



Connecticut Department of Energy and Environmental Protection License*

Inland Wetlands & Watercourses Permit

Licensee(s): Connecticut Department of
Transportation

Licensee Address(s): 2800 Berlin Turnpike
Newington, CT 06131-7546

License Number(s): 202412212-IW

Municipality: Plainville

Project Description: Construction of a shared-use path (Farmington Canal Heritage Trail) with associated structures

Project Address/Location: Norton Park to Town Line Road and Redstone Hill Road,
Plainville, CT 06002

Waters: Farmington Canal and two unnamed perennial watercourses

**Authorizing CT Statute(s)
and/or Federal Law:** CGS Section 22a-36 to 45

**Applicable Regulations of
CT State Agencies:** 22a-39-1 to 15

Agency Contact: Land & Water Resources Division,
Bureau of Water Protection & Land Reuse, 860-424-3019

License Expiration: Five (5) years from the date of issuance of this license.

Project Site Plan Set: *Environmental Permit Plans State Project No. 0109-0175:
Farmington Canal Heritage Trail, Town of Plainville, 28 sheets
dated November 16, 2023, sheets PMT-15 and PMT-23 revised on
June 28, 2024, sheet PMT-07 revised on December 5, 2024, sheet
PMT-22 revised on January 13, 2025, and prepared by the State of
Connecticut Department of Transportation.*

*Connecticut's Uniform Administrative Procedure Act defines License to include, "the whole or part of any agency permit, certificate, approval, registration, charter or similar form of permission required by law . . ."

License Enclosures: LWRD General Conditions; 0202218A-Washing-in Streambed Material; Site Plan Set; LWRD Work Commencement Form; LWRD Compliance Certification Form

Authorized Activities:

The Licensee is hereby authorized to conduct the following work as described in application # 202412212 and as depicted on any site plan sheets / sets cited herein:

Temporarily and permanently impact 2219 square feet (sf) and 2117 sf of watercourse, respectively, and temporarily and permanently impact 7999 sf and 17114 sf of wetlands, respectively, due to the construction of the Farmington Canal Heritage Trail which includes:

1. Construction of an approximately 0.76 mile long, 12 ft wide shared-use paved trail from Town Line Road to Norton Park spanning Wetland Areas 1-4 and 8-13 that includes installing permanent sheet piling for slope stabilization, and removing unsuitable soil for the construction of trail embankments with fill material as depicted on sheets PMT-02 and PMT-19-21 of the site plan set;
2. Construction of an approximately 250 ft long, 15 ft wide raised concrete pedestrian boardwalk within Wetland Area 3 consisting of two abutments and 18 spans supported on concrete piles as depicted on sheets PMT-03 and PMT-16-18 of the site plan set;
3. Construction of a bituminous driveway within Wetland Areas 5-6 connecting the new upland parking lot to Redstone Hill Road including the installation of four 3 ft x 10 ft French mattresses as depicted on sheet PMT-04 of the site plan set;
4. Mitigation for an approximately 0.54-acre wetland area (Area 7), east of the proposed parking lot, that includes 3,010 sf of wetland enhancement within Area 7 and 20,675 sf of wetland creation occurring adjacent to Area 7 as depicted on sheets PMT-12 and PMT-24 of the site plan set;
5. Replacement of the existing 54 ft and 56 ft long, 36" diameter RCP culverts under Town Line Road with in-kind 90 ft and 94 ft long, 36" diameter RCP culverts;
6. Construction of a 23 ft x 18 ft preformed scour hole at the outlet end of the twin 36" diameter culverts, installed with a 12" layer of granular fill top-dressed with 3 ft of standard rip rap as depicted on sheet PMT-21 of the site plan set;
7. Installation of a 6" thick layer of natural streambed material at the inlet of the twin culverts, placed up to OHW elevation, as depicted on sheets PMT-22 and PMT-23 of the site plan set;
8. Washing-in of natural streambed material at the outlet of the twin culverts, up to OHW elevation, as described within CTDOT Specification Item #0212218A and depicted on sheets PMT-22 and PMT-23 of the site plan set;
9. Installation of two new bridges with spans of approximately 50 ft (Structure 2 founded on abutments and piers), and 46 ft (Structure 3 founded on abutments) over two unnamed watercourses, respectively as depicted on sheets PMT-16-17 and PMT-19-20 of the site plan set;

10. Installation of approx. 4 ft thick layer of intermediate rip rap (1 ft below OHW, and 2-3 ft above OHW) along the abutments for Structures 2 and 3, respectively, within limits as depicted on in the plan and elevation views provided on sheets PMT-19-20 of the site plan set;
11. Installation of temporary cofferdams for water-handling associated with the construction of Structures 2 and 3 as depicted on sheets PMT-16-17; and
12. Installation of temporary cofferdams and a 24" diameter temporary bypass pipe for water-handling associated with the replacement of the twin 36" RCP culverts as depicted on sheets PMT-15-17 of the site plan set.

Failure to comply with the terms and conditions of this license shall subject the Licensee and / or the Licensee's contractor(s) to enforcement actions and penalties as provided by law.

This license is subject to the following Terms and Conditions:

1. **License Enclosure(s) and Conditions.** The Licensee shall comply with all applicable terms and conditions as may be stipulated within the License Enclosure(s) listed above.
2. **Road Barricade and Flood Warning.** The Licensee shall post flood warning signage at both crossing approaches over the twin culverts. In the event of a significant storm forecast with the potential for road overtopping, the Licensee shall barricade the road and allow for alternative routes.
3. **Wetland Mitigation.** The Licensee shall create a 23,600 sf wetland mitigation area east of the proposed parking lot and trail within a historically filled wetland as noted in Authorized Activity 4. The mitigation area shall constitute 3,010 sf of enhancement within Wetland Area 7 and 20,675 sf of wetland creation in the adjacent upland area. The Licensee shall excavate invasive plant species to the depth of 1 ft below the native soil surface and then grade and re-vegetate the site with native plantings according to sheets PMT-24 and PMT-26.
4. **Mitigation Monitoring.** The Licensee shall record observations and photographs for five years starting at the growing season following completion of the mitigation area. A monitoring report shall be submitted to CT DEEP Land and Water Resources no later than December 15th of each monitoring year. The annual report shall include, but not limited to the following: a record detailing observations of invasive species presence, density, and responses to management techniques, health of mitigation native plantings, overall native vegetation cover (percentage/density), signs of wildlife, observations of hydrologic features and wetland drainage, and any adaptive management activities that have taken place.
5. **Water-Handling.** The Licensee shall maintain a 15 ft and 13 ft minimum hydraulic opening in the two unnamed watercourses during the construction of Structure 2 (Bridge 108), and Structure 3 (Bridge 129), respectively, as depicted on plan sheets PMT-16-17.
6. **French Mattresses.** The Licensee shall maintain hydrologic connectivity of Wetland Areas 5 and 6 to their upgradient seeps by the installation of four (4), 3 ft x 10 ft French

mattresses (composed of modified rip rap) below grade of the proposed driveway noted in Authorized Activity 3 herein.

7. **Excavation and Reuse of Existing Channel Material.** Natural streambed material shall be stockpiled outside wetlands and/or watercourses and reused as described in Authorized Activities 5 and 6, to the depth shown on plan sheet PMT-23.
8. **Washing in of Supplemental Streambed Material.** The Licensee shall wash-in supplemental streambed material, up to ordinary high water, for both the Town Line Road inlet and outlet, as referenced in Authorized Activities 7-8 and CTDOT Specification Item #0202218A attached herein.
9. **Invasive Species Management.** The Licensee shall manage invasive species present within clearing limits and impact areas, including but not limited to multiflora rose (*Rosa multiflora*), winged euonymus (*Euonymus alatus*), Japanese barberry (*Berberis thunbergii*), and yellow iris (*Iris pseudacorus*), in accordance with plan sheets PMT-25-28 and seeding and replanting plan herein.

Issued under the authority of the Commissioner of Energy and Environmental Protection on:

Date

Emma Cimino
Deputy Commissioner
Environmental Quality Branch

LWRD General Conditions

- 1. Land Record Filing (for *Structures Dredging & Fill, Tidal Wetlands, Certificate of Permission, and Long Island Sound General Permit Licenses only*).** The Licensee shall file the Land Record Filing on the land records of the municipality in which the subject property is located not later than thirty (30) days after license issuance pursuant to Connecticut General Statutes (CGS) Section 22a-363g. A copy of the Notice with a stamp or other such proof of filing with the municipality shall be submitted to DEEP.LWRDRegulatory@ct.gov no later than sixty (60) days after license issuance. If a Land Record Filing form is not enclosed and the work site is not associated with an upland property, no filing is required.
- 2. Contractor Notification.** The Licensee shall give a copy of the license and its attachments to the contractor(s) who will be carrying out the authorized activities prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The Licensee's contractor(s) shall conduct all operations at the site in full compliance with the license and, to the extent provided by law, may be held liable for any violation of the terms and conditions of the license. At the work site, the contractor(s) shall, whenever work is being performed, have on site and make available for inspection a copy of the license and the authorized plans.
- 3. Work Commencement¹.** Not later than two (2) weeks prior to the commencement of any work authorized herein, the Licensee shall submit to DEEP.LWRDRegulatory@ct.gov, on the Work Commencement Form attached hereto, the name(s) and address(es) of all contractor(s) employed to conduct such work and the expected date for commencement and completion of such work, if any.
 - For water diversion activities authorized pursuant to 22a-377(c)-1 of the Regulations of Connecticut State Agencies, the Licensee shall also notify the Commissioner in writing two weeks prior to initiating the authorized diversion.
 - For emergency activities authorized pursuant Connecticut General Statutes Section 22a-6k, the Licensee shall notify the Commissioner, in writing, of activity commencement at least one (1) day prior to construction and of activity completion no later than five (5) days after conclusion.
- 4. For Coastal Licenses Only - License Notice.** The Licensee shall post the first page of the License in a conspicuous place at the work area while the work authorized therein is undertaken.
- 5. Unauthorized Activities.** Except as specifically authorized, no equipment or material, including but not limited to, fill, construction materials, excavated material or debris, shall be

¹ The Work Commencement condition and the need for a Work Commencement Form is not applicable to Flood Management Certification approvals.

deposited, placed or stored in any wetland or watercourse on or off-site. The Licensee may not conduct work within wetlands or watercourses other than as specifically authorized, unless otherwise authorized in writing by the Commissioner. Tidal wetlands means “wetland” as defined by section 22a-29 and “freshwater wetlands and watercourses” means “wetlands” and “watercourses” as defined by section 22a-38.

- 6. Management of Materials.** Any materials removed from the site shall be managed in accordance with all federal, state, and local requirements, including Chapter 446K Water Pollution Control, Chapter 445 Hazardous Waste, and Chapter 446d Solid Waste of the Connecticut General Statutes.
- 7. Unconfined Instream Work.** Unless otherwise noted in a condition of the license, the following conditions apply to projects in non-coastal waters:

 - Unconfined instream work is limited to the period June 1 through September 30.
 - Confinement of a work area by cofferdam techniques using sand bag placement, sheet pile installation (vibratory method only), portadam, or similar confinement devices is allowed any time of the year. The removal of such confinement devices is allowed any time of the year.
 - Once a work area has been confined, in-water work within the confined area is allowed any time of the year.
 - The confinement technique used shall completely isolate and protect the confined area from all flowing water. The use of silt boom/curtain or similar technique as a means for confinement is prohibited.
- 8. For State Actions Only - Material or Equipment Storage in the Floodplain.** Unless approved by a Flood Management Exemption, the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood is prohibited. Any other material or equipment stored at the site below said elevation by the Licensee or the Licensee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day. In accordance with the licensee's Flood Contingency Plan, the Licensee shall remove equipment and materials from the floodplain during periods when flood warnings have been issued or are anticipated by a responsible federal, state or local agency. It shall be the Licensee's responsibility to obtain such warnings when flooding is anticipated.
- 9. Temporary Hydraulic Facilities for Water Handling.** If not reviewed and approved as a part of the license application, temporary hydraulic facilities shall be designed by a qualified professional and in accordance with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, the *2004 Connecticut Stormwater Quality Manual*, or the *Department of Transportation's ConnDOT Drainage Manual*, as applicable. Temporary hydraulic facilities may include channels, culverts or bridges which are required for haul roads, channel relocations, culvert installations, bridge construction, temporary roads, or detours.

10. Excavated Materials. Unless otherwise authorized, all excavated material shall be staged and managed in a manner which prevents additional impacts to wetlands and watercourses.

11. Best Management Practices. The Licensee shall not cause or allow pollution of any wetlands or watercourses, including pollution resulting from sedimentation and erosion. In constructing or maintaining any authorized structure or facility or conducting any authorized activity, or in removing any such structure or facility, the Licensee shall employ best management practices to control storm water discharges, to prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. For purposes of the license, “pollution” means “pollution” as that term is defined by CGS section 22a-423. Best Management Practices include, but are not limited, to practices identified in the *Connecticut Guidelines for Soil Erosion and Sediment Control* as revised, *2004 Connecticut Stormwater Quality Manual*, Department of Transportation’s *ConnDOT Drainage Manual* as revised, and the Department of Transportation Standard Specifications as revised.

12. In-Water Work Vessel Staging and Storage. (for Structures Dredging & Fill, Tidal Wetlands, Certificate of Permission, and Long Island Sound General Permit Licenses only). For any barge, vessel, skiff or floating work platform (“work vessels”) utilized in the execution of the work authorized herein, the Licensee shall ensure that such work vessels:

- do not rest on, or come in contact with, the substrate at any time, unless specifically authorized in the license.
- are not stored over intertidal flats, submerged aquatic vegetation or tidal wetland vegetation or in a location that interferes with navigation. In the event any work vessel is grounded, no dragging or prop dredging shall occur to free it.

13. Work Site Restoration. Upon completion of any authorized work, the Licensee shall restore all areas impacted by construction, or used as a staging area or accessway in connection with such work, to their condition prior to the commencement of such work.

14. Inspection. The Licensee shall allow any representative of the Commissioner to inspect the project location at reasonable times to ensure that work is being or has been conducted in accordance with the terms and conditions of this license.

15. Change of Use. (Applies only if a use is specified within the License “Project Description”)

- a. The work specified in the license is authorized solely for the purpose set forth in the license. No change in purpose or use of the authorized work or facilities as set forth in the license may occur without the prior written approval of the Commissioner. The Licensee shall, prior to undertaking or allowing any change in use or purpose from that which is authorized by this license, request permission from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.
- b. A change in the form of ownership of any structure authorized herein from a rental/lease commercial marina to a wholly-owned common interest community or dockominium may constitute a change in purpose as specified in paragraph (a) above.

16. De Minimis Alteration. The Licensee shall not deviate from the authorized activity without

prior written approval from the Commissioner. The Licensee may request a de minimis change to any authorized structure, facility, or activity. A de minimis alteration means a change in the authorized design, construction or operation that individually and cumulatively has minimal additional environmental impact and does not substantively alter the project as authorized.

- For diversion activities authorized pursuant to 22a-377(c)-2 of the Regulations of Connecticut State Agencies, a de minimis alteration means an alteration which does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

17. Extension Request. The Licensee may request an extension of the license expiration date. Such request shall be in writing and shall be submitted to DEEP.LWRDRegulatory@ct.gov at least thirty (30) days prior to the license expiration. Such request shall describe the work done to date, what work still needs to be completed, and the reason for such extension. The Commissioner may extend the expiration date of this license for a period of up to one year, in order for the Licensee to complete the authorized activities. It shall be at the Commissioner's sole discretion to grant or deny such request. No more than three (3) one-year extensions will be granted under this license.

18. Compliance Certification. Not later than 90 days after completion of the authorized work, the Licensee shall prepare and submit to DEEP.LWRDRegulatory@ct.gov, the attached Compliance Certification Form. Such Compliance Certification shall be completed, signed, and sealed by the Licensee and a Connecticut Licensed Design Professional. If non-compliance is indicated on the form, or the Commissioner has reason to believe the activities and/or structures were conducted in non-compliance with the license, the Commissioner may require the Licensee to submit as-built plans as a condition of this license.

19. Maintenance. The Licensee shall maintain all authorized structures or work in optimal condition or shall remove such structures or facility and restore the affected waters to their pre-work condition. Any such maintenance or removal activity shall be conducted in accordance with applicable law and any additional approvals required by law.

20. No Work After License Expiration. Work conducted after the license expiration date is a violation of the license and may subject the licensee to enforcement action, including penalties, as provided by law.

21. License Transfer. The license is not transferable without prior written authorization of the Commissioner. A request to transfer a license shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Licensee's obligations under the license shall not be affected by the passage of title to the license site to any other person or municipality until such time as a transfer is approved by the Commissioner.

22. Document Submission. Any document required to be submitted to the Commissioner under the license or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

DEEP.LWRDRegulatory@ct.gov or

Regulatory Section
Land & Water Resources Division
Department of Energy and Environmental Protection
79 Elm Street
Hartford, Connecticut 06106-5127
860-424-3019

- 23. Date of Document Submission.** The date of submission to the Commissioner of any document required by the license shall be the date such document is received by the Commissioner. The date of any notice by the Commissioner under the license, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in the license, the word “day” as used in the license means calendar day. Any document or action which is required by the license to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.
- 24. Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under the license shall be signed by the Licensee 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 and 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, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense.”
- 25. Accuracy of Documentation.** In evaluating the application for the license, the Commissioner has relied on information and data provided by the Licensee and on the Licensee’s representations concerning site conditions, design specifications and the proposed work, including but not limited to representations concerning the commercial, public or private nature of the work or structures, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, the license may be modified, suspended or revoked, and any unauthorized activities may be subject to enforcement action.
- 26. Limits of Liability.** In granting the license, the Commissioner has relied on all representations of the Licensee, including information and data provided in support of the Licensee’s application. Neither the Licensee’s representations nor the issuance of the license shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.
- 27. Reporting of Violations.** In the event that the Licensee becomes aware that they did not or may not comply, or did not or may not comply on time, with any provision of this license or of any document incorporated into the license, the Licensee shall immediately notify the

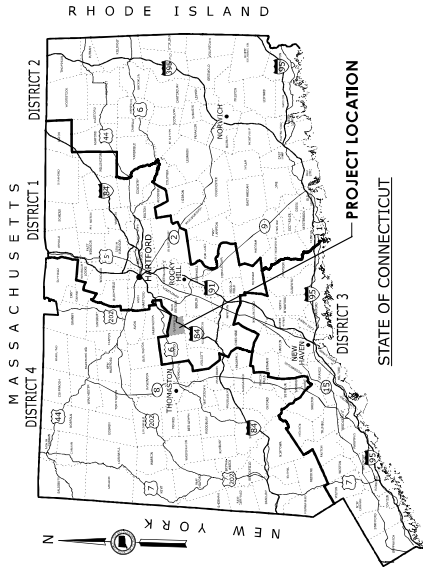
agency contact specified within the license and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the agency contact, the Licensee shall provide, for the agency's review and written approval, a report including the following information:

- a. the provision(s) of the license that has been violated;
- b. the date and time the violation(s) was first observed and by whom;
- c. the cause of the violation(s), if known;
- d. if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;
- e. if the violation(s) has not ceased, the anticipated date when it will be corrected;
- f. steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented; and
- g. the signatures of the Licensee and of the individual(s) responsible for actually preparing such report.

