

**OCTOBER 24, 2018**

**I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS**

**FEDERAL AID PROJECT NO. 0842(310)**  
**STATE PROJECT NO. 0096-0200**

**TOWN OF NEWTOWN**

**ADDENDUM NO. 3**

This Addendum addresses the following questions and answers contained on the “CT DOT QUESTIONS AND ANSWERS WEBSITE FOR ADVERTISED CONSTRUCTION PROJECTS”:

Question and Answer Nos. 48, 49, and 50.

**SPECIAL PROVISIONS**

**REVISED SPECIAL PROVISIONS**

The following Special Provisions are hereby deleted in their entirety and replaced with the attached like-named Special Provisions:

- **ITEM #0651337.48A – 48” CORRUGATED STEEL PIPE ALUMINIZED TYPE 2**
- **ITEM #0651338A – 43” X 27” CORRUGATED STEEL PIPE ARCH ALUMINIZED TYPE 2**
- **ITEM #0651339A – 36” X 22” CORRUGATED STEEL PIPE ARCH ALUMINIZED TYPE 2**
- **ITEM #0980001A – CONSTRUCTION STAKING**
- **ITEM #1806226A – PRE-WARNING VEHICLE**

**PLANS**

**REVISED PLANS**

The following Plan Sheets are hereby deleted and replaced with the like-numbered Plan Sheets:

02.01.A3, 03.04.A3, 03.05.A3, 03.06.A3, and 10.13.A3.

**PERMITS**

The following Permit Approval and Registration are hereby added to the Contract:

- ACOE Section 404 Permitting approval.
- Registration of CTDEEP General Permit for Water Resource Construction Activities.

The Bid Proposal Form and Detailed Estimate Sheets are not affected by these changes.

There will be no change in the number of calendar days due to this Addendum.

The foregoing is hereby made a part of the contract.

**ITEM #0651337.48A – 48” CORRUGATED STEEL PIPE ALUMINIZED TYPE 2**

**ITEM #0651338A – 43” X 27” CORRUGATED STEEL PIPE ARCH ALUMINIZED TYPE 2**

**ITEM #0651339A – 36” X 22” CORRUGATED STEEL PIPE ARCH ALUMINIZED TYPE 2**

**Description:** Work under this item shall consist of furnishing, installing and grouting a Corrugated Aluminized Steel Pipe and Pipe Arch Liners into existing Asphalt Coated Corrugated Metal Pipe (ACCMP) and arch culverts at four (4) sites as follows:

Culvert Site 1: Furnishing, install and grout a 48” Diameter Corrugated Steel Pipe, Aluminized Type 2 Liner into the existing 60” Diameter Asphalt Coated Corrugated Metal Pipe (ACCMP) Culvert.

Culvert Site 2: Furnishing, install and grout a 48” Diameter Corrugated Steel Pipe, Aluminized Type 2 Liner into the existing 60” Diameter Asphalt Coated Corrugated Metal Pipe (ACCMP) Culvert.

Culvert Site 3: Furnishing, install and grout a 43” x 27” Corrugated Steel Pipe Arch, Aluminized Type 2 Liner into the existing 65” x 40” Asphalt Coated Corrugated Metal Pipe (ACCMP) Arch Culvert.

Culvert Site 4: Furnishing, install and grout a 36” x 22” Corrugated Steel Pipe Arch, Aluminized Type 2 Liner into the existing 50” x 31” Asphalt Coated Corrugated Metal Pipe (ACCMP) Arch Culvert.

**Materials:** Material shall conform to the following requirements:

- The aluminized corrugated steel pipe and pipe arch liners shall be in accordance with AASHTO M 36M or ASTM A 760. The steel pipe shall be formed from aluminized Type-2 coated sheet (10 Gauge) conforming to AASHTO M 274M or ASTM A929. The ends of the pipe shall be re-rolled.
- The dimension of the pipe shall be: 48” at Culvert Site 1 and Culvert Site 2; 43” x 27” at Culvert Site 3; and 36” x 22” at Culvert Site 4.
- The length of liner pipe sections shall be per the manufacturer’s standard length or other lengths as required by conditions in the existing pipe and agreed to by the fabricator and the Contractor.

- Holes shall be drilled in the pipe at the circumferential locations and longitudinal intervals for mounting of grout fittings in the pipe wall. The pipe fabricator and the Contractor shall agree on the locations.
- Holes shall be drilled in the pipe liner for installation of alignment bolts. The holes shall be drilled at the location and intervals as agreed upon between the pipe fabricator and Contractor. The nuts shall be welded over the hole on the outside of the pipe. Recommended size for alignment bolt is a minimum of ¾". The size of the bolts should be increased as the length of the bolt increases. Alternate methods of locating and maintaining the pipe liner location may be utilized if agreed by the fabricator and approved by the Engineer.
- The Contractor shall provide an internal band, or other method for sealing the joints between pipe liner sections. Internal bands will be 12" wide sheet, either flat or formed into a corrugation configuration. Hardware required to fix the band into its intended location shall be furnished with the band. A ¾" x 12" flat rubber gasket shall be placed between the pipe and expansion band. Other joint sealing methods shall be as agreed to by the pipe fabricator, Contractor and engineer.
- The Contractor shall provide structural steel members or wood runners between the existing pipe and the pipe liner for the purpose of providing a sliding surface for the pipe liner. Guide rails may also be welded to the bottom of the pipe liner at the pipe plant or on-site. Structural steel members shall conform to ASTM A 36 and wood blocking shall be pressure treated timber in accordance with AASHTO M 168.
- The Contractor shall provide grout for filling annular space between the existing pipe and the pipe liner. Grout shall have a minimum 28-day compressive strength of 1,000 psi. The Contractor shall cast a minimum of three test cylinders for each grout pour. The grout mix shall be non-acidic and contain no chlorides.

### **Construction Methods:**

Prior to any fabrication, the Contractor shall submit shop drawings in accordance with Article 1.05.02 to the Engineer for review. Shop drawings shall include material lists, material designations, manufacturer's literature, means of access to the site, method of water handling, the method of pipe liner installation, and method of grout placement.

The Contractor shall dewater, if needed, clean and inspect the existing pipe to determine the location of any obstacles that may prevent proper installation of the pipe liner. If the proposed pipe liner will not pass the full length of the existing pipe, the Contractor shall notify the Engineer immediately.

The Contractor shall work from either the inlet or outlet side and line the pipe by either pushing or pulling the new culvert pipe. The pipe liner at the inlet side shall be set flush with the existing ACCMP.

The Contractor shall install the guide rails or blocking between the existing and the pipe liner. The guide rails or blocking shall be placed in the invert of the existing pipe or welded to the exterior of the liner pipe. Alternatively, the pipe fabricator may weld the guide to the pipe at the plant. The guides shall be placed to provide adequate space to allow grout to flow between the rails and fill the void beneath the liner pipe. Rollers or skids may be used in lieu of installed guide rails to position the liner pipe, provided the pipe is properly blocked into position after being located in its final position.

The Contractor shall install the liner pipe as per manufacturer's recommendations. The liner pipe may be pushed into position. Use extra care to avoid damaging the liner or existing pipe during installation. During pipe placement, take care to avoid crushing the ends of the pipe, because of excessive loads applied during pushing or pulling. Blocking should be used to distribute installation loads over as much of the pipe's periphery as possible. The pipe shall be positioned to allow nominal 3/4" gap between the ends of adjacent pipe. Once a pipe liner is in place, adjust its line and grade as needed and install the alignment bolts in the pipe to fix the pipe liner location. Take care not to damage the pipe liner by tightening the alignment bolts too tight against the existing pipe. Pipe liner at the inlet and outlet shall be mitered to match the existing pipe.

Internal bands shall be installed at each joint formed by two adjacent pipe sections. The bands shall be located close to the joint; the rubber gasket shall be placed between the pipe and the band, and the band and gasket placed in final position. The band shall then be tightened against the pipe until the gasket is solidly in contact with the surfaces of the ends of the pipe sections.

Upon placement of all pipe liner sections and the installation of all internal bands, construct the bulkheads at the ends of the annular space. The bulkhead shall be of sufficient strength and rigidity to withstand the hydrostatic pressures of the grout. Grout placement shall be performed in accordance with the pipe manufacturer's recommendations as needed to completely fill the void between the pipe liner and existing structure. Grout placement will begin at the downstream end of the culvert and proceed upstream. Pump grout at a controlled rate to prevent excessive flotation forces on the pipe liner and maintain pressures at reasonable levels. The bulkheads may be removed after the grout has cured for at least 48 hours. Clean the pipe liner of all excess grout and all other construction materials.

Handling water shall be performed in accordance with the Special Provision "Handling Water (Culvert Site X)" and the corresponding temporary construction flow data.

**Method of Measurements:** This work will be measured for payment by the actual number of linear feet of pipe installed and accepted.

**Basis of Payment:** This work will be paid for at the contract unit price per linear foot of pipe liner for the item “48” Corrugated Aluminized Steel Pipe Liner, 36” x 22” Corrugated Aluminized Steel Pipe Arch Liner, or 43” X 27” Corrugated Aluminized Steel Pipe Arch Liner”, complete in place, including but not limited to all internal bands, guide rails, grout fittings, alignment bolts, aluminization, Type-2, grout, ½” diameter studs, steel fabric reinforcement #6 gauge wire, cleaning and inspection of the existing pipe, miscellaneous materials, equipment, tools and labor incidental thereto.

<u>Pay Item</u>	<u>Pay Unit</u>
48” Corrugated Steel Pipe, Aluminized Type 2	LF
36” x 22” Corrugated Steel Pipe Arch, Aluminized Type 2	LF
43” X 27” Corrugated Steel Pipe Arch, Aluminized Type 2	LF

## **ITEM #0980001A – CONSTRUCTION STAKING**

Work under this item shall conform to the requirements of Section 9.80 amended as follows:

**9.80.01 – Description:** Add the following after the last paragraph:

Work under this item also consists of the Contractor, or the Contractor’s representative, completing a ground survey of the existing roadway surface for all roads within this Contract that will be rehabilitated. The intent of this item is for the Contractor to identify areas where greater than the specified milling depth of 2.5 inches will be required to construct the proposed pavement structure to the proposed grades.

Work under this item also consists of the Contractor, or the Contractor’s representative, completing an as-built survey after paving the 2.5-inch intermediate course for all roads within this Contract that will be rehabilitated. The intent of this item is for the Contractor to certify that the intermediate course pavement has the correct cross-slope according to the plans and these special provisions.

**9.80.03 – Construction Methods:** Add the following after the last paragraph:

**Ground and Roadway As-Built Surveys:** The existing roadway surface and intermediate course pavement surveys shall follow the requirements and descriptions of the specified services located in the Digital Mapping Symbols Specifications for Survey and Photogrammetry Existing Features dated September 2003 and Location Survey Manual dated June 1997, unless otherwise specified herein.

The Ground and Roadway As-Built Surveys shall consist of spot elevations that conform to a “Class T-1” horizontal and vertical standard, shall have a vertical accuracy of +/- 0.02 feet (0.25 inches), and shall reference the control points defined in the construction plans. The Land Surveyor shall record the elevation of the same location on the intermediate course pavement surface where required.

The Contractor shall establish new control points as necessary to complete the work. Any new control points shall be horizontally and vertically referenced to the Connecticut NAD83 and NAVD88 datum.

The survey shall record horizontal and vertical data for the existing roadway surface and intermediate course pavement surface along the proposed roadway baselines, proposed lane lines, and the proposed edges of pavement at the following intervals:

1. Along tangent roadway sections: at 100-foot intervals that correspond to the roadway stationing.
2. Along curved roadway sections: at 50-foot intervals, starting at the super-elevation transition station, that correspond to the roadway stationing.

Ground survey will be required to record the horizontal and vertical data of the existing surface prior to milling. The survey is to document the roadway elevations to ensure that the appropriate milling depth will be provided to result in the proposed finished surface grades after placement of the (as-needed) shim course and 4.5 inches of HMA.

Survey will be required to record the horizontal and vertical data of the intermediate course pavement surface prior to installing the wedge course. The survey is to document the roadway cross slopes to ensure that the proposed cross-slopes and finished surface grades can be achieved before the placement of the surface course pavement. If the surface course cannot be installed as specified due to the grades of the intermediate course pavement surface, the Contractor is to develop a corrective action plan to shim the intermediate course surface prior to placing the surface course pavement. This shim course is the wedge course included in the project, quantified and paid under Item No. 0406173 – HMA S0.25.

Upon completion, the Ground and Roadway As-Built Surveys shall be reviewed and have their accuracy certified by a Connecticut-licensed Land Surveyor. The Land Surveyor shall provide a certification as to the accuracy of the data being submitted. The documents shall be stamped and signed. Upon receiving this certification, the Ground and Roadway As-Built Survey shall be submitted by the Contractor to the State for review and approval.

The Contractor shall present the ground and as-built survey information to the State in a clear and concise manner that includes the proposed and as-built information listed below. The data shall be provided in Microsoft Excel or a compatible file format. Prior to the beginning of construction work, the Contractor shall submit to the State for approval a spreadsheet indicating the data and format that will be submitted following the completion of the as-built survey. At a minimum, the as-built survey data presented to the State shall include the following:

- Proposed and existing/as-built intermediate course pavement elevations at the baseline;
- Proposed and existing/as-built intermediate course pavement elevations at the edges of pavement;
- Proposed and existing/as-built intermediate course pavement elevations at the shoulder lines;
- Proposed and existing/as-built intermediate course pavement elevations at the lane lines;
- Stationing and offsets for all points;
- Comparison between the proposed and existing/as-built intermediate course pavement elevations indicating whether each point meets the tolerances included in the project specifications.

The data is to be formatted as noted in the sample included at the end of this section to allow for data scoring.

Only after the Contractor has received the approval of the Ground/Roadway As-Built Survey from the State may the Contractor proceed to pave the surveyed length of roadway.

The Contractor's attention is directed to the 15-day limitation for milled roadways noted in the plans.



**9.80.05 – Basis of Payment:** The first paragraph shall be amended as follows:

Construction staking shall be paid for at the Contract lump sum price for “Construction Staking,” which price shall include all survey work, establishment of geodetic control points, data processing, drafting, certification, and all work associated with obtaining approval of the ground/as-built survey from the State, as well as all maintenance, materials, tools, equipment, labor, and work incidental thereto, including the removal of materials. The contractor shall submit to the Department a schedule of payment values for review and comment prior to payment.

<u>Pay Item</u>	<u>Pay Unit</u>
0980001A Construction Staking	L.S.

Roadway As-Built Survey  
 I-84 resurfacing, Bridge Rehabilitation, and Safety Improvements  
 State Project No. 96-200  
 Newtown, Connecticut

Roadway: \_\_\_\_\_

Approximate limits of survey: \_\_\_\_\_

Date of survey completion: \_\_\_\_\_

Feature	Station	Offset	RT/LT	Proposed Elevation (feet)	As-Built Elevation (feet)	Difference (feet)	Proposed Cross Slope	As-Built Cross Slope	Difference
Edge of pavement	10+00	17.00 ft	LT	35.00	35.02	0.02	n/a	n/a	n/a
Shoulder	10+00	12.00 ft	LT	34.53	34.50	-0.03	3.125%	3.467%	0.342%
Baseline	10+00	0.00 ft		34.53	34.53	0.00	3.125%	3.267%	0.142%
Shoulder/Climbing Lane/Ramp	10+00	12.00 ft	RT	34.53	34.53	0.00	3.125%	3.267%	0.142%
Shoulder/Ramp	10+00	N/A	RT						
Edge of pavement	10+00	22.00 ft	RT	34.53	34.53	0.00	3.125%	3.267%	0.142%

**ITEM #1806226A – PRE-WARNING VEHICLE**

**Description:** Work under this item shall include furnishing, deploying and maintaining a Truck-Mounted Impact Attenuator equipped with a changeable message sign (CMS) for use as a Pre-Warning Vehicle (PWV) in a rolling road block operation on limited access highways. Impact attenuators shall only be truck-mounted. The message on the sign shall warn motorists of slow or stopped traffic conditions.

**Materials:** The Truck-Mounted Impact Attenuator shall meet the requirements of Article 18.06.02, except replace all instances of “flashing arrow,” “arrow sign,” and “arrow” with “CMS”. The CMS shall meet the requirements of Article 11.31.02, with the following amendments:

**1. Physical Characteristics of the CMS**

- a) Mounting – The CMS shall be truck mounted only
- b) Sign Display Dimensions – Width of 6 feet, height of 4 feet

**2. Visual Characteristics of the CMS Display**

- a) Sign Type – CMS shall have a LED display only
- b) Color – CMS shall have black background with orange, yellow, or amber legend
- c) Characters – Letter height shall be 13 inches; Single stroke
- d) Visibility– CMS brightness must provide for visibility at 1/2 mile
- e) Message – The message shall read as follows, or shall be as directed by the Engineer:

Frame 1: SLOWED TRAFFIC AHEAD

Frame 2: BE PREPARED TO STOP

Or

Frame 1: STOPPED TRAFFIC AHEAD

Frame 2: BE PREPARED TO STOP

**Construction Methods:** The PWV shall be initially positioned in the right shoulder ½ mile prior to the rolling road block operation.

If a traffic queue reaches the PWV’s initial location, the Contractor shall slowly reverse the PWV along the shoulder to position itself prior to the new back of queue.

The Contractor shall meet the requirements of Article 18.06.03.

**Method of Measurement:** This work will be measured for payment by the actual number of hours that the Pre-Warning Vehicle is used in a rolling road block operation.

**Basis of Payment:** This work will be paid for at the Contract unit price per hour for “Pre-Warning Vehicle,” which shall include the furnishing and use of the pre-warning vehicle and a driver, attenuator reflector, flashing lights, changeable message sign, and all equipment, materials, tools, labor, disposal of damaged Truck-Mounted Impact Attenuator components and work incidental thereto.

Pay Item  
Pre-warning Vehicle

Pay Unit  
hr



DEPARTMENT OF THE ARMY  
US ARMY CORPS OF ENGINEERS  
NEW ENGLAND DISTRICT  
696 VIRGINIA ROAD  
CONCORD MA 01742-2751

October 10, 2018

Regulatory Division  
File Number: **NAE-2018-00191**  
CT DEEP File No.: 201800736-PCN

Attn: Mr. Andrew Davis  
Connecticut Department of Transportation  
P.O. Box 317546  
2800 Berlin Turnpike  
Newington, CT 06131-7546

Dear Mr. Davis:

We have reviewed your application to place temporary and permanent fill in approximately 19,956 SF (4 culvert sites) of wetlands/watercourse areas in association with the rehabilitation of four (4) existing culverts under I-84 in Newtown, CT. The culvert rehabilitation (slipline with new CMP and grout) activities are being performed in conjunction with roadway resurfacing, and safety improvements on I-84 between exits 9 and 10. The work is described and shown on the enclosed plans entitled "I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS", on twenty-one (21) sheets (PMT-1 through PMT-21, including title sheet), all sheets dated "DECEMBER 15, 2017".

Fill discharges are associated with grout fill associated with culvert rehabilitation; excavation/grading and riprap/streambed material backfill placed below OHW at culvert inlet/outlet areas; concrete removal/channel grading and backfill at culvert sites 1 and 2; wetland encroachment associated with construction of permanent maintenance access roads to each of the culvert sites; and temporary cofferdams required to complete work in the dry. Boulder placement and installation of a rock weir feature on the streambed is also proposed at culvert sites 1 and 2, respectively, for fisheries enhancement. Invasive species removal will be performed within the limits of disturbance at each culvert site. Native wetland species shrub plantings are proposed to stabilize streambanks and slopes disturbed by construction activity at each of the culvert sites.

Based on the information you have provided, we have determined that the proposed activity, which includes a discharge of dredged or fill material into waters or wetlands, will have only minimal individual and cumulative impacts on waters of the United States, including wetlands. Therefore, this work is authorized under General Permit #19 of the enclosed Federal permit known as the Connecticut General Permits (GPs). This work must be performed in accordance with the terms and conditions of the GPs.

You must complete and return the enclosed Work Start Notification Form to this office at least two weeks before the anticipated starting date.

You are responsible for complying with all of the GPs' requirements. Please review the enclosed GPs carefully, in particular the general conditions, to be sure that you understand its requirements. You should ensure that whoever does the work also fully understands the requirements and that a copy of the GPs and this authorization letter are at the project site throughout the time the work is underway. If you change the plans or construction methods for work within our jurisdiction, please contact us immediately to discuss modification of this authorization. This office must approve any changes before you undertake them

This authorization expires on August 19, 2021, unless the GPs are modified, suspended, or revoked before then. You must commence or have under contract to commence the work authorized herein by August 19, 2021 and complete the work by August 19, 2022. If not, you must contact this office to determine the need for further authorization *before* beginning or continuing the activity. We recommend that you contact us before this authorization expires to discuss a permit reissuance.

This permit does not obviate the need to obtain other Federal, state, or local authorizations required by law. Performing work not specifically authorized by this determination or failing to comply with any special condition(s) provided above and all the terms and conditions of the GPs may subject you to the enforcement provisions of our regulations.

The Connecticut Department of Energy & Environmental Protection (DEEP) has issued a Water Quality Certification (WQC) for this project, as required under Section 401 of the Clean Water Act, based on their review of the project. You must comply with all condition requirements contained in the WQC approval (enclosed) issued for this project.

This authorization presumes that the work as described above and as shown on your plans noted above is in waters of the U.S.

We continually strive to improve our customer service. In order for us to better serve you, we would appreciate your completing our Customer Service Survey located at [http://corpsmapu.usace.army.mil/cm\\_apex/f?p=regulatory\\_survey](http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey).

Please contact Susan Lee of my staff at (978) 318-8494 if you have any questions.

Sincerely,

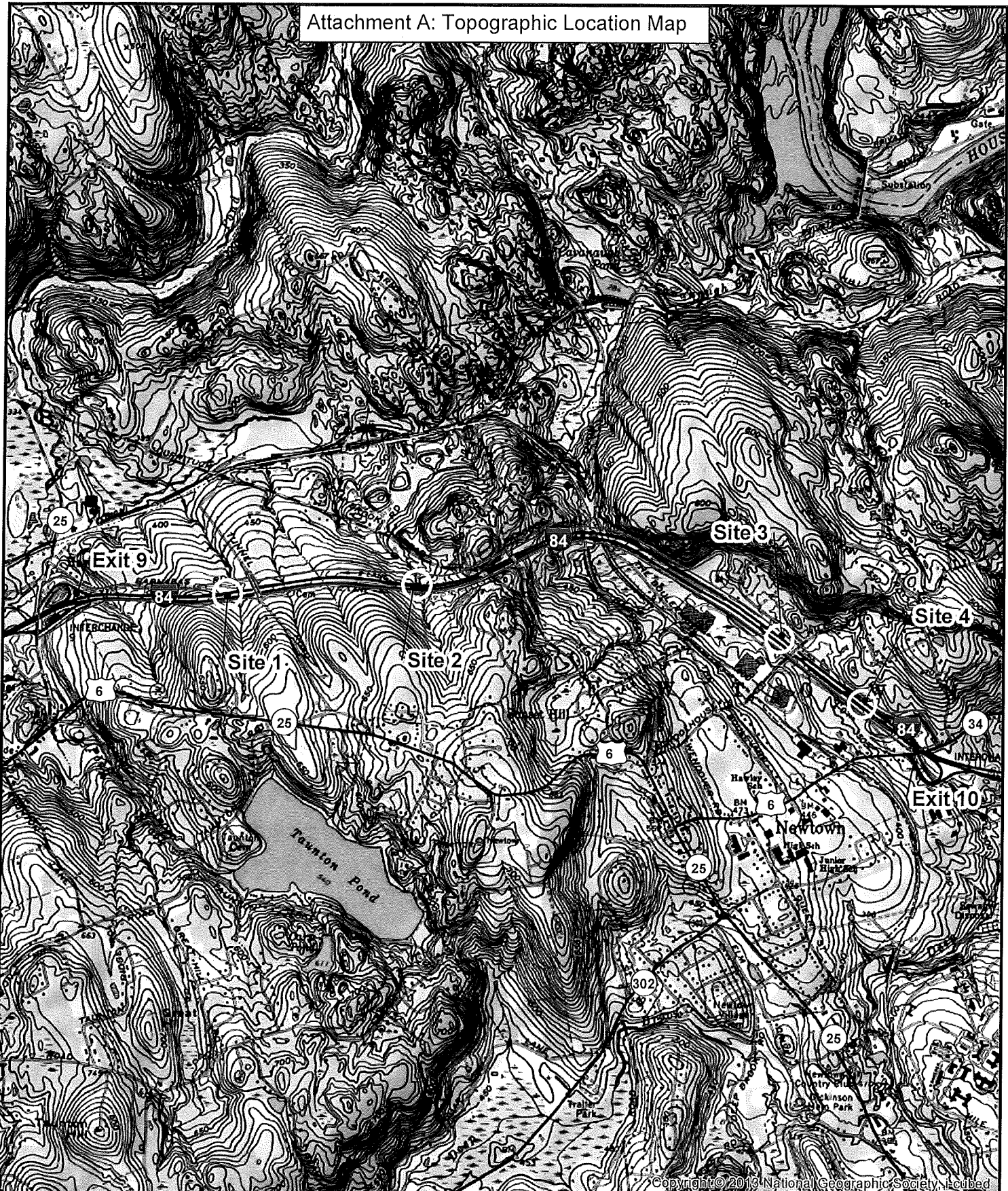


Kevin R. Kotelly, P.E.  
Chief, Permits & Enforcement Branch  
Regulatory Division

Enclosures

Copy Furnished (via email): Bob Gilmore/CT DEEP-LWRD; Nate Margason/ US EPA;  
Chris Samorajczyk/CTDOT-OEP

Attachment A: Topographic Location Map




Copyright © 2013 National Geographic Society, Inc.


**Legend**

- Culvert
- Relining Sites
- ROW

N



0 900 1,800 3,600 5,400 Feet



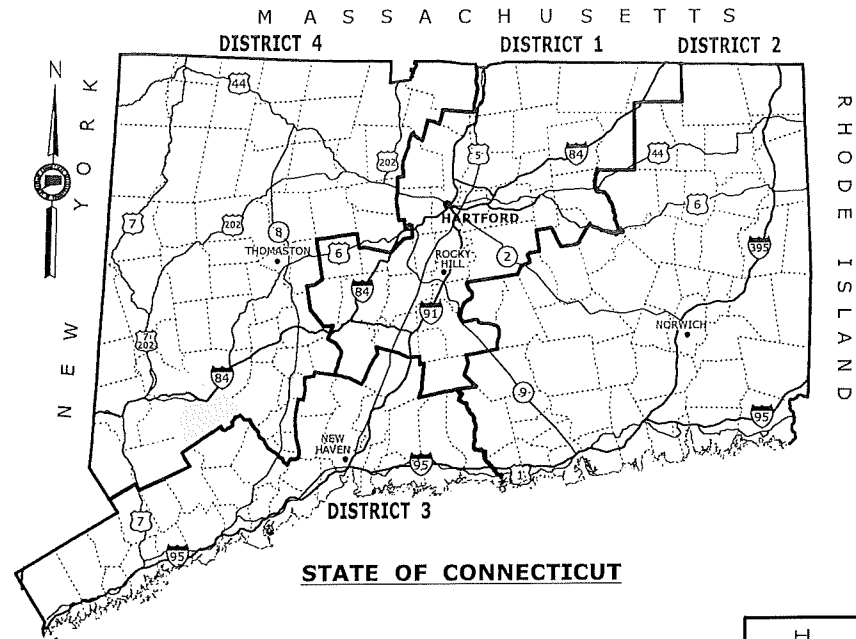
96-200  
I-84 Rehabilitation  
Newtown, CT



Architecture  
Engineering  
Environmental  
Land Surveying

**Topographic Map**

# ENVIRONMENTAL PERMIT PLANS STATE PROJECT 0096-0200 I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS IN THE TOWN OF NEWTOWN

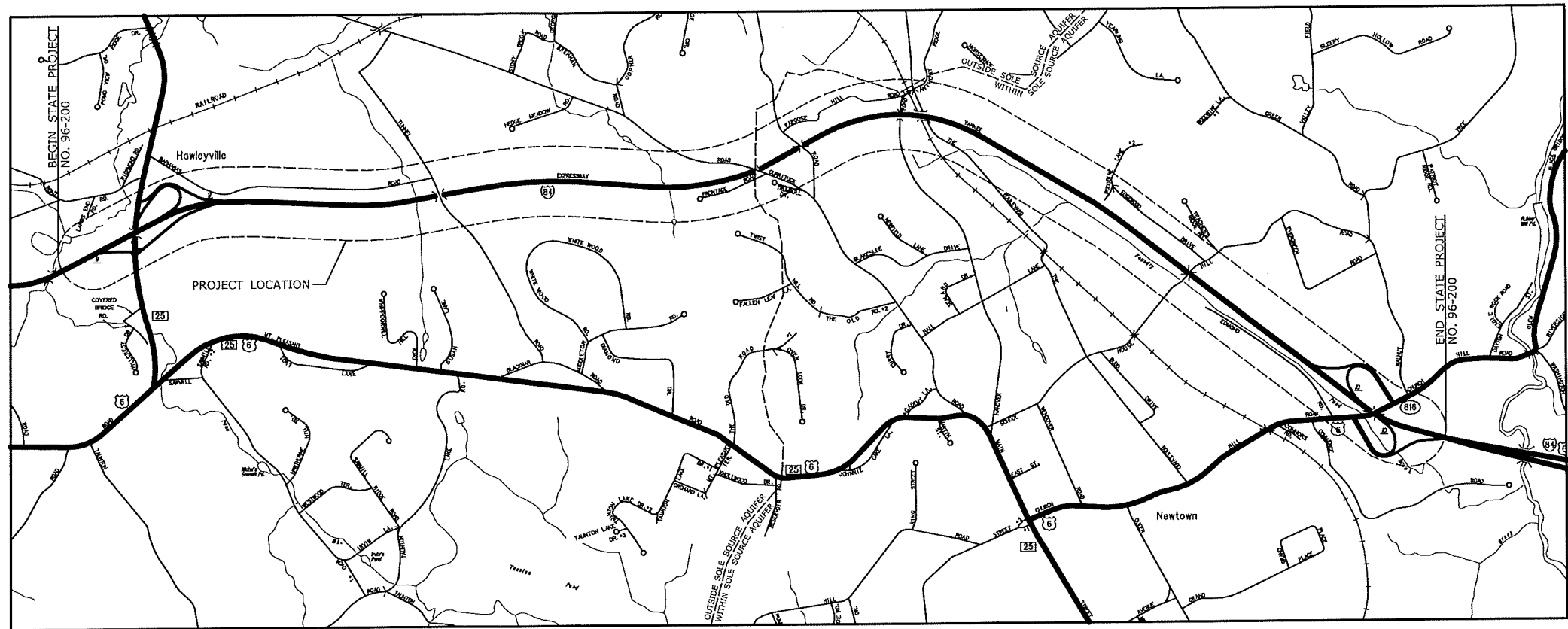


**GENERAL NOTES:**

1. THESE PLANS 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 DEEP AND USACE FOR CHANGES TO THE DESIGN THAT WILL AFFECT REGULATED AREAS.
3. FOR A DESCRIPTION OF THE WATERCOURSES, WETLANDS, AND WETLAND SOILS SEE RELEVANT SECTIONS OF THE PERMIT APPLICATION.
4. 2000 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 DEPARTMENTS STANDARD SPECIFICATIONS FOR ROADS, BRIDGES, AND INCIDENTAL CONSTRUCTION, FORM 817, 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.

**LIST OF DRAWINGS**

DRAWING NO.	DRAWING TITLE
PMT-1	TITLE SHEET
PMT-2	INDEX PLAN
PMT-3	GENERAL CULVERT SITE 1 PLAN
PMT-4	GENERAL CULVERT SITE 2 PLAN
PMT-5	GENERAL CULVERT SITE 3 PLAN
PMT-6	GENERAL CULVERT SITE 4 PLAN
PMT-7	100-YEAR FLOOD IMPACT PLAN CULVERT SITE 2
PMT-8	ELEVATION AND SECTION CULVERT SITE 1
PMT-9	ELEVATION AND SECTION CULVERT SITE 2 INLET
PMT-10	ELEVATION AND SECTION CULVERT SITE 2 OUTLET
PMT-11	ELEVATION AND SECTION CULVERT SITE 3
PMT-12	ELEVATION AND SECTION CULVERT SITE 4
PMT-13	WATER HANDLING PLAN CULVERT SITE 1
PMT-14	WATER HANDLING PLAN CULVERT SITE 2
PMT-15	WATER HANDLING PLAN CULVERT SITE 3
PMT-16	WATER HANDLING PLAN CULVERT SITE 4
PMT-17	LANDSCAPING PLAN CULVERT SITE 1
PMT-18	LANDSCAPING PLAN CULVERT SITE 2
PMT-19	LANDSCAPING PLAN CULVERT SITE 3
PMT-20	LANDSCAPING PLAN CULVERT SITE 4
PMT-21	MISCELLANEOUS DETAILS SHEET



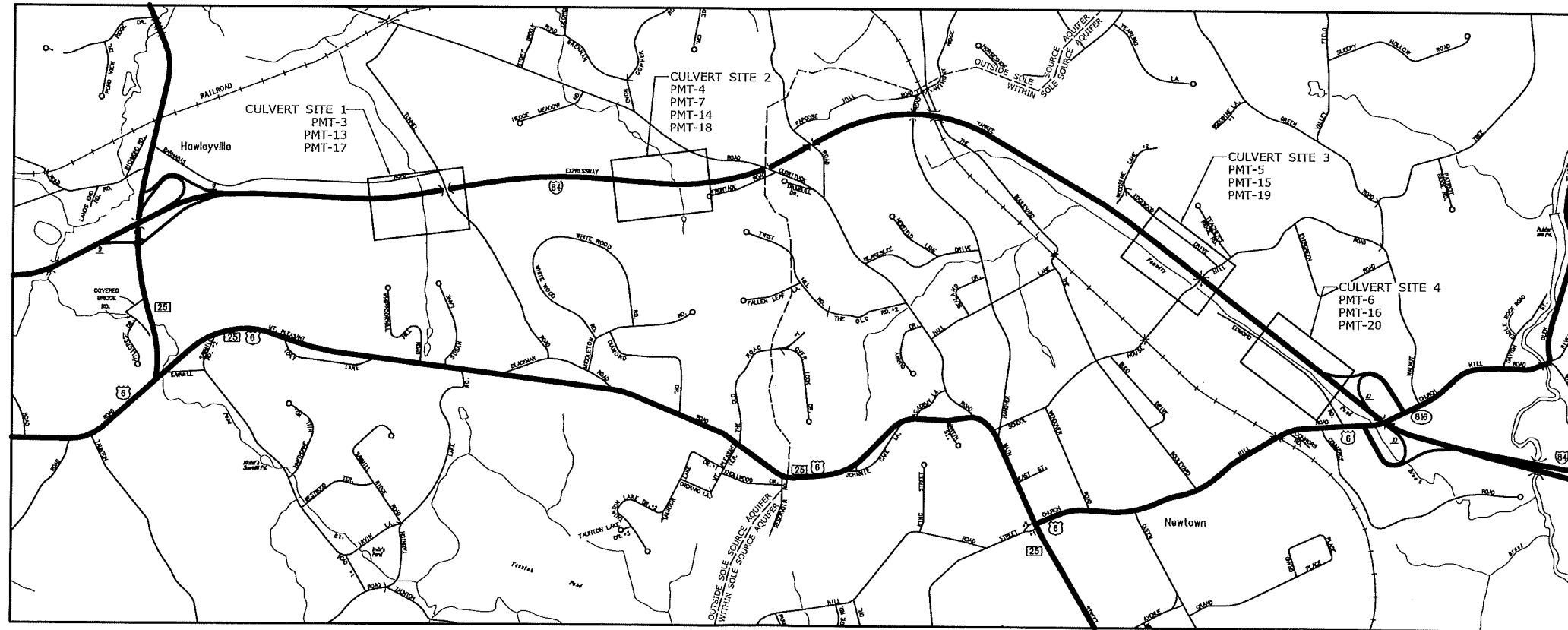
**LOCATION PLAN**  
SCALE: 1" = 1000'

DESIGNED BY:  
**BL**  
Companies  
BL COMPANIES, INC.  
355 RESEARCH PARKWAY  
MERIDEN, CT 06450

**PERMITTING PLAN SET**  
PLAN DATE: DECEMBER 15, 2017



<p>THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.</p>	<p>DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE AS NOTED</p>	<p><b>STATE OF CONNECTICUT</b> DEPARTMENT OF TRANSPORTATION</p>	<p>SIGNATURE/BLOCK: <b>BL</b> Companies ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING</p>	<p>PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b></p>	<p>TOWN: <b>NEWTOWN</b> DRAWING TITLE: <b>TITLE SHEET</b></p>	<p>PROJECT NO. <b>96-200</b> DRAWING NO. <b>PMT-1</b> SHEET NO.</p>
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017

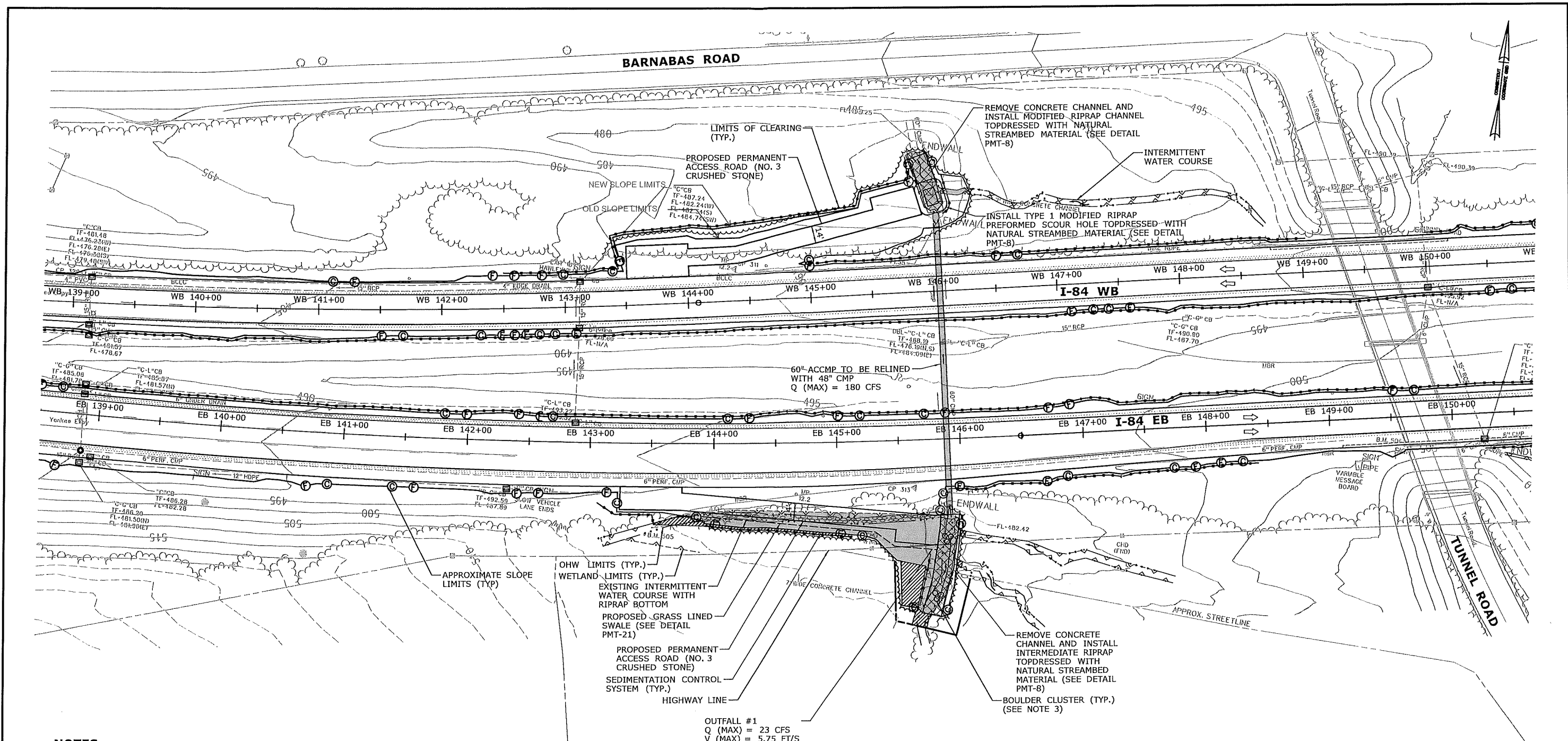


**INDEX PLAN**  
SCALE: 1" = 1000'

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017	DESIGNER/DRAFTER: <b>JE</b>	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>	 <b>ARCHITECTURE</b> <b>ENGINEERING</b> <b>ENVIRONMENTAL</b> <b>LAND SURVEYING</b> <b>Companies</b>	PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b>
					CHECKED BY: <b>MF</b>				SCALE AS NOTED	FILENAME: ...\\HW_MSH_0096_0200_PMT-2.IDX.dgn
										SHEET NO.





**NOTES:**

1. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSES.
2. ALL UNCONFINED IN-STREAM WORK INVOLVED WITH CULVERT SITE 1 SHALL BE COMPLETED DURING A LOW FLOW TIME OF YEAR (JUNE 1 - SEPTEMBER 30).
3. TWO SETS OF THREE 36"-48" BOULDERS SHALL BE PLACED WITHIN THE INLET CHANNEL. THIS WORK SHALL BE PAID FOR UNDER "PLACEMENT OF CHANNEL BOULDER", PLACEMENT SHALL BE DIRECTED IN FIELD BY CT DEEP OR CT DOT OEP STAFF. THE BOULDERS SHALL BE EMBEDDED BETWEEN 15" AND 18".

**LEGEND**

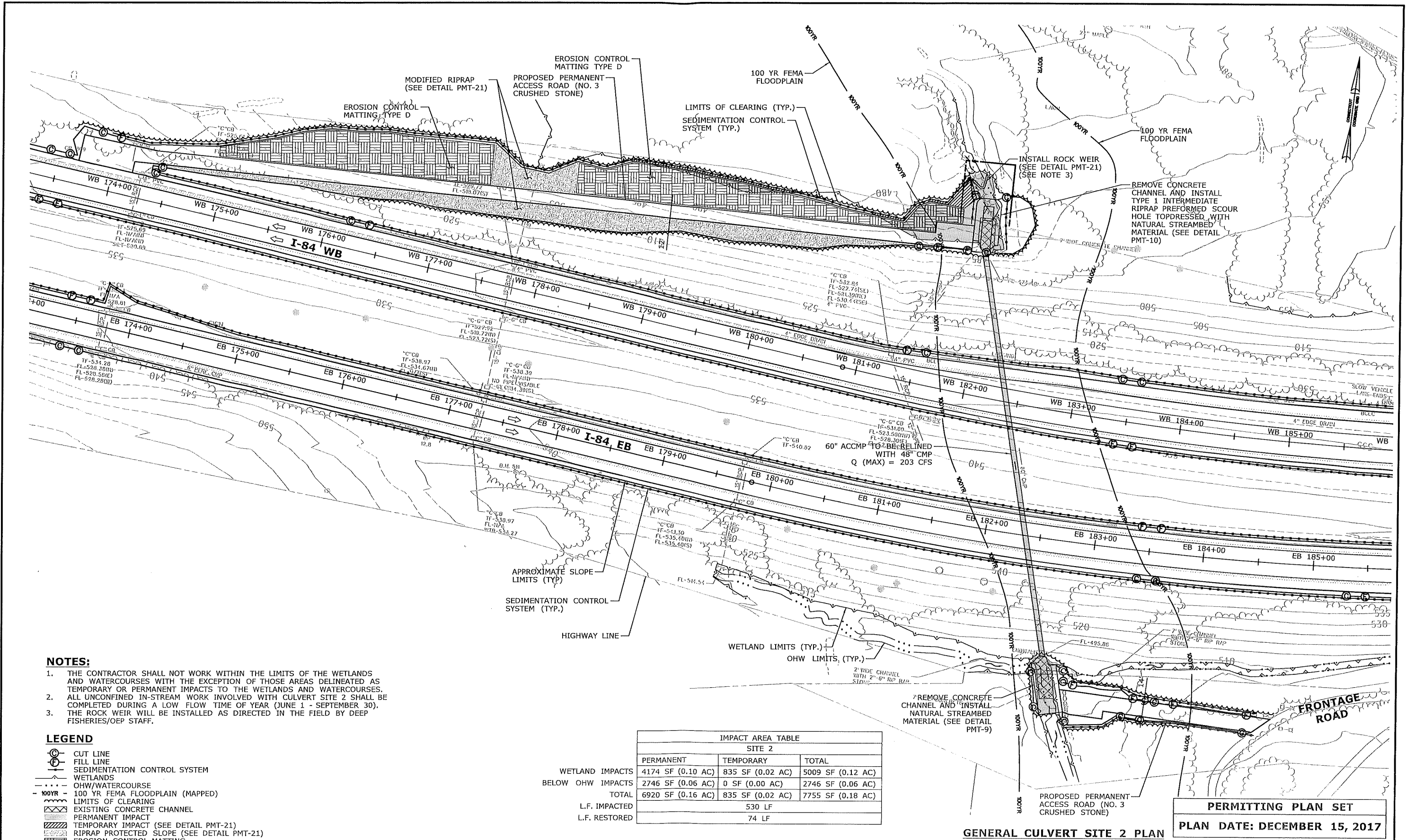
- CUT LINE
- FILL LINE
- ⊕ SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- LIMITS OF CLEARING
- ▨ EXISTING CONCRETE CHANNEL
- ▩ PERMANENT IMPACT
- ▨ TEMPORARY IMPACT (SEE DETAIL PMT-21)

**GENERAL CULVERT SITE 1 PLAN**

IMPACT AREA TABLE		
SITE 1		
PERMANENT	TEMPORARY	TOTAL
3822 SF (0.09 AC)	947 SF (0.02 AC)	4769 SF (0.11 AC)
3731 SF (0.09 AC)	273 SF (0.01 AC)	4004 SF (0.09 AC)
<b>TOTAL</b>	<b>1220 SF (0.03 AC)</b>	<b>8773 SF (0.20 AC)</b>
L.F. IMPACTED	680 LF	
L.F. RESTORED	133 LF	

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. Plotted Date: 3/14/2018	DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE IN FEET 0 40 80 SCALE 1"=40'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...VHW_MSH_0095_0200_PMT-3_SITE1.GPN.dgn	SIGNATURE/BLOCK: ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING Companies	PROJECT TITLE: <b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO.: <b>96-200</b> DRAWING NO.: <b>PMT-3</b> SHEET NO.:
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**NOTES:**

1. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSES.
2. ALL UNCONFINED IN-STREAM WORK INVOLVED WITH CULVERT SITE 2 SHALL BE COMPLETED DURING A LOW FLOW TIME OF YEAR (JUNE 1 - SEPTEMBER 30).
3. THE ROCK WEIR WILL BE INSTALLED AS DIRECTED IN THE FIELD BY DEEP FISHERIES/OEP STAFF.

**LEGEND**

- CUT LINE
- ⊕ FILL LINE
- SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- 100YR - 100 YR FEMA FLOODPLAIN (MAPPED)
- LIMITS OF CLEARING
- EXISTING CONCRETE CHANNEL
- PERMANENT IMPACT
- RIPRAP PROTECTED SLOPE (SEE DETAIL PMT-21)
- EROSION CONTROL MATTING

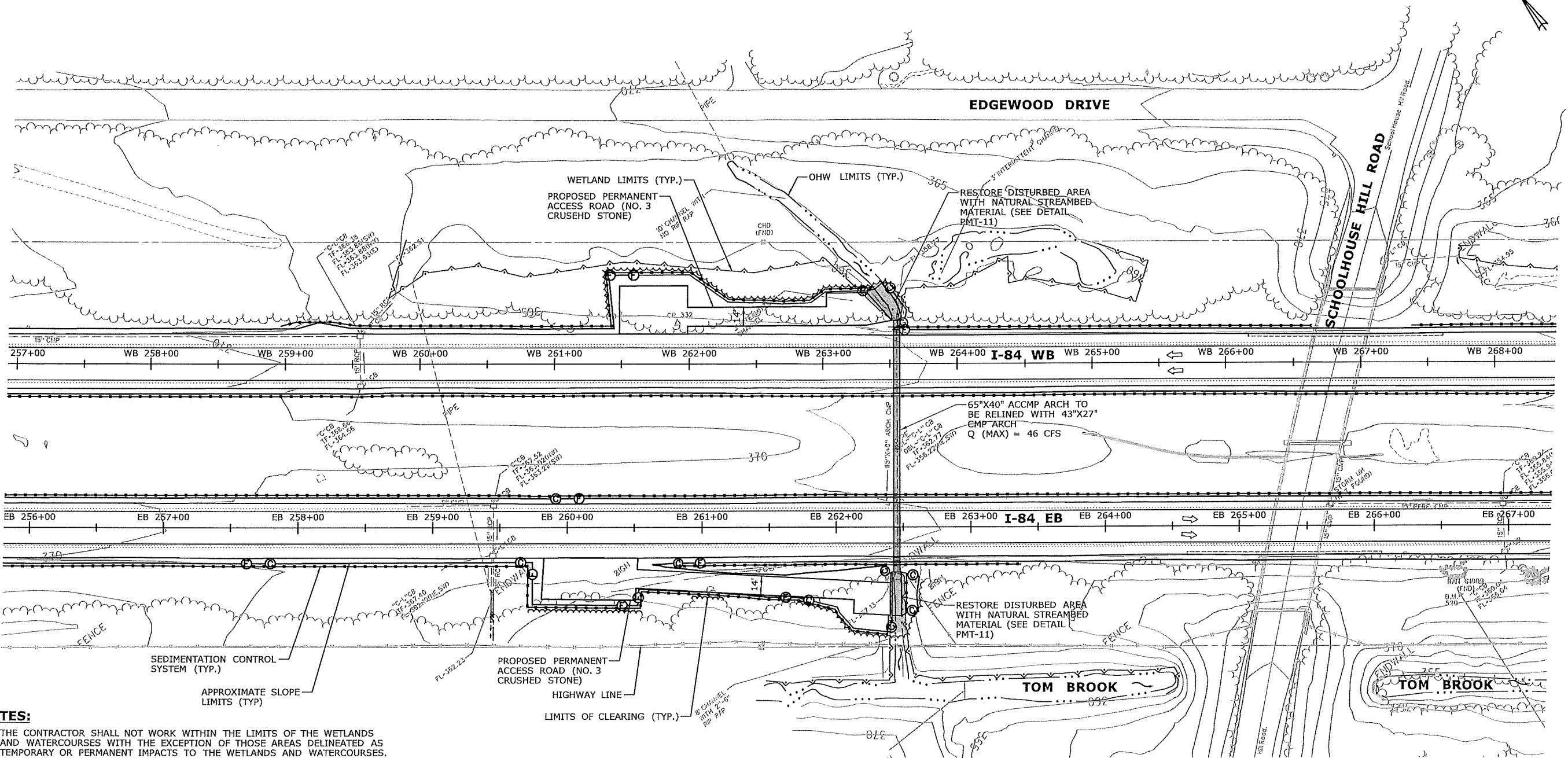
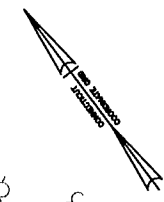
IMPACT AREA TABLE		
SITE 2		
PERMANENT	TEMPORARY	TOTAL
4174 SF (0.10 AC)	835 SF (0.02 AC)	5009 SF (0.12 AC)
2746 SF (0.06 AC)	0 SF (0.00 AC)	2746 SF (0.06 AC)
<b>TOTAL</b>	<b>835 SF (0.02 AC)</b>	<b>7755 SF (0.18 AC)</b>
L.F. IMPACTED	530 LF	
L.F. RESTORED	74 LF	

WETLAND IMPACTS  
BELOW OHW LIMITS

GENERAL CULVERT SITE 2 PLAN

PERMITTING PLAN SET  
PLAN DATE: DECEMBER 15, 2017

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. Plotted Date: 12/19/2017		DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE IN FEET 0 40 80 SCALE 1"=40'	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...VHW_MSH_0096_0200_PMT-4_SITE2_GFN.dgn	SIGNATURE/BLOCK: ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING	PROJECT TITLE: <b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO.: <b>96-200</b> DRAWING NO.: <b>PMT-4</b> SHEET NO.:
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	DRAWING TITLE: <b>GENERAL CULVERT          SITE 2 PLAN</b>			



**NOTES:**

1. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.
2. ALL UNCONFINED IN-STREAM WORK INVOLVED WITH CULVERT SITE 3 SHALL BE COMPLETED DURING A LOW FLOW TIME OF YEAR (JUNE 1 - SEPTEMBER 30).
3. CULVERT SITE 3 LIES WITHIN A SOLE SOURCE AQUIFER. ALL WORK MUST CONFORM TO THE PRECAUTIONS OUTLINED IN SECTION 1.10 - ENVIRONMENTAL PROTECTION FOR SOLE SOURCE AQUIFER.

**LEGEND**

- ⊙ CUT LINE
- ⊕ FILL LINE
- ▭ SEDIMENTATION CONTROL SYSTEM
- ⋯ WETLANDS
- ⋯ OHW/WATERCOURSE
- ⋯ LIMITS OF CLEARING
- ▨ PERMANENT IMPACT
- ▨ TEMPORARY IMPACT (SEE DETAIL PMT-21)

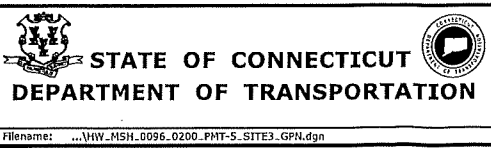
**GENERAL CULVERT SITE 3 PLAN**

IMPACT AREA TABLE		
SITE 3		
PERMANENT	TEMPORARY	TOTAL
592 SF (0.01 AC)	18 SF (0.00 AC)	610 SF (0.01 AC)
1411 SF (0.03 AC)	0 SF (0.00 AC)	1411 SF (0.03 AC)
<b>TOTAL</b>	<b>18 SF (0.00 AC)</b>	<b>2021 SF (0.05 AC)</b>
L.F. IMPACTED	265 LF	
L.F. RESTORED	0 LF	

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

DESIGNER/DRAFTER: **JE**  
 CHECKED BY: **MF**  
 SCALE IN FEET  
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 SCALE 1" = 40'

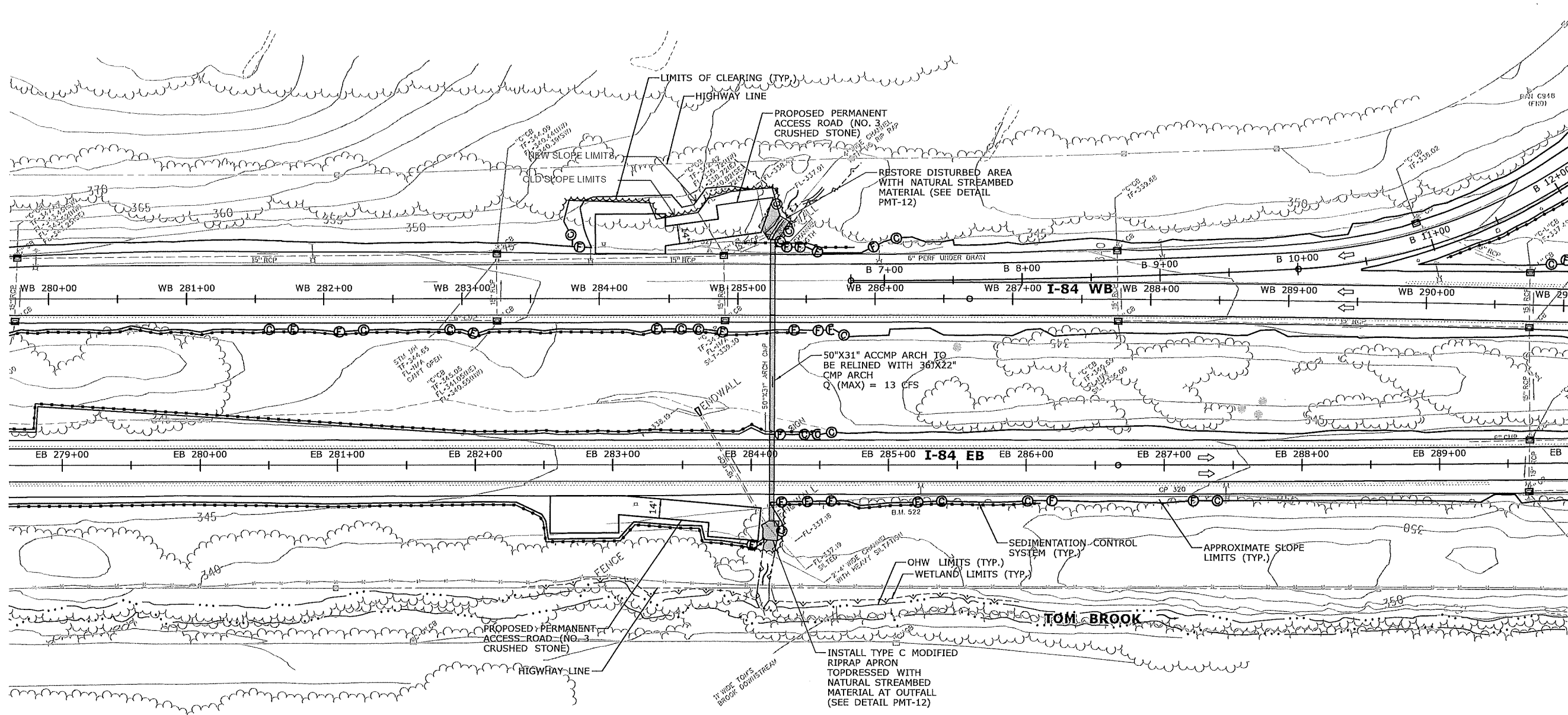


SIGNATURE/BLOCK:  
**BU** ARCHITECTURE  
 ENGINEERING  
 ENVIRONMENTAL  
 LAND SURVEYING  
 Companies

PROJECT TITLE:  
**I-84 RESURFACING,  
 BRIDGE REHABILITATION,  
 AND SAFETY IMPROVEMENTS**

TOWN: **NEWTOWN**  
 DRAWING TITLE:  
**GENERAL CULVERT  
 SITE 3 PLAN**

PROJECT NO. **96-200**  
 DRAWING NO. **PMT-5**  
 SHEET NO.



**GENERAL CULVERT SITE 4 PLAN**

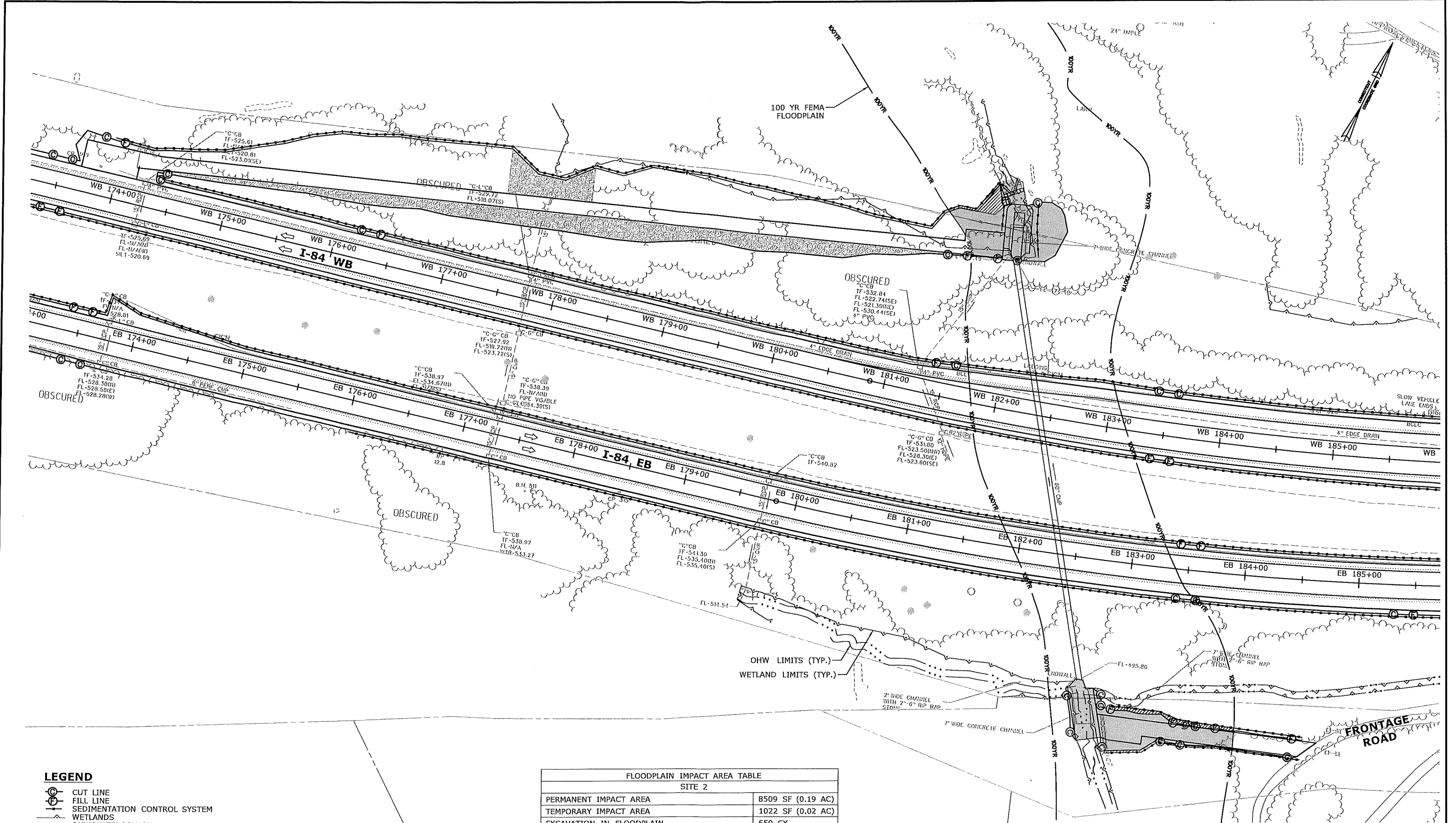
- NOTES:**
1. THE CONTRACTOR SHALL NOT WORK WITHIN THE LIMITS OF THE WETLANDS AND WATERCOURSES WITH THE EXCEPTION OF THOSE AREAS DELINEATED AS TEMPORARY OR PERMANENT IMPACTS TO THE WETLANDS AND WATERCOURSES. ALL DISTURBED AREAS SHALL BE RESTORED.
  2. ALL UNCONFINED IN-STREAM WORK INVOLVED WITH CULVERT SITE 4 SHALL BE COMPLETED DURING A LOW FLOW TIME OF YEAR (JUNE 1 - SEPTEMBER 30).
  3. CULVERT SITE 4 LIES WITHIN A SOLE SOURCE AQUIFER. ALL WORK MUST CONFORM TO THE PRECAUTIONS OUTLINED IN SECTION 1.10 - ENVIRONMENTAL PROTECTION FOR SOLE SOURCE AQUIFER.

- LEGEND**
- CUT LINE
  - FILL LINE
  - SEDIMENTATION CONTROL SYSTEM
  - WETLANDS
  - OHW/WATERCOURSE
  - LIMITS OF CLEARING
  - PERMANENT IMPACT
  - ▨ TEMPORARY IMPACT (SEE DETAIL PMT-21)

IMPACT AREA TABLE			
SITE 4			
	PERMANENT	TEMPORARY	TOTAL
WETLAND IMPACTS	341 SF (0.01 AC)	0 SF (0.00 AC)	341 SF (0.01 AC)
BELOW OHW IMPACTS	1066 SF (0.02 AC)	0 SF (0.00 AC)	1066 SF (0.02 AC)
TOTAL	1407 SF (0.03 AC)	0 SF (0.00 AC)	1407 SF (0.03 AC)
L.F. IMPACTED	245 LF		
L.F. RESTORED	0 LF		

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. Plotted Date: 3/14/2018	DESIGNER/DRAFTER: <b>JE</b>	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION	SIGNATURE/BLOCK: ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING Companies	PROJECT TITLE: <b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b>
	CHECKED BY: <b>MF</b>					
SCALE IN FEET 0 40 80 SCALE 1"=40'	FILENAME: ...JHW_MSH_0096_0200_PMT-6_SITE4.GPN.dgn		DRAWING TITLE: <b>GENERAL CULVERT          SITE 4 PLAN</b>		SHEET NO.	



- LEGEND**
- CUT LINE
  - FILL LINE
  - SEDIMENTATION CONTROL SYSTEM
  - WETLANDS
  - OHW/WATERCOURSE
  - 100 YR FEMA FLOODPLAIN (MAPPED)
  - PERMANENT IMPACT
  - TEMPORARY IMPACT (SEE DETAIL PMT-21)
  - RIPRAP PROTECTED SLOPE (SEE DETAIL PMT-21)

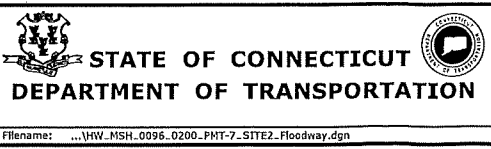
FLOODPLAIN IMPACT AREA TABLE	
SITE 2	
PERMANENT IMPACT AREA	8509 SF (0.19 AC)
TEMPORARY IMPACT AREA	1022 SF (0.02 AC)
EXCAVATION IN FLOODPLAIN	650 CY
FILL IN FLOODPLAIN	300 CY

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 12/19/2017

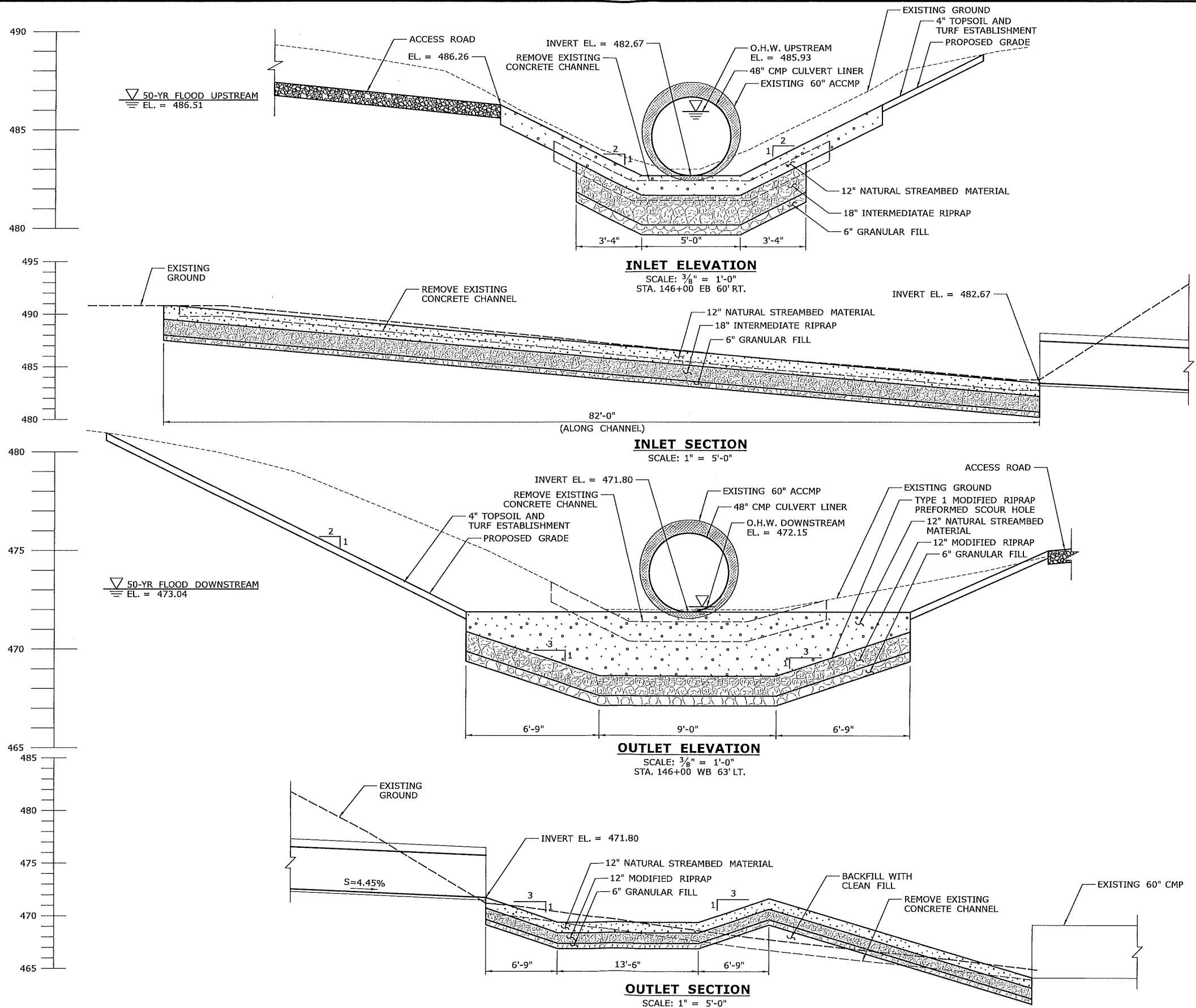
DESIGNER/DRAFTER: **JE**  
 CHECKED BY: **MF**  
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 SCALE 1"=40'



SIGNATURE/BLOCK: ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING

PROJECT TITLE:  
**I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS**

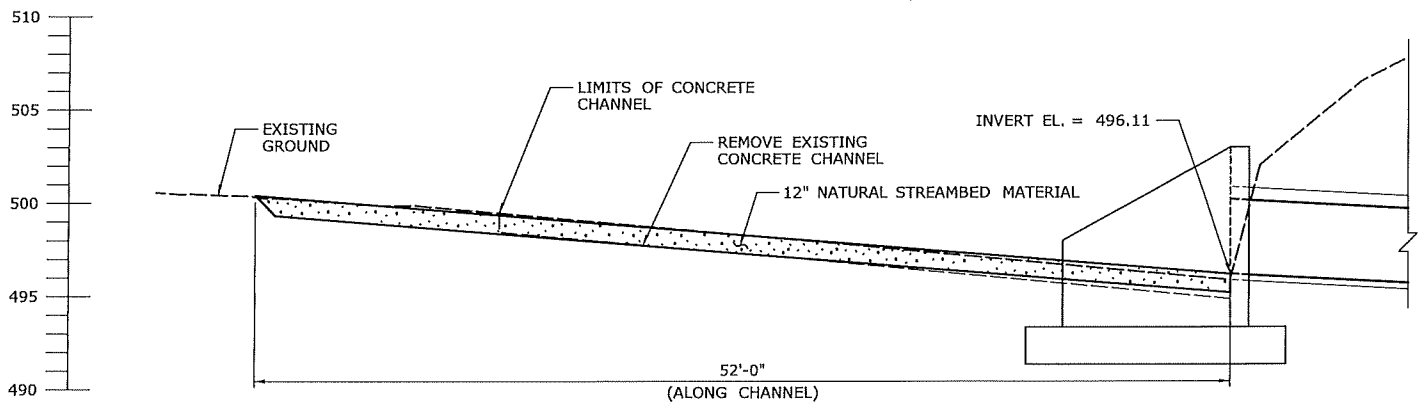
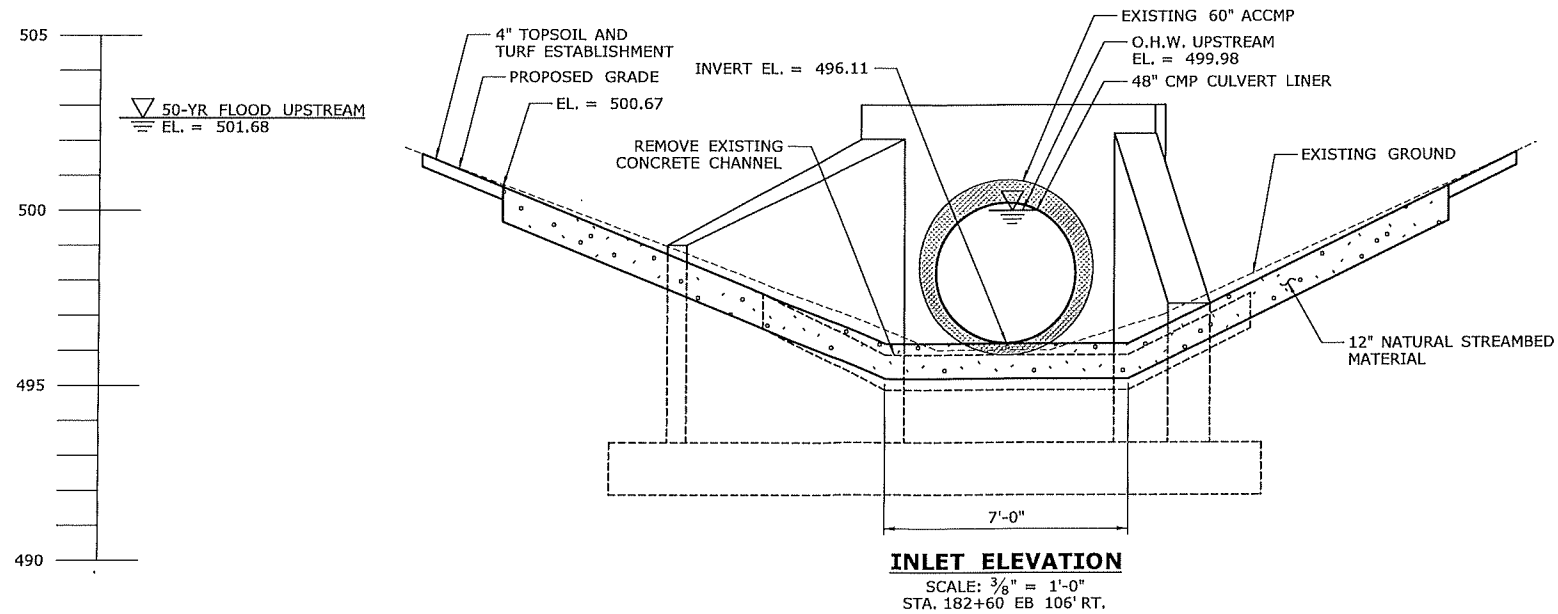
TOWN: **NEWTOWN**  
 PROJECT NO. **96-200**  
 DRAWING NO. **PMT-7**  
 SHEET NO. **100-YEAR FLOOD IMPACT PLAN CULVERT SITE 2**



HYDRAULIC DATA	
DRAINAGE AREA	0.12 SQ. MILE
FREQUENCY	50 YEAR
DESIGN DISCHARGE	92 CFS
AVERAGE DAILY FLOW ELEVATION UPSTREAM	485.78 FT.
AVERAGE DAILY FLOW ELEVATION DOWNSTREAM	470.85 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	486.51 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	473.04 FT.
MAXIMUM SCOUR ELEVATION	N/A
FREQUENCY	N/A
DISCHARGE	N/A
WORST CASE SCOUR SUBSTRUCTURE UNIT	N/A

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

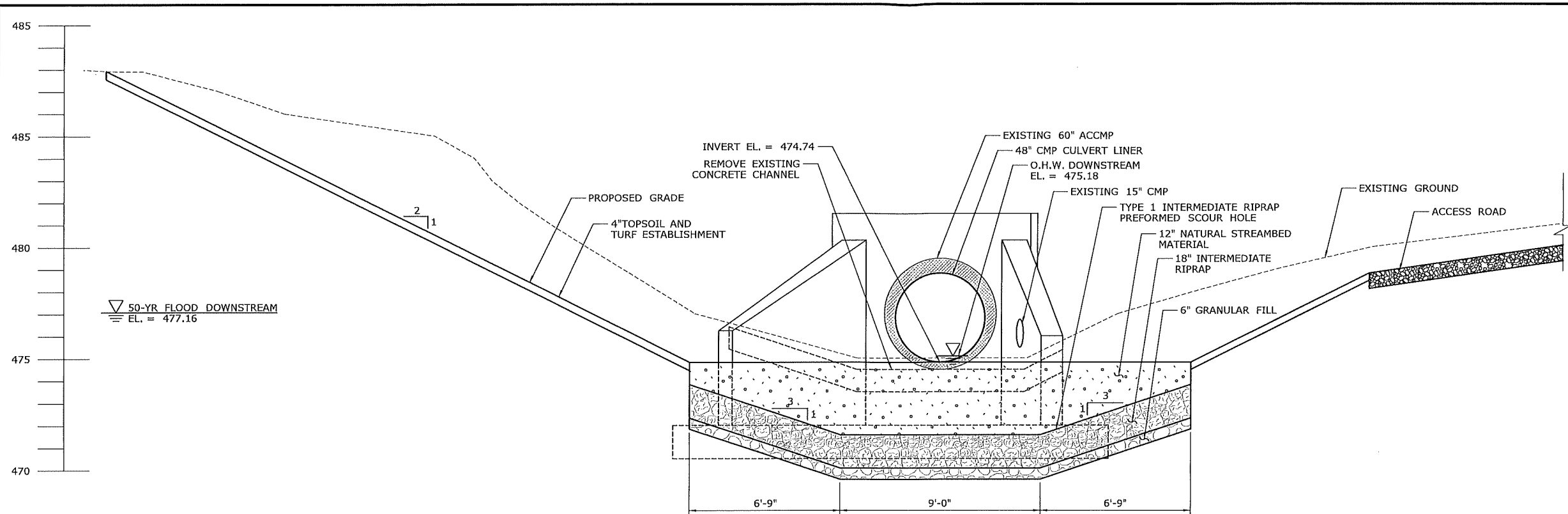
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. Plotted Date: 12/19/2017	DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE AS NOTED	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION Filename: ...VHV_MSH_0096_0200_PMT-8_SITE1_ELEV.dgn	SIGNATURE/BLOCK: ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING	PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO.: <b>96-200</b> DRAWING NO.: <b>PMT-8</b> SHEET NO.:
	REV. DATE REVISION DESCRIPTION SHEET NO.	DRAWING TITLE: <b>ELEVATION AND SECTION CULVERT SITE 1</b>				



HYDRAULIC DATA	
DRAINAGE AREA	0.21 SQ. MILE
FREQUENCY	50 YEAR
DESIGN DISCHARGE	127 CFS
AVERAGE DAILY FLOW ELEVATION UPSTREAM	499.81 FT.
AVERAGE DAILY FLOW ELEVATION DOWNSTREAM	472.04 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	502.63 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	473.60 FT.
MAXIMUM SCOUR ELEVATION	N/A
FREQUENCY	N/A
DISCHARGE	N/A
WORST CASE SCOUR SUBSTRUCTURE UNIT	N/A

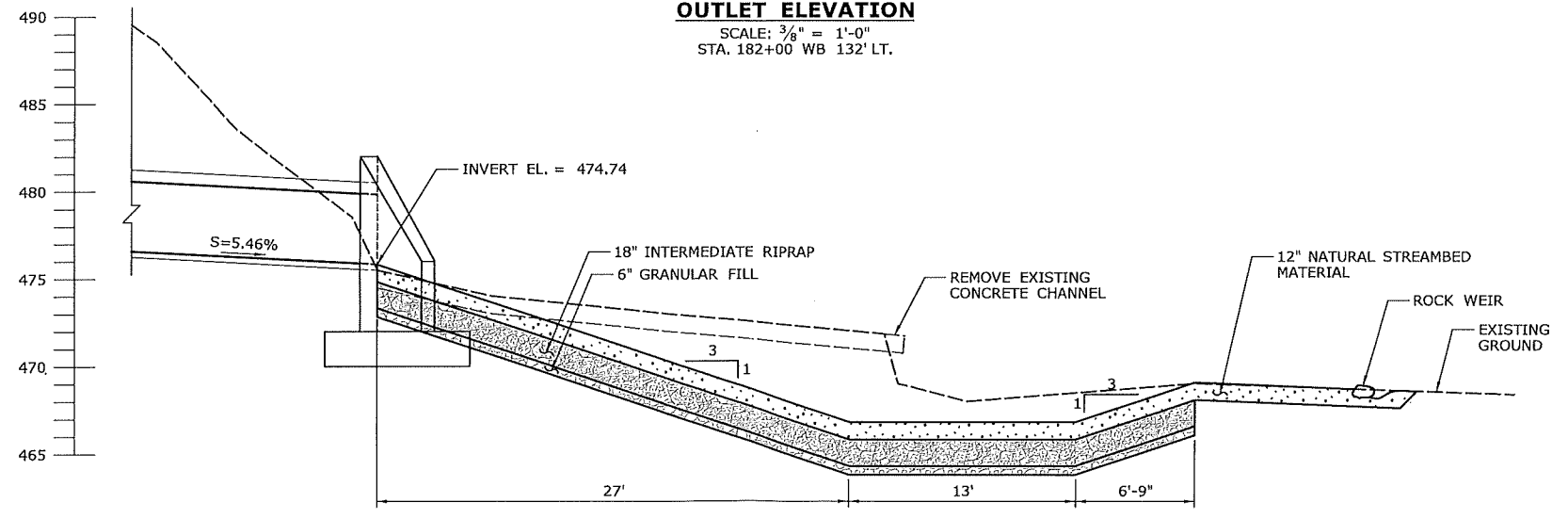
**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

		THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE AS NOTED	 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b> <small>Filename: ...\\HW_MSH_0096_0200_PMT-9_SITE2_ELEV1.dgn</small>	SIGNATURE/BLOCK:  ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING Companies	PROJECT TITLE: <b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b> DRAWING NO. <b>PMT-9</b> SHEET NO.	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017					DRAWING TITLE: <b>ELEVATION AND SECTION CULVERT SITE 2 INLET</b>



**OUTLET ELEVATION**

SCALE:  $\frac{3}{8}'' = 1'-0''$   
 STA. 182+00 WB 132' LT.



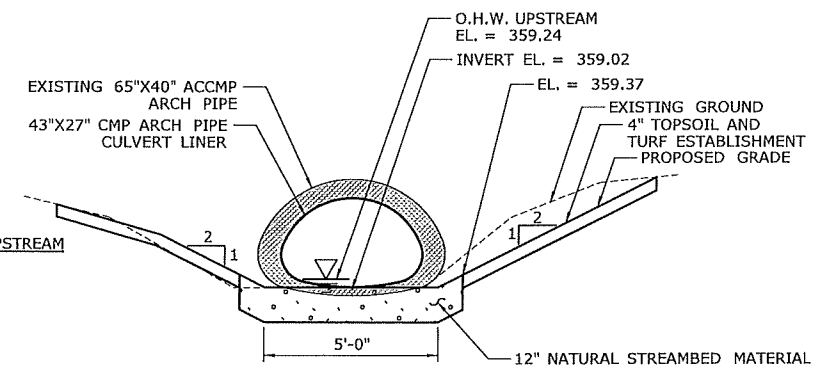
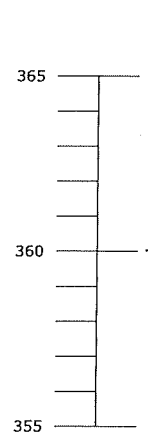
**OUTLET SECTION**

SCALE: 1" = 5'-0"

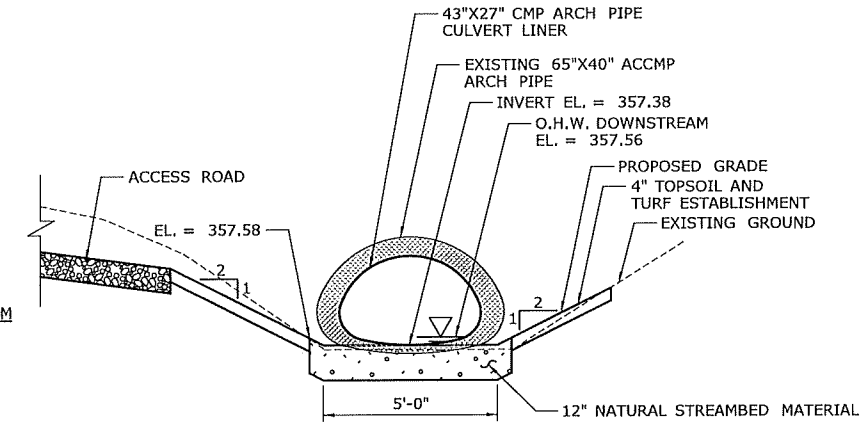
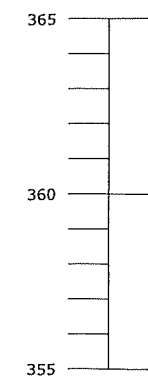
PERMITTING PLAN SET  
 PLAN DATE: DECEMBER 15, 2017

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.		DESIGNER/DRAFTER: <b>JE</b>		SIGNATURE/BLOCK: 	PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b>
CHECKED BY: <b>MF</b>		SCALE AS NOTED					
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017	Filename: ...VHW_MSH_0096_0200_PMT-10_SITE2_ELEV2.dgn		

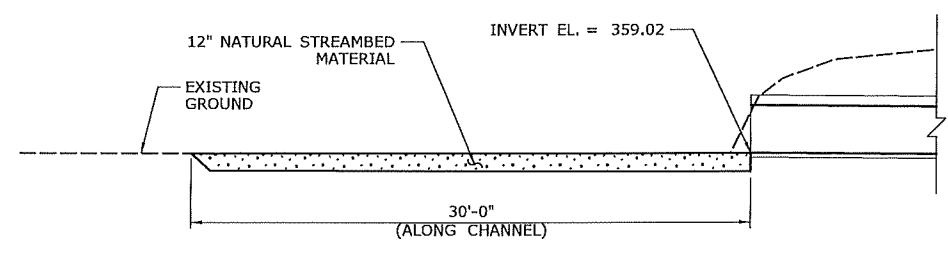
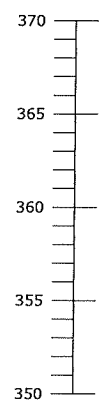




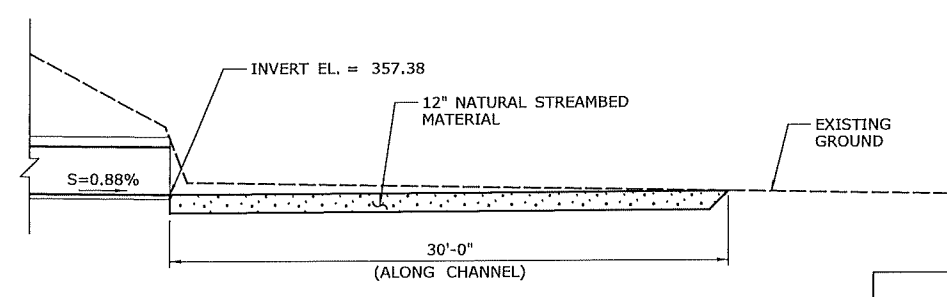
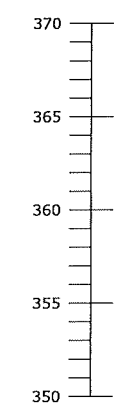
**INLET ELEVATION**  
SCALE: 3/8" = 1'-0"  
STA. 263+56 WB 32' LT.



**OUTLET ELEVATION**  
SCALE: 3/8" = 1'-0"  
STA. 262+45 EB 34' RT.



**INLET SECTION**  
SCALE: 1" = 5'-0"



**OUTLET SECTION**  
SCALE: 1" = 5'-0"

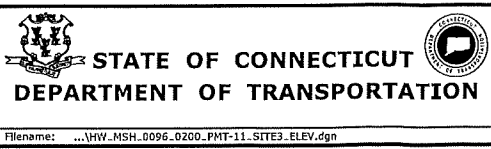
HYDRAULIC DATA	
DRAINAGE AREA	0.01 SQ. MILE
FREQUENCY	50 YEAR
DESIGN DISCHARGE	7.9 CFS
AVERAGE DAILY FLOW ELEVATION UPSTREAM	359.03 FT.
AVERAGE DAILY FLOW ELEVATION DOWNSTREAM	357.35 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	360.02 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	358.14 FT.
MAXIMUM SCOUR ELEVATION	N/A
FREQUENCY	N/A
DISCHARGE	N/A
WORST CASE SCOUR SUBSTRUCTURE UNIT	N/A

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

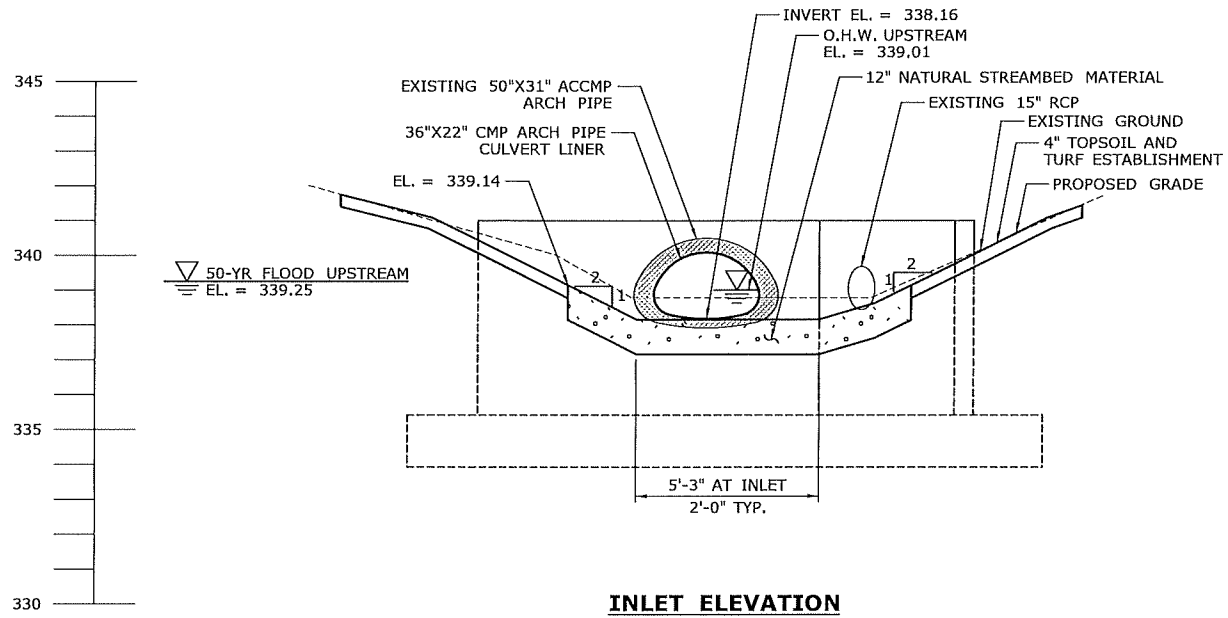
DESIGNER/DRAFTER: **JE**  
CHECKED BY: **MF**  
SCALE AS NOTED



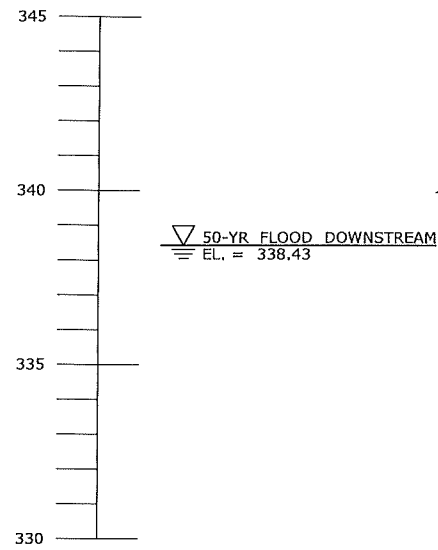
PROJECT TITLE:  
**I-84 RESURFACING,  
BRIDGE REHABILITATION,  
AND SAFETY IMPROVEMENTS**

TOWN:  
**NEWTOWN**  
DRAWING TITLE:  
**ELEVATION AND SECTION  
CULVERT SITE 3**

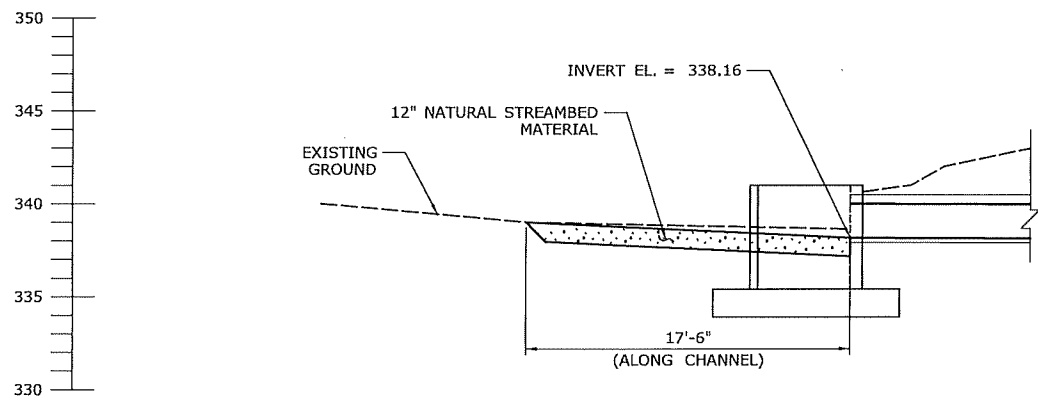
PROJECT NO.  
**96-200**  
DRAWING NO.  
**PMT-11**  
SHEET NO.



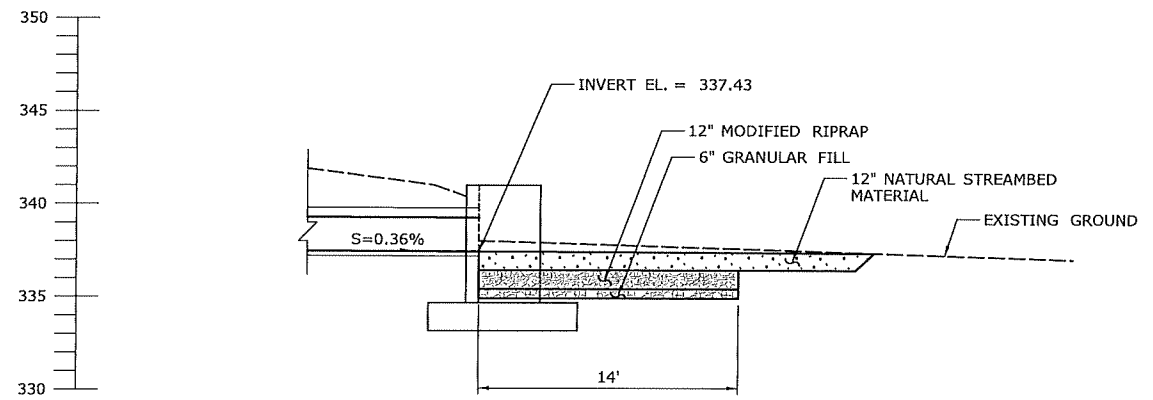
**INLET ELEVATION**  
 SCALE:  $\frac{3}{8}'' = 1'-0''$   
 STA. 285+25 WB 44' LT.



**OUTLET ELEVATION**  
 SCALE:  $\frac{3}{8}'' = 1'-0''$   
 STA. 284+15 EB 41' RT.



**INLET SECTION**  
 SCALE: 1" = 5'-0"



**OUTLET SECTION**  
 SCALE: 1" = 5'-0"

HYDRAULIC DATA	
DRAINAGE AREA	0.02 SQ. MILE
FREQUENCY	50 YEAR
DESIGN DISCHARGE	11.2 CFS
AVERAGE DAILY FLOW ELEVATION UPSTREAM	338.93 FT.
AVERAGE DAILY FLOW ELEVATION DOWNSTREAM	337.77 FT.
UPSTREAM DESIGN WATER SURFACE ELEVATION	339.25 FT.
DOWNSTREAM DESIGN WATER SURFACE ELEVATION	338.43 FT.
MAXIMUM SCOUR ELEVATION	N/A
FREQUENCY	N/A
DISCHARGE	N/A
WORST CASE SCOUR SUBSTRUCTURE UNIT	N/A

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

Plotted Date: 12/19/2017

DESIGNER/DRAFTER: **JE**  
 CHECKED BY: **MF**  
 SCALE AS NOTED

STATE OF CONNECTICUT  
 DEPARTMENT OF TRANSPORTATION

Filename: ...JHW\_MSH\_0096\_0200\_PMT-12\_SITE4\_ELEV.dgn

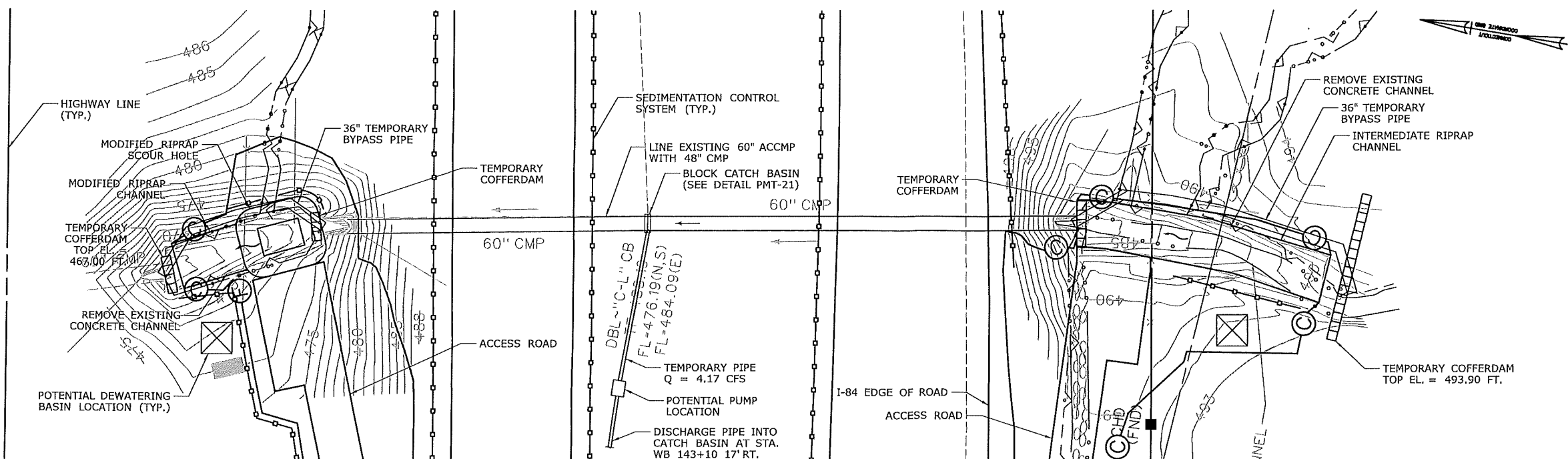
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**BU** ARCHITECTURE  
 ENGINEERING  
 ENVIRONMENTAL  
 LAND SURVEYING  
 Companies

PROJECT TITLE:  
**I-84 RESURFACING,  
 BRIDGE REHABILITATION,  
 AND SAFETY IMPROVEMENTS**

TOWN: **NEWTOWN**  
 DRAWING TITLE:  
**ELEVATION AND SECTION  
 CULVERT SITE 4**

PROJECT NO. **96-200**  
 DRAWING NO. **PMT-12**  
 SHEET NO.

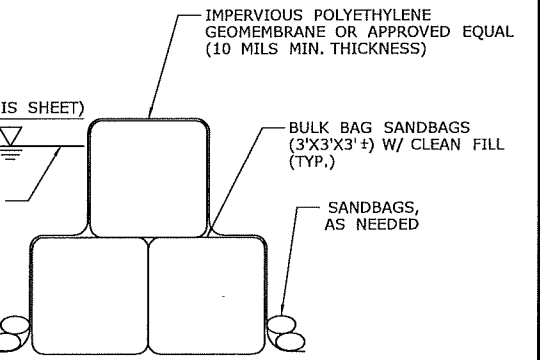
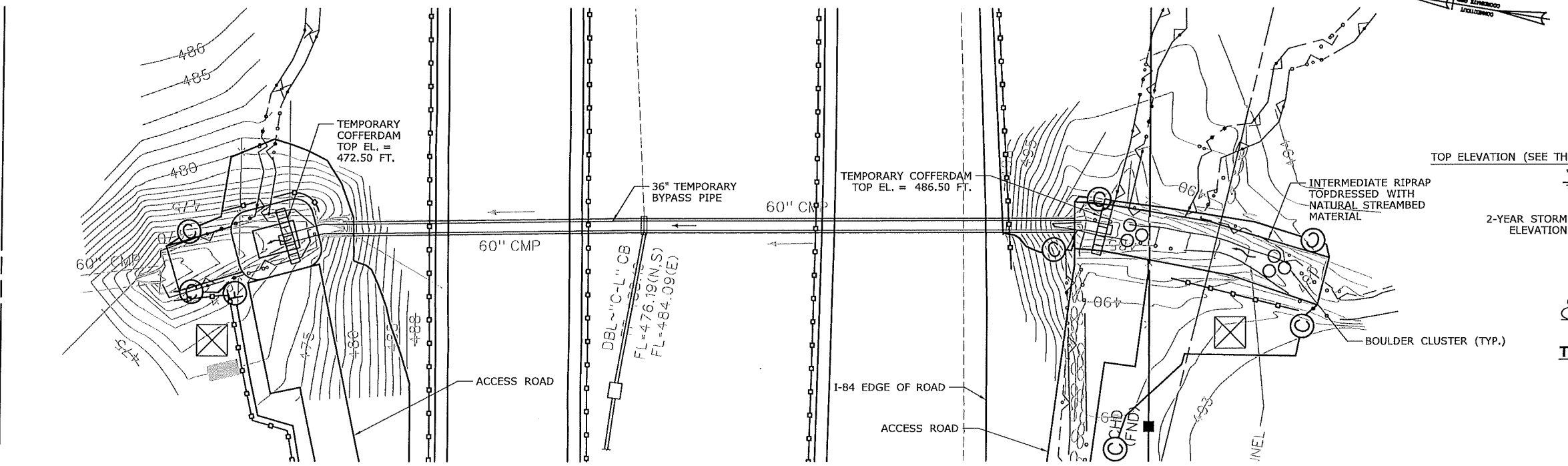


**STAGE 1  
TEMPORARY HYDRAULIC DATA**

AVERAGE DAILY FLOW	0.22 CFS
AVERAGE SPRING FLOW	0.43 CFS
2-YEAR FREQUENCY DISCHARGE	50 CFS
TEMPORARY DESIGN DISCHARGE	50 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	493.71 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	466.82 FT.

**STAGE 1 NOTE:**  
THE CONTRACTOR SHALL REMOVE THE CONCRETE CHANNEL DURING LOW FLOW CONDITIONS. DURING THE CONCRETE CHANNEL REMOVAL OPERATION, IF A RAIN EVENT IS IMMINENT, THE CONTRACTOR SHALL INSTALL COFFERDAMS AT INTERMITTENT WATERCOURSES AND PUMP FLOW AROUND THE WORK AREA, AS NEEDED, TO ALLOW THE REMOVAL OF THE CONCRETE CHANNEL TO OCCUR IN THE DRY.

**STAGE 1**



**TEMPORARY COFFERDAM  
SCALE: N.T.S.**

**STAGE 2**

**STAGE 2  
TEMPORARY HYDRAULIC DATA**

AVERAGE DAILY FLOW	0.22 CFS
AVERAGE SPRING FLOW	0.43 CFS
2-YEAR FREQUENCY DISCHARGE	50 CFS
TEMPORARY DESIGN DISCHARGE	50 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	486.30 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	472.39 FT.

**STAGE 1 SUGGESTED SEQUENCE**

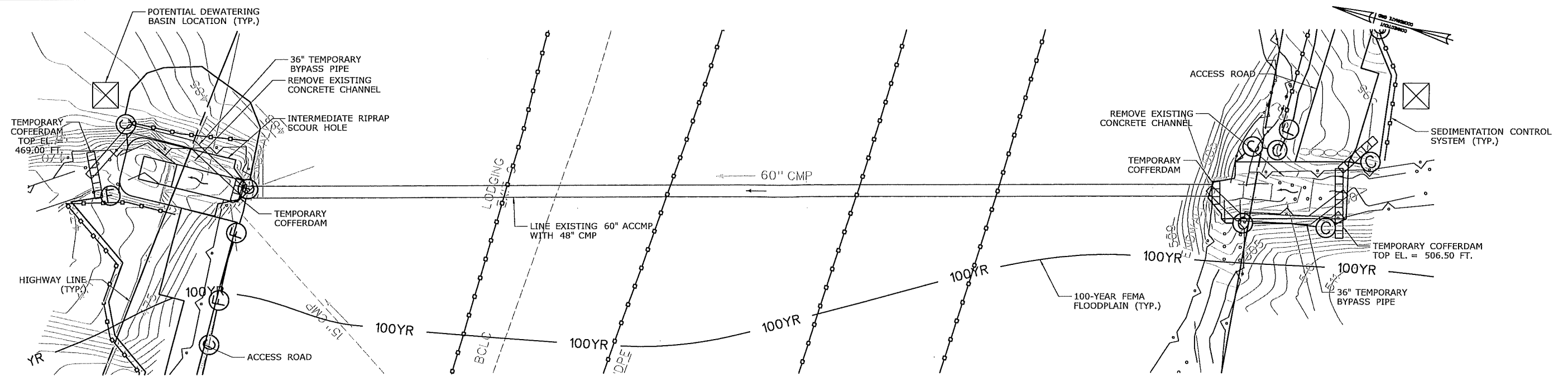
1. INSTALL SEDIMENTATION CONTROL SYSTEM.
2. CONSTRUCT ACCESS ROAD.
3. CONSTRUCT DEWATERING BASIN.
4. INSTALL STAGE 1 TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPES. DIVERT WATER THROUGH THE TEMPORARY PIPES.
5. REMOVE EXISTING CONCRETE CHANNEL.
6. CONSTRUCT RIPRAP SCOUR HOLE AND INSTALL RIPRAP.
7. REMOVE STAGE 1 TEMPORARY WATER HANDLING SYSTEM.
8. BLOCK MEDIAN CATCH BASIN AND LAY OUT PUMPING OPERATION.
9. INSTALL 48" CMP CULVERT LINER WITHIN THE EXISTING 60" CULVERT WHILE THE EXISTING CULVERT CONVEYS THE BROOK.

**STAGE 2 SUGGESTED SEQUENCE**

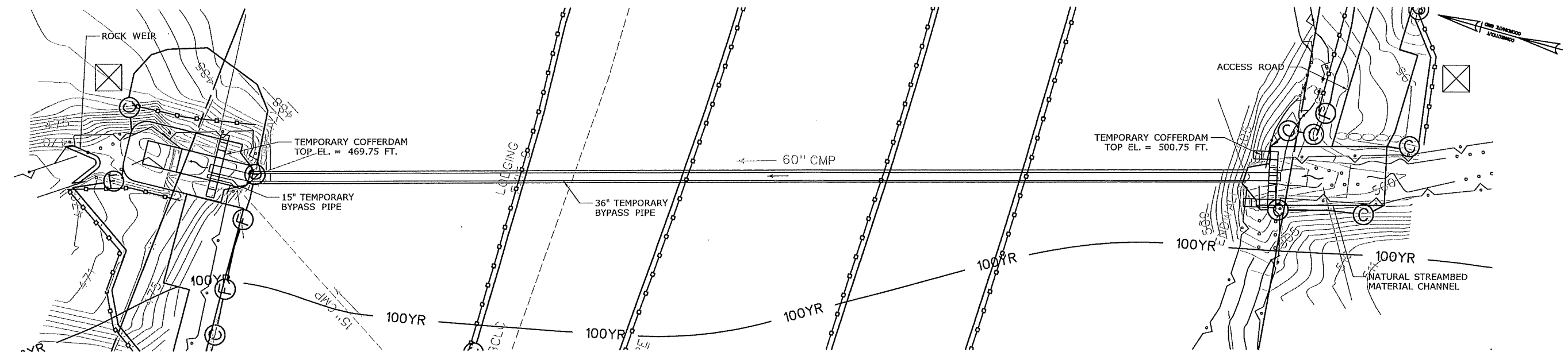
1. INSTALL STAGE 2 TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPE. DIVERT WATER THROUGH THE TEMPORARY PIPE.
2. PUMP GROUT INTO THE ANNULAR SPACE BETWEEN THE EXISTING CULVERT AND CULVERT LINER.
3. CUT A HOLE IN THE CULVERT LINER AT THE MEDIAN CATCH BASIN.
4. REMOVE STAGE 2 TEMPORARY WATER HANDLING SYSTEM AND PUMPING OPERATION, THEN REDIRECT FLOW INTO THE NEWLY LINED CULVERT.
5. INSTALL NATURAL STREAMBED MATERIAL AND BOULDER CLUSTER.
6. RESTORE THE SITE AND REMOVE SEDIMENTATION CONTROL SYSTEMS.
7. SEED AND PLANT THE SITE PER PLANTING PLANS.

**PERMITTING PLAN SET  
PLAN DATE: DECEMBER 15, 2017**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>JE</b>	<p align="center"><b>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/ BLOCK: 	PROJECT TITLE:  <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b>
	CHECKED BY: <b>MF</b>				DRAWING TITLE: <b>WATER HANDLING PLAN CULVERT SITE 1</b>	DRAWING NO. <b>PMT-13</b>
SCALE IN FEET 0 20 40 SCALE 1"=20'	Plotted Date: 12/19/2017	Filename: ...VHW_MSH_0096_0200_PMT-13_SITE1_STG.dgn			SHEET NO.	



**STAGE 1**



**STAGE 2**

**STAGE 1 SUGGESTED SEQUENCE**

1. INSTALL SEDIMENTATION CONTROL SYSTEM.
2. CONSTRUCT ACCESS ROAD.
3. CONSTRUCT DEWATERING BASIN.
4. INSTALL STAGE 1 TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPES. DIVERT WATER THROUGH THE TEMPORARY PIPES.
5. REMOVE EXISTING CONCRETE CHANNEL.
6. CONSTRUCT RIPRAP SCOUR HOLE AND INSTALL RIPRAP.
7. REMOVE STAGE 1 TEMPORARY WATER HANDLING SYSTEM.
8. INSTALL 48" CMP CULVERT LINER WITHIN THE EXISTING 60" CULVERT WHILE THE EXISTING CULVERT CONVEYS THE BROOK.

**STAGE 2 SUGGESTED SEQUENCE**

1. INSTALL STAGE 2 TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPE. DIVERT WATER THROUGH THE TEMPORARY PIPE.
2. PUMP GROUT INTO THE ANNULAR SPACE BETWEEN THE EXISTING CULVERT AND CULVERT LINER.
3. REMOVE STAGE 2 TEMPORARY WATER HANDLING SYSTEM AND REDIRECT FLOW INTO THE NEWLY LINED CULVERT.
4. INSTALL ROCK WEIR AND NATURAL STREAMBED MATERIAL.
5. RESTORE THE SITE AND REMOVE SEDIMENTATION CONTROL SYSTEMS.
6. SEED AND PLANT THE SITE PER PLANTING PLANS.

**STAGE 1 NOTE:**

THE CONTRACTOR SHALL REMOVE THE CONCRETE CHANNEL DURING LOW FLOW CONDITIONS. DURING THE CONCRETE CHANNEL REMOVAL OPERATION, IF A RAIN EVENT IS IMMINENT, THE CONTRACTOR SHALL INSTALL COFFERDAMS AT INTERMITTENT WATERCOURSES AND PUMP FLOW AROUND THE WORK AREA AS NEEDED. ADDITIONALLY, THE STORMWATER DISCHARGE FROM THE CATCH BASIN AT I-84 WESTBOUND STATION 181+30 SHALL BE PUMPED TO THE CATCH BASIN AT I-84 WESTBOUND STATION 177+75 TEMPORARILY, AS NEEDED, