	-7.03	23.50	0.000094	4.93	43601.70	1914.09	0.15
Restudy Reach	164803	500-Year	Floodplain As Is	265000.00	-25.91	27.56	-4.55	28.01	0.000095	5.38	53188.31	2870.77	0.15
Restudy Reach	164766			Bridge									
Restudy Reach	164648	10-Year	Floodplain As Is	142000.00	-27.06	16.80	-10.01	17.07	0.000081	4.14	34507.61	1280.90	0.14
Restudy Reach	164648	50-Year	Floodplain As Is	190000.00	-27.06	21.27	-7.42	21.62	0.000091	4.78	40495.63	1412.30	0.15
Restudy Reach	164648	100-Year	Floodplain As Is	211000.00	-27.06	23.08	-6.40	23.47	0.000093	5.01	43519.48	1837.98	0.15
Restudy Reach	164648	500-Year	Floodplain As Is	265000.00	-27.06	27.52	-2.40	27.98	0.000096	5.49	52612.38	2288.38	0.15
Restudy Reach	164385	10-Year	Floodplain As Is	142000.00	-24.16	16.76	-9.73	17.04	0.000084	4.25	33459.44	1184.13	0.14
Restudy Reach	164385	50-Year	Floodplain As Is	190000.00	-24.16	21.22	-6.90	21.60	0.000094	4.92	39266.28	1589.95	0.15
Restudy Reach	164385	100-Year	Floodplain As Is	211000.00	-24.16	23.03	-5.66	23.45	0.000096	5.16	42272.66	1728.23	0.15
Restudy Reach	164385	500-Year	Floodplain As Is	265000.00	-24.16	27.45	-1.97	27.95	0.000100	5.70	50793.41	2024.82	0.16
Restudy Reach	164139	10-Year	Floodplain As Is	142000.00	-24.21	16.71	-9.36	17.02	0.000093	4.44	32003.67	1135.77	0.15
Restudy Reach	164139	50-Year	Floodplain As Is	190000.00	-24.21	21.16	-6.69	21.57	0.000103	5.13	37500.69	1358.12	0.16
Restudy Reach	164139	100-Year	Floodplain As Is	211000.00	-24.21	22.97	-5.54	23.42	0.000106	5.38	40157.05	1709.15	0.16
Restudy Reach	164139	500-Year	Floodplain As Is	265000.00	-24.21	27.38	-2.88	27.92	0.000109	5.93	47910.38	2141.92	0.17
Restudy Reach	163884	10-Year	Floodplain As Is	142000.00	-34.53	16.72	-12.17	16.98	0.000068	4.10	34623.55	1065.89	0.13
Restudy Reach	163884	50-Year	Floodplain As Is	190000.00	-34.53	21.17	-9.67	21.53	0.000080	4.82	39733.50	1207.08	0.14
Restudy Reach	163884	100-Year	Floodplain As Is	211000.00	-34.53	22.98	-8.66	23.38	0.000084	5.09	41865.94	1216.83	0.15
Restudy Reach	163884	500-Year	Floodplain As Is	265000.00	-34.53	27.38	-6.20	27.88	0.000093	5.72	47101.39	1244.19	0.16
Restudy Reach	163783			Bridge									
Restudy Reach	163682	10-Year	Floodplain As Is	142000.00	-29.58	16.63	-10.32	16.93	0.000082	4.40	32261.55	1039.68	0.14
Restudy Reach	163682	50-Year	Floodplain As Is	190000.00	-29.58	21.06	-7.81	21.47	0.000096	5.14	37213.46	1191.86	0.15
Restudy Reach	163682	100-Year	Floodplain As Is	211000.00	-29.58	22.85	-6.83	23.31	0.000100	5.43	39326.34	1198.61	0.16
Restudy Reach	163682	500-Year	Floodplain As Is	265000.00	-29.58	27.20	-4.52	27.77	0.000109	6.07	44467.12	1214.95	0.17
Restudy Reach	163397	10-Year	Floodplain As Is	142000.00	-24.60	16.59	-9.15	16.91	0.000083	4.51	31474.66	976.40	0.14
Restudy Reach	163397	50-Year	Floodplain As Is	190000.00	-24.60	21.00	-7.02	21.44	0.000099	5.30	35832.10	1112.17	0.16
Restudy Reach	163397	100-Year	Floodplain As Is	211000.00	-24.60	22.79	-6.18	23.28	0.000104	5.61	37796.80	1421.91	0.16
Restudy Reach	163397	500-Year	Floodplain As Is	265000.00	-24.60	27.13	-4.13	27.74	0.000113	6.29	42761.43	1543.43	0.17
Restudy Reach	162527	10-Year	Floodplain As Is	142000.00	-24.49	16.51	-8.25	16.83	0.000092	4.53	31729.27	1334.11	0.15
Restudy Reach	162527	50-Year	Floodplain As Is	190000.00	-24.49	20.92	-6.08	21.35	0.000103	5.26	38513.10	1707.69	0.16
Restudy Reach	162527	100-Year	Floodplain As Is	211000.00	-24.49	22.71	-5.19	23.18	0.000106	5.53	41596.30	1728.65	0.16
Restudy Reach	162527	500-Year	Floodplain As Is	265000.00	-24.49	27.05	-2.95	27.63	0.000113	6.14	49988.23	2329.06	0.17
Restudy Reach	161521	10-Year	Floodplain As Is	142000.00	-20.81	16.46	-5.40	16.73	0.000085	4.17	35227.91	1577.57	0.14
Restudy Reach	161521	50-Year	Floodplain As Is	190000.00	-20.81	20.87	-3.47	21.23	0.000092	4.79	43337.44	2104.52	0.15
Restudy Reach	161521	100-Year	Floodplain As Is	211000.00	-20.81	22.67	-2.68	23.06	0.000094	5.02	47346.17	2295.77	0.15
Restudy Reach	161521	500-Year	Floodplain As Is	265000.00	-20.81	27.04	-0.80	27.49	0.000096	5.49	59071.20	2936.02	0.16
Restudy Reach	161076	10-Year	Floodplain As Is	142000.00	-20.76	16.44	-5.40	16.68	0.000082	3.97	35780.60	2927.71	0.14
Restudy Reach	161076	50-Year	Floodplain As Is	190000.00	-20.76	20.88	-3.51	21.17	0.000083	4.41	53063.72	3507.07	0.14
Restudy Reach	161076	100-Year	Floodplain As Is	211000.00	-20.76	22.68	-2.74	23.00	0.000083	4.59	58424.36	3564.27	0.14
Restudy Reach	161076	500-Year	Floodplain As Is	265000.00	-20.76	27.08	-0.92	27.41	0.000078	4.82	80579.74	3780.58	0.14
Restudy Reach	160540	10-Year	Floodplain As Is	142000.00	-20.92	16.41	-4.65	16.63	0.000079	3.80	37399.59	3102.80	0.13
Restudy Reach	160540	50-Year	Floodplain As Is	190000.00	-20.92	20.86	-2.85	21.12	0.000076	4.13	58713.69	4185.16	0.13
Restudy Reach	160540	100-Year	Floodplain As Is	211000.00	-20.92	22.67	-2.16	22.94	0.000076	4.28	64766.29	4371.44	0.13
Restudy Reach	160540	500-Year	Floodplain As Is	265000.00	-20.92	27.08	-0.48	27.36	0.000070	4.49	86811.73	4660.41	0.13
Restudy Reach	160086	10-Year	Floodplain As Is	142000.00	-23.46	16.36	-5.48	16.60	0.000082	3.92	36194.84	3000.66	0.14
Restudy Reach	160086	50-Year	Floodplain As Is	190000.00	-23.46	20.82	-3.44	21.08	0.000078	4.23	58493.70	3572.75	0.14
Restudy Reach	160086	100-Year	Floodplain As Is	211000.00	-23.46	22.62	-2.62	22.90	0.000078	4.39	64449.28	3643.41	0.14
Restudy Reach	160086	500-Year	Floodplain As Is	265000.00	-23.46	27.03	-0.81	27.33	0.000073	4.64	83946.01	3730.80	0.14
Restudy Reach	158906	10-Year	Floodplain As Is	142000.00	-33.12	16.01	-12.13	16.46	0.000114	5.55	35633.59	2185.18	0.17
Restudy Reach	158906	50-Year	Floodplain As Is	190000.00	-33.12	20.38	-8.94	20.94	0.000126	6.32	45247.63	2221.46	0.18
Restudy Reach	158906	100-Year	Floodplain As Is	211000.00	-33.12	22.15	-7.68	22.76	0.000130	6.60	49206.63	2233.13	0.18
Restudy Reach	158906	500-Year	Floodplain As Is	265000.00	-33.12	26.48	-4.81	27.18	0.000136	7.23	58978.41	2287.05	0.19
Restudy Reach	158030	10-Year	Floodplain As Is	142000.00	-28.21	15.98	-11.39	16.35	0.000091	4.93	35576.23	1933.82	0.15
Restudy Reach	158030	50-Year	Floodplain As Is	190000.00	-28.21	20.33	-8.90	20.81	0.000104	5.73	44286.55	2042.95	0.16
Restudy Reach	158030	100-Year	Floodplain As Is	211000.00	-28.21	22.10	-7.88	22.63	0.000108	6.02	47915.39	2053.97	0.17
Restudy Reach	158030	500-Year	Floodplain As Is	265000.00	-28.21	26.41	-5.38	27.05	0.000117	6.69	56845.09	2109.23	0.18
Restudy Reach	156497	10-Year	Floodplain As Is	142000.00	-17.19	15.93		16.18	0.000083	4.01	35871.83	1457.44	0.14
Restudy Reach	156497	50-Year	Floodplain As Is	190000.00	-17.19	20.29		20.62	0.000089	4.61	42392.52	1538.11	0.15
Restudy Reach	156497	100-Year	Floodplain As Is	211000.00	-17.19	22.07		22.43	0.000091	4.84	45364.97	1760.39	0.15
Restudy Reach	156497	500-Year	Floodplain As Is	265000.00	-17.19	26.39		26.83	0.000095	5.35	53663.76	2027.23	0.15
Restudy Reach	155604	10-Year	Floodplain As Is	142000.00	-17.10	15.91	-3.37	16.09	0.000071	3.46	48131.26	3624.60	0.12
Restudy Reach	155604	50-Year	Floodplain As Is	190000.00	-17.10	20.30	-1.82	20.52	0.000070	3.86	59850.16	3727.94	0.13
Restudy Reach	155604	100-Year	Floodplain As Is	211000.00	-17.10	22.09	-1.19	22.32	0.000070	4.01	64690.87	3761.62	0.13

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	155604	500-Year	Floodplain As Is	265000.00	-17.10	26.43	0.35	26.71	0.000069	4.35	77370.76	4178.57	0.13
Restudy Reach	154497	10-Year	Floodplain As Is	142000.00	-23.01	15.91	-2.57	16.02	0.000032	2.34	53887.57	3742.15	0.08
Restudy Reach	154497	50-Year	Floodplain As Is	190000.00	-23.01	20.31	-1.06	20.45	0.000029	2.49	66927.29	3814.57	0.08
Restudy Reach	154497	100-Year	Floodplain As Is	211000.00	-23.01	22.10	-0.44	22.25	0.000028	2.55	72274.21	3822.21	0.08
Restudy Reach	154497	500-Year	Floodplain As Is	265000.00	-23.01	26.46	1.07	26.63	0.000026	2.69	85304.44	3920.15	0.08
Restudy Reach	153500	10-Year	Floodplain As Is	142000.00	-20.46	15.83	-2.03	15.98	0.000066	3.31	56366.99	3739.47	0.12
Restudy Reach	153500	50-Year	Floodplain As Is	190000.00	-20.46	20.23	-0.43	20.40	0.000062	3.61	70300.51	3759.34	0.12
Restudy Reach	153500	100-Year	Floodplain As Is	211000.00	-20.46	22.03	0.24	22.21	0.000061	3.72	75988.91	3766.16	0.12
Restudy Reach	153500	500-Year	Floodplain As Is	265000.00	-20.46	26.39	1.73	26.59	0.000059	3.99	89921.99	3816.48	0.12
Restudy Reach	152824	10-Year	Floodplain As Is	142000.00	-20.85	15.72	-2.69	15.92	0.000084	3.81	54776.48	3451.46	0.14
Restudy Reach	152824	50-Year	Floodplain As Is	190000.00	-20.85	20.11	-0.92	20.35	0.000081	4.16	69986.05	3468.75	0.14
Restudy Reach	152824	100-Year	Floodplain As Is	211000.00	-20.85	21.91	-0.18	22.15	0.000079	4.29	76207.79	3475.83	0.14
Restudy Reach	152824	500-Year	Floodplain As Is	265000.00	-20.85	26.26	1.60	26.54	0.000076	4.59	91437.05	3529.15	0.14
Restudy Reach	151707	10-Year	Floodplain As Is	142000.00	-24.90	15.44	-5.59	15.79	0.000117	4.91	35002.29	1928.80	0.16
Restudy Reach	151707	50-Year	Floodplain As Is	190000.00	-24.90	19.76	-3.32	20.21	0.000124	5.57	43429.61	1964.31	0.17
Restudy Reach	151707	100-Year	Floodplain As Is	211000.00	-24.90	21.53	-2.47	22.01	0.000126	5.82	46904.47	1974.88	0.17
Restudy Reach	151707	500-Year	Floodplain As Is	265000.00	-24.90	25.82	-0.34	26.39	0.000130	6.37	55487.66	2017.28	0.18
Restudy Reach	150931	10-Year	Floodplain As Is	142000.00	-30.94	15.40		15.70	0.000080	4.42	34064.23	1264.34	0.14
Restudy Reach	150931	50-Year	Floodplain As Is	190000.00	-30.94	19.70		20.11	0.000093	5.18	39567.57	1293.03	0.15
Restudy Reach	150931	100-Year	Floodplain As Is	211000.00	-30.94	21.46		21.91	0.000097	5.47	41846.28	1304.90	0.16
Restudy Reach	150931	500-Year	Floodplain As Is	265000.00	-30.94	25.72		26.30	0.000106	6.15	47470.32	1328.97	0.17
Restudy Reach	150069	10-Year	Floodplain As Is	142000.00	-52.05	15.15		15.61	0.000103	5.43	26453.02	766.35	0.16
Restudy Reach	150069	50-Year	Floodplain As Is	190000.00	-52.05	19.34		20.00	0.000128	6.52	29698.50	783.06	0.18
Restudy Reach	150069	100-Year	Floodplain As Is	211000.00	-52.05	21.04		21.79	0.000138	6.95	31037.17	789.63	0.19
Restudy Reach	150069	500-Year	Floodplain As Is	265000.00	-52.05	25.17		26.15	0.000159	7.94	34332.16	805.49	0.20
Restudy Reach	148987	10-Year	Floodplain As Is	142000.00	-34.95	15.09		15.48	0.000094	4.96	28824.67	877.09	0.15
Restudy Reach	148987	50-Year	Floodplain As Is	190000.00	-34.95	19.29		19.83	0.000115	5.91	32527.74	888.95	0.17
Restudy Reach	148987	100-Year	Floodplain As Is	211000.00	-34.95	20.99		21.61	0.000122	6.28	34048.77	893.78	0.18
Restudy Reach	148987	500-Year	Floodplain As Is	265000.00	-34.95	25.14		25.93	0.000139	7.14	37778.82	905.51	0.19
Restudy Reach	147985	10-Year	Floodplain As Is	142000.00	-26.83	14.97		15.38	0.000099	5.12	28106.75	871.50	0.15
Restudy Reach	147985	50-Year	Floodplain As Is	190000.00	-26.83	19.13		19.71	0.000121	6.10	31767.13	887.71	0.17
Restudy Reach	147985	100-Year	Floodplain As Is	211000.00	-26.83	20.83		21.48	0.000129	6.48	33279.42	900.47	0.18
Restudy Reach	147985	500-Year	Floodplain As Is	265000.00	-26.83	24.94		25.78	0.000146	7.37	37023.88	918.37	0.20
Restudy Reach	146997	10-Year	Floodplain As Is	142000.00	-31.82	14.88		15.27	0.000105	5.04	28341.50	924.24	0.16
Restudy Reach	146997	50-Year	Floodplain As Is	190000.00	-31.82	19.03		19.58	0.000124	5.96	32228.45	948.55	0.18
Restudy Reach	146997	100-Year	Floodplain As Is	211000.00	-31.82	20.72		21.34	0.000132	6.32	33835.77	952.75	0.18
Restudy Reach	146997	500-Year	Floodplain As Is	265000.00	-31.82	24.83		25.62	0.000147	7.14	37776.56	963.27	0.20
Restudy Reach	145982	10-Year	Floodplain As Is	142000.00	-33.42	14.69		15.15	0.000117	5.48	26859.21	892.50	0.17
Restudy Reach	145982	50-Year	Floodplain As Is	190000.00	-33.42	18.78		19.43	0.000142	6.52	30537.03	906.17	0.19
Restudy Reach	145982	100-Year	Floodplain As Is	211000.00	-33.42	20.44		21.18	0.000151	6.92	32050.68	911.74	0.19
Restudy Reach	145982	500-Year	Floodplain As Is	265000.00	-33.42	24.50		25.45	0.000171	7.87	35771.94	925.29	0.21
Restudy Reach	144995	10-Year	Floodplain As Is	142000.00	-22.37	14.66		15.01	0.000098	4.77	30174.20	1093.33	0.15
Restudy Reach	144995	50-Year	Floodplain As Is	190000.00	-22.37	18.77		19.26	0.000115	5.62	34727.82	1128.60	0.17
Restudy Reach	144995	100-Year	Floodplain As Is	211000.00	-22.37	20.45		20.99	0.000121	5.94	36624.07	1134.96	0.17
Restudy Reach	144995	500-Year	Floodplain As Is	265000.00	-22.37	24.53		25.22	0.000133	6.69	41332.11	1183.16	0.19
Restudy Reach	144015	10-Year	Floodplain As Is	142000.00	-17.35	14.61		14.91	0.000093	4.40	32434.09	1171.53	0.15
Restudy Reach	144015	50-Year	Floodplain As Is	190000.00	-17.35	18.72		19.13	0.000105	5.13	37277.79	1183.86	0.16
Restudy Reach	144015	100-Year	Floodplain As Is	211000.00	-17.35	20.40		20.85	0.000110	5.42	39269.48	1188.78	0.16
Restudy Reach	144015	500-Year	Floodplain As Is	265000.00	-17.35	24.49		25.06	0.000118	6.07	44934.20	1530.65	0.17
Restudy Reach	143389	10-Year	Floodplain As Is	142000.00	-16.68	14.57		14.84	0.000090	4.17	34624.67	1357.60	0.14
Restudy Reach	143389	50-Year	Floodplain As Is	190000.00	-16.68	18.69		19.05	0.000100	4.82	40244.66	1371.25	0.15
Restudy Reach	143389	100-Year	Floodplain As Is	211000.00	-16.68	20.37		20.77	0.000103	5.07	42556.26	1376.73	0.16
Restudy Reach	143389	500-Year	Floodplain As Is	265000.00	-16.68	24.48		24.97	0.000108	5.64	48688.94	1814.30	0.17
Restudy Reach	142819	10-Year	Floodplain As Is	142000.00	-16.71	14.50		14.78	0.000099	4.24	33725.15	1355.68	0.15
Restudy Reach	142819	50-Year	Floodplain As Is	190000.00	-16.71	18.62		18.99	0.000108	4.89	39362.38	1386.26	0.16
Restudy Reach	142819	100-Year	Floodplain As Is	211000.00	-16.71	20.30		20.71	0.000110	5.14	41702.62	1398.94	0.16
Restudy Reach	142819	500-Year	Floodplain As Is	265000.00	-16.71	24.40		24.90	0.000115	5.71	48161.77	1893.33	0.17
Restudy Reach	142060	10-Year	Floodplain As Is	142000.00	-16.27	14.49		14.70	0.000080	3.64	39587.92	1740.18	0.13
Restudy Reach	142060	50-Year	Floodplain As Is	190000.00	-16.27	18.62		18.89	0.000083	4.14	46844.96	1774.27	0.14
Restudy Reach	142060	100-Year	Floodplain As Is	211000.00	-16.27	20.31		20.60	0.000084	4.33	49852.71	1788.21	0.14
Restudy Reach	142060	500-Year	Floodplain As Is	265000.00	-16.27	24.43		24.78	0.000086	4.77	57320.90	1856.67	0.15
Restudy Reach	141462	10-Year	Floodplain As Is	142000.00	-25.31	14.40		14.64	0.000094	3.92	36494.75	1594.37	0.14
Restudy Reach	141462	50-Year	Floodplain As Is	190000.00	-25.31	18.52		18.83	0.000098	4.46	43096.32	1612.72	0.15
Restudy Reach	141462	100-Year	Floodplain As Is	211000.00	-25.31	20.20		20.54	0.000099	4.67	45818.02	1620.61	0.15
Restudy Reach	141462	500-Year	Floodplain As Is	265000.00	-25.31	24.31		24.72	0.000101	5.14	52520.04	1639.89	0.16
Restudy Reach	140715	10-Year	Floodplain As Is	142000.00	-21.15	14.31		14.57	0.000100	4.05	35179.31	1528.01	0.15
Restudy Reach	140715	50-Year	Floodplain As Is	190000.00	-21.15	18.42		18.75	0.000105	4.60	41481.05	1539.47	0.15
Restudy Reach	140715	100-Year	Floodplain As Is	211000.00	-21.15	20.10		20.46	0.000106	4.82	44071.95	1544.16	0.16
Restudy Reach	140715	500-Year	Floodplain As Is	265000.00	-21.15	24.21		24.64	0.000108	5.30	50433.40	1557.03	0.16
Restudy Reach	139984	10-Year	Floodplain As Is	142000.00	-22.43	14.20		14.49	0.000111	4.30	34282.99	1577.80	0.16
Restudy Reach	139984	50-Year	Floodplain As Is	190000.00	-22.43	18.30		18.66	0.000116	4.89	40771.49	1589.95	0.16
Restudy Reach	139984	100-Year	Floodplain As Is	211000.00	-22.43	19.97		20.38	0.000118	5.12	43440.43	1594.92	0.17
Restudy Reach	139984	500-Year	Floodplain As Is	265000.00	-22.43	24.07		24.55	0.000120	5.63	50173.16	1810.20	0.17
Restudy Reach	139445	10-Year	Floodplain As Is	142000.00	-22.78	14.11		14.42	0.000115	4.54	33250.58	1579.27	0.16
Restudy Reach	139445	50-Year	Floodplain As Is	190000.00	-22.78	18.20		18.60	0.000122	5.16	39766.08	1610.90	0.17
Restudy Reach	139445	100-Year	Floodplain As Is	211000.00	-22.78	19.87		20.31	0.000123	5.40	42476.80	1627.73	0.17
Restudy Reach	139445	500-Year	Floodplain As Is	265000.00	-22.78	23.97		24.48	0.000126	5.92	50083.77	1989.44	0.18
Restudy Reach	138387	10-Year	Floodplain As Is	142000.00	-21.90	14.01		14.30	0.000100	4.52	36911.11	2076.16	0.15
Restudy Reach	138387	50-Year	Floodplain As Is	190000.00	-21.90	18.12		18.46	0.000103	5.05	45682.10	2210.43	0.16
Restudy Reach	138387	100-Year	Floodplain As Is	211000.00	-21.90	19.80		20.17	0.000104	5.24	49449.10	2259.38	0.16
Restudy Reach	138387	500-Year	Floodplain As Is	265000.00	-21.90	23.92		24.34	0.000104	5.66	58876.14	2319.67	0.16
Restudy Reach	137661	10-Year	Floodplain As Is	142000.00	-20.00	13.97		14.22	0.000090	4.15	38050.96	1990.61	0.14
Restudy Reach	137661	50-Year	Floodplain As Is	190000.00	-20.00	18.07		18.38	0.000095	4.69	46409.19	2067.04	0.15
Restudy Reach	137661	100-Year	Floodplain As Is	211000.00	-20.00	19.75		20.09	0.000096	4.89	49888.34	2076.03	0.15
Restudy Reach	137661	500-Year	Floodplain As Is	265000.00	-20.00	23.86		24.26	0.000097	5.34	58486.69	2120.02	0.16
Restudy Reach	136645	10-Year	Floodplain As Is	142000.00	-20.19	13.86		14.13	0.000098	4.19	35787.93	1787.28	0.15
Restudy Reach	136645	50-Year	Floodplain As Is	190000.00	-20.19	17.93		18.28	0.000105	4.79	43119.82	1807.50	0.16

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	136645	100-Year	Floodplain As Is	211000.00	-20.19	19.60		19.98	0.000107	5.01	46142.40	1813.55	0.16
Restudy Reach	136645	500-Year	Floodplain As Is	265000.00	-20.19	23.69		24.15	0.000110	5.52	53584.05	1828.41	0.16
Restudy Reach	135559	10-Year	Floodplain As Is	142000.00	-19.33	13.67		14.01	0.000116	4.67	32729.02	1653.38	0.16
Restudy Reach	135559	50-Year	Floodplain As Is	190000.00	-19.33	17.71		18.15	0.000126	5.36	39691.87	1792.64	0.17
Restudy Reach	135559	100-Year	Floodplain As Is	211000.00	-19.33	19.37		19.85	0.000129	5.62	42686.10	1811.72	0.18
Restudy Reach	135559	500-Year	Floodplain As Is	265000.00	-19.33	23.43		24.01	0.000133	6.18	50092.62	1831.94	0.18
Restudy Reach	134640	10-Year	Floodplain As Is	142000.00	-21.30	13.54		13.89	0.000119	4.81	30221.19	1312.46	0.16
Restudy Reach	134640	50-Year	Floodplain As Is	190000.00	-21.30	17.54		18.03	0.000133	5.57	35847.88	1472.10	0.18
Restudy Reach	134640	100-Year	Floodplain As Is	211000.00	-21.30	19.19		19.72	0.000137	5.87	38332.53	1544.49	0.18
Restudy Reach	134640	500-Year	Floodplain As Is	265000.00	-21.30	23.22		23.87	0.000144	6.51	44653.42	1589.00	0.19
Restudy Reach	133856	10-Year	Floodplain As Is	142000.00	-24.78	13.44		13.80	0.000121	4.83	29572.91	1153.19	0.17
Restudy Reach	133856	50-Year	Floodplain As Is	190000.00	-24.78	17.43		17.92	0.000136	5.61	34225.65	1178.07	0.18
Restudy Reach	133856	100-Year	Floodplain As Is	211000.00	-24.78	19.07		19.61	0.000141	5.91	36162.92	1188.28	0.18
Restudy Reach	133856	500-Year	Floodplain As Is	265000.00	-24.78	23.08		23.76	0.000150	6.60	40984.43	1216.56	0.19
Restudy Reach	133496	10-Year	Floodplain As Is	142000.00	-26.87	13.37		13.75	0.000124	4.96	29162.66	1145.60	0.17
Restudy Reach	133496	50-Year	Floodplain As Is	190000.00	-26.87	17.35		17.87	0.000140	5.78	33771.80	1172.51	0.18
Restudy Reach	133496	100-Year	Floodplain As Is	211000.00	-26.87	18.98		19.56	0.000145	6.10	35689.94	1179.12	0.19
Restudy Reach	133496	500-Year	Floodplain As Is	265000.00	-26.87	22.98		23.70	0.000156	6.81	40438.20	1195.59	0.20
Restudy Reach	133001	10-Year	Floodplain As Is	142000.00	-29.79	13.29		13.69	0.000125	5.08	28013.13	1013.06	0.17
Restudy Reach	133001	50-Year	Floodplain As Is	190000.00	-29.79	17.24		17.79	0.000144	5.96	32044.51	1027.74	0.19
Restudy Reach	133001	100-Year	Floodplain As Is	211000.00	-29.79	18.86		19.48	0.000151	6.30	33715.27	1034.08	0.19
Restudy Reach	133001	500-Year	Floodplain As Is	265000.00	-29.79	22.83		23.61	0.000164	7.07	37857.14	1051.32	0.20
Restudy Reach	132558	10-Year	Floodplain As Is	142000.00	-30.84	13.27		13.63	0.000102	4.84	29686.75	1033.37	0.15
Restudy Reach	132558	50-Year	Floodplain As Is	190000.00	-30.84	17.21		17.72	0.000122	5.73	33833.95	1063.76	0.17
Restudy Reach	132558	100-Year	Floodplain As Is	211000.00	-30.84	18.83		19.40	0.000129	6.08	35563.48	1073.35	0.18
Restudy Reach	132558	500-Year	Floodplain As Is	265000.00	-30.84	22.80		23.53	0.000143	6.87	39867.98	1094.27	0.19
Restudy Reach	132513	10-Year	Floodplain As Is	142000.00	-17.28	13.24	-12.32	13.62	0.000215	4.98	28664.21	971.56	0.16
Restudy Reach	132513	50-Year	Floodplain As Is	190000.00	-17.28	17.17	-9.00	17.71	0.000281	5.90	32519.14	988.23	0.18
Restudy Reach	132513	100-Year	Floodplain As Is	211000.00	-17.28	18.77	-7.57	19.39	0.000393	6.31	33822.82	621.58	0.18
Restudy Reach	132513	500-Year	Floodplain As Is	265000.00	-17.28	22.66	-4.78	23.51	0.000535	7.41	36212.13	537.89	0.21
Restudy Reach	132488	10-Year	Floodplain As Is	142000.00	-17.49	13.23	-12.88	13.61	0.000206	4.95	28885.13	974.90	0.16
Restudy Reach	132488	50-Year	Floodplain As Is	190000.00	-17.49	17.17	-9.53	17.70	0.000270	5.86	32758.36	993.91	0.18
Restudy Reach	132488	100-Year	Floodplain As Is	211000.00	-17.49	18.77	-7.64	19.38	0.000381	6.27	34069.89	625.62	0.18
Restudy Reach	132488	500-Year	Floodplain As Is	265000.00	-17.49	22.65	-4.91	23.49	0.000519	7.36	36473.72	541.67	0.20
Restudy Reach	132428	10-Year	Floodplain As Is	142000.00	-30.29	13.25		13.60	0.000097	4.72	30543.82	1078.12	0.15
Restudy Reach	132428	50-Year	Floodplain As Is	190000.00	-30.29	17.19		17.68	0.000115	5.58	34848.36	1109.62	0.17
Restudy Reach	132428	100-Year	Floodplain As Is	211000.00	-30.29	18.80		19.35	0.000122	5.91	36641.83	1119.15	0.17
Restudy Reach	132428	500-Year	Floodplain As Is	265000.00	-30.29	22.74		23.43	0.000135	6.68	41087.08	1137.17	0.19
Restudy Reach	132021	10-Year	Floodplain As Is	142000.00	-24.65	13.22		13.55	0.000111	4.60	31288.06	1301.52	0.16
Restudy Reach	132021	50-Year	Floodplain As Is	190000.00	-24.65	17.17		17.62	0.000124	5.34	36469.45	1321.90	0.17
Restudy Reach	132021	100-Year	Floodplain As Is	211000.00	-24.65	18.79		19.28	0.000129	5.62	38610.15	1329.22	0.18
Restudy Reach	132021	500-Year	Floodplain As Is	265000.00	-24.65	22.74		23.35	0.000137	6.27	43903.03	1347.61	0.18
Restudy Reach	131478	10-Year	Floodplain As Is	142000.00	-25.16	13.18		13.48	0.000110	4.42	32281.89	1356.22	0.16
Restudy Reach	131478	50-Year	Floodplain As Is	190000.00	-25.16	17.13		17.54	0.000121	5.10	37751.68	1405.27	0.17
Restudy Reach	131478	100-Year	Floodplain As Is	211000.00	-25.16	18.75		19.20	0.000124	5.36	40030.21	1412.81	0.17
Restudy Reach	131478	500-Year	Floodplain As Is	265000.00	-25.16	22.71		23.26	0.000130	5.94	45662.21	1429.24	0.18
Restudy Reach	131003	10-Year	Floodplain As Is	142000.00	-26.66	13.11		13.42	0.000118	4.53	31517.02	1348.07	0.16
Restudy Reach	131003	50-Year	Floodplain As Is	190000.00	-26.66	17.06		17.48	0.000128	5.21	36984.30	1451.55	0.17
Restudy Reach	131003	100-Year	Floodplain As Is	211000.00	-26.66	18.67		19.13	0.000131	5.47	39404.39	1525.38	0.18
Restudy Reach	131003	500-Year	Floodplain As Is	265000.00	-26.66	22.63		23.20	0.000137	6.05	45521.66	1556.22	0.18
Restudy Reach	130479	10-Year	Floodplain As Is	142000.00	-21.99	13.04		13.36	0.000115	4.55	32947.16	1649.94	0.16
Restudy Reach	130479	50-Year	Floodplain As Is	190000.00	-21.99	16.99		17.41	0.000125	5.22	39705.63	1734.40	0.17
Restudy Reach	130479	100-Year	Floodplain As Is	211000.00	-21.99	18.60		19.06	0.000128	5.48	42528.79	1758.67	0.17
Restudy Reach	130479	500-Year	Floodplain As Is	265000.00	-21.99	22.56		23.12	0.000133	6.05	49542.73	1783.39	0.18
Restudy Reach	130116	10-Year	Floodplain As Is	142000.00	-22.54	13.01		13.32	0.000103	4.46	32437.93	1372.83	0.15
Restudy Reach	130116	50-Year	Floodplain As Is	190000.00	-22.54	16.95		17.37	0.000116	5.19	38357.64	1702.35	0.17
Restudy Reach	130116	100-Year	Floodplain As Is	211000.00	-22.54	18.56		19.02	0.000120	5.46	41140.04	1737.48	0.17
Restudy Reach	130116	500-Year	Floodplain As Is	265000.00	-22.54	22.51		23.07	0.000127	6.07	48067.28	1778.36	0.18
Restudy Reach	129461	10-Year	Floodplain As Is	142000.00	-18.11	12.95	-6.12	13.25	0.000108	4.42	33789.32	1647.85	0.16
Restudy Reach	129461	50-Year	Floodplain As Is	190000.00	-18.11	16.89	-4.32	17.28	0.000118	5.09	40437.99	1760.11	0.17
Restudy Reach	129461	100-Year	Floodplain As Is	211000.00	-18.11	18.50	-3.59	18.93	0.000121	5.34	43369.26	1838.34	0.17
Restudy Reach	129461	500-Year	Floodplain As Is	265000.00	-18.11	22.45	-1.79	22.98	0.000126	5.90	50699.15	1870.55	0.18
Restudy Reach	128768	10-Year	Floodplain As Is	142000.00	-16.98	12.84	-5.32	13.17	0.000117	4.58	32203.76	1535.21	0.16
Restudy Reach	128768	50-Year	Floodplain As Is	190000.00	-16.98	16.76	-3.62	17.19	0.000128	5.28	38520.62	1804.13	0.17
Restudy Reach	128768	100-Year	Floodplain As Is	211000.00	-16.98	18.37	-2.91	18.84	0.000132	5.56	41611.79	2004.29	0.18
Restudy Reach	128768	500-Year	Floodplain As Is	265000.00	-16.98	22.31	-1.24	22.89	0.000136	6.12	49846.34	2124.75	0.18
Restudy Reach	127919	10-Year	Floodplain As Is	142000.00	-16.90	12.80	-5.45	13.06	0.000102	4.18	37822.29	1972.23	0.15
Restudy Reach	127919	50-Year	Floodplain As Is	190000.00	-16.90	16.73	-3.82	17.07	0.000107	4.74	45873.13	2107.88	0.16
Restudy Reach	127919	100-Year	Floodplain As Is	211000.00	-16.90	18.35	-3.14	18.71	0.000108	4.95	49299.20	2138.20	0.16
Restudy Reach	127919	500-Year	Floodplain As Is	265000.00	-16.90	22.31	-1.51	22.74	0.000110	5.41	57960.57	2242.65	0.16
Restudy Reach	126972	10-Year	Floodplain As Is	142000.00	-14.86	12.75	-4.75	12.95	0.000087	3.70	47309.73	2916.33	0.14
Restudy Reach	126972	50-Year	Floodplain As Is	190000.00	-14.86	16.71	-3.22	16.95	0.000087	4.10	59020.71	3034.71	0.14
Restudy Reach	126972	100-Year	Floodplain As Is	211000.00	-14.86	18.33	-2.58	18.58	0.000086	4.25	63973.83	3070.21	0.14
Restudy Reach	126972	500-Year	Floodplain As Is	265000.00	-14.86	22.32	-1.06	22.61	0.000084	4.57	76385.54	3146.02	0.14
Restudy Reach	126252	10-Year	Floodplain As Is	142000.00	-12.57	12.64		12.88	0.000101	3.96	37936.79	1967.82	0.15
Restudy Reach	126252	50-Year	Floodplain As Is	190000.00	-12.57	16.56		16.87	0.000104	4.48	45710.53	1992.02	0.15
Restudy Reach	126252	100-Year	Floodplain As Is	211000.00	-12.57	18.17		18.51	0.000105	4.68	48923.23	2003.10	0.16
Restudy Reach	126252	500-Year	Floodplain As Is	265000.00	-12.57	22.13		22.53	0.000106	5.13	56943.72	2043.78	0.16
Restudy Reach	125536	10-Year	Floodplain As Is	142000.00	-23.48	12.49		12.80	0.000112	4.43	33222.09	1586.84	0.16
Restudy Reach	125536	50-Year	Floodplain As Is	190000.00	-23.48	16.38		16.78	0.000122	5.10	39518.42	1632.07	0.17
Restudy Reach	125536	100-Year	Floodplain As Is	211000.00	-23.48	17.97		18.41	0.000125	5.35	42134.52	1649.19	0.17
Restudy Reach	125536	500-Year	Floodplain As Is	265000.00	-23.48	21.90		22.43	0.000130	5.92	48640.35	1670.59	0.18
Restudy Reach	124652	10-Year	Floodplain As Is	142000.00	-17.49	12.43		12.69	0.000099	4.08	35514.71	1703.70	0.15
Restudy Reach	124652	50-Year	Floodplain As Is	190000.00	-17.49	16.33		16.66	0.000106	4.63	42199.70	1726.72	0.16
Restudy Reach	124652	100-Year	Floodplain As Is	211000.00	-17.49	17.93		18.29	0.000108	4.84	44965.44	1735.93	0.16
Restudy Reach	124652	500-Year	Floodplain As Is	265000.00	-17.49	21.86		22.29	0.000111	5.31	51838.67	1760.03	0.17
Restudy Reach	123937	10-Year	Floodplain As Is	142000.00	-16.37	12.39		12.61	0.000093	3.70	38434.87	1781.99	0.14

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	123937	50-Year	Floodplain As Is	190000.00	-16.37	16.30		16.57	0.000095	4.19	45421.05	1797.48	0.15
Restudy Reach	123937	100-Year	Floodplain As Is	211000.00	-16.37	17.90		18.20	0.000096	4.38	48302.57	1803.82	0.15
Restudy Reach	123937	500-Year	Floodplain As Is	265000.00	-16.37	21.84		22.20	0.000096	4.80	55442.61	1818.80	0.15
Restudy Reach	123575	10-Year	Floodplain As Is	142000.00	-22.68	12.33		12.57	0.000105	3.91	36330.54	1690.63	0.15
Restudy Reach	123575	50-Year	Floodplain As Is	190000.00	-22.68	16.23		16.53	0.000108	4.43	42955.39	1711.91	0.15
Restudy Reach	123575	100-Year	Floodplain As Is	211000.00	-22.68	17.82		18.16	0.000109	4.63	45697.44	1724.93	0.16
Restudy Reach	123575	500-Year	Floodplain As Is	265000.00	-22.68	21.76		22.16	0.000109	5.07	52547.16	1749.50	0.16
Restudy Reach	123168	10-Year	Floodplain As Is	142000.00	-21.86	12.29		12.52	0.000107	3.88	36759.66	1809.39	0.15
Restudy Reach	123168	50-Year	Floodplain As Is	190000.00	-21.86	16.19		16.48	0.000108	4.37	43858.50	1833.90	0.15
Restudy Reach	123168	100-Year	Floodplain As Is	211000.00	-21.86	17.79		18.11	0.000109	4.56	46797.22	1843.88	0.16
Restudy Reach	123168	500-Year	Floodplain As Is	265000.00	-21.86	21.72		22.11	0.000108	4.98	54107.12	1869.58	0.16
Restudy Reach	122409	10-Year	Floodplain As Is	142000.00	-21.18	12.22		12.44	0.000101	3.84	37102.24	1754.72	0.15
Restudy Reach	122409	50-Year	Floodplain As Is	190000.00	-21.18	16.11		16.40	0.000103	4.35	43957.34	1766.28	0.15
Restudy Reach	122409	100-Year	Floodplain As Is	211000.00	-21.18	17.71		18.03	0.000104	4.55	46782.14	1771.03	0.15
Restudy Reach	122409	500-Year	Floodplain As Is	265000.00	-21.18	21.64		22.03	0.000104	4.98	53775.36	1783.07	0.16
Restudy Reach	121484	10-Year	Floodplain As Is	142000.00	-31.13	11.97		12.33	0.000133	4.76	29894.14	1249.99	0.17
Restudy Reach	121484	50-Year	Floodplain As Is	190000.00	-31.13	15.80		16.27	0.000147	5.50	34711.18	1266.25	0.18
Restudy Reach	121484	100-Year	Floodplain As Is	211000.00	-31.13	17.37		17.89	0.000151	5.79	36705.14	1273.90	0.19
Restudy Reach	121484	500-Year	Floodplain As Is	265000.00	-31.13	21.24		21.88	0.000158	6.43	41673.05	1291.96	0.20
Restudy Reach	120488	10-Year	Floodplain As Is	142000.00	-27.77	11.85	-7.04	12.19	0.000138	4.65	30659.25	1495.58	0.17
Restudy Reach	120488	50-Year	Floodplain As Is	190000.00	-27.77	15.68	-3.73	16.12	0.000146	5.31	36765.60	1568.36	0.18
Restudy Reach	120488	100-Year	Floodplain As Is	211000.00	-27.77	17.25	-2.76	17.73	0.000149	5.56	39235.75	1573.34	0.18
Restudy Reach	120488	500-Year	Floodplain As Is	265000.00	-27.77	21.13	-0.64	21.71	0.000151	6.12	45365.29	1585.27	0.19
Restudy Reach	119602	10-Year	Floodplain As Is	142000.00	-22.84	11.76	-7.76	12.06	0.000118	4.45	32802.21	1643.28	0.16
Restudy Reach	119602	50-Year	Floodplain As Is	190000.00	-22.84	15.59	-5.73	15.98	0.000126	5.08	39122.98	1656.12	0.17
Restudy Reach	119602	100-Year	Floodplain As Is	211000.00	-22.84	17.16	-4.93	17.59	0.000128	5.32	41735.14	1661.39	0.17
Restudy Reach	119602	500-Year	Floodplain As Is	265000.00	-22.84	21.05	-2.77	21.57	0.000130	5.83	48223.07	1674.38	0.18
Restudy Reach	118755	10-Year	Floodplain As Is	142000.00	-17.51	11.68	-7.67	11.96	0.000108	4.34	34574.38	2039.67	0.15
Restudy Reach	118755	50-Year	Floodplain As Is	190000.00	-17.51	15.51	-5.90	15.87	0.000113	4.89	42797.67	2193.56	0.16
Restudy Reach	118755	100-Year	Floodplain As Is	211000.00	-17.51	17.10	-5.18	17.48	0.000114	5.08	46300.11	2239.25	0.16
Restudy Reach	118755	500-Year	Floodplain As Is	265000.00	-17.51	21.01	-3.40	21.44	0.000112	5.49	55244.39	2304.94	0.17
Restudy Reach	118028	10-Year	Floodplain As Is	142000.00	-18.83	11.60	-6.97	11.88	0.000107	4.32	36112.88	2670.75	0.15
Restudy Reach	118028	50-Year	Floodplain As Is	190000.00	-18.83	15.45	-5.21	15.79	0.000109	4.81	45979.76	2812.40	0.16
Restudy Reach	118028	100-Year	Floodplain As Is	211000.00	-18.83	17.04	-4.49	17.39	0.000108	4.97	50094.33	2865.41	0.16
Restudy Reach	118028	500-Year	Floodplain As Is	265000.00	-18.83	20.97	-2.81	21.35	0.000102	5.23	64085.09	2961.37	0.16
Restudy Reach	117540	10-Year	Floodplain As Is	142000.00	-17.36	11.38	-4.04	11.80	0.000191	5.35	32285.43	2796.18	0.20
Restudy Reach	117540	50-Year	Floodplain As Is	190000.00	-17.36	15.24	-1.89	15.71	0.000180	5.77	42465.64	2986.71	0.20
Restudy Reach	117540	100-Year	Floodplain As Is	211000.00	-17.36	16.83	-1.05	17.31	0.000174	5.92	46735.88	2999.20	0.20
Restudy Reach	117540	500-Year	Floodplain As Is	265000.00	-17.36	20.77	0.96	21.28	0.000161	6.21	57355.39	3027.53	0.20
Restudy Reach	116396	10-Year	Floodplain As Is	142000.00	-28.02	11.32	-9.59	11.61	0.000101	4.40	39566.67	2427.06	0.15
Restudy Reach	116396	50-Year	Floodplain As Is	190000.00	-28.02	15.16	-7.53	15.53	0.000109	5.01	49766.81	2874.08	0.16
Restudy Reach	116396	100-Year	Floodplain As Is	211000.00	-28.02	16.74	-6.73	17.14	0.000111	5.23	54429.18	2962.93	0.16
Restudy Reach	116396	500-Year	Floodplain As Is	265000.00	-28.02	20.67	-4.80	21.11	0.000111	5.65	66092.05	2983.07	0.17
Restudy Reach	115426	10-Year	Floodplain As Is	142000.00	-30.58	11.11	-9.42	11.49	0.000135	5.07	36372.73	2429.88	0.17
Restudy Reach	115426	50-Year	Floodplain As Is	190000.00	-30.58	14.93	-7.11	15.39	0.000145	5.73	45957.50	2538.55	0.18
Restudy Reach	115426	100-Year	Floodplain As Is	211000.00	-30.58	16.50	-6.18	17.00	0.000148	5.97	49968.69	2552.76	0.19
Restudy Reach	115426	500-Year	Floodplain As Is	265000.00	-30.58	20.40	-3.94	20.98	0.000149	6.48	59999.83	2594.44	0.19
Restudy Reach	114464	10-Year	Floodplain As Is	142000.00	-22.27	11.03	-9.79	11.36	0.000112	4.64	36904.22	2154.86	0.16
Restudy Reach	114464	50-Year	Floodplain As Is	190000.00	-22.27	14.84	-7.63	15.25	0.000124	5.31	45323.60	2280.30	0.17
Restudy Reach	114464	100-Year	Floodplain As Is	211000.00	-22.27	16.41	-6.78	16.86	0.000128	5.55	48971.77	2339.23	0.17
Restudy Reach	114464	500-Year	Floodplain As Is	265000.00	-22.27	20.30	-4.76	20.83	0.000131	6.07	58144.04	2373.95	0.18
Restudy Reach	114023	10-Year	Floodplain As Is	142000.00	-20.24	11.00	-8.62	11.30	0.000113	4.49	38770.35	2825.92	0.16
Restudy Reach	114023	50-Year	Floodplain As Is	190000.00	-20.24	14.81	-6.68	15.18	0.000124	5.07	48438.33	3016.84	0.17
Restudy Reach	114023	100-Year	Floodplain As Is	211000.00	-20.24	16.38	-5.90	16.79	0.000125	5.28	52595.11	3041.36	0.17
Restudy Reach	114023	500-Year	Floodplain As Is	265000.00	-20.24	20.29	-4.01	20.75	0.000125	5.72	62914.18	3074.63	0.17
Restudy Reach	113286	10-Year	Floodplain As Is	142000.00	-16.27	10.93		11.21	0.000111	4.30	40079.51	2533.52	0.16
Restudy Reach	113286	50-Year	Floodplain As Is	190000.00	-16.27	14.74		15.08	0.000116	4.84	49759.11	2549.59	0.16
Restudy Reach	113286	100-Year	Floodplain As Is	211000.00	-16.27	16.32		16.69	0.000116	5.04	53784.29	2555.88	0.16
Restudy Reach	113286	500-Year	Floodplain As Is	265000.00	-16.27	20.23		20.65	0.000116	5.47	63802.64	2572.51	0.17
Restudy Reach	112483	10-Year	Floodplain As Is	142000.00	-14.42	10.89		11.11	0.000099	3.82	41574.37	2462.85	0.14
Restudy Reach	112483	50-Year	Floodplain As Is	190000.00	-14.42	14.70		14.98	0.000101	4.29	51104.08	2524.97	0.15
Restudy Reach	112483	100-Year	Floodplain As Is	211000.00	-14.42	16.28		16.58	0.000101	4.46	55105.55	2541.93	0.15
Restudy Reach	112483	500-Year	Floodplain As Is	265000.00	-14.42	20.20		20.54	0.000099	4.84	65116.57	2573.18	0.15
Restudy Reach	111984	10-Year	Floodplain As Is	142000.00	-16.12	10.84		11.06	0.000100	3.70	39437.53	2058.14	0.14
Restudy Reach	111984	50-Year	Floodplain As Is	190000.00	-16.12	14.66		14.92	0.000101	4.16	47560.51	2248.47	0.15
Restudy Reach	111984	100-Year	Floodplain As Is	211000.00	-16.12	16.24		16.53	0.000100	4.33	51142.37	2285.09	0.15
Restudy Reach	111984	500-Year	Floodplain As Is	265000.00	-16.12	20.15		20.49	0.000098	4.71	60198.12	2342.26	0.15
Restudy Reach	111474	10-Year	Floodplain As Is	142000.00	-16.44	10.80		11.00	0.000097	3.58	41663.11	2346.35	0.14
Restudy Reach	111474	50-Year	Floodplain As Is	190000.00	-16.44	14.62		14.87	0.000095	4.00	50662.41	2366.58	0.14
Restudy Reach	111474	100-Year	Floodplain As Is	211000.00	-16.44	16.20		16.47	0.000094	4.15	54411.75	2374.84	0.15
Restudy Reach	111474	500-Year	Floodplain As Is	265000.00	-16.44	20.13		20.43	0.000091	4.49	63762.27	2395.34	0.15
Restudy Reach	110489	10-Year	Floodplain As Is	142000.00	-39.31	10.62		10.89	0.000129	4.13	34483.74	1738.47	0.16
Restudy Reach	110489	50-Year	Floodplain As Is	190000.00	-39.31	14.41		14.75	0.000129	4.65	41109.32	1754.90	0.17
Restudy Reach	110489	100-Year	Floodplain As Is	211000.00	-39.31	15.98		16.35	0.000129	4.85	43872.10	1761.70	0.17
Restudy Reach	110489	500-Year	Floodplain As Is	265000.00	-39.31	19.88		20.31	0.000127	5.28	50770.09	1778.57	0.17
Restudy Reach	109387	10-Year	Floodplain As Is	142000.00	-25.91	10.49		10.74	0.000125	4.05	35170.77	1909.61	0.16
Restudy Reach	109387	50-Year	Floodplain As Is	190000.00	-25.91	14.29		14.60	0.000124	4.49	43010.00	2168.06	0.17
Restudy Reach	109387	100-Year	Floodplain As Is	211000.00	-25.91	15.87		16.20	0.000122	4.64	46502.16	2258.86	0.17
Restudy Reach	109387	500-Year	Floodplain As Is	265000.00	-25.91	19.79		20.16	0.000118	4.94	55657.40	2375.21	0.17
Restudy Reach	108798	10-Year	Floodplain As Is	142000.00	-17.96	10.43		10.67	0.000118	3.90	36706.48	2081.78	0.16
Restudy Reach	108798	50-Year	Floodplain As Is	190000.00	-17.96	14.24		14.52	0.000117	4.30	45004.56	2314.89	0.16
Restudy Reach	108798	100-Year	Floodplain As Is	211000.00	-17.96	15.82		16.12	0.000115	4.44	48714.37	2377.35	0.16
Restudy Reach	108798	500-Year	Floodplain As Is	265000.00	-17.96	19.74		20.09	0.000111	4.73	58351.87	2528.32	0.16
Restudy Reach	108061	10-Year	Floodplain As Is	142000.00	-22.13	10.35		10.57	0.000120	3.78	37659.61	2314.95	0.16
Restudy Reach	108061	50-Year	Floodplain As Is	190000.00	-22.13	14.17		14.43	0.000115	4.08	46755.52	2408.50	0.16
Restudy Reach	108061	100-Year	Floodplain As Is	211000.00	-22.13	15.76		16.03	0.000112	4.20	50588.50	2441.95	0.16
Restudy Reach	108061	500-Year	Floodplain As Is	265000.00	-22.13	19.69		19.99	0.000105	4.45	60583.80	2642.78	0.16

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	107443	10-Year	Floodplain As Is	142000.00	-21.97	10.26		10.50	0.000126	3.91	36480.96	2335.25	0.17
Restudy Reach	107443	50-Year	Floodplain As Is	190000.00	-21.97	14.08		14.36	0.000122	4.25	45752.67	2548.24	0.17
Restudy Reach	107443	100-Year	Floodplain As Is	211000.00	-21.97	15.66		15.96	0.000119	4.37	49857.91	2639.83	0.16
Restudy Reach	107443	500-Year	Floodplain As Is	265000.00	-21.97	19.60		19.93	0.000111	4.63	60630.27	2812.85	0.16
Restudy Reach	106767	10-Year	Floodplain As Is	142000.00	-24.08	10.16		10.41	0.000140	3.97	36327.83	2549.16	0.17
Restudy Reach	106767	50-Year	Floodplain As Is	190000.00	-24.08	13.99		14.27	0.000127	4.31	46587.95	2738.29	0.16
Restudy Reach	106767	100-Year	Floodplain As Is	211000.00	-24.08	15.58		15.87	0.000122	4.43	50973.72	2783.31	0.16
Restudy Reach	106767	500-Year	Floodplain As Is	265000.00	-24.08	19.52		19.85	0.000110	4.66	62386.57	2955.72	0.16
Restudy Reach	106001	10-Year	Floodplain As Is	142000.00	-26.72	10.00	-9.35	10.29	0.000149	4.31	34275.01	2454.60	0.17
Restudy Reach	106001	50-Year	Floodplain As Is	190000.00	-26.72	13.83	-6.95	14.16	0.000141	4.72	44128.57	2616.16	0.17
Restudy Reach	106001	100-Year	Floodplain As Is	211000.00	-26.72	15.42	-5.97	15.77	0.000137	4.86	48323.98	2683.37	0.17
Restudy Reach	106001	500-Year	Floodplain As Is	265000.00	-26.72	19.37	-0.70	19.76	0.000126	5.13	59222.13	2862.31	0.17
Restudy Reach	105403	10-Year	Floodplain As Is	142000.00	-29.41	9.88	-13.95	10.20	0.000143	4.58	34012.30	2279.38	0.17
Restudy Reach	105403	50-Year	Floodplain As Is	190000.00	-29.41	13.68	-11.25	14.07	0.000146	5.11	43176.56	2497.47	0.18
Restudy Reach	105403	100-Year	Floodplain As Is	211000.00	-29.41	15.26	-10.15	15.68	0.000145	5.29	47161.91	2532.15	0.18
Restudy Reach	105403	500-Year	Floodplain As Is	265000.00	-29.41	19.20	-7.49	19.67	0.000138	5.66	57235.71	2574.77	0.18
Restudy Reach	104434	10-Year	Floodplain As Is	142000.00	-28.09	9.77	-12.28	10.07	0.000117	4.46	35043.84	2393.57	0.16
Restudy Reach	104434	50-Year	Floodplain As Is	190000.00	-28.09	13.59	-9.93	13.93	0.000116	4.89	44433.23	2475.88	0.16
Restudy Reach	104434	100-Year	Floodplain As Is	211000.00	-28.09	15.18	-8.97	15.54	0.000115	5.04	48385.71	2491.30	0.16
Restudy Reach	104434	500-Year	Floodplain As Is	265000.00	-28.09	19.14	-6.45	19.52	0.000108	5.32	58378.51	2564.65	0.16
Restudy Reach	103423	10-Year	Floodplain As Is	142000.00	-28.03	9.60	-9.92	9.94	0.000127	4.71	33098.01	2557.92	0.17
Restudy Reach	103423	50-Year	Floodplain As Is	190000.00	-28.03	13.39	-7.89	13.80	0.000131	5.26	43056.70	2672.83	0.17
Restudy Reach	103423	100-Year	Floodplain As Is	211000.00	-28.03	14.98	-7.09	15.41	0.000130	5.44	47346.52	2729.58	0.17
Restudy Reach	103423	500-Year	Floodplain As Is	265000.00	-28.03	18.93	-5.07	19.40	0.000125	5.79	58276.55	2811.46	0.18
Restudy Reach	102354	10-Year	Floodplain As Is	142000.00	-19.35	9.54		9.78	0.000112	4.03	36865.47	2329.64	0.15
Restudy Reach	102354	50-Year	Floodplain As Is	190000.00	-19.35	13.36		13.64	0.000104	4.31	45838.86	2370.47	0.15
Restudy Reach	102354	100-Year	Floodplain As Is	211000.00	-19.35	14.96		15.24	0.000100	4.40	49626.07	2378.81	0.15
Restudy Reach	102354	500-Year	Floodplain As Is	265000.00	-19.35	18.92		19.24	0.000091	4.60	59153.93	2469.49	0.15
Restudy Reach	101531	10-Year	Floodplain As Is	142000.00	-16.22	9.45	-5.72	9.68	0.000115	3.87	38604.73	2395.42	0.15
Restudy Reach	101531	50-Year	Floodplain As Is	190000.00	-16.22	13.26	-4.33	13.54	0.000114	4.31	47147.07	2572.44	0.16
Restudy Reach	101531	100-Year	Floodplain As Is	211000.00	-16.22	14.85	-3.74	15.15	0.000113	4.48	50731.96	2668.77	0.16
Restudy Reach	101531	500-Year	Floodplain As Is	265000.00	-16.22	18.86	-2.31	19.16	0.000093	4.47	64571.72	2857.02	0.15
Restudy Reach	100480	10-Year	Floodplain As Is	142000.00	-18.81	9.35	-4.16	9.56	0.000111	3.62	39502.86	2506.39	0.15
Restudy Reach	100480	50-Year	Floodplain As Is	190000.00	-18.81	13.19	-2.99	13.42	0.000095	3.78	50730.66	2702.96	0.14
Restudy Reach	100480	100-Year	Floodplain As Is	211000.00	-18.81	14.79	-2.51	15.03	0.000091	3.88	55081.13	2744.29	0.14
Restudy Reach	100480	500-Year	Floodplain As Is	265000.00	-18.81	18.80	-1.36	19.06	0.000083	4.10	66396.47	2915.15	0.14
Restudy Reach	99303	10-Year	Floodplain As Is	142000.00	-21.48	9.12	-3.74	9.40	0.000158	4.22	33936.25	2259.11	0.18
Restudy Reach	99303	50-Year	Floodplain As Is	190000.00	-21.48	12.99	-2.33	13.28	0.000127	4.33	44073.63	2351.26	0.16
Restudy Reach	99303	100-Year	Floodplain As Is	211000.00	-21.48	14.59	-1.79	14.90	0.000122	4.45	47970.31	2535.65	0.16
Restudy Reach	99303	500-Year	Floodplain As Is	265000.00	-21.48	18.61	-0.47	18.94	0.000110	4.68	58397.85	2615.39	0.16
Restudy Reach	98482	10-Year	Floodplain As Is	142000.00	-25.71	8.95	-5.45	9.26	0.000161	4.49	32587.63	2702.45	0.18
Restudy Reach	98482	50-Year	Floodplain As Is	190000.00	-25.71	12.87	-3.33	13.18	0.000131	4.58	46605.91	2787.91	0.17
Restudy Reach	98482	100-Year	Floodplain As Is	211000.00	-25.71	14.48	-2.67	14.79	0.000126	4.70	51082.58	2794.47	0.17
Restudy Reach	98482	500-Year	Floodplain As Is	265000.00	-25.71	18.50	-1.21	18.84	0.000114	4.94	62360.15	2807.77	0.16
Restudy Reach	97997	10-Year	Floodplain As Is	142000.00	-28.03	8.85	-6.98	9.18	0.000163	4.61	31269.18	2685.59	0.18
Restudy Reach	97997	50-Year	Floodplain As Is	190000.00	-28.03	12.85	-4.40	13.10	0.000101	4.09	47148.59	2833.63	0.15
Restudy Reach	97997	100-Year	Floodplain As Is	211000.00	-28.03	14.46	-3.14	14.72	0.000094	4.14	51719.46	2839.86	0.14
Restudy Reach	97997	500-Year	Floodplain As Is	265000.00	-28.03	18.50	-1.42	18.78	0.000080	4.22	63227.04	2856.60	0.14
Restudy Reach	97328	10-Year	Floodplain As Is	144000.00	-28.77	8.77	-9.13	9.06	0.000154	4.49	34637.78	2430.94	0.18
Restudy Reach	97328	50-Year	Floodplain As Is	195000.00	-28.77	12.69	-5.96	13.02	0.000141	4.85	44338.12	2537.33	0.18
Restudy Reach	97328	100-Year	Floodplain As Is	217000.00	-28.77	14.29	-4.72	14.64	0.000136	4.97	48531.01	2673.48	0.17
Restudy Reach	97328	500-Year	Floodplain As Is	276000.00	-28.77	18.32	-1.07	18.70	0.000125	5.26	59546.05	2837.85	0.17
Restudy Reach	96877	10-Year	Floodplain As Is	144000.00	-30.93	8.72	-10.93	8.99	0.000141	4.30	36272.36	2624.47	0.17
Restudy Reach	96877	50-Year	Floodplain As Is	195000.00	-30.93	12.65	-7.56	12.94	0.000125	4.57	47006.67	2878.07	0.17
Restudy Reach	96877	100-Year	Floodplain As Is	217000.00	-30.93	14.27	-6.28	14.56	0.000120	4.66	51846.63	3092.01	0.16
Restudy Reach	96877	500-Year	Floodplain As Is	276000.00	-30.93	18.31	-1.19	18.63	0.000107	4.87	64453.64	3127.77	0.16
Restudy Reach	95499	10-Year	Floodplain As Is	144000.00	-28.00	8.64	-13.30	8.81	0.000079	3.69	45587.14	3764.12	0.13
Restudy Reach	95499	50-Year	Floodplain As Is	195000.00	-28.00	12.61	-10.67	12.78	0.000067	3.76	61536.05	4149.94	0.12
Restudy Reach	95499	100-Year	Floodplain As Is	217000.00	-28.00	14.23	-9.62	14.41	0.000062	3.77	68293.98	4158.44	0.12
Restudy Reach	95499	500-Year	Floodplain As Is	276000.00	-28.00	18.30	-6.94	18.48	0.000054	3.82	85259.66	4179.48	0.12
Restudy Reach	94182	10-Year	Floodplain As Is	144000.00	-24.84	8.51	-12.79	8.71	0.000079	3.92	42936.48	3461.23	0.13
Restudy Reach	94182	50-Year	Floodplain As Is	195000.00	-24.84	12.49	-10.47	12.69	0.000070	4.03	56811.52	3498.35	0.13
Restudy Reach	94182	100-Year	Floodplain As Is	217000.00	-24.84	14.12	-9.55	14.32	0.000066	4.06	62517.73	3505.61	0.13
Restudy Reach	94182	500-Year	Floodplain As Is	276000.00	-24.84	18.19	-7.25	18.40	0.000059	4.15	76834.22	3523.76	0.12
Restudy Reach	93502	10-Year	Floodplain As Is	144000.00	-22.34	8.41	-10.30	8.64	0.000100	4.02	38438.27	2899.30	0.15
Restudy Reach	93502	50-Year	Floodplain As Is	195000.00	-22.34	12.38	-8.11	12.63	0.000085	4.13	49981.55	2915.84	0.14
Restudy Reach	93502	100-Year	Floodplain As Is	217000.00	-22.34	14.01	-7.25	14.26	0.000080	4.16	54729.54	2922.65	0.14
Restudy Reach	93502	500-Year	Floodplain As Is	276000.00	-22.34	18.07	-5.10	18.35	0.000071	4.27	66638.15	2936.26	0.13
Restudy Reach	92943	10-Year	Floodplain As Is	144000.00	-21.35	8.37	-9.72	8.58	0.000092	3.84	40106.95	2661.74	0.14
Restudy Reach	92943	50-Year	Floodplain As Is	195000.00	-21.35	12.34	-7.90	12.58	0.000084	4.07	50719.30	2686.01	0.14
Restudy Reach	92943	100-Year	Floodplain As Is	217000.00	-21.35	13.97	-7.16	14.21	0.000080	4.14	55095.79	2695.50	0.14
Restudy Reach	92943	500-Year	Floodplain As Is	276000.00	-21.35	18.03	-5.34	18.30	0.000074	4.33	66090.41	2717.98	0.13
Restudy Reach	92004	10-Year	Floodplain As Is	144000.00	-25.81	8.23		8.48	0.000114	4.04	37752.07	2200.97	0.15
Restudy Reach	92004	50-Year	Floodplain As Is	195000.00	-25.81	12.16		12.48	0.000117	4.58	46436.19	2227.00	0.16
Restudy Reach	92004	100-Year	Floodplain As Is	217000.00	-25.81	13.77		14.11	0.000117	4.77	50027.75	2233.07	0.16
Restudy Reach	92004	500-Year	Floodplain As Is	276000.00	-25.81	17.79		18.20	0.000117	5.23	59044.49	2249.69	0.17
Restudy Reach	91208	10-Year	Floodplain As Is	144000.00	-22.18	8.15		8.38	0.000116	3.89	37142.63	1910.47	0.15
Restudy Reach	91208	50-Year	Floodplain As Is	195000.00	-22.18	12.08		12.38	0.000116	4.39	44669.49	1922.80	0.16
Restudy Reach	91208	100-Year	Floodplain As Is	217000.00	-22.18	13.69		14.01	0.000116	4.58	47772.43	1927.86	0.16
Restudy Reach	91208	500-Year	Floodplain As Is	276000.00	-22.18	17.71		18.10	0.000114	5.02	55558.34	1940.50	0.16
Restudy Reach	89976	10-Year	Floodplain As Is	144000.00	-33.63	7.88		8.21	0.000163	4.58	31871.44	1712.54	0.18
Restudy Reach	89976	50-Year	Floodplain As Is	195000.00	-33.63	11.78		12.20	0.000163	5.16	38587.44	1729.67	0.19
Restudy Reach	89976	100-Year	Floodplain As Is	217000.00	-33.63	13.39		13.83	0.000161	5.37	41365.98	1736.75	0.19
Restudy Reach	89976	500-Year	Floodplain As Is	276000.00	-33.63	17.39		17.93	0.000159	5.88	48354.74	1755.00	0.19
Restudy Reach	89316	10-Year	Floodplain As Is	144000.00	-33.01	7.72		8.09	0.000184	4.89	29629.91	1520.41	0.19
Restudy Reach	89316	50-Year	Floodplain As Is	195000.00	-33.01	11.60		12.08	0.000186	5.54	35559.63	1533.75	0.20
Restudy Reach	89316	100-Year	Floodplain As Is	217000.00	-33.01	13.20		13.71	0.000185	5.77	38012.12	1539.24	0.20
Restudy Reach	89316	500-Year	Floodplain As Is	276000.00	-33.01	17.18		17.80	0.000184	6.34	44172.27	1553.35	0.21

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	88520	10-Year	Floodplain As Is	144000.00	-36.56	7.52		7.94	0.000188	5.18	27803.16	1312.40	0.20
Restudy Reach	88520	50-Year	Floodplain As Is	195000.00	-36.56	11.37		11.92	0.000198	5.94	32882.40	1327.27	0.21
Restudy Reach	88520	100-Year	Floodplain As Is	217000.00	-36.56	12.95		13.55	0.000200	6.22	34988.18	1332.58	0.21
Restudy Reach	88520	500-Year	Floodplain As Is	276000.00	-36.56	16.90		17.64	0.000204	6.89	40280.72	1345.90	0.22
Restudy Reach	87861	10-Year	Floodplain As Is	144000.00	-33.47	7.29		7.79	0.000224	5.69	25409.16	1192.39	0.22
Restudy Reach	87861	50-Year	Floodplain As Is	195000.00	-33.47	11.09		11.76	0.000240	6.55	29971.43	1205.88	0.23
Restudy Reach	87861	100-Year	Floodplain As Is	217000.00	-33.47	12.66		13.39	0.000243	6.86	31865.33	1211.44	0.23
Restudy Reach	87861	500-Year	Floodplain As Is	276000.00	-33.47	16.57		17.47	0.000251	7.63	36634.06	1228.25	0.24
Restudy Reach	87256	10-Year	Floodplain As Is	144000.00	-34.44	7.20		7.66	0.000182	5.42	26602.12	1160.27	0.20
Restudy Reach	87256	50-Year	Floodplain As Is	195000.00	-34.44	11.00		11.61	0.000202	6.30	31144.83	1216.35	0.21
Restudy Reach	87256	100-Year	Floodplain As Is	217000.00	-34.44	12.56		13.24	0.000207	6.63	33054.07	1224.37	0.22
Restudy Reach	87256	500-Year	Floodplain As Is	276000.00	-34.44	16.47		17.32	0.000218	7.41	37877.38	1246.48	0.23
Restudy Reach	86919	10-Year	Floodplain As Is	144000.00	-35.02	7.10	-18.15	7.60	0.000133	5.67	25383.34	795.03	0.18
Restudy Reach	86919	50-Year	Floodplain As Is	195000.00	-35.02	10.81	-15.21	11.54	0.000170	6.87	28992.51	1186.38	0.20
Restudy Reach	86919	100-Year	Floodplain As Is	217000.00	-35.02	12.33	-13.84	13.16	0.000182	7.32	30685.59	1191.00	0.21
Restudy Reach	86919	500-Year	Floodplain As Is	276000.00	-35.02	16.13	-10.83	17.22	0.000211	8.39	34910.77	1207.48	0.23
Restudy Reach	86709	10-Year	Floodplain As Is	144000.00	-34.96	7.12	-20.72	7.53	0.000098	5.14	28188.54	1048.55	0.15
Restudy Reach	86709	50-Year	Floodplain As Is	195000.00	-34.96	10.84	-18.19	11.45	0.000129	6.28	31424.62	1261.92	0.18
Restudy Reach	86709	100-Year	Floodplain As Is	217000.00	-34.96	12.37	-17.17	13.06	0.000140	6.72	32767.68	1276.82	0.19
Restudy Reach	86709	500-Year	Floodplain As Is	276000.00	-34.96	16.17	-14.59	17.11	0.000166	7.78	36340.78	1522.39	0.21
Restudy Reach	86646			Bridge									
Restudy Reach	86582	10-Year	Floodplain As Is	144000.00	-35.28	6.99	-19.50	7.45	0.000114	5.43	26519.03	782.70	0.16
Restudy Reach	86582	50-Year	Floodplain As Is	195000.00	-35.28	10.64	-16.94	11.32	0.000150	6.63	29534.85	1126.51	0.19
Restudy Reach	86582	100-Year	Floodplain As Is	217000.00	-35.28	12.14	-15.92	12.92	0.000163	7.09	30816.74	1139.47	0.20
Restudy Reach	86582	500-Year	Floodplain As Is	276000.00	-35.28	15.87	-13.34	16.91	0.000193	8.22	34005.55	1186.84	0.22
Restudy Reach	86306	10-Year	Floodplain As Is	144000.00	-34.71	6.98	-19.56	7.39	0.000112	5.16	27975.27	1425.85	0.16
Restudy Reach	86306	50-Year	Floodplain As Is	195000.00	-34.71	10.64	-16.94	11.25	0.000142	6.25	32088.93	2036.73	0.18
Restudy Reach	86306	100-Year	Floodplain As Is	217000.00	-34.71	12.15	-15.85	12.83	0.000152	6.66	33810.93	2349.89	0.19
Restudy Reach	86306	500-Year	Floodplain As Is	276000.00	-34.71	15.89	-13.31	16.79	0.000177	7.66	38148.92	2537.62	0.21
Restudy Reach	85695	10-Year	Floodplain As Is	144000.00	-34.00	6.94	-18.09	7.31	0.000108	4.92	29684.38	1610.53	0.16
Restudy Reach	85695	50-Year	Floodplain As Is	195000.00	-34.00	10.61	-15.11	11.14	0.000132	5.88	35391.46	1786.17	0.18
Restudy Reach	85695	100-Year	Floodplain As Is	217000.00	-34.00	12.12	-14.10	12.72	0.000140	6.23	37818.56	1798.04	0.18
Restudy Reach	85695	500-Year	Floodplain As Is	276000.00	-34.00	15.90	-11.50	16.64	0.000156	7.04	43958.18	2113.79	0.20
Restudy Reach	85017	10-Year	Floodplain As Is	144000.00	-28.10	6.82	-11.48	7.23	0.000151	5.11	29185.95	1895.81	0.18
Restudy Reach	85017	50-Year	Floodplain As Is	195000.00	-28.10	10.51	-9.45	11.04	0.000169	5.92	38091.98	2270.80	0.19
Restudy Reach	85017	100-Year	Floodplain As Is	217000.00	-28.10	12.03	-8.64	12.61	0.000173	6.19	41555.31	2276.34	0.20
Restudy Reach	85017	500-Year	Floodplain As Is	276000.00	-28.10	15.83	-6.64	16.51	0.000179	6.82	50228.06	2291.42	0.21
Restudy Reach	84071	10-Year	Floodplain As Is	144000.00	-20.64	6.75	-8.02	7.05	0.000149	4.44	33229.17	2393.38	0.18
Restudy Reach	84071	50-Year	Floodplain As Is	195000.00	-20.64	10.47	-6.44	10.84	0.000147	4.94	44529.59	2753.77	0.18
Restudy Reach	84071	100-Year	Floodplain As Is	217000.00	-20.64	12.01	-5.80	12.40	0.000144	5.11	48773.96	2760.66	0.18
Restudy Reach	84071	500-Year	Floodplain As Is	276000.00	-20.64	15.85	-4.19	16.29	0.000138	5.49	59396.83	2776.25	0.18
Restudy Reach	82801	10-Year	Floodplain As Is	144000.00	-19.11	6.64	-5.42	6.84	0.000135	3.62	39841.63	3351.27	0.16
Restudy Reach	82801	50-Year	Floodplain As Is	195000.00	-19.11	10.41	-4.02	10.63	0.000114	3.83	56087.54	3754.86	0.15
Restudy Reach	82801	100-Year	Floodplain As Is	217000.00	-19.11	11.97	-3.53	12.20	0.000107	3.91	61935.26	3763.21	0.15
Restudy Reach	82801	500-Year	Floodplain As Is	276000.00	-19.11	15.84	-2.31	16.09	0.000095	4.12	76544.81	3784.03	0.15
Restudy Reach	81502	10-Year	Floodplain As Is	144000.00	-27.46	6.54	-9.51	6.69	0.000081	3.12	46128.91	3511.10	0.13
Restudy Reach	81502	50-Year	Floodplain As Is	195000.00	-27.46	10.33	-7.68	10.50	0.000076	3.39	64174.11	3661.34	0.13
Restudy Reach	81502	100-Year	Floodplain As Is	217000.00	-27.46	11.89	-7.09	12.07	0.000074	3.50	69886.94	3668.65	0.13
Restudy Reach	81502	500-Year	Floodplain As Is	276000.00	-27.46	15.76	-5.74	15.97	0.000070	3.76	84137.54	3682.98	0.13
Restudy Reach	80527	10-Year	Floodplain As Is	144000.00	-27.03	6.29	-6.53	6.57	0.000183	4.22	34123.24	3339.42	0.19
Restudy Reach	80527	50-Year	Floodplain As Is	195000.00	-27.03	10.18	-4.63	10.41	0.000089	3.34	53315.49	3640.80	0.14
Restudy Reach	80527	100-Year	Floodplain As Is	217000.00	-27.03	11.75	-3.86	11.99	0.000080	3.32	59030.04	3648.87	0.13
Restudy Reach	80527	500-Year	Floodplain As Is	276000.00	-27.03	15.64	-2.12	15.90	0.000064	3.31	73270.80	3669.85	0.12
Restudy Reach	79739	10-Year	Floodplain As Is	144000.00	-24.65	6.07	-7.19	6.41	0.000202	4.67	30990.42	3217.24	0.21
Restudy Reach	79739	50-Year	Floodplain As Is	195000.00	-24.65	10.10	-5.18	10.34	0.000093	3.57	50632.19	3513.09	0.14
Restudy Reach	79739	100-Year	Floodplain As Is	217000.00	-24.65	11.67	-4.47	11.92	0.000084	3.53	56177.39	3522.00	0.14
Restudy Reach	79739	500-Year	Floodplain As Is	276000.00	-24.65	15.58	-2.72	15.85	0.000068	3.49	69968.55	3540.93	0.12
Restudy Reach	78734	10-Year	Floodplain As Is	144000.00	-28.27	5.79	-9.91	6.20	0.000206	5.14	28516.92	3138.87	0.22
Restudy Reach	78734	50-Year	Floodplain As Is	195000.00	-28.27	9.99	-6.69	10.24	0.000108	4.15	48414.33	3410.82	0.16
Restudy Reach	78734	100-Year	Floodplain As Is	217000.00	-28.27	11.58	-5.73	11.84	0.000098	4.12	53923.30	3544.49	0.15
Restudy Reach	78734	500-Year	Floodplain As Is	276000.00	-28.27	15.51	-3.61	15.78	0.000081	4.08	68085.02	3635.74	0.14
Restudy Reach	77865	10-Year	Floodplain As Is	144000.00	-30.11	5.62	-12.18	6.01	0.000210	5.03	29002.92	3004.55	0.21
Restudy Reach	77865	50-Year	Floodplain As Is	195000.00	-30.11	9.87	-9.03	10.15	0.000126	4.47	47574.11	3188.20	0.16
Restudy Reach	77865	100-Year	Floodplain As Is	217000.00	-30.11	11.47	-7.77	11.75	0.000116	4.49	52691.32	3211.58	0.16
Restudy Reach	77865	500-Year	Floodplain As Is	276000.00	-30.11	15.41	-4.27	15.70	0.000099	4.57	65470.07	3273.74	0.15
Restudy Reach	77102	10-Year	Floodplain As Is	144000.00	-29.78	5.38	-12.63	5.84	0.000231	5.52	29347.08	2488.77	0.22
Restudy Reach	77102	50-Year	Floodplain As Is	195000.00	-29.78	9.50	-9.60	10.01	0.000205	5.90	39694.75	2515.04	0.21
Restudy Reach	77102	100-Year	Floodplain As Is	217000.00	-29.78	11.09	-8.50	11.61	0.000198	6.04	43694.05	2520.61	0.21
Restudy Reach	77102	500-Year	Floodplain As Is	276000.00	-29.78	15.01	-5.67	15.58	0.000184	6.41	53598.43	2533.72	0.21
Restudy Reach	76338	10-Year	Floodplain As Is	144000.00	-29.54	5.16	-13.91	5.66	0.000214	5.71	27493.50	2199.59	0.21
Restudy Reach	76338	50-Year	Floodplain As Is	195000.00	-29.54	9.26	-11.29	9.84	0.000207	6.28	36576.67	2228.01	0.22
Restudy Reach	76338	100-Year	Floodplain As Is	217000.00	-29.54	10.84	-10.15	11.45	0.000204	6.49	40097.08	2235.60	0.22
Restudy Reach	76338	500-Year	Floodplain As Is	276000.00	-29.54	14.73	-7.39	15.42	0.000199	6.99	48840.81	2255.82	0.22
Restudy Reach	75591	10-Year	Floodplain As Is	144000.00	-32.74	5.00		5.52	0.000177	5.75	26623.18	1720.82	0.20
Restudy Reach	75591	50-Year	Floodplain As Is	195000.00	-32.74	9.01		9.68	0.000196	6.65	33609.05	1762.94	0.21
Restudy Reach	75591	100-Year	Floodplain As Is	217000.00	-32.74	10.55		11.28	0.000203	6.99	36329.61	1774.70	0.22
Restudy Reach	75591	500-Year	Floodplain As Is	276000.00	-32.74	14.34		15.24	0.000217	7.80	43105.31	1793.75	0.23
Restudy Reach	74903	10-Year	Floodplain As Is	144000.00	-33.40	4.95		5.37	0.000157	5.22	28790.19	1738.55	0.19
Restudy Reach	74903	50-Year	Floodplain As Is	195000.00	-33.40	8.96		9.52	0.000171	6.02	36017.02	1863.48	0.20
Restudy Reach	74903	100-Year	Floodplain As Is	217000.00	-33.40	10.51		11.12	0.000176	6.32	38896.90	1873.76	0.20
Restudy Reach	74903	500-Year	Floodplain As Is	276000.00	-33.40	14.31		15.06	0.000187	7.05	46072.15	1904.15	0.21
Restudy Reach	74361	10-Year	Floodplain As Is	144000.00	-33.77	4.88		5.28	0.000176	5.08	29101.74	1854.75	0.19
Restudy Reach	74361	50-Year	Floodplain As Is	195000.00	-33.77	8.90		9.41	0.000181	5.75	37350.62	2112.01	0.20
Restudy Reach	74361	100-Year	Floodplain As Is	217000.00	-33.77	10.45		11.00	0.000183	6.00	40626.77	2121.36	0.20
Restudy Reach	74361	500-Year	Floodplain As Is	276000.00	-33.77	14.27		14.93	0.000186	6.61	48775.63	2145.12	0.21
Restudy Reach	73862	10-Year	Floodplain As Is	144000.00	-32.45	4.81	-12.43	5.18	0.000167	4.89	31347.31	2218.71	0.19

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	73862	50-Year	Floodplain As Is	195000.00	-32.45	8.85	-9.93	9.31	0.000169	5.49	40155.45	2454.26	0.19
Restudy Reach	73862	100-Year	Floodplain As Is	217000.00	-32.45	10.40	-9.04	10.90	0.000170	5.73	43672.05	2470.75	0.20
Restudy Reach	73862	500-Year	Floodplain As Is	276000.00	-32.45	14.23	-6.95	14.82	0.000171	6.28	52366.77	2541.47	0.20
Restudy Reach	73035	10-Year	Floodplain As Is	144000.00	-37.51	4.63		5.04	0.000180	5.11	30543.17	2305.99	0.19
Restudy Reach	73035	50-Year	Floodplain As Is	195000.00	-37.51	8.66		9.16	0.000181	5.73	40299.80	2496.80	0.20
Restudy Reach	73035	100-Year	Floodplain As Is	217000.00	-37.51	10.21		10.75	0.000182	5.96	44176.46	2503.42	0.20
Restudy Reach	73035	500-Year	Floodplain As Is	276000.00	-37.51	14.04		14.67	0.000182	6.52	53792.99	2519.65	0.21
Restudy Reach	72466	10-Year	Floodplain As Is	144000.00	-38.56	4.45	-11.85	4.92	0.000221	5.47	26303.96	1990.03	0.21
Restudy Reach	72466	50-Year	Floodplain As Is	195000.00	-38.56	8.45	-8.61	9.04	0.000224	6.17	33517.26	2126.46	0.22
Restudy Reach	72466	100-Year	Floodplain As Is	217000.00	-38.56	9.98	-7.84	10.62	0.000226	6.45	36105.25	2171.98	0.22
Restudy Reach	72466	500-Year	Floodplain As Is	276000.00	-38.56	13.77	-5.90	14.54	0.000230	7.12	42503.79	2300.79	0.23
Restudy Reach	71966	10-Year	Floodplain As Is	144000.00	-33.42	4.30	-11.13	4.80	0.000252	5.65	25471.69	1522.21	0.23
Restudy Reach	71966	50-Year	Floodplain As Is	195000.00	-33.42	8.29	-7.88	8.91	0.000250	6.35	30866.31	1600.89	0.23
Restudy Reach	71966	100-Year	Floodplain As Is	217000.00	-33.42	9.82	-7.08	10.50	0.000252	6.64	32951.79	1619.17	0.23
Restudy Reach	71966	500-Year	Floodplain As Is	276000.00	-33.42	13.61	-5.09	14.42	0.000249	7.25	40688.08	1649.34	0.24
Restudy Reach	71525	10-Year	Floodplain As Is	144000.00	-31.50	4.27	-13.40	4.67	0.000200	5.09	28311.01	1456.65	0.20
Restudy Reach	71525	50-Year	Floodplain As Is	195000.00	-31.50	8.27	-9.94	8.78	0.000200	5.70	34489.83	1596.00	0.21
Restudy Reach	71525	100-Year	Floodplain As Is	217000.00	-31.50	9.81	-8.31	10.36	0.000200	5.95	36950.41	1614.47	0.21
Restudy Reach	71525	500-Year	Floodplain As Is	276000.00	-31.50	13.61	-6.46	14.28	0.000200	6.54	43341.99	1717.34	0.22

Appendix C

Existing vs. Proposed HEC-RAS Documentation – FEMA Floodway

HEC-RAS River: Conn River Reach: Restudy Reach

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	288987	Encroached 100 Y	Floodway Ana Existing	200000.00	-9.53	33.58	7.32	33.71	0.000038	3.17	87068.45	4050.00	0.10
Restudy Reach	288987	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-9.53	33.57	7.32	33.70	0.000038	3.17	87063.81	4050.00	0.10
Restudy Reach	288987	Encroached 10-Y	Floodway Ana Existing	140000.00	-9.53	29.50	5.12	29.59	0.000032	2.66	70555.91	4050.00	0.09
Restudy Reach	288987	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-9.53	29.50	5.12	29.59	0.000032	2.66	70549.16	4050.00	0.09
Restudy Reach	287953	Encroached 100 Y	Floodway Ana Existing	200000.00	-4.23	33.52	7.02	33.66	0.000042	3.33	80074.04	3600.00	0.10
Restudy Reach	287953	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-4.23	33.51	7.02	33.66	0.000042	3.33	80069.88	3600.00	0.10
Restudy Reach	287953	Encroached 10-Y	Floodway Ana Existing	140000.00	-4.23	29.45	5.03	29.56	0.000034	2.77	65477.88	3557.85	0.09
Restudy Reach	287953	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-4.23	29.45	5.03	29.56	0.000034	2.77	65471.92	3557.79	0.09
Restudy Reach	287035	Encroached 100 Y	Floodway Ana Existing	200000.00	-4.66	33.48	8.51	33.62	0.000044	3.30	80984.21	3500.00	0.10
Restudy Reach	287035	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-4.66	33.48	8.51	33.62	0.000044	3.30	80980.19	3500.00	0.10
Restudy Reach	287035	Encroached 10-Y	Floodway Ana Existing	140000.00	-4.66	29.42	6.66	29.53	0.000036	2.75	66787.60	3500.00	0.09
Restudy Reach	287035	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-4.66	29.42	6.66	29.53	0.000036	2.75	66781.72	3500.00	0.09
Restudy Reach	285902	Encroached 100 Y	Floodway Ana Existing	200000.00	-4.76	33.38	8.62	33.57	0.000059	3.73	76418.96	3400.00	0.12
Restudy Reach	285902	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-4.76	33.38	8.62	33.56	0.000059	3.73	76415.01	3400.00	0.12
Restudy Reach	285902	Encroached 10-Y	Floodway Ana Existing	140000.00	-4.76	29.35	6.46	29.48	0.000048	3.11	62700.21	3400.00	0.10
Restudy Reach	285902	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-4.76	29.34	6.46	29.48	0.000048	3.11	62694.44	3400.00	0.10
Restudy Reach	284978	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.36	33.34	7.40	33.51	0.000050	3.72	74831.49	3300.00	0.11
Restudy Reach	284978	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.36	33.34	7.40	33.51	0.000050	3.72	74827.63	3300.00	0.11
Restudy Reach	284978	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.36	29.31	5.03	29.44	0.000042	3.14	61524.70	3300.00	0.10
Restudy Reach	284978	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.36	29.31	5.03	29.43	0.000042	3.14	61519.06	3300.00	0.10
Restudy Reach	283955	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.75	33.20	7.24	33.43	0.000066	4.29	66793.34	3000.00	0.13
Restudy Reach	283955	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.75	33.20	7.24	33.43	0.000066	4.29	66789.79	3000.00	0.13
Restudy Reach	283955	Encroached 10-Y	Floodway Ana Existing	140000.00	-7.75	29.20	4.73	29.37	0.000053	3.58	54804.35	3000.00	0.11
Restudy Reach	283955	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-7.75	29.20	4.73	29.37	0.000053	3.58	54799.16	3000.00	0.11
Restudy Reach	283016	Encroached 100 Y	Floodway Ana Existing	200000.00	-8.00	33.04	6.40	33.34	0.000080	4.83	59197.38	2500.00	0.14
Restudy Reach	283016	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-8.00	33.04	6.40	33.34	0.000080	4.83	59194.38	2500.00	0.14
Restudy Reach	283016	Encroached 10-Y	Floodway Ana Existing	140000.00	-8.00	29.09	3.59	29.31	0.000063	3.97	49331.35	2500.00	0.12
Restudy Reach	283016	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-8.00	29.09	3.59	29.31	0.000063	3.97	49326.98	2500.00	0.12
Restudy Reach	282550	Encroached 100 Y	Floodway Ana Existing	200000.00	-9.94	33.00	5.38	33.31	0.000075	4.68	57810.95	1900.00	0.14
Restudy Reach	282550	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-9.94	33.00	5.38	33.30	0.000075	4.68	57808.67	1900.00	0.14
Restudy Reach	282550	Encroached 10-Y	Floodway Ana Existing	140000.00	-9.94	29.07	2.86	29.27	0.000054	3.71	50359.59	1900.00	0.11
Restudy Reach	282550	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-9.94	29.07	2.86	29.27	0.000054	3.71	50356.27	1900.00	0.11
Restudy Reach	282026	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.38	32.95	6.01	33.27	0.000073	4.62	49303.77	1673.50	0.14
Restudy Reach	282026	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.38	32.95	6.01	33.26	0.000073	4.62	49301.75	1673.50	0.14
Restudy Reach	282026	Encroached 10-Y	Floodway Ana Existing	140000.00	-7.38	29.04	3.59	29.24	0.000054	3.68	42754.49	1673.50	0.11
Restudy Reach	282026	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-7.38	29.04	3.59	29.24	0.000054	3.68	42751.55	1673.50	0.11
Restudy Reach	281798			Mult Open									
Restudy Reach	281583	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.75	32.91	5.76	33.19	0.000063	4.26	50341.27	1686.16	0.13
Restudy Reach	281583	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.75	32.91	5.76	33.18	0.000063	4.26	50339.24	1686.16	0.13
Restudy Reach	281583	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.75	29.01	3.57	29.18	0.000047	3.39	43807.73	1686.16	0.11
Restudy Reach	281583	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.75	29.01	3.57	29.18	0.000047	3.39	43804.79	1686.16	0.11
Restudy Reach	281420	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.14	32.86	6.09	33.17	0.000070	4.45	49504.58	1650.00	0.13
Restudy Reach	281420	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.14	32.86	6.09	33.16	0.000070	4.45	49502.57	1650.00	0.13
Restudy Reach	281420	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.14	28.98	3.96	29.17	0.000051	3.52	43098.47	1650.00	0.11
Restudy Reach	281420	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.14	28.98	3.96	29.17	0.000051	3.52	43095.56	1650.00	0.11
Restudy Reach	281000	Encroached 100 Y	Floodway Ana Existing	200000.00	-5.64	32.84	6.52	33.13	0.000071	4.36	53310.79	1800.00	0.13
Restudy Reach	281000	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-5.64	32.84	6.52	33.12	0.000071	4.36	53308.59	1800.00	0.13
Restudy Reach	281000	Encroached 10-Y	Floodway Ana Existing	140000.00	-5.64	28.96	4.09	29.14	0.000053	3.47	46327.62	1800.00	0.11
Restudy Reach	281000	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-5.64	28.96	4.09	29.14	0.000053	3.47	46324.44	1800.00	0.11
Restudy Reach	280500	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.01	32.82	5.95	33.08	0.000064	4.20	58207.36	2000.00	0.13
Restudy Reach	280500	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.01	32.82	5.95	33.08	0.000064	4.20	58204.91	2000.00	0.13
Restudy Reach	280500	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.01	28.95	3.71	29.11	0.000048	3.34	50457.04	2000.00	0.11
Restudy Reach	280500	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.01	28.94	3.71	29.11	0.000048	3.34	50453.48	2000.00	0.11
Restudy Reach	279999	Encroached 100 Y	Floodway Ana Existing	200000.00	-5.75	32.80	6.41	33.04	0.000060	4.02	62009.15	2100.00	0.12
Restudy Reach	279999	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-5.75	32.80	6.41	33.04	0.000060	4.02	62006.58	2100.00	0.12
Restudy Reach	279999	Encroached 10-Y	Floodway Ana Existing	140000.00	-5.75	28.93	4.27	29.08	0.000045	3.21	53877.96	2100.00	0.10
Restudy Reach	279999	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-5.75	28.93	4.27	29.08	0.000045	3.21	53874.22	2100.00	0.10
Restudy Reach	279484	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.51	32.77	6.57	33.01	0.000061	4.04	60471.03	2100.00	0.12
Restudy Reach	279484	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.51	32.77	6.57	33.00	0.000061	4.04	60468.44	2100.00	0.12
Restudy Reach	279484	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.51	28.90	4.58	29.06	0.000045	3.23	52357.65	2100.00	0.10
Restudy Reach	279484	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.51	28.90	4.58	29.05	0.000045	3.23	52353.90	2100.00	0.10
Restudy Reach	278987	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.22	32.71	7.27	32.97	0.000068	4.16	56875.73	2100.00	0.13
Restudy Reach	278987	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.22	32.71	7.27	32.97	0.000068	4.16	56873.14	2100.00	0.13
Restudy Reach	278987	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.22	28.86	5.12	29.03	0.000052	3.34	48789.47	2100.00	0.11
Restudy Reach	278987	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.22	28.86	5.12	29.03	0.000052	3.34	48785.71	2100.00	0.11
Restudy Reach	278520	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.11	32.70	7.54	32.92	0.000060	3.95	59406.54	2100.00	0.12
Restudy Reach	278520	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.11	32.70	7.54	32.92	0.000059	3.91	60540.62	2100.00	0.12
Restudy Reach	278520	Encroached 10-Y	Floodway Ana Existing	140000.00	-6.11	28.85	5.04	29.00	0.000045	3.17	51326.51	2100.00	0.10
Restudy Reach	278520	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	140000.00	-6.11	28.85	5.04	28.99	0.000044	3.13	52457.43	2100.00	0.10
Restudy Reach	278006	Encroached 100 Y	Floodway Ana Existing	200000.00	-5.89	32.67	6.88	32.89	0.000056	3.83	61885.79	2100.00	0.12
Restudy Reach	278006	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-5.89	32.67	6.88	32.89	0.000056	3.83	62071.35	2100.00	0.12
Restudy Reach	278006	Encroached 10-Y	Floodway Ana Existing	138000.00	-5.89	28.83	4.82	28.97	0.000041	3.01	53821.49	2100.00	0.10
Restudy Reach	278006	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-5.89	28.83	4.82	28.97	0.000041	3.01	54006.34	2100.00	0.10
Restudy Reach	277487	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.03	32.66	6.37	32.85	0.000048	3.60	65919.12	2100.00	0.11
Restudy Reach	277487	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.03	32.66	6.37	32.85	0.000050	3.66	65257.34	2100.00	0.11
Restudy Reach	277487	Encroached 10-Y	Floodway Ana Existing	138000.00	-7.03	28.82	4.44	28.94	0.000035	2.81	57861.51	2100.00	0.09
Restudy Reach	277487	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-7.03	28.82	4.44	28.94	0.000036	2.86	57201.22	2100.00	0.09
Restudy Reach	277324	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.03	32.64	6.39	32.82	0.000049	3.61	63177.54	2139.00	0.11
Restudy Reach	277324	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.03	32.64	6.39	32.82	0.000049	3.62	62918.48	2139.00	0.11
Restudy Reach	277324	Encroached 10-Y	Floodway Ana Existing	138000.00	-7.03	28.80	4.45	28.92	0.000036	2.85	54978.13	2139.00	0.09
Restudy Reach	277324	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-7.03	28.80	4.45	28.92	0.000036	2.86	54719.07	2139.00	0.09
Restudy Reach	276987	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.61	32.54	7.21	32.80	0.000066	4.15	56623.57	2184.26	0.13
Restudy Reach	276987	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.61	32.54	7.21	32.80	0.000066	4.15	56623.57	2184.26	0.13
Restudy Reach	276987	Encroached 10-Y	Floodway Ana Existing	138000.00	-6.61	28.74	5.13	28.90	0.000049	3.28	48342.28	2172.73	0.11
Restudy Reach	276987	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-6.61	28.74	5.13	28.90	0.000049	3.28	48342.28	2172.73	0.11
Restudy Reach	276911	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.61	32.50	7.27	32.76	0.000070	4.20	56043.02	2163.67	0.13
Restudy Reach	276911	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.61	32.50	7.27	32.76	0.000070	4.20	56043.02	2163.67	0.13

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	276911	Encroached 10-Y	Floodway Ana Existing	138000.00	-6.61	28.71	5.12	28.88	0.000052	3.33	47862.46	2151.91	0.11
Restudy Reach	276911	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-6.61	28.71	5.12	28.88	0.000052	3.33	47862.46	2151.91	0.11
Restudy Reach	276502	Encroached 100 Y	Floodway Ana Existing	200000.00	-8.24	32.49	6.49	32.73	0.000062	4.06	57695.59	2152.08	0.12
Restudy Reach	276502	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-8.24	32.49	6.49	32.73	0.000062	4.06	57695.59	2152.08	0.12
Restudy Reach	276502	Encroached 10-Y	Floodway Ana Existing	138000.00	-8.24	28.70	4.35	28.85	0.000045	3.20	49603.35	2120.65	0.10
Restudy Reach	276502	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-8.24	28.70	4.35	28.85	0.000045	3.20	49603.35	2120.65	0.10
Restudy Reach	275999	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.49	32.47	6.56	32.70	0.000058	3.94	58677.57	2132.51	0.12
Restudy Reach	275999	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.49	32.47	6.56	32.70	0.000058	3.94	58677.57	2132.51	0.12
Restudy Reach	275999	Encroached 10-Y	Floodway Ana Existing	138000.00	-6.49	28.69	4.48	28.83	0.000042	3.11	50631.77	2120.58	0.10
Restudy Reach	275999	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-6.49	28.69	4.48	28.83	0.000042	3.11	50631.77	2120.58	0.10
Restudy Reach	275489	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.15	32.45	6.19	32.66	0.000054	3.78	59980.68	2133.81	0.11
Restudy Reach	275489	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.15	32.45	6.19	32.66	0.000054	3.78	59980.68	2133.81	0.11
Restudy Reach	275489	Encroached 10-Y	Floodway Ana Existing	138000.00	-7.15	28.67	4.18	28.80	0.000039	2.98	51939.07	2121.77	0.10
Restudy Reach	275489	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-7.15	28.67	4.18	28.80	0.000039	2.98	51939.07	2121.77	0.10
Restudy Reach	274995	Encroached 100 Y	Floodway Ana Existing	200000.00	-6.52	32.42	5.95	32.64	0.000054	3.81	61051.11	2102.31	0.11
Restudy Reach	274995	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-6.52	32.42	5.95	32.64	0.000054	3.81	61051.11	2102.31	0.11
Restudy Reach	274995	Encroached 10-Y	Floodway Ana Existing	138000.00	-6.52	28.65	3.90	28.78	0.000039	2.99	53147.57	2089.91	0.10
Restudy Reach	274995	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-6.52	28.65	3.90	28.78	0.000039	2.99	53147.57	2089.91	0.10
Restudy Reach	274500	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.90	32.38	5.63	32.61	0.000056	3.96	60751.80	2083.69	0.12
Restudy Reach	274500	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.90	32.38	5.63	32.61	0.000056	3.96	60751.80	2083.69	0.12
Restudy Reach	274500	Encroached 10-Y	Floodway Ana Existing	138000.00	-7.90	28.62	3.56	28.76	0.000040	3.09	52950.63	2071.70	0.10
Restudy Reach	274500	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-7.90	28.62	3.56	28.76	0.000040	3.09	52950.63	2071.70	0.10
Restudy Reach	274013	Encroached 100 Y	Floodway Ana Existing	200000.00	-7.06	32.33	5.83	32.58	0.000061	4.13	60216.30	2094.06	0.12
Restudy Reach	274013	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-7.06	32.33	5.83	32.58	0.000061	4.13	60216.30	2094.06	0.12
Restudy Reach	274013	Encroached 10-Y	Floodway Ana Existing	138000.00	-7.06	28.59	3.72	28.74	0.000043	3.23	52414.05	2081.87	0.10
Restudy Reach	274013	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-7.06	28.59	3.72	28.74	0.000043	3.23	52414.05	2081.87	0.10
Restudy Reach	273500	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	32.31	5.22	32.54	0.000057	3.95	61489.87	2158.08	0.12
Restudy Reach	273500	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	32.31	5.22	32.54	0.000057	3.95	61489.87	2158.08	0.12
Restudy Reach	273500	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.58	3.07	28.72	0.000041	3.09	53454.70	2146.62	0.10
Restudy Reach	273500	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.58	3.07	28.72	0.000041	3.09	53454.70	2146.62	0.10
Restudy Reach	272987	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	32.29	5.54	32.51	0.000055	3.80	61189.90	2184.52	0.12
Restudy Reach	272987	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	32.29	5.54	32.51	0.000055	3.80	61189.90	2184.52	0.12
Restudy Reach	272987	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.56	3.16	28.69	0.000040	2.98	53064.54	2172.58	0.10
Restudy Reach	272987	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.56	3.16	28.69	0.000040	2.98	53064.54	2172.58	0.10
Restudy Reach	272749	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	32.24	5.62	32.49	0.000066	4.10	60432.87	2234.45	0.12
Restudy Reach	272749	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	32.24	5.62	32.49	0.000066	4.10	60432.87	2234.45	0.12
Restudy Reach	272749	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.53	2.94	28.68	0.000047	3.22	52155.68	2222.71	0.10
Restudy Reach	272749	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.53	2.94	28.68	0.000047	3.22	52155.68	2222.71	0.10
Restudy Reach	272501	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.06	32.23	5.74	32.47	0.000067	4.03	59569.79	2254.09	0.12
Restudy Reach	272501	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.06	32.23	5.74	32.47	0.000067	4.03	59569.79	2254.09	0.12
Restudy Reach	272501	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.06	28.52	3.06	28.67	0.000048	3.17	51227.12	2241.34	0.10
Restudy Reach	272501	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.06	28.52	3.06	28.67	0.000048	3.17	51227.12	2241.34	0.10
Restudy Reach	271974	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.68	32.20	5.95	32.43	0.000071	3.99	58658.93	2258.81	0.12
Restudy Reach	271974	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.68	32.20	5.95	32.43	0.000071	3.99	58658.93	2258.81	0.12
Restudy Reach	271974	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.68	28.49	2.88	28.64	0.000051	3.15	50319.27	2246.98	0.10
Restudy Reach	271974	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.68	28.49	2.88	28.64	0.000051	3.15	50319.27	2246.98	0.10
Restudy Reach	271849	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.68	32.16	5.80	32.40	0.000069	4.02	58859.53	2281.64	0.12
Restudy Reach	271849	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.68	32.16	5.80	32.40	0.000069	4.02	58859.53	2281.64	0.12
Restudy Reach	271849	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.68	28.47	2.88	28.62	0.000049	3.17	50458.28	2271.50	0.10
Restudy Reach	271849	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.68	28.47	2.88	28.62	0.000049	3.17	50458.28	2271.50	0.10
Restudy Reach	271465	Encroached 100 Y	Floodway Ana Existing	200000.00	-13.45	32.15	6.09	32.37	0.000059	3.89	62207.02	2389.30	0.12
Restudy Reach	271465	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-13.45	32.15	6.09	32.37	0.000059	3.89	62207.02	2389.30	0.12
Restudy Reach	271465	Encroached 10-Y	Floodway Ana Existing	138000.00	-13.45	28.46	2.83	28.60	0.000042	3.06	53417.18	2377.32	0.10
Restudy Reach	271465	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-13.45	28.46	2.83	28.60	0.000042	3.06	53417.18	2377.32	0.10
Restudy Reach	270995	Encroached 100 Y	Floodway Ana Existing	200000.00	-13.20	32.11	5.51	32.34	0.000056	3.93	61561.87	2340.04	0.12
Restudy Reach	270995	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-13.20	32.11	5.51	32.34	0.000056	3.93	61561.87	2340.04	0.12
Restudy Reach	270995	Encroached 10-Y	Floodway Ana Existing	138000.00	-13.20	28.44	2.19	28.58	0.000040	3.07	53000.54	2317.24	0.10
Restudy Reach	270995	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-13.20	28.44	2.19	28.58	0.000040	3.07	53000.54	2317.24	0.10
Restudy Reach	270466	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.97	32.02	5.55	32.30	0.000070	4.35	57128.95	2257.91	0.13
Restudy Reach	270466	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.97	32.02	5.55	32.30	0.000070	4.35	57128.95	2257.91	0.13
Restudy Reach	270466	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.97	28.38	2.48	28.55	0.000050	3.40	48934.65	2236.41	0.11
Restudy Reach	270466	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.97	28.38	2.48	28.55	0.000050	3.40	48934.65	2236.41	0.11
Restudy Reach	269984	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.45	31.99	5.19	32.27	0.000069	4.43	57555.07	2217.14	0.13
Restudy Reach	269984	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.45	31.99	5.19	32.27	0.000069	4.43	57555.07	2217.14	0.13
Restudy Reach	269984	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.45	28.35	2.00	28.53	0.000049	3.46	49535.34	2196.15	0.11
Restudy Reach	269984	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.45	28.35	2.00	28.53	0.000049	3.46	49535.34	2196.15	0.11
Restudy Reach	269463	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	31.96	4.73	32.23	0.000063	4.24	58015.77	2184.86	0.13
Restudy Reach	269463	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	31.96	4.73	32.23	0.000063	4.24	58015.77	2184.86	0.13
Restudy Reach	269463	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.34	2.38	28.50	0.000044	3.30	50129.34	2163.06	0.10
Restudy Reach	269463	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.34	2.38	28.50	0.000044	3.30	50129.34	2163.06	0.10
Restudy Reach	268964	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	31.93	4.06	32.20	0.000063	4.24	57931.69	2189.94	0.13
Restudy Reach	268964	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	31.93	4.06	32.20	0.000063	4.24	57931.69	2189.94	0.13
Restudy Reach	268964	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.31	1.57	28.48	0.000044	3.30	50043.98	2168.91	0.10
Restudy Reach	268964	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.31	1.57	28.48	0.000044	3.30	50043.98	2168.91	0.10
Restudy Reach	268493	Encroached 100 Y	Floodway Ana Existing	200000.00	-12.00	31.86	4.49	32.16	0.000071	4.61	57316.13	2197.62	0.13
Restudy Reach	268493	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-12.00	31.86	4.49	32.16	0.000071	4.61	57316.13	2197.62	0.13
Restudy Reach	268493	Encroached 10-Y	Floodway Ana Existing	138000.00	-12.00	28.26	1.92	28.45	0.000049	3.58	49453.76	2178.28	0.11
Restudy Reach	268493	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-12.00	28.26	1.92	28.45	0.000049	3.58	49453.76	2178.28	0.11
Restudy Reach	267963	Encroached 100 Y	Floodway Ana Existing	200000.00	-9.98	31.83	3.88	32.12	0.000067	4.46	54955.40	1997.37	0.13
Restudy Reach	267963	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-9.98	31.83	3.88	32.12	0.000067	4.46	54955.40	1997.37	0.13
Restudy Reach	267963	Encroached 10-Y	Floodway Ana Existing	138000.00	-9.98	28.25	1.37	28.42	0.000046	3.46	47835.02	1976.04	0.11
Restudy Reach	267963	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-9.98	28.25	1.37	28.42	0.000046	3.46	47835.02	1976.04	0.11
Restudy Reach	267478	Encroached 100 Y	Floodway Ana Existing	200000.00	-17.03	31.64	3.70	32.07	0.000093	5.41	47819.92	1848.46	0.15
Restudy Reach	267478	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-17.03	31.64	3.70	32.07	0.000093	5.41	47819.92	1848.46	0.15
Restudy Reach	267478	Encroached 10-Y	Floodway Ana Existing	138000.00	-17.03	28.13	0.82	28.39	0.000063	4.17	41366.77	1827.07	0.12
Restudy Reach	267478	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-17.03	28.13	0.82	28.39	0.000063	4.17	41366.77	1827.07	0.12
Restudy Reach	267268	Encroached 100 Y	Floodway Ana Existing	200000.00	-20.64	31.66	-0.53	32.02	0.000068	4.82	45680.38	1764.95	0.13

HEC-RAS River: Conn River Reach: Restudy Reach (Continued)

Reach	River Sta	Profile	Plan	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
				(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Restudy Reach	267268	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-20.64	31.66	-0.53	32.02	0.000068	4.82	45680.38	1764.95	0.13
Restudy Reach	267268	Encroached 10-Y	Floodway Ana Existing	138000.00	-20.64	28.15	-3.25	28.35	0.000044	3.65	41173.39	1736.94	0.11
Restudy Reach	267268	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-20.64	28.15	-3.25	28.35	0.000044	3.65	41173.39	1736.94	0.11
Restudy Reach	267186			Bridge									
Restudy Reach	267113	Encroached 100 Y	Floodway Ana Existing	200000.00	-34.25	31.62	-8.66	31.89	0.000043	4.26	51434.07	1605.50	0.11
Restudy Reach	267113	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-34.25	31.62	-8.66	31.89	0.000043	4.26	51434.07	1605.50	0.11
Restudy Reach	267113	Encroached 10-Y	Floodway Ana Existing	138000.00	-34.25	28.14	-12.03	28.29	0.000027	3.18	47084.34	1575.05	0.08
Restudy Reach	267113	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-34.25	28.14	-12.03	28.29	0.000027	3.18	47084.34	1575.05	0.08
Restudy Reach	266798	Encroached 100 Y	Floodway Ana Existing	200000.00	-35.68	31.59	-7.11	31.88	0.000048	4.36	53737.88	1904.01	0.11
Restudy Reach	266798	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-35.68	31.59	-7.11	31.88	0.000048	4.36	53737.88	1904.01	0.11
Restudy Reach	266798	Encroached 10-Y	Floodway Ana Existing	138000.00	-35.68	28.12	-10.14	28.28	0.000030	3.28	48570.79	1882.62	0.09
Restudy Reach	266798	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-35.68	28.12	-10.14	28.28	0.000030	3.28	48570.79	1882.62	0.09
Restudy Reach	266484	Encroached 100 Y	Floodway Ana Existing	200000.00	-24.48	31.58	-2.51	31.86	0.000052	4.37	55988.73	2081.70	0.12
Restudy Reach	266484	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-24.48	31.58	-2.51	31.86	0.000052	4.37	55988.73	2081.70	0.12
Restudy Reach	266484	Encroached 10-Y	Floodway Ana Existing	138000.00	-24.48	28.10	-5.22	28.27	0.000033	3.31	50130.70	2060.12	0.09
Restudy Reach	266484	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-24.48	28.10	-5.22	28.27	0.000033	3.31	50130.70	2060.12	0.09
Restudy Reach	266003	Encroached 100 Y	Floodway Ana Existing	200000.00	-9.10	31.57	4.38	31.82	0.000060	4.18	59918.23	2292.56	0.12
Restudy Reach	266003	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-9.10	31.57	4.38	31.82	0.000060	4.18	59918.23	2292.56	0.12
Restudy Reach	266003	Encroached 10-Y	Floodway Ana Existing	138000.00	-9.10	28.10	2.08	28.25	0.000041	3.24	52634.90	2274.10	0.10
Restudy Reach	266003	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-9.10	28.10	2.08	28.25	0.000041	3.24	52634.90	2274.10	0.10
Restudy Reach	265447	Encroached 100 Y	Floodway Ana Existing	200000.00	-8.36	31.56	5.00	31.78	0.000055	3.90	65298.80	2356.22	0.12
Restudy Reach	265447	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-8.36	31.56	5.00	31.78	0.000055	3.90	65298.80	2356.22	0.12
Restudy Reach	265447	Encroached 10-Y	Floodway Ana Existing	138000.00	-8.36	28.09	2.94	28.22	0.000038	3.03	57138.70	2338.99	0.10
Restudy Reach	265447	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-8.36	28.09	2.94	28.22	0.000038	3.03	57138.70	2338.99	0.10
Restudy Reach	265212	Encroached 100 Y	Floodway Ana Existing	200000.00	-9.11	31.57	4.97	31.76	0.000047	3.60	63021.24	2176.62	0.11
Restudy Reach	265212	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-9.11	31.57	4.97	31.76	0.000047	3.60	63021.24	2176.62	0.11
Restudy Reach	265212	Encroached 10-Y	Floodway Ana Existing	138000.00	-9.11	28.09	3.00	28.21	0.000033	2.80	55476.32	2156.92	0.09
Restudy Reach	265212	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-9.11	28.09	3.00	28.21	0.000033	2.80	55476.32	2156.92	0.09
Restudy Reach	264987	Encroached 100 Y	Floodway Ana Existing	200000.00	-8.91	31.54	5.40	31.75	0.000054	3.75	58338.68	2091.11	0.11
Restudy Reach	264987	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-8.91	31.54	5.40	31.75	0.000054	3.75	58338.68	2091.11	0.11
Restudy Reach	264987	Encroached 10-Y	Floodway Ana Existing	138000.00	-8.91	28.07	3.53	28.20	0.000037	2.91	51122.85	2070.33	0.09
Restudy Reach	264987	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-8.91	28.07	3.53	28.20	0.000037	2.91	51122.85	2070.33	0.09
Restudy Reach	264493	Encroached 100 Y	Floodway Ana Existing	200000.00	-11.89	31.49	5.33	31.72	0.000056	3.85	53646.05	1704.56	0.12
Restudy Reach	264493	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-11.89	31.49	5.33	31.72	0.000056	3.85	53646.05	1704.56	0.12
Restudy Reach	264493	Encroached 10-Y	Floodway Ana Existing	138000.00	-11.89	28.04	3.45	28.18	0.000038	2.97	47860.98	1661.94	0.09
Restudy Reach	264493	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-11.89	28.04	3.45	28.18	0.000038	2.97	47860.98	1661.94	0.09
Restudy Reach	264191	Encroached 100 Y	Floodway Ana Existing	200000.00	-11.35	31.42	4.74	31.70	0.000065	4.22	48273.58	1442.79	0.13
Restudy Reach	264191	Encroached 100 Y	Floodway Analysis Proposed 7-2-2025	200000.00	-11.35	31.42	4.74	31.70	0.000065	4.22	48273.58	1442.79	0.13
Restudy Reach	264191	Encroached 10-Y	Floodway Ana Existing	138000.00	-11.35	28.00	2.65	28.16	0.000044	3.23	43364.85	1427.93	0.10
Restudy Reach	264191	Encroached 10-Y	Floodway Analysis Proposed 7-2-2025	138000.00	-11.35	28.00	2.65	28.16	0.000044	3.23	43364.85	1427.93	0.10

Appendix D

HEC-RAS Model Files

Appendix E

Electronic Copy of Hydraulic & Floodway Report

Appendix F

Floodplain Contingency Plan

Flood Contingency Plan

General Description

This Flood Contingency Plan has been prepared for Riverfront Recapture, Inc. (Applicant) for the proposed construction activities associated with the Riverfront Land, Inc. Park and Cove Project. This Plan describes the measures to be taken during construction to help protect life and property, and prevent pollution during significant precipitation events. The proposed activities project area is prone to flooding.

The contact information in this Plan regarding emergency service agencies should be reviewed immediately prior to the onset of construction and updated as necessary. No provision will be made for post construction flooding since any changes to the flooding dynamics as a result of the proposed bridge installation and trail installation have been demonstrated by hydraulic modeling to be negligible. The proposed bridge is hydraulically adequate to pass the 100- and 500-year floods.

The actions outlined in this Flood Contingency Plan below shall be performed for any significant rainfall event that occurs during construction at the project site. For the purpose of this Plan, a "significant rainfall event" is defined as a storm in which more than 2.4 inches of rainfall may occur in a one-hour period (thunder showers), or more than 3.1 inches may fall in a 24 hour period (a storm with potential return period of at least 2 years).

Flood Contingency Procedures

The person responsible for implementing this Plan is the Contractor, who is responsible for oversight of construction activities at the site. The Contractor will be selected by Riverfront Recapture, Inc.

The Contractor shall use best efforts to notify the Owner of any impending significant rainfall event or any flooding event as soon as practicable and, if possible, no less than twenty four (24) hours before the onset of precipitation. The owner is:

Riverfront Recapture, Inc.
50 Columbus Boulevard, 1st Floor
Hartford, CT 06106
Contact: Marc Nicol (860) 713-3131x334; mnicol@riverfront.org
Michael Zaleski (860) 713-3131x331; mzaleski@riverfront.org

The Contractor shall then perform the following actions to minimize the potential for damage to downstream life and property, and/or pollution.

1. All construction equipment, tools, heavy equipment, vehicles, storage containers, etc. shall be relocated to upland storage areas or areas protected from flooding. Such areas, identified before the start of construction activities, shall be located outside of flood hazard areas, flood prone areas, and areas that may experience significant overland flow of water during precipitation events.

2. All fuel and maintenance fluids shall be located to an upland storage area. If practicable, these fluids should be placed in an enclosed structure; at a minimum they shall be covered with tarps and placed in an upland storage area that is bermed to prevent run-on of surface water.

3. All work areas shall be inspected to ensure that items under construction (e.g., access roads) are stabilized. All practical measures shall be undertaken to protect active construction areas from rising water levels and to ensure that water diversion structures (i.e., sandbags, pumps, inlet and outlet structures) perform adequately.

4. All work areas and any stockpiles shall be inspected to ensure that erosion control measures are in place and in such condition as to allow their proper function during the rainfall event.

5. Access to all work areas shall be closed to the public and non-essential work personnel. Access points to areas under construction shall be barricaded and posted as being closed during construction.

6. In addition to notifying the Owner, the Contractor shall notify emergency service agencies if conditions are observed which may pose an imminent danger to downstream residents or property:
    - Local Fire and/or Police: Tel. 911
    - Connecticut Department of Energy and Environmental Protection Inland Water Resources Division Tel. (860) 424-3706

As soon as practicable after a significant rainfall event or severe storm, the site should be inspected for damage caused by flooding.

Appendix D

Site Plan Drawings and Details

CIVIL GENERAL NOTES

GENERAL

1. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SHOWN ON THE DRAWINGS TO SCALE OR TO THEIR ACTUAL DIMENSION OR LOCATION. COORDINATE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
2. DO NOT RELY SOLELY ON ELECTRONIC VERSIONS OF DRAWINGS, SPECIFICATIONS, AND DATA FILES THAT ARE PROVIDED BY THE ENGINEER. FIELD VERIFY LOCATION OF PROJECT FEATURES.
3. PERFORM NECESSARY CONSTRUCTION NOTIFICATIONS, APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK AS REQUIRED BY THE CONTRACT DOCUMENTS.
4. BASE PLAN: THE PROPERTY LINES SHOWN WERE DETERMINED AND CONDUCTED BY GIS MAPPING AND FROM PLANS OF RECORD. THE TOPOGRAPHY AND PHYSICAL FEATURES ARE BASED ON AN ACTUAL FIELD SURVEY PERFORMED ON THE GROUND BY FUSS & O'NEILL AUGUST 2021 AND AERIAL SERVICES PERFORMED BY ROBINSON AERIAL FEBRUARY 2019.
6. TOPOGRAPHIC ELEVATIONS ARE BASED ON NAD83 HORIZONTAL AND NAVD88 VERTICAL DATUMS.
7. GEOTECHNICAL DATA INCLUDING TEST PIT AND BORING LOCATIONS AND ELEVATIONS WERE OBTAINED FROM FUSS & O'NEILL, INC.
8. WETLANDS:
   - 8.1. CT/STATE INLAND WETLAND ONLY IS BELOW EL. 19 FEET; EXCLUDING FEDERAL WETLANDS.
   - 8.2. CT/STATE INLAND WETLAND & FEDERAL WETLAND BORDERING MEADOW BROOK WERE DELINEATED BY FUSS & O'NEILL ON MARCH 9, 2020.
   - 8.3. CT/STATE TIDAL WETLAND & FEDERAL WETLAND ALONG CT RIVER WAS DELINEATED BY TRC ON AUGUST 30, 2024.
   - 8.4. CT/STATE TIDAL WATERCOURSE & FEDERAL WATER OF THE UNITED STATES IS THE CONNECTICUT RIVER
9. FLOODPLAIN ELEVATIONS:

RETURN PERIOD (YR)	EXISTING WSE (FT)	PROPSED WSE (FT)
10	28.07	28.08
50	30.95	30.96
100	31.91	31.92
500	36.59	36.59

WORK RESTRICTIONS

1. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, FIRE HYDRANTS, AND UTILITIES WITHOUT APPROPRIATE PERMITS.
2. WORK IS RESTRICTED TO THE HOURS OF TO THE HOURS 7 A.M. TO 5 P.M. ON MONDAY THROUGH FRIDAY, UNLESS AUTHORIZED BY THE OWNER.
3. CONSTRUCTION ACTIVITIES SHALL NOT TAKE PLACE DURING FLOODED CONDITIONS AND THAT APPROPRIATE SITE STABILIZATION ACTIVITIES SHALL OCCUR PRIOR TO SIGNIFICANT WEATHER EVENTS.
   - 3.1. THE CONTRACTOR SHALL MONITOR WEATHER CONDITIONS AND RIVER FORECASTS (WATER.NOAA.GOV) AND PERFORM NECESSARY MAINTENANCE OF EROSION CONTROL AND MEASURES AND OTHER APPROPRIATE SITE STABILIZATION ACTIVITIES PRIOR TO SIGNIFICANT RAIN/WEATHER EVENTS.
   - 3.2. SIGNIFICANT RAINFALL EVENT: THE ACTIONS OUTLINED IN THE FLOOD CONTINGENCY PLAN (BELOW) SHALL BE PERFORMED FOR ANY SIGNIFICANT RAINFALL EVENT THAT OCCURS DURING CONSTRUCTION AT THE PROJECT SITE. FOR THE PURPOSE OF THIS PLAN, A "SIGNIFICANT RAINFALL EVENT" IS DEFINED AS A STORM IN WHICH MORE THAN 2.4 INCHES OF RAINFALL MAY OCCUR IN A ONE-HOUR PERIOD (THUNDER SHOWERS), OR MORE THAN 3.1 INCHES MAY FALL IN A 24-HOUR PERIOD (A STORM WITH POTENTIAL RETURN PERIOD OF AT LEAST 2 YEARS).

FLOOD CONTINGENCY PLAN

1. GENERAL DESCRIPTION
   - 1.1. THIS FLOOD CONTINGENCY PLAN HAS BEEN PREPARED FOR THE PROPOSED CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROJECT. THIS PLAN DESCRIBES THE MEASURES TO BE TAKEN DURING CONSTRUCTION TO HELP PROTECT LIFE AND PROPERTY AND PREVENT POLLUTION DURING SIGNIFICANT PRECIPITATION EVENTS. THE PROPOSED ACTIVITIES PROJECT AREA IS PRONE TO FLOODING.
   - 1.2. THE CONTACT INFORMATION IN THIS PLAN REGARDING EMERGENCY SERVICE AGENCIES SHOULD BE REVIEWED IMMEDIATELY PRIOR TO THE ONSET OF CONSTRUCTION AND UPDATED AS NECESSARY. NO PROVISION WILL BE MADE FOR POST CONSTRUCTION FLOODING SINCE ANY CHANGES TO THE FLOODING DYNAMICS AS A RESULT OF THE PROJECT HAVE BEEN DEMONSTRATED BY HYDRAULIC MODELING TO BE NEGLIGIBLE.
   - 1.3. THE ACTIONS OUTLINED IN THIS FLOOD CONTINGENCY PLAN BELOW SHALL BE PERFORMED FOR ANY SIGNIFICANT RAINFALL EVENT THAT OCCURS DURING CONSTRUCTION AT THE PROJECT SITE. FOR THE PURPOSE OF THIS PLAN, A "SIGNIFICANT RAINFALL EVENT" IS DEFINED AS A STORM IN WHICH MORE THAN 2.4 INCHES OF RAINFALL MAY OCCUR IN A ONE-HOUR PERIOD (THUNDER SHOWERS), OR MORE THAN 3.1 INCHES MAY FALL IN A 24-HOUR PERIOD (A STORM WITH POTENTIAL RETURN PERIOD OF AT LEAST 2 YEARS).
2. FLOOD CONTINGENCY PROCEDURES
   - 2.1. THE CONTRACTOR, WHO IS RESPONSIBLE FOR OVERSIGHT OF CONSTRUCTION ACTIVITIES AT THE SITE, IS RESPONSIBLE FOR IMPLEMENTING THIS PLAN. THE CONTRACTOR SHALL USE BEST EFFORTS TO NOTIFY THE OWNER OF ANY IMPENDING SIGNIFICANT RAINFALL EVENT OR ANY FLOODING EVENT AS SOON AS PRACTICABLE AND, IF POSSIBLE, NO LESS THAN TWENTY-FOUR (24) HOURS BEFORE THE ONSET OF PRECIPITATION.
   - 2.2. THE OWNER IS:

     RIVERFRONT RECAPTURE, INC.
     50 COLUMBUS BOULEVARD, 1ST FLOOR
     HARTFORD, CT 06106

     CONTACT: MARC NICOL (860) 713-3131x334; MNICOL@RIVERFRONT.ORG
     MICHAEL ZALESKI (860) 713-3131x331; MZALESKI@RIVERFRONT.ORG
   - 2.3. THE CONTRACTOR SHALL THEN PERFORM THE FOLLOWING ACTIONS TO MINIMIZE THE POTENTIAL FOR DAMAGE TO DOWNSTREAM LIFE AND PROPERTY, AND/OR POLLUTION.
     - 2.3.1. ALL CONSTRUCTION EQUIPMENT, TOOLS, HEAVY EQUIPMENT, VEHICLES, STORAGE CONTAINERS, ETC. SHALL BE RELOCATED TO UPLAND STORAGE AREAS OR AREAS PROTECTED FROM FLOODING. SUCH AREAS, IDENTIFIED BEFORE THE START OF CONSTRUCTION ACTIVITIES, SHALL BE LOCATED OUTSIDE OF FLOOD HAZARD AREAS, FLOOD PRONE AREAS, AND AREAS THAT MAY EXPERIENCE SIGNIFICANT OVERLAND FLOW OF WATER DURING PRECIPITATION EVENTS.
     - 2.3.2. ALL FUEL AND MAINTENANCE FLUIDS SHALL BE RELOCATED TO AN UPLAND STORAGE AREA. IF PRACTICABLE, THESE FLUIDS SHOULD BE PLACED IN AN ENCLOSED STRUCTURE; AT A MINIMUM, THEY SHALL BE COVERED WITH TARPS AND PLACED IN AN UPLAND STORAGE AREA THAT IS BERMED TO PREVENT RUN-ON OF SURFACE WATER. ALL WORK AREAS SHALL BE INSPECTED TO ENSURE THAT ITEMS UNDER CONSTRUCTION (E.G., ACCESS ROADS) ARE STABILIZED.
     - 2.3.3. ALL WORK AREAS AND ANY STOCKPILES SHALL BE INSPECTED TO ENSURE THAT EROSION CONTROL MEASURES ARE IN PLACE AND IN SUCH CONDITION AS TO ALLOW THEIR PROPER FUNCTION DURING THE RAINFALL EVENT.
     - 2.3.4. ACCESS TO ALL WORK AREAS SHALL BE CLOSED TO THE PUBLIC AND NON-ESSENTIAL WORK PERSONNEL.
     - 2.3.5. ACCESS POINTS TO AREAS UNDER CONSTRUCTION SHALL BE BARRICADED AND POSTED AS BEING CLOSED DURING CONSTRUCTION.
     - 2.3.6. IN ADDITION TO NOTIFYING THE OWNER, THE CONTRACTOR SHALL NOTIFY EMERGENCY SERVICE AGENCIES IF CONDITIONS ARE OBSERVED WHICH MAY POSE AN IMMINENT DANGER TO DOWNSTREAM RESIDENTS OR PROPERTY:
       - 2.3.6.1. LOCAL FIRE AND/OR POLICE; TEL. 911
       - 2.3.6.2. CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION INLAND WATER RESOURCES DIVISION TEL. (860) 424-3706
   - 2.4. AS SOON AS PRACTICABLE AFTER A SIGNIFICANT RAINFALL EVENT OR SEVERE STORM, THE SITE SHOULD BE INSPECTED FOR DAMAGE CAUSED BY FLOODING.

REGULATORY REQUIREMENTS

1. WITHIN LOCAL RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS.
2. WITHIN STATE RIGHTS-OF-WAY, PERFORM THE WORK IN ACCORDANCE WITH THE LATEST EDITION OF THE DEPARTMENT OF TRANSPORTATION'S STANDARD SPECIFICATIONS AND ISSUED REVISIONS/SUPPLEMENTS.
3. BE RESPONSIBLE FOR SITE SECURITY AND JOB SAFETY. PERFORM CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
4. DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.
5. THIS PROJECT DISTURBS MORE THAN FIVE ACRES OF LAND AND FALLS WITHIN THE CONNECTICUT DEEP STORMWATER AND DEWATERING WASTEWATER FROM CONSTRUCTION ACTIVITIES GENERAL PERMIT PROCESS. (RIVERFRONT RECAPTURE, INC.) HAS SUBMITTED INFORMATION TO THE DEEP TO SATISFY THIS GENERAL PERMIT. THE CONTRACTOR MUST HAVE A COPY OF THIS GENERAL PERMIT ON SITE AT ALL TIMES.

EROSION AND SEDIMENT CONTROL

1. INSTALL EROSION CONTROL MEASURES PRIOR TO STARTING ANY WORK ON THE SITE. REFER TO THE EROSION AND SEDIMENT CONTROL DRAWINGS.
2. IMPLEMENT ALL NECESSARY MEASURES REQUIRED TO CONTROL STORMWATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE. PERFORM CORRECTIVE ACTION AS NEEDED FOR EROSION CLEANUP AND REPAIRS TO OFF SITE AREAS, IF ANY, AT NO COST TO OWNER.
3. INSPECT AND MAINTAIN EROSION CONTROL MEASURES PER THE SCHEDULE IN THE EROSION AND SEDIMENT CONTROL DRAWINGS. DISPOSE OF SEDIMENT IN AN UPLAND AREA. DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
4. PERFORM CONSTRUCTION SEQUENCING IN SUCH A MANNER TO CONTROL EROSION AND TO MINIMIZE THE TIME THAT EARTH MATERIALS ARE EXPOSED BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, REMOVE AND DISPOSE OF TEMPORARY EROSION CONTROL MEASURES. CLEAN SEDIMENT AND DEBRIS FROM TEMPORARY MEASURES.

CONSTRUCTION LAYOUT

1. PROVIDE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED SITE IMPROVEMENTS. FIELD VERIFY EXISTING PAVEMENT AND GROUND ELEVATIONS AT THE INTERFACE WITH PROPOSED CONSTRUCTION ENTRANCES AND ACCESS PATHS BEFORE START OF CONSTRUCTION.
2. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, FIELD VERIFY PROPOSED UTILITY ROUTES AND IDENTIFY ANY INTERFERENCES OR OBSTRUCTIONS WITH EXISTING UTILITIES OR PUBLIC RIGHTS-OF-WAY.
3. IMMEDIATELY INFORM THE ENGINEER IN WRITING IF EXISTING UTILITY CONDITIONS CONFLICT OR DIFFER FROM THAT INDICATED AND IF THE WORK CANNOT BE COMPLETED AS INDICATED.
4. DIMENSIONS ARE FROM FACE OF CURB, FACE OF BUILDING, FACE OF WALL, AND CENTER LINE OF PAVEMENT MARKINGS, UNLESS NOTED OTHERWISE.
5. BOUNDS OR MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.

EARTHWORK

1. NOTIFY UTILITY LOCATOR SERVICE AT LEAST 72 HOURS BEFORE STARTING EXCAVATION. "CALL BEFORE YOU DIG" AT 1-800-922-4455.
2. STOP WORK IN THE VICINITY OF SUSPECTED CONTAMINATED SOIL, GROUNDWATER OR OTHER MEDIA THAT ARE OUTSIDE THE REMEDIAL LIMITS IDENTIFIED ON THE DRAWINGS AND REMEDIAL ACTION PLAN. IMMEDIATELY NOTIFY THE OWNER SO THAT APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN. RESUME WORK IN THE IMMEDIATE VICINITY ONLY UPON DIRECTION BY THE OWNER.

UTILITIES

1. THE TYPE, SIZE AND LOCATION OF DEPICTED UNDERGROUND UTILITIES ARE APPROXIMATE REPRESENTATIONS OF INFORMATION OBTAINED FROM FIELD LOCATIONS OF VISIBLE FEATURES, EXISTING MAPS AND PLANS OF RECORD, UTILITY MAPPING, AND OTHER SOURCES OF INFORMATION OBTAINED BY THE ENGINEER. ASSUME NO GUARANTEE AS TO THE COMPLETENESS, SERVICEABILITY, EXISTENCE, OR ACCURACY OF UNDERGROUND FACILITIES. FIELD VERIFY THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES.
2. PAY ALL FEES AND COSTS ASSOCIATED WITH UTILITY MODIFICATIONS AND CONNECTIONS, REGARDLESS OF THE ENTITY THAT PERFORMS THE WORK.

SITE RESTORATION

1. PROVIDE 6 INCHES OF TOPSOIL AND SEED TO AREAS DISTURBED DURING CONSTRUCTION.
2. REPAIR DAMAGES RESULTING FROM CONSTRUCTION LOADS, AT NO ADDITIONAL COST TO OWNER.
3. RESTORE AREAS DISTURBED BY CONSTRUCTION OPERATIONS TO THEIR ORIGINAL CONDITION OR BETTER, AT NO ADDITIONAL COST TO OWNER.

EQUIPMENT AND EQUIPMENT O&M NOTES

1. ALL EQUIPMENT SHALL BE STORED OUTSIDE OF 100-YEAR FLOOD PLAIN AND WITHIN 100-FT OF ANY WETLAND OR WATERCOURSE WHEN NOT IN USE.
2. EQUIPMENT SHALL NOT BE MAINTAINED OR FUELED WITHIN WETLAND AREAS.
3. REMOVE ALL EQUIPMENT FROM WETLAND AREAS AND STORE IN SECURE UPLAND LOCATIONS DURING NON-WORK HOURS.
4. PROVIDE CRUSHED STONE AS SHOWN AND AS OTHERWISE NEEDED TO PROVIDE ACCESS PATHS.
5. CHEMICAL AND PETROLEUM PRODUCTS: CHEMICAL AND PETROLEUM PRODUCTS SHALL NOT BE STORED WITHIN THE 100-YEAR (ELEVATION 31.92) OR 500-YEAR FLOODPLAIN (ELEVATION 36.59). AS THE ENTIRE SITE IS CONTAINED WITHIN THE 500-YEAR FLOODPLAIN, STORE CHEMICAL AND PETROLEUM PRODUCTS CONTAINED WITHIN VEHICLES AND EQUIPMENT. REFUEL EQUIPMENT UTILIZING A MOBILE LUBE TRUCK OR FUEL DELIVERY SERVICE THAT IS DEMOBILIZED FROM THE SITE WHEN REFUELING IS COMPLETE. ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE MAINTENANCE AS NEEDED.

NDDB NOTES

1. PRIOR TO WORK ON SITE ATTEND AN EDUCATIONAL SESSION AT THE PRECONSTRUCTION MEETING WITH A QUALIFIED HERPETOLOGIST. THIS ORIENTATION AND EDUCATIONAL SESSION SHOULD CONSIST OF AN INTRODUCTORY MEETING PROVIDING PHOTOS OF HERPETOFAUNA THAT MAY BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, INCLUDING EASTERN BOX TURTLES.
2. ON A DAILY BASIS INSPECT THE WORK AREA; STAGING, STORAGE, AND STOCKPILE AREAS; AND ACCESS ROADS EACH MORNING FOR EASTERN BOX TURTLES, EASTERN PAINTED TURTLES, AND SNAPPING TURTLES PRIOR TO ANY WORK BEING DONE. KEEP A RECORD OF INSPECTIONS, INCLUDE THE FOLLOWING:
   - a. DATE
   - b. BRIEF DESCRIPTION OF WORK AREA
   - c. QUANTITY OF TURTLES ENCOUNTERED
   - d. VERIFICATION ENCOUNTERED TURTLES WERE RELOCATED FROM THE WORK AREA
   - e. INSPECTOR NAME AND INSPECTOR SIGNATURE
   - f. CONDITION OF EXCLUSIONARY FENCING. INCLUDING BUT NOT LIMITED TO REPORTING TEARS OR BREACHES IN THE FABRIC AND ACCUMULATION LEVELS OF SEDIMENT AND MAINTENANCE COMPLETED.
3. INSTALL EXCLUSIONARY FENCING AT THE LIMITS OF DISTURBANCE. EXCLUSIONARY FENCES SHALL BE AT LEAST 20-INCHES ABOVE GRADE, INSTALLED 6-INCHES BELOW SURFACE GRADE, AND BE REGULARLY MAINTAINED (AT LEAST BI-WEEKLY AND AFTER MAJOR WEATHER EVENTS) TO SECURE ANY GAPS OR OPENINGS AT GROUND LEVEL THAT MAY LET TURTLES PASS THROUGH. DO NOT USE NETTED MATERIALS AS EXCLUSIONARY FENCING. GEOTEXTILE SILT FENCE IS AN ACCEPTABLE EXCLUSIONARY FENCING PRODUCT.
   - 3.1. IN AREAS WHERE THE SILT FENCE CANNOT BE BURIED, THE FENCING SHOULD BE PLACED WITH AN UNBURIED FLAP FACING AWAY FROM THE CONSTRUCTION AREA AND COVERED WITH SIX INCHES OF CRUSHED STONE.
4. INSTALL EXCLUSIONARY FENCING AT ALL STAGING, STORAGE, AND STOCKPILE AREAS.
5. MAINTAIN SURPLUS EXCLUSIONARY FENCING ONSITE FOR ONGOING MAINTENANCE.
   - 5.1. INSPECT EXCLUSIONARY FENCING DAILY AND FOLLOWING STORM EVENTS OF 0.25 INCH OR GREATER FOR TEARS OR BEACHES IN THE FABRIC AND ACCUMULATION LEVELS OF SEDIMENT
   - 5.2. REPAIR COMPROMISED AREAS OF SILT FENCE IMMEDIATELY.
6. ALL CONSTRUCTION PERSONNEL WORKING ON THE PROJECT MUST BE APPRISED OF THE SPECIES (EASTERN BOX TURTLE, EASTERN PAINTED TURTLE, AND SNAPPING TURTLE) DESCRIPTION AND THE POSSIBLE PRESENCE OF A LISTED SPECIES, AND INSTRUCTED TO RELOCATE TURTLES FOUND INSIDE WORK AREAS OR NOTIFY THE APPROPRIATE AUTHORITIES TO RELOCATE INDIVIDUALS.
7. ANY TURTLES ENCOUNTERED WITHIN THE IMMEDIATE WORK AREAS; STAGING, STORAGE, AND STOCKPILE AREAS; AND ACCESS ROADS SHALL BE CAREFULLY MOVED TO AN ADJACENT AREA OUTSIDE OF THE EXCLUDED AREA AND FENCING SHOULD BE INSPECTED TO IDENTIFY AND CLOSE OFF ACCESS POINT.
8. IN AREAS WHERE SILT FENCE IS USED FOR EXCLUSION, IT SHALL BE REMOVED AS SOON AS THE AREA IS STABLE TO ALLOW FOR REPTILE AND AMPHIBIAN PASSAGE TO RESUME.

CONSTRUCTION SEQUENCE:

THE GENERAL CONSTRUCTION SEQUENCING FOR CONSTRUCTION ACTIVITIES IS AS FOLLOWS:

PHASE 1B (SEPTEMBER 2025):

1. INSTALL EROSION CONTROLS AS NECESSARY TO CONTROL STORM WATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
2. INSTALL TURTLE EXCLUSION FENCING.
3. UTILIZE REUSABLE SOIL FROM CENTRAL COVER AREA TO ESTABLISH MINIMUM ELEVATIONS AT CONTRACTOR LAYDOWN AREA.
4. EXCAVATE AND BACKFILL REMEDIAL AREAS
5. ESTABLISH TEMPORARY STOCKPILES OF IMPACTED SOILS

PHASE 2A (SEPTEMBER 2025 TO FEBRUARY 2026):

6. INSTALL EROSION CONTROLS AS NECESSARY TO CONTROL STORMWATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
7. INSTALL TURTLE EXCLUSION FENCING.
8. EXCAVATE ENHANCEMENT INLAND WETLAND AREA.
9. EXCAVATE CENTRAL COVE AREA, MITIGATION TIDAL WETLAND, AND PYGMYWEED BENCHES.
10. TRANSPLANT SPECIES (SHORT-AWNED MEADOW-FOXTAIL, GEORGIA BULRUSH, CATTAIL SEDGE), BY OWNER.
11. FILL AND REGRADE NORTHWEST AREA ADJACENT TO AMTRAK ROW.
12. ESTABLISH PLANTINGS WITHIN ENHANCEMENT INLAND AND MITIGATION TIDAL WETLAND AREAS, BY OWNER.
13. TRANSPLANT PYGMYWEED TO NEW BENCHES, BY OWNER.
14. RELOCATE MUSSELS, BY OWNER.

PHASE 2B (MARCH 2026 TO JULY 2026):

15. ESTABLISH FLOATING TURBIDITY CURTAIN, TEMPORARY RIPRAP BARRIER, AND WATERSIDE WORK AREA.
16. INSTALL EROSION CONTROLS AS NECESSARY TO CONTROL STORMWATER RUNOFF, DUST, SEDIMENT, AND DEBRIS FROM EXITING THE SITE IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
17. INSTALL TURTLE EXCLUSION FENCING.
18. EXCAVATE EASTERN COVE AREA.
19. FILL AND REGRADE SOUTHWEST AREA ADJACENT TO AMTRAK ROW.
20. TRANSPLANT PYGMYWEED TO NEW BENCHES BY OWNER.
21. ESTABLISH PLANTINGS WITHIN EXISTING INLAND WETLAND AND EXISTING TIDAL WETLAND AREAS, BY OWNER.

PHASE 2C (AUGUST 2026 TO DECEMBER 2026):

22. INSTALL EROSION CONTROLS AS NECESSARY TO CONTROL STORMWATER ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL PLANS.
23. INSTALL TURTLE EXCLUSION FENCING.
24. EXCAVATE WESTERN COVE AREA.
25. FILL AND GRADE PROPOSED HILL AND BERM.
26. FINAL RESTORATION, PERMANENT SEEDING, AND STABILIZATION MONITORING.

WHEREVER PRACTICABLE, SITE CONSTRUCTION ACTIVITIES SHALL BE PHASED TO AVOID THE DISTURBANCE OF OVER FIVE ACRES AT ONE TIME BY EXCAVATING/FILLING TO GRADE AND IMPLEMENTING STABILIZATION METHODS.

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: VERT.:
DATUM: HORZ.: VERT.:

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT

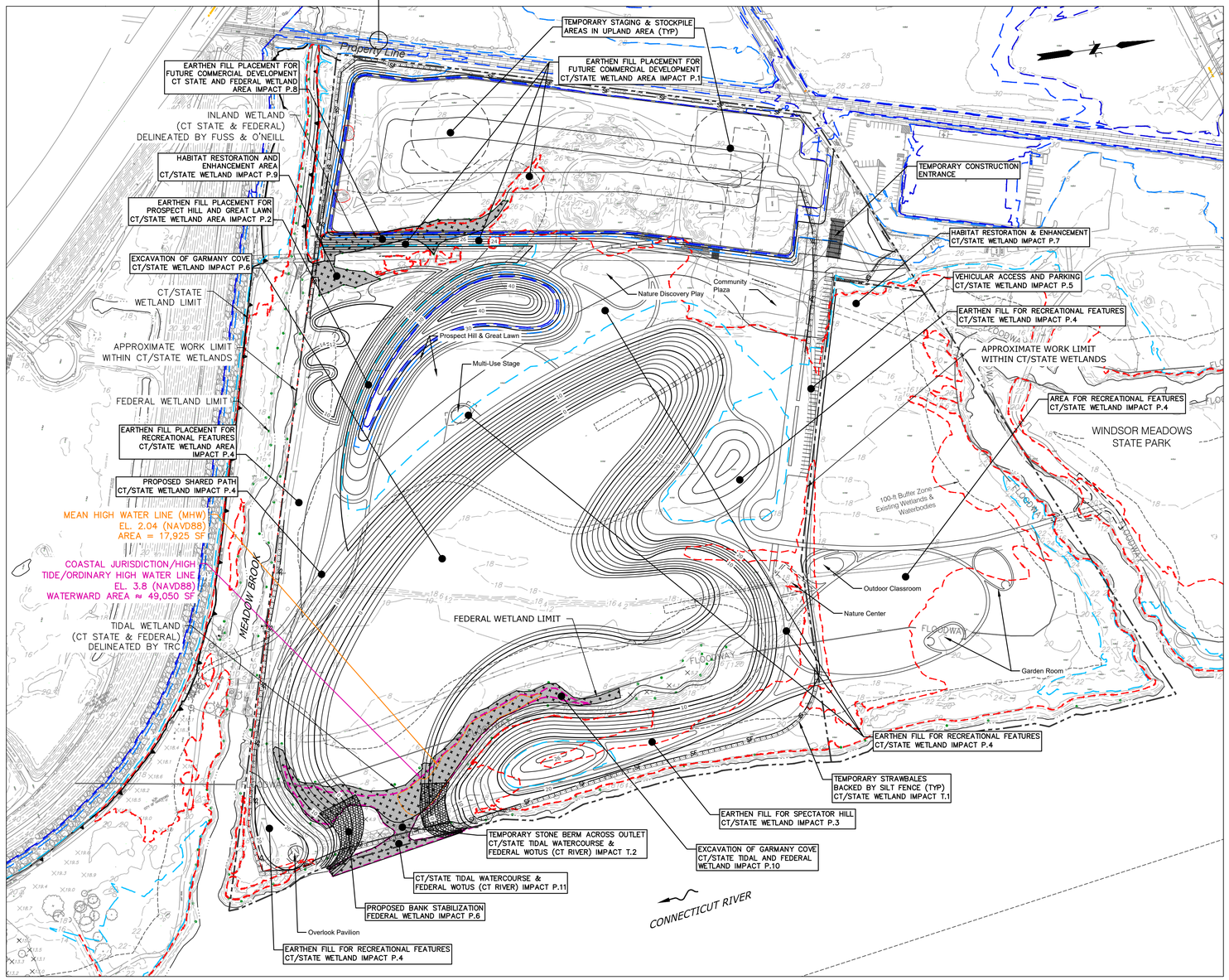
CIVIL GENERAL NOTES

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

C-001

File: J:\DWG\P20170277\S10\Civil\Plan\20170277S10_DET01.dwg Layout: C-001 Plotted: 2025-07-24 3:05 PM Saved: 2025-07-24 3:05 PM User: Avery.OConnell
MS VIEW: LAYER STATE: PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



Inland Water Resource Impact Table

Wetlands	Direct Impacts						
Wetland Name (Field ID)	Activity	Temporary or Permanent (T / P)	CT/STATE Impact Area (square feet)	CT/STATE Impact Volume: Fill / (-Cut) (cubic yards)	CT/STATE Impact Volume: Net (cubic yards)	FEDERAL Impact Area (square feet)	FEDERAL Impact Volume: Net (cubic yards)
CT/State Inland Wetland Only *Below EL. 19 Feet; excluding federal wetlands*	Earthen fill placement for future commercial development.	P.1	17,633	6,454/(-9.15)	6,445	N/A	N/A
	Earthen fill placement for Prospect Hill & Great Lawn.	P.2	220,033	78,687/(-0.02)	78,687	N/A	N/A
	Earthen fill placement for Spectator Hill & Terraces.	P.3	8,870	1,031/(0)	1,031	N/A	N/A
	Construction of recreational features: community plaza (i.e., Paving Type 2), Joe Marfuggi Riverwalk & windsor Riverwalk (i.e., Paving - Type 3), park pathways and trails (i.e., Paving Type 4), nature discovery play, multi-use stage, outdoor classroom, nature center, garden rooms, overlook pavillion. Includes grading.	P.4	391,989	34,023/(-108)	33,915	N/A	N/A
	Installation of vehicular access road and parking (i.e., Paving Type 1) and park seat walls, terraces, & stairs (i.e., Paving Type 4). Inlcudes grading.	P.5	60,072	7,903/(0)	7,903	N/A	N/A
	Excavation of Garmany Cove. Includes habitat restoration and enhancement area.	P.6	948,538	8,650/(-385,970)	-377,320	N/A	N/A
	Habitat Restoration & Enhancement in the vicinity of Deckers Brook & Meadow Brook	P.7	109,832	0/0	0	109,832	0
	Erosion & Sediment Control Measures. Overlaps with permanent impact areas.	T.1	832,540	Negligible	Negligible	832,540	Negligible
CT/State Inland Wetland & Federal Wetland along Meadow Brook *Delineated by Fuss & O'Neill on March 9, 2020*	Earthen fill placement for future commercal development	P.8	19,266	9,091/(0)	9,091	19,266	9,091
	Habitat Restoration & Enhancement in the vicinity of Meadow Brook	P.9	7,507	1/(-1)	0	7,507	0
Total Inland Wetlands Impacts			**1,783,740**	**--**	**-240,248**	**26,773**	**9,091**

Tidal Water Resource Impact Table

Wetlands	Direct Impacts						
Wetland Name (Field ID)	Activity	Temporary or Permanent (T / P)	CT/STATE Impact Area (square feet)	CT/STATE Impact Volume: Fill / (-Cut) (cubic yards)	CT/STATE Impact Volume: Net (cubic yards)	FEDERAL Impact Area (square feet)	FEDERAL Impact Volume: Net (cubic yards)
CT/State Tidal Wetland & Federal Wetland along CT River *Delineated by TRC on August 30, 2024*	Excavation of Garmany Cove. Includes habitat restoration and enhancement area.	P.10	53,394	3,133/(-4,593)	-1,460	53,394	-1,460
Connecticut River - CT/State Tidal Watercourse & Federal Water of the US	Excavation of Garmany Cove. Includes habitat restoration and enhancement area.	P.11	8,311	0/(-2,865)	-2,865	8,311	-2,865
	Stone berm across cove outlet. Overlaps with permanent impact area.	T.2	3,801	2,252/(0)	2,252	3,801	2,252
Total Inland Wetlands Impacts			**61,705**	**--**	**-2,073**	**61,705**	**-2,073**

Note: Fill calculations are based on site grading only and do not include volume of proposed structures. Refer to the Lanscape Planting Plan for proposed planting communities.

NOTES:

1. PER CTDEEP COASTAL JURISDICTION LINE FACT SHEET:
   - HIGH TIDE LINE (HTL) = COASTAL JURISDICTION LINE (CJL) = ORDINARY HIGH WATER LINE (OHW)
   - COASTAL JURISDICTION LINE EL. FOR HARTFORD, CT = 3.8' (NAVD88)
2. TIDAL WATER ELEVATIONS TAKEN FROM NOAA, STATION 8464418,T.M. 75, SOUTH HARTFORD, CONNECTICUT RIVER, CT, DATUM MLLW. (NAVD88)
   - MEAN HIGH WATER (MHW) = EL. 2.04
   - MEAN LOW WATER (MLW) = EL. 0.11 (NOT PRESENT WITHIN PROJECT LIMITS.)

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: VERT.:
DATUM: HORZ.: VERT.:

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT
PERMANENT AND TEMPORARY FLOODPLAIN IMPACTS
RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: 6/12/2025

GI-101

File: J:\DWG\P2017\0277\S10\Civil\Plan\20170277S10_IMP01.dwg Layout: IMP-01 (CONST SWGP) Plotted: 2025-06-27 4:43 PM Saved: 2025-06-27 4:42 PM User: Nicholas.Roy
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
MS VIEW: LAYER STATE:



FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -

DATUM: HORZ.: -
VERT.: -

0 50' 100' 200'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT

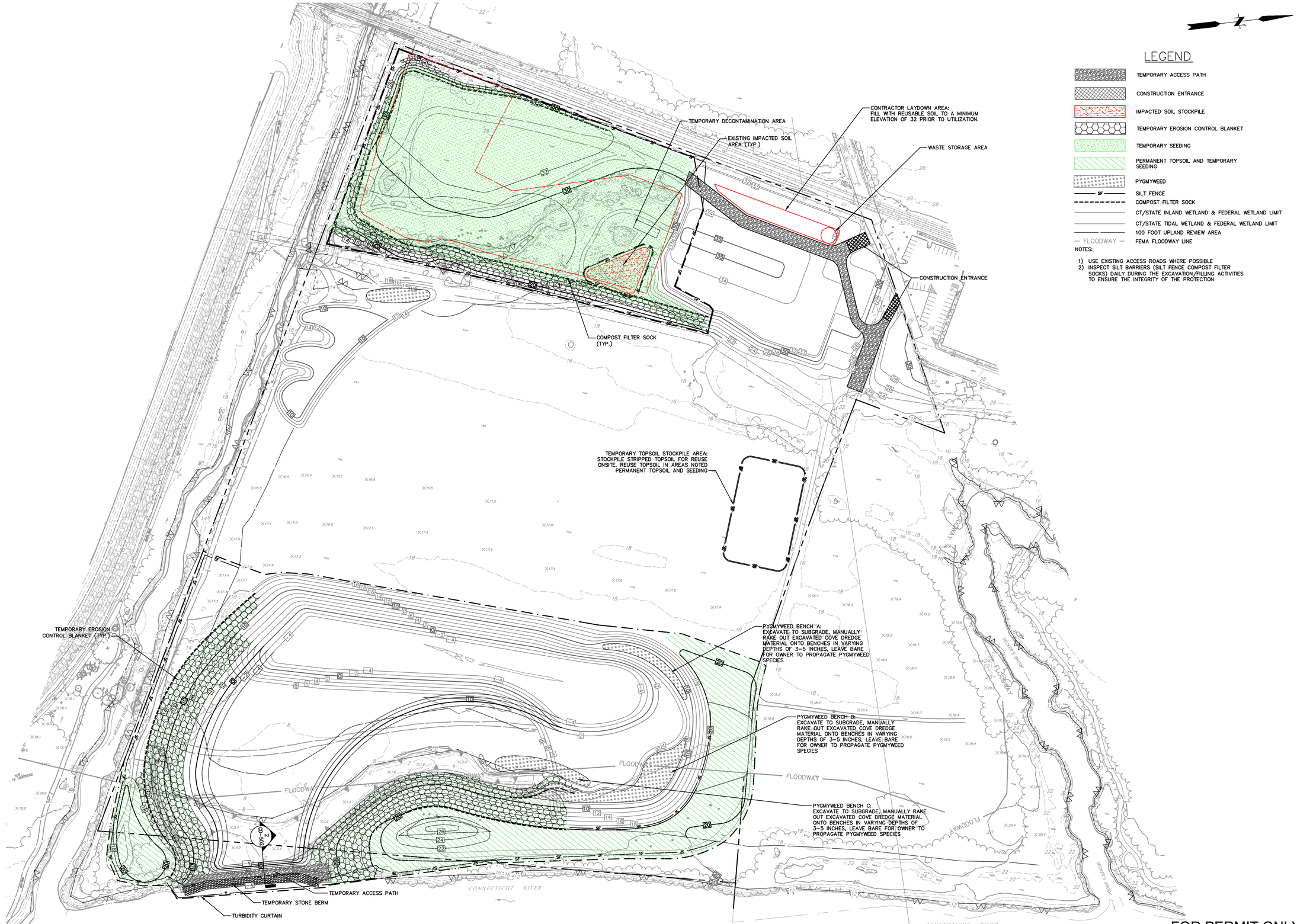
SITE EROSION & SEDIMENT CONTROL PLAN
- PHASES 1B & 2A

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CE-101

File: J:\DWG\P20170277\S10\Civil\Plan\New Park Phase 1B & 2A\20170277S10_ERO01 - Phase 1B & 2A.dwg Layout: CE-101 Plotted: 2025-07-24 2:42 PM Saved: 2025-07-24 2:31 PM User: Avery.OConnell
MS VIEW: LAYER STATE:
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



LEGEND

- TEMPORARY ACCESS PATH
- CONSTRUCTION ENTRANCE
- IMPACTED SOIL STOCKPILE
- TEMPORARY EROSION CONTROL BLANKET
- TEMPORARY SEEDING
- PERMANENT TOPSOIL AND TEMPORARY SEEDING
- PYGMYWEED
- SF — SILT FENCE
- COMPOST FILTER SOCK
- CT/STATE INLAND WETLAND & FEDERAL WETLAND LIMIT
- CT/STATE TIDAL WETLAND & FEDERAL WETLAND LIMIT
- 100 FOOT UPLAND REVIEW AREA
- FLOODWAY — FEMA FLOODWAY LINE

NOTES:

1) USE EXISTING ACCESS ROADS WHERE POSSIBLE
2) INSPECT SILT BARRIERS (SILT FENCE COMPOST FILTER SOCKS) DAILY DURING THE EXCAVATION/FILLING ACTIVITIES TO ENSURE THE INTEGRITY OF THE PROTECTION

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -
DATUM: HORZ.: -
VERT.: -
0 50' 100' 200'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT
SITE EROSION & SEDIMENT CONTROL PLAN
- PHASE 2B

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CE-102

File: J:\DWG\P2017\0277\S10\Civil\Plan\New Park Phase 2B\20170277S10_ERO01 - Phase 2B.dwg Layout: CE-102 Plotted: 2025-07-24 2:42 PM Saved: 2025-07-24 2:33 PM User: Avery OConnell
MS VIEW: | LAYER STATE: | PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



LEGEND

- TEMPORARY ACCESS PATH
- CONSTRUCTION ENTRANCE
- TEMPORARY EROSION CONTROL BLANKET
- TEMPORARY SEEDING
- SF — SILT FENCE
- COMPOST FILTER SOCK
- CT/STATE INLAND WETLAND & FEDERAL WETLAND LIMIT
- CT/STATE TIDAL WETLAND & FEDERAL WETLAND LIMIT
- 100 FOOT UPLAND REVIEW AREA
- FLOODWAY — FEMA FLOODWAY LINE

NOTES:

1) USE EXISTING ACCESS ROADS WHERE POSSIBLE
2) INSPECT SLIT BARRIERS (SILT FENCE AND COMPOST FILTER SOCKS) DAILY DURING THE EXCAVATION/FILLING ACTIVITIES TO ENSURE THE INTEGRITY OF THE PROTECTION.

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -
DATUM: HORZ.: -
VERT.: -

GRAPHIC SCALE 0 50' 100' 200'

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

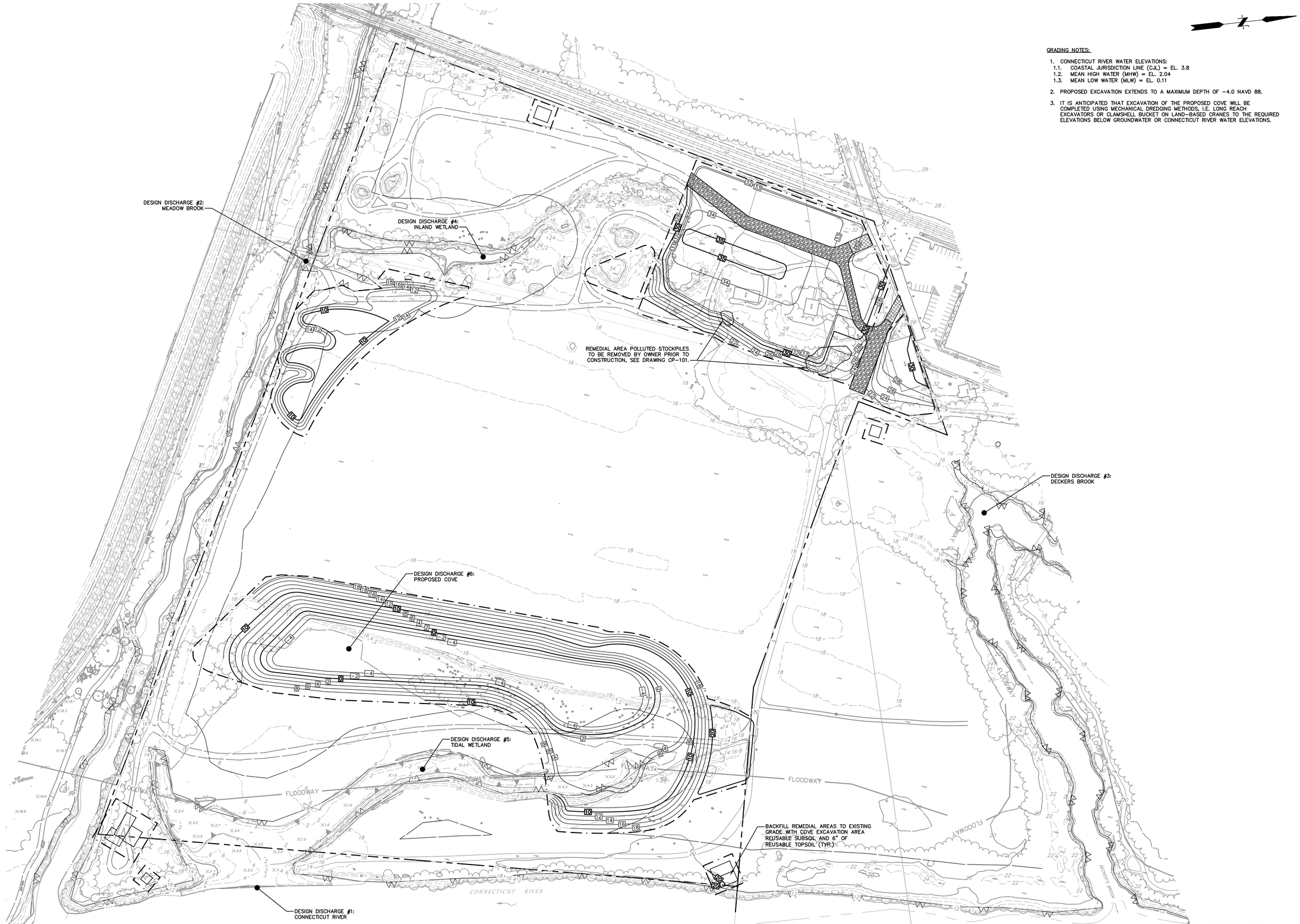
RIVERFRONT LAND DEVELOPMENT PROJECT
SITE EROSION & SEDIMENT CONTROL PLAN
- PHASE 2C

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CE-103

File: J:\DWG\P20170277\S10\Civil\Plan\New Park Phase 2C\20170277S10_ERO01 - Phase 2C.dwg Layout: CE-103 Plotted: 2025-07-24 5:18 PM Saved: 2025-07-24 5:06 PM User: Daniel.Chiburis
MS VIEW: LAYER STATE: PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



GRADING NOTES:

1. CONNECTICUT RIVER WATER ELEVATIONS:
   1.1. COASTAL JURISDICTION LINE (CJL) = EL. 3.8
   1.2. MEAN HIGH WATER (MHW) = EL. 2.04
   1.3. MEAN LOW WATER (MLW) = EL. 0.11
2. PROPOSED EXCAVATION EXTENDS TO A MAXIMUM DEPTH OF −4.0 NAVD 88.
3. IT IS ANTICIPATED THAT EXCAVATION OF THE PROPOSED COVE WILL BE COMPLETED USING MECHANICAL DREDGING METHODS, I.E. LONG REACH EXCAVATORS OR CLAMSHELL BUCKET ON LAND−BASED CRANES TO THE REQUIRED ELEVATIONS BELOW GROUNDWATER OR CONNECTICUT RIVER WATER ELEVATIONS.

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -
DATUM: HORZ.: -
VERT.: -
0 50' 100' 200'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT
SITE GRADING AND DRAINAGE PLAN
- PHASES 1B & 2A
RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CG-101

File: J:\DWG\P2017\0277\S10\Civil\Plan\New Park Phase 1B & 2A\20170277S10_GRD01 - Phase 1B & 2A.dwg Layout: CG-101 Plotted: 2025-07-24 2:44 PM Saved: 2025-07-24 10:41 AM User: Daniel.Chiburis
MS VIEW: LAYER STATE: PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



GRADING NOTES:

1. CONNECTICUT RIVER WATER ELEVATIONS:
   1.1. COASTAL JURISDICTION LINE (CJL) = EL. 3.8
   1.2. MEAN HIGH WATER (MHW) = EL. 2.04
   1.3. MEAN LOW WATER (MLW) = EL. 0.11
2. PROPOSED EXCAVATION EXTENDS TO A MAXIMUM DEPTH OF −4.0 NAVD 88.
3. IT IS ANTICIPATED THAT EXCAVATION OF THE PROPOSED COVE WILL BE COMPLETED USING MECHANICAL DREDGING METHODS, I.E. LONG REACH EXCAVATORS OR CLAMSHELL BUCKET ON LAND−BASED CRANES TO THE REQUIRED ELEVATIONS BELOW GROUNDWATER OR CONNECTICUT RIVER WATER ELEVATIONS.

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -
DATUM: HORZ.: -
VERT.: -
0 50' 100' 200'
GRAPHIC SCALE

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

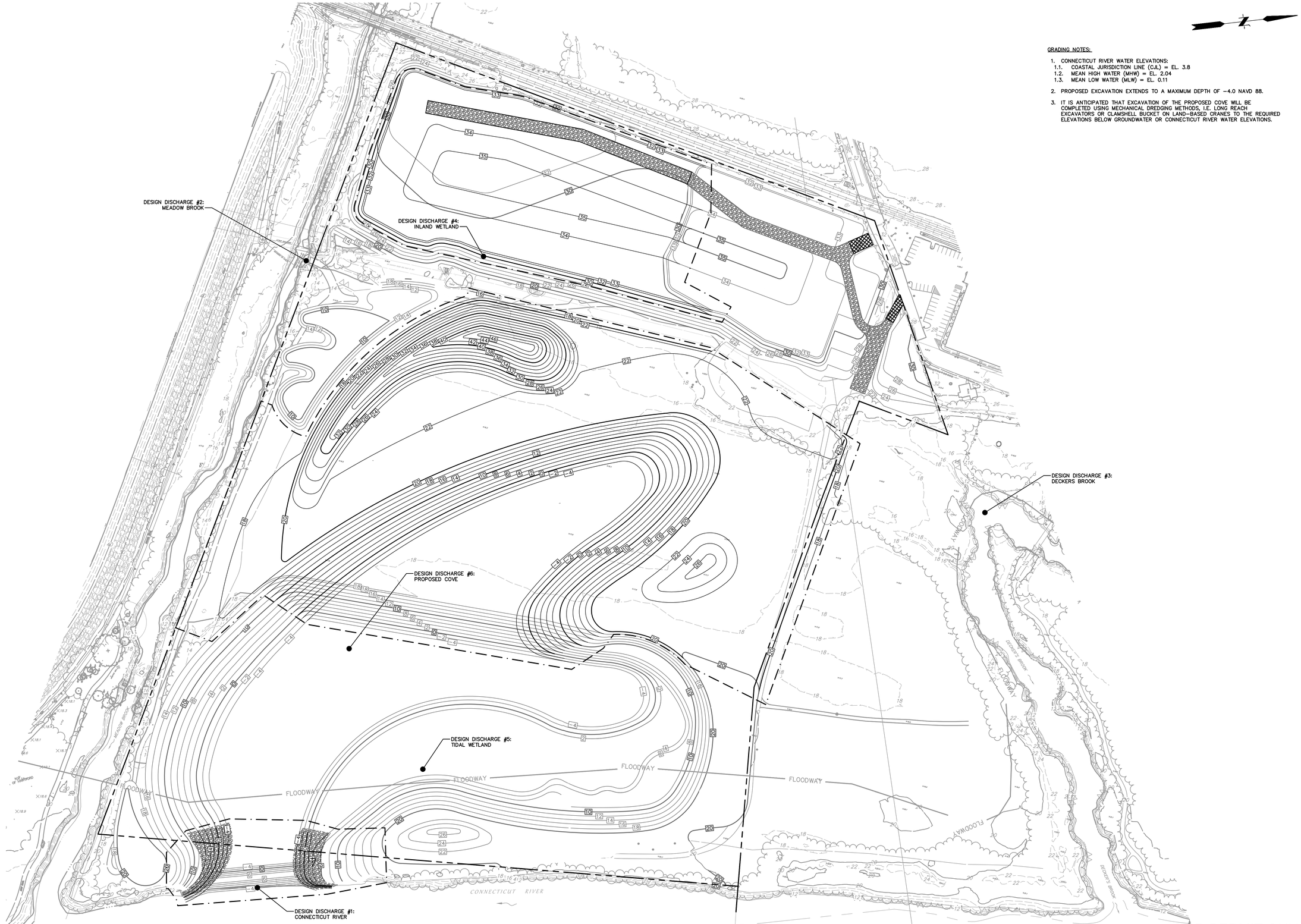
RIVERFRONT LAND DEVELOPMENT PROJECT
SITE GRADING AND DRAINAGE PLAN
- PHASE 2B

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CG-102

File: J:\DWG\P20170277\S10\Civil\Plan\New Park Phase 2B\20170277S10_GRD01 - Phase 2B.dwg Layout: CG-102 Plotted: 2025-07-24 4:49 PM Saved: 2025-07-24 10:35 AM User: Daniel.Chiburis
MS VIEW: LAYER STATE: PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB



GRADING NOTES:

1. CONNECTICUT RIVER WATER ELEVATIONS:
   1.1. COASTAL JURISDICTION LINE (CJL) = EL. 3.8
   1.2. MEAN HIGH WATER (MHW) = EL. 2.04
   1.3. MEAN LOW WATER (MLW) = EL. 0.11
2. PROPOSED EXCAVATION EXTENDS TO A MAXIMUM DEPTH OF −4.0 NAVD 88.
3. IT IS ANTICIPATED THAT EXCAVATION OF THE PROPOSED COVE WILL BE COMPLETED USING MECHANICAL DREDGING METHODS, I.E. LONG REACH EXCAVATORS OR CLAMSHELL BUCKET ON LAND−BASED CRANES TO THE REQUIRED ELEVATIONS BELOW GROUNDWATER OR CONNECTICUT RIVER WATER ELEVATIONS.

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: 1" = 100'
VERT.: -
DATUM: HORZ.: -
VERT.: -

GRAPHIC SCALE 0 50' 100' 200'

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT

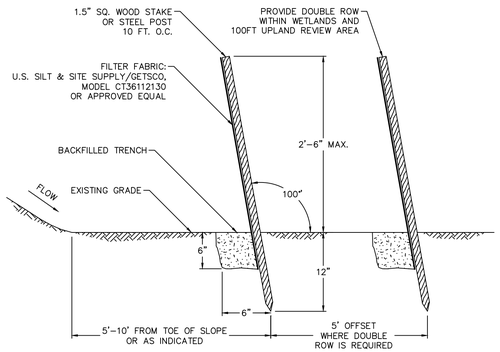
SITE GRADING AND DRAINAGE PLAN
- PHASE 2C

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

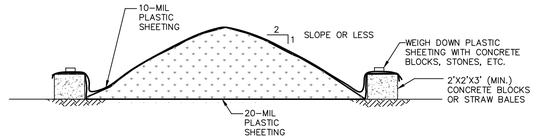
PROJ. No.: 20170277.S10
DATE: JULY 2025

CG-103

File: J:\DWG\P2017\0277\S10\Civil\Plan\New Park Phase 2C\20170277S10_GRD01 - Phase 2C.dwg Layout: CG-103 Plotted: 2025-07-24 4:47 PM Saved: 2025-07-24 1:02 PM User: Daniel.Chiburis
PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
LAYER STATE:
MS VIEW:



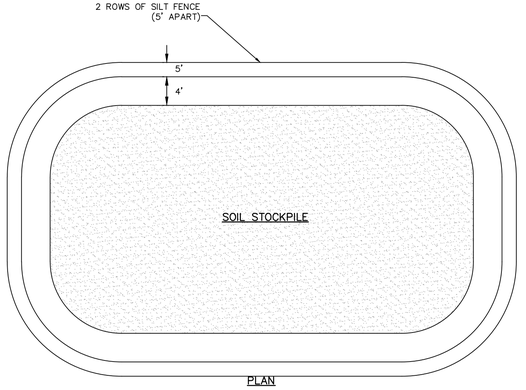
SILT FENCE
NOT TO SCALE



NOTES:

1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V: 2H.
3. EACH PILE AREA SHALL BE SURROUNDED WITH CONCRETE BLOCKS OR STRAW BALES PRIOR TO SOIL STOCKPILING.
4. EXCAVATED SOIL WILL BE PLACED ON PLASTIC SHEETING AND WILL BE COVERED WITH PLASTIC SHEETING AT THE END OF EACH WORK DAY. PLASTIC SHEETING WILL BE WRAPPED OVER THE TOP OF THE STOCKPILE AND THE CONCRETE BLOCKS OR STRAW BALES SURROUNDING THE PILE.
5. CONTRACTOR TO PROVIDE MEANS TO PROTECT BASE PLASTIC SHEETING FROM TEARING TO PREVENT TRANSFER OF CONTAMINANTS ONTO SUBGRADE AREAS. IF BASE PLASTIC SHEETING IS BREECHED, DECONTAMINATION PROCEDURES MUST BE IMPLEMENTED.

IMPACTED SOIL STOCKPILES
NOT TO SCALE

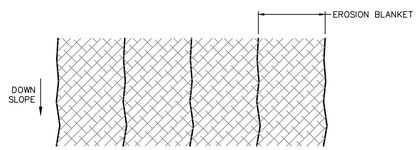


PLAN

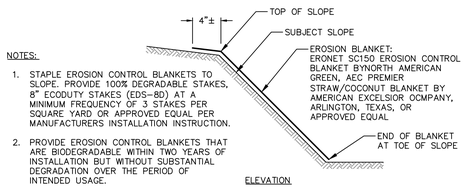
CLEAN FILL CONTAINMENT AREA
NOT TO SCALE

EROSION & SEDIMENT CONTROL NOTES

1. CONSTRUCTION STANDARDS – CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE MOST RECENT EDITION OF THE "CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL" (BY THE COUNCIL ON SOIL AND WATER CONSERVATION IN COLLABORATION WITH CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION). ALL MEASURES SHALL BE MAINTAINED AND UPGRADED TO ACHIEVE PROPER SEDIMENT CONTROL DURING CONSTRUCTION.
2. PLAN IMPLEMENTATION – IMPLEMENT THIS EROSION AND SEDIMENT CONTROL PLAN. THIS IMPLEMENTATION INCLUDES THE INSTALLATION AND MAINTENANCE OF CONTROL MEASURES UNTIL PERMANENT STABILIZATION IS ACHIEVED, INFORMING ALL SUBCONTRACTORS OF THE REQUIREMENTS AND OBJECTIVES OF THE PLAN, AND NOTIFYING THE PROPER MUNICIPAL AGENCY OF ANY TRANSFER OF THIS RESPONSIBILITY. THE OWNER SHALL BE RESPONSIBLE FOR CONVEYING A COPY OF THE EROSION AND SEDIMENT CONTROL PLAN TO THE NEW OWNER IF THE TITLE OF THE LAND IS TRANSFERRED PRIOR TO ACHIEVING PERMANENT STABILIZATION.
3. INSTALLATION SCHEDULE – INSTALL THE CONSTRUCTION ENTRANCE BEFORE CONSTRUCTION TRAFFIC INTO AND OUT OF THE PROJECT AREA BEGINS. INSTALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO STUMP REMOVAL AND CONSTRUCTION. INSTALL ADDITIONAL CONTROL MEASURES DURING THE CONSTRUCTION PERIOD, IF DEEMED NECESSARY BY THE OWNER, HIS AGENTS OR AGENTS OF THE MUNICIPALITY.
4. FUGITIVE DUST – CONTROL FUGITIVE DUST USING WATER SPRAYS ON SOIL SURFACES, SWEEPING PAVED AREAS, TEMPORARY WINDBREAKS OR NON-ASPHALTIC SOIL TACKIFIERS.
5. STRAW BALE LIFE SPAN – INSTALL STRAW BALES WHERE PROTECTION AND EFFECTIVENESS IS REQUIRED FOR LESS THAN 90 DAYS. OTHERWISE, INSTALL SILT FENCE.
6. STOCKPILES – ENCIRCLE STOCKPILES OF ERODIBLE SOIL WITH A STRAW BALE OR SILT FENCE BARRIER. THE SIDE SLOPES OF ERODIBLE STOCKPILED MATERIAL SHALL BE NO STEEPER THAN 2:1. STOCKPILES THAT ARE NOT TO BE USED WITHIN 14 DAYS SHALL BE SEEDED AND MULCHED IMMEDIATELY AFTER THEY ARE FORMED.
7. TOE OF SLOPE – ESTABLISH AN EROSION CONTROL BARRIER (SILT FENCE OR STRAW BALE BARRIER) APPROXIMATELY 5 TO 10 FEET FROM THE PROPOSED TOE OF THE CUT OR FILL AREA PRIOR TO BEGINNING EARTHWORK.
8. SEDIMENT REMOVAL – SEDIMENT REACHING ½ THE HEIGHT OF THE EROSION CONTROL BARRIER SHALL BE REMOVED. REMOVE AND DISPOSE OF SEDIMENT IN A MANNER CONSISTENT WITH THE INTENT OF THE PLAN.
9. SOIL STABILIZATION SCHEDULE – APPLY PERMANENT SOIL STABILIZATION MEASURES TO ALL GRADED AREAS WITHIN 7 DAYS OF ESTABLISHING FINAL GRADE. APPLY TEMPORARY SOIL STABILIZATION MEASURES IF FINAL GRADING IS TO BE DELAYED MORE THAN 14 DAYS.
10. TEMPORARY SEEDING – TEMPORARILY SEED ERODIBLE SOILS THAT WILL BE EXPOSED GREATER THAN 1 BUT LESS THAN 12 MONTHS WITHIN THE FIRST 7 DAYS OF SUSPENDING GRADING OPERATIONS. APPLY LIME AT A RATE OF 90 LBS/1000 SQ. FT. APPLY 10-10-10 FERTILIZER AT A RATE OF 7 ½ LBS/1000 SQ. FT. APPLY PERENNIAL RYE GRASS AT A RATE OF 2 LBS/1000 SQ. FT. TO A DEPTH OF ½ INCH. OPTIMUM SEEDING DATES ARE MARCH 15 TO JULY 1 AND AUGUST 1 TO OCTOBER 15. MULCH FOR SEED APPLIED WITHIN THE OPTIMUM SEEDING DATES SHALL BE APPLIED EVENLY SUCH THAT IT PROVIDES 80%-95% SOIL COVERAGE. MULCH FOR SEED APPLIED OUTSIDE OF THE OPTIMUM SEEDING DATES SHALL BE APPLIED EVENLY SUCH THAT IT PROVIDES 95%-100% COVERAGE.
11. INSPECTION – THE OWNER SHALL SECURE THE SERVICES OF A QUALIFIED SOIL AND EROSION CONTROL PROFESSIONAL OR QUALIFIED PROFESSIONAL ENGINEER TO VERIFY IN THE FIELD THAT THE CONTROLS REQUIRED BY THIS PLAN ARE PROPERLY INSTALLED AND MAINTAINED. THESE INSPECTIONS SHALL BE NOT LESS FREQUENTLY THAN WEEKLY AND WITHIN 24 HOURS OF THE END OF A STORM HAVING A RAINFALL AMOUNT OF 0.5 INCH OR GREATER. FOLLOWING THESE INSPECTIONS, A WRITTEN REPORT SHALL BE PREPARED, INFORMING THE OWNER OR HIS AGENT NOT LESS FREQUENTLY THAN WEEKLY AND THE MUNICIPALITY NOT LESS FREQUENTLY THAN MONTHLY OF OBSERVATIONS, MAINTENANCE, AND CORRECTIVE ACTIVITIES UNDERTAKEN.



PLAN

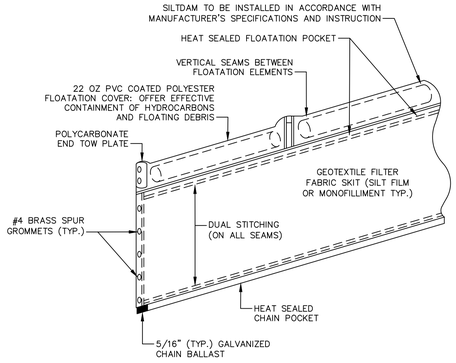


NOTES:

1. STAPLE EROSION CONTROL BLANKETS TO SLOPE. PROVIDE 100% DEGRADABLE STAKES, 8" ECODUTY STAKES (EDS-8D) AT A MINIMUM FREQUENCY OF 3 STAKES PER SQUARE YARD OR APPROVED EQUAL PER MANUFACTURERS INSTALLATION INSTRUCTION.
2. PROVIDE EROSION CONTROL BLANKETS THAT ARE BIODEGRADABLE WITHIN TWO YEARS OF INSTALLATION BUT WITHOUT SUBSTANTIAL DEGRADATION OVER THE PERIOD OF INTENDED USAGE.

ELEVATION

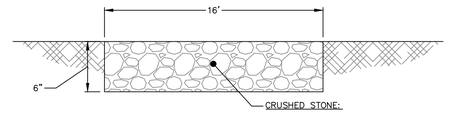
TEMPORARY EROSION CONTROL BLANKET
NOT TO SCALE



NOTES:

1. FLOATATION SIZE (6", 8" OR 12" DIA.) DETERMINED BY SKIRT DEPTH/SITE VARIABLES.
2. OTHER END TYPES AVAILABLE SUCH AS ALUMINUM UNIVERSAL SLIDE OR SLOTTED TUBE.
3. OPTIONAL TOP TENSION CABLE (5/16" TYP.) AVAILABLE FOR INCREASED STRENGTH.

SILTDAM FLOATING TURBIDITY BARRIER
NOT TO SCALE

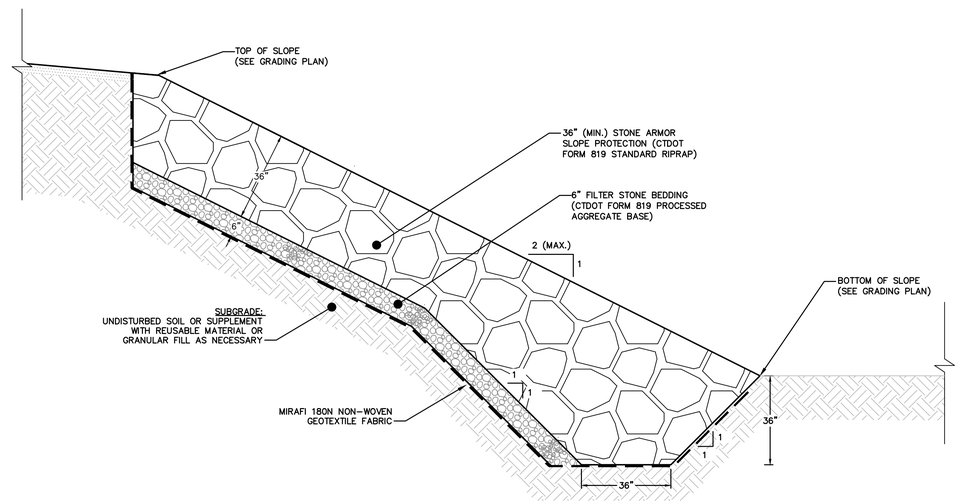


1-1/4" (CTDOT FORM 819 M.01.02, NO. 4)

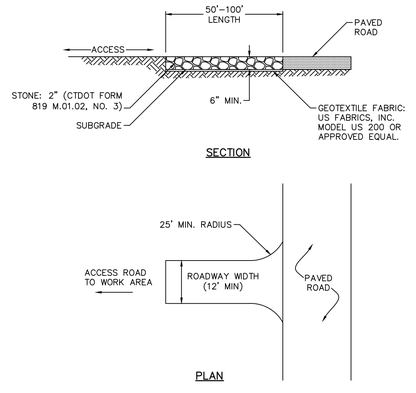
OR

2" (CTDOT FORM 819 M.01.02, NO. 3)

ACCESS ROAD
NOT TO SCALE



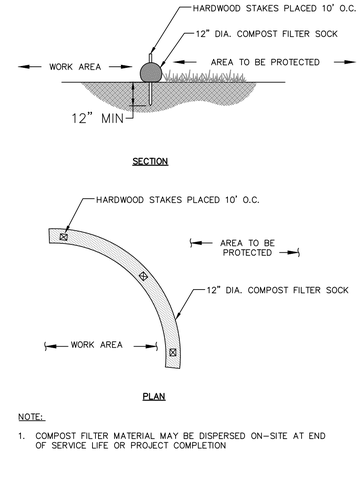
BANK STABILIZATION
NOT TO SCALE



SECTION

PLAN

CONSTRUCTION ENTRANCE
NOT TO SCALE



SECTION

PLAN

NOTE:

1. COMPOST FILTER MATERIAL MAY BE DISPERSED ON-SITE AT END OF SERVICE LIFE OR PROJECT COMPLETION

COMPOST FILTER SOCK
NOT TO SCALE

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: VERT.:
DATUM: HORZ.: VERT.:

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT

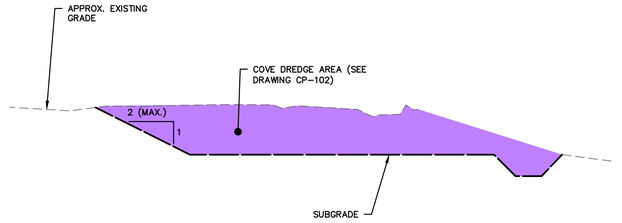
CONSTRUCTION DETAILS

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

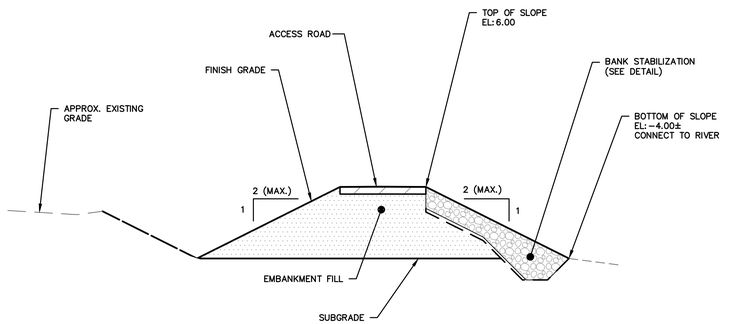
PROJ. No.: 20170277.S10
DATE: JULY 2025

CD-501

File: J:\DWG\P2017\20277\S10\Civil\Plan\20170277S10_DET01.dwg Layout: CD-501 Plotted: 2025-07-24 2:47 PM Saved: 2025-07-24 2:30 PM User: Daniel.Chiburis
PC3; AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB
LAYER STATE:
MS VIEW:



1 TEMPORARY STONE BERM PHASE 1
SCALE: 1"=10'



2 TEMPORARY STONE BERM PHASE 2
SCALE: 1"=10'

FOR PERMIT ONLY

No.	DATE	DESCRIPTION	DESIGNER	REVIEWER

SEAL

SCALE: HORZ.: AS NOTED VERT.:
DATUM: HORZ.: - VERT.: -

FUSS & O'NEILL
ONE FINANCIAL PLAZA, 15th FLOOR
HARTFORD, CT 06103
860.646.2469
www.fando.com

RIVERFRONT LAND DEVELOPMENT PROJECT

CONSTRUCTION DETAILS

RIVERFRONT RECAPTURE, INC.
228 LIEBERT ROAD, HARTFORD, CONNECTICUT
100 MEADOW ROAD, WINDSOR, CONNECTICUT

PROJ. No.: 20170277.S10
DATE: JULY 2025

CD-502

File: J:\DWG\P2017\0277\S10\Civil\Plan\New Park Phase 2B\20170277S10_GRD01 - Phase 2B.dwg Layout: CD-502 Plotted: 2025-07-24 2:47 PM Saved: 2025-07-24 10:35 AM User: Daniel.Chiburis
MS VIEW: LAYER STATE: PC3: AUTOCAD PDF (GENERAL DOCUMENTATION).PC3 STB/CTB: FO.STB

Appendix E

Notice of Termination Form

Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities

Notice of Termination Form: Non-Solar Projects

This Notice serves as a request to terminate the below listed permit as well as any applicable Letter(s) of Credit.

Part I: Permittee Information

The below information is required in accordance with Section 6(b) of the General Permit.

1. Permit Number: GSN _____
2. Registrant: _____
3. Site Address: _____

   City/Town: _____ State: _____ Zip Code: _____
4. Date of completion of construction: _____

   Date all storm drainage structures were cleared of construction sediment and debris: _____

   Beginning and Ending Dates of post-construction inspections: _____

   Date of final stabilization inspection(s)*: _____

   Qualified Inspector who conducted the Final Stabilization Inspection: (This person must sign Part III) _____
5. Check the post-construction activity(ies)** at the site (check all that apply):

   ☐ Industrial ☐ Residential ☐ Capped Landfill

   ☐ Commercial ☐ Solar Array ☐ Other: _____

* The Final Stabilization Inspection must occur at least one full growing season after final stabilization has been achieved. A full growing season is defined as the timeframe encompassed by two consecutive full seeding seasons: April 1 through June 15, and August 15 through October 1. If final stabilization is achieved during a seeding season, the following seeding season will be considered the first full seeding season after final stabilization has been achieved.

** If the post-construction activity involves solar arrays, the Department may require that the "Solar Projects: Notice of Termination Form" be used. Any questions regarding the necessity of such a form for the project can be sent via email to DEEP.StormwaterStaff@ct.gov.

Locally Approvable Projects Must Complete the following Part II - *(Attach additional sheets as needed)*

Part II: Locally Approvable Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(i) of the General Permit.

Certification by a Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional / District Representative

"I hereby certify that I am a qualified professional engineer / a qualified soil erosion and sediment control professional / a representative of the District in which the site is located as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional / Representative of the District	Date
Printed Name of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional / Representative of the District	Title

Check off the qualifications of the signatory of the above part:

☐ Qualified Professional Engineer ☐ Qualified Soil Erosion and Sediment Control Professional ☐ Representative of the District

Locally Exempt Projects Must Complete the following Part II - *(Attach additional sheets as needed)*

Part II: Locally Exempt Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(ii) of the General Permit.

Certification by a Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional

"I hereby certify that I am a qualified professional engineer / a qualified soil erosion and sediment control professional as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional	Date
Printed Name of Qualified Professional Engineer / Qualified Soil Erosion and Sediment Control Professional	Title

Check off the qualifications of the signatory of the above part:

☐ Qualified Professional Engineer ☐ Qualified Soil Erosion and Sediment Control Professional

State Agency Projects Must Complete the following Part II - (Attach additional sheets as needed)

Part II: State Agency Post-Construction Inspection Certification

The below information is required in accordance with Section 5(b)(4)(C)(iii) of the General Permit.

Certification by a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency

"I hereby certify that I am a DOT District Engineer or his/her designee / a DOT District Environmental Coordinator / a designated employee of another state agency as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that all post-construction measures have been installed as specified in the permittee's Stormwater Pollution Control Plan and in accordance with Section 5(b)(2)(C) of the general permit and that all such measures have been cleaned of construction sediment and debris. I understand that this certification is part of a registration submitted in accordance with section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature	Date
Printed Name	Title

Check off the qualifications of the signatory of the above part:

☐ Qualified Professional Engineer ☐ Qualified Soil Erosion and Sediment Control Professional ☐ Representative of the District

All Projects Must Complete the following Part III - *(Attach additional sheets as needed)*

Part III: Final Stabilization Inspection Certification

The below information is required in accordance with Section 5(b)(4)(D) of the General Permit.

Certification by a Qualified Inspector

"I hereby certify that I am a qualified inspector as defined in Section 2 of the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (general permit). I am familiar with the site described in this Notice of Termination and the requirements of the general permit. I certify, based on my personal inspection of the site pursuant to Section 6(a) of the general permit that the site has been stabilized, as defined in Section 2 of the general permit, for a period of no less than one full growing season following the cessation of construction activities. I further certify that there is no active erosion or sedimentation present on site and no disturbed areas remain exposed. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Qualified Inspector	Date
Printed Name of Qualified Inspector	Title

All Projects Must Complete the following Part IV - *(Attach additional sheets as needed)*

Part IV: Permittee Certification

The below information is required in accordance with Section 5(b)(4)(D) of the General Permit.

Certification by the Permittee

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Signature of Permittee	Date
Printed Name of Permittee	Title

All Projects Must Complete the following Part V - *(Attach additional documentation as needed)*

Part V: Additional Submittals

The following attachments are required to be submitted along with the Notice of Termination Form:

☐ Post-Construction Inspection Report (must contain photos with time stamps)

☐ Final Stabilization Inspection Report (must contain photos with time stamps)

Complete and submit this form in accordance with the general permit (DEEP-WPED-GP-015) to ensure the proper handling of the termination. Print or type unless otherwise noted.

Submit this Notice of Termination Form to the address below, as well as via email to DEEP.StormwaterStaff@ct.gov:

WATER PERMITTING AND ENFORCEMENT DIVISION/STORMWATER GROUP
DEPARTMENT OF ENERGY & ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

Appendix F

Sedimentation and Erosion Control Inspection Report Form

SEDIMENTATION AND EROSION CONTROL INSPECTION REPORT

RIVERFRONT RECAPTURE

100 MEADOW ROAD,

WINDSOR CT

SITE #_____

INSPECTION INFORMATION		**WEATHER INFORMATION**	
DATE:		CURRENT FORCAST:	
QUALIFIED INSPECTOR:		DATE OF LAST RAIN EVENT:	
RAIN EVENT	☐	AMOUNT OF LAST RAIN EVENT:	
WEEKLY	☐		
SPECIAL	☐		

GENERAL PROJECT COMPLIANCE

APPROXIMATE CURRENT ACRES DISTURBED:		DUST CONTROL MEASURES ESTABLISHED:	Y / N
CONSTRUCTION ENTRANCE INSTALLED:	Y / N	SILT FENCE INSTALLED & FUNCTIONAL:	Y / N
WASHOUT AREA ESTABLISHED:	Y / N	INLET PROTECTION INSTALLED & FUNCTIONAL:	Y / N
WASTE DISPOSAL AREA ESTABLISHED:	Y / N	ALL OTHER E&S CONTROLS INSTALLED & FUNCTIONAL:	Y / N
IN-ACTIVE AREAS STABILIZED:	Y / N	STORMWATER DISCHARGE OBSERVED:	Y / N
DESCRIPTION OF STORMWATER DISCHARGE:			

DISTRIBUTION:

In my judgment the site is **in / out of** compliance with the terms and conditions of the Stormwater Pollution Control Plan and permit.

_____ _____

Signature of Qualified Inspector Date

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with section 22a-6 of the Connecticut General Statutes, pursuant to section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

_____ _____

Signature of Permittee/Authorized Representative Date

ITEMS NOTED IN THIS INSPECTION:
List specific items relating to erosion & sediment controls, implementation of the plan, description of stormwater discharges, and any water quality monitoring performed during the inspection.

ITEM #	ITEM NOTED	DESCRIPTION OF DEFICENCY	REMEDIAL ACTIONS REQUIRED	IN COMPLIANCE	DATE NOTED	CURRENT STATUS

ITEMS NOTED IN THIS INSPECTION:
**Note: The item numbers listed above correspond to the circled numbering on the attached reference map.

ADDITIONAL COMMENTS OR NOTES:

Appendix G

National Diversity Data Base Map and Determination Letter

Natural Diversity Data Base Areas

HARTFORD, CT

December 2024

- State and Federal Listed Species
- Critical Habitat
- Town Boundary

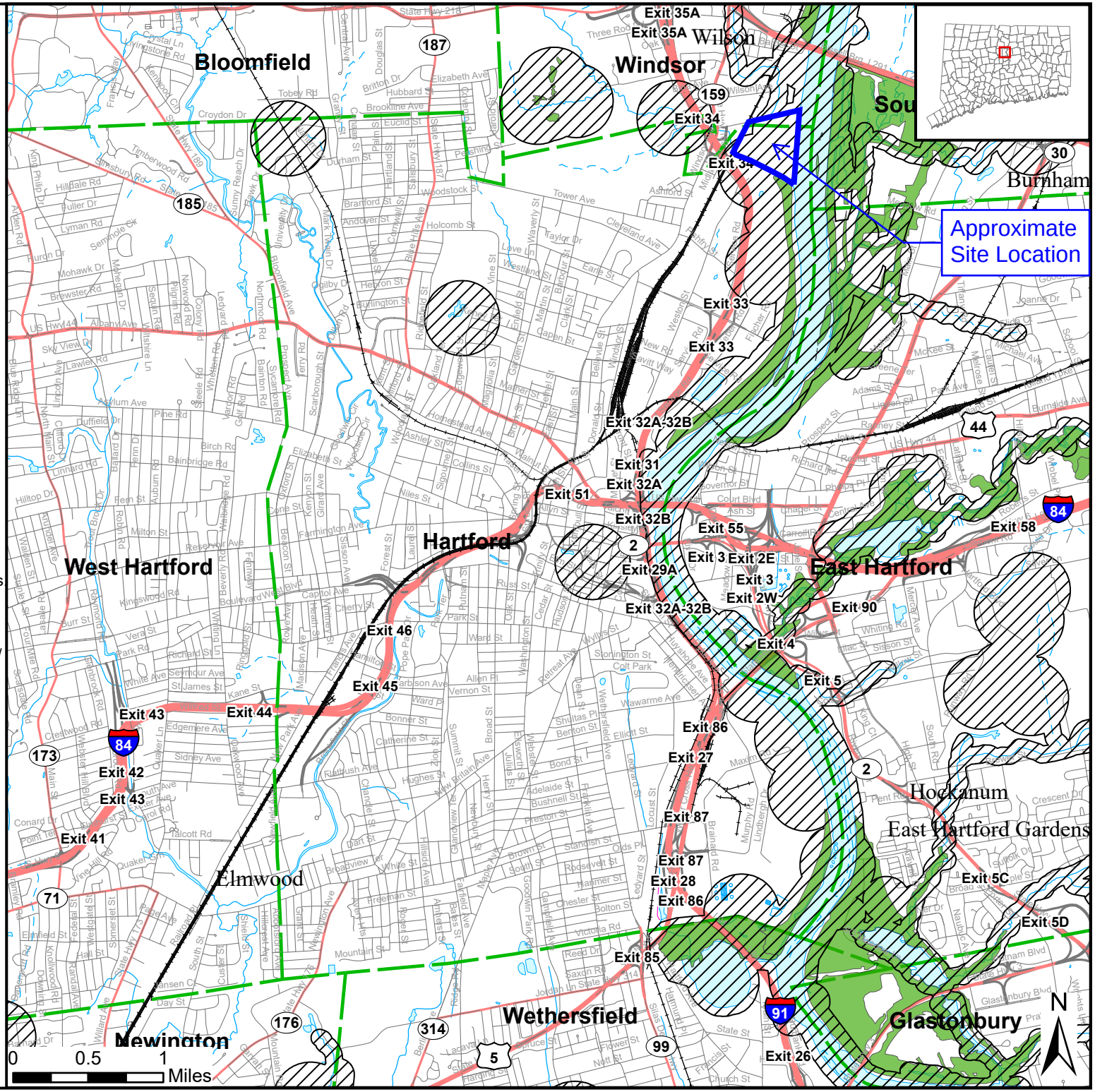
NOTE: This map shows known locations of State and Federal Listed Species and Critical Habitats. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a variety of data sources . Exact locations of species have been buffered to produce the generalized locations.

This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas If the project is within a hatched area there may be a potential conflict with a listed species. For more information, use DEEP ezFile https://filings.deep.ct.gov/DEEPPortal/ to submit a Request for Natural Diversity Data Base State Listed Species Review or Site Assessment. More detailed instructions are provided along with the request form on our website. https://portal.ct.gov/deep-nddbrequest

Use the CTECO Interactive Map Viewers at http://cteco.uconn.edu to more precisely search for and locate a site and to view aerial imagery with NDDB Areas.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St, Hartford, CT 06106
email: deep.nddbrequest@ct.gov
Phone: (860) 424-3011

Connecticut Department of Energy & Environmental Protection



RECEIVED by Fuss & O'Neill, Inc. 5/12/2025

Determination numbers for this letter were subsequently received 5/14/2025

NDDB Determination #202308189
Riverfront Land, Inc. Property

NDDB Determination #202308190
Windsor Meadows State Park Property

May 12, 2025

Peyton Debowsky
Fuss and O'Neil, Inc.
146 Hartford Rd.
Manchester, CT 06040
pdebowsky@fando.com

Project: RLI Project; A New Community Park Including a 9-acre Cove along the Connecticut River and Extension of Regional Riverwalk Trail System on 60-acres of Riverfront Property in Windsor and Hartford, Connecticut

Dear Peyton:

NDDB program staff have reviewed the Riverfront Recapture Mitigation Plan, revised plan submitted on April 24, 2025, and related materials. This is your determination letter based on that review; actions needed pursuant to that determination are outlined below.

The mitigation plan did not include the best management practices for reptiles and amphibians previously provided to Riverfront Recapture (email 02/27/2025). Updated Reptile and Amphibian Construction BMPs can be found at the end of this document and should be implemented. These are consistent with the recommendations provided by the herpetologist that you retained and will address concerns relative to these species.

The mitigation proposed for state listed plants relies on an incomplete understanding of site-specific ecological conditions and several proposed actions that are untested for the target species. This lack of data, mitigation detail, and species-specific knowledge results in greater risk for successful mitigation. Project timeframes will not allow for enough additional work to be done to gain full understanding of site conditions and fully characterize the likelihood of success for proposed mitigation actions. This is particularly critical for pygmyweed, as this is the only documented inland population and not comparable to coastal populations, and Georgia bulrush, which has only recently been re-documented in the state. As a result, the following additional measures should be implemented to help offset these factors. All plant monitoring should be conducted under the oversight of the qualified botanist responsible for plant monitoring and care. Keney Park Sustainability Program representatives may provide supervised assistance but are not to be the sole source of plant monitoring data.

- The plant monitoring protocols provided to Riverfront Recapture on 02/27/2025 should be included in the mitigation plan.
- Please develop and submit adaptive management and contingency information to DEEP. Adaptive management for multiple species includes supplemental planting and seed sowing; this is appropriate should survivorship drop due to unforeseeable circumstances such as storm damage. Additionally, contingencies such as retention of a percentage of plants in propagation must be included in the event survivorship drops due to unsuitable habitat conditions stemming from unforeseen problems with the proposed habitat conversions (e.g., soil compaction, inability to achieve similar hydrologic conditions, alteration in soil chemistry, etc.).
- References to cuttings of pygmyweed should be removed. This is impractical for this species.
- The flowering period reference for pygmyweed should be corrected to reflect mid-May rather than late June.

- Additional details on bench conditions for pygmyweed should be provided including: elevation information and a narrative describing bench construction, expected stability over time, expected hydrological regime or description of expected conditions relative to suitability for the species.
- Additional survey work is proposed for Georgia bulrush. Every effort should be made to complete these surveys, which are particularly valuable given that this species was previously believed to be extirpated in the state.
- The proposed seed collection timeframe for Georgia bulrush (by June 1) is incorrect. A contingency plan should be developed in the event the corrected seed collection timeframe is precluded by the project schedule. The proposed contingency of propagation by rhizomes may not be successful as indicated in the plan. Investigation should be completed to determine if rhizomes can be rooted.
- The hydrology and soil moisture regime range of the habitat for Georgia bulrush at the site is unknown. This species may not be able to tolerate potential extended inundation and may not be tolerant of hydric soil conditions. Those conditions should be assessed prior to translocation to the mitigation wetland or a contingency plan established to retain plants in propagation for alternate translocation.

An additional correction must be implemented. Figure 2 – "Zone 1 Riparian Buffer" indicates that these undisturbed areas immediately adjacent to existing wetlands and watercourses will remain as is with limited intervention except for invasive species management with pathways limited to cleared access without improvements. Potentially conflicting information is included in subsequent plan sections: "*Limited clearing and modification within the established riparian buffer provide access to and/or across wetlands. These access points may include, but are not limited to, grade paths, boardwalks, piers, trail pull-offs*". There should be no modifications in the Riparian Buffer.

During your work, listed species may be encountered on site. A report must be submitted by the observer to the Natural Diversity Database promptly and additional review and restrictions or conditions may be necessary to remain in compliance with certain state permits. Please fill out the appropriate survey form and follow the instructions for submittal.

If your project involves the state permit application process or other state involvement, including state funding or state agency actions, please note that consultations with your permit analyst or the agency may result in additional requirements. In this situation, additional evaluation of the proposal by the DEEP Wildlife Division may be necessary and additional information may be required. Any additional review may result in specific restrictions or conditions, beyond those detailed above, pursuant to noted permit conditions.

If your project involves preparing an Environmental Impact Assessment, this determination should not be substituted for conducting any biological field surveys assessing on-site habitat and species presence that may be required under that process.

This determination expires May 12, 2027.

Sincerely,

Justin Davis, Chief
Bureau of Natural Resources

Reptile and Amphibian Conservation Requirements

To prevent impacts to amphibians and reptiles the following conservation initiatives are recommended and outlined in Figures 1 and 2 of the Quinn Report

1. Provide a conservation buffer from the edge of the Connecticut River. This will ensure no adverse impacts to mudpuppies will occur (Figures 1 and 2). This will protect all the observed habitat for the mudpuppy, including the multiple rookery areas observed during field surveys. Within the Zones 1 and 2 protection buffers habitat enhancements for nesting turtles will be made and invasive species removal will occur. This buffer would also reduce potential impacts to leopard frogs should they be using the site in subsequent years.
2. In the construction of the 9-acre cove careful details have been included which provide and protect turtle nesting habitat and reduced to the greatest extent possible bycatch of mudpuppies by fishermen. Mudpuppies are known to be captured by fishermen, especially during the late winter and early spring months when they congregate to reproduce. It is recommended that an infographic/kiosk be created to explain what mudpuppies are and why they should be immediately released upon capture.
3. Although no listed turtles were observed using the nesting area, snapping turtles' eggs were observed. In addition, other predated turtle nests were observed and were likely those of eastern painted turtle, but it was not possible to definitively determine what species these additional predated eggs were. To ensure turtle nesting habitat isn't completely eliminated, three turtle nesting areas will be created in the Zone 1 and 2 conservation areas where the least amount of human activity occurs. It should be noted with signage, the importance of this sensitive habitat area for local wildlife populations and how human activities may have unintended impacts on wildlife utilizing these areas. Info graphics should be created in consultation with a qualified herpetologist.

It is not anticipated that impacts will occur to the mudpuppy as a result of either stream crossing as long as no instream disturbances occur during construction activities.

Construction Protective Measures:

Land disturbance activities need to consider local habitat features and apply fencing and/or time of year restrictions as appropriate. A qualified herpetologist with extensive experience in CT with these amphibians and reptiles will be required to oversee this project.

To reduce impacts to amphibians and reptiles during the construction phase of the project the following construction protection measures are required.

1. Isolation Measures

   a. Installation of exclusionary fencing (i.e., contractor grade silt fencing), should be installed as a barrier to migrating/dispersing herpetofauna, preventing them from accessing all construction and staging areas. Prior to installation, preferrable on the same day as installation, species sweeps should occur to ensure no turtles are impacted during the installation or trapped inside the exclusionary area.
   b. The intent of the barrier is to isolate the majority of the work zone from foraging/migrating/dispersing herpetofauna. Oftentimes complete isolation of a work zone is not feasible due to accessibility needs. In these circumstances all openings in the isolation barrier, used during the workday for accessibility, should be closed at the completion of each day. Temporary silt fence backed with haybales can be used but often breakdown rapidly requiring regular repair. It is recommended that more permanent structures made from plywood be constructed and used as temporary barriers. These must be sturdy, fit tight against existing exclusionary fencing, and sit flush with the ground to remain effective as barriers to dispersing wildlife.
   c. The fencing should consist of non-reinforced conventional erosion control woven fabric, installed approximately six inches below surface grade and staked at seven to ten-foot intervals using four-foot oak stakes or an approved equivalent. In areas where the silt fence cannot be buried, the fencing should be placed with an unburied flap facing away from the construction area and covered with six inches of crushed stone. The *Contractor* is responsible for daily inspections of the fencing for tears or breaches in the fabric and accumulation levels of sediment, particularly following storm events of 0.25 inch or greater. All compromised areas of silt fence must immediately be repaired. The Environmental monitor should follow-up with these daily inspections

on a weekly basis. The extent of the barrier fencing should be as shown on the site plans. The Contractor should have available additional barrier fencing should field conditions warrant extending the fencing as directed by the environmental monitor.

d. No equipment, vehicles, or construction materials should be stored outside of the exclusionary barrier fencing.

e. All barrier fencing should be removed at the completion of construction.

2. *Contractor Education*
   a. Prior to work on site, the Contractor shall attend an educational session at the preconstruction meeting with a qualified herpetologist. This orientation and educational session should consist of an introductory meeting providing photos of herpetofauna that may be encountered during construction activities, including eastern box turtles.
   b. The education session will also focus on means to discriminate between the species of concern and other native species to avoid unnecessary "false alarms". Encounters with all species will be documented by the environmental monitor.
   c. The Contractor should be provided with cell phone and email contacts for the herpetologist to immediately report any encounters with listed species, or other herpetofauna species. Educational poster materials should be provided and must be displayed on the job site to maintain worker awareness as the project progresses.
3. *Reporting*
   a. Following completion of the construction project, a summary report to the CTDEEP documenting the monitoring and maintenance of the barrier fence should be completed by the herpetologist.
   b. Any observations of state listed species must be reported to CTDEEP by a qualified herpetologist with photo-documentation and with specific information on the location and disposition of the animal at the time of observation.
4. *Monitoring*
   After the completion of the project, a monitoring report, completed by the qualified herpetologist, must be submitted to the NDDB Program for a total of 3 years. The report should include a summary of activities at the site and any changes in the composition of state-listed amphibians and reptile species observed on the project site

Recreational activities may increase incidental collection and impact nesting behavior, which both contribute to local turtle population decline. Most often turtles collected are adult females traveling to and from nesting. These turtles of reproductive age are the most valuable individuals in the population to maintain population persistence. Due to slow maturity and low reproductive success, even infrequent collection poses a long-term conservation problem.

- To avoid collection by the public, do not post signs alerting the public to the presence of this species.
- Litter from recreation can pose a choking hazard. Ensure there is a plan for how garbage will be managed.
- Work with the qualified herpetologist overseeing the project to plan your recreational area so that it minimizes the effect on this species.

Mitigation Plan

Riverfront Recapture Mitigation Plan

May 2025

228 Leibert Road
Hartford CT

Prepared For:

U.S. DOT Volpe Center
220 Binney St
Cambridge, MA 02142

Prepared By:

TRC Environmental Corporation
401 Wampanoag Trail, Suite 400
East Providence, Rhode Island 02915



Conceptual Illustration – New Community Park

TABLE OF CONTENTS

1.0 INTRODUCTION 1

2.0 REPORT FINDINGS 1

2.1 Amphibian and Reptile Survey and Habitat Assessment 2

2.2 Botanical Survey 3

2.3 Freshwater Mussel and Odonate Survey 4

2.3.1 Mussels 4

2.3.2 Odonates 4

2.4 Wetland Survey 4

3.0 MITIGATION PLANS 5

3.1 Amphibian and Reptile Survey and Habitat Mitigation Plan 5

3.1.1 Reptile and Amphibian Conservation Best Management Practices (BMPs) 7

3.2 Botanical Mitigation Plan 9

3.2.1 Conservation of Documented State-listed Plants 9

3.2.2 Pygmyweed (Crassula aquatica) 11

3.2.3 Short-awned meadow-foxtail (Alopecurus aequalis) 16

3.2.4 Cattail Sedge (Carex typhina) 19

3.2.5 Georgia Bulrush (Scripus georgianus) – Special Concern 21

3.2.6 Bristly Buttercup (Ranunculus pensylvanicus) 24

3.3 Freshwater Mussel and Odonate Mitigation Plan 24

3.3.1 Mussels 24

3.3.2 Odonates 25

3.4 Tidal Wetlands Mitigation Plan 25

3.5 Inland Wetland Mitigation Plan 26

4.0 SUMMARY 28

TABLE OF FIGURES

Figure 1 - Existing Conditions Map 2

Figure 2 - Habitat Initiatives Map 6

Figure 3 - Proposed Development Map 28

TABLES

Table 1: State-Listed Species and Their Category Found During Survey. 3

1.0 Introduction

Riverfront Land Inc. LLC, (RLI), a Riverfront Recapture, Inc. company, is working to revitalize a riverfront property along the Connecticut River at 100 Meadow Road in the City of Windsor and 228 Leibert Road in the City of Hartford, Connecticut (Site). This 60-acre parcel owned by RLI, along with 16-acres leased from the State of Connecticut Department of Energy and Environmental Protection (DEEP) Parks Division (76-acres total), will be developed into a community park, interconnected trails, recreational facilities, and a commercial area. The overall goal of this project is to help bring park and recreational facilities to a traditionally underserved community.

To facilitate this revitalization of this 76-acre property, RLI will conduct reclamation activities such as removing and/or capping contaminated fill. RLI will also dredge the small tidal wetland off the Connecticut River to create the larger Garmany Cove and regrade much of the site. Initial review the CT Natural Diversity Data Base (NDDB) indicated that the habitat of endangered, threatened, and/or special concern species overlapped the property; therefore, rare species reports were commissioned to ascertain what, if any, rare plant or animal species may be present on the property so that proper management and mitigation practices can be implemented during project development. Two wetland delineations were also completed on this property to ascertain the size of the current wetlands so that appropriate wetland replacement is achieved during the development of the property.

This report presents a general synopsis of the four mitigation and management reports for this RLI development project. This report summarizes the "Tidal Wetland Delineation Report" completed by TRC Environmental Corporation (TRC); the "Rare Species Management Plan: Freshwater Mussel and Odonate Management Plans" completed by Biodrawversity LLC (Biodrawversity); the "Amphibian and Reptile Habitat Assessment and Species Protection Recommendations" by Quinn Ecological LLC (Quinn); and the "Report on a Botanical Survey" by Chirstopher Mangels (Mangels). This report is also intended to serve as a comprehensive management plan that will encompass the recommendations from aforementioned reports, as well as additional recommendations from Riverfront Recapture, Inc. (RRI), the U.S. Environmental Protection Agency (EPA), the State of Connecticut - Department of Energy & Environmental Protection (DEEP) and the U.S. Department of Transportation (DOT) Volpe Center.

2.0 Report Findings

The following sections provide summaries of the findings of the three rare and protected species reports as well as the findings from the Tidal Wetland Delineation report. Figure 1 includes a representation of the existing conditions and the report findings.

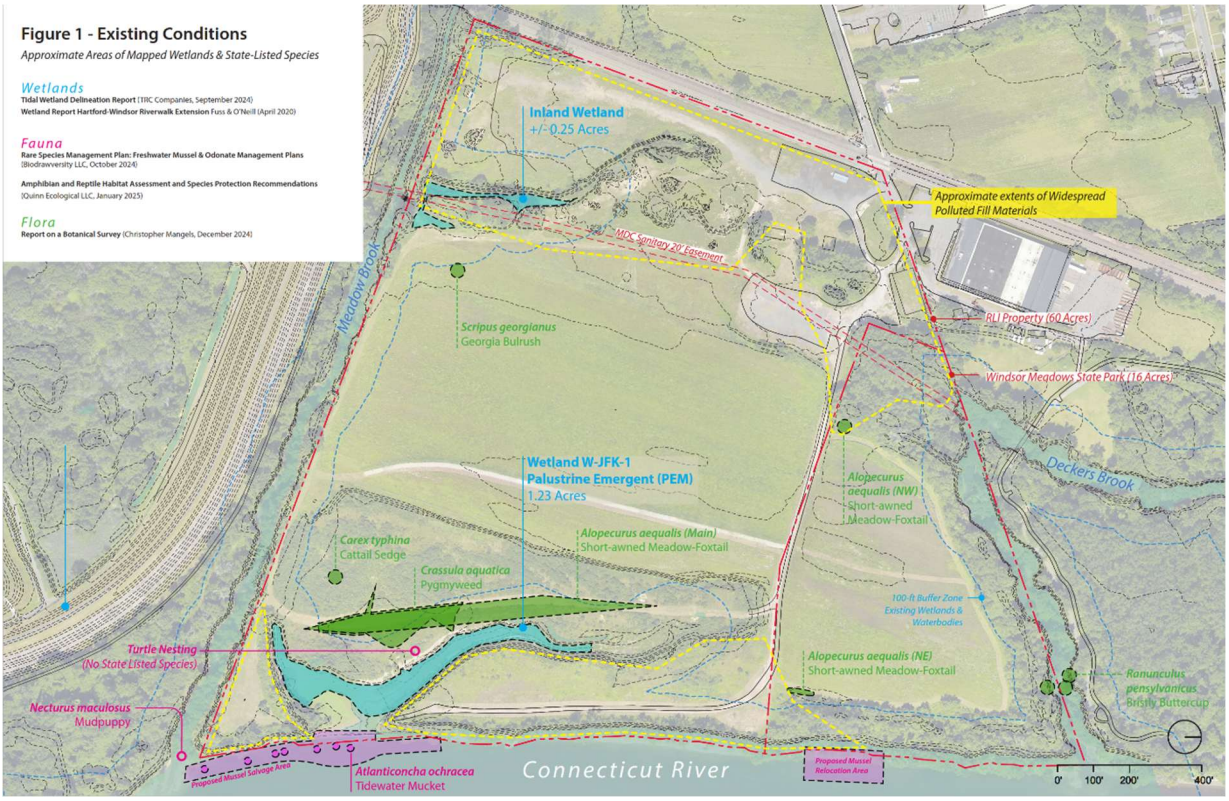


Figure 1 - Existing Conditions Map

2.1 Amphibian and Reptile Survey and Habitat Assessment

Quinn completed a Herpetological survey over five field visits between July and August 2024. Only one State-listed species was documented during the field survey, the Common Mudpuppy.

(*Necturus maculosus*). The mudpuppy is the only fully aquatic salamander species in Connecticut. One juvenile mudpuppy was observed just north of the confluence of Meadow Brook within the Connecticut River. The species is known to have breeding congregations at river confluences within the Connecticut River according to Quinns report.

Although the subject property is within the habitat for the eastern box turtle (*Terrapene carolina carolina*), wood turtle (*Glyptemys insculpta),* and the Atlantic coast leopard frog (*Lithobates* [*Rana*] *kauffeldi*), neither was observed during the field surveys. However, site conditions (tall vegetation), timing of the surveys, and seasonal variability in movement patterns leave open the possibility that these species may be present.

The eastern box turtle is a fully terrestrial turtle and tends to avoid flood plains, and alluvial floodplain habitat, making the majority of the site generally undesirable for the turtle. Although the turtle has been documented to the north and east of the subject property, those observations were recorded

outside of the floodplain habitat, in terrestrial habitats on the other side of the Connecticut River. Wood turtles are both aquatic and terrestrial at different times of the year. Their habitats include rivers, large streams and riparian forests (adjacent to rivers). Wood turtles prefer terrestrial habitat that is usually within 1,000 feet of a suitable stream or river. Preferred stream conditions include moderate flow, sandy or gravelly bottoms, and muddy banks.

The Atlantic coast leopard frog is known to the north and east of the subject site. This species is wide-ranging along riparian corridors and has a variable seasonal and annual habitat use. However, it prefers riparian floodplain areas for both reproduction and foraging activities.

2.2 Botanical Survey

Mangles conducted nine field visits between June and August 2024 to survey and document State-listed species on the project site, specifically seeking to determine the locations and population size of the Davis' Sedge (*Carex davisii*), Tuckerman's sedge (*Carex tuckermanii*), Cattail sedge (*Carex typhina*), Wiegand's wild-rye (*Elymus wiegandii*), Hoary plantain (*Plantago virginica*), and the Northern arrowhead (*Sagittaria cuneata*).

During the site visits, Mangles only documented one of the six above mentioned species, the cattail sedge. However, four other State-listed species were documented during the survey (Table 1). Their locations are depicted on Figure 1.

Table 1: State-Listed Species and Their Category Found During Survey.

Common Name	Species Name	State Category
Pygmyweed	*Crassula aquatica*	Endangered
Short-awned meadow-foxtail	*Alopecurus aequalis*	Threatened
Bristly buttercup	*Ranunculus pensylvanicus*	Special Concern
Cattail sedge	*Carex typhina*	Special Concern
Georgia bulrush	*Scirpus georgianus*	Special Concern (believed extirpated)

Along with the State-listed vegetation, Mangles estimated that 35% of the flora is comprised of non-native or "alien" species, some of which are considered highly invasive, and their possible spread will be mitigated during site development.

It is possible that additional State-listed Spring ephemerals, early maturing flora, or very late maturing flora could be present on the property but were not observed due to the timing of the surveys.

2.3 Freshwater Mussel and Odonate Survey

Biodrawversity completed two site surveys and habitat assessments in May of 2021. Preliminary assessment by Connecticut's Natural Diversity Database (NDDB #202308189) identified State-listed mussels and odonates that may be affected by aquatic, riverbank, or riparian disturbances associated with this project. These included yellow lampmussel (*Lampsilis cariosa*), tidewater mucket (*Atlanticoncha ochracea*), riverine clubtail (*Stylurus amnicola*), midland clubtail (*Gomphus fraternus*), and the American rubyspot (*Hetaerina americana*).

2.3.1 ***Mussels***

During the survey, a few eastern floater mussels (*Pyganodon cataracta*), were found along the edges of the tidal wetland and seven tidewater muckets were found downstream of the tidal wetland inlet along the Connecticut River shoreline. Triangle floater (*Alasmidonta undulata*), alewife floater (*Anodonta implicata*), eastern lampmussel (*Lampsilis radiata*), and eastern elliptio (*Elliptio complanata*) were also found during the survey. Biodrawversity assessed the different mussel habitats and found that the edge of the tidal wetland provided a marginal habitat for the most tolerant lentic mussels, the instream habitat in the Connecticut River was suitable for the State-listed species, and the tributary streams Deckers Brook and Meadow Brook do not provide mussel habitat for the State-listed species.

2.3.2 ***Odonates***

The tidal wetland is not considered a suitable larval habitat for the three targeted State-listed odonate species that all prefer flowing water. The aquatic habitat along the Connecticut River is suitable for all three riverine odonates, the riverbank is suitable for enclosure and emergence, and the nearby upland habitat is suitable for terrestrial adults. Deckers Brook and Meadow Brook do not provide suitable habitat for the State-listed species

2.4 Wetland Survey

As part of the revitalization of the property, RLI is increasing the size and depth of the small tidal inlet off the Connecticut River into the larger Garmany Cove. The current inlet, which is primarily composed of a tidal wetland, will be increased in size by excavation and dredging activities. During the construction of the new cove, DEEP has requested that RLI replace the tidal wetland with three times the lost area. In the southeast corner of the property, there was also an additional inland wetland delineated which will be affected by the excavation and capping of contaminated soil (urban fill) and regrading of the subject property, which will also need to be replaced.

In September of 2024, TRC conducted a tidal wetlands delineation to ascertain the size of the wetlands in order to incorporate the required replacement acreage into the design of Garmany Cove. During the delineation, it was determined that there are 1.23 acres of tidal wetland in the tidal inlet on the subject property. During an earlier planning phase of this project, the inland wetland was

mapped by Fuss & O'Neill in May of 2020. During this delineation, it was calculated that this wetland was roughly 0.23 acres in size.

3.0 Mitigation Plans

Each of the three rare and protected species reports included mitigation and protection plans that will be considered during the site development and which helped establish the 2 habitat zones: Zone 1 – Riparian Buffer, and Zone 2 – Habitat Restoration & Enhancement (Figure 2).

One main theme that all the mitigation reports share is educating the public about the rare and protected species that could be encountered in and around the park. Information kiosks will be established around the park to inform the public about ways to help protect wildlife. Informational signage will be installed advising the public that the collection of turtles is prohibited, in accordance with applicable state wildlife protection regulations. Additionally, signage will also identify areas where fishing is not permitted, and it will include instructions on releasing mudpuppies that have been unintentionally caught by anglers. Please refer to "RR Future Park Sequencing" for accompanying figures for each phase of the mitigation effort, which can be found in Appendix A.

3.1 Amphibian and Reptile Survey and Habitat Mitigation Plan

Quinn's amphibian and reptile rare and protected species mitigation plan considers species that were documented during the survey but also considered species that are likely to use the riparian, cove, wetland, and upland habitat that is being created.

Quinn lists four State-listed species for this site, as follows: the mudpuppy, eastern box turtle, wood turtle and the Atlantic coast leopard frog. Of these, only the mudpuppy was observed during the survey, however, Quinn suggested three habitat mitigations to be considered during the development of the property.

The mudpuppy prefers to congregate at large rocky river confluences for reproduction, laying egg clusters under rocks. This species will also use slower moving tributaries for foraging. During the reproductive season, fishermen have been known to inadvertently catch mudpuppies. To facilitate the protection of the Common Mudpuppy's reproductive habitat and support population stability, larger rocky areas away from human activity will be established at the confluence of Garmany Cove and the Connecticut River. Larger rock piles that might attract breeding mudpuppies will be avoided in areas where fishing is likely to take place. A 100-foot restricted use/access buffer from the river and breeding areas will be established to facilitate the protection of the breeding and foraging areas.

During the survey, no turtles were observed in identified nesting areas, however snapping turtle (*Chelydra serpentina*) eggs were observed. In addition, other predated turtle nests were observed, possibly belonging to the eastern painted turtle (*Chrysemys picta picta*). Unfortunately, a definite species determination of the predated turtle nests and eggs could not be made. While the snapping turtle and the eastern painted turtle is not State-listed species. Habitat areas and turtle nesting areas

will be established in different areas around the proposed Garmany Cove away from human activity and marked on the map as such. 5ft lengths of herbivory fencing will be set up to prevent browsing of planted flora in sectioned habitats and relative enclosures. A portion of the property above the floodplain elevation will also be established as a nesting location for the eastern box turtle and wood turtle. This area will be established away from normal park activities. A conservation activity that has been suggested during the mitigation planning meetings is the development and integration of posts that can accommodate temporary fencing. The proposed fencing will be a minimum of 24in continuous from the ground and in place between May 15- September 15 in accordance with DEEP NDDB fencing guidance. The fencing will further protect the State-

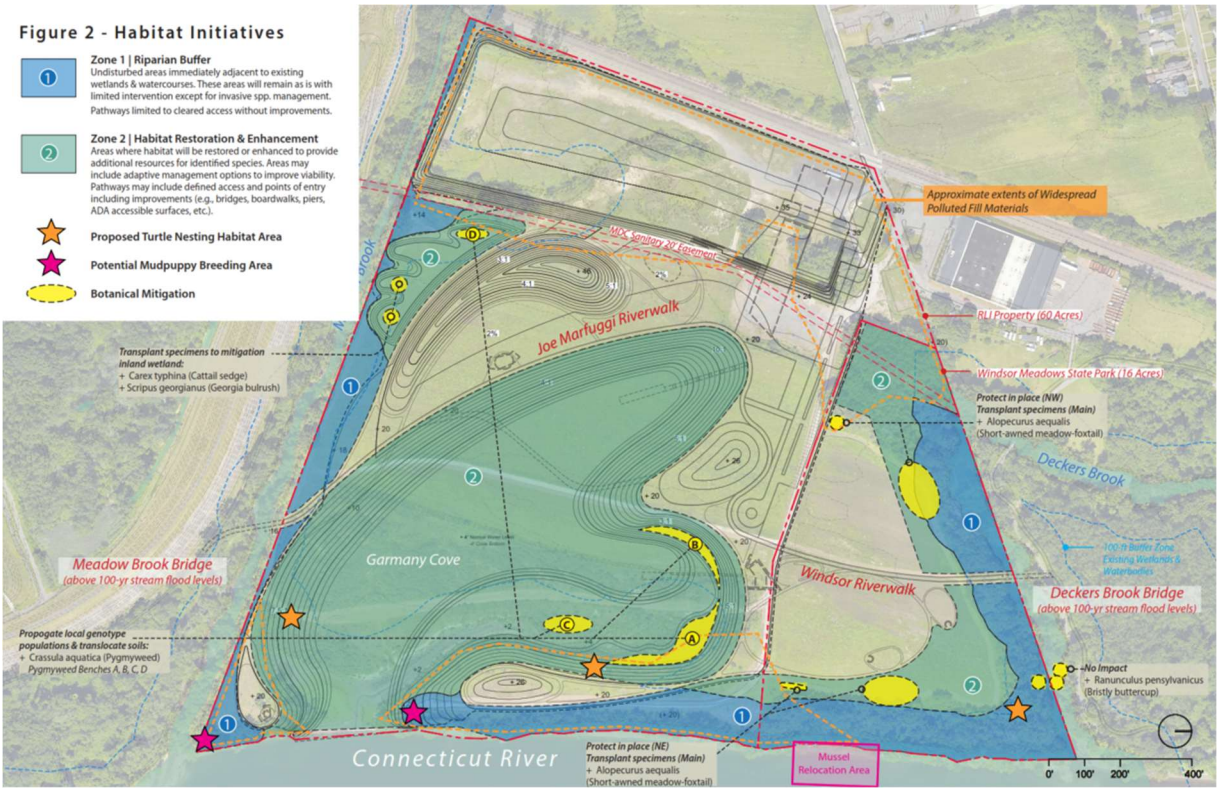


Figure 2 - Habitat Initiatives Map

listed species from inadvertent human interference and unleased pet encounters. In addition, park visitors will be required to keep dogs on leash in the park and signs with biodiversity information and potential for negative impacts on the restoration efforts will be posted in ecologically sensitive areas. Once final design plans have been developed, DEEP NDDB will provide construction BMPs. The bridges over Deckers Brook and Meadow Brook are designed to not interfere with the banks. Other than clearing upland vegetation to reach the top of the bank, no disturbance is planned along the banks of either brook. BMPs will be observed to make sure that any construction activity does not adversely affect the bank areas.

3.1.1 Reptile and Amphibian Conservation Best Management Practices (BMPs)

Land disturbance activities need to consider local habitat features and apply fencing and/or time of year restrictions as appropriate. A qualified herpetologist with extensive experience in CT with these amphibians and reptiles will be required to oversee this project.

To reduce impacts on amphibians and reptiles during the construction phase of the project the following construction protection measures are required.

1) Isolation Measures
    a) Installation of exclusionary fencing (i.e., contractor grade silt fencing), should be installed as a barrier to migrating/dispersing herpetofauna, preventing them from accessing all construction and staging areas. Prior to installation, preferrable on the same day as installation, species sweeps should occur to ensure no turtles are impacted during the installation or trapped inside the exclusionary area.
    b) The intent of the barrier is to isolate the majority of the work zone from foraging/migrating/dispersing herpetofauna. Oftentimes complete isolation of a work zone is not feasible due to accessibility needs. In these circumstances all openings in the isolation barrier, used during the workday for accessibility, should be closed at the completion of each day. Temporary silt fence backed with haybales can be used but often breakdown rapidly requiring regular repair. It is recommended that more permanent structures made from plywood be constructed and used as temporary barriers. These must be sturdy, fit tight against existing exclusionary fencing, and sit flush with the ground to remain effective as barriers to dispersing wildlife.
    c) The fencing should consist of non-reinforced conventional erosion control woven fabric, installed approximately six inches below surface grade and staked at seven to ten-foot intervals using four-foot oak stakes or an approved equivalent. In areas where the silt fence cannot be buried, the fencing should be placed with an unburied flap facing away from the construction area and covered with six inches of crushed stone. The Contractor is responsible for daily inspections of the fencing for tears or breaches in the fabric and accumulation levels of sediment, particularly following storm events of 0.25 inch or greater. All compromised areas of silt fence must immediately be repaired. The Environmental monitor should follow-up with these daily inspections on a weekly basis. The extent of the barrier fencing should be as shown on the site plans. The Contractor should have available additional barrier fencing should field conditions warrant extending the fencing as directed by the environmental monitor.
    d) No equipment, vehicles, or construction materials should be stored outside of the exclusionary barrier fencing.
    e) All barrier fencing should be removed at the completion of construction.

2) Contractor Education

   a) Prior to working on site, the Contractor shall attend an educational session at the preconstruction meeting with a qualified herpetologist. This orientation and educational session should consist of an introductory meeting providing photos of herpetofauna that may be encountered during construction activities, including eastern box turtles.

   b) The education session will also focus on means to discriminate between the species of concern and other native species to avoid unnecessary "false alarms". Encounters with all species will be documented by the environmental monitor.

   c) The Contractor should be provided with cell phone and email contacts for the herpetologist to immediately report any encounters with listed species, or other herpetofauna species. Educational poster materials should be provided and must be displayed on the job site to maintain worker awareness as the project progresses.

3) Reporting

   a) Following completion of the construction project, a summary report to the CTDEEP documenting the monitoring and maintenance of the barrier fence should be completed by the herpetologist.

   b) Any observations of state listed species must be reported to CTDEEP by a qualified herpetologist with photo documentation and with specific information on the location and disposition of the animal at the time of observation.

4) Monitoring

   a) Before each day's construction activities commence, an amphibian and turtle sweep will be carried out within the project area to ensure that no state-listed or other species is present in the isolation and construction area.

   b) During construction activities, if a listed species is encountered, work will be stopped, and work crews will be made aware of its presence. An observer will be made responsible for monitoring the movements of the encountered species to make sure that it is not put at risk by construction activities. The encounter will be documented with a Natural Diversity Data Base "Special Animal Survey Form". The report will include its observed location and photographs and will be submitted to the Natural Diversity Database at the end of the same working day.

   c) After the completion of the project, a monitoring report, completed by a qualified herpetologist, must be submitted to the DEEP NDDB Program for a total of 3 years. The report should include a summary of activities at the site and any changes in the composition of state listed amphibians and reptile species observed on the project site.

Recreational activities may increase incidental collection and impact nesting behavior, which both contribute to local turtle population decline. Most often turtles collected are adult females traveling to and from nesting. These turtles of reproductive age are the most valuable individuals in the population to maintain population persistence. Due to slow maturity and low reproductive success, even infrequent collection poses a long-term conservation problem.

- To avoid collection by the public, do not post signs alerting the public to the presence of this species.
- Litter from recreation can pose a choking hazard. Ensure there is a plan for how garbage will be managed.
- Work with the qualified herpetologist overseeing the project to plan your recreational area so that it minimizes the effect on this species.

3.2 Botanical Mitigation Plan

During the course of his botanical survey, Mangels documented five species of State-listed plants on the Project site. Of these, four species will be impacted. Development of the site will directly affect the Georgia bulrush (*Scirpus georgianus*) which is located in the area designated for the inland wetland replication. The cattail sedge (*Carex typhina*), pygmyweed (*Crassula aquatica*) and one of the three smeadow-foxtail (Alopecurus aequalis) stations are located in the planned dredging area that will be excavated to provide clean soil for remediation capping. The other two meadow-foxtail colonies are in areas that will be regarded for development of the park and recreational facilities.

The bristly buttercup population (*Ranunculus pensylvanicus*) is located along the banks of Deckers Brook approximately 200' upstream from the confluence with the Connecticut River. It will not be affected; the nearest activity will be the development of a turtle nesting area that will be approximately 100' away from the Bristly Buttercup.

In his report, Mangels also observed the proliferation of invasive alien plant species (IAPS). During the development of the site, BMPs will be followed to prevent the spread of IAPS that are already on site, and BMPs will be followed when importing soil from off-site to prevent the introduction of more IAPSs.

3.2.1 ***Conservation of Documented State-listed Plants***

Before, during and after development of the project site, RLI will implement various strategies to avoid, minimize, and/or mitigate impacts to the rare plants. These strategies include land conservation measures, habitat management including invasive plant control and monitoring, on-site plant and soil sourcing, and post-construction monitoring and management of erosion and other issues

The RLI Land conservation measures are programmatic applications per CT DEEP protocols and recommendations to protect the known rare plant stations while providing opportunities for reestablishment at new locations. The goal of (our) land conservation measures is on avoidance and minimize impacts during site development. They include the following:

- Maintaining and/or improving current conditions at and in the vicinity of the documented rare plant stations that are outside of areas to be developed.
- It is anticipated that potential impacts to these populations will primarily consist of incidental trampling by field personnel during construction activities. This can be

prevented by raising awareness to the sensitive nature of the plants and their habitats by adding informative signage with plant ID information. Maintaining existing limits of clearing, up to 100 feet where possible, as a Riparian Buffer zone (Figure 2) along the Connecticut River, Meadow Brook, and Deckers Brook.

- Limited clearing within the established riparian buffer provides access to and/or across wetlands and watercourses. These access points may include, but are not limited to, grade paths, boardwalks, piers, trail pull-offs. Riparian zone conditions will be left "as is" beyond path clearance and invasive plant species intervention.
- Installing barriers (e.g. low-profile fencing) and/or markers along limits of the designated Riparian Buffer to minimize incidental, unwitting impacts to State-listed plant communities.
- All occurrences of listed species outside direct impact areas will be fenced during construction and monitored bi-weekly. These areas will be delineated on the habitat plan map.
- Requiring dogs to always remain on-leash
- Providing educational signage intermittently along or near the Riparian Buffer to inform visitors of the ecological importance of the wetlands and watercourses
- Permitting periodic maintenance and the clearing of vegetation in the Riparian Buffer to keep viewsheds other Connecticut River, Meadow Brook, and Deckers Brook open for visitors Hydrologic modeling suggests no change in water table elevation or drainage patterns to non-remediation zones. However, conditions will be monitored annually, and adaptive mitigation will be implemented if degradation is observed.

The preservation and management of the rare plant stations include the following:

- Conducting a detailed analysis of soil conditions in areas of identified species. This will include a full panel of macro and micronutrients. Results can, for example, help inform transplant site suitability, plant growth, survival, population trends etc.) Soil testing will be completed for each individual isolated population by biologists with Earthtones/KPSP/TRC partners.
    - Executing species-specific transplant, propagation, and site management plans that ensure the successful long-term survival of pygmyweed, short-awned meadow-foxtail, and cattail sedge. In coordination with project partners at Earth Tones Nursey, KPSP and TRC to help preserve and/or propagate plants for future re-establishment.
    - Investigating the use of eDNA to characterize the existing seed bank of State-listed species in existing favorable habitats as well as microbial composition of soils in areas where listed species have been found. This data may be used to direct future management of land to benefit reintroduction or natural colonization of listed species.
    - Installing educational/informational signage at the Site that describes the listed species, their critical habitats, and protection measures. Signage will be installed in locations that do not give away the exact location of listed species on the Site to prevent poaching.

Below are approaches to be taken for each of the listed species identified at the Site:

3.2.2 Pygmyweed (Crassula aquatica)

1. This revised mitigation plan addresses agency comments from the DEEP NDDB regarding proposed impacts to State-listed pygmyweed (*Crassula aquatica*) populations at the Riverfront Recapture future park site in Hartford/Windsor, CT. The following measures reflect detailed species-specific transplantation, propagation, and habitat enhancement strategies. They have been developed in consultation with biological experts and are consistent with CTDEEP and BMP guidance to ensure ecological viability and regulatory compliance.
2. Existing Conditions & Habitat Suitability Observed populations of pygmyweed are located along the intertidal fringe of the tidal wetland at elevations between 6'–10' mean sea level (MSL), in moist silty loam substrates. To mitigate the anticipated loss of these populations due to dredging and cove construction, approximately 0.75 acres of newly created tidal edge habitat will be established with elevations and soil conditions designed to support pygmyweed.

Before any construction or construction preparation activities commence, a preconstruction survey of the pygmyweed will be conducted. Stem counts, current conditions and observations, and photographs will be collected. The preconstruction report will be compiled into a report and submitted to the DEEP NDDB within 7 days.

A. <u>2025 Mid to Late Spring</u>

Ten percent (10%) of the pygmyweed plants will be removed from their current location before flowering to reduce stresses that may impair flowering and consequently seed formation. They will be transplanted into propagation containers. Propagation containers will be located on-site and at Earth Tones Nursery in Woodbury, CT. Ten percent of seeds will also be collected from the on-site population before the excavation of the site begins in late summer. Collections of both plants and seeds will occur from a range of locations from the ½ acre pygmyweed colony to obtain a representative cross section of what is effectively genetic material. Plants will be grown and maintained at both (ex-situ) locations until they are transplanted in 2026 to the prepared locations (benches) at the constructed wetlands. Seed will also be collected from the ex-situ grown plants.
Both plant removal and seed collection will follow the Center for Plant Conservation protocols.
Note that some of this soil will be used as the growing medium for on-site propagation containers.
Propagation containers kept on-site will be in the NW corner of the property near equipment storage. The site is at least 6 hrs./day (full sun) and is protected by chain-link fencing.

It is anticipated that the transplantation of pygmyweed and germination from seed will be successful. Plants have been used successfully in rain gardens and have a high germination rate (https://www.picturethisai.com/wiki/Crassula_aquatica.html)

Ex-situ Propagation

Two growing containers will be kept on site collectively covering an approximate footprint total of 24 SF. The other three growing containers are located at Earth Tones and collectively have an approximate 24 SF footprint.

All five containers have a spigot for water outflow. The containers will be set level. Washed ¾" pea stone gravel will be spread evenly in base of containers to a depth that reaches the top of the spigot. Porous landscape fabric will be spread on top of the pea stone with the fabric running up the sides of the interior of the containers. Sandy soil from onsite and adjacent to the Crassula location will be collected and added to the containers, covering the landscape fabric. This will be the growing medium. Edges of landscape fabric will be held up, tight against the inside walls of the growing containers as the sandy soils are deposited into the containers. The fabric will extend upward past the rim of the growing containers while containers are being filled. Water from the CT River will be pumped into a UTMS 275-gal intermediate Bulk Container (watering cube) and remain on site to supply water to the growing containers for the duration.

Once the growing containers are situated and filled with soil, they will be irrigated to eliminate entrapped air within the soil profile. The soil level goal is 4" from top of container for the two that will remain on site. For the containers at the nursery, since they will be in a greenhouse, the soil level goal will be 1" below rim of container. The water used to irrigate the greenhouse containers is harvested rainwater stored in the greenhouse cistern.

Once the containers have been filled, watered in and the correct soil level is achieved, the excess fabric will be cut to match the container rim.

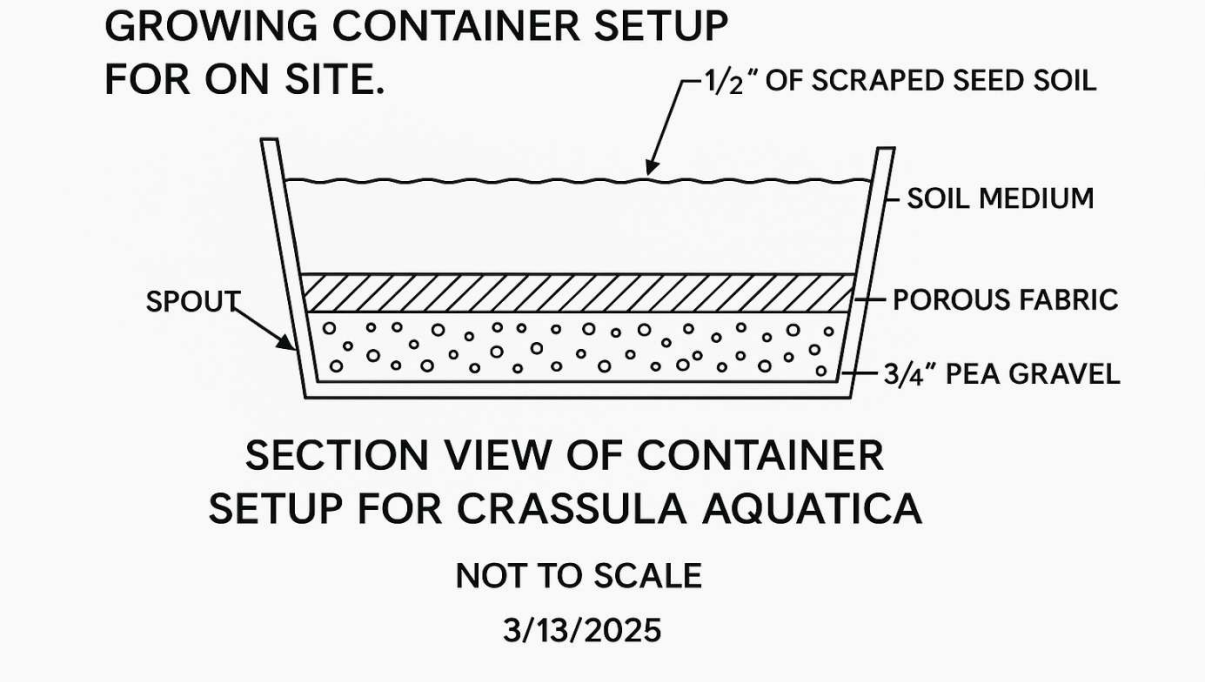
Upon completion of container preparation in accordance with the specified procedures, soil from within the Crassula locations will be collected. Focus Location will be existing shallow depressions naturally occurring in the designated area. The top half inch of soil will be scraped and collected. The soil collected that is destined for the onsite containers will be immediately brought to prepared containers and evenly spread over the top of the prepared soil. A light layer of last year's vegetation remains, collected from the same areas the soils were scraped on, will then be sprinkled on top to emulate the natural existing conditions. The applied mulch layer will aid in moisture retention and help maintain seed position during irrigation events. The mulch will also deflect and lessen the force of rain drops which will prevent splash-out of seeds from the containers.

After the mulch is applied the drainage spigots will be closed and the containers will be watered until water ceases to drain into soil and collects on the surface of the soil to a depth of ½ inch.

A protective mesh with 2" openings (i.e., chicken fencing) will then be secured to cover the containers to prevent animals from eating or disturbing the seeds and soil. A protective mulch, soil or gravel ring will be spread up against the outside of the growing containers. This will protect the containers from solar absorption and keep the growing medium's temperatures more stable.

The scraped and collected soil destined for Earth Tones greenhouse will be collected and transported to the greenhouse in plastic containers/ bags that can be sealed to prevent drying of the soils and seeds while in transit.

The growing containers at the greenhouse are 18” high, are fiberglass and light blue in color. They will be located on the concrete floor of the greenhouse and monitored twice a day for the duration.



Monitoring and Aftercare

Representatives from the Keney Park Sustainability Program, under the supervision of the TRC Botanist, will be monitoring and caring for the growing containers. TRC and Earth Tones will also monitor the containers along with training and oversight for watering, plant identification and potential invasive species control. Watering will be performed in two ways; routine watering to ensure proper plant hydration, and flooding. will be based on the observations of naturally occurring flood events at site location along with data from recorded historical flooding events. When seedlings of pygmyweed emerge, their growth will be closely monitored and documented. For Monitoring the bins on-site is currently planned to be weekly but may be more frequent during sever weather events such as days with extreme heat or after sever rain events. During each monitoring event, the plants will be evaluated for signs of distress as well as any disturbance. After each monitoring event, a monitoring report including any stem count, current condition and observations and photographs will be complied and submitted to the DEEP NDDB within 7 days of the monitoring event. Since the bins at the Earth Tone greenhouse will be monitored daily, weekly reports instead of post-monitoring event reports will be submitted to the DEEP NDDB on the conditions and observations of the pygmyweed propagation.

After each growing season for 10 years (subject to re-assessment after 8 years), a post-growing season report will be developed. This report will include the completed growing seasons conditions and observations, the health and vigor of any new plants, the survivorship by species, any remedial actions, if any, and recommendations for subsequent monitoring and additional planting, The post growing season report will also include a general summary of what has taken place on the site regarding the installation and maintenance of the newly installed plants, photographs of the habitat

and new plants, and mapping showing the locations of the planting areas. These reports will be submitted to the DEEP NDDB.

Ex-situ Seed Collection Goals

Half the seeds will be collected in wax and plastic bags to prevent drying of seeds. Moist soil from growing containers will be placed in the collection bags with the seeds. Seeds collected from all containers will be processed at Earth Tones to be grown out to replant in newly created location on site. Seeds will be hand collected, and air dried for storage in paper envelopes, and placed in a climate-controlled environment. (4-6 deg C and ~35-40% humidity) at Earth Tones nursery facility. Documentation of populations will be included at time of collection along with mapping the populations present, phenological stages and gps-tagging collection points.

> *Note: The flowering period for this species is roughly the middle of May through September. Seed collection will need to occur following the first sightings of flowers at the earliest mid-July is likely to see seeds occurring.*

Not all seeds need to be collected from the growing container plantings because any seeds not collected will fall back into the growing containers. After construction is finished and the new area is created specifically for Crassula, the top layer of soil from the growing containers will be transferred to this new location.

> *Note: that there is minimal documented research on this specific species, and none outlines the success rates of different propagation methods. This plan is designed with a built-in adherence to the experimental nature of this restoration by overestimating the necessary successful quantities of seeds/sprouts/plugs to maintain and improve the local populations of this species.*

B. 2025 Late Summer PHASE II

The top 3 - 5 in. soil will be scraped from the pygmyweed site. The scraped soil will be stored on site at a location TBD until bench creation has been completed. (While it is temporarily stockpiled, it will be inspected for the presence of invasive species or other potential site constraints.)

C. 2025 Fall – Winter PHASE III

After the completion of Garmany Cove and grading of the tidal wetland, benches will be created in a band of shoreline that captures fluctuating water levels and captures periods of standing water. This approach is intended to replicate the range of hydric conditions necessary to support the ecological requirements of the pygmyweed. According to (Mork et al. 2018), plants can grow completely submerged underwater or stranded on mud after the water has receded or evaporated. A viable population probably needs both conditions in order to maintain a viable, long-term seed bank. It can survive with no loss in vigor when the water level decreases and plants are exposed above water level (pygmyweed, however, does not do well if the site is re-flooded).

There will be four (4) pygmyweed benches created during the excavation of the property. They are depicted on the "Landscaping Planting Plan" submitted with this mitigation plan.

- Bench A will be established at an elevation between 8- and 10-feet and be 4,356 sq. ft. (0.1 acre) in size.
- Bench B will be established at an elevation between 6- and 8-feet and be 16,117 sq. ft. (0.37 acre) in size.
- Bench C will be established at an elevation between 2- and 4-feet and be 6,534 sq. ft. (0.15 acre) in size.
- Bench D will be established at an elevation between 10- and 12-feet and be 4,356 sq. ft. (0.1 acre) in size.

Benches A-C will be developed during the excavation of Garmany Cove. The benches will not be constructed as much as they will be excavated to and graded to have a slope at or near zero. Benches A and B will be established in the "Planting Zone 4B" along the slope of eastern banks of Garmany Cove. Bench B will be established in the tidal wetland "Planting Zone 4A". Bench D will be established in the northern section of the inland wetland replication area. Since the benches will be excavated to and graded in place, the soils will be native to that benches location and not brought it from somewhere else. All the benches are in protective areas and are not anticipated to be affected by storm surges or severe flooding that may erode the banks and the area the benches are established in.

The variability in the bench elevation is to give the pygmyweed a selection of observed environment to attempt to establish and take root. Each bench represents a frequency of flooding, regularly flooded, modernly flooded, and rarely flooded. Since it is unclear from the literature and our on-site observations which option will facilitate the establishment of the pygmyweed in the short- and long-term time frames.

Additionally, on top of the "bench" formations RRI will designate a series of small growing plots located in the inland wetland (located near meadow brook). These plots will be given the adequate full sun this plant requires and be topped with substrate collected from the point of origin for pygmy weed. This series of small sites will be "experimental" in respect to the inundation of water to their habitat as it will not be in a regularly soaked floodplain due to its higher elevation. It will require weekly checks for watering and weeding to maintain favorable conditions outlined by the botanist. These sites will be fenced off to prevent herbivory browsing and potential trampling.

D. 2026 Spring PHASE IV

The benches will be topped with the scraped soil that has been stockpiled and over-wintered on site. The soil will be manually raked out onto benches in varying depths of 3-5 inches. According to the Minnesota Department of Natural Resources successful pygmyweed populations are dependent on a well-stocked seed bank, i.e. successful seed production from the previous year. The large number of plants documented by C. Mangels in 2025 strongly suggests that the soil is replete with seeds. A Swedish study estimated seed density as high as 51,000 per square meter in a well-established population (Milberg and Stridh, 1994). Thus, the potential to survive periods of drought or other environmental stressors is great as a continuous supply of plants would be provided. Germination is rapid when moisture conditions become ideal, usually within 2-3 days (Bliss and Zedler, 1998). Even though seed longevity is unknown, they can survive in the soil for many years. The 'back-up' stored

propagules will help ensure the long-term survival of the population, thereby enhancing resilience to environmental stressors including hydrologic fluctuations, drought conditions, and atypical seasonal temperatures. These biological characteristics increase the chances for both a successful mitigation and the long-term survival of the population. Plants grown from both locations will be transplanted to benches. Spacing between the plants will be 4 in or more to allow enough for growth. Plants will be monitored by qualified botanists for weeds and watered in case of drought for the first growing season to ensure survival into the seed producing /dispersal stage. On-site monitoring will take place for up to 10 years, subject to re-assessment after 8 years. Monitoring will be conducted by a qualified botanist 1x per week until the end of the growing season or die-back. If a healthy sustained population is maintained, 10% of the excess seeds stored for propagation will be submitted to the Native Plant Trust seed bank.

Adaptive Management and Contingency:

Earth Tones will continue to cultivate the pygmyweed in their greenhouse for the length of the 10-year post-construction monitoring period. During the post-construction monitoring period, Earth Tones will maintain enough pygmyweed plants to replace a minimum of ½ of a bench's original plant population. If a post-season report indicates that the survivorship has dropped below 60%, supplemental planting and seed sowing will occur under the guidance of the TRC Botanist, who will also investigate the cause of the drop in survivorship and develop further mitigation plans to increase the survivorship in the following growing seasons.

3.2.3 Short-awned meadow-foxtail (Alopecurus aequalis)

Three locations have been identified on the Project Site. Plants from the southernmost location (near the northernmost extent of the pygmyweed location) will be relocated to two locations created at the northern end of the project property.

2025 Late May – Early June

The colony near the pygmyweed will be located, and the number of individuals will be counted as soon as the species is identifiable. According to Mangels' observations, the foxtail will need to be dug up and transplanted well before the second week of June; it is likely that by June 11 most plants will have already shed their caryopses, making seed collection impossible.

Once identified, population size will be assessed to determine the number of individual plants and/or clumps to be transplanted to the northern locations. Translocation sites will be prepared ahead of time and will receive the foxtail immediately upon their removal. They will be created near the two existing locations at the northern end of the property prior to earth moving activities. The size of the transplant areas will be determined by the number of plants (or clumps) to be moved and will be established with a spacing distance of 12 inches between each plant.

This "harvest" site will also be used the control site to compare the transplanted plants with the already establish colony.

Seed Collection and Ex-situ Propagation

Caryopses (seeds) will be collected when ripe. Fruit that has lost its green color and has become pale and parched and/or easily part from the culms will ripen. Plant removal and seed collection will follow the Center for Plant Conservation protocols. Ten percent of the seeds will be collected and cold stratified at Earth Tones Nursery for a back-up supply in case of transplantation failures. Once stratified for a minimum of 90 days (about 3 months) the seeds could be sown out of season at the nursery in 2025, if plants are needed. This is based upon Hoffman's successful results growing foxtail from seed exposed to cold winter temperatures [Hoffman, G.R., Hogan, M.B., Stanley, L.D (1980). Germination of plant species common to reservoir shores in the Northern Great Plain. Bulletin of the Torrey Botanical Club, Vol. 107, No. 4 (Oct.-Dec. 1980), pp. 506-513] depending on the quantity of supplemental plants will be determined by the presence of new growth once the transplants plants have adapted to their new location. Nursery propagated plants will be added to the transplant sites if less than 50% of the existing transplants exhibit new growth. This will be re-evaluated pending further research. The TRC botanist will also investigate the number of plants needed to maintain a viable colony size. Additionally, 10% of seed from established in-situ transplant colonies will be collected for submission to Native Plant Trust for seed banking. Propagation will be by division of rhizomes clumps of foxtail will be divided into sections using a clean sharp tool ensuring that each section has roots and shoots. The resulting sections will be planted in moist at the same depth they were growing in in-situ. The growing medium will either be soil collected on site or a soil mix, prepared by Earth Tones Nursery, to match the on-site soil. Leaving most of the plant(s) in-situ until greenhouse propagation has been proven to be successful, will ensure that the population of this species is not eliminated from its habitat, and it allows for causative issues to be resolved before another attempt at propagation is made. It is anticipated that the second collection will be accomplished before flowering stem production.

Seed sowing, dispersal and watering will not demand phased integration since new planting areas offer adequate room for maintenance among planted specimens while accommodating for any disturbances.

Transplantation

According to Krajna, it takes approximately 3-4 months for the plants to become established after planting. (Krajna; May 19, 2020; Plant Propagation Protocol for *Alopecurus aequalis* var. *aequalis* available at https://courses.washington.edu/esrm412/protocols/2010/ALAE.pdf) .

Soil conditions will match the wetland habitat water level and should represent suitable submerged or emergent conditions for the given species. Although Mangels does not include the number of plants he observed, he estimates that the site supports 1000+ plants (refer to Mangels' report). The goal is to establish a total population of at least 1,500 plants in the new locations with plants from the original site and/or from nursery grown stock from seeds that have been collected. A generous substrate mass surrounding root stock will be included to ensure incorporation of soil microorganisms that may be needed for the grass to successfully establish and thrive. Transplant sites will be protected with fencing; A 10-foot unplanted buffer will be maintained around the existing population that was identified in the Botanical Survey. Local occurrences of species populations are being investigated for supplementary source of plants/seeds. Transplantation will probably be successful as this species does not have narrow habitat restrictions. Typical habitats include

located along stream banks, road-side ditches, submerged in shallow ponds, and wet clearings. (Pojar)

According to Holm (the species requires regular habitat disturbances for the population to survive for more than a few growing seasons Holm, L. G., (1997). World weeds: natural histories and distribution. John Wiley & Sons, NY pp.23-27) We anticipate that seasonal ice scouring will accomplish this but other disturbance factors, that have not yet been identified will be documented and replicated.

Monitoring

A representative from the Keney Park Sustainability Program will be monitoring and caring for the plants on site under the supervision and guidance of the TRC botanist. The botanist and Earth Tones will also monitor the transplants and provide a training session for watering, plant identification and potential weeding if necessary.

The TRC botanist will perform monitoring of the new plantings. During the first month the monitoring will be weekly. After the first month, the monitoring will be monthly through growing season (May – September) for the first two years following installation or transplantation. However, a monitoring event will occur after a severe weather event such as extreme heat or severe thunderstorm to ensure that the plants were not overly damaged or otherwise stressed due to the extreme weather. Monitoring will follow Native Plant Trust protocols to document areal extent, density, competition, flowering and fruiting success and other information. After each monitoring event, plant count, current conditions and observations, and photographs will be recorded and compiled into a monitoring report. The monitoring report will be submitted to the DEEP NDDB within 7 days of the monitoring event.

At the end of each growing season for up to 10 years; subject to re-assessment after 8 years, a post-growing season report will be drafted. This report will include the completed growing seasons conditions and observations, the health and vigor of any new plants, the survivorship by species, any remedial actions, if any, and recommendations for subsequent monitoring and additional planting, The post growing season report will also include a general summary of what has taken place on the site regarding the installation and maintenance of the newly installed plants, photographs of the habitat and new plants, and mapping showing the locations of the planting areas. These reports will be submitted to the DEEP NDDB.

Adaptive Management and Contingency:

If a post-season report indicates that the survivorship has dropped below 60%, supplemental planting and seed sowing will occur under the guidance of the TRC Botanist, who will also investigate the cause of the drop in survivorship and develop further mitigation plans to increase the survivorship in the following seasons.

Genetic & Ecological Integrity:
Based on the number of plants documented by Mangels, it is anticipated that only seeds collected from the on-site population will be used.

3.2.4 Cattail Sedge (Carex typhina)

Before any construction or construction preparation activities commence, a preconstruction survey of the Cattail Sedge will be conducted. Stem counts, current conditions and observations, and photographs will be collected. The preconstruction report must be compiled into a report and submitted to the DEEP NDDB within 7 days.

A. 2025 Mid to Late Spring

Cattail sedge will be located and marked with flagging as soon as the species can be positively identified as it can be confused with narrow-leaved sedge (*C. squarrosa*). Careful consideration will be taken to differentiate it from *cattail sedge* as Mangels noted that identification is an issue. At this time, cattail sedge will also be collected from the adjacent City of Hartford property managed by RRI for transplantation and propagation at the Earth Tones greenhouse.

This ”harvest” site will also be used the control site to compare the transplanted plants with the already establish colony.

Ex-situ Propagation
Ten percent (one clump of the nine observed) will be dug up, with as much of the wetland soil surrounding the roots as possible, before the formation of flowering stems. The plant will be immediately transferred to Earth Tones Nursery for propagation, following the same procedures as for pygmyweed. Propagation will be by division. The clump will be divided into sections using a clean sharp tool ensuring that each section has roots and shoots. The resulting sections will be planted at the same depth as before, in moist soil and will be placed in bright but indirect sunlight.
If the plants ‘take’ in the nursery, the remaining cattail sedge clumps will also be removed from the site and transferred to the greenhouse to be held over until the new Inland Wetland has been created. This approach of leaving most of the plant(s) in-situ until greenhouse propagation has been proven to be successful, will ensure that the population of this species is not eliminated from its habitat, and it allows for causative issues to be resolved before another attempt at propagation is made. It is anticipated that the second collection will be accomplished before flowering stem production. The same propagation methods will be used for both on-site and off-site population collections.

B. 2025 Summer to Late Summer (Phase I – Phase II)

Seed Collection and Ex-situ Propagation
Seeds from the greenhouse-grown plants will be collected when ripe. Fruit that have lost their green color and have become pale and parched and/or easily part from the culms will determine ripeness. Native Plant Trust resources will be used for reference. Seeds will be cold stratified in for 4-6 weeks

in moist soil to mimic natural winter conditions and will be grown out as plugs to supplement the wetland created the following spring.

Seeds will be collected according to Center for Plant Conservation protocols and will be submitted to the Native Plant Trust for seed banking. The percentage of seeds collected for this purpose will be based on Native Plant Trust and/or DEEP NDDB recommendations for ex-situ propagation.

C. 2025 Late Summer – Phase II

Transplantation

Greenhouse-propagated plants or 'plugs' grown from seed and root stock will be transplanted to the newly created wetland which will have been planted with representative plant species replicating the original plant assemblage, described by Mangels on his field forms as follows: 'to varying degrees resembles *Speckled alder temporarily flooded shrublands, Black willow temporarily flooded shrublands, and Speckled alder-Silky dogwood-Common winterberry tidally flooded shrublands types, except site is non-tidal and Silver maple is locally important'* . (A brief list of the following species is included in his field forms: *Onoclea sensibilis, Boehmeria cylindrica, Lysimachia ciliata*, Alnus incana, *Carex crinita*. Components of the previously mentioned plant will need to be determined from which selections can be made for wetland plantings.)

If the site has standing water that will overtop the plants, they will not be installed until the water recedes completely or to an appropriate, workable height. Initially, a minimum of 12 plants will be introduced to the site until it is confirmed that they have adapted to site conditions as indicated by a lack of leaf yellowing, and the production of new growth (leaves) which may occur despite nearing the end of summer. A reasonable goal is to introduce at least twenty to thirty plants to cover losses due to extraneous factors. Given the diameter of cattail sedge 'clump' plants will be spaced at least 10 inches apart to allow for expansion.

Monitoring

A representative from the Keney Park Sustainability Program will be monitoring and caring for the plants on site under supervision and guidance of the TRC botanist. TRC and Earth Tones will also monitor the transplants and will also provide a training session for plant care including weed identification and weed removal techniques.

The TRC botanist will perform monitoring of the new plantings. During the first month the monitoring will be weekly. After the first month, the monitoring will be monthly through growing season (May – September) for the first two years following installation or transplantation. However, a monitoring event will occur after a severe weather event such as extreme heat or severe thunderstorm to ensure that the plants were not overly damaged or otherwise stressed due to the extreme weather. Monitoring will follow Native Plant Trust protocols to document areal extent, density, competition, flowering and fruiting success and other information. After each monitoring event, plant count, current conditions and observations, and photographs will be recorded and compiled into a monitoring report. The monitoring report will be submitted to the DEEP NDDB within 7 days of the monitoring event.

After each growing season for up to 10 years; subject to re-assessment after 8 years, a post-growing season report will be developed. This report will include the completed growing seasons conditions and observations, the health and vigor of any new plants, the survivorship by species, any remedial actions, if any, and recommendations for subsequent monitoring and additional planting, The post growing season report will also include a general summary of what has taken place on the site regarding the installation and maintenance of the newly installed plants, photographs of the habitat and new plants, and mapping showing the locations of the planting areas. These reports will be submitted to the DEEP NDDB.

Adaptive Management and Contingency:

If a post-season report indicates that the survivorship has dropped below 60%, supplemental planting and seed sowing will occur under the guidance of the TRC Botanist, who will also investigate the cause of the drop in survivorship and develop further mitigation plans to increase the survivorship in the following seasons.

Genetic & Ecological Integrity:

Only seeds collected from the on-site population will be used.

3.2.5 Georgia Bulrush (Scripus georgianus) – Special Concern

Minimal information has been provided by Mangels regarding this species as he found it incidentally as he was leaving the site. Thus, additional survey work will be required to get an accurate assessment regarding the number of plants that are present. Once this mitigation plan is approved, a survey will be conducted to investigate the current extent of the Georgia Bulrush. Construction activities will not commence directly around the previously documented location of the Georgia Bulrush until the plant has been given a chance to fully flower for proper identification. The previously documented area will be fenced off until a positive identification of the current plants in that area can be made.

There is little literature on the Georgia Bulrush, however, the USDA Plant Database profile lists it as an obligate wetland indicator plant, indicating that it only grows in wetland environments. The Native Plant Trust lists that the underground organs include a rhizome, which will allow propagation by rhizome.

A. 2025 Late Spring to Late Summer

Before any construction or construction preparation activities commence, a preconstruction survey of the Georgia Bulrush will be conducted. Stem counts, current conditions and observations, and photographs will be collected. The preconstruction report must be compiled into a report and submitted to the DEEP NDDB within 7 days.

Plants will be located sometime between July and August when fruit are expected to mature, up until the site excavations begin. The area (s) with plants will be marked with wire flagging once the species are positively identified. Mature fruit is needed for identification. Botanists experienced with this taxon will be contacted for species confirmation since this taxon is difficult to accurately identify for a variety of reasons including hybridization. The rediscovery of *Scirpus georgianus* on site will be

documented and this dedicated conservation plan will be implemented to conserve and further propagate the plant. As populations are identified, immediate fencing, soil analysis, and seed collection will take place.

B. 2025 Summer (Phase I)

***Ex-situ* Propagation**

Upon positive identification 10% of the population will be dug up along with as much of the soil surrounding the roots as is possible. Plants will be immediately transferred to the Earth Tones Nursery for propagation by rhizomes.

Propagation will be by division. The clump will be divided into sections using a clean sharp tool ensuring that each section has roots and shoots. The resulting sections will be planted at same depth as before, in moist soil. If the plants 'take' in the nursery, 60% of the remaining population of Georgia Bullrush clumps will also be removed from the site and transferred to the greenhouse to be held over in the nursery as a contingency. This approach of leaving most of the plant(s) *in-situ* until greenhouse propagation has been proven to be successful, will ensure that the population of this species is not eliminated from its habitat, and it allows for causative issues to be resolved before another attempt at propagation is made. It is anticipated that the second collection will be accomplished before flowering stem production.

The remaining Georgia bulrush will be removed from its on-site location and installed directly to the mitigated wetland also at this time. It is anticipated that the second collection will be accomplished before flowering stem production. Planting depth will be the same as before the plants were removed from their original location. As previously mentioned, leaving most of the plant(s) in-situ until greenhouse propagation has been proven to be successful will ensure that the population of this species is not eliminated from its habitat, and it allows for causative issues to be resolved before another attempt at propagation is made. Earth Tones Greenhouse will continue to cultivate the Georgia Bulrush for possible future plantings in the event of a unexpected die off of the in-situ plants.

C. 2025 Summer – Early Fall

Seed Collection

Mature seeds will be collected within this timeframe. Fruit that have lost their green color and have turned brown will determine ripeness. Native Plant Trust resources will be used for reference. Seeds will be cold stratified in for 4-6 weeks in moist soil to mimic natural winter conditions and will be grown out as plugs to supplement the created wetland the following spring.

Seeds will be collected according to the Center for Plant Conservation protocols and will be submitted to the Native Plant Trust for seed banking. The percentage of seeds collected for this purpose will be based on Native Plant Trust and/or DEEP NDDB recommendations for ex-situ propagation. Seeds will be stored and maintained at Earth Tones nursery for back-up

***In-situ* Monitoring**

The TRC botanist will perform monitoring of the new plantings. During the first month the monitoring will be weekly. After the first month, the monitoring will be monthly through growing season (May – September) for the first two years following installation or transplantation. However, a monitoring event will occur after a severe weather event such as extreme heat or severe thunderstorm to ensure that the plants were not overly damaged or otherwise stressed due to the extreme weather. Monitoring will follow Native Plant Trust protocols to document areal extent, density, competition, flowering and fruiting success and other information. After each monitoring event, plant count, current conditions and observations, and photographs will be recorded and compiled into a monitoring report. The monitoring report will be submitted to the DEEP NDDB within 7 days of the monitoring event. This report will be submitted to the DEEP NDDB

After the first growing season, a post-growing season report will be developed. This report will include the completed growing seasons conditions and observations, the health and vigor of any new plants, the survivorship by species, any remedial actions, if any, and recommendations for subsequent monitoring and additional planting, The post growing season report will also include a general summary of what has taken place on the site regarding the installation and maintenance of the newly installed plants, photographs of the habitat and new plants, and mapping showing the locations of the planting areas. These reports will be submitted to the DEEP NDDB

D. Spring 2026 (Phase IV)

Once the growing season begins, monitoring will resume to assess the establishment of transplants, site conditions, etc. The TRC botanist will perform monitoring of the new plantings. During the first month the monitoring will be weekly. After the first month, the monitoring will be monthly through growing season (May – September) for the first two years following installation or transplantation. However, a monitoring event will occur after a severe weather event such as extreme heat or severe thunderstorm to ensure that the plants were not overly damaged or otherwise stressed due to the extreme weather. Monitoring will follow Native Plant Trust protocols to document areal extent, density, competition, flowering and fruiting success and other information. After each monitoring event, plant count, current conditions and observations, and photographs will be recorded and compiled into a monitoring report. The monitoring report will be submitted to the DEEP NDDB within 7 days of the monitoring event.

After each growing season for up to 10 years; subject to re-assessment after 8 years, post-growing season report will be developed. This report will include the completed growing seasons conditions and observations, the health and vigor of any new plants, the survivorship by species, any remedial actions, if any, and recommendations for subsequent monitoring and additional planting, The post growing season report will also include a general summary of what has taken place on the site regarding the installation and maintenance of the newly installed plants, photographs of the habitat and new plants, and mapping showing the locations of the planting areas. These reports will be submitted to the DEEP NDDB.

A representative from the Keney Park Sustainability Program, under the supervision of the TRC Botanist, will be monitoring and caring for the plants on site. TRC and Earth Tones will also monitor the transplants and provide a training session for plant care, including weeding techniques and weed identification.

Adaptive Management and Contingency:

If a post-season report indicates that the survivorship has dropped below 60%, supplemental planting and seed sowing will occur under the guidance of the TRC Botanist, who will also investigate the cause of the drop in survivorship and develop further mitigation plans to increase the survivorship in the following seasons.

3.2.6 Bristly Buttercup (Ranunculus pensylvanicus)

Plants growing along Deckers Brook will remain undisturbed. A minimum 10-foot buffer area will be maintained around the existing population that was identified in the Botanical Survey. The colonies are located within the Riparian Buffer zone along Deckers Brook. The closest remediation activity will be the development of the turtle nesting habitat at least 100' away in the upland area of the park.

Monitoring

- Monitor populations monthly through the growing season (May - September) for at least 2 years.
- Reports to be submitted to CTDEEP with photographic documentation of results.
- Post-establishment monitoring will continue for 5+ years, with a proposed monitoring schedule for future phases
- Monitoring of plant restoration areas will require more frequent or off-schedule field visits relative to typically mitigation monitoring.

3.3 Freshwater Mussel and Odonate Mitigation Plan

3.3.1 Mussels

Other than direct disturbance of State-listed and non-listed mussels, one of the management concerns is the potential for a rise in turbidity during the development of Garmany Cove. To expand the cove to its estimated size, as well as establish a navigable connection between the cove and the river, dredging will be necessary. This may directly affect the mussels in the planned development area and will also affect the areas outside the development area by temporarily increasing the turbidity to a degree that would be unhealthy for the mussel population. Dredging will be carefully planned and executed to minimize sedimentation in the dredging area and in areas up and downstream of the proposed navigation channel.

To minimize the detrimental effects of sedimentation during dredging, turbidity barriers will be installed between the dredging locations and mussel habitat, specifically at the mouth of the inlet

during any dredging activity. Buffers areas will also be established prior to dredging. Dredging will also take place during low flow events to further minimize the amount of sediment transported away from the area. Between July-October in order to adhere to low-flow periods and mussel reproductive cycle. Recommended buffers along the shoreline will include a 50-meter buffer upstream, 100-meter buffer downstream, and 25-meter buffer extending into the river from the cove dredging extent. Within these buffers, biologists will conduct a visual search for mussels while snorkeling or SCUBA diving three weeks prior to dredging. During the survey, biologists from Biodrawversity will collect and document all State-listed and uncommon species and relocate them to an established area upstream where they will be beyond the effects of increased sedimentation from dredging.

It is anticipated that the cove and inlet will require maintenance dredging in the future. It is also anticipated that there will be mussel colonization within the cove and inlet. Therefore, qualified biologists will conduct a visual search/survey for mussel populations. It is our expectation that further mitigation plans will be developed and submitted to the DEEP NDDB for review and permitting as part of future dredging events.

The construction of the Deckers Brook and Meadow Brook footbridges does not pose a direct concern to any mussel population. It is recommended that best management practices for sedimentation and pollution control be followed to avoid indirect harm to mussel population downstream of the Deckers Brook and Meadow Brook confluence with the Connecticut River.

3.3.2 ***Odonates***

As described in Biodrawversity's report, the RLI Project property has a nearly limitless amount of larval habitat for State-listed odonates that are likely to occur along the Connecticut River. During the dredging and development stages, standard best management practices for sediment, stormwater, and pollution control will be implemented to reduce the potential disturbance to odonate habitat outside of the proposed development area. The report recommends that larger-diameter floodplain trees, naturally stable riverbanks, and a mix of open areas and mature trees in nearby uplands be established to provide foraging habitat for adult odonates and reduce the future impact to State-listed species habitat.

3.4 Tidal Wetlands Mitigation Plan

To facilitate the establishment of Garmany Cove, the small tidal wetland off the Connecticut River will be greatly expanded; this also includes increasing the width and depth of the small inlet that feeds the tidal wetland. DEEP has directed Riverfront Recapture, Inc. (RRI) that three times the wetland area lost needs to be replaced. In the case of the tidal wetland, that means that loss of ~.73 acres of tidal wetland will need to be replaced with 2.11 acres. In addition, .53 acres will be restored in place. Prioor to excavation activities, silt socks and silt barriers will be installed around the in-place restoration area to prevent deterioration during the activity. Daily inspections of the silt barrier will be completed during the excavation activities to ensure the integrity of the protection. After excavation activities, silt barriers will be removed.

Garmany Cove and the replacement tidal wetland will be created in three phases. Excavation within the cove will be targeted at a minimum elevation of ~ -4 feet (NAVD88). However, ~2.11 acres of the excavation will be regraded to an elevation between +2 feet and +3.8 feet to create the tidal wetland replacement area. The replacement wetland will be situated in a way that avoids areas of future development, such as the fisherman's pier and cross cove foot bridge.

Strategies to protect existing riparian ecologies, minimize sediment disturbance and control erosions, and support successful plant establishment and habitat creation may include the following:

- Minimize limits of site disturbance and earthwork
- Fence off and label plant populations existing outside of remediation area
- Clear buffers between construction activities and designated areas for protection
- Limit modifications of Riparian Buffer zones to herbaceous invasive species management
- Schedule construction activities to coincide with periods of low water flow
- Stop work if conditions are not suitable during and after heavy rain or flooding events
- Install turbidity curtain, silt fences, straw bales, mulch, and proactive vegetation establishment
- Construction staging and stockpiling of soils outside of wetland buffers
- Require construction machinery to be operated and stored only in designated areas outside of wetlands, buffers, and protected zones
- Stabilize and reconstruct slopes prior to removal of erosion control protections
- Upon completion of grading and before planting, restored in place tidal wetland will be cleaned of any foreign materials, invasive plants, trash, and non-native plants which pose a threat to native biodiversity
- In addition, restored in place tidal wetland will have additional native plant populations and a section of pygmyweed bench established as part of the proposed mitigation plan.

During the Garmany Cove tidal wetland development, planting of the State-listed species documented in the botany survey will be included in the revegetation process of the wetland. Details of the vegetation conservation plan can be found in the Botany Mitigation section.

3.5 Inland Wetland Mitigation Plan

The current location of the inland wetland is included in the contaminated area that will be capped. Therefore, a new wetland will be created to replace the lost wetland. DEEP requires a three to one replacement for lost inland wetlands. Therefore, the inland wetland replacement will be ~0.67 acres to make up for the 0.23 acres lost. There will also be ~0.07 acres of in-place wetland restoration. During excavation activities silt socks and silt barriers will be installed around the in-place

restoration area to prevent deterioration during the activity. Daily inspections of the silt barrier will be completed during the excavation activities to ensure the integrity of the protection. After excavation activities, silt barriers will be removed.

The new wetland will not act as a stormwater detention/retention basin for the commercial development on the property. Steps will be taken to make sure no untreated stormwater will drain into the wetland. During the development of the new wetland, there will be a focus on dedicated plantings of the documented State-listed species during the revegetation process. More detail on the State-listed vegetation conservation plan can be found in the Botany Mitigation Plan section.

Strategies to protect existing riparian ecologies, minimize sediment disturbance and control erosions, and support successful plant establishment and habitat creation may include the following:

- Minimize limits of site disturbance and earthwork
- Fence off and label plant populations existing outside of remediation area
- Clear buffers between construction activities and designated areas for protection
- Limit modifications of Riparian Buffer zones to herbaceous invasive species management
- Stop work if conditions are not suitable during and after heavy rain or flooding events
- Install silt fences, straw bales, mulch, and proactive vegetation establishment
- Construction staging and stockpiling of soils outside of wetland buffers
- Require construction machinery to be operated and stored only in designated areas outside of wetlands, buffers, and protected zones
- Stabilize and reconstruct slopes prior to removal of erosion control protections
- Upon completion of grading and before planting, restored in place tidal wetland will be cleaned of any foreign materials, invasive plants, trash, and non-native plants which pose a threat to native biodiversity
- In addition, restored in place inland wetland will have additional state-listed plant populations, including the Cattail Sedge, and Georgia Bulrush.

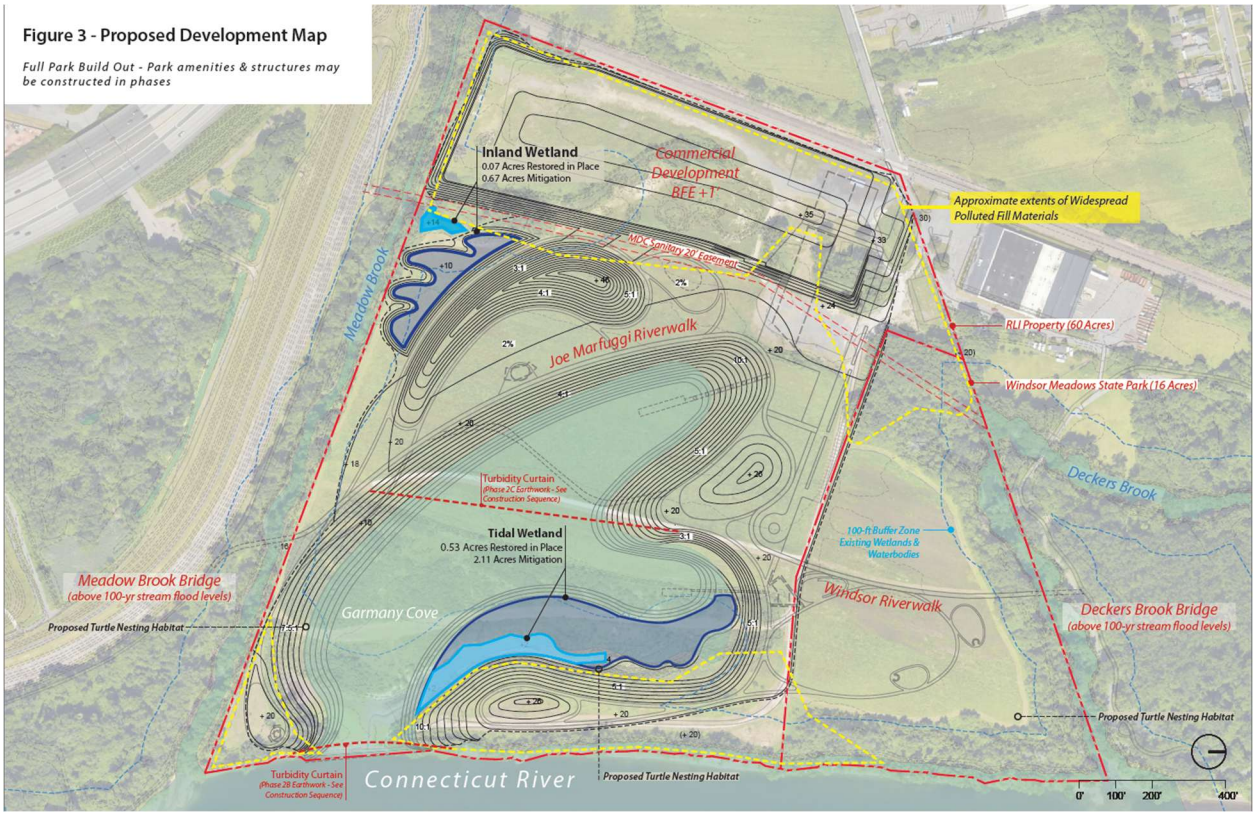


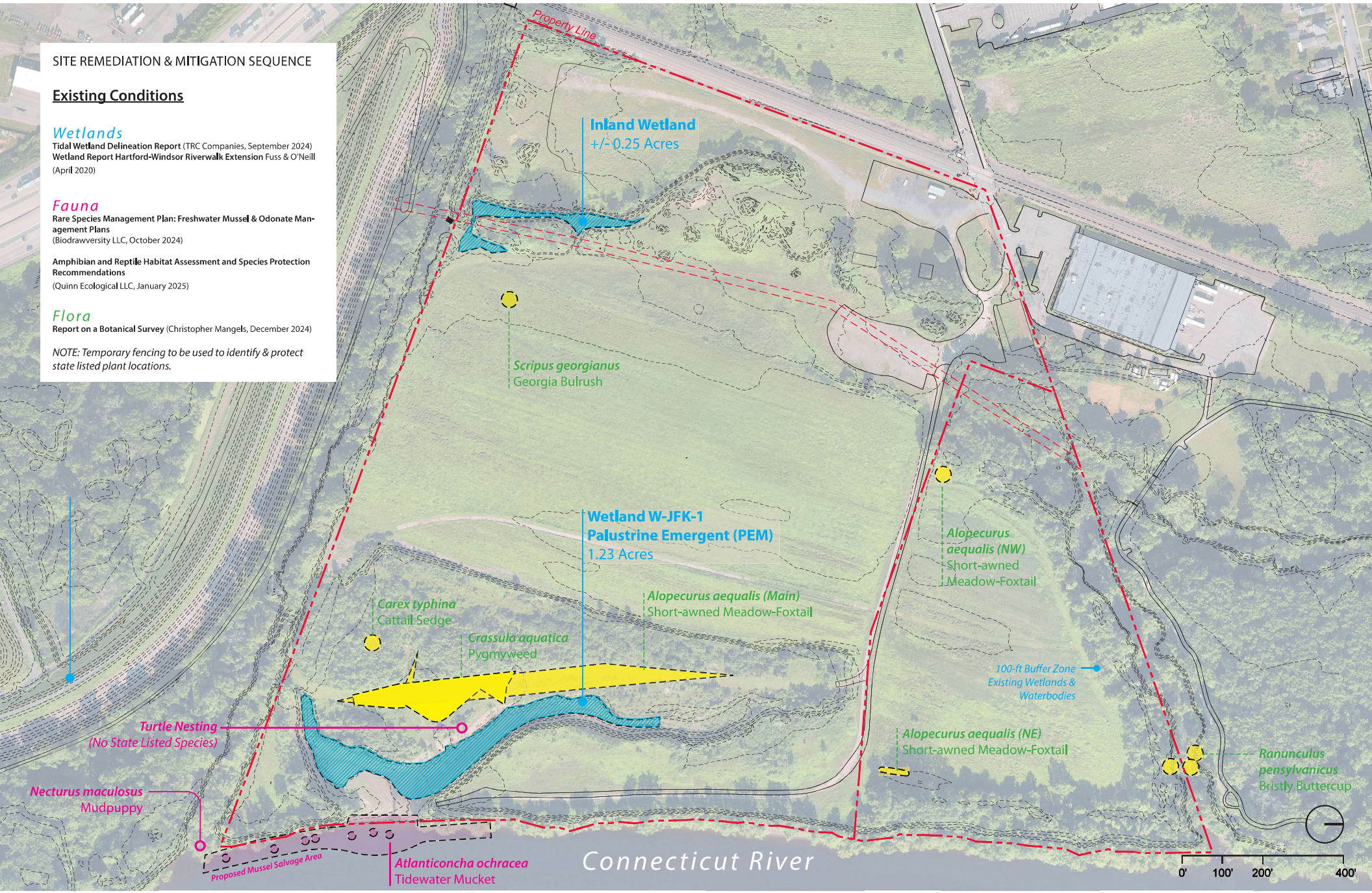
Figure 3 - Proposed Development Map

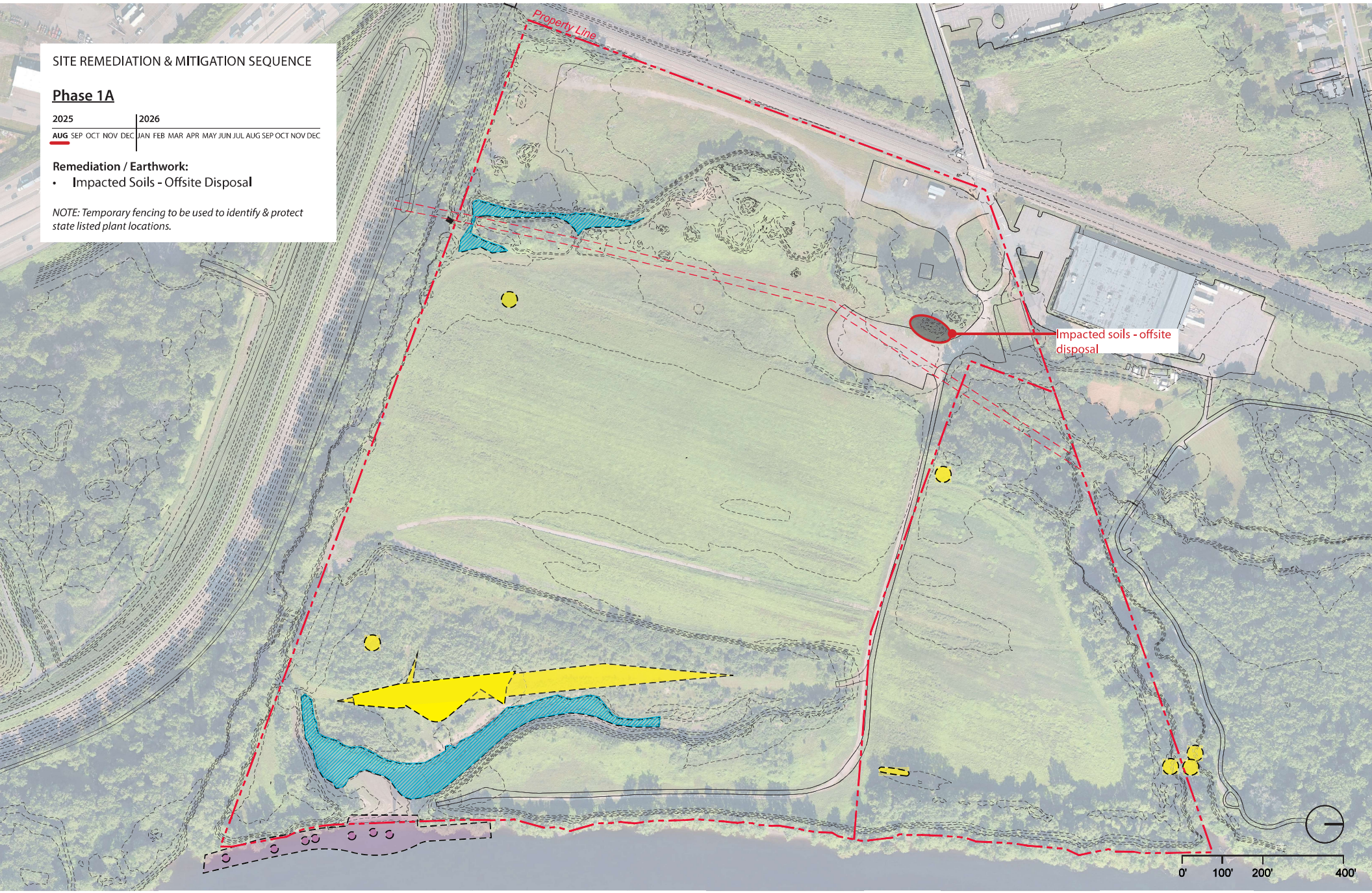
4.0 Summary

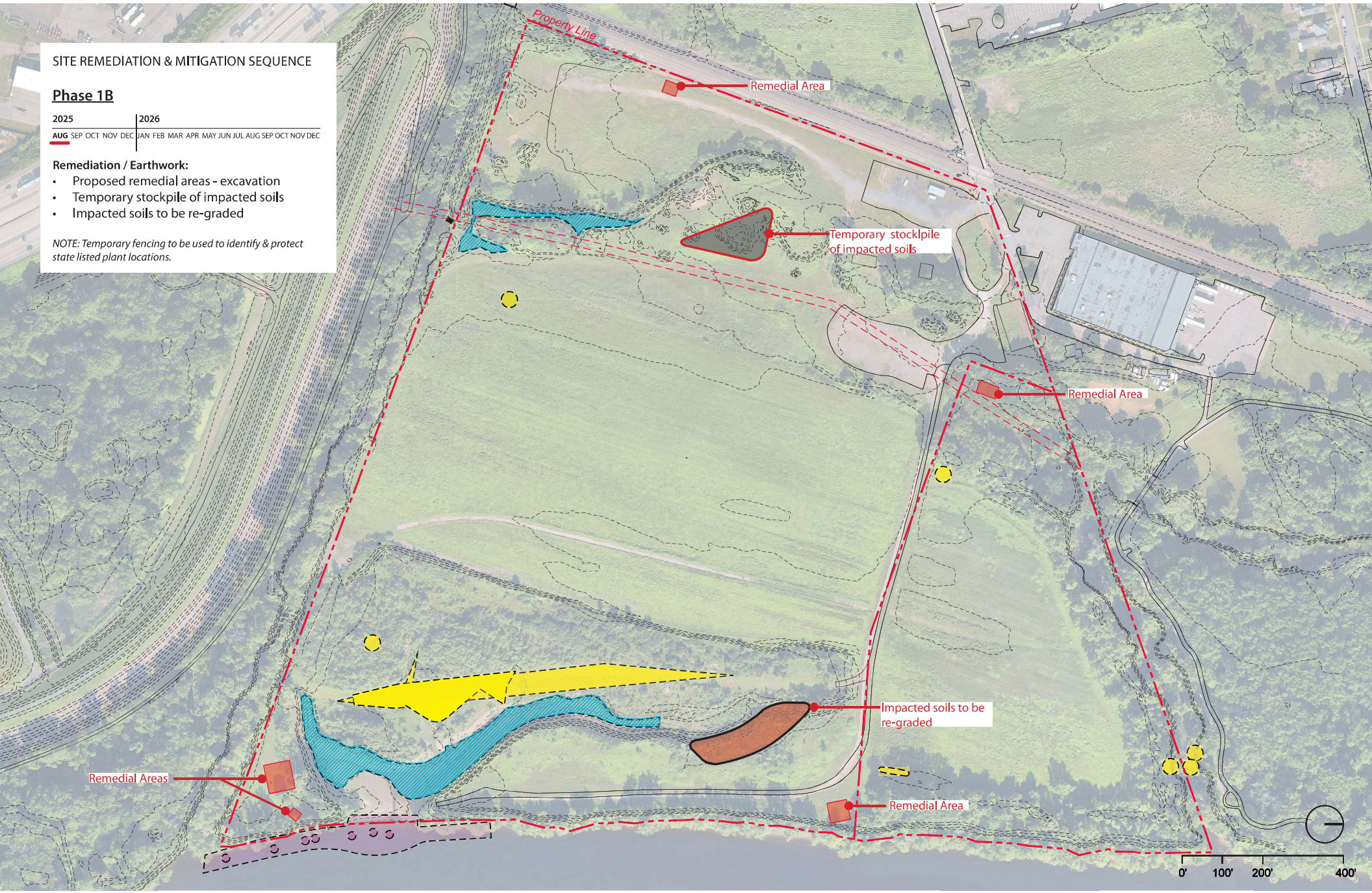
The four survey reports that were included in this mitigation plan include an "Amphibian and Reptile Habitat Assessment and Species Protection Recommendations" report, a "Report on a Botanical Survey," a "Rare Species Management Plan: Freshwater Mussel and Odonate Management Plans," and a "Tidal Wetland Delineation Report." Each of these reports document State-listed species or State protected habitat that need to be accounted for during the development of this site. This mitigation plan details what the reports found as well as the mitigation steps that will be taken to protect the habitat and species where it can and restore the habitat that must be taken as part of the remediation of this site during this project. Appendix A includes the future park sequence that will take place during the development of this property. Appendix B includes a planting guide of the final park design that includes the location of the proposed turtle nesting locations, pygmy weeds bench locations, plant comment breakdown around the park and other mitigation and reclamation features.

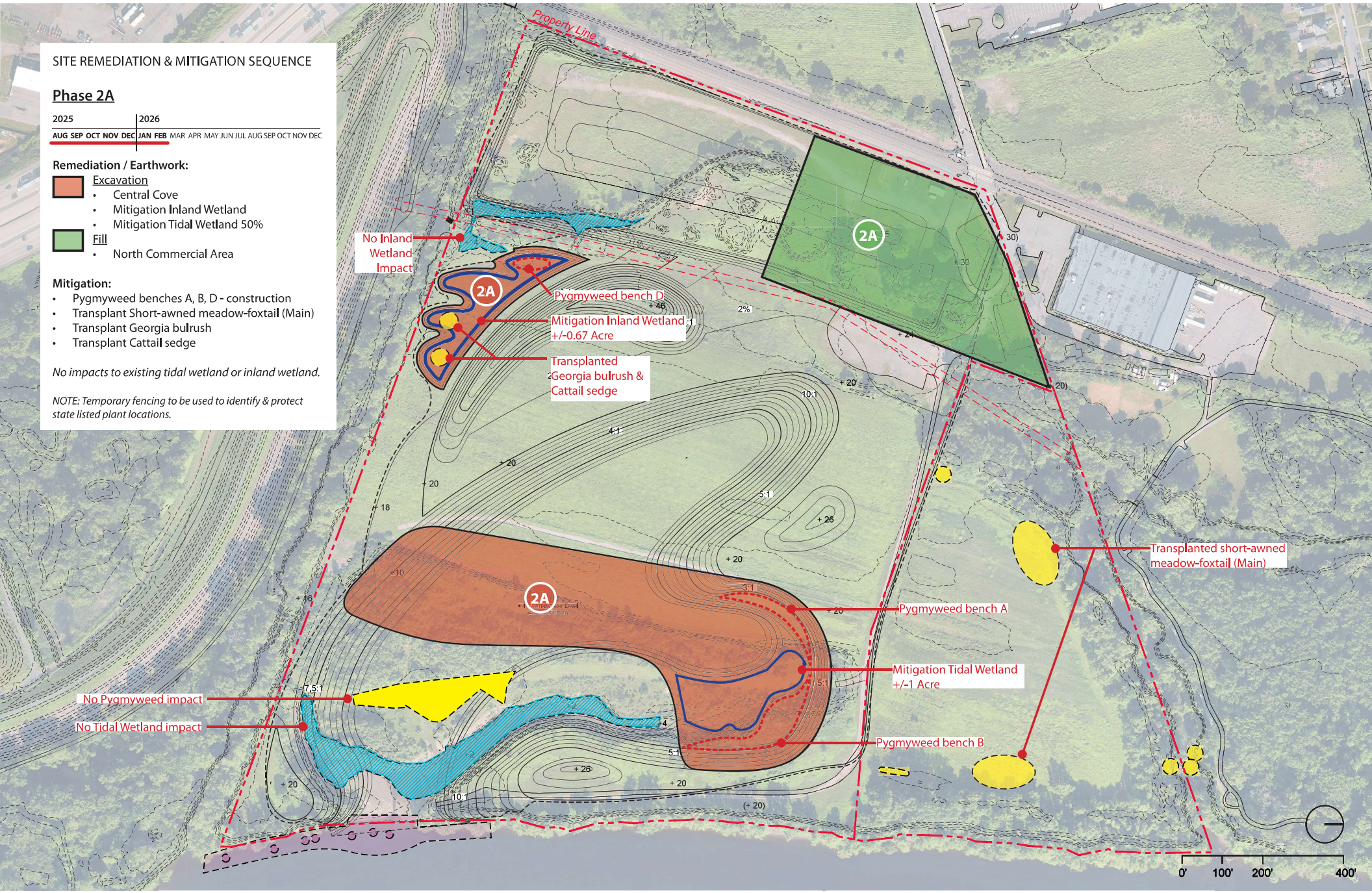
Appendix A

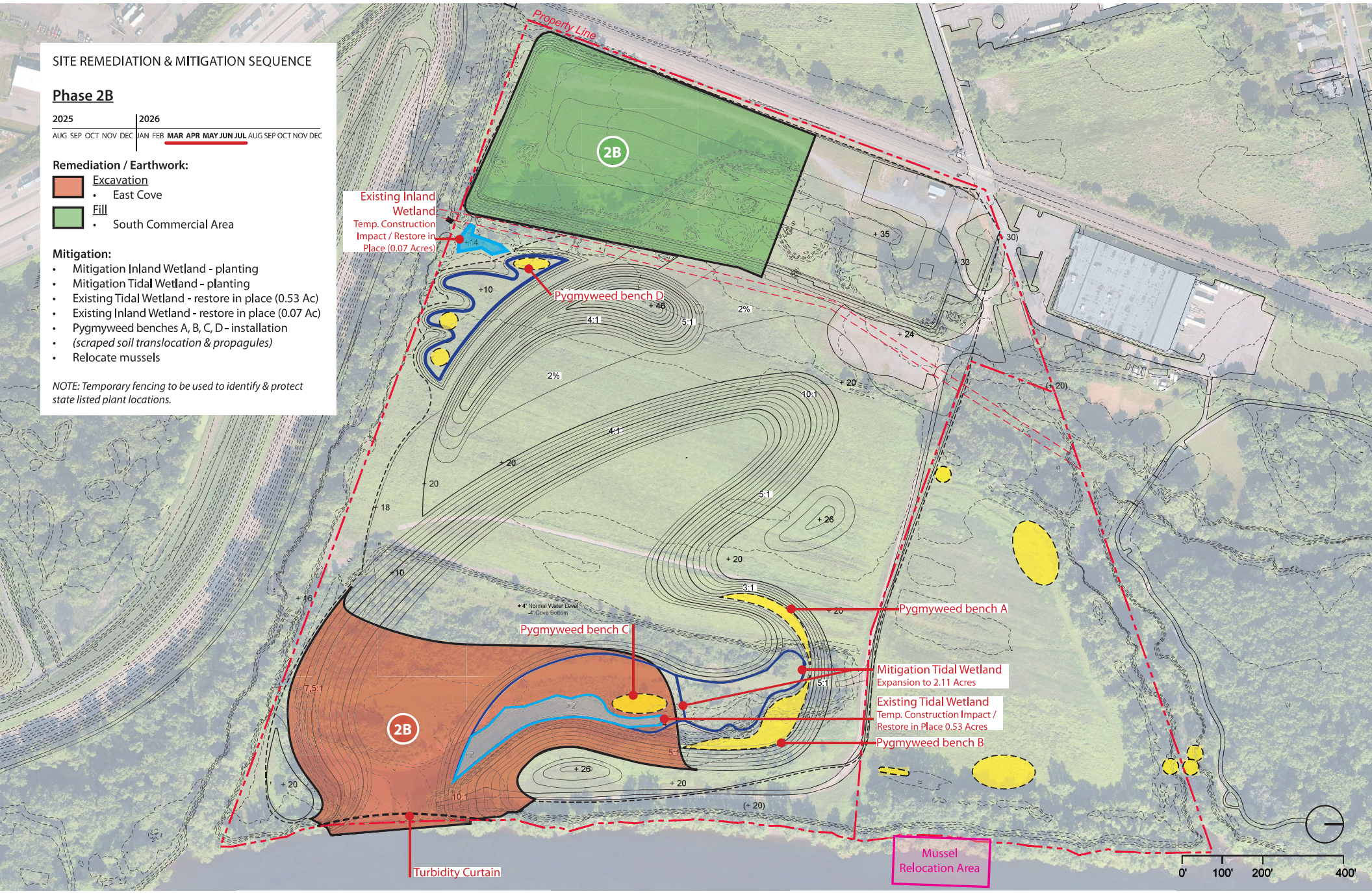
RR Future Park Sequencing


SITE REMEDIATION & MITIGATION SEQUENCE
Existing Conditions
Wetlands
Tidal Wetland Delineation Report (TRC Companies, September 2024)
Wetland Report Hartford-Windsor Riverwalk Extension Fuss & O'Neill (April 2020)
Fauna
Rare Species Management Plan: Freshwater Mussel & Odonate Management Plans (Biodrawversity LLC, October 2024)
Amphibian and Reptile Habitat Assessment and Species Protection Recommendations (Quinn Ecological LLC, January 2025)
Flora
Report on a Botanical Survey (Christopher Mangels, December 2024)
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
Inland Wetland
+/- 0.25 Acres
Scripus georgianus
Georgia Bulrush
Wetland W-JFK-1
Palustrine Emergent (PEM)
1.23 Acres
Alopecurus aequalis (NW)
Short-awned Meadow-Foxtail
Carex typhina
Cattail Sedge
Alopecurus aequalis (Main)
Short-awned Meadow-Foxtail
Crassula aquatica
Pygmyweed
100-ft Buffer Zone
Existing Wetlands & Waterbodies
Turtle Nesting
(No State Listed Species)
Alopecurus aequalis (NE)
Short-awned Meadow-Foxtail
Ranunculus pensylvanicus
Bristly Buttercup
Necturus maculosus
Mudpuppy
Proposed Mussel Salvage Area
Atlanticoncha ochracea
Tidewater Mucket
Connecticut River
0'
100'
200'
400'


SITE REMEDIATION & MITIGATION SEQUENCE
Phase 1A
2025
2026
AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Remediation / Earthwork:
• Impacted Soils - Offsite Disposal
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
Impacted soils - offsite disposal
0'
100'
200'
400'


SITE REMEDIATION & MITIGATION SEQUENCE
Phase 1B
2025
2026
AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Remediation / Earthwork:
• Proposed remedial areas - excavation
• Temporary stockpile of impacted soils
• Impacted soils to be re-graded
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
Remedial Area
Temporary stocklpile of impacted soils
Remedial Area
Impacted soils to be re-graded
Remedial Areas
Remedial Area
0'
100'
200'
400'


SITE REMEDIATION & MITIGATION SEQUENCE
Phase 2A
2025
2026
AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Remediation / Earthwork:
Excavation
• Central Cove
• Mitigation Inland Wetland
• Mitigation Tidal Wetland 50%
Fill
• North Commercial Area
Mitigation:
• Pygmyweed benches A, B, D - construction
• Transplant Short-awned meadow-foxtail (Main)
• Transplant Georgia bulrush
• Transplant Cattail sedge
No impacts to existing tidal wetland or inland wetland.
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
No Inland Wetland Impact
Pygmyweed bench D
Mitigation Inland Wetland +/-0.67 Acre
Transplanted Georgia bulrush & Cattail sedge
Transplanted short-awned meadow-foxtail (Main)
Pygmyweed bench A
Mitigation Tidal Wetland +/-1 Acre
Pygmyweed bench B
No Pygmyweed impact
No Tidal Wetland impact
2A
0'
100'
200'
400'

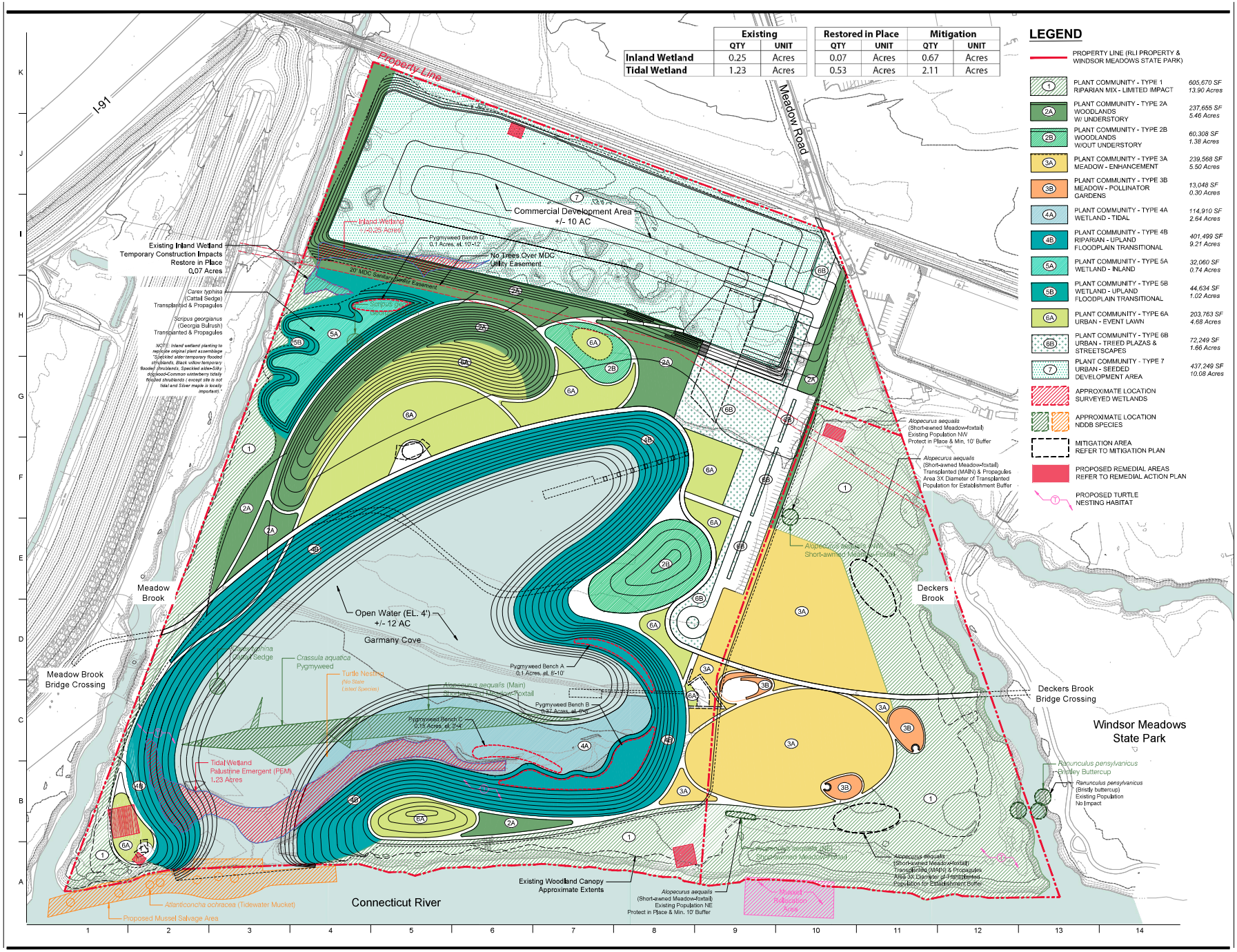

SITE REMEDIATION & MITIGATION SEQUENCE
Phase 2B
2025
2026
AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Remediation / Earthwork:
Excavation
• East Cove
Fill
• South Commercial Area
Mitigation:
• Mitigation Inland Wetland - planting
• Mitigation Tidal Wetland - planting
• Existing Tidal Wetland - restore in place (0.53 Ac)
• Existing Inland Wetland - restore in place (0.07 Ac)
• Pygmyweed benches A, B, C, D - installation
• (scraped soil translocation & propagules)
• Relocate mussels
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
2B
Existing Inland Wetland
Temp. Construction Impact / Restore in Place (0.07 Acres)
Pygmyweed bench D
Pygmyweed bench A
Pygmyweed bench C
Mitigation Tidal Wetland
Expansion to 2.11 Acres
Existing Tidal Wetland
Temp. Construction Impact / Restore in Place 0.53 Acres
Pygmyweed bench B
Turbidity Curtain
Mussel Relocation Area
0'
100'
200'
400'


SITE REMEDIATION & MITIGATION SEQUENCE
Phase 2C
2025
2026
AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Remediation / Earthwork:
Excavation
• West Cove
Fill
• Prospect hill (south of cove)
• Copse berm (north of cove)
• Commercial Area Overall
Mitigation:
• Establishment & Monitoring
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
2C
Turbidity Curtain
Mussel Relocation Area
0'
100'
200'
400'


SITE REMEDIATION & MITIGATION SEQUENCE
Overall Summary
Excavation
Fiil
Mitigation Wetland
Existing Wetland - Restore in Place
Botanical Mitigation
NOTE: Temporary fencing to be used to identify & protect state listed plant locations.
Property Line
2A
2B
2C
Mussel Relocation Area
0'
100'
200'
400'

Appendix B

RR Future Park Planting Plan



	Existing		Restored in Place		Mitigation	
	QTY	UNIT	QTY	UNIT	QTY	UNIT
Inland Wetland	0.25	Acres	0.07	Acres	0.67	Acres
Tidal Wetland	1.23	Acres	0.53	Acres	2.11	Acres

LEGEND

	PROPERTY LINE (RLI PROPERTY & WINDSOR MEADOWS STATE PARK)	
1	PLANT COMMUNITY - TYPE 1 RIPARIAN MIX - LIMITED IMPACT	605,670 SF 13.90 Acres
2A	PLANT COMMUNITY - TYPE 2A WOODLANDS W/ UNDERSTORY	237,655 SF 5.46 Acres
2B	PLANT COMMUNITY - TYPE 2B WOODLANDS W/OUT UNDERSTORY	60,308 SF 1.38 Acres
3A	PLANT COMMUNITY - TYPE 3A MEADOW - ENHANCEMENT	239,568 SF 5.50 Acres
3B	PLANT COMMUNITY - TYPE 3B MEADOW - POLLINATOR GARDENS	13,048 SF 0.30 Acres
4A	PLANT COMMUNITY - TYPE 4A WETLAND - TIDAL	114,910 SF 2.64 Acres
4B	PLANT COMMUNITY - TYPE 4B RIPARIAN - UPLAND FLOODPLAIN TRANSITIONAL	401,499 SF 9.21 Acres
5A	PLANT COMMUNITY - TYPE 5A WETLAND - INLAND	32,060 SF 0.74 Acres
5B	PLANT COMMUNITY - TYPE 5B WETLAND - UPLAND FLOODPLAIN TRANSITIONAL	44,634 SF 1.02 Acres
6A	PLANT COMMUNITY - TYPE 6A URBAN - EVENT LAWN	203,763 SF 4.68 Acres
6B	PLANT COMMUNITY - TYPE 6B URBAN - TREED PLAZAS & STREETSCAPES	72,249 SF 1.66 Acres
7	PLANT COMMUNITY - TYPE 7 URBAN - SEEDED DEVELOPMENT AREA	437,249 SF 10.08 Acres
	APPROXIMATE LOCATION SURVEYED WETLANDS	
	APPROXIMATE LOCATION NDDB SPECIES	
	MITIGATION AREA REFER TO MITIGATION PLAN	
	PROPOSED REMEDIAL AREAS REFER TO REMEDIAL ACTION PLAN	
T	PROPOSED TURTLE NESTING HABITAT	

PROJECT INFORMATION

RIVERFRONT RECAPTURE FUTURE PARK

HARTFORD & WINDSOR, CONNECTICUT

Owner
RIVERFRONT RECAPTURE
50 Columbus Boulevard, First Floor Hartford, CT 06106
www.riverfront.org

Prime Consultant & Landscape Architecture
HARGREAVES JONES
30 Broad St, 36th Floor, New York, NY 10004
www.hargreaves.com

Civil Engineering, Structural Engineering, MEP Engineering, Coastal Engineering, Environmental Engineering & Permitting
FUSS & O'NEILL
One Financial Plaza, 15th Floor, Hartford, CT 06103
www.fando.com

Architecture
SAGE & COOMBE ARCHITECTS
45 Main Street, Suite 230, Brooklyn, NY 11201
www.sageandcoombe.com

Ecology & Landscape Management Planning
BIOHABITATS
www.biohabitats.com

SEAL/SIGNATURE

FOR REVIEW — NOT FOR CONSTRUCTION

PROGRESS SET
CONFIDENTIAL
NOT FOR CONSTRUCTION

ISSUE/REVISIONS

NO.	DESCRIPTION	DATE
	PRELIMINARY DESIGN	03/31/2025

KEY MAP

SHEET INFORMATION

Project No.: RRP 2301
Drawn By: JM
Checked By: ML
Date: 4/23/2025
Scale: 1" = 100'

SHEET TITLE

LANDSCAPE PLANTING PLAN

DRAFT 2025-04-03

SHEET NO.

L-161

0'-8 1/2"

Appendix H

Historic Preservation Review

FEBRUARY 2022

PHASE IA CULTURAL RESOURCES ASSESSMENT SURVEY OF THE PROPOSED RIVERFRONT RECAPTURE PROJECT IN HARTFORD AND WINDSOR, CONNECTICUT

PREPARED FOR:

Riverfront recapture

50 COLUMBUS BOULEVARD, 1ST FLOOR
HARTFORD, CONNECTICUT 06106

PREPARED BY:

HERITAGE CONSULTANTS

55 EAST CEDAR STREET
NEWINGTON, CONNECTICUT 06111

ABSTRACT

This report presents the results of a Phase IA cultural resources assessment survey for six parcels of land in Hartford and Windsor, Connecticut. Project plans are not complete at this time, but the project area is associated with the Joe Marfuggi Riverwalk between Deckers Brook and Meadow Brook. The current investigation consisted of: 1) preparation of an overview of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the region; 3) a review of readily available historical maps and aerial imagery depicting the project parcels to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the proposed project parcels to determine their archaeological sensitivity. The results of the Phase IA survey indicate that all of the proposed parcels possess a no/low sensitivity for archaeological resources. No additional examination of the proposed project is recommended.

TABLE OF CONTENTS

CHAPTER I: INTRODUCTION 1
Project Description and Methods Overview 1
Project Results and Management Overview 1
Project Personnel 2
Organization of the Report 2

CHAPTER II: NATURAL SETTING 3
Introduction 3
Ecoregions of Connecticut 3
Hydrology of the Study Region 4
Soils Comprising the Proposed Project Area 4
Summary 7

CHAPTER III: PREHISTORIC SETTING 8
Introduction 8
Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.]) 8
Archaic Period (10,000 to 2,700 B.P.) 9
Early Archaic Period (10,000 to 8,000 B.P.) 9
Middle Archaic Period (8,000 to 6,000 B.P.) 9
Late Archaic Period (6,000 to 3,700 B.P.) 10
Terminal Archaic Period (3,700 to 2,700 B.P.) 10
Woodland Period (2,700 to 350 B.P.) 11
Early Woodland Period (ca., 2,700 to 2,000 B.P.) 11
Middle Woodland Period (2,000 to 1,200 B.P.) 11
Late Woodland Period (ca., 1,200 to 350 B.P.) 12
Summary of Connecticut Prehistory 12

CHAPTER IV: HISTORICAL OVERVIEW 14
Introduction 14
Native American History 14
European Settlement 15
Seventeenth Through Nineteenth Centuries 15
Modern Period 17
History of the Proposed Project Area 18
Conclusions 19

CHAPTER V: PREVIOUS INVESTIGATIONS 20
Introduction 20
Summary 22

CHAPTER VI: METHODS 23
Introduction 23
Research Framework 23
Archival Research & Literature Review 23
Field Methodology and Data Synthesis 23

Curation 24

CHAPTER V: RESULTS & MANAGEMENT OVERVIEW 25
Introduction 25
Determining Archaeological and Historical Sensitivity 25
Results of Phase IA Survey 26

BIBLIOGRAPHY 27

LIST OF FIGURES

Figure 1. Excerpt from a 1996 USGS 7.5' series topographic quadrangle image showing the location of the proposed project area in Hartford and Windsor, Connecticut (USGS 1996).

Figure 2. Excerpt from an 1855 map showing the proposed project area in Hartford and Windsor, Connecticut (Woodford 1855).

Figure 3. Excerpt from an 1869 map showing the proposed project area in Windsor, Connecticut (Beers 1869).

Figure 4. Excerpt from an 1869 map showing the proposed project area in Hartford, Connecticut (Beers 1869).

Figure 5. Excerpt from a 1934 aerial photograph showing the proposed project area in Hartford and Windsor, Connecticut (Fairchild 1934).

Figure 6. Excerpt from a 1951 aerial photograph showing the proposed project area in Hartford and Windsor, Connecticut (USDA 1951).

Figure 7. Excerpt from a 2019 aerial photograph showing proposed project area in Hartford and Windsor, Connecticut.

Figure 8. Digital map depicting the location of previously identified archaeological sites in the vicinity of the proposed project area in Hartford and Windsor, Connecticut.

Figure 9. Digital map depicting the locations of previously identified National Register of Historic Places properties in the vicinity of the proposed project area in Hartford and Windsor, Connecticut.

Figure 10. Plan view map of the proposed project area depicting photo locations and directions taken during walkover survey.

LIST OF PHOTOS

Photo 1. Representative view of the northwestern portion of the proposed project area facing south from the northwest corner.

Photo 2. Representative view of the central portion of the proposed project area facing east from the western half.

Photo 3. Representative view of the southwestern portion of the proposed project area facing north from the southwest corner.

Photo 4. Representative view of the center of the proposed project area facing northeast from the southwest corner.

Photo 5. Representative view of the central portion of the project area facing north from the center of the southern border.

Photo 6. Representative view of the southeastern portion of the proposed project area facing north from the southern border.

Photo 7. Representative view of northeastern portion of the proposed project area facing south from the northeastern corner.

Photo 8. Representative view of the northeastern portion of the proposed project area facing west from the northeastern corner.

Photo 9. Representative view of the central portion of the proposed project area facing southwest from the northern border.

Photo 10. Representative view of the central portion of the proposed project area facing south from the center of the northern border.

CHAPTER I
INTRODUCTION

This report presents the results of a Phase IA cultural resources assessment survey of six parcels of land in Hartford and Windsor, Connecticut (Figure 1). They are located at 228 Leibert Road, 590-H Leibert Road, 600-H Leibert Road and 610 Leibert Road in Hartford, as well as 100 Meadow Road and 120 Meadow Road in Windsor. Riverfront Recapture requested that Heritage Consultants, LLC, (Heritage) complete the current assessment survey as part of the planning process for future park development. Heritage completed the fieldwork for this investigation in January of 2022. All work associated with this investigation was performed in accordance with the *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987), which is promulgated by the Connecticut State Historic Preservation Office (CT-SHPO).

Project Description and Methods Overview

The parcels on which the planned development project will occur includes approximately 25.1 hectares (62 acres) of land (Figure 1). Project plans have not been finalized at this time but will involve the construction of a community park and a trail connection between the Hartford and Windsor Riverwalks along the Connecticut River. The proposed project area is bordered by Deckers Brook to the north, the Connecticut River to the east, Meadow Brook to the south, and the New Haven-Springfield Railroad to the west. While the project area is currently undeveloped, the surrounding area contains commercial and residential buildings at the outskirts of Hartford. The proposed project will have pedestrian access from the riverwalk to the north and south, and vehicular access from Meadow Road to the west.

The current Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the area's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously recorded archaeological sites, as well as National/State Register of Historic Places properties/districts and inventoried historical standing structures, in the vicinity of the proposed project area; 3) a review of readily available historical maps and aerial imagery depicting the proposed project area to identify potential historical resources and/or areas of past disturbance; and 4) a pedestrian survey and photo-documentation of the proposed project area to determine its archaeological sensitivity.

Project Results and Management Overview

During the current Phase IA cultural resources assessment survey, Heritage reviewed historical maps and aerial images of the proposed project area, as well as files maintained by the CT-SHPO. Heritage staff also completed pedestrian survey of the proposed project area. The background research and field efforts revealed that there are four previously identified archaeological sites, two National Register of Historic Places properties, and one National Register of Historic Places area located within 1.6 km (1 mi) of the proposed project. This suggests that the region of Hartford and Windsor surrounding the proposed project area was suitable for prehistoric and historical occupation.

In order to determine the archaeological potential of the project parcel, Heritage staff completed visual reconnaissance and recorded current landscape conditions. The results of the Phase IA effort and the pedestrian survey indicate that all of the proposed land possesses a no/low sensitivity for archaeological resources and does not require any additional examination prior to development.

Project Personnel

Heritage personnel who contributed to the project include David R. George, M.A., R.P.A., (Principal Investigator); Antonio Medina, B.A., (Project Archaeologist); Tevin Jourdain, B.A., (Geographic Information Specialist); Barbara Sternal, M.A., (Historian); and Elizabeth Correia, M.A., (Cultural Resource Specialist).

Organization of the Report

The natural setting of the region encompassing the project parcel is presented in Chapter II; it includes a review of the geology, hydrology, and soils of the larger region. The prehistory of the project region is outlined in Chapter III. The history of the region encompassing the project parcel discussed in Chapter IV, and previously identified cultural resources near the project parcel are reviewed in Chapter V. The methods used to complete this investigation are discussed in Chapter VI. Finally, the results of this investigation and a management overview are presented in Chapter VII.

CHAPTER II
NATURAL SETTING

Introduction

This chapter provides a brief overview of the natural setting of the region containing the project parcels in Hartford and Windsor, Connecticut. Previous archaeological research throughout southern New England has documented that a few specific environmental factors can be associated with both prehistoric and historical period site selection. They include general ecological conditions, as well as types of freshwater sources, soils, and slopes present in a given area. The remainder of this section provides a brief overview of the ecology, hydrological resources, and soils present within the proposed project area and the larger region in general.

Ecoregions of Connecticut

Throughout the Pleistocene and Holocene Periods, Connecticut has undergone numerous environmental changes. Variations in climate, geology, and physiography have led to the "regionalization" of Connecticut's modern environment. It is clear, for example, that the northwestern portion of the state has different natural characteristics than the coastline. Recognizing this fact, Dowhan and Craig (1976), as part of their study of the distribution of rare and endangered species in Connecticut, subdivided the state into various ecoregions. Dowhan and Craig (1976:27) defined an ecoregion as:

> "an area characterized by a distinctive pattern of landscapes and regional climate as expressed by the vegetation composition and pattern, and the presence or absence of certain indicator species and species groups. Each ecoregion has a similar interrelationship between landforms, local climate, soil profiles, and plant and animal communities. Furthermore, the pattern of development of plant communities (chronosequences and toposequences) and of soil profile is similar in similar physiographic sites. Ecoregions are thus natural divisions of land, climate, and biota."

Dowhan and Craig defined nine major ecoregions for the State of Connecticut. They are based on regional diversity in plant and animal indicator species (Dowhan and Craig 1976). Only one of the ecoregions is germane to the current investigation: North-Central Lowlands Ecoregion. A summary of this ecoregion is presented below. It is followed by a discussion of the hydrology and soils found in and adjacent to the proposed project area.

North-Central Lowlands Ecoregion

The North-Central Lowlands ecoregion consists of a broad valley located between 40.2 and 80.5 km (25 and 50 mi) to the north of Long Island Sound (Dowhan and Craig 1976). It is characterized by extensive floodplains, backwater swamps, and lowland areas situated near large rivers and tributaries. Physiography in this region is composed of a series of north-trending ridge systems, the easternmost of which is referred to as the Bolton Range (Bell 1985:45). These ridge systems comprise portions of the terraces that overlook the larger rivers such as the Connecticut and Farmington Rivers. The bedrock of the region is composed of Triassic sandstone, interspersed with very durable basalt or "traprock" (Bell 1985). Soils found in the upland portion of this ecoregion are developed on red, sandy to clayey glacial till, while those soils situated nearest to the rivers are situated on widespread deposits of stratified sand, gravel, silt, and alluvium resulting from the impoundment of glacial Lake Hitchcock.

Hydrology of the Study Region

The project area is bordered by the Connecticut River to the east, Meadow Brook to the south, and Deckers Brook to the north. Previously completed archaeological investigations in Connecticut have demonstrated that streams, rivers, and wetlands were focal points for prehistoric occupations because they provided access to transportation routes, sources of freshwater, and abundant faunal and floral resources. These water sources also provided the impetus for the construction of water powered mill facilities during the eighteenth and nineteenth centuries.

Soils Comprising the Proposed Project Area

Soil formation is the direct result of the interaction of several variables, including climate, vegetation, parent material, time, and organisms present (Gerrard 1981). Once archaeological deposits are buried within the soil, they are subject to many diagenic processes. Different classes of artifacts may be preferentially protected, or unaffected by these processes, whereas others may deteriorate rapidly. Cyclical wetting and drying, freezing and thawing, and compression can accelerate chemically and mechanically the decay processes for animal bones, shells, lithics, ceramics, and plant remains. Lithic and ceramic artifacts are largely unaffected by soil pH, whereas animal bones and shells decay more quickly in acidic soils such as those that are present in within the current project area. In contrast, acidic soils enhance the preservation of charred plant remains.

A review of the soils present within the project parcel is presented below. The project parcel is characterized by three major soil types including Hadley, Haven and Enfield, Limerick, Occum, Udorthents, and Winooski soils. The profiles of these soil types are described briefly below. Hadley, Haven and Enfield, Occum, and Winooski soils are well-drained and typically associated with prehistoric and historical use. Limerick soils are poorly drained and not correlated with prehistoric or historical use. Udorthents are soils that have been previously disturbed, meaning cultural resources that existed within them are likely to be destroyed. Data regarding them was collected from the National Resources Conservation Service (https://soilseries.sc.egov.usda.gov).

<u>Hadley Soils</u>

The Hadley series consists of very deep well drained soils formed in silty alluvium. They are nearly level soils on flood plains. Saturated hydraulic conductivity is moderately high or high in the surface layer and upper substratum and moderately high to very high in the lower substratum. Slope ranges from 0 to 3 percent. Typical sequence, depth, and composition of this soil is as follows: **Ap**--0 to 11 inches; very dark grayish brown (2.5Y 3/2) silt loam, light gray (2.5Y 7/2) dry; weak and moderate fine and very fine granular structure; friable; slightly sticky, plastic; many fine roots; strongly acid; abrupt smooth boundary; **C1**--11 to 28 inches; olive brown (2.5Y 4/4) silt; massive, evidence of fine stratification; friable, slightly sticky, slightly plastic; common fine roots; few fine pores; strongly acid; gradual irregular boundary; **C2**--28 to 40 inches; brown (10YR 4/3) and grayish brown (2.5Y 5/2) silt loam; massive; friable, slightly sticky, slightly plastic; few fine roots; common fine pores; moderately acid; abrupt smooth boundary; **C3**--40 to 54 inches; light olive brown (2.5Y 5/4) and brown (10YR 4/3) silt loam; massive; friable, slightly sticky, slightly plastic; few very fine roots; common very fine and fine pores; strongly acid; abrupt wavy boundary; **C4**--54 to 68 inches; olive brown (2.5Y 4/4) silt loam; massive; friable, nonsticky, slightly plastic; few very fine and fine pores; moderately acid; abrupt wavy boundary; and **2C5**--68 to 72 inches; olive brown (2.5Y 4/4) and light brownish gray (2.5Y 6/2) loamy fine sand; massive; very friable, nonsticky, nonplastic; moderately acid.

Haven and Enfield Soils

The Haven series consists of very deep, well drained soils formed in loamy over sandy and gravelly outwash. They are nearly level through moderately sloping soils on outwash plains, valley trains, terraces, and water-sorted moraine deposits. Saturated hydraulic conductivity is moderately high or high in the mineral solum and very high in the substratum. Slope ranges from 0 through 15 percent. A typical profile associated with Haven soils is as follows: **Oi**--0 to 2 inches (0 to 5 centimeters); slightly decomposed plant material derived from loose pine needles, leaves and twigs. **Oa**--2 to 3 inches (5 to 8 centimeters); black (5YR 2/1) highly decomposed plant material. (0 to 3 inches (0 to 8 centimeters) thick.) **A**--3 to 6 inches (8 to 15 centimeters); dark grayish brown (10YR 4/2) loam; weak fine and medium granular structure; friable; many fine and coarse roots; very strongly acid; abrupt smooth boundary. **Bw1**--6 to 13 inches (15 to 33 centimeters); brown (7.5YR 4/4) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; very strongly acid; clear wavy boundary. **Bw2**--13 to 22 inches (33 to 56 centimeters); strong brown (7.5YR 5/6) loam; weak fine and medium subangular blocky structure; friable; common fine roots; many fine pores; 5 percent fine gravel; very strongly acid; gradual wavy boundary. **BC**--22 to 31 inches (56 to 79 centimeters); yellowish brown (10YR 5/6) gravelly loam; weak medium and fine subangular blocky structure; friable; few fine roots; common fine pores; 20 percent fine gravel; very strongly acid; clear wavy boundary. (0 to 11 inches (0 to 28 centimeters) thick.) **2C**--31 to 65 inches (79 to 165 centimeters); yellowish brown (10YR 5/4) to brownish yellow (10YR 6/6) stratified gravelly sand; single grained; loose; 30 percent fine gravel; very strongly acid.

The Enfield series consists of very deep, well drained loamy soils formed in a silty mantle overlying glacial outwash. They are nearly level to sloping soils on outwash plains and terraces. Slope ranges from 0 to 15 percent. A typical profile associated with Enfield soils is as follows: **Ap**--0 to 7 inches; dark grayish brown (10YR 4/2) silt loam; moderate fine granular structure; friable; many very fine and fine roots; 5 percent fine gravel; strongly acid; abrupt smooth boundary. **Bw1**--7 to 16 inches; strong brown (7.5YR 5/6) silt loam; weak medium subangular blocky structure; friable; common very fine and many fine roots; 5 percent fine gravel; strongly acid; clear wavy boundary. **Bw2**--16 to 25 inches; light olive brown (2.5Y 5/4) silt loam; weak medium subangular blocky structure; friable, few very fine and common fine roots; 5 percent fine gravel; strongly acid; abrupt wavy boundary. **2C**--25 to 60 inches; brown (10YR 5/3) very gravelly sand; single grain; loose; stratified; 45 percent gravel and 5 percent cobbles; strongly acid.

Limerick Soils

The Limerick series consists of very deep, poorly drained soils on flood plains. They formed in loamy alluvium. Saturated hydraulic conductivity is moderately high or high. Slope ranges from 0 through 3 percent. Mean annual precipitation is about 44 inches (1118 millimeters) and mean annual temperature is about 45 degrees F. (7 degrees C). Typical sequence, depth, and composition of this soil is as follows: **Ap**-- 0 to 8 inches (0 to 20 centimeters); dark grayish brown (10YR 4/2) silt loam, light brownish gray (10YR 6/2) dry; moderate medium granular structure; friable; common very fine and fine and few medium roots; moderately acid; clear smooth boundary; **BCg1**-- 8 to 20 inches (20 to 50 centimeters); olive gray (5Y 4/2) silt loam; massive; friable; few very fine and fine roots; common medium prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4 and 10YR 5/6) soft masses of iron accumulation; moderately acid; clear smooth boundary; **BCg2**-- 20 to 36 inches (50 to 91 centimeters); olive gray (5Y 4/2) silt loam; massive; common medium prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4 and 10YR 5/6) soft masses of iron accumulation; moderately acid; clear smooth boundary; **BCg3**-- 36 to 54 inches; (91 to 137 centimeters) dark gray (5Y 4/1) silt loam; massive; common medium prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4 and 10YR 5/6) soft masses of iron accumulation; moderately acid; clear smooth boundary; and **Cg**-- 54 to 65

inches (137 to 165 centimeters); dark greenish gray (5GY 4/1) silt loam; massive; few, fine prominent dark yellowish brown (10YR 4/4) and yellowish brown (10YR 5/4 and 10YR 5/6) soft masses of iron accumulation; neutral.

Occum Soils

The Occum series consists of very deep, well drained loamy soils formed in alluvial sediments. They are nearly level soils on flood plains, subject to common flooding. Slope ranges from 0 to 3 percent. Saturated hydraulic conductivity is moderately high or high in the loamy layers and high or very high in the sandy substratum. Mean annual temperature is about 50 degrees F., and mean annual precipitation is about 43 inches. Typical sequence, depth, and composition of this soil is as follows: **Ap**--0 to 10 inches; dark brown (10YR 3/3) fine sandy loam, pale brown (10YR 6/3) dry; weak fine and medium granular structure; very friable; many very fine and fine roots; moderately acid; clear smooth boundary; **Bw1**--10 to 17 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; very friable; common very fine and fine roots; moderately acid; clear smooth boundary; **Bw2**--17 to 28 inches; dark yellowish brown (10YR 4/6) sandy loam; weak medium subangular blocky structure; very friable; few very fine and fine roots; moderately acid; clear smooth boundary; **C1**--28 to 32 inches; yellowish brown (10YR 5/4) loamy sand; single grain; loose; moderately acid; clear smooth boundary; **C2**--32 to 42 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) sand; single grain; loose; 10 percent gravel; moderately acid; clear smooth boundary; and **C3**--42 to 65 inches; brown (10YR 5/3) and light olive brown (2.5Y 5/4) very gravelly coarse sand; single grain; loose; 35 percent gravel; moderately acid.

Udorthents

Udorthents consists of moderately, well drained, to excessively drained soils that have been disturbed by cuffing or filling, and areas that are covered by buildings and pavement. The areas are mostly larger than 5 acres. Udorthents are in areas that have been cut to a depth of 0.6 m (2 ft) or more or are on areas with more than 0.6 m (2 ft) of fill. Udorthents consist primarily of moderately coarse textured soil material and a few small areas of medium textured material. In some areas fill has been used to build up recreational areas and highways.

Winooski

The Winooski series consists of very deep, moderately well drained soils formed in alluvial material. These soils are on nearly level flood plains. Typical sequence, depth, and composition of this soil is as follows: **Ap** -- 0 to 8 inches (0 to 20 centimeters); very dark grayish brown (10YR 3/2) very fine sandy loam; weak fine granular structure; very friable; many fine roots; moderately acid; abrupt smooth boundary. (4 to 18 inches); **Bw1** -- 8 to 18 inches (20 to 46 centimeters); brown (10YR 4/3) very fine sandy loam; massive; friable; many fine roots; strongly acid; abrupt smooth boundary; **Bw2** -- 18 to 26 inches (46 to 66 centimeters); olive brown (2.5Y 4/4) very fine sandy loam, common medium prominent pinkish gray (5YR 7/2) and faint brown (10YR 5/3) areas of iron depletion; massive; friable; few fine roots; strongly acid; abrupt smooth boundary; **BC** -- 26 to 43 inches (66 to 109 centimeters); olive gray (5Y 5/2) very fine sandy loam; massive; friable; common medium faint light gray (5Y 7/2) areas of iron depletion and faint brown (10YR 5/3) masses of iron accumulation; moderately acid; clear smooth boundary; and **C** -- 43 to 65 inches (109 to 165 centimeters); olive (5Y 5/3) loamy very fine sand; massive; friable; common medium distinct light brownish gray (10YR 6/2) iron depletions and prominent strong brown (7.5YR 5/8) masses of iron accumulation; moderately acid.

Summary

The proposed project area is in close proximity to multiple sources of freshwater including the Connecticut River and contains portions with well-drained soils. The types of Native American sites that may be contained in these well-drained areas include task specific, temporary, or seasonal base camps, which may include areas of lithic tool manufacturing, hearths, post-molds and storage pits. Historical sites types that may be identified on the parcel include domestic sites and artifacts scatters. A walkover survey was completed within the project area to delineate portions appear to be favorable to both prehistoric and historical period occupations. The results of this survey are summarized in Chapter VII.

CHAPTER III
PREHISTORIC SETTING

Introduction

Prior to the late 1970s and early 1980s, very few systematic archaeological surveys of large portions of the State of Connecticut had been undertaken. Rather, the prehistory of the region was studied at the site level. Sites chosen for excavation were highly visible and they were in such areas as the coastal zone, e.g., shell middens, and Connecticut River Valley. As a result, a skewed interpretation of the prehistory of Connecticut was developed. It was suggested that the upland portions of the state, i.e., the northeastern and northwestern hills ecoregions, were little used and rarely occupied by prehistoric Native Americans, while the coastal zone, i.e., the eastern and western coastal and the southeastern and southwestern hills ecoregions, were the focus of settlements and exploitation in the prehistoric era. This interpretation remained unchallenged until the 1970s and 1980s when several town-wide and regional archaeological studies were completed. These investigations led to the creation of several archaeological phases that subsequently were applied to understand the prehistory of Connecticut. The remainder of this chapter provides an overview of the prehistoric setting of the region encompassing the project parcel.

Paleo-Indian Period (12,000 to 10,000 Before Present [B.P.])

The earliest inhabitants of the area encompassing the State of Connecticut, who have been referred to as Paleo-Indians, arrived in the area by ca., 12,000 B.P. (Gramly and Funk 1990; Snow 1980). Due to the presence of large Pleistocene mammals at that time and the ubiquity of large fluted projectile points in archaeological deposits of this age, Paleo-Indians often have been described as big-game hunters (Ritchie and Funk 1973; Snow 1980); however, as discussed below, it is more likely that they hunted a broad spectrum of animals. While there have been numerous surface finds of Paleo-Indian projectile points throughout the State of Connecticut, only three sites, the Templeton Site (6-LF-21) in Washington, Connecticut, the Hidden Creek Site (72-163) in Ledyard, Connecticut, and the Brian D. Jones Site (4-10B) in Avon, Connecticut have been studied in detail and dated using the radiocarbon method (Jones 1997; Moeller 1980; Leslie et al., 2020).

The Templeton Site (6-LF-21) is in Washington, Connecticut and was occupied between 10,490 and 9,890 years ago (Moeller 1980). In addition to a single large and two small fluted points, the Templeton Site produced a stone tool assemblage consisting of gravers, drills, core fragments, scrapers, and channel flakes, which indicates that the full range of stone tool production and maintenance took place at the site (Moeller 1980). Moreover, the use of both local and non-local raw materials was documented in the recovered tool assemblage, suggesting that not only did the site's occupants spend some time in the area, but they also had access to distant stone sources, the use of which likely occurred during movement from region to region.

The Hidden Creek Site (72-163) is situated on the southeastern margin of the Great Cedar Swamp on the Mashantucket Pequot Reservation in Ledyard, Connecticut (Jones 1997). While excavation of the Hidden Creek Site produced evidence of Terminal Archaic and Woodland Period components (see below) in the upper soil horizons, the lower levels of the site yielded artifacts dating from the Paleo-Indian era. Recovered Paleo-Indian artifacts included broken bifaces, side-scrapers, a fluted preform, gravers, and end-scrapers. Based on the types and number of tools present, Jones (1997:77) has hypothesized that the Hidden Creek Site represented a short-term occupation, and that separate stone tool reduction and

rejuvenation areas were present.

Archaic Period (10,000 to 2,700 B.P.)

The Archaic Period, which succeeded the Paleo-Indian Period, began by ca., 10,000 B.P. (Ritchie and Funk 1973; Snow 1980), and it has been divided into three subperiods: Early Archaic (10,000 to 8,000 B.P.), Middle Archaic (8,000 to 6,000 B.P.), and Late Archaic (6,000 to 3,400 B.P.). These periods were devised to describe all non-farming, non-ceramic producing populations in the area. Regional archeologists recently have recognized a final "transitional" Archaic Period, the Terminal Archaic Period (3,400-2,700 B.P.), which was meant to describe those groups that existed just prior to the onset of the Woodland Period and the widespread adoption of ceramics into the toolkit (Snow 1980; McBride 1984; Pfeiffer 1984, 1990; Witthoft 1949, 1953).

Early Archaic Period (10,000 to 8,000 B.P.)

To date, very few Early Archaic sites have been identified in southern New England. As a result, researchers such as Fitting (1968) and Ritchie (1969), have suggested a lack of these sites likely is tied to cultural discontinuity between the Early Archaic and preceding Paleo-Indian Period, as well as a population decrease from earlier times. However, with continued identification of Early Archaic sites in the region, and the recognition of the problems of preservation, it is difficult to maintain the discontinuity hypothesis (Curran and Dincauze 1977; Snow 1980).

Like their Paleo-Indian predecessors, Early Archaic sites tend to be very small and produce few artifacts, most of which are not temporally diagnostic. While Early Archaic sites in other portions of the United States are represented by projectile points of the Kirk series (Ritchie and Funk 1973) and by Kanawha types (Coe 1964), sites of this age in southern New England are identified on the basis of a series of ill-defined bifurcate-based projectile points. These projectile points are identified by the presence of their characteristic bifurcated base, and they generally are made from high quality raw materials. Moreover, finds of these projectile points have rarely been in stratified contexts. Rather, they occur commonly either as surface expressions or intermixed with artifacts representative of later periods. Early Archaic occupations, such as the Dill Farm Site and Sites 6LF64 and 6LF70 in Litchfield County, are represented by camps that were relocated periodically to take advantage of seasonally available resources (McBride 1984; Pfeiffer 1986). In this sense, a foraging type of settlement pattern was employed during the Early Archaic Period.

Middle Archaic Period (8,000 to 6,000 B.P.)

By the onset of the Middle Archaic Period, essentially modern deciduous forests had developed in the region (Davis 1969). It is at this time that increased numbers and types of sites are noted in Connecticut (McBride 1984). The most well-known Middle Archaic site in New England is the Neville Site, which is in Manchester, New Hampshire and studied by Dincauze (1976). Careful analysis of the Neville Site indicated that the Middle Archaic occupation dated from between ca., 7,700 and 6,000 years ago. In fact, Dincauze (1976) obtained several radiocarbon dates from the Middle Archaic component of the Neville Site. The dates, associated with the then-newly named Neville type projectile point, ranged from 7,740±280 and 7,015±160 B.P. (Dincauze 1976).

In addition to Neville points, Dincauze (1976) described two other projectile points styles that are attributed to the Middle Archaic Period: Stark and Merrimac projectile points. While no absolute dates were recovered from deposits that yielded Stark points, the Merrimac type dated from 5,910±180 B.P. Dincauze argued that both the Neville and later Merrimac and Stark occupations were established to take advantage of the excellent fishing that the falls situated adjacent to the site area would have afforded Native American groups. Thus, based on the available archaeological evidence, the Middle

Archaic Period is characterized by continued increases in diversification of tool types and resources exploited, as well as by sophisticated changes in the settlement pattern to include different site types, including both base camps and task-specific sites (McBride 1984:96)

Late Archaic Period (6,000 to 3,700 B.P.)

The Late Archaic Period in southern New England is divided into two major cultural traditions that appear to have coexisted. They include the Laurentian and Narrow-Stemmed Traditions (Funk 1976; McBride 1984; Ritchie 1969a and b). Artifacts assigned to the Laurentian Tradition include ground stone axes, adzes, gouges, ulus (semi-lunar knives), pestles, atlatl weights, and scrapers. The diagnostic projectile point forms of this time period in southern New England include the Brewerton Eared-Notched, Brewerton Eared and Brewerton Side-Notched varieties (McBride 1984; Ritchie 1969a; Thompson 1969). In general, the stone tool assemblage of the Laurentian Tradition is characterized by flint, felsite, rhyolite, and quartzite, while quartz was largely avoided for stone tool production.

In terms of settlement and subsistence patterns, archaeological evidence in southern New England suggests that Laurentian Tradition populations consisted of groups of mobile hunter-gatherers. While a few large Laurentian Tradition occupations have been studied, sites of this age generally encompass less than 500 m^2 (5,383 ft^2). These base camps reflect frequent movements by small groups of people in search of seasonally abundant resources. The overall settlement pattern of the Laurentian Tradition was dispersed in nature, with base camps located in a wide range of microenvironments, including riverine as well as upland zones (McBride 1978, 1984:252). Finally, subsistence strategies of Laurentian Tradition focused on hunting and gathering of wild plants and animals from multiple ecozones.

The second Late Archaic tradition, known as the Narrow-Stemmed Tradition, is unlike the Laurentian Tradition, and it likely represents a different cultural adaptation. The Narrow-Stemmed tradition is recognized by the presence of quartz and quartzite narrow stemmed projectile points, triangular quartz Squibnocket projectile points, and a bipolar lithic reduction strategy (McBride 1984). Other tools found in Narrow-Stemmed Tradition artifact assemblages include choppers, adzes, pestles, antler and bone projectile points, harpoons, awls, and notched atlatl weights. Many of these tools, notably the projectile points and pestles, indicate a subsistence pattern dominated by hunting and fishing, as well the collection of a wide range of plant foods (McBride 1984; Snow 1980:228).

Terminal Archaic Period (3,700 to 2,700 B.P.)

The Terminal Archaic Period, which lasted from ca., 3,700 to 2,700 BP, is perhaps the most interesting, yet confusing of the Archaic Periods in southern New England prehistory. Originally termed the "Transitional Archaic" by Witthoft (1953) and recognized by the introduction of technological innovations, e.g., broadspear projectile points and soapstone bowls, the Terminal Archaic has long posed problems for regional archeologists. While the Narrow-Stemmed Tradition persisted through the Terminal Archaic and into the Early Woodland Period, the Terminal Archaic is coeval with what appears to be a different technological adaptation, the Susquehanna Tradition (McBride 1984; Ritchie 1969b). The Susquehanna Tradition is recognized in southern New England by the presence of a new stone tool industry that was based on the use of high-quality raw materials for stone tool production and a settlement pattern different from the "coeval" Narrow-Stemmed Tradition.

The Susquehanna Tradition is based on the classification of several Broadspear projectile point types and associated artifacts. There are several local sequences within the tradition, and they are based on projectile point type chronology. Temporally diagnostic projectile points of these sequences include the Snook Kill, Susquehanna Broadspear, Mansion Inn, and Orient Fishtail types (Lavin 1984; McBride 1984;

Pfeiffer 1984). The initial portion of the Terminal Archaic Period (ca., 3,700-3,200 BP) is characterized by the presence of Snook Kill and Susquehanna Broadspear projectile points, while the latter Terminal Archaic (3,200-2,700 BP) is distinguished by the use of Orient Fishtail projectile points (McBride 1984:119; Ritchie 1971).

In addition, it was during the late Terminal Archaic Period that interior cord marked, grit tempered, thick walled ceramics with conoidal (pointed) bases made their initial appearance in the Native American toolkit. These are the first ceramics in the region, and they are named Vinette I (Ritchie 1969a; Snow 1980:242); this type of ceramic vessel appears with much more frequency during the ensuing Early Woodland Period. In addition, the adoption and widespread use of soapstone bowls, as well as the implementation of subterranean storage, suggests that Terminal Archaic groups were characterized by reduced mobility and longer-term use of established occupation sites (Snow 1980:250).

Finally, while settlement patterns appeared to have changed, Terminal Archaic subsistence patterns were analogous to earlier patterns. The subsistence pattern still was diffuse in nature, and it was scheduled carefully. Typical food remains recovered from sites of this period consist of fragments of white-tailed deer, beaver, turtle, fish, and various small mammals. Botanical remains recovered from the site area consisted of *Chenopodium* sp., hickory, butternut, and walnut (Pagoulatos 1988:81). Such diversity in food remains suggests at least minimal use of a wide range of microenvironments for subsistence purposes.

Woodland Period (2,700 to 350 B.P.)

Traditionally, the advent of the Woodland Period in southern New England has been associated with the introduction of pottery; however, as mentioned above, early dates associated with pottery now suggest the presence of Vinette I ceramics appeared toward the end of the preceding Terminal Archaic Period (Ritchie 1969a; McBride 1984). Like the Archaic Period, the Woodland Period has been divided into three subperiods: Early, Middle, and Late Woodland. The various subperiods are discussed below.

Early Woodland Period (ca., 2,700 to 2,000 B.P.)

The Early Woodland Period of the northeastern United States dates from ca., 2,700 to 2,000 B.P., and it has been thought to have been characterized by the advent of farming, the initial use of ceramic vessels, and increasingly complex burial ceremonialism (Griffin 1967; Ritchie 1969a and 1969b; Snow 1980). In the Northeast, the earliest ceramics of the Early Woodland Period are thick walled, cord marked on both the interior and exterior, and possess grit temper.

Careful archaeological investigations of Early Woodland sites in southern New England have resulted in the recovery of narrow stemmed projectile points in association with ceramic sherds and subsistence remains, including specimens of white-tailed deer, soft and hard-shell clams, and oyster shells (Lavin and Salwen: 1983; McBride 1984:296-297; Pope 1952). McBride (1984) has argued that the combination of the subsistence remains and the recognition of multiple superimposed cultural features at various sites indicates that Early Woodland Period settlement patterns were characterized by multiple re-use of the same sites on a seasonal basis by small co-residential groups.

Middle Woodland Period (2,000 to 1,200 B.P.)

The Middle Woodland Period is marked by increased numbers of ceramic types and forms .(Lizee 1994a), as well as an increase in the amount of exotic lithic raw material used in stone tool manufacture (McBride 1984). The latter suggests that regional exchange networks were established, and that they were used to supply local populations with necessary raw materials (McBride 1984; Snow 1980). The

Middle Woodland Period is represented archaeologically by narrow stemmed and Jack's Reef projectile points; increased amounts of exotic raw materials in recovered lithic assemblages, including chert, argillite, jasper, and hornfels; and conoidal ceramic vessels decorated with dentate stamping. Ceramic types, indicative of the Middle Woodland Period, include Linear Dentate, Rocker Dentate, Windsor Cord Marked, Windsor Brushed, Windsor Plain, and Hollister Stamped (Lizee 1994a:200).

In terms of settlement patterns, the Middle Woodland Period is characterized by the occupation of village sites by large co-residential groups that utilized native plant and animal species for food and raw materials in tool making (George 1997). These sites were the principal place of occupation, and they were positioned close to major river valleys, tidal marshes, estuaries, and the coastline, all of which would have supplied an abundance of plant and animal resources (McBride 1984:309). In addition to villages, numerous temporary and task-specific sites were utilized in the surrounding upland areas, as well as in closer ecozones such as wetlands, estuaries, and floodplains. The use of temporary and task-specific sites to support large village populations indicates that the Middle Woodland Period was characterized by a resource acquisition strategy that can best be termed as logistical collection (McBride 1984:310).

Late Woodland Period (ca., 1,200 to 350 B.P.)

The Late Woodland Period in southern New England dates from ca., 1,200 to 350 B.P., and it is characterized by the earliest evidence for the use of corn in the lower Connecticut River Valley (Bendremer 1993; Bendremer and Dewar 1993; Bendremer et al. 1991; George 1997; McBride 1984); an increase in the frequency of exchange of non-local lithics (Feder 1984; George and Tryon 1996; McBride 1984; Lavin 1984); increased variability in ceramic form, function, surface treatment, and decoration (Lavin 1980, 1986, 1987; Lizee 1994a, 1994b); and a continuation of a trend towards larger, more permanent settlements in riverine, estuarine, and coastal ecozones (Dincauze 1974; McBride 1984; Snow 1980).

Stone tool assemblages associated with Late Woodland occupations, especially village-sized sites, are functionally variable and they reflect plant and animal resource processing and consumption on a large scale. Finished stone tools recovered from Late Woodland sites include Levanna and Madison projectile points; drills; side-, end-, and thumbnail scrapers; mortars and pestles; nutting stones; netsinkers; and celts, adzes, axes, and digging tools. These tools were used in activities ranging from hide preparation to plant processing to the manufacture of canoes, bowls, and utensils, as well as other settlement and subsistence-related items (McBride 1984; Snow 1980). Finally, ceramic assemblages recovered from Late Woodland sites are as variable as the lithic assemblages. Ceramic types identified include Windsor Fabric Impressed, Windsor Brushed, Windsor Cord Marked, Windsor Plain, Clearview Stamped, Sebonac Stamped, Selden Island, Hollister Plain, Hollister Stamped, and Shantok Cove Incised (Lavin 1980, 1988a, 1988b; Lizee 1994a; Pope 1953; Rouse 1947; Salwen and Ottesen 1972; Smith 1947). These types are more diverse stylistically than their predecessors, with incision, shell stamping, punctation, single point, linear dentate, rocker dentate stamping, and stamp and drag impressions common (Lizee 1994a:216).

Summary of Connecticut Prehistory

In sum, the prehistory of Connecticut spans from ca., 12,000 to 350 B.P., and it is characterized by numerous changes in tool types, subsistence patterns, and land use strategies. For much of the prehistoric era, local Native American groups practiced a subsistence pattern based on a mixed economy of hunting and gathering wild plant and animal resources. It is not until the Late Woodland Period that incontrovertible evidence for the use of domesticated species is available. Further, settlement patterns throughout the prehistoric era shifted from seasonal occupations of small co-residential groups to large

aggregations of people in riverine, estuarine, and coastal ecozones. In terms of the region containing the proposed project area, a variety of prehistoric site types may be expected. These range from seasonal camps utilized by Archaic populations to temporary and task-specific sites of the Woodland era.

CHAPTER IV
HISTORICAL OVERVIEW

Introduction

The proposed project area is located on the border of the town of Windsor and the City of Hartford on the western bank of the Connecticut River. Windsor and Hartford are two of the earliest settlements in the State of Connecticut. The town of Windsor was founded in 1633 and was the oldest English settlement in the state. The City of Hartford was founded in 1635 and is now the capital of the State of Connecticut. While Windsor is considered a residential suburb, Hartford is an urban center. This chapter presents an overview history of the two municipalities, as well as data more specific to the location of the proposed project area.

Native American History

The Native Americans who inhabited the Connecticut River Valley in central and northern Connecticut were part of the Eastern Algonkian civilization. They consisted of various groups, including the Podunk, Wangunk, Nawaas, and Sicaog tribes. At the time of contact with the Europeans, the lifestyle of the indigenous peoples of the area included hunting and fishing, as well as the cultivation of various crops, including maize, beans, sunflowers, and tobacco. They supplemented these foods seasonally by collecting shellfish, fruits, and plants during warmer periods, and gathering nuts, roots, and tubers during colder periods. In addition, Native American groups also came together in large hunting parties to hunt deer in the fall and early winter. In terms of housing, indigenous peoples lived with their immediate or extended families in round wigwams or oval houses. They also resided in longer dwellings, that housed multiple families.

Trade was common among native peoples and this practice was extended to the European arrivals. However, interactions with Europeans meant exposure to new diseases, including measles, tuberculosis, and cholera. Because indigenous peoples had no immunity to these afflictions, they died in large numbers in the early seventeenth century. In 1633, there were reports of a “plague” that had wiped out 90 percent of a Native American village in what is now Windsor, Connecticut. The following year, smallpox decimated native communities in the Connecticut River Valley. By 1650, it is possible that as much as 90 percent of Native Americans in New England had perished. The diminished population and the fact that Native Americans had an oral tradition rather than a written one means that there are comparatively few documents about the Native American groups that inhabited the Windsor and Hartford areas during the seventeenth century and earlier (Lavin 2013).

When it comes to the transfer of land from Native Americans to the Europeans, colonial records shed some light. In 1633, a Wangunk sachem named Sowheag lived in the area now known as Windsor and sold land to the Dutch, though the Native American understanding of the sale of land differed from that of the Europeans (Trumbull 1886). That same year, an English settler claimed that a sachem named Nattawanut had sold him land in the Windsor area (Stiles 1891). In Hartford, a Sicaog sachem named Sunckquasson sold land to settlers in 1635 or 1636 and in 1670, this land grant was expanded to include all of Sunckquasson’s territory to the west. Members of the Sicaog tribe remained on a reservation in Hartford, however it is unclear what became of them (Trumbull 1886). Though there is scant information, it does appear to be the case that local Native Americans “gradually left their ancient seats, some removing among the Tunxis, and others settling in the towns of Salisbury and Sharon” (De Forest 1852:363).

European Settlement

European settlers first explored the Connecticut River Valley in 1614 when Dutch privateer Adriaen Block sailed up the Connecticut River. Soon thereafter, the Dutch purchased land from the Native Americans established trading posts along the river. In 1623, they built a small fort called the House of Good Hope in the area that now contains Hartford. A decade later, English colonists established three settlements along the Connecticut River. In 1633, William Holmes traveled south from the Plymouth Colony and founded a settlement in what is now Windsor. Another member of the Plymouth Colony, John Oldham, was the first arrival at Pyquag (now Wethersfield) in 1634. Numerous families traveled to Pyquag in the subsequent years and formed a settlement there (Van Dusen 1961). Several contingents of colonists from Newtown, Massachusetts (now Cambridge, Massachusetts) formed a third settlement when they traveled south to the area of the Dutch fort in Hartford; that place is still referred to as "Dutch Point" today. In 1636, Thomas Hooker led one of these parties south to join other English settlers who were already in the area. Like the Dutch before them, Hooker and other colonists made purchases of land from the local Native Americans. For some years thereafter, the Dutch and English were uneasy neighbors, with the more numerous English making difficulties for the Dutch on a variety of pretexts. By 1650, at a time when England and the Netherlands were at war, the English seized the Dutch fort at Hartford and all of its goods, thereby removing the Dutch presence from the area (Trumbull 1886). Subsequently, the three settlements formed a joint government that established the names of the towns as Windsor, Wethersfield, and Hartford (Stiles 1891).

Seventeenth Through Nineteenth Centuries

The territories of the towns of Windsor and Hartford were expansive, and both originally straddled the Connecticut River. Windsor originally included the modern-day towns of East Windsor, South Windsor, Ellington, Windsor Locks, and part of Bloomfield, as well as small parts of other neighboring towns. Hartford included what are now the towns of East Hartford, Manchester, and West Hartford. Early settlers in the Connecticut River Valley were primarily farmers and raised various types of grains, as well as tobacco. During the eighteenth century, some farmers turned to grazing and raised livestock. Other forms of industry appeared as gristmills, sawmills, and fulling mills became common in the area(Van Dusen 1961). Due to their access to the river, Windsor and Hartford also served as important ports from which merchants shipped various products, including timber, bricks, livestock, and tobacco, south to the West Indies. Once there, ships picked up sugar, salt, British-made textiles, and ceramics, among other things, importing them back to the colonies.

Shipbuilding took place at various points on the Connecticut River, namely in Hartford and the areas that are now South Windsor and East Windsor, as well as along the Farmington River in northern Windsor (Stiles 1891). By 1756, Windsor had a sizable population of 4,220 residents while Hartford was home to 3,027 people. Windsor's population fell dramatically after 1768 due to the separation of East Windsor, which at that time encompassed all of Windsor's territory on the eastern side of the Connecticut River, including modern-day South Windsor and Ellington.

At the start of the Revolutionary War in 1774, Windsor supported 2,125 residents, reflecting the significant decrease in its territory (Connecticut 2020, 2022a). During the war, Hartford County was not witness to any battles, but the state as a whole provided soldiers and provisions, such as food, tents, wooden bowls, canteens, and blankets (Van Dusen 1961). In 1783, at the end of the war, Hartford lost a portion of its population with the separation of East Hartford, which included what is today Manchester. This meant that Hartford, like Windsor, no longer possessed territory on the eastern side of the Connecticut River. Prior to the separation in 1782, the town had 5,495 residents. In 1784, Hartford was

incorporated as a city and by 1790, after the separation, the population had decreased to 4,090, while that same year Windsor had 2,714 residents (Connecticut 2020, 2022a).

In the early nineteenth century, Windsor was still primarily an agricultural town, but by the 1830s, the town had developed some manufacturing facilities and experienced advancements in transportation. As of 1836, Windsor had four paper mills, and several factories that produced "Kentucky jeans," cotton batting, wire, and satinet. A region of town called Pine Meadow was the location of the Windsor Locks, which were situated on a canal that ran north to Enfield (Barber 1836). Operated by the Connecticut River Company, the canal opened in 1829 and allowed for passengers to travel by steamboat between Hartford and Springfield. This was a popular mode of travel for 15 years until it was effectively replaced by the railroad (Stiles 1891).

By 1844, the Hartford & Springfield Railroad had built a line through Windsor. Since the rail line linked with the Hartford & New Haven line in Hartford, Windsor had a reliable connection to the state's rail system thereafter. In 1871, the Central New England line was completed, and it extended from Hartford to Winsted; it cross through the corner of Windsor. By passing through the east end of town, and through the agricultural hinterland, these railroads bypassed the nascent industrial villages of Poquonock and Rainbow, which did little to encourage the development of large-scale industry in Windsor (Turner and Jacobus 1987). Though by the later nineteenth century steamboat usage had declined, the canal continued to prove useful as a power source for numerous manufacturers and mills in the area (Stiles 1891).

Throughout this period, the population of Windsor fluctuated. In 1830, the town had 3,220 residents, which fell to 2,283 by 1840 due to the separation of the town of Bloomfield in 1835. Although Pine Meadow became the town of Windsor Locks in 1854, the population of Windsor Locks was counted jointly with Windsor in the 1860 census, giving the town 3,865 residents. The 1870 census provided separate counts and noted the population of Windsor Locks as 2,154 residents and Windsor as 2,783 people. At the end of the century, the number of residents in Windsor had again risen to approximately 3,000 residents (Connecticut 2020, 2022b).

In contrast, Hartford had a sizable population of 5,347 inhabitants by the early nineteenth century. The city was described as "advantageously situated for business," primarily because of its location on the Connecticut River (Barber 1836:32). Hartford was a transportation and trade hub connecting to Springfield, Massachusetts in the north and to New York in the southwest by steamboats and ferries. A major manufacturing center, the city produced a multitude of products, including sheet iron, pewter ware, printing presses, carriages, umbrellas, furniture, clothing, and soap. In addition, there was a museum, a brewery, an abundance of book publishers, and 15 newspapers by the 1830s (Barber 1836). The city also was the location of what is now known as the American School for the Deaf, which was founded in 1817 and became the first permanent school for the deaf in America (American School for the Deaf n.d). Further, Hartford had three fire and marine insurance offices and the city eventually became known as the "insurance capital" of the world (Barber 1836; Mahoney 2015). The prosperity of the city attracted other business opportunities. After experiencing success with the popularity of his revolvers, in 1855 Samuel Colt opened the Colt Patent Fire-Arms Manufacturing Company in Hartford. Located on the banks of the Connecticut River, at that time it was the largest private factory in the world (Connecticuthistory.org 2019).

In 1875, Hartford became the official capital of the State of Connecticut, a designation it had previously shared with the City of New Haven. Almost 200 years prior, in 1701, the General Court decreed that

both Hartford and New Haven were co-capitals of Connecticut and the General Assembly met in each city once a year. By the 1860s, discussions took place concerning the practicality of having two capitals. A committee assessed the viability of each city as the sole capital, but the final decision was left to a public referendum. Both Hartford and New Haven campaigned to gain the designation, but Hartford prevailed and became the capital of Connecticut. The General Assembly had a new capitol building constructed in the city, which was completed in 1878 and still functions as the capitol today (Mahoney 2020).

Throughout the nineteenth century, Hartford continued to grow and by 1890, the city had 53,230 inhabitants. The separation of the town of West Hartford in 1854 had had no impact on the population as Hartford gained approximately 14,000 residents during the 1850s (Connecticut 2022b). With the establishment of the railroad system, Hartford became a major stop on multiple lines, which at the end of the century were the New York, New Haven & Hartford; New York & New England; Hartford & Connecticut Western; and Hartford & Connecticut Valley Railroads. The city also could still be reached by steamboat and stagecoach at that time. The insurance industry and manufacturing endeavors remained prominent and in the 1890s, Hartford was producing firearms, sewing machines, silk goods, and car wheels, among other things (Connecticut 1890).

Modern Period

As of the early twentieth century, Windsor's population still was under 5,000 residents and its main industries were general manufacturing and agriculture. One of Windsor's most important agricultural crops at that time was shade tobacco, and by the 1920s, the town was the center of the industry (Cunningham 1995). Unlike Windsor, Hartford's population had reached almost 100,000 residents by 1910 and the city was a manufacturing hub for a variety of items, including bicycles, firearms, organs, knit goods, silverware, typewriters, metal castings, motor carriages, and leather belting (Connecticut 1910). By the middle of the twentieth century, Connecticut had experienced growth reflecting the postwar adoption of the automobile and the subsequent suburban residential development trend, as well as the construction of highways. Due to this suburbanization trend, Windsor's population had risen to 19,467 residents as of 1960. Windsor's manufacturing sector also had expanded by that time to include the production of bricks, iron castings, machine tools, and atomic energy, though agriculture was still a principal industry (Connecticut 1960). Hartford's population also reflected the suburbanization trend. Throughout the first half of the twentieth century the number of residents in the city increased, peaking at 177,397 in 1950 (Connecticut 2022c). However, with many of its inhabitants moving to neighboring towns, the city's population decreased during the second half of the twentieth century, falling to a low point of 121,578 residents by the year 2000. Windsor's population had steadily increased during this time, reaching 28,237 inhabitants in that same year (Connecticut 2022d).

At the beginning of the twenty-first century, Windsor's population made small gains, and as of 2021 the town had 28,859 residents (AdvanceCT and CTData Collaborative 2021a; Connecticut 2022d). At that time, the largest employment sector in town was finance, followed by transportation and warehousing, as is evidenced by two of the major employers in town, The Hartford and Amazon (AdvanceCT and CTData Collaborative 2021a). Though the production of tobacco had declined significantly since the mid-twentieth century, it was still a notable part of the economy as of 2020. Other principal industries in town include power generation, aerospace, medical technology, adhesives, and automotive parts (Connecticut 2020). Despite these diverse manufacturing ventures and the continued presence of tobacco farming, the town of Windsor retains a suburban residential character.

Similar to Windsor, the population of Hartford increased recently, rising to 123,088 residents in 2021. The insurance industry has continued to be a major employment sector and three of the city's major employers were insurance companies, including The Hartford, Travelers, and Aetna (AdvanceCT and CTData Collaborative 2021b). Manufacturing also still plays a role in Hartford's economy and automobile parts, firearms, plastics, glass machinery, and sound equipment are just a few of the various items produced in the city (Connecticut 2020).

History of the Proposed Project Area

The proposed project area was located on the bank of the Connecticut River in eastern Hartford and Windsor in a region that was primarily rural land in the nineteenth century. An excerpt from an 1855 map showed the project parcels situated to the south of what is now Meadow Road, and to the east of the New Haven, Hartford & Springfield Railroad, which ran northeast to southwest through Hartford and Windsor (Figure 2). Modern-day Windsor Avenue was situated to the west, almost parallel to the railroad, and had a multitude of houses on either side of the street. Within the parcels was a house owned by an individual named "Marshe" on a road that branched off Meadow Road to the southeast. Other buildings were outside of the parcels but still in close proximity, namely two houses to the north on Meadow Road owned by N. W. Loomis and L. Peck and one house to the south owned by John Marsh.

Few changes took place over the subsequent years and excerpts from two maps dating from 1869 show that the project parcels still were situated among homesteads on the western bank of the Connecticut River (Figure 3 and 4). By that time, the road that extended from Meadow Road no longer existed and the homestead under the name of "Marshe" along that road was no longer marked on maps of the area. The closest existing homesteads were those located on Meadow Road and Windsor Avenue. The map of Windsor indicated that the home of N.W. Loomis was at that time owned by Samuel Mather, while the home of L. Peck was either vacant or also owned by Samuel Mather (the map is unclear) (Figure 3). The map of Hartford denotes Samuel Mather as the then-owner of the former property of N.W. Loomis and does not depict the house of L. Peck at all (Figure 4). As of 1869, the home of John Marsh still belonged to John (E.) Marsh.

While the composition of the project parcels did not undergo major changes throughout the twentieth and early twenty-first centuries, the surrounding areas did experience some transformations. In 1934, the project parcels consisted of agricultural fields adjacent to the western bank of the Connecticut River (Figure 5). Though it was not depicted on the 1869 maps, within the westernmost project parcel was the former "Marshe" house and other farm-related buildings. At that time, this parcel was owned by Anders Christensen, who had owned the property since at least 1896. Christensen had also acquired other sections of the project area and ran a vegetable farm on the property for several decades until his death in 1950 (Find a Grave 2022; United States Census Bureau 1940). For a brief ten-year period, Anders partnered with his brother Niels Christensen and ran a market garden within the project area. Niels became known as a "pioneer in the market garden industry" and was the father of John Christensen, a public official who served in the state senate from 1943-1945 (Hartford Courant 10 May 1947:4).

The eastern edge of the project area ran along the bank of the Connecticut River and to the southwest beyond the border of the project area was Meadow Brook. While the immediate surroundings of the project parcels were comprised of agricultural fields and undeveloped land, there were small but dense population centers to the northwest and southwest along Windsor Avenue. As of 1951, the project area was mostly unchanged (Figure 6). The Christensen farmhouse and other buildings as well as a few farm roads were present and much of the land within the parcels had been cleared. At that time, the eastern

border of the project area extended into the Connecticut River as the riverbank had eroded. The predecessor to Interstate 91, known as the North Meadows Highway, had been built and connected to Windsor Avenue to the west of the project area (Malley 2020). Over the following decades, there was a great deal of new construction in the region. By 2019, the North Meadows Highway had become Interstate 91 and crossed over Windsor Avenue to the west of the project parcels (Figure 7). Much of the surroundings of the project area had been developed into commercial properties, particularly to the southwest between Windsor Avenue and I-91. There was also a commercial property on the northwestern border of the project parcels adjacent to the railroad tracks. Windsor Meadows State Park encompassed the land along the bank of the Connecticut River to the north of the project area. A number of buildings, including the former Christensen house, were in the westernmost parcel at that time, though all buildings have since been removed. As of 2019, this parcel was being used for industrial purposes and the rest of the project parcels were no longer agricultural land, though they had not been developed. The central portion of the project area consisted of a cleared open field and the easternmost section contained a cove.

Conclusions

Although the project area has associations with local historical figures such as the Christensen family, the houses and farm-related buildings that were once on the property are no longer extant. The historical research for this project, including the analysis of maps and aerial images of the region, indicates that the proposed project area has been disturbed and does not retain potential to yield intact historical resources due to large scale construction activities, filling, and incursion by the Connecticut River. Thus, it is unlikely that this area would yield significant historical period deposits and may be expected instead to only produce evidence of historical scatters of artifacts and perhaps prehistoric archaeological sites.

CHAPTER V
PREVIOUS INVESTIGATIONS

Introduction

This chapter presents the results of a cultural resources literature review for the proposed study region (Figures 8 and 9). Personnel from Heritage visited the CT-SHPO in Hartford, Connecticut, as well as searched Heritage's corporate files, in an attempt to identify all previously identified cultural resources situated within 1.6 km (1 mi) of the proposed project area, including known archaeological sites, inventoried historical standing structures, and National/State Register of Historic Places that may be affected by the proposed undertaking. This review resulted in the identification of four previously identified archaeological sites (Sites 43-23, 64-1, 132-22, and 164-70), two National Register of Historic Places properties (the Giles Barber House and the Elijah Mills House), and one National Register of Historic Places area (The Windsor Farms Historic District) located within 1.6 km (1 mi) of the proposed project. Each of these cultural resources is described below.

Site 43-23

Site 43-23 is located on the northern bank line of the Podunk River near where it connects to the Connecticut River in East Hartford, Connecticut and approximately 1.6 km (1 mi) to the southeast of the proposed project area. The site was identified as a prehistoric village site by Mathias Spiess in the book entitled *History of Manchester, Connecticut,* which was published in 1924. Spiess' identification was mainly based on primary source research, supplemented by oral history, surface collection, and excavation. The location and integrity of Site 43-23 has not been verified through archaeological survey, which was recommended by Mary Harper of the Public Archaeology Survey Team, Inc., when she recorded the site in February of 1997. The site will not be impacted by development of the project parcels, which are located on the opposite side of the Connecticut River.

Site 64-1

Site 64-1 was recorded as the Keeney Park Site by Fred Warner of the Connecticut Archaeological Society in April of 1979. Warner described it as a prehistoric camp or small village occupation site dating from the Archaic and Woodland Periods. The site yielded a grooved axe, 1 celt, 1 polished axe, 1 small-stemmed quartz projectile point, 1 Snook Kill projectile point, 1 Jack's Reef projectile point, 1 Brewerton projectile point, and 1 Orient Fishtail projectile point, all of which were surface collected by Ann Jankowski. These items were found an area measuring 0.4 hectare (1 acre) in size. The site is located to the east of Interstate 91 and to the west of Windsor Avenue in Hartford, Connecticut. Site 64-1 has not been assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). It will not be impacted by development of the project parcels.

Site 132-22

Site 132-22 is located in South Windsor, Connecticut. It is situated 563 meters (1,848 feet) to the east of the Connecticut River and 241 meters (792 feet) to the south of Route 291. It covers a 5 x 5 meter (16.4 x 16.4 foot) area that yielded evidence of a hearth feature that measured approximately 80 centimeters (31 inches) in diameter. The hearth consisted of fire-cracked sandstone rocks and charcoal; however, no artifacts were recovered. One-fourth of the hearth was previously destroyed by the digging of a hole. The archaeological site form for Site 132-22, recorded by William M. Wadleigh of the Public Archaeology Survey Team on August 18, 1978, states that Site 132-22 is likely a temporary camp from an unknown time period. It has not been assessed applying the qualities of significance as defined by the National

Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 132-22 will not be impacted by the proposed project.

Site 164-70

Site 164-70 is located 800 m (2,625 ft) to the east of Deerfield Road and 200 m (656 ft) to the north of Bissell Bridge in Windsor, Connecticut. Archaeological and Historical Services, Inc., (AHS) archaeologists completed a Phase IB archaeological reconnaissance survey of a previously proposed multi-use trail along the Connecticut River in August of 2014 and recovered 2 chert flakes from alluvial soils within a 10 square meter (108 square foot) area. The age of the site was not determined. Mary Harper of AHS recorded the site in August of 2014; however, it was not assessed applying the qualities of significance as defined by the National Register of Historic Places criteria for evaluation (36 CFR 60.4 [a-d]). Site 164-70 will not be impacted by development of the project parcels.

National Register of Historic Places: Giles Barber House

The Giles Barber House is located at 411-413 Windsor Avenue in Windsor, Connecticut. It is a Federal and Greek Revival transitional style residence that was built in ca., 1825 by Giles Barber. The house is constructed of bricks that were made locally on Windsor Avenue and it has a gable roof with asphalt shingles. Federal style features of this residence include an elliptical window in the gable, and Greek Revival style features include a pedimented front, an L-shaped plan, and block lintels. Windows have either 12-over-12 or 12-over-8 sashes. The Giles Barber House was recorded by Michael K. O'Leary, a planning consultant, in 1981. It will not be impacted by the proposed project.

National Register of Historic Places: Elijah Mills House

The Elijah Mills House, which is located at 45 Deerfield Road in Windsor, was listed on the National Register of Historic Places under Criterion C of the criteria of evaluation (36 CFR 60.4 [a-d]) by David F. Ransom of the Connecticut Historical Commission on January 20, 1985. This house is a two-and-a-half story Federal style brick construction with a nineteenth century ell. The main façade of the building exhibits a paneled front door with a leaded fanlight above, regularly spaced 12-over-12 sash windows, chiseled stone sills, and rowlock lintels. The interior of the home is arranged in a central hall and four-room plan with fireplaces in either room siding the hall, molded chair rails, and a beehive-shaped bake oven in the kitchen. Elijah Mills operated a brickyard in Windsor and his house was constructed with bricks he manufactured. The Elijah Mills House will not be impacted by the proposed project.

National Register of Historic Places: Windsor Farms Historic District

The Windsor Farms Historic District was nominated to the National Register of Historic Places by Jan Cunningham of Cunningham Associates in June 1985 under Criteria A and C of the criteria of evaluation (36 CFR 60.4 [a-d]) for its significance related architecture, agriculture, and social/humanitarian history. The district encompasses the historical center of South Windsor, Connecticut as it extends along the eastern bank line of the Connecticut River. The period of significance for this district is 1830 to 1935, during which time the area has remained rural. The district's history is tied to tobacco farming, which was popularize there in the early 1600s. By 1752, the village supplied 26,000 pounds of tobacco for export. More than 50 tobacco barns and sheds predating 1920 still stand in the district, as do two water towers, farm workers' housing, other residences, and commercial buildings. Residences are mainly wood-frame with two-and-a-half stories. Early wood-frame houses are Colonial and Georgian style and often display a saltbox configuration. Greek Revival houses predominated in the district after 1830 and eventually were replaced with those of the Italianate and Carpenter Gothic styles`. There is one example of a Second Empire residence within the Windsor Farms Historic District. Limited buildings in the district are made of brick, including one Federal Style and one Queen Anne Style residence. Finally, the most

modern houses within the district are of the Colonial Revival style, almost all with hipped roofs and projecting gables. The First Congregational Church, Center Cemetery, and a ca., 1850 schoolhouse are also contributing elements. The Windsor Farms Historic District will not be impacted by the proposed project, as it is located on the opposite side of the Connecticut River.

Summary

The review of previously identified cultural resources on file with the CT-SHPO office suggests that there are both prehistoric and historical cultural resources recorded in the larger project region, none of which will be impacted by the proposed project. The proposed project area may possess resources of a similar type, however. Possible sites may include campsites or villages based on previously recorded archaeological sites in the area. In addition, the remnants of historical occupation from the seventeenth to twentieth century may be identified within undisturbed portions of the project parcel. The larger project region has a long history of being farmed by early settlers of Hartford and Windsor.

CHAPTER VI
METHODS

Introduction

This chapter describes the research design and field methodology used to complete the Phase IA cultural resources assessment survey of the project parcels in Hartford and Windsor, Connecticut. The following tasks were completed during this investigation: 1) study of the region's prehistory, history, and natural setting; 2) a literature search to identify and discuss previously recorded cultural resources in the area encompassing the proposed project area; 3) a review of historical maps, topographic quadrangles, and aerial imagery depicting the proposed project area in order to identify potential historical resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the proposed project parcels in order to determine its archaeological sensitivity. These methods are in keeping with those required by the Connecticut State Historic Preservation Office in the document entitled: *Environmental Review Primer for Connecticut's Archaeological Resources* (Poirier 1987).

Research Framework

The current Phase IA cultural resources assessment survey was designed to assess the historical and archaeological sensitivity of the proposed project parcel, as well as to visually examine the areas and record any prehistoric or historical resources noted during pedestrian survey. The undertaking was comprehensive in nature and project planning considered the distribution of previously recorded cultural resources located within and near the proposed project parcels. The methods used to complete this investigation were designed to provide coverage of all portions of the proposed project parcels. The fieldwork portion of this undertaking entailed pedestrian survey, photo-documentation, and project area mapping (see below).

Archival Research & Literature Review

Background research for this project included a review of a variety of historical maps depicting the proposed project parcels; an examination of USGS 7.5' series topographic quadrangles; an examination of aerial images dating from 1934 through 2019; and a review of all National/State Register of Historic Places properties/districts and previously identified archaeological sites on file with the CT-SHPO; and electronic cultural resources data maintained by Heritage. The intent of this review was to identify all previously recorded cultural resources situated in and adjacent to the proposed project parcels and to provide a natural and cultural context for area. This information then was used to develop the archaeological context of the proposed project parcels and to assess their sensitivity with respect to producing intact cultural resources.

Background research materials, including historical maps, aerial imagery, and information related to previous archaeological investigations, were gathered from the Connecticut State Library, the Homer Babbidge Library on the Storrs Campus of the University of Connecticut, and the CT-SHPO. Finally, electronic databases and Geographic Information System files maintained by Heritage were employed during this project, and they provided valuable data related to the proposed project area, as well as data concerning previously identified archaeological sites within the general vicinity of the project parcels.

Field Methodology and Data Synthesis

Heritage also performed fieldwork for the Phase IA cultural resources assessment survey of the proposed project parcels. This included pedestrian survey, photo-documentation, and mapping of the

project parcels. During the completion of the pedestrian survey, representatives from Heritage visually reconnoitered and photo-documented the project parcels using digital media. Heritage also obtained mapping depicting the proposed project parcel. The digital files were imported into ESRI's ArcGIS 10.8, the geographic information system (GIS) employed by Heritage. The inclusion of the digital files in the project GIS streamlined the research process and it ensured that all portions of the project parcels that may be impacted by the proposed development were examined during the investigation and mapped accurately. Finally, the GIS files were employed to output the maps and drawings included in this report.

Curation

Following the completion and acceptance of the final report, all cultural material, drawings, maps, photographs, and field notes will be curated with:

Dr. Sarah Sportman
Office of Connecticut State Archaeology
Unit 1023
University of Connecticut
Storrs, Connecticut 06269
(860) 486-5248
sarah.sportman@uconn.edu

CHAPTER VII
RESULTS & MANAGEMENT OVERVIEW

Introduction

As mentioned in Chapter I, the current Phase IA cultural resources assessment survey consisted of the completion of the following tasks: 1) a contextual overview of the area's prehistory, history, and natural setting (e.g., soils, ecology, hydrology, etc.); 2) a literature search to identify and discuss previously completed cultural resources surveys and previously recorded archaeological sites, National/State Register of Historic Places properties/districts, and historical standing structures more than 50 years in age within the region encompassing the proposed project area; 3) a review of readily available historical maps and aerial imagery depicting the project parcel to identify potential cultural resources and/or areas of past disturbance; and 4) pedestrian survey and photo-documentation of the project parcel to determine its archaeological sensitivity. Tasks 1 and 2 of this list were completed and presented in Chapters II through V. The results of Tasks 3 and 4 are presented below.

Determining Archaeological and Historical Sensitivity

The field data associated with soils, slopes, aspect, distance to water, and previous disturbance collected during the pedestrian survey and presented above was used in conjunction with the analysis of historical maps, aerial images, and data regarding previously identified archaeological sites, National/State Register of Historic Places properties, and inventoried historic standing structures to stratify the proposed project area into zones of no/low, moderate, and/or high archaeological sensitivity. In general, historical period archaeological sites are relatively easy to identify on the landscape because the features associated with them tend to be relatively permanent constructions that extend above the ground surface (i.e., stone foundations, pens, wells, privies, etc.). Prehistoric archaeological sites are less often identified during pedestrian survey because they are buried and predicting their locations relies more on the analysis and interpretation of the environmental factors that would have informed Native American site choices.

With respect to the potential for identifying prehistoric archaeological sites, the proposed project area was divided into areas of no/low, moderate, and/or high archaeological potential by analyzing landform types, slope, aspect, soils contained within them, and distance from water. In general, areas located less than 300 m (1,000 ft) from a freshwater source, that contain slopes of less than 8 percent and well-drained soils possess a high potential for producing prehistoric archaeological deposits. Those areas located between 300 and 600 m (1,000 and 2,000 ft) from a freshwater source and containing well drained soils are considered moderate probability areas. This is in keeping with broadly based interpretations of prehistoric settlement and subsistence models that are supported by decades of previous archaeological research throughout the region. It is also expected that there may be variability of prehistoric site types found in the moderate/high sensitivity zones. For example, large Woodland period village sites and Archaic period seasonal camps may be expected along large river floodplains and near stream/river confluences, while smaller temporary or task specific sites may be expected on level areas with well-drained soils that are situated more than 300 m (1,000 ft) but less than 600 m (2,000 ft) from a water source. Finally, steeply sloping areas, poorly drained soils, or areas of previous disturbance are generally deemed to retain a no/low archaeological sensitivity regarding their potential to contain prehistoric archaeological sites.

In addition, the potential for a given area to yield evidence of historical period archaeological deposits is based not only on the above-defined landscape features but also on the presence or absence of historical period archaeological resources identified during previous archaeological surveys, recorded on historical period maps, captured in aerial images of the study region, or noted during pedestrian surveys. In this case, proposed development areas situated within 100 m (328 ft) of a previously identified historical period archaeological site, a National or State Register of Historic Places district/individually listed property, or an area containing known historical period buildings may be designated a moderate/high archaeological sensitivity area. In contrast, those areas situated over 100 m (328 ft) from any of the above-referenced properties are considered to retain a no/low historical archaeological sensitivity.

Results of Phase IA Survey

As discussed throughout this report, the project plans for the proposed development are not finalized. A recreational area is planned for the project parcels between Meadow Road and the Connecticut River. It connecting to the existing riverwalks in this area. Open space and residential and commercial development dominate the larger region and Interstates 91 and 291 extend from north to south and east to west in the vicinity of the project area. The urban center of Hartford is situated to the south of Interstate 91. The project parcels situated at an elevation of approximately 6.1 m (20 ft) NGVD and contains nearly level slopes (Figure 1).

The background research and pedestrian survey completed as part of this project revealed that all of the proposed project area either contains fill, wet soils, or areas where the Connecticut River has cut into and flooded the parcel (Figure 10; Photos 1 through 10). Previous disturbance of this area, as well as some of the natural components of the landscape (e.g. wet soils and a cove), indicates that intact archaeological deposits are not expected. No additional archaeological examination of the project parcels is recommended.

BIBLIOGRAPHY

AdvanceCT and CTData Collaborative

2021a Windsor, Connecticut, 2021 Town Profile. Electronic document, https://s3-us-west-2.amazonaws.com/cerc-pdfs/2021/Windsor.pdf, accessed January 31, 2022.

2021b Hartford, Connecticut, 2021 Town Profile. Electronic document, https://s3-us-west-2.amazonaws.com/cerc-pdfs/2021/Hartford.pdf, accessed January 31, 2022.

American School for the Deaf

n.d. History & Cogswell Heritage House. https://www.asd-1817.org/about/history--cogswell-heritage-house, accessed August 10, 2021.

Asch, D.L., and N. B. Asch

1985 Prehistoric Plant Cultivation in West-Central Illinois. In *Prehistoric Food Production in North America*, edited by R.I. Ford, pp. 149-203. Museum of Anthropology Anthropological Papers No. 75. University of Michigan, Ann Arbor.

Banks, R.C., R.W. McDiarmid, A.L. Gardner

1987 *Checklist of vertebrates of the Unites States: The U.S. Territories and Canada*. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.

Barber, John Warner

1836 *Connecticut Historical Collections*. John W. Barber, New Haven, Connecticut.

Bell, Michael

1985 *The Face of Connecticut: People, Geology, and the Land.* State Geological Natural History Survey of Connecticut Department of Environmental Protection.

Bendremer, J.

1993 *Late Woodland Settlement and Subsistence in Eastern Connecticut*. Ph.D. Dissertation, Department of Anthropology, University of Connecticut, Storrs, Connecticut.

Bendremer, J. and R. Dewar

1993 The Advent of Maize Horticulture in New England. In *Corn and Culture in the Prehistoric New World.* Ed. by S. Johannessen and C. Hastorf. Westview Press, Boulder.

Bendremer, J., E. Kellogg and T. Largy

1991 A Grass-Lined Storage Pit and Early Maize Horticulture in Central Connecticut. *North American Archaeologist 12(4):325-349.*

Braun, E.L.

1950 *Deciduous Forests of Eastern North America.* The Free Press.

Brown, Clair A.

1965 *Louisiana Trees and Shrubs.* Louisiana Forestry Commission Bulletin No. 1. Claitor's Publishing Division, Baton Rouge, Louisiana.

Chapman, J., and A.B. Shea
1981 The Archaeobotanical Record: Early Archaic Period to Contact in the Lower Little Tennessee River Valley. *Tennessee Anthropologist* 6(1):61-84.

Coe, Joffre Lanning
1964 The Formative Cultures of the Carolina Piedmont. *Transactions of the American Philosophical Society*, Vol. 54, Part 5. Philadelphia, Pennsylvania.

Connecticut Environmental Conditions Online (CT ECO)
2019 *Connecticut 2019 Orthophotography*. Storrs, Connecticut: University of Connecticut, Connecticut Environmental Conditions Online. http://www.cteco.uconn.edu/data/flight2019/index.htm.

Connecticut, State of
1890 *State Register and Manual*. State of Connecticut, Hartford, Connecticut.

1910 *State Register and Manual*. State of Connecticut, Hartford, Connecticut.

1960 *State Register and Manual*. State of Connecticut, Hartford, Connecticut.

2020 *State Register and Manual*. State of Connecticut, Hartford, Connecticut.

2022a *Population of Connecticut Towns 1756-1820*. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1756-1820, accessed January 31, 2022.

2022b *Population of Connecticut Towns 1830-1890*. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1830---1890, accessed January 31, 2022.

2022c *Population of Connecticut Towns 1900-1960*. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1900-1960, accessed January 31, 2022.

2022d *Population of Connecticut Towns 1970-2010*. https://portal.ct.gov/SOTS/Register-Manual/Section-VII/Population-1970-2010, accessed January 31, 2022.

Connecticuthistory.org
2019 The Colt Patent Fire-Arms Manufacturing Company. https://connecticuthistory.org/the-colt-patent-fire-arms-manufacturing-company/, accessed August 11, 2021.

Crofut, Florence S. Marcy
1937 *Guide to the History and the Historic Sites of Connecticut*. 2 volumes. Yale University Press, New Haven, Connecticut

Cunningham, Janice P.
1995 *Central Valley: Historical and Architectural Overview and Management Guide*. Historic Preservation in Connecticut, Vol. III. Connecticut Historical Commission, State Historic Preservation Office, Hartford, Connecticut.

Curran, M.L., and D.F. Dincauze

1977 Paleo-Indians and Paleo-Lakes: New Data from the Connecticut Drainage. In *Amerinds and their Paleoenvironments in Northeastern North America.* Annals of the New York Academy of Sciences 288:333-348.

Davis, M.

1969 Climatic changes in southern Connecticut recorded by Pollen deposition at Rogers Lake. *Ecology* 50: 409-422.

De Forest, J. W.

1852 *History of the Indians of Connecticut from the Earliest Known Period to 1850*. Wm. Jas. Hamersley, Hartford, Connecticut.

Dincauze, Dena F.

1974 An Introduction to Archaeology in the Greater Boston Area. *Archaeology of Eastern North America* 2(1):39-67.

1976 *The Neville Site: 8000 Years at Amoskeag.* Peabody Museum Monograph No. 4. Cambridge, Massachusetts.

Dowhan, J.J. and R.J. Craig

1976 *Rare and endangered species of Connecticut and Their Habitats*. State Geological Natural History Survey of Connecticut Department of Environmental Protection, Report of Investigations No. 6.

Fairchild Aerial Surveys

1934 *Connecticut Statewide Aerial Photograph Series*. Hartford, Connecticut: Connecticut State Archives.

Feder, Kenneth

1984 *Pots, Plants, and People: The Late Woodland Period of Connecticut*. Bulletin of the Archaeological Society of Connecticut 47:99-112.

Find a Grave

2022 Anders Christensen. https://www.findagrave.com/memorial/59667808/anders-christensen, accessed February 3, 2022.

Fitting, J.E.

1968 *The Spring Creek Site*. In *Contributions to Michigan Archaeology*, pp. 1-78. Anthropological Papers No. 32. Museum of Anthropology, University of Michigan, Ann Arbor.

Ford, R.I.

1985 Patterns of Prehistoric Food Production in North America. In *Prehistoric Food Production in North America*, edited by R.I. Ford, pp. 341-364. Museum of Anthropology Anthropological Papers No. 75. University of Michigan, Ann Arbor.

Fritz, Gayle J.
1990 Multiple Pathways to Farming in Pre-Contact Eastern North America. *Journal of World Prehistory* 4(4):387-435.

Funk, R.E.
1976 *Recent Contributions to Hudson Valley Prehistory.* New York State Museum Memoir 22. Albany.

George, D.
1997 A Long Row to Hoe: The Cultivation of Archaeobotany in Southern New England. *Archaeology of Eastern North America* 25:175 - 190.

George, D. and C. Tryon
1996 *Lithic and Raw Material Procurement and Use at the Late Woodland Period Cooper Site, Lyme, Connecticut.* Paper presented at the joint meeting of the Archaeological Society of Connecticut and the Massachusetts Archaeological Society, Storrs Connecticut

George, D.R., and R. Dewar
1999 Prehistoric Chenopodium in Connecticut: Wild, Weedy, Cultivated, or Domesticated? *Current Northeast Paleoethnobotany*, edited by J. Hart, New York State Museum, Albany, New York.

Gerrard, A.J.
1981 *Soils and Landforms, An Integration of Geomorphology and Pedology*. George Allen & Unwin: London.

Gramly, R. Michael, and Robert E. Funk
1990 What is Known and Not Known About the Human Occupation of the Northeastern United States Until 10,000 B. P. *Archaeology of Eastern North America* 18: 5-32.

Griffin, J.B.
1967 Eastern North America Archaeology: A Summary. *Science* 156(3772):175-191.

Hartford Courant
1947 Christensen, Gardener of Wilson, Dies. 10 May: 4 Hartford, Connecticut.

Johannessen, Sissel
1984 Paleoethnobotany. In *American Bottom Archaeology: A Summary of the FAI-270 Project Contribution to the Culture History of the Mississippi River Valley*, edited by Charles J. Bareis and James W. Porter, pp. 197-214. University of Illinois Press, Urbana.

Jones, B.
1997 The Late Paleo-Indian Hidden Creek Site in Southeastern Connecticut. *Archaeology of Eastern North America* 25:45-80.

Lavin, Lucianne
1980 Analysis of Ceramic Vessels from the Ben Hollister Site, Glastonbury, Connecticut. *Bulletin of the Archaeological Society of Connecticut* 43:3-46.

1984 Connecticut Prehistory: A Synthesis of Current Archaeological Investigations. *Archaeological Society of Connecticut Bulletin* 47:5-40.

1986 *Pottery Classification and Cultural Models in Southern New England Prehistory*. North American Archaeologist 7(1):1-12.

1987 The Windsor Ceramic Tradition in Southern New England. *North American Archaeologist* 8(1):23-40.

1988a Coastal Adaptations in Southern New England and Southern New York. *Archaeology of Eastern North America*, Vol.16:101-120.

1988b The Morgan Site, Rocky Hill, Connecticut: A Late Woodland Farming Community in the Connecticut River Valley. *Bulletin of the Archaeological Society of Connecticut* 51:7-20.

2013 *Connecticut's Indigenous Peoples: What Archaeology, History, and Oral Traditions Teach Us About Their Communities and Cultures*. Yale University Press, New Haven, Connecticut.

Leary, Joseph

2004 *A Shared Landscape: A Guide & History of Connecticut's State Parks & Forests*. Friends of Connecticut State Parks, Hartford, Connecticut.

Lizee, J.

1994a *Prehistoric Ceramic Sequences and Patterning in southern New England: The Windsor Tradition*. Unpublished Ph.D. dissertation, Department of Anthropology, University of Connecticut, Storrs.

1994b *Cross-Mending Northeastern Ceramic Typologies.* Paper presented at the 1994 Annual Meeting of the Northeastern Anthropological Association, Geneseo, New York.

Mahoney, Patrick J.

2015 Aetna Helps Make Hartford "The Insurance Capital of the World." Connecticuthistory.org. https://connecticuthistory.org/aetna-helps-make-hartford-the-insurance-capital-of-the-world/, accessed August 11, 2021.

2020 Hartford and New Haven: A Tale of Two Capitals. Connecticuthistory.org. https://connecticuthistory.org/a-tale-of-two-capitals/, accessed August 10, 2021.

Malley, Richard C.

2020 The Interstate Highway System Comes to Hartford. Connecticuthistory.org. https://connecticuthistory.org/the-interstate-highway-system-comes-to-hartford/, accessed February 2, 2022.

McBride, K.

1978 Archaic Subsistence in the Lower Connecticut River Valley: Evidence from Woodchuck Knoll. *Man in the Northeast* 15 & 16:124-131.

1983 *Prehistory of the Lower Connecticut River Valley.* Ph.D. Dissertation, Department of Anthropology, University of Connecticut, Storrs, Connecticut.

Moeller, R.

1980 *6-LF-21: A Paleo-Indian Site in Western Connecticut.* American Indian Archaeological Institute, Occasional Papers No. 2.

Niering, W.A., and N.C. Olmstead

1995 *National Audubon Society Field Guide to North American Wildflowers: Eastern Region.* Chanticleer Press, New York.

Pagoulatos, P.

1988 Terminal Archaic Settlement and Subsistence in the Connecticut River Valley. *Man in the Northeast* 35:71-93.

Peterson, T. R., and M. McKenny

1968 *Wildflowers of Northeastern and North-Central America.* Houghton Mifflin Company, Boston, Massachusetts.

Pfeiffer, J.

1984 The Late and Terminal Archaic Periods in Connecticut Prehistory. *Bulletin of the Bulletin of the Archaeological Society of Connecticut* 47:73-88.

1986 Dill Farm Locus I: Early and Middle Archaic Components in Southern Connecticut. *Bulletin of the Archaeological Society of Connecticut* 49:19-36.

1990 The Late and Terminal Archaic Periods in Connecticut Prehistory: A Model of Continuity. In *Experiments and Observations on the Archaic of the Middle Atlantic Region.* R. Moeller, ed.

Poirier, D.

1987 *Environmental Review Primer for Connecticut's Archaeological Resources.* Connecticut Historical Commission, State Historic Preservation Office, Hartford, Connecticut.

Pope, G.

1952 Excavation at the Charles Tyler Site. *Bulletin of the Archaeological Society of Connecticut* 26:3-29.

1953 The Pottery Types of Connecticut. *Bulletin of the Archaeological Society of New Haven* 27:3-10.

Ritchie, W.A.

1969a *The Archaeology of New York State*. Garden City: Natural History Press.

1969b *The Archaeology of Martha's Vineyard: A Framework for the Prehistory of Southern New England; A study in Coastal Ecology and Adaptation*. Garden City: Natural History Press

1971 *A Typology and Nomenclature for New York State Projectile Points*. New York State Museum Bulletin Number 384, State Education Department. University of the State of New York, Albany, New York.

Ritchie, W.A., and R.E. Funk
1973 *Aboriginal Settlement Patterns in the Northeast*. New York State Museum Memoir 20. The State Education Department, Albany.

Robinson, P., and Hall, L. M.
1980 Tectonic synthesis of southern New England. In *International Geological Correlation Project, Proceedings, Project 27: The Caledonides in the U.S.A.*: Blacksburg, Virginia, Virginia Polytechnic Institute and State University Department of Geological Sciences Memoir 2, edited by Wones, D.R.

Rossano, Geoffrey L.
1997 *Northwest Highlands: Historical and Architectural Overview and Management Guide*. Connecticut Historical Commission, State Historic Preservation Office, Hartford, Connecticut.

Rouse, I.
1947 Ceramic Traditions and sequences in Connecticut. *Bulletin of the Archaeological Society of Connecticut* 21:10-25.

Salwen, B., and A. Ottesen
1972 Radiocarbon Dates for a Windsor Occupation at the Shantok Cove Site. *Man in the Northeast* 3:8-19.

Shelford, V.E.
1963 *The Ecology of North America*. University of Illinois Press.

Smith, C.
1947 An Outline of the Archaeology of Coastal New York. *Bulletin of the Archaeological Society of Connecticut* 21:2-9.

Snow, D.
1980 *The Archaeology of New England.* Academic Press, New York.

Spiess, Matthias
1934 *Connecticut Circa 1625: Its Indian Trails Villages and Sachemdoms*. [N.p.]: The Connecticut Society of the Colonial Dames of America, Inc.

Stiles, Henry R.
1891 *The History and Genealogies of Ancient Windsor, Connecticut; Including East Windsor, South Windsor, Bloomfield, Windsor Locks, and Ellington*. Vol. I. Press of the Case, Lockwood & Brainard Company, Hartford, Connecticut.

Swanton, J.R.
1946 *The Indians of the United States.* Smithsonian Institution Bureau of American Ethnology Bulletin 137. Reprinted 1979. Washington, D.C.

Trumbull, J. Hammond (editor)
1886 *The Memorial History of Hartford County Connecticut, 1633-1884*. 2 Vols. Edward L. Osgood, Boston.

Turner, Gregg M., and Melancthon W. Jacobus
1989 *Connecticut Railroads: An Illustrated History*. Connecticut Historical Society, Hartford, Connecticut.

Tuck, J.A.
1978 Regional Cultural Development, 3,000 B.C., to A.D. 1,000. In *Handbook of North American Indians, Volume 15.* Edited by B. G. Trigger, Smithsonian Institution Press, Washington, D.C.

United States Census Bureau
1940 Sixteenth Census of the United States. HeritageQuest Online. ProQuest LLC, Provo, Utah.

United States Department of Agriculture (USDA)
1951 *Agricultural Stabilization and Conservation Service Aerial Photography for Connecticut*. Collections of the National Archives and Records Administration, Washington, D.C.

Van Dusen, Albert E.
1961 *Connecticut*. Random House, New York.

Watson, P.J.
1989 Early Plant Cultivation in the Eastern Woodlands of North America. In *Foraging and Farming*, edited by D. R. Harris and G. C. Hillman, pp. 555-571. Unwin Hyman, London.

Witthoft, J.
1949 An Outline of Pennsylvania Indian History. *Pennsylvania History* 16(3):3-15.

1953 Broad Spearpoints and the Transitional Period Cultures. *Pennsylvania Archaeologist*, 23(1):4-31.

Wood, Frederic J.
1919 *The Turnpikes of New England and Evolution of the Same Through England, Virginia, and Maryland*. Boston: Marshall Jones Company.

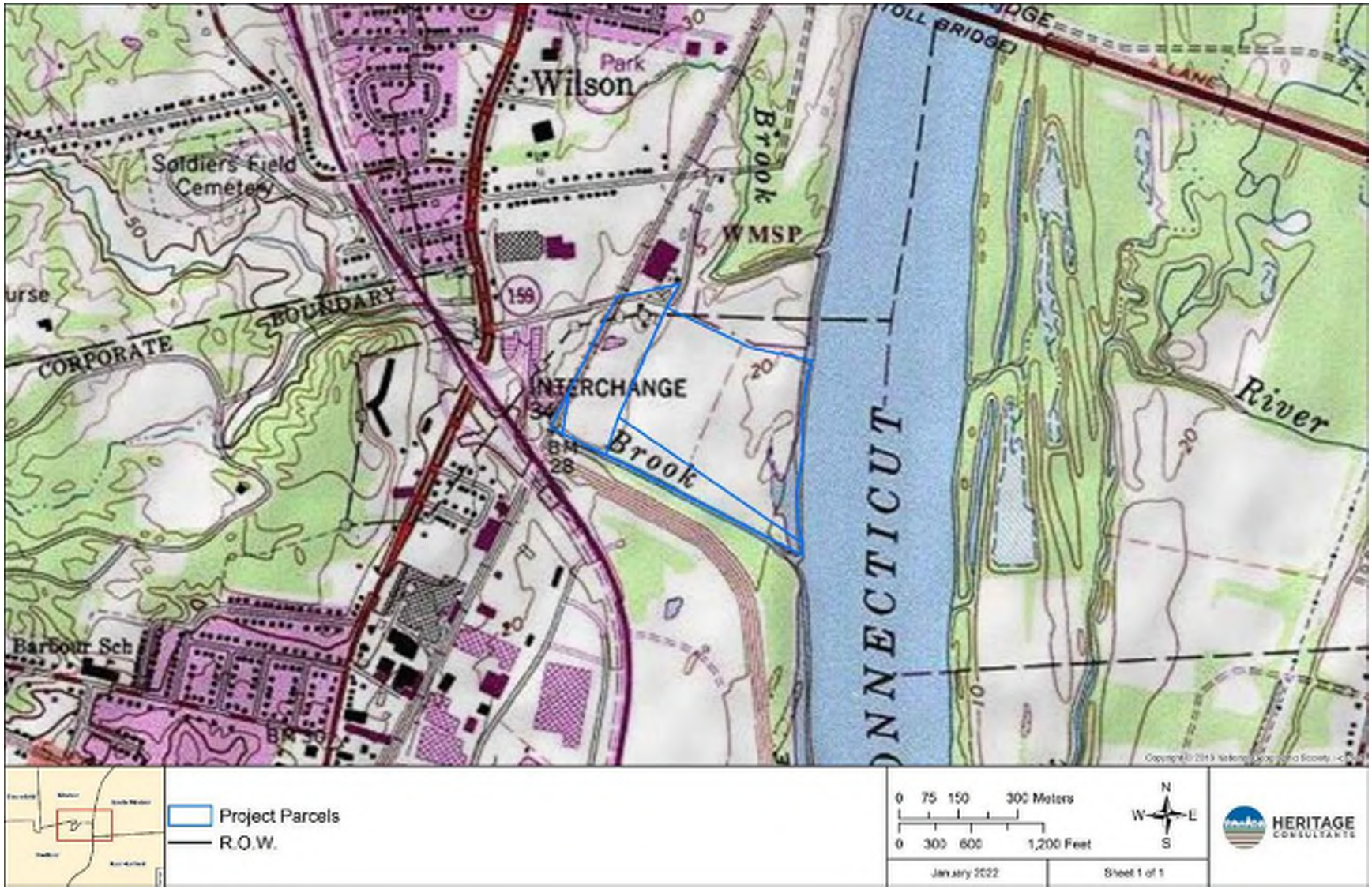


Figure 1. Excerpt from a 1996 USGS 7.5' series topographic quadrangle image showing the location of the proposed project area in Hartford and Windsor, Connecticut (USGS 1996).

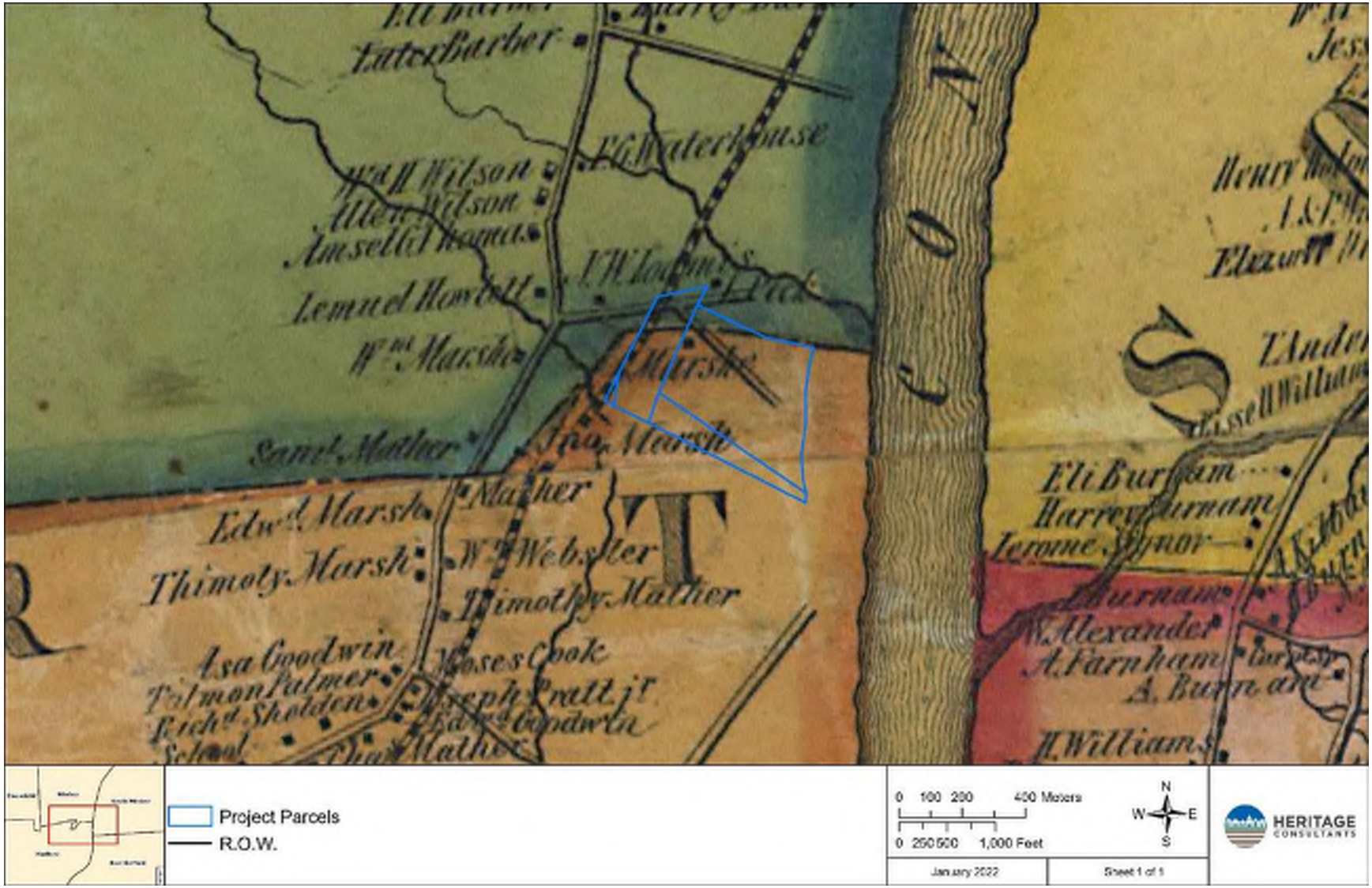


Figure 2. Excerpt from an 1855 map showing the proposed project area in Hartford and Windsor, Connecticut (Woodford 1855).

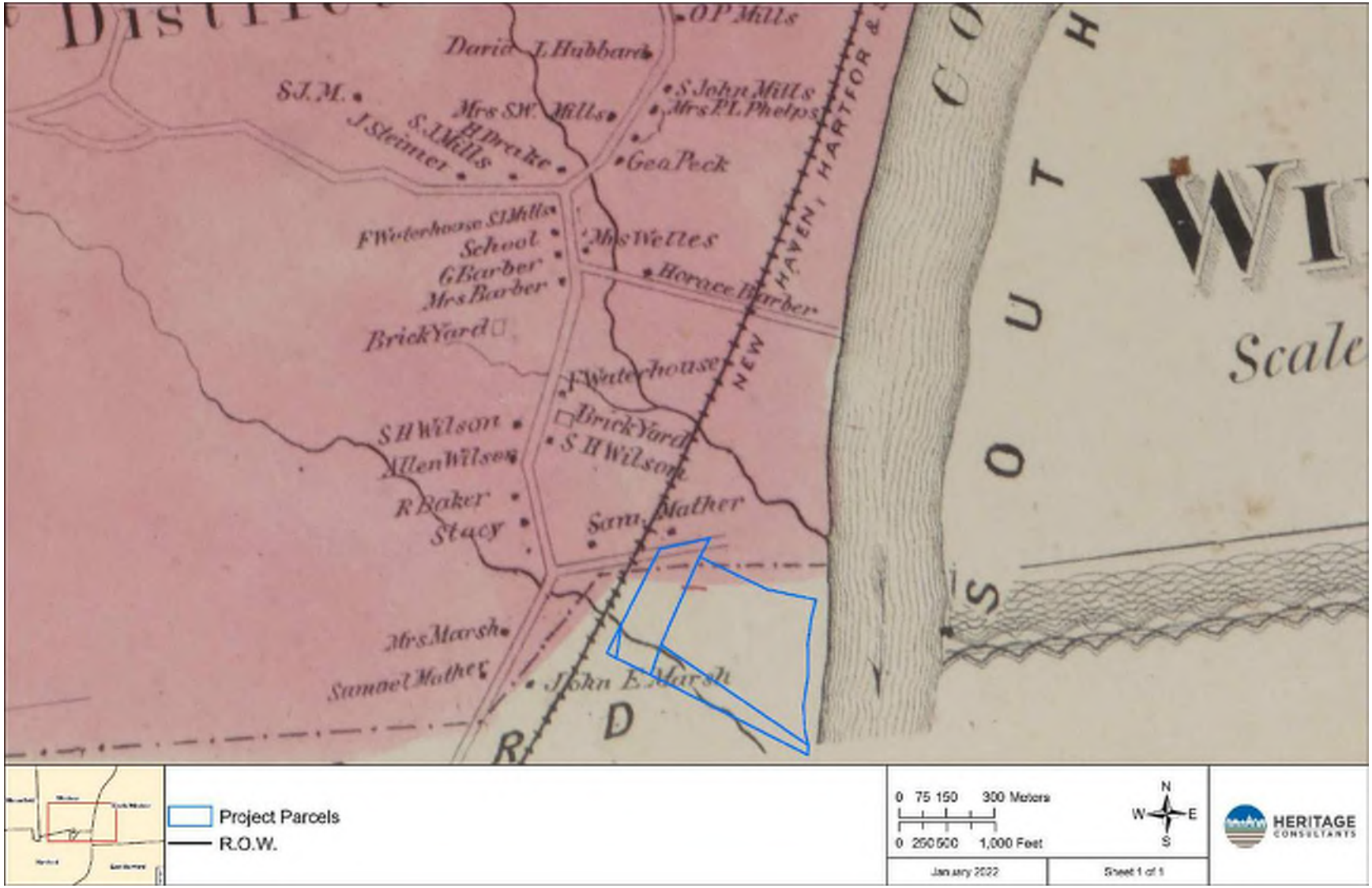


Figure 3. Excerpt from an 1869 map showing the proposed project area in Windsor, Connecticut (Beers 1869).

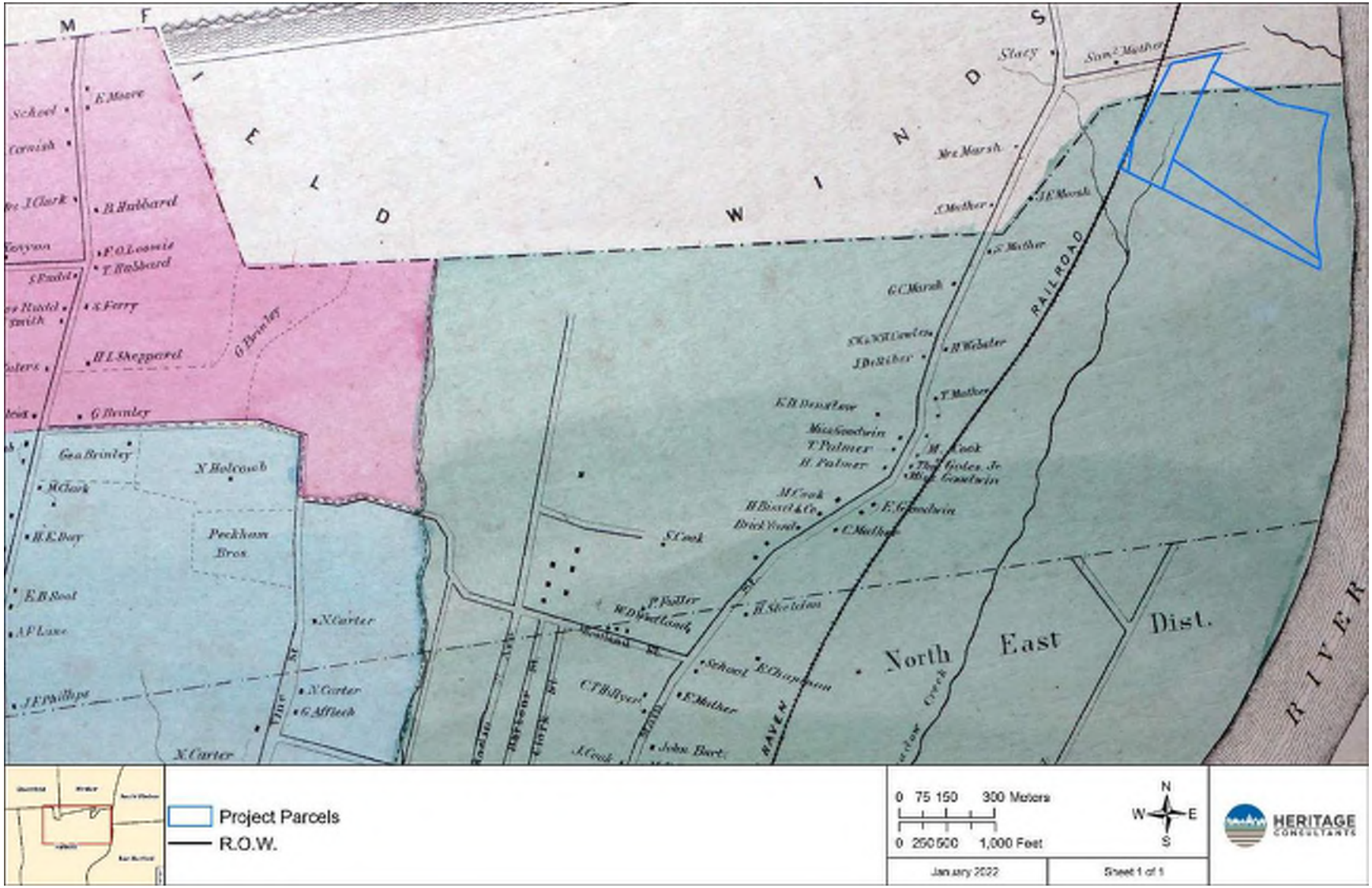


Figure 4. Excerpt from an 1869 map showing the proposed project area in Hartford, Connecticut (Beers 1869).



Figure 5. Excerpt from a 1934 aerial photograph showing the proposed project area in Hartford and Windsor, Connecticut (Fairchild 1934).



Figure 6. Excerpt from a 1951 aerial photograph showing the proposed project area in Hartford and Windsor, Connecticut (USDA 1951).



Figure 7. Excerpt from a 2019 aerial photograph showing proposed project area in Hartford and Windsor, Connecticut.

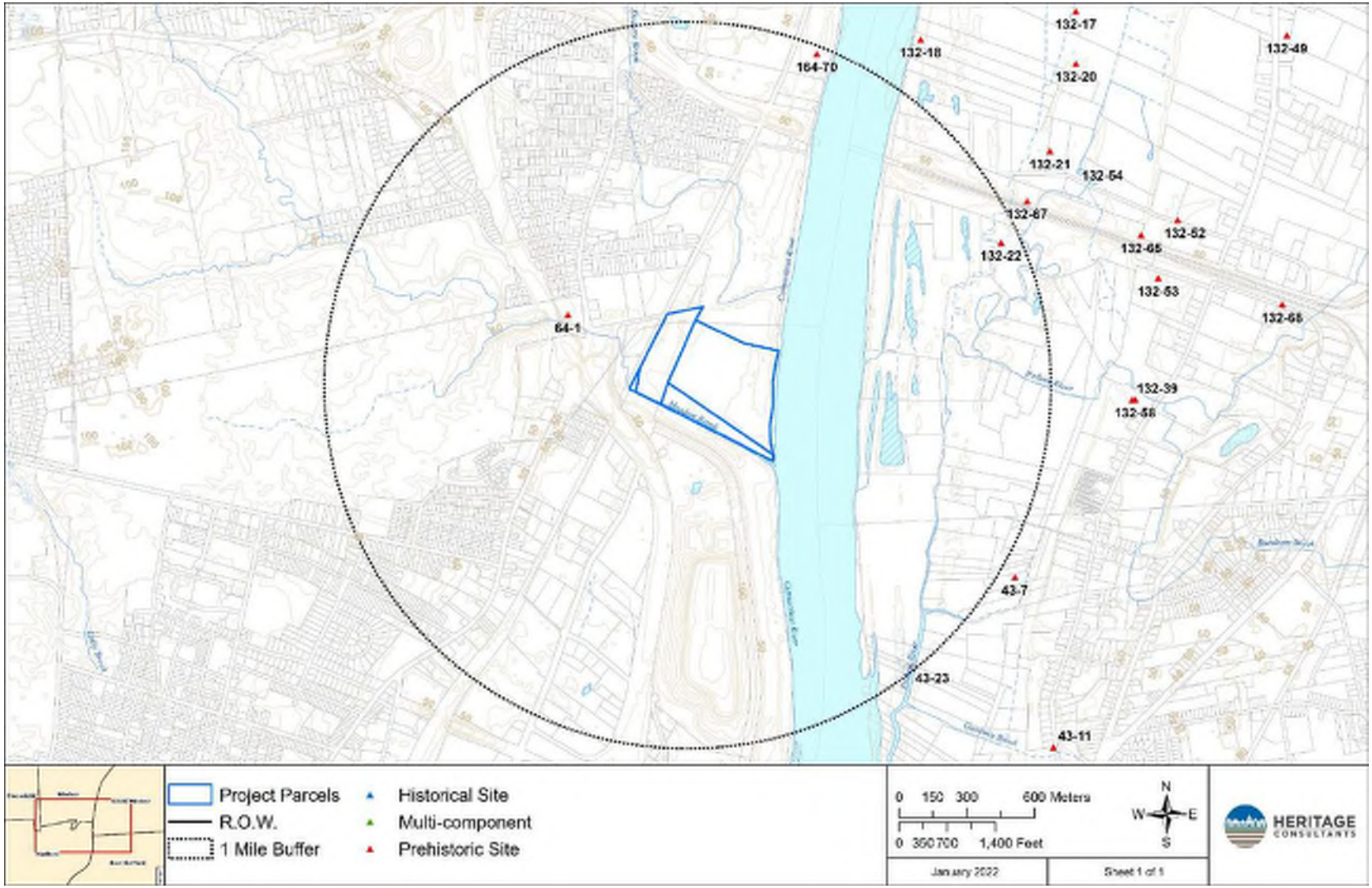


Figure 8. Digital map depicting the location of previously identified archaeological sites in the vicinity of the proposed project area in Hartford and Windsor, Connecticut.

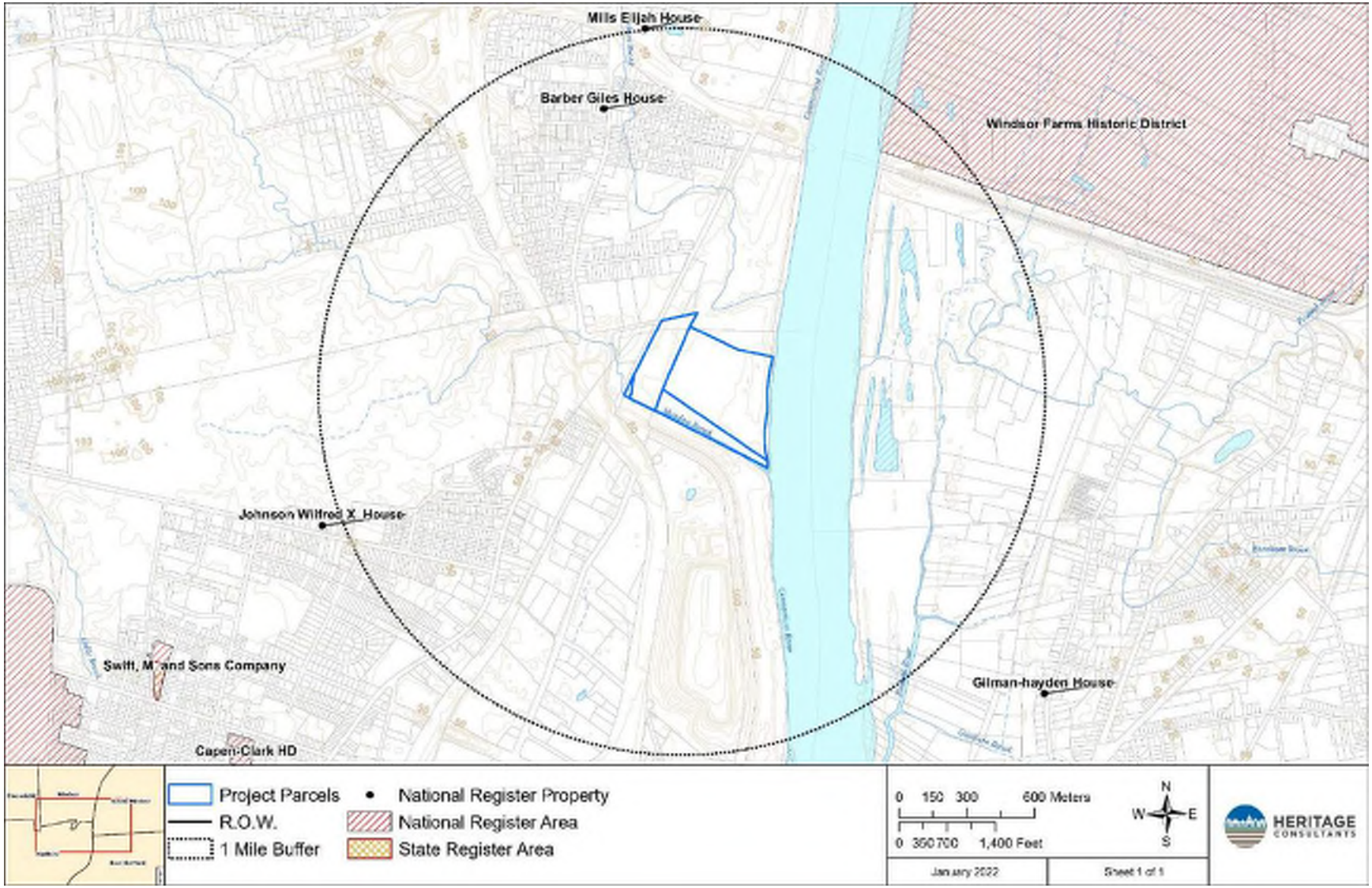


Figure 9. Digital map depicting the locations of previously identified National Register of Historic Places properties in the vicinity of the proposed project area in Hartford and Windsor, Connecticut.

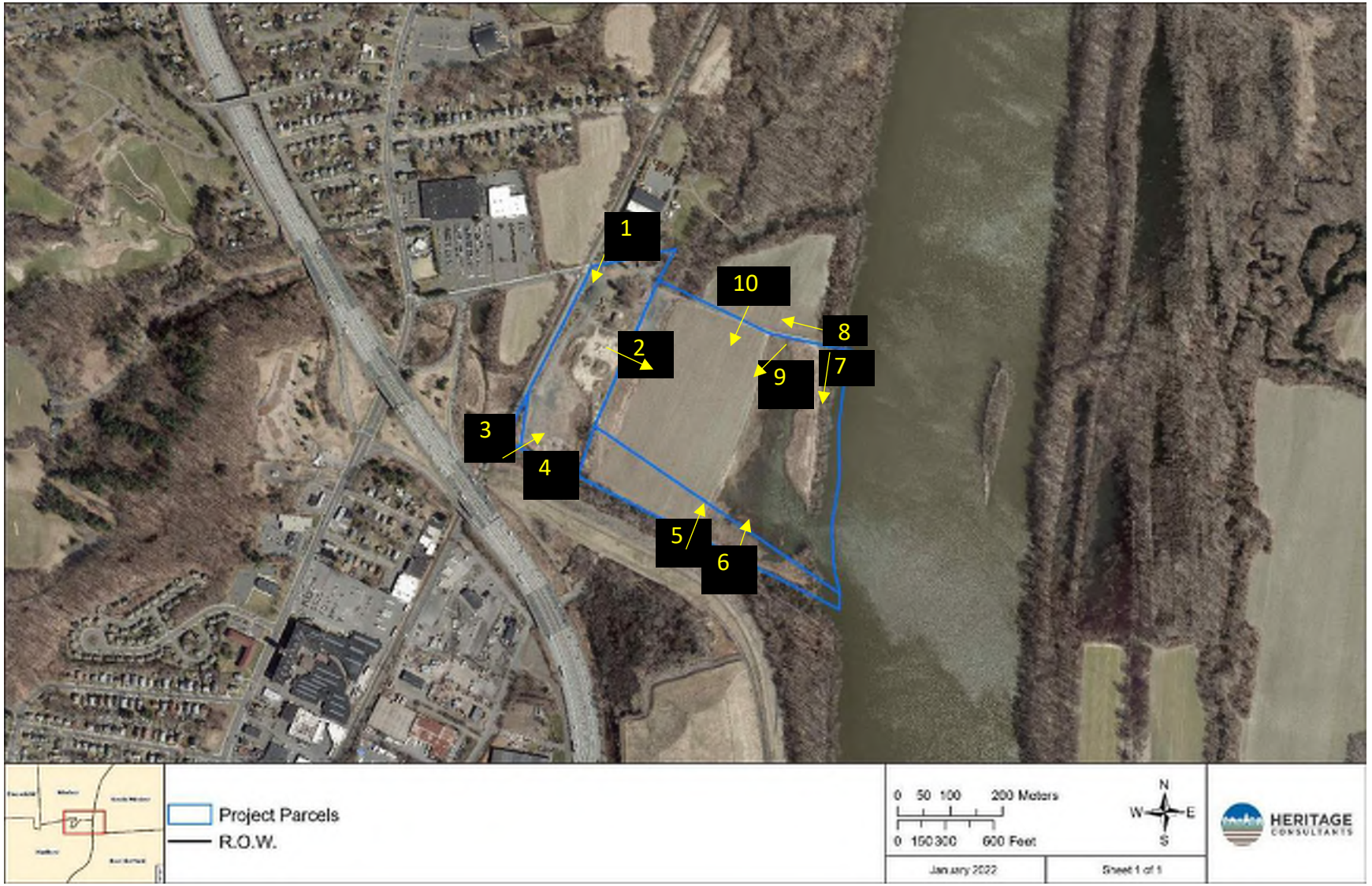


Figure 10. Plan view map of the proposed project area depicting photo locations and directions taken during walkover survey.



Photo 1. Representative view of the northwestern portion of the proposed project area facing south from the northwest corner.



Photo 2. Representative view of the central portion of the proposed project area facing east from the western half.



Photo 3. Representative view of the southwestern portion of the proposed project area facing north from the southwest corner.



Photo 4. Representative view of the center of the proposed project area facing northeast from the southwest corner.



Photo 5. Representative view of the central portion of the project area facing north from the center of the southern border.



Photo 6. Representative view of the southeastern portion of the proposed project area facing north from the southern border.



Photo 7. Representative view of northeastern portion of the proposed project area facing south from the northeastern corner.



Photo 8. Representative view of the northeastern portion of the proposed project area facing west from the northeastern corner.



Photo 9. Representative view of the central portion of the proposed project area facing southwest from the northern border.



Photo 10. Representative view of the central portion of the proposed project area facing south from the center of the northern border.