If the violation occurs outside of normal business hours, the Licensee shall contact the Department of Energy and Environmental Protection Emergency Dispatch at 860-424-3333. The Licensee shall comply with any dates which may be approved in writing by the Commissioner.

- 28. Revocation/Suspension/Modification.** The license may be revoked, suspended, or modified in accordance with applicable law.
- 29. Other Required Approvals.** License issuance does not relieve the Licensee of their obligations to obtain any other approvals required by applicable federal, state and local law.
- 30. Rights.** The license is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and conveys no property rights in real estate or material nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the property or activity affected hereby.
- 31. Condition Conflicts.** In the case where a project specific special condition listed on the license differs from, or conflicts with, one of the general conditions listed herein, the project specific special condition language shall prevail. It is the licensee's responsibility to contact the agency contact person listed on the license for clarification if needed prior to conducting any further regulated activities.

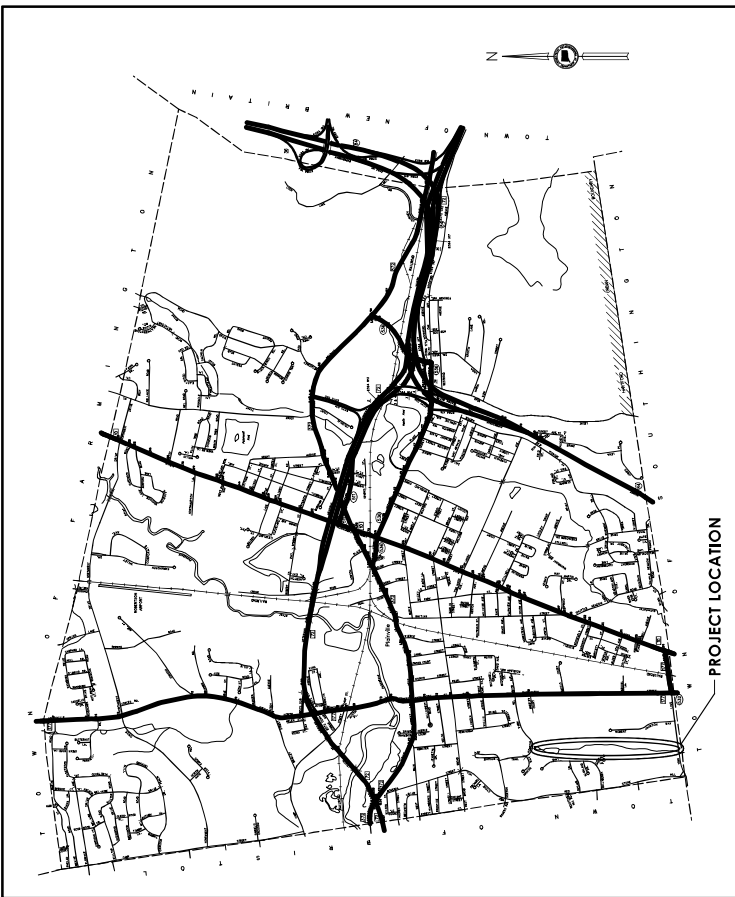
ENVIRONMENTAL PERMIT PLANS
STATE PROJECT NO. 0109-0175
FARMINGTON CANAL HERITAGE TRAIL
TOWN OF PLAINVILLE



GENERAL NOTES:

1. THESE PLANS ARE NOT FOR CONSTRUCTION AND ARE INTENDED ONLY FOR ENVIRONMENTAL PERMITTING PURPOSES. THESE PLANS HOLD AUTHORITY FOR ALL ACTIVITIES CONCERNING THE REGULATED AREA. FOR DETAILED PLANIMETRIC INFORMATION AND PAYMENT REFER TO THE APPLICABLE CONTRACT DOCUMENTS.
2. THE DEPARTMENT OF TRANSPORTATION WILL ONLY SUBMIT REVISIONS TO CTDEEP AND USAGE FOR CHANGES TO THE DESIGN WITHIN REGULATED AREAS.
3. FOR A DESCRIPTION OF THE WATERCOURSES, WETLANDS AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
4. 400 FOOT GRID BASED ON CONNECTICUT COORDINATE SYSTEM N.A.D. 1983
VERTICAL DATUM BASED ON NAVD OF 1988
5. ALL CONSTRUCTION ACTIVITIES WILL BE CONDUCTED IN ACCORDANCE WITH THE DEPARTMENT'S STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 818, SECTION 1.10 AND WILL ALSO FOLLOW REQUIRED BEST MANAGEMENT PRACTICES (BMPs) AND SEDIMENT AND EROSION CONTROL MEASURES IN ACCORDANCE WITH THE 2002 EROSION & SEDIMENTATION CONTROL GUIDELINES AND THE 2004 STORMWATER QUALITY MANUAL.

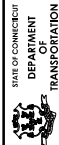
PROJECT LOCATION



LOCATION MAP
SCALE 1" = 1000'

LIST OF DRAWINGS	
DRAWING NO.	DRAWING TITLE
PMI-01	GENERAL SITE PLAN
PMI-02	GENERAL SITE PLAN
PMI-03 TO PMI-06	WETLAND/WATERCOURSE IMPACT PLAN
PMI-07 TO PMI-10	FLOODPLAIN IMPACT PLAN
PMI-11 TO PMI-14	STAGING - WATER HANDLING PLAN
PMI-15	STRUCTURE SECTION VIEWS
PMI-16 TO PMI-20	MISCELLANEOUS DETAILS
PMI-21 TO PMI-23	MISCELLANEOUS DETAILS
PMI-24	MITIGATION SITE DETAIL
PMI-25 TO PMI-28	PERMIT PLANNING PLANS

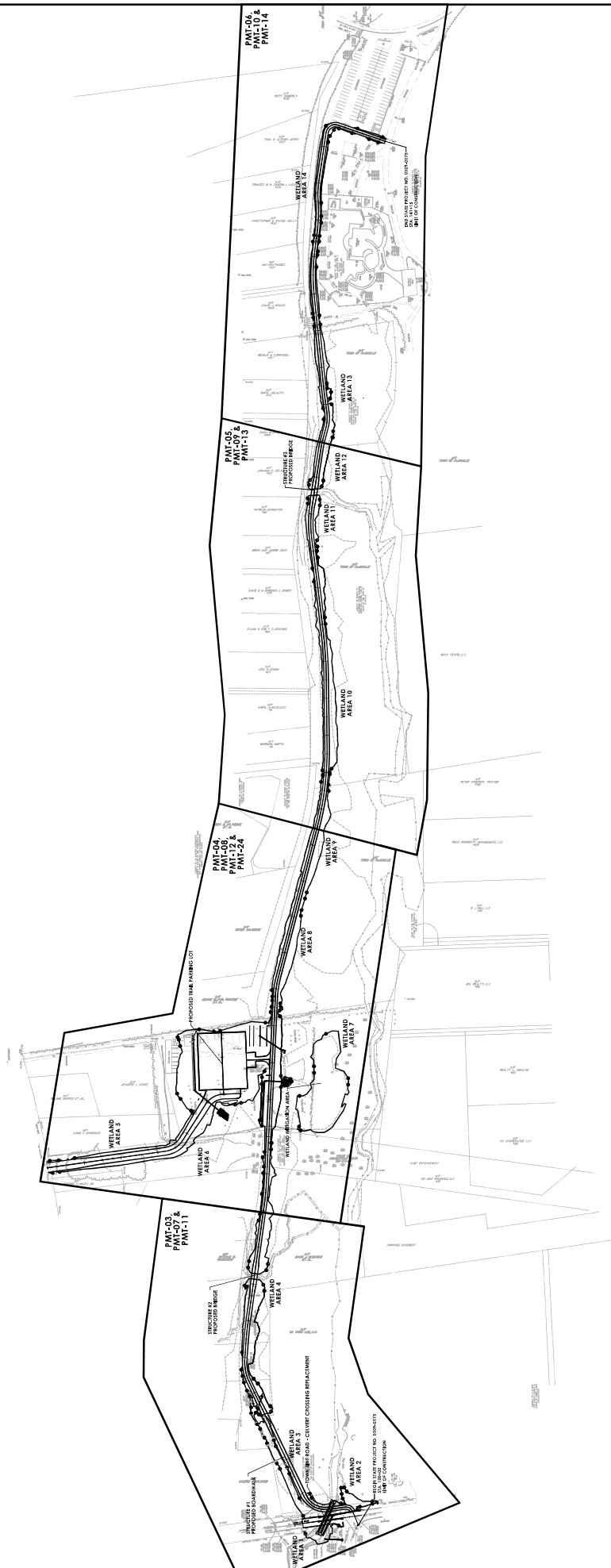
PLAN DATE: NOVEMBER 16, 2023



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: TITLE SHEET

DATE: NOVEMBER 16, 2023
PROJECT NO: 0109-0175
DRAWING NO: 0109-0175-01
SHEET NO: 1



CONFIDENTIAL PERMIT
NOVEMBER 16, 2023

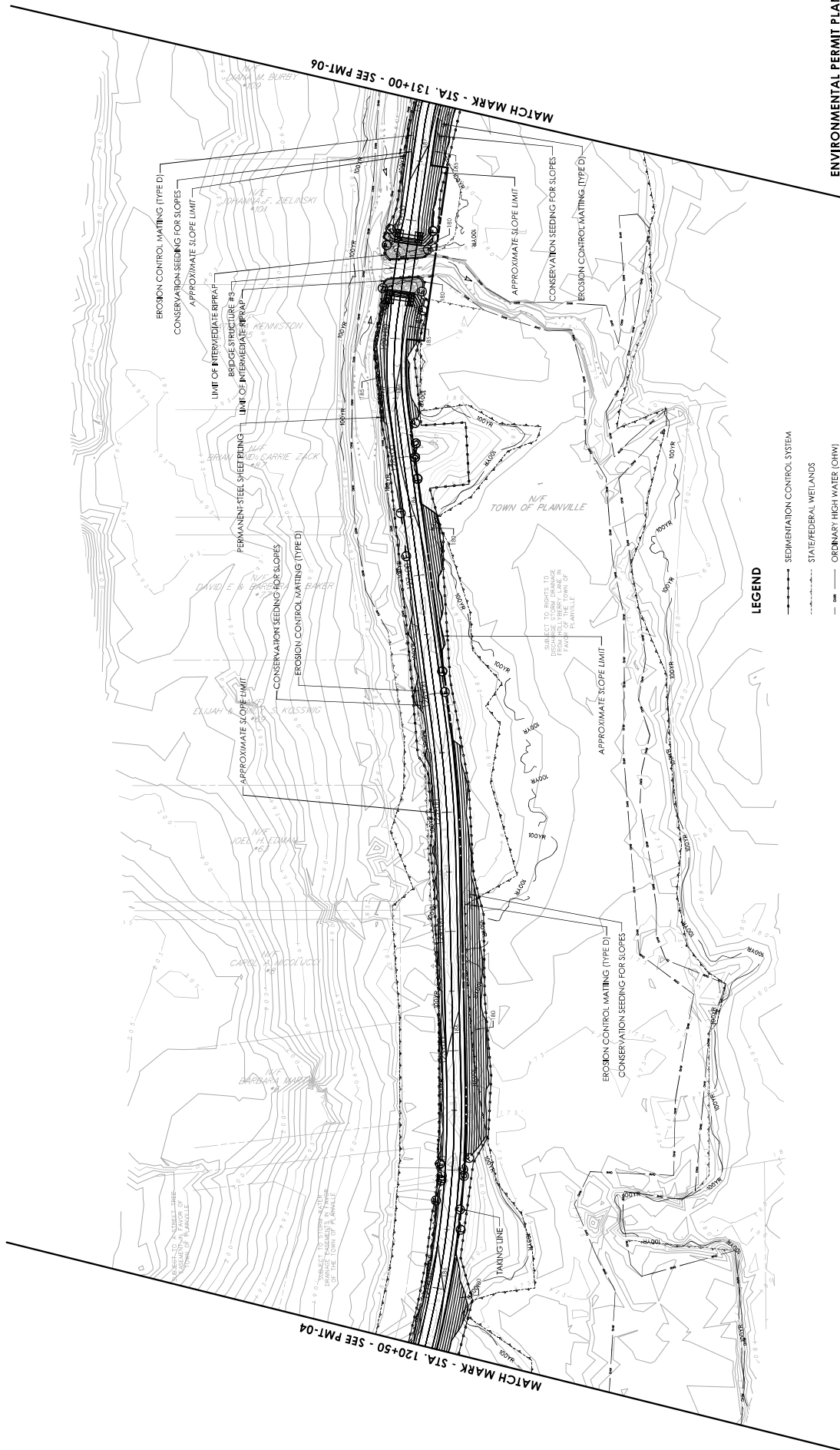
PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMING
TOWNSHIP: PLAINVILLE
DRAWING TITLE: INDEX PLAN



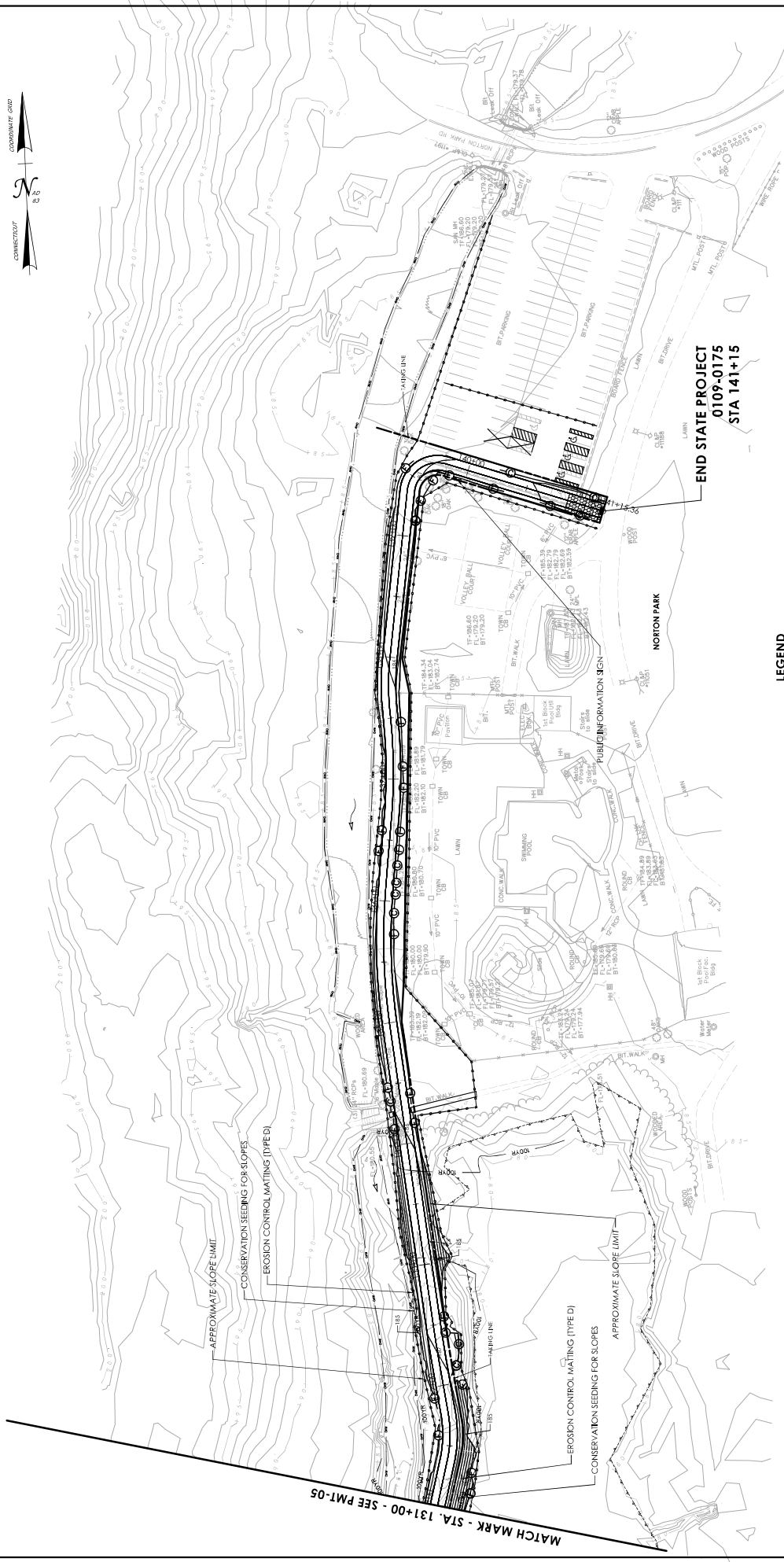
DESIGNER/DRAFTER: CFL

DESIGNER/DRAFTER: CFL	CHECKED BY: WJH
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PLAN DATE: NOVEMBER 16, 2023[illegible]

DRAWING NO.	PMT-05
SHEET NO.	

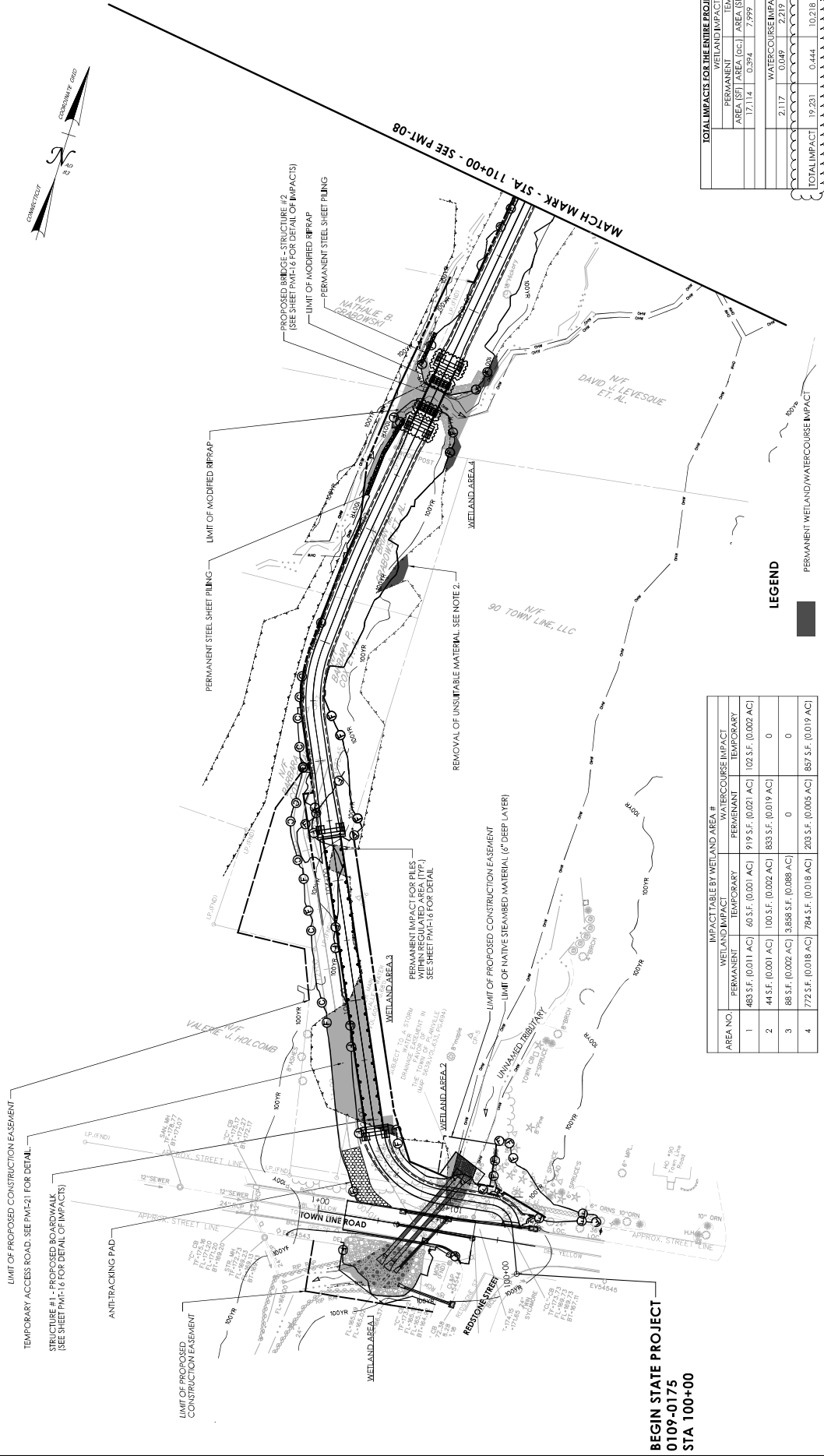


LEGEND

- SEDIMENTATION CONTROL SYSTEM
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN (CALCULATED)

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 0109-0175		PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE		DRAWING TITLE: GENERAL SITE PLAN
STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		DESIGNED BY: WJH CHECKED BY: WJH DATE: 11/7/2023
PROJECT NUMBER: 0109-0175		PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE		DRAWING TITLE: GENERAL SITE PLAN
STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION		DESIGNED BY: WJH CHECKED BY: WJH DATE: 11/7/2023



IMPACT TABLE BY WETLAND AREA #			
AREA NO.	WETLAND IMPACT		WATERCOURSE IMPACT
	PERMANENT	TEMPORARY	TEMPORARY
1	483 S.F. (0.011 AC)	60 S.F. (0.001 AC)	919 S.F. (0.021 AC)
2	44 S.F. (0.001 AC)	100 S.F. (0.002 AC)	833 S.F. (0.019 AC)
3	68 S.F. (0.002 AC)	3,858 S.F. (0.088 AC)	0
4	772 S.F. (0.018 AC)	784 S.F. (0.018 AC)	203 S.F. (0.005 AC)

TOTAL IMPACTS FOR THE ENTIRE PROJECT			
	WETLAND IMPACT		WATERCOURSE IMPACT
	PERMANENT	TEMPORARY	TEMPORARY
AREA [S.F.] AREA [AC]	AREA [S.F.] AREA [AC]	AREA [S.F.] AREA [AC]	AREA [S.F.] AREA [AC]
17,114 0.394	7,999 0.184	2,117 0.049	2,219 0.051
TOTAL IMPACT			
19,231 0.444	10,218 0.235		

LEGEND

- PERMANENT WETLAND/WATERCOURSE IMPACT
- TEMPORARY WETLAND/WATERCOURSE IMPACT
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN (CALCULATED)

NOTES:

- THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACT TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.
- PERMANENT WETLAND IMPACTS SHOWN BEYOND THE CUT AND FILL LIMITS ALONG THE TRAIL REPRESENT AREAS OF REMOVAL OF UNSUITABLE MATERIAL (SEE SHEET PM1-21 FOR DETAIL).
- TEMPORARY WETLAND IMPACTS SHOWN BEYOND THE SLOPE LIMIT REPRESENTS THE AREA BETWEEN THE FILL SLOPE AND THE SEDIMENTATION CONTROL SYSTEM.

ENVIRONMENTAL PERMIT PLANS

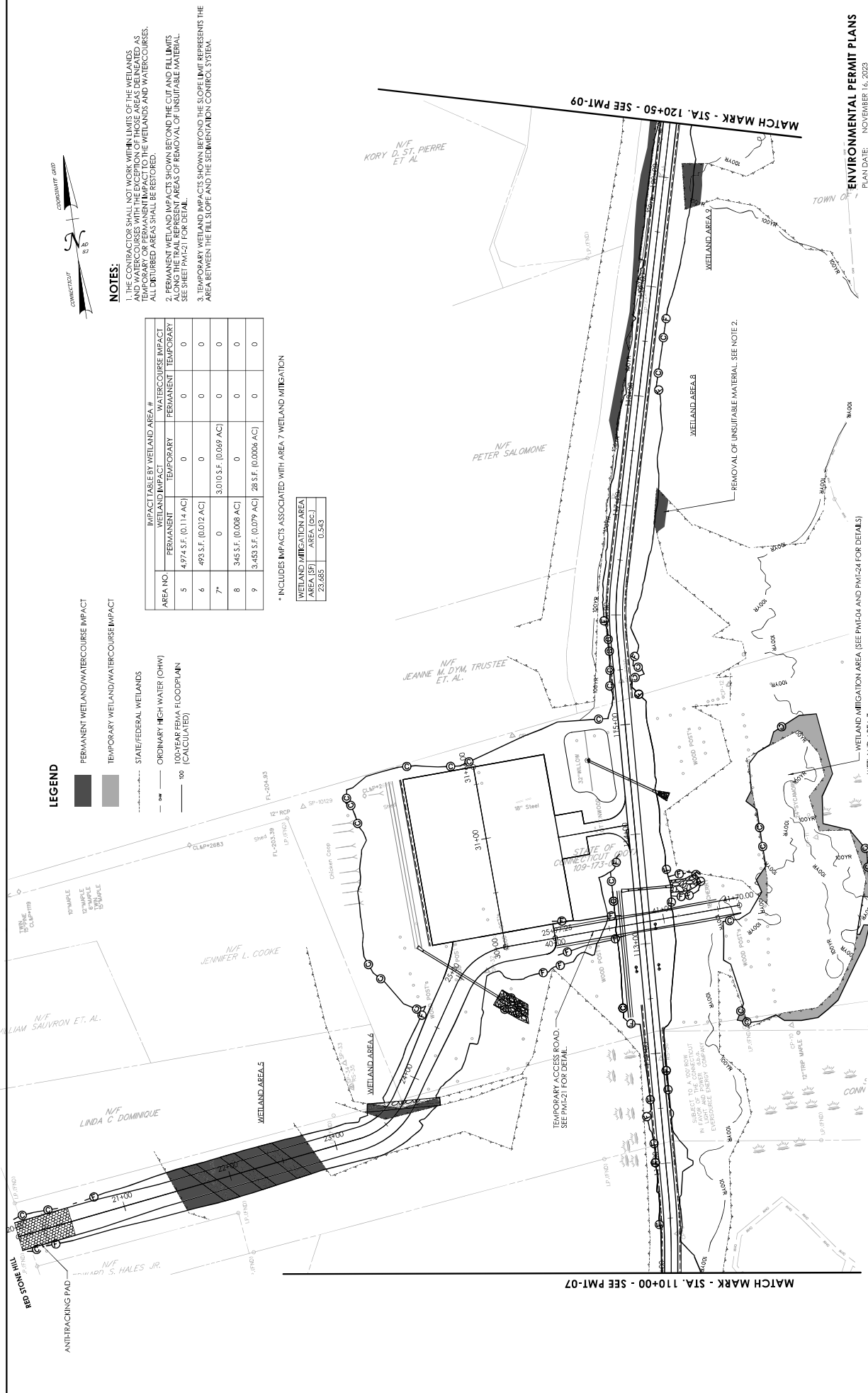
PLAN DATE: NOVEMBER 16, 2023
REVISED DATE: DECEMBER 5, 2023

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: WETLAND/WATERCOURSE IMPACT PLAN

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

REVISIONS
1. TOTAL IMPACT QUANTITIES IN TABLE
2. REVISIONS
BLOCK
SCALE
1" = 40'
1" = 40'

DESIGNED BY: WCH
CHECKED BY: WCH
LASTED BY: WCH
PLOT DATE: 1/17/2023



LEGEND

- PERMANENT WETLAND/WATERCOURSE IMPACT
- TEMPORARY WETLAND/WATERCOURSE IMPACT
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FLOODPLAIN (CALCULATED)

NOTES:

1. THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITHIN THE PROJECT AREA. ANY WORK DONE WITHIN THESE AREAS SHALL BE RESTORED TO ORIGINAL CONDITIONS.
2. PERMANENT WETLAND IMPACTS SHOWN BEYOND THE CUT AND FILL LIMITS ALONG THE TRAIL REPRESENT AREAS OF REMOVAL OF UNSUITABLE MATERIAL. SEE SHEET PM-21 FOR DETAIL.
3. TEMPORARY WETLAND IMPACTS SHOWN BEYOND THE SLOPE LIMIT REPRESENTS THE AREA BETWEEN THE FILL SLOPE AND THE SEGMENTATION CONTROL SYSTEM.

AREA NO.	IMPACT TABLE BY WETLAND AREA #	
	WETLAND IMPACT	WATERCOURSE IMPACT
5	PERMANENT	TEMPORARY
5	4,974 S.F. (0.114 AC)	0
6	493 S.F. (0.012 AC)	0
7*	0	3,010 S.F. (0.069 AC)
8	345 S.F. (0.008 AC)	0
9	3,453 S.F. (0.079 AC)	28 S.F. (0.0006 AC)

* INCLUDES IMPACTS ASSOCIATED WITH AREA 7 WETLAND MITIGATION

WETLAND MITIGATION AREA	
AREA (SF)	AREA (AC)
23,685	0.543

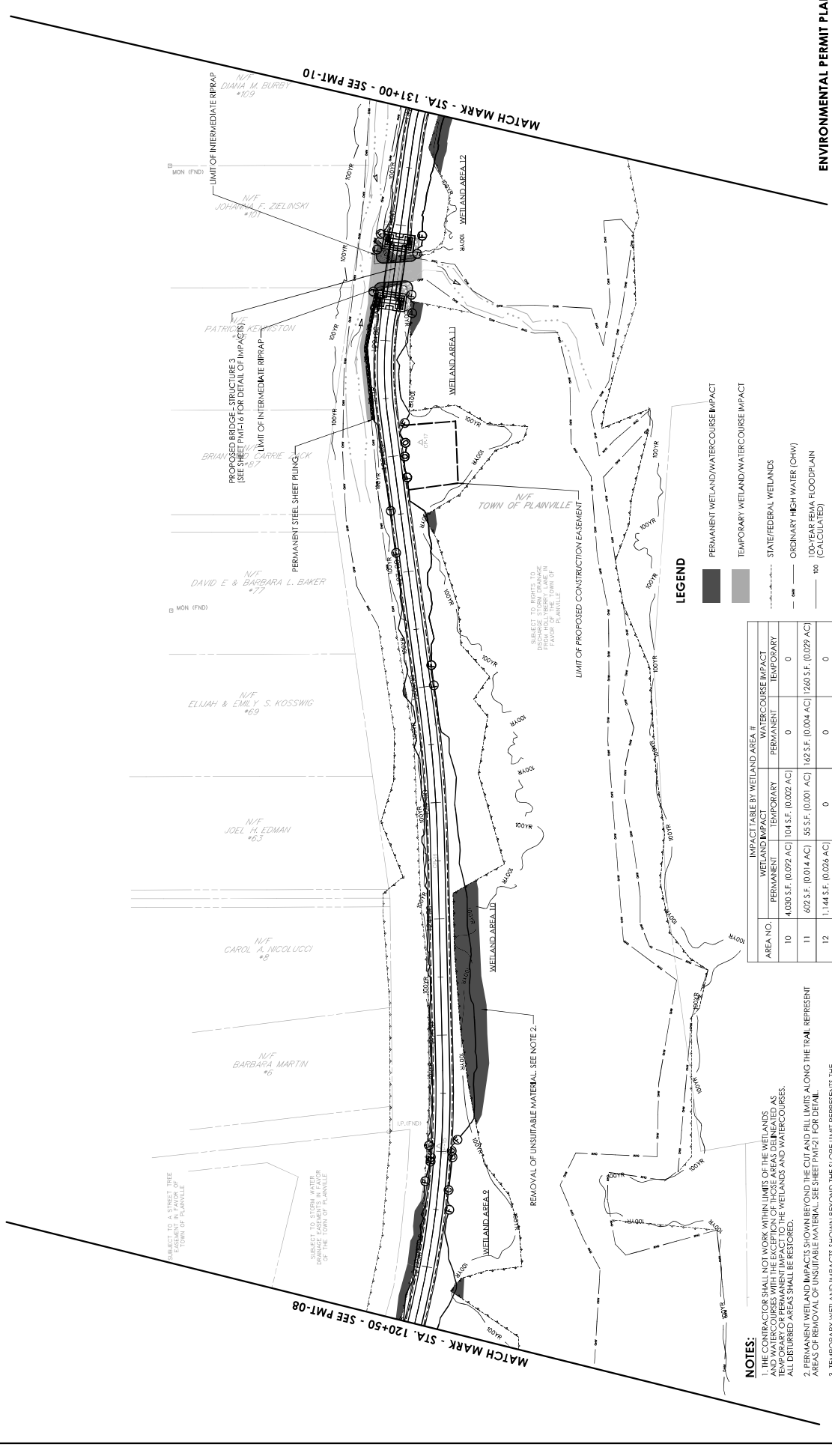
ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 010604735
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: WETLAND/WATERCOURSE IMPACT PLAN

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: W.H.
CHECKED BY: W.H.
PLOTTED DATE: 11/16/2023

REVISIONS:
1. 11/16/2023
2. 11/16/2023



LEGEND

- PERMANENT WETLAND/WATERCOURSE IMPACT
- TEMPORARY WETLAND/WATERCOURSE IMPACT
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN
- 100 (CALCULATED)

AREA NO.	WETLAND IMPACT		WATERCOURSE IMPACT	
	PERMANENT	TEMPORARY	PERMANENT	TEMPORARY
10	4,030 S.F. (0.092 AC)	104 S.F. (0.002 AC)	0	0
11	602 S.F. (0.014 AC)	55 S.F. (0.001 AC)	162 S.F. (0.004 AC)	1260 S.F. (0.029 AC)
12	1,144 S.F. (0.026 AC)	0	0	0

- NOTES:**
1. THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS Delineated AS TEMPORARY OR PERMANENT IMPACT TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.
 2. PERMANENT WETLAND IMPACTS SHOWN BEYOND THE CUT AND FILL LIMITS ALONG THE TRAIL REPRESENT AREAS OF REMOVAL OF UNSUITABLE MATERIAL. SEE SHEET PMT-21 FOR DETAIL.
 3. TEMPORARY WETLAND IMPACTS SHOWN BEYOND THE SLOPE LIMIT REPRESENTS THE AREA BETWEEN THE HILL SLOPE AND THE SEDIMENTATION CONTROL SYSTEM.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

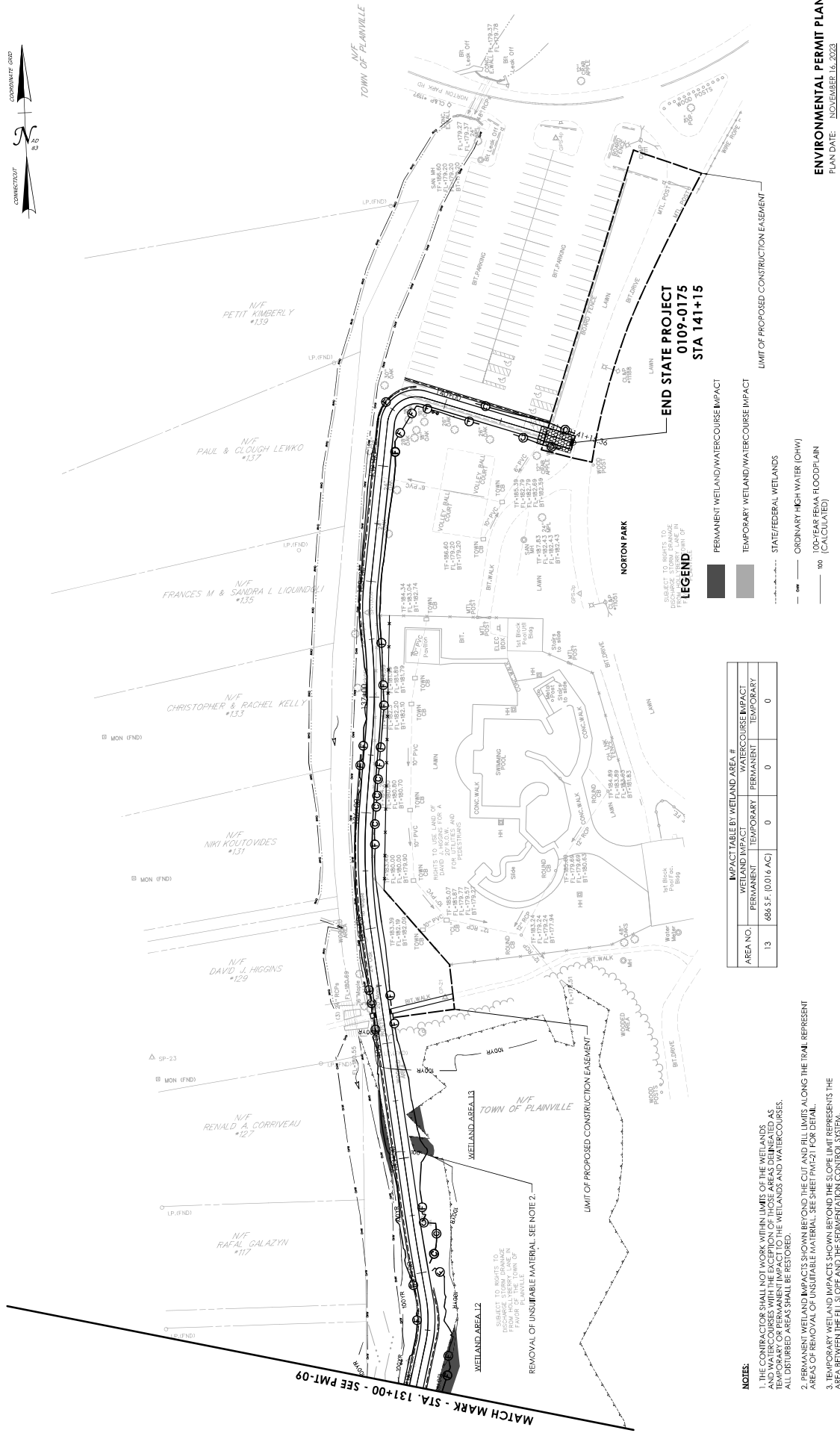
PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: WETLAND/WATERCOURSE IMPACT PLAN

**STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION**

DESIGNED BY: W.H. [Signature]
CHECKED BY: [Signature]
DATE: 11/7/2023

PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: WETLAND/WATERCOURSE IMPACT PLAN

DATE: 11/7/2023



ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

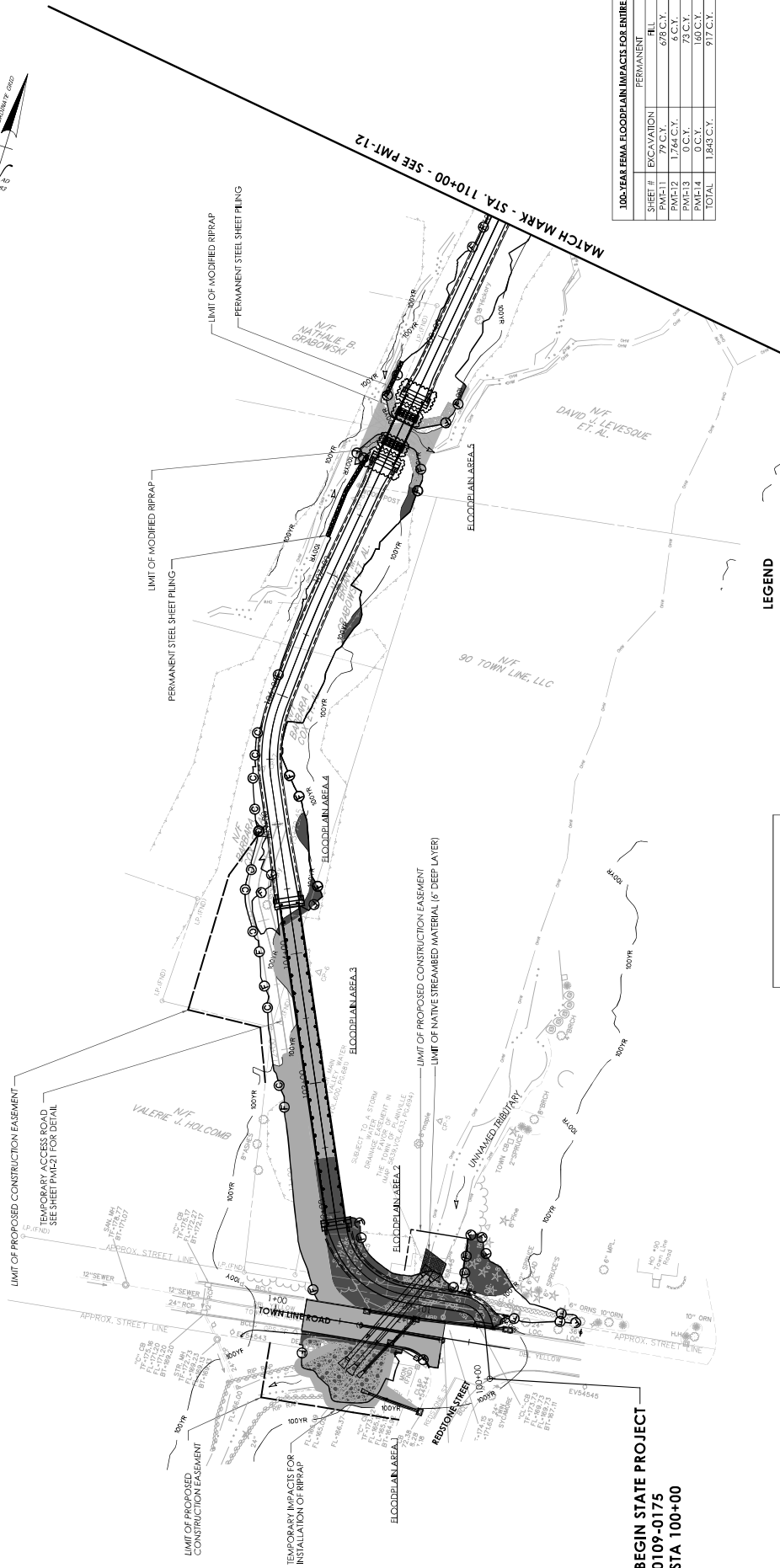
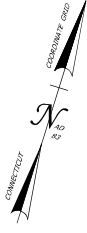
PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: WETLAND/WATERCOURSE IMPACT PLAN



STATE OF CONNECTICUT
DEPARTMENT
OF
TRANSPORTATION

[illegible]

DESIGNER/DRAFTER: CFL
 LASTED SAVED BY: kadhmmz
 PLOTTED DATE: 11/7/2009



100-YEAR FEMA FLOODPLAIN IMPACTS		PERMANENT	
AREA #	EXCAVATION	AREA	REL
1	0 C.Y.	173 C.Y.	173 C.Y.
2	0 C.Y.	80 C.Y.	80 C.Y.
3	0 C.Y.	84 C.Y.	84 C.Y.
4	0 C.Y.	4 C.Y.	4 C.Y.
5	0 C.Y.	8 C.Y.	8 C.Y.

LEGEND

- PERMANENT FLOODPLAIN IMPACT
- TEMPORARY FLOODPLAIN IMPACT
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN (CALCULATED)

100-YEAR FEMA FLOODPLAIN IMPACTS FOR ENTIRE PROJECT		PERMANENT	
SHEET #	EXCAVATION	AREA	REL
PMT-1	79 C.Y.	678 C.Y.	678 C.Y.
PMT-2	178 C.Y.	8 C.Y.	8 C.Y.
PMT-3	0 C.Y.	0 C.Y.	0 C.Y.
PMT-4	0 C.Y.	140 C.Y.	140 C.Y.
TOTAL	1,843 C.Y.	917 C.Y.	917 C.Y.

NOTE:
THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTED THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACT TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.

BEGIN STATE PROJECT
0109-0175
STA 100+00

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: FLOODPLAIN IMPACT PLANS

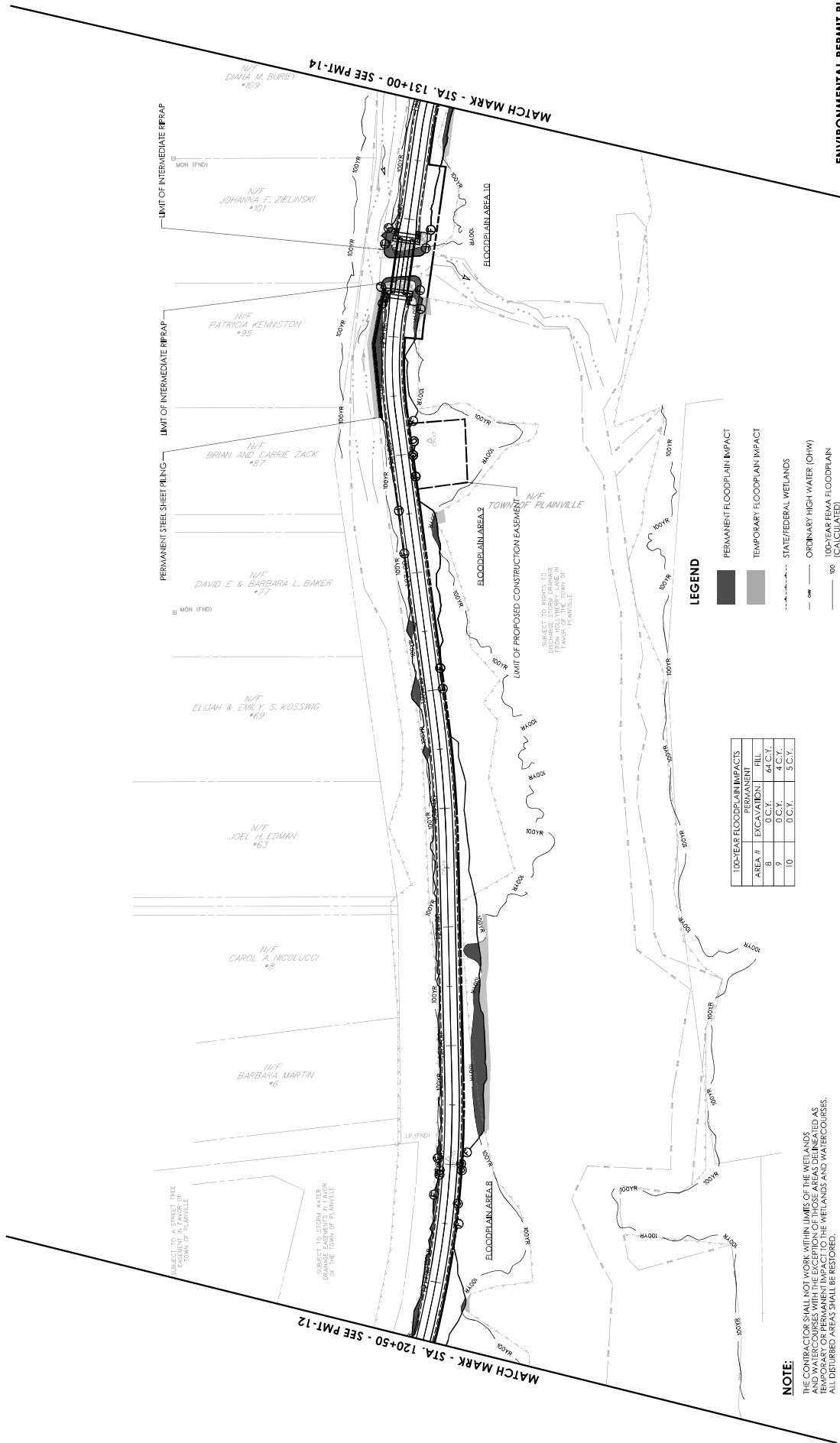
STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: W.H.
CHECKED BY: W.H.
DATE: 11/7/2023

REVISIONS
BLOCK
SCALE
1"=40'

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: FLOODPLAIN IMPACT PLANS

DESIGNED BY: W.H.
CHECKED BY: W.H.
DATE: 11/7/2023

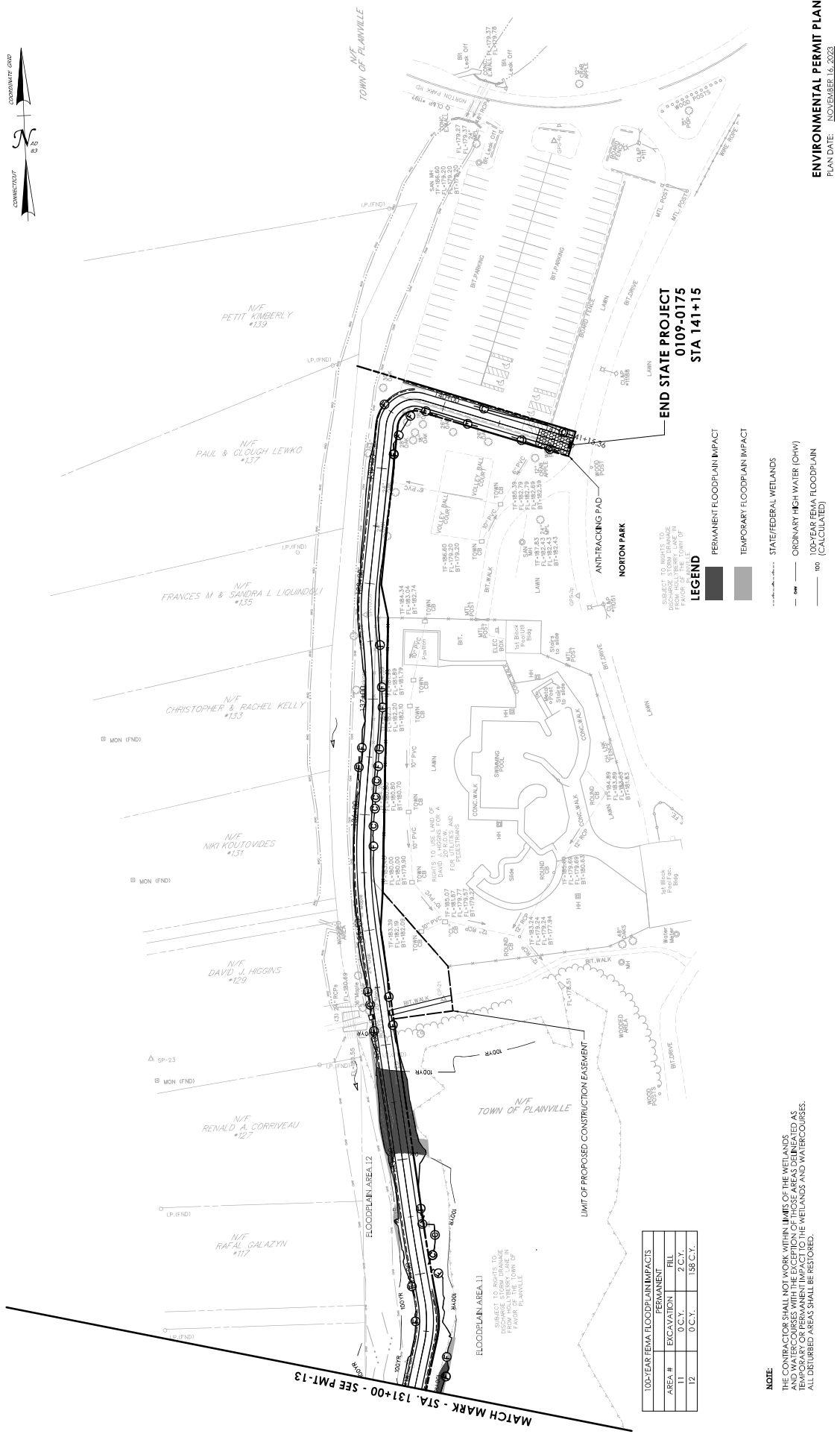


THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACT TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.

PLAN DATE: NOVEMBER 16, 2023

DESIGNER/DRAWER: CFI	CHECKED BY: WJH

DESIGNER/DRAWER: C/L	CHECKED BY: W.J.H	1"= 47'
<p>LASTED SAVED BY: xallimz FILE NAME: D:\Users\vastrima\State of Connecticut\01684773 - Internal Documents\330_Design\Drawings\Design Files\Phase 1\CAD\Hms-XSS\1084773.dwg DATE: 11/1/2017 TIME: 10:47:32 AM USER: vastrima</p>		



END STATE PROJECT
0109-0175
STA 141+15

LEGEND

- PERMANENT FLOODPLAIN IMPACT
- TEMPORARY FLOODPLAIN IMPACT
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN
- 100 (CALCULATED)

100-YEAR FEMA FLOODPLAIN IMPACTS			
AREA #	EXCAVATION	FILL	
11	0 C.Y.	2 C.Y.	
12	0 C.Y.	158 C.Y.	

NOTE:
THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DESIGNATED AS TEMPORARY FLOODPLAIN IMPACTS. ALL DISTURBED AREAS SHALL BE RESTORED.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWN: PLAINVILLE
DRAWING TITLE: FLOODPLAIN IMPACT PLANS

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: WJH
CHECKED BY: WJH
PLOTTED DATE: 11/7/2023

REVISIONS:
1. 11/7/2023
2. 11/7/2023

SCALE: 1" = 40'

REVISIONS:
1. 11/7/2023
2. 11/7/2023

REPLACEMENT OF TOWN LINE ROAD CULVERT

SUGGESTED SEQUENCE

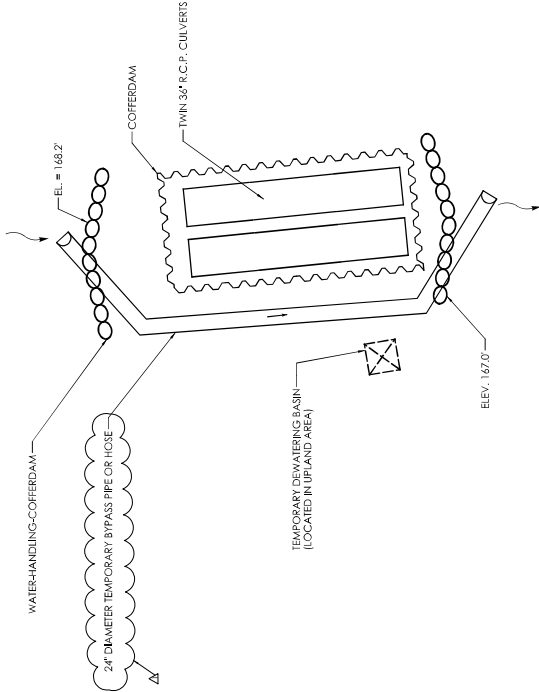
1. INITIATE ROAD CLOSURE AND TRAFFIC DETOUR ON TOWN LINE ROAD
2. PERMANENTLY RELOCATE SANITARY MANHOLE, SEWER AND WATER MAIN. TEMPORARILY SUPPORT UTILITIES AS NEEDED FOR THE REMAINDER OF THE CULVERT REPLACEMENT.
3. INSTALL SEDIMENTATION CONTROL SYSTEM
4. INSTALL WATER-HANDLING-COFFERDAM AND CONSTRUCT TEMPORARY DEWATERING BASINS.
5. INSTALL TEMPORARY BYPASS PIPE OR HOSE AND BEGIN PUMPING OPERATION.
6. REMOVE EXISTING 36" CORRUGATED METAL PIPES AND INSTALL 36" R.C. PIPE CULVERTS.
7. INSTALL INLET/OUTLET RFRAP AND PLACE NATIVE STREAMBED MATERIAL AT THE INLET/OUTLET. SEE PMT-03 AND PMT-03.
8. INSTALL ROADWAY DRAINAGE ON TOWN LINE ROAD.
9. REMOVE WATER-HANDLING-COFFERDAM, TEMPORARY BYPASS PIPE OR HOSE AND TEMPORARY UTILITY SUPPORTS.
10. CONSTRUCT TOWN LINE ROAD - FULL DEPTH RECONSTRUCTION INCLUDING FINAL GRADING.
11. REOPEN TOWN LINE ROAD TO TRAFFIC.
12. PERFORM FINAL SEEDING AND PLANTINGS. REMOVE EROSION AND SEDIMENTATION CONTROL UPON FINAL STABILIZATION.

GENERAL NOTES:

1. THE CONTRACTOR SHALL NOT WORK WITHIN LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DEDICATED AS TEMPORARY OR PERMANENT IMPACT TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.
2. THE CONTRACTOR SHALL MAINTAIN WATER FLOW THROUGH THE EXISTING OR PROPOSED PIPES DURING CONSTRUCTION.
3. TEMPORARY DEWATERING BASIN SHALL BE ESTABLISHED OUTSIDE OF THE WETLAND LIMITS. THE LOCATION OF THE DEWATERING BASIN IS APPROXIMATE. THE EXACT LOCATION MAY VARY BASED ON THE PUMPING DESIGN SUBMISSION AND APPROVED BY THE ENGINEER.
4. TEMPORARY WATER-HANDLING-COFFERDAM SHALL CONSIST OF AN APPROVED SYSTEM THAT THE CONTRACTOR ELECTS TO USE WHICH WILL SAFELY CONVEY WATER FLOWS THROUGH THE CONSTRUCTION AREA. SHALL BE ABLE TO SUPPORT CONSTRUCTION ACTIVITY AND SHALL CONFORM TO PERMITS. ANY WATER HANDLING SCHEME DEPICTED WITHIN THE DEPARTMENTS "HANDLING WATER TYPICAL SCHEMATICS" MAY BE UTILIZED UNLESS SPECIFICALLY PROHIBITED. A MEANS AND METHOD FOR WATER HANDLING SYSTEM SHALL BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR APPROVAL.
5. WATER HANDLING MEASURES SHALL NOT EXCEED IMPACT AREAS SHOWN ON THE WETLAND AND FLOODPLAIN IMPACT SHEETS OF THE PERMIT PLANS.
6. ANY STORM DRAINAGE DISCHARGING INTO A CONFINED WORK AREA FROM EXISTING OR PROPOSED STORM DRAINAGE PIPES SHALL BE DIVERTED OR PUMPED OUTSIDE THE CONFINED AREAS. PUMPS/PIPES SHALL BE SIZED BY THE CONTRACTOR TO MAINTAIN FLOWS THROUGH EXISTING OR PROPOSED PIPES. THE PUMPING DESIGN SUBMISSION, MEANS AND METHODS OF HANDLING STORM DRAINAGE TO THE ENGINEER FOR APPROVAL AND BE INCLUDED AS PART OF WATER HANDLING.
7. IF A PUMP SYSTEM IS PROPOSED DURING LOW FLOW CONDITIONS, THE PUMP SYSTEM SHALL BE DESIGNED BY THE CONTRACTOR. PUMP SYSTEM PLAN SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL.
8. BASED UPON FIELD CONDITIONS, WORK DURATION, AND IMPROVED MEASURES CONDITIONS, THE ENGINEER MAY, APPROVE A CONSTRUCTION WATER HANDLING PLAN WITH LOWER PUMPING FLOW, PROVIDED THAT IT INCLUDES A CONTINGENCY PLAN WHICH MINIMIZES NEGATIVE IMPACTS AND SAFELY CONVEYS LARGER FLOWS THROUGH THE WORK AREA.
9. DUE TO THE PRESENCE OF STATE-LISTED BATS WITHIN THE PROJECT LIMITS, CLEARING OF ANY TREE THREE (3) INCHES DIAMETER AT BREAST HEIGHT (DBH) OR GREATER WILL BE PROHIBITED BETWEEN THE TIME OF MAY 15TH AND AUGUST 15TH.

UNCONFINED IN-STREAM WORK BMP NOTE:

- ANY UNCONFINED IN-STREAM WORK WITHIN THE WATERCOURSES SHALL BE RESTRICTED TO THE PERIOD FROM JUNE 1 TO SEPTEMBER 30, INCLUSIVE, UNLESS OTHERWISE INCLUDED AS A SPECIAL PROVISION OF THE LICENSE. THE CONDITION SHALL APPLY TO PROJECTS IN NON-COASTAL WATERS.
- THE DEPARTMENT WILL REVIEW AND MAY APPROVE THE METHODS OF UNCONFINED WORK WITH CONSIDERATION OF THE FOLLOWING:
- PROPOSED SCHEDULE FOR WORK OPERATIONS.
 - ALL UNCONFINED IN-WATER WORK SHALL BE MINOR IN NATURE.
 - DISTURBANCE SHALL BE LIMITED TO AREAS THAT HAVE BEEN APPROVED FOR TEMPORARY AND PERMANENT IMPACT.
 - DISTURBED AREAS AND THE DURATION OF DISTURBANCE SHALL BE MINIMIZED TO THE EXTENT POSSIBLE.
 - IN-STREAM WORK SHALL BE DONE DURING PERIODS OF LOW FLOW.



HANDLING WATER MULTIPLE CULVERTS/OPENINGS

NOT TO SCALE

TEMPORARY HYDRAULIC DATA	
AVERAGE DAILY FLOW	2 CFS
AVERAGE SPRING FLOW	4 CFS
2-YR FREQUENCY DISCHARGE	80 CFS
LOW FLOW PUMPING TEMPORARY DISCHARGE = AVG. SPRING	4 CFS
GRAVITY FLOW BYPASS PIPE TEMPORARY DESIGN FREQUENCY = 4X ASF	16 CFS
4X AVG. SPRING WATER SURFACE ELEVATION UPRSTREAM	169.1'
4X AVG. SPRING WATER SURFACE ELEVATION DOWNSTREAM	168.0'

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 14, 2023
REVISED DATE: JUNE 28, 2024

PROJECT NUMBER: 01060175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: STAGING - WATER HANDLING PLAN FOR TOWN LINE ROAD CULVERT REPLACEMENT



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: JWH

CHECKED BY: JWH

DATE: 6/28/2024

PROJECT NUMBER: 01060175

PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK

TOWNSHIP: PLAINVILLE

DRAWING TITLE: STAGING - WATER HANDLING PLAN FOR TOWN LINE ROAD CULVERT REPLACEMENT

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DATE: 6/28/2024

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PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK

TOWNSHIP: PLAINVILLE

DRAWING TITLE: STAGING - WATER HANDLING PLAN FOR TOWN LINE ROAD CULVERT REPLACEMENT

DESIGNED BY: JWH

CHECKED BY: JWH

DATE: 6/28/2024

PROJECT NUMBER: 01060175

PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK

TOWNSHIP: PLAINVILLE

DRAWING TITLE: STAGING - WATER HANDLING PLAN FOR TOWN LINE ROAD CULVERT REPLACEMENT

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DESIGNED BY: JWH

CHECKED BY: JWH

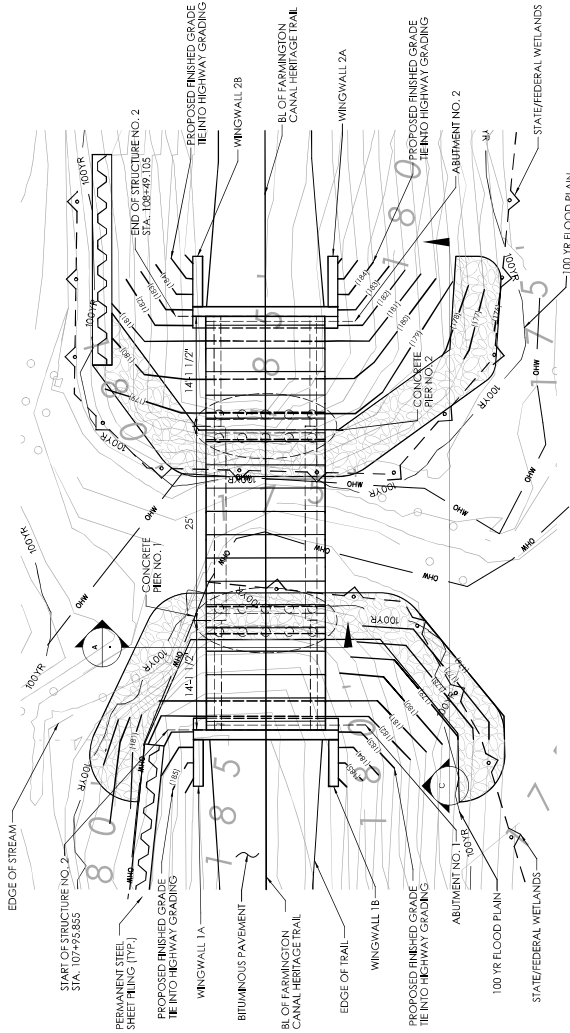
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PROJECT NUMBER: 01060175

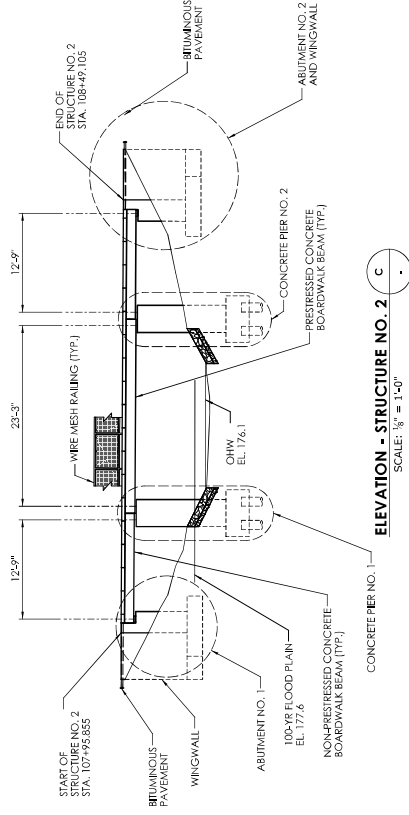
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TOWNSHIP: PLAINVILLE

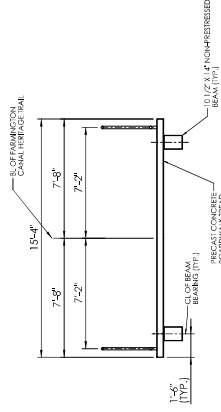
DRAWING TITLE: STAGING - WATER HANDLING PLAN FOR TOWN LINE ROAD



PLAN - STRUCTURE NO. 2
SCALE: 1/8" = 1'-0"



ELEVATION - STRUCTURE NO. 2
SCALE: 1/8" = 1'-0"



TYPICAL SECTION - STRUCTURE NO. 2
SCALE: 3/4" = 1'-0"

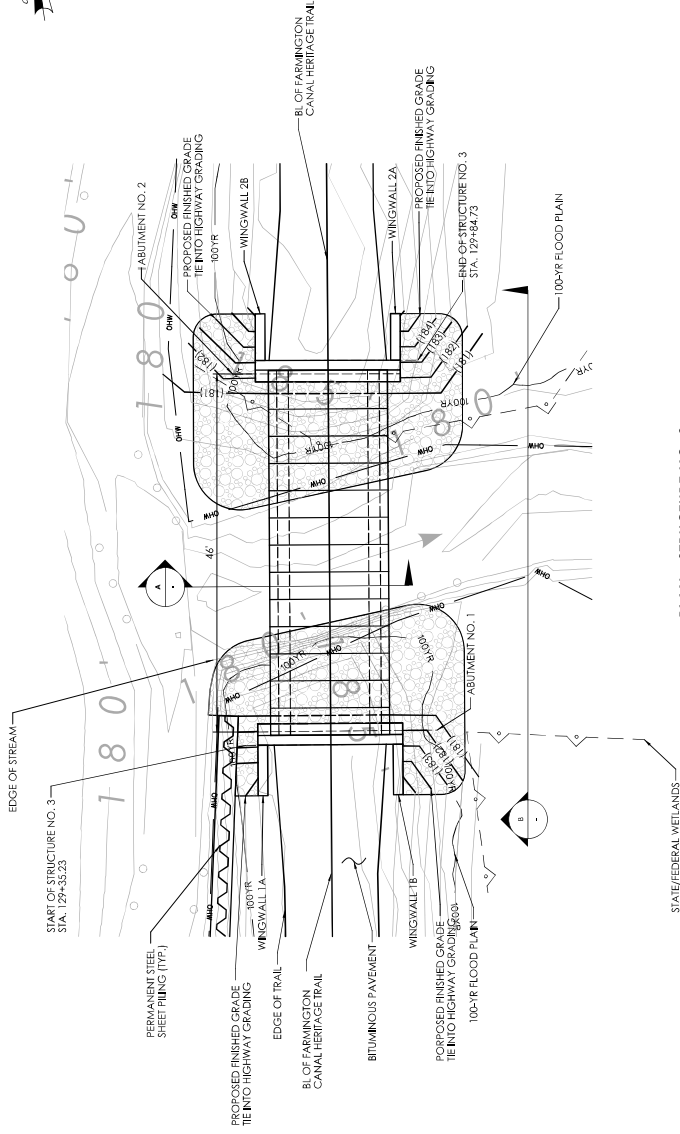
ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 01842-075
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: STRUCTURE NO. 2 SECTION VIEWS

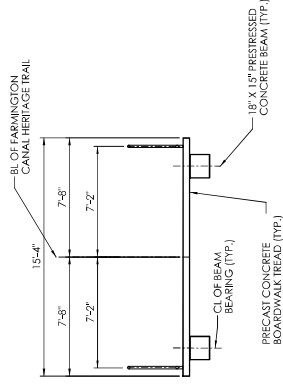


REV	DATE	REVISION DESCRIPTION

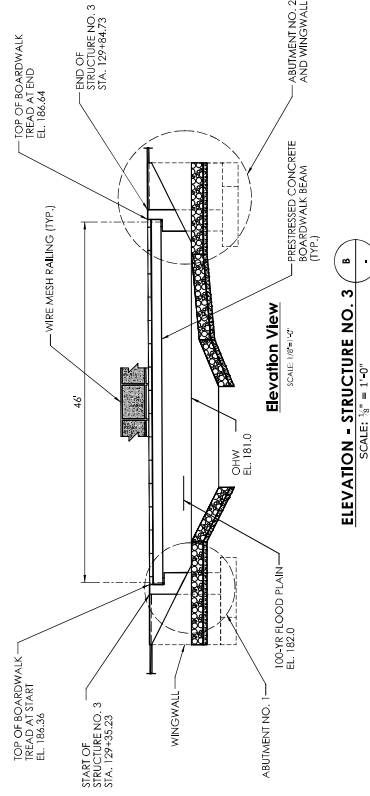
DESIGNED BY: [Name]
CHECKED BY: [Name]
PLANNED DATE: 7/13/2023
RE: NAME: C:\Users\jacob@stateofconnecticut.com\Documents\01842-075 - Design\01842-075_MoDOT_Vermont_Heritage_Village_SitePlan_2 - Final.dwg
PROJECT NUMBER: 01842-075
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: STRUCTURE NO. 2 SECTION VIEWS



PLAN - STRUCTURE NO. 3
SCALE: 1/8" = 1'-0"



TYPICAL SECTION PRESTRESSED - STRUCTURE NO. 3
SCALE: 1/4" = 1'-0"



ELEVATION - STRUCTURE NO. 3
SCALE: 1/4" = 1'-0"

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: STRUCTURE NO. 3 SECTION VIEWS

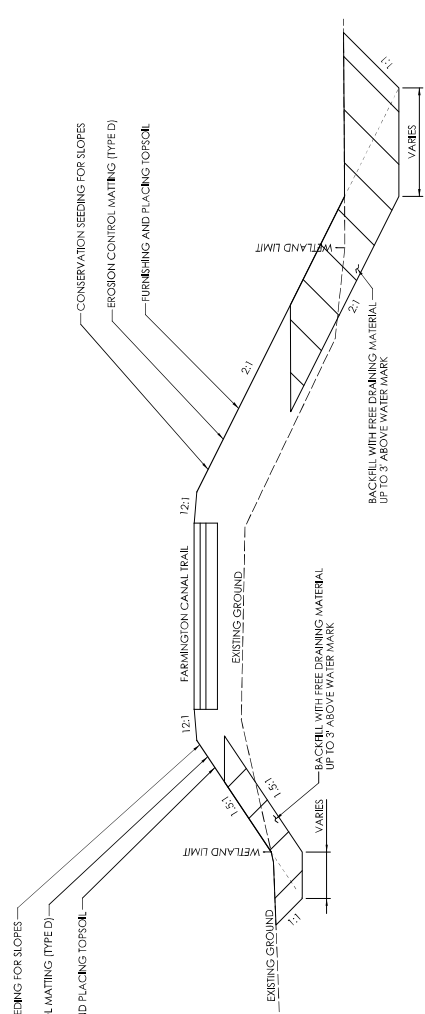


STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

DESIGNED BY: [Name]
CHECKED BY: [Name]
PLOTTED DATE: 7/13/2023

REVISIONS
DATE
BY
REVISION DESCRIPTION

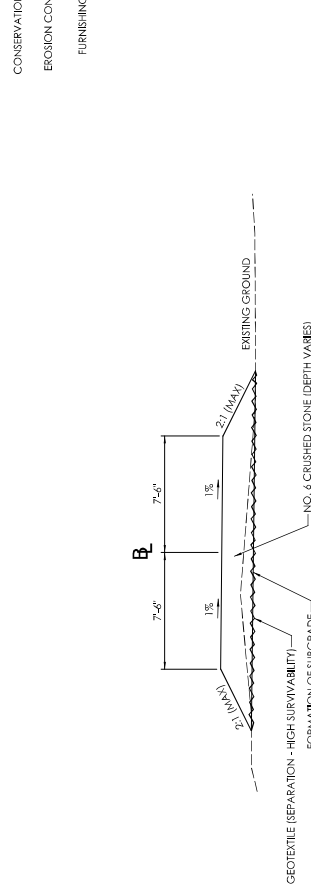
REVISIONS
DATE
BY
REVISION DESCRIPTION



REMOVAL OF UNSUITABLE MATERIAL

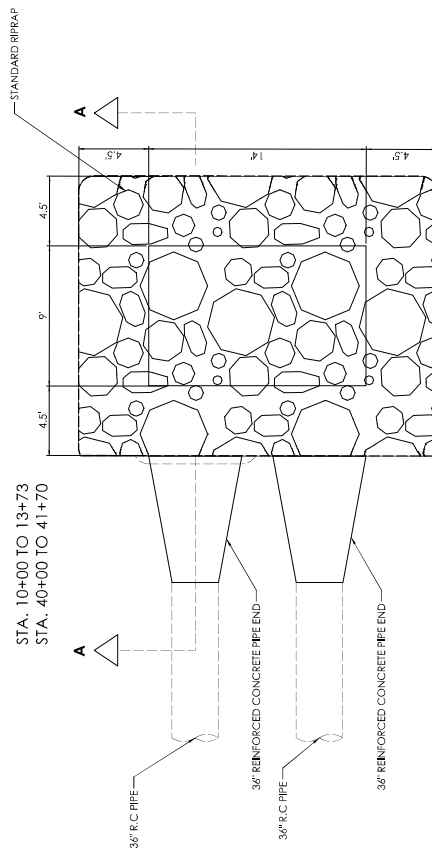
NOTES:

1. REMOVE UNSUITABLE MATERIAL AT AREAS WHERE THE PERMANENT WETLAND IMPACTS EXTEND BEYOND THE CUT AND FILL LIMITS ALONG THE TRAIL SHOWN ON SHEETS PMH-03, PMH-04, PMH-05 AND PMH-06 OR AS DIRECTED BY THE ENGINEER.



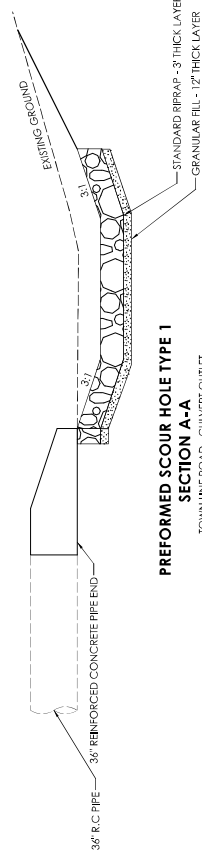
TEMPORARY ACCESS ROADS

STA. 10+00 TO 13+73
STA. 40+00 TO 41+70



PREFORMED SCOUR HOLE TYPE 1

TOWN LINE ROAD - CULVERT OUTLET



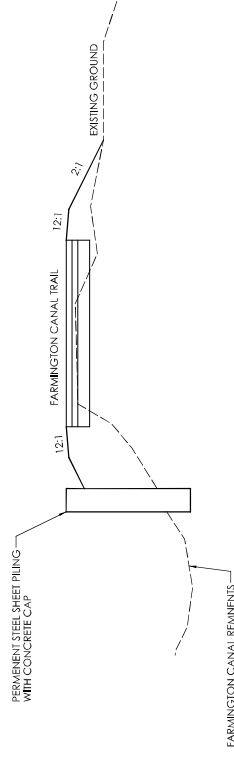
PREFORMED SCOUR HOLE TYPE 1

SECTION A-A

TOWN LINE ROAD - CULVERT OUTLET

PERMANENT STEEL SHEET PILING

STA. 107+26 TO 108+00
STA. 108+40 TO 108+70
STA. 128+34 TO 129+39



PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: ENVIRONMENTAL PERMIT PLANS - MISCELLANEOUS DETAILS



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

SCALE AS NOTED

DESIGNED BY: W.H. CHASE
CHECKED BY: W.H. CHASE
DATE: 11/7/2023

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NO.
PMT-21
SHEET NO.

NATIVE STREAMBED MATERIAL NOTES:

1. NATIVE STREAMBED MATERIAL EXCAVATED DURING PIPE INSTALLATION SHALL BE STOCKPILED AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISION EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL."
2. ADDITIONAL STREAMBED MATERIAL IF REQUIRED, SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL."
3. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.
4. WASHING-IN SUPPLEMENTAL STREAMBED MATERIAL TO BE PLACED ON THE STREAM BANKS UP TO THE OHW ELEVATION FOR THE OUTLET.

WASHING-IN SUPPLEMENTAL STREAMBED MATERIAL ON STREAMBED TO BE PLACED UP TO THE OUTLET INVERT ELEVATION.

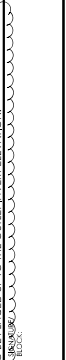
SEE SHEET 04/20/22 FOR THE LOCATION OF THE STOCKPILE.

DESIGNED BY: WCH

DATE: 11/7/2021

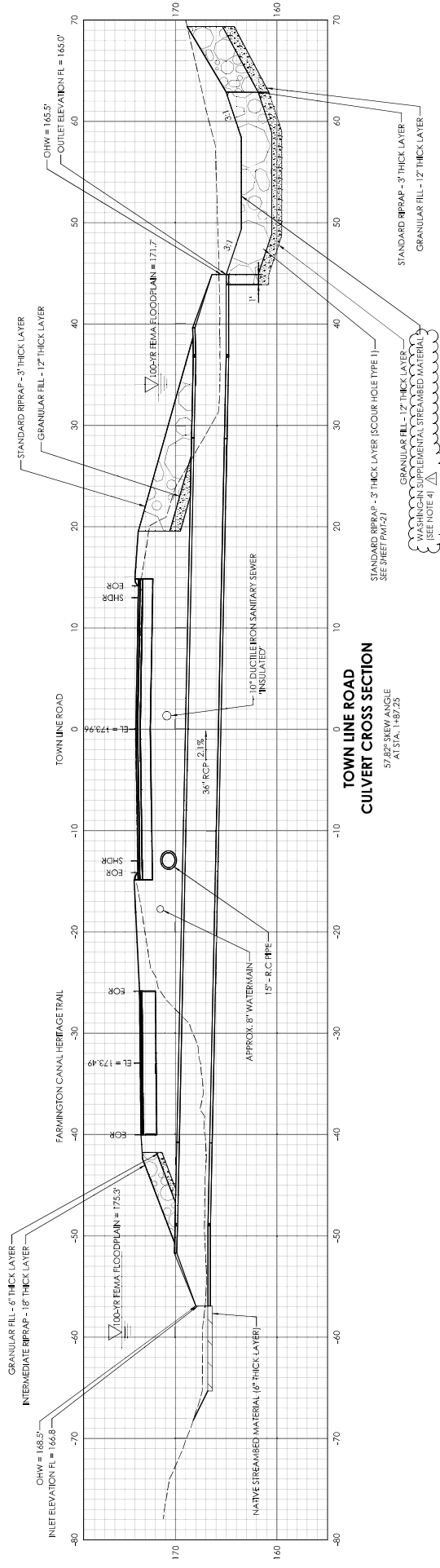
ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 14, 2021
REVISED DATE: JANUARY 11, 2022

PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: ENVIRONMENTAL PERMIT PLANS - MISCELLANEOUS DETAILS



PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: ENVIRONMENTAL PERMIT PLANS - MISCELLANEOUS DETAILS

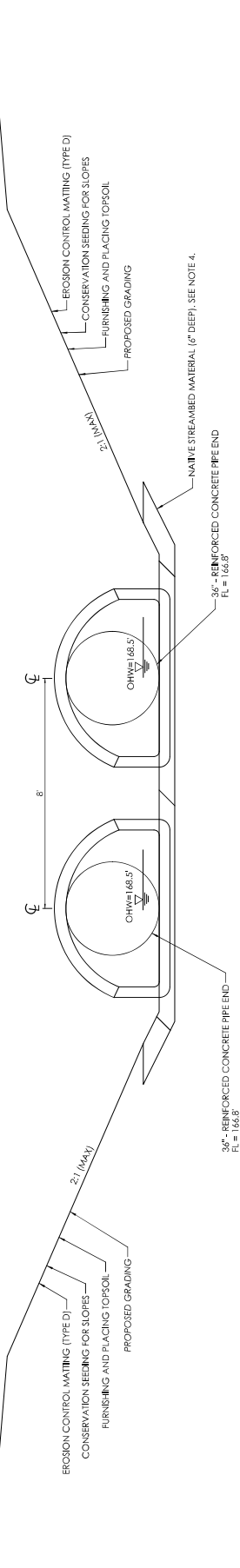
DESIGNED BY: WCH
DATE: 11/7/2021



REV.	DATE	REVISION DESCRIPTION
1	01/11/22	REVISED OUTLET BEARING

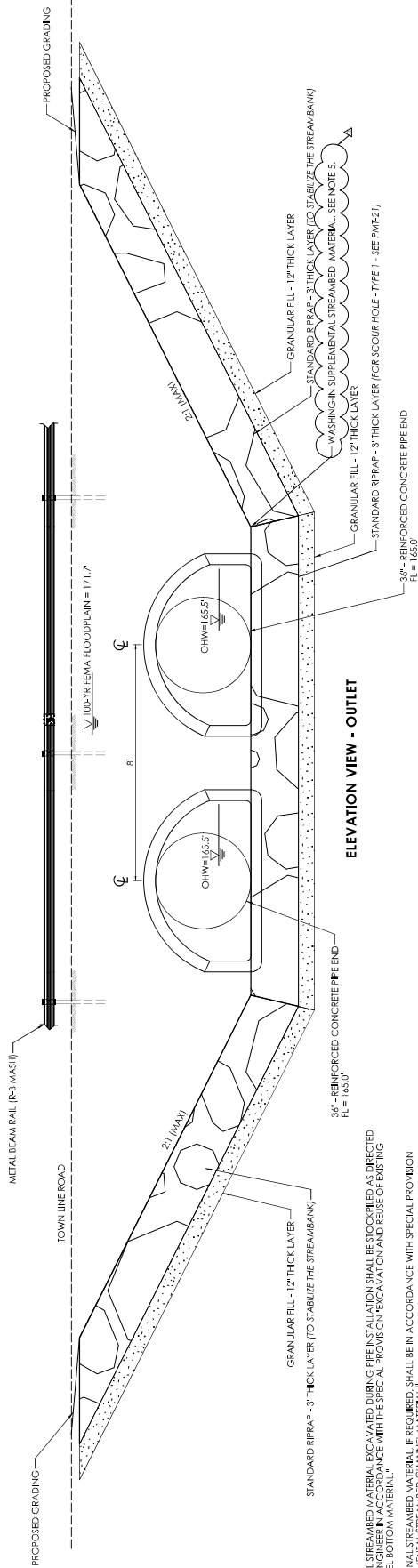
100-YR FEMA FLOODPLAIN = 175.3'

FARMINGTON CANAL HERITAGE TRAIL



ELEVATION VIEW - INLET

HYDRAULIC DATA TABLE - TOWN LINE ROAD CULVERTS	
DRAINAGE AREA	1.1 SQ. MILES
DESIGN FREQUENCY	100 - YEAR
DESIGN DISCHARGE	540 CFS
AVERAGE DAILY FLOW EL. (COMPUTED)	167.3
UPSTREAM DESIGN WATER SURFACE ELEVATION	175.3'
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	171.7'



ELEVATION VIEW - OUTLET

- NOTES:
1. NATURAL STREAMBED MATERIAL EXCAVATED DURING PIPE INSTALLATION SHALL BE STOCKPILED AS DIRECTED BY THE ENGINEER IN ACCORDANCE WITH THE SPECIAL PROVISION "EXCAVATION AND REUSE OF EXISTING CHANNEL BOTTOM MATERIAL."
 2. ADDITIONAL STREAMBED MATERIAL, IF REQUIRED, SHALL BE IN ACCORDANCE WITH SPECIAL PROVISION "SUPPLEMENTAL STREAMBED CHANNEL MATERIAL."
 3. THE STOCKPILE SHALL BE LOCATED OUTSIDE THE WETLAND LIMITS AND PROTECTED WITH SEDIMENTATION CONTROL SYSTEM.
 4. NATIVE STREAMBED MATERIAL TO BE PLACED ON THE STREAM BANKS UP TO OHW ELEVATION FOR THE INLET. NATIVE STREAMBED MATERIAL ON STREAM BED TO BE PLACED UP TO THE INLET INVERT ELEVATION.
 5. WASHINGTON SUPPLEMENTAL STREAMBED MATERIAL TO BE PLACED ON THE STREAM BANKS UP TO OHW ELEVATION FOR THE OUTLET. WASHINGTON SUPPLEMENTAL STREAMBED MATERIAL ON STREAM BED TO BE PLACED UP TO THE OUTLET INVERT ELEVATION.
 6. FINAL GRADING SHALL MATCH THE EXISTING WATERCOURSE CROSS SECTIONS AT THE CULVERT INLET AND OUTLET.

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 14, 2023
REVISED DATE: JUNE 28, 2024

PROJECT NUMBER: 01804275
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: ENVIRONMENTAL PERMIT PLANS - MISCELLANEOUS DETAILS

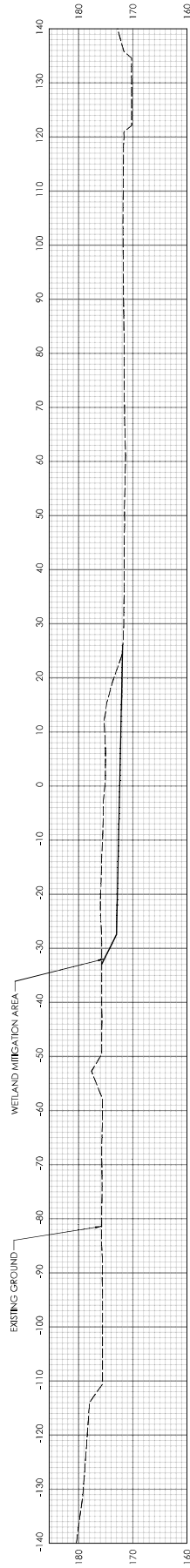


STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

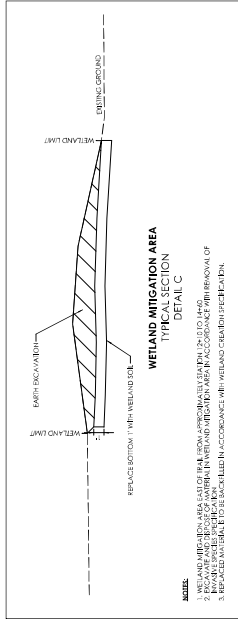
DESIGNED BY: WJH
CHECKED BY: WJH
DATE: 12/20/2024

NOT TO SCALE

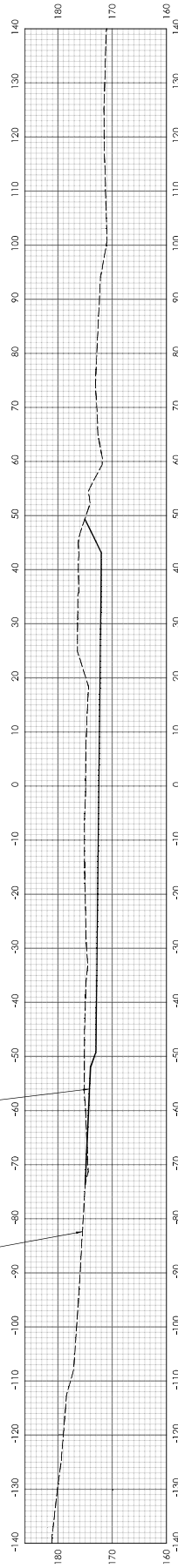
REVISIONS
DATE
BY
REASON



WETLAND MITIGATION AREA
FARMINGTON CANAL HERITAGE TRAIL STA. 114+00
OFFSET RIGHT 145'



WETLAND MITIGATION AREA



WETLAND MITIGATION AREA
FARMINGTON CANAL HERITAGE TRAIL STA 113+00
OFFSET RIGHT 145'

NOTES:

1. PRIOR TO COMMENCEMENT OF ANY WORK ASSOCIATED WITH THE WETLAND CREATION OR WETLAND ENHANCEMENT AREAS THE CONTRACTOR SHALL SUBMIT TO CTDOT OFFICE OF ENVIRONMENTAL PLANNING (OEP) FOR REVIEW AND APPROVAL A WORK OUTLINE, INCLUDING A DETAILED DESCRIPTION OF THE WETLAND CREATION OR WETLAND ENHANCEMENT AREAS, A PROPOSED ACCESS PLAN IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
2. PRIOR TO ANY EARTH WORK, THE SITE SHALL BE TREATED FOR INVASIVE SPECIES UNDER ITEM NO. 0920251A - CONTROL AND REMOVAL OF INVASIVE VEGETATION. EXCAVATION SHALL COMMENCE FOLLOWING 10 DAYS OF HERBICIDE SET.
3. EXCAVATION TO PERFORM GRADING IS TO BE COMPLETED IN ACCORDANCE WITH ITEM NO. 022000 - EARTH EXCAVATION, FORMATION AND FINISH. EXCAVATION SHALL BE COMPLETED IN ACCORDANCE WITH THE SPECIAL PROVISIONS FOR "WETLAND CREATION".
4. A WETLAND SCIENTIST FROM CTDOT OR OEP WILL BE ON SITE TO MONITOR AND DIRECT CONSTRUCTION OF THE WETLAND CREATION AND ENHANCEMENT AREAS, AT LEAST 10 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL ARRANGE FOR A MEETING WITH THE OEP WETLAND SCIENTIST OR ENVIRONMENTAL INSPECTOR TO REVIEW THE PLANNED WORK ACTIVITIES.
5. WETLAND MITIGATION SIGN NO 31-5278 IS TO BE INSTALLED AS DIRECTED BY THE OEP WETLAND SCIENTIST.
6. EQUIPMENT WILL NOT BE PERMITTED ON FINAL GRADE WITHIN WETLAND CREATION OR WETLAND ENHANCEMENT AREAS.
7. WETLAND CREATION AND WETLAND ENHANCEMENT WORK SHALL CONSIST OF THE INSTALLATION OF WETLAND CREATION SIGNS, THE CONSTRUCTION AND REMOVAL OF TEMPORARY ACCESS ROADS, OVER EXCAVATION OF FRAGMENTS OR OTHER INVASIVE SPECIES, PREPARING PLANTINGS AND WETLAND GRASS ESTABLISHMENT.

WETLAND MITIGATION AREA	AREA (AC)
23.685	0.543

8. PRIMARY AND SECONDARY ACCESS PAVES WITHIN WETLAND CREATION OR ENHANCEMENT AREAS AREA CONCEPTUAL ONLY. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL SUBMIT A PROPOSED ACCESS PLAN TO OEP FOR REVIEW AND APPROVAL IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
9. ACCESS TO THE MITIGATION SITE AND ASSOCIATED CONSTRUCTION ACTIVITIES AND STAGING WILL RESULT IN TEMPORARY IMPACTS. WHEN CONSTRUCTION IS COMPLETE, ALL AREAS SHALL BE FULLY RESTORED TO THE ORIGINAL PRE-CONSTRUCTION CONDITIONS.
10. WOODY DEBRIS AND BOLLERS SHALL CONSIST OF MATERIALS STOCKPILED IN ACCORDANCE WITH THE SPECIAL PROVISION FOR "CLEARING AND GRUBBING". WOODY DEBRIS SHALL BE SALVAGED DURING THE CLEARING AND GRUBBING PHASE OF THE PROJECT AND MUST NOT CONTAIN ANY INVASIVE SPECIES. BOLLERS ENCOUNTERED DURING CLEARING AND GRUBBING OPERATIONS SHALL BE PLACED IN A STORAGE AREA NEAR THE PROJECT SITE. BOLLERS SHALL BE PLACED IN A STORAGE AREA NEAR THE PROJECT SITE. BOLLERS SHALL BE PLACED IN A STORAGE AREA NEAR THE PROJECT SITE.
11. THE STAGING, STORAGE AND STOCKPIILING OF MATERIALS WILL NOT BE ALLOWED WITHIN THE 100-FOOT FLOODPLAIN OR FLOODWAY. ALL AREAS SHALL BE REFERRED AND APPROVED BY OEP.

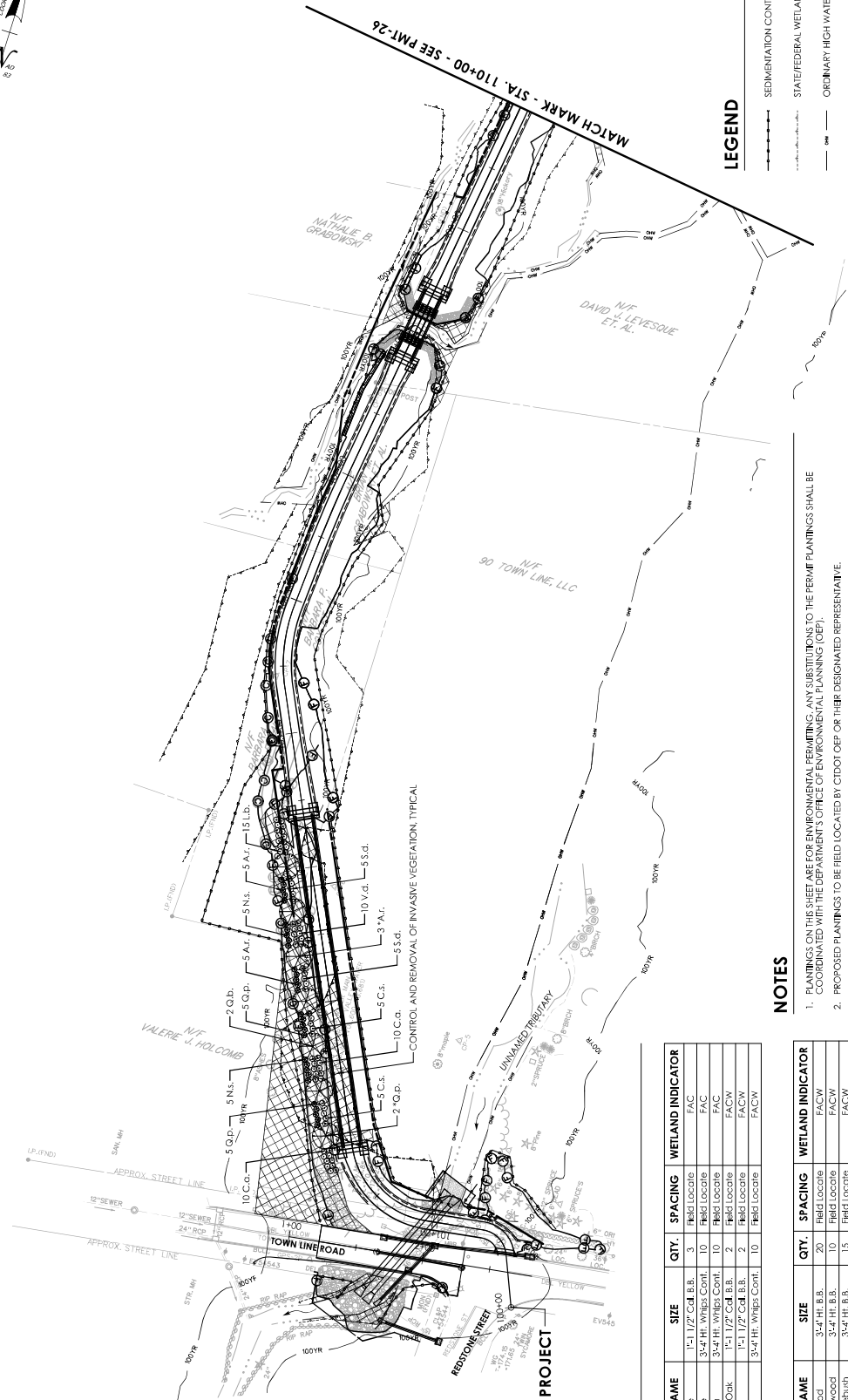
DATE	REVISION	DESCRIPTION

DESIGNED BY: WJH	CHECKED BY: WJH	DATE: 11/7/2023
PROJECT NAME: Farmington Heritage Trail Station 113+00 to 114+00		
PROJECT NUMBER: 01804275		
PROJECT LOCATION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NOTION PARK		
TOWN: PLAINVILLE		
DRAWING TITLE: MITIGATION SITE DETAIL		



ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NO.	PMT-24
DRAWING NO.	



BEGIN STATE PROJECT
0109-0175
STA 100+00

PERMIT PLANTING LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
*A.r.	Acer rubrum	Red Maple	1"-1 1/2" Cal. B.B.	3	Field Locate	FAC
A.r.	Acer rubrum	Red Maple	3'-4" HT. WHIPS CONT.	10	Field Locate	FAC
N.S.	Nyssa sylvatica	Black Gum	3'-4" HT. WHIPS CONT.	10	Field Locate	FAC
O.S.	Quercus sp.	Swamp White Oak	1"-1 1/2" Cal. B.B.	2	Field Locate	FACW
O.S.	Quercus sp.	Pin Oak	3'-4" HT. WHIPS CONT.	10	Field Locate	FACW

SHRUBS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
C.a.	Cornus amomum	Silky Dogwood	3'-4" HT. B.B.	20	Field Locate	FACW
C.s.	Cornus sericea	Red Osier Dogwood	3'-4" HT. B.B.	10	Field Locate	FACW
L.b.	Lindera benzoin	Common Spicebush	3'-4" HT. B.B.	15	Field Locate	FACW
S.d.	Salix discolor	Pussy Willow	3'-4" HT. B.B.	10	Field Locate	FACW
V.d.	Viburnum dentatum	Arrowwood Viburnum	3'-4" HT. B.B.	10	Field Locate	FAC

SUPPLEMENTAL ITEMS

ITEM #	NAME	QTY.	COMMENTS
0950040A	Conservation Seedling for Slopes	675 S.Y.	
0950051A	Control and Removal of Invasive Vegetation	1,690 S.Y.	
0950043A	Wetland Grass Establishment	6,425 S.F.	
0949000	Wood Chip Mulch	245 S.Y.	Upland planting areas only

NOTES

1. PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY SUBSTITUTIONS TO THE PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).
2. PROPOSED PLANTINGS TO BE FIELD LOCATED BY CIDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.
3. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
4. DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDING WITH WETLAND GRASS ESTABLISHMENT. DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE SEEDING WITH CONSERVATION SEEDLING FOR SLOPES. OR OTHER SEED MIX AS SPECIFIED. ALL AREAS SHALL BE RESTORED.
5. ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT SPECIES. CONFORMING TO SECTION 3 OF THE AMERICAN STANDARD FOR NURSERY STOCK. CIDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.
6. ALL PLANTS ON THE PERMIT PLANTING PLANS SHALL BE PAID FOR UNDER SPECIAL PROVISION ITEM #0949075A - WETLAND PLANTINGS.

LEGEND

- SEDIMENTATION CONTROL SYSTEM
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100 YEAR FLOODPLAIN (CALCULATED)
- CONTROL AND REMOVAL OF INVASIVE VEGETATION

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN

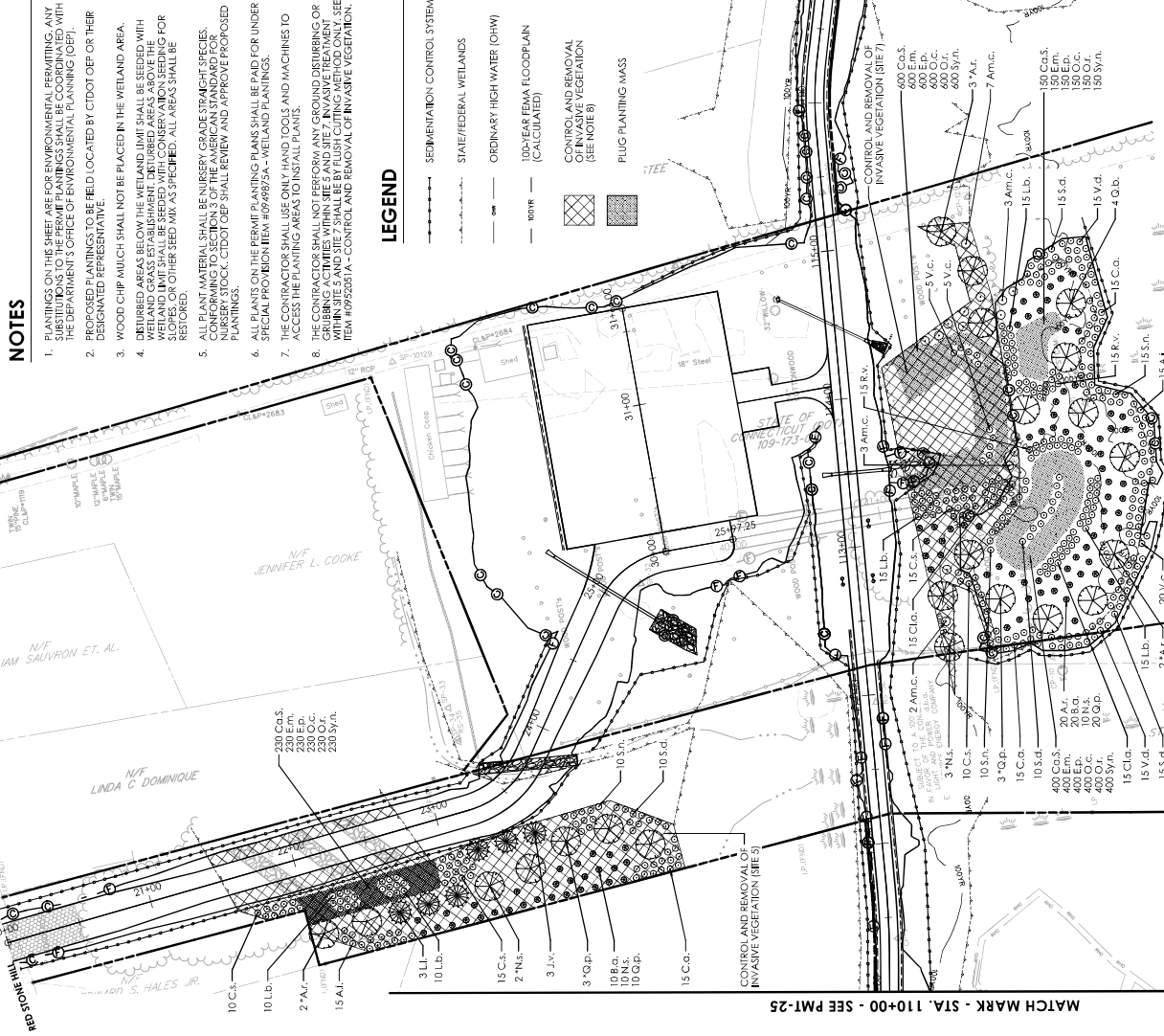
DESIGNED BY: [Name] CHECKED BY: [Name] DATE: 11/16/2023

NOTES

1. PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY PLANTING SHALL BE DONE IN ACCORDANCE WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).
2. DESIGNATED PLANTINGS TO BE FIELD LOCATED BY CTDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.
3. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
4. RETURNED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDED WITH WETLAND LIMIT SHALL BE SEEDED WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. ALL AREAS SHALL BE REVEGETATED.
5. ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT SPECIES. NURSERY STOCK CTDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.
6. ALL PLANTS ON THE PERMIT PLANTING PLANS SHALL BE PAID FOR UNDER SPECIAL PROVISION ITEM #094985A - WETLAND PLANTINGS.
7. THE CONTRACTOR SHALL USE ONLY HAND TOOLS AND MACHINES TO ACCESS THE PLANTING AREAS TO INSTALL PLANTS.
8. THE CONTRACTOR SHALL NOT PERFORM ANY GROUND DISTURBING OR GRUBBING ACTIVITIES WITHIN SITE 5 AND SITE 7. INVASIVE TREATMENT SHALL BE PERFORMED WITHIN SITE 5 AND SITE 7. SEE ITEM #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.

LEGEND

- SEEDMENTATION/CONTROL SYSTEM
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FEMA FLOODPLAIN (CALCULATED)
- CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 8)
- PLUG PLANTING MASS



PERMIT PLANTING LIST

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
A.T.C.	Amelanchier canadensis	Shadblow Serviceberry	4-5" HI. B.B.	15	1' On Center	FAC
A.R.	Acer rubrum	Red Maple	1-1 1/2" Cal. B.B.	75	1' On Center	FAC
B.G.	Betula alleghaniensis	Yellow Birch	3-4" HI. Whites Cont.	20	1' On Center	FAC
J.V.	Juniperus virginiana	Eastern Redcedar	3-4" HI. B.B.	3	1' On Center	FACU
L.I.	Liriodendron tulipifera	American Larch	4-5" HI. B.B.	3	1' On Center	FACU
N.S.	Nyssa sylvatica	Black Gum	1-1 1/2" Cal. B.B.	5	1' On Center	FAC
N.O.	Nyssa obovata	Black Oak	1-1 1/2" Cal. B.B.	5	1' On Center	FAC
O.P.	Quercus palustris	Pin Oak	1-1 1/2" Cal. B.B.	4	1' On Center	FACU
O.P.	Quercus palustris	Pin Oak	3-4" HI. Whites Cont.	30	1' On Center	FACU

SHRUBS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
A.L.	Alnus incana ssp. rugosa	Specified Alder	3-4" HI. B.B.	30	1' On Center	FACU
C.a.	Cornus amomum	Silky Dogwood	3-4" HI. B.B.	45	1' On Center	FACU
C.l.	Celtis occidentalis	Summersweet	3-4" HI. B.B.	30	1' On Center	FACU
C.s.	Cornus sericea	Red Osier Dogwood	3-4" HI. B.B.	30	1' On Center	FACU
L.b.	Liriodendron tulipifera	Common Spicebush	3-4" HI. B.B.	65	1' On Center	FACU
R.v.	Rhododendron viscosum	Swamp Azalea	3-4" HI. B.B.	30	1' On Center	FACU
S.c.	Sorbus aucuparia	Amelanchier	3-4" HI. B.B.	30	1' On Center	FACU
S.b.	Sorbus bicolor	Amelanchier	3-4" HI. B.B.	30	1' On Center	FACU
V.C.	Vaccinium corymbosum	Highbush Blueberry	3-4" HI. B.B.	30	1' On Center	FACU
V.d.	Viburnum dentatum	Arrowwood Viburnum	3-4" HI. B.B.	30	1' On Center	FAC

HERBACEOUS PLANTS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QTY.	SPACING	WETLAND INDICATOR
C.s.	Carex stricta	Tussock Sedge	Plug	1,380	1' On Center	OBL
E.m.	Eupatorium maculatum	Spotted Joe Pye Weed	Plug	1,380	1' On Center	OBL
E.p.	Eupatorium perfoliatum	Boneset	Plug	1,380	1' On Center	FACU
O.c.	Osmundastrum cinnamomeum	Cinnamon Fern	Plug	1,380	1' On Center	FACU
O.r.	Osmunda regalis	Royal Fern	Plug	1,380	1' On Center	OBL
S.y.	Symphoricarpos rotundifolius	New England Aster	Plug	1,380	1' On Center	FACU

SUPPLEMENTAL ITEMS

ITEM #	NAME	QTY.	COMMENTS
0950040A	Conservation Seeding for Slopes	1,000 S.Y.	
0952051A	Control and Removal of Invasive Vegetation	10,045 S.Y.	
0950043A	Wetland Grass Establishment	80,705 S.F.	

ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 01060475
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

REVISIONS
DATE: 11/16/2023
BY: [Signature]
CHECKED BY: [Signature]
DESIGNED BY: [Signature]
PLOT DATE: 11/16/2023

SCALE: 1" = 40'

PROJECT NUMBER: 01060475
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN

LEGEND

- SEDIMENTATION CONTROL SYSTEM
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FLOOD PLAIN (CALCULATED)
- CONTROL AND REMOVAL OF INVASIVE VEGETATION

PERMIT PLANTING LIST

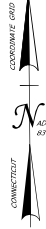
NO PLANTINGS THIS SHEET

SUPPLEMENTAL ITEMS

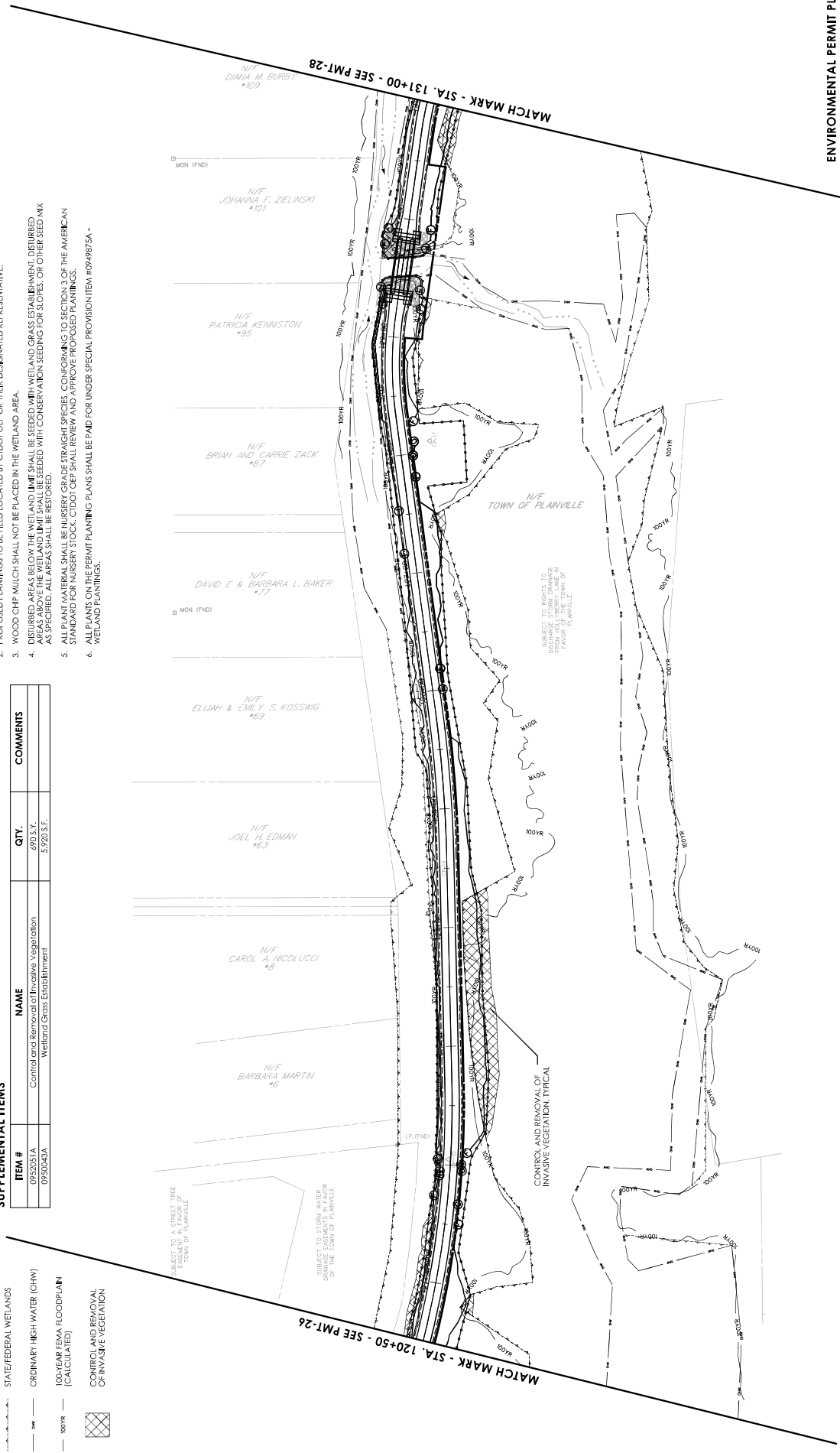
ITEM #	NAME	QTY.	COMMENTS
0950351A	Control and Removal of Invasive Vegetation	490 S.F.	
0950048A	Wetland Grass Establishment	5,920 S.F.	

NOTES

- PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY SUBSTITUTIONS TO THE PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).
- PROPOSED PLANTINGS TO BE FIELD LOCATED BY CIDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.
- WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
- DETURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDING WITH WETLAND GRASS ESTABLISHMENT, DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE SEEDING WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. ALL AREAS SHALL BE RESTORED.
- ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT SPECIES, CONFORMING TO SECTION 3 OF THE AMERICAN STANDARD FOR NURSERY STOCK. CIDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.
- ALL PLANTS ON THE PERMIT PLANTING PLANS SHALL BE PAID FOR UNDER SPECIAL PROVISION ITEM #094985A - WETLAND PLANTINGS.



CONNECTICUT COORDINATE GRID



ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 07804075
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
DESIGNED BY: SFP
CHECKED BY: SFP
DATE: 11/16/2023
DRAWN BY: SFP
DATE: 11/16/2023
REVISIONS:
DATE: 11/16/2023
BY: SFP
REASON: 1.0

PERMIT PLANTING LIST

NO PLANTINGS THIS SHEET

SUPPLEMENTAL ITEMS

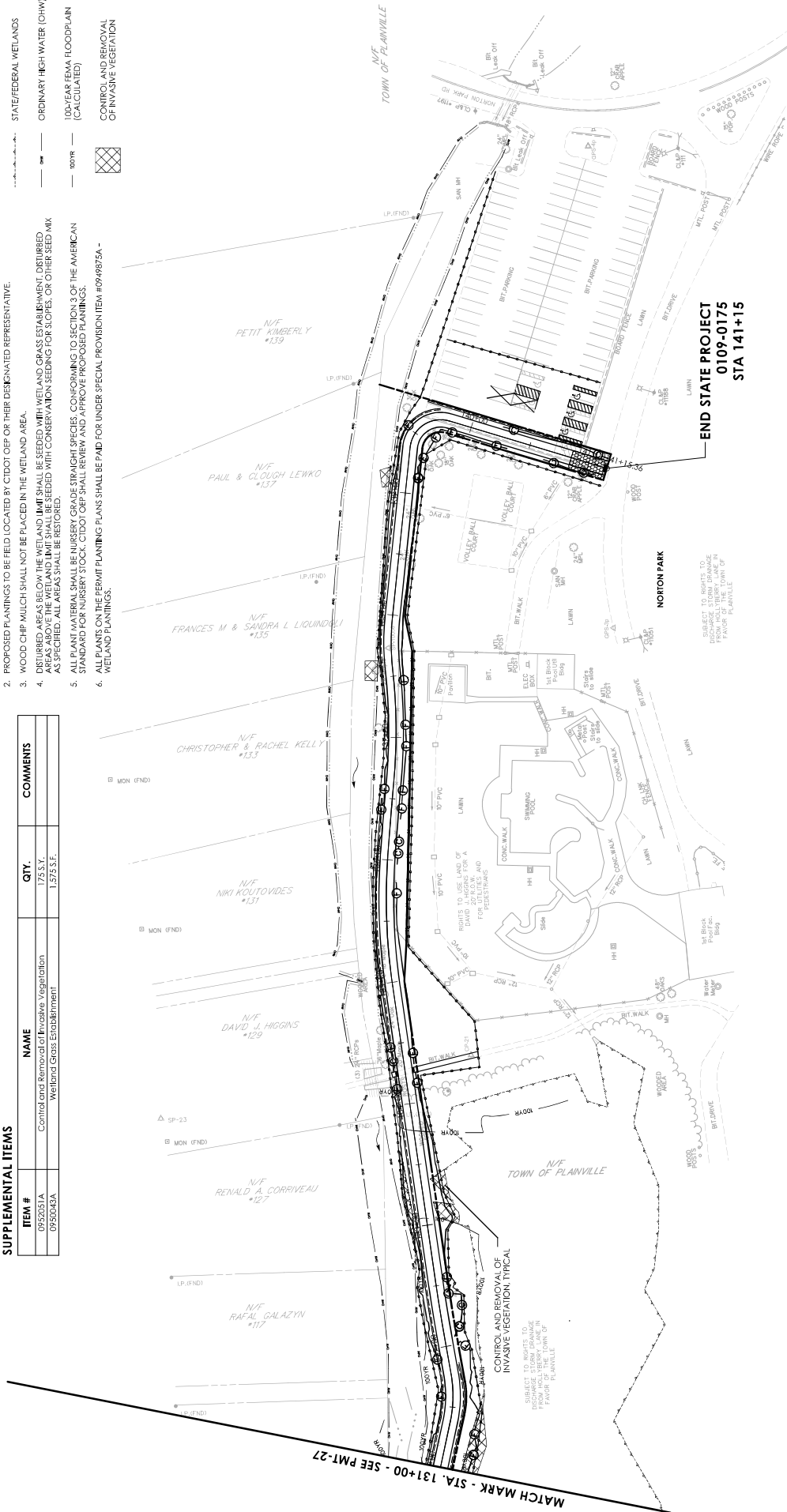
ITEM #	NAME	QTY.	COMMENTS
0950351A	Control and Removal of Invasive Vegetation	175 S.F.	
0950048A	Wetland Grass Establishment	1,575 S.F.	

NOTES

1. PLANTINGS ON THIS SHEET ARE FOR ENVIRONMENTAL PERMITTING. ANY SUBSTITUTIONS TO THE PERMIT PLANTINGS SHALL BE COORDINATED WITH THE DEPARTMENT'S OFFICE OF ENVIRONMENTAL PLANNING (OEP).
2. PROPOSED PLANTINGS TO BE FIELD LOCATED BY CTDOT OEP OR THEIR DESIGNATED REPRESENTATIVE.
3. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
4. DISTURBED AREAS BELOW THE WETLAND LIMIT SHALL BE SEEDING WITH WETLAND GRASS ESTABLISHMENT, DISTURBED AREAS ABOVE THE WETLAND LIMIT SHALL BE SEEDING WITH CONSERVATION SEEDING FOR SLOPES, OR OTHER SEED MIX AS SPECIFIED. ALL AREAS SHALL BE RESTORED.
5. ALL PLANT MATERIAL SHALL BE NURSERY GRADE STRAIGHT SPECIES, CONFORMING TO SECTION 3 OF THE AMERICAN STANDARD FOR NURSERY STOCK. CTDOT OEP SHALL REVIEW AND APPROVE PROPOSED PLANTINGS.
6. ALL PLANTS ON THE PERMIT PLANTING PLANS SHALL BE PAID FOR UNDER SPECIAL PROVISION ITEM #094985A - WETLAND PLANTINGS.

LEGEND

- SEDIMENTATION CONTROL SYSTEM
- STATE/FEDERAL WETLANDS
- ORDINARY HIGH WATER (OHW)
- 100-YEAR FLOODPLAIN (CALCULATED)
- CONTROL AND REMOVAL OF INVASIVE VEGETATION



END STATE PROJECT
0109-0175
STA 141+15



ENVIRONMENTAL PERMIT PLANS
PLAN DATE: NOVEMBER 16, 2023

PROJECT NUMBER: 0109-0175
PROJECT DESCRIPTION: FARMINGTON CANAL HERITAGE TRAIL - TOWN LINE RD TO NORTON PARK
TOWNSHIP: PLAINVILLE
DRAWING TITLE: PERMIT PLANTING PLAN



STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION
DESIGNED BY: SFC
CHECKED BY: SFC
DATE: 11/16/2023

REVISIONS
DATE
BY
REVISION DESCRIPTION

REVISION	DATE	BY	REVISION DESCRIPTION

ITEM #0202218A – WASHING-IN SUPPLEMENTAL STREAMBED MATERIAL

Description: This work shall consist of procuring, transporting, stockpiling, and washing in of supplemental streambed material, meeting the visual inspection requirements herein, along stream bank/channel improvement locations as shown on the plans or denoted on the Project's permit applications or as directed by the Engineer. This item shall also include any necessary temporary protection and stockpiling of the washing-in supplemental streambed material on-Site and subsequent washing in of supplemental streambed material for filling voids of riprap areas within the watercourse, as shown on the plans or as directed by the Engineer.

Materials: When washing in of supplemental streambed material is required, the Contractor shall furnish the washing-in supplemental streambed material from an off-Site source. The supplemental streambed material for washing in must be visually inspected and accepted by the Engineer or their authorized delegate prior to being delivered to the Site. The Contractor shall notify the Engineer at least 10 working days in advance of the need for inspection of proposed off-Site material.

Geotextile: Geotextile shall be as specified in M.08.01-19 Geotextiles.

Construction Methods:

1. Stockpiling of Material. At the start of construction, the Contractor shall prepare an area, approved by the Engineer, suitable in size and location for stockpiling the supplemental streambed material for washing in. The Contractor shall select an upland location where disruption to the stream channel or impact to wetland areas caused by moving the supplemental streambed material to and from the stockpile are minimized during the placement of material. The stockpile shall be located where it can remain undisturbed for the duration of the stream channel construction and shall be protected using sedimentation control measures. The stockpile of streambed material for washing in shall be kept separate from other streambed material stockpile areas.

The stockpile area shall be free of debris and cleaned adequately to prevent mixing with underlying soil or other materials, including the use of high-survivability geotextile fabric, or similar, if required. The stockpile area shall be adequately covered to protect the supplemental streambed material from erosion by rain or other forces. After supplemental streambed material for washing in has been placed in the stockpile area, no other excavated or off-Site material shall be placed in the stockpiles.

2. Washing-in Supplemental Streambed Material. If it is specified on the plans that washing-in supplemental streambed material for filling voids between riprap, or other material, is required, the Contractor must submit a Washing-In Supplemental Streambed Material Plan (SMP) for the Engineer's acceptance. The SMP shall include the following:

- 1) Provide a plan and section identifying the completed installation and preparation of riprap area to receive streambed material as shown on the plans or as directed by the Engineer or their authorized delegate.
- 2) Provide means and methods for washing in the supplemental streambed material. Means and methods shall include:
 - a. Equipment used to place material.
 - b. Washing in of material is to be done manually. Water from the watercourse shall be used to wash in the streambed material into the voided areas between the riprap or other material as specified on the plans. Washing in should be done carefully and at a controlled flow rate/velocity (approximately 4.0 gpm) to not cause erosion of adjacent erodible soils or cause turbid effluent to flow out of the riprap-filled area.
 - c. Provide a Catalogue Cut of type and size of pump and hose proposed to be used.
 - d. Measures to prevent turbidity from the work area. The Contractor may dewater the areas as defined under Article 2.04 Cofferdam and Dewatering or Item Handling Water.
- 3) Show calculations of estimated quantity of streambed material needed to wash in and fill riprap voids. The ratio of natural streambed material to riprap shall be approximately 1:3 (assuming 30% voids in the riprap).

Method for washing in supplemental streambed material:

Pre-blending riprap with the supplemental streambed material is prohibited. Placement and washing in of supplemental streambed material shall occur after all the riprap has been installed and shaped to final dimensions and grade as shown on the plans or as directed by the Engineer. Placement and washing in of supplemental streambed material must occur within a confined area.

- 1) Initially place approximately 12-inch lift of the washing-in streambed material over the riprap. Manually hand shovel/rake to assist with placing the streambed material into the riprap voids prior to washing in the streambed material.
- 2) Begin to manually wash the streambed material into the voids, slowly add more washing-in streambed material on top, in a manner to prevent turbid effluent flow from exiting the work area.
- 3) If turbidity is observed discharging from the confined work area, cease operations immediately and implement preventative measures as outlined in the approved SMP, until the water level subsides and naturally permeates. Continually observe the confined work area.
- 4) The Contractor may be allowed to move to different area(s) and continue the washing in process, as noted in Steps 1-3 above, if other locations need the water levels to subside and permeate. (It may be necessary to stop temporarily if the rate of water application exceeds the storage capacity and natural infiltration of the riprap area.)
- 5) The Contractor shall continue until all voids are filled with streambed material to the satisfaction of the Engineer or their authorized delegate. The ratio of streambed material to riprap shall be approximately 1:3 (assuming 30% voids in the riprap). This ratio should

be considered as a guideline in deciding whether riprap voids are likely to be filled. If the calculated volume of streambed material based on 30% void space has not been washed in, it should be assumed that the voids are not fully filled.

- 6) Partially remove water-handling-cofferdams or cofferdams to allow watercourse to flow through the area in a controlled manner. Observe watercourse over a period of time; should the water flow go under the surface through the recently created riprap area, reinstall water-handling-cofferdams and continue washing streambed material into riprap voids. Repeat this process as necessary until subsurface flow is no longer observed.

The Contractor may propose alternative methods to meet the requirements noted above. The means and methods will be reviewed by the Engineer or their authorized delegate for acceptance.

3. Site Maintenance. When washing in supplemental streambed material, the Contractor shall perform all containment, diversion, or other separation of the channel flow to minimize sediment transport downstream.

The pre-approved stockpile areas shall be restored to the satisfaction of the Engineer. Work to restore the stockpile areas shall be paid for under the respective pay item.

Method of Measurement: Work under this item shall be measured for payment as provided under Article 1.09.04 – Extra and Cost-Plus Work.

The sum of money shown on the estimate and in the itemized proposal as “Estimated Cost” for this work will be considered the price bid even though payment will be made only for actual work performed. The estimated cost figure is not to be altered in any manner by the bidder. Should the bidder alter the amount shown, the altered figures will be disregarded, and the original price will be used to determine the total amount bid for the Contract.

Basis of Payment: The price shall include all materials, equipment, geotextile, pumps, hoses, tools, and labor incidental to the preparation of the stockpile area, hauling of the material to the stockpile, placement and washing-in supplemental streambed material to fill riprap voids, and separation of any rock ledge or concrete debris, storing, and protecting (including but not limited to sedimentation controls and covering of excavated material).

Payment for Washing-in Supplemental Streambed Material will be paid for under Article 1.09.04 – Extra and Cost-Plus Work.

Payment for clearing and grubbing of the approved stockpile area will be included in the Item “Clearing and Grubbing.”

Payment for excavation and reuse of existing channel bottom material will be included in the ITEM #0202216A “Excavation and Reuse of Existing Channel Bottom Material.”

Payment for supplemental streambed channel material, other than washing-in streambed material, will be included in the Item #0202217A "Supplemental Streambed Channel Material."

Payment for all containment, diversion or other separation of stream flow will be included in the item "Cofferdam and Dewatering" or special provision for "Handling Water."

Pay Item

Washing-in Supplemental Streambed Material

Pay Unit

est.



LWRD Work Commencement Form

To: DEEP.LWRDRegulatory@ct.gov or
Regulatory Section
Department of Energy and Environmental Protection
Land & Water Resources Division
79 Elm Street
Hartford, CT 06106-5127

Licensee Name: CT DOT
Municipality in which the project is occurring Plainville
DEEP License No(s): 202412212-IW

CONTRACTOR(s):

1 Name: _____
Address: _____
Telephone: _____
E-mail: _____

2 Name: _____
Address: _____
Telephone: _____
E-mail: _____

3 Name: _____
Address: _____
Telephone: _____
E-mail: _____

Date Contractor(s) received a copy
of the license and approved plans: _____

EXPECTED DATE OF COMMENCEMENT OF WORK: _____

EXPECTED DATE OF COMPLETION OF WORK: _____

LICENSEE: _____
(Signature) (Date)



Compliance Certification Form

The following certification must be signed by the licensee working in consultation with a Connecticut-licensed design professional and must be submitted to the address indicated at the end of this form within ninety (90) days of completion of the authorized work.

<p>1. Licensee Name: <u>Connecticut Department of Transportation</u></p> <p>DEEP License Number(s): <u>202412212-IW</u></p> <p>Municipality in which project is occurring: <u>Plainville</u></p>																									
<p>2. Check one:</p> <p>(a) <input type="checkbox"/> "I certify that the final site conditions and / or structures are in general conformance with the approved site plans". Identify and describe any deviations and attach to this form.</p> <p>(b) <input type="checkbox"/> "The final site conditions and / or structures are not in general conformance with the approved site plans. The enclosed "as-built" plans note the modifications".</p>																									
<p>3. "I understand that any false statement in this certification is punishable as a criminal offence under section 53a-157b of the General Statutes and under any other applicable law."</p> <table style="width: 100%; border: none;"><tr><td style="width: 50%; border-bottom: 1px solid black; height: 20px;"></td><td style="width: 50%; border-bottom: 1px solid black; height: 20px;"></td></tr><tr><td>Signature of Licensee</td><td>Date</td></tr><tr><td colspan="2" style="border-bottom: 1px solid black; height: 20px;"></td></tr><tr><td colspan="2">Name of Licensee (print or type)</td></tr><tr><td colspan="2" style="height: 40px;"></td></tr><tr><td style="border-bottom: 1px solid black; height: 20px;"></td><td style="border-bottom: 1px solid black; height: 20px;"></td></tr><tr><td>Signature of CT-Licensed Design Professional</td><td>Date</td></tr><tr><td colspan="2" style="border-bottom: 1px solid black; height: 20px;"></td></tr><tr><td colspan="2">Name of CT-Licensed Design Professional (print or type)</td></tr><tr><td colspan="2" style="height: 40px;"></td></tr><tr><td style="border-bottom: 1px solid black; height: 20px;"></td><td style="border-bottom: 1px solid black; height: 20px;"></td></tr><tr><td>Professional License Number (if applicable)</td><td>Affix Stamp Here</td></tr></table>				Signature of Licensee	Date			Name of Licensee (print or type)						Signature of CT-Licensed Design Professional	Date			Name of CT-Licensed Design Professional (print or type)						Professional License Number (if applicable)	Affix Stamp Here
Signature of Licensee	Date																								
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Signature of CT-Licensed Design Professional	Date																								
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Professional License Number (if applicable)	Affix Stamp Here																								
<ul style="list-style-type: none">As-built plans shall include: elevations or tidal datums, as applicable, and structures, including any proposed elevation views and cross sections included in the approved license plans. Such as-built plans shall be the original ones and be signed and sealed by an engineer, surveyor or architect, as applicable, who is licensed in the State of Connecticut.The Licensee will be notified by staff of the Land and Water Resources Division (LWRD) if further compliance review is necessary. Lack of response by LWRD staff does not imply compliance. <p>Submit this completed form to : DEEP.LWRDRegulatory@ct.gov or Regulatory Section Department of Energy and Environmental Protection Land & Water Resources Division 79 Elm Street Hartford, CT 06106-5127</p>																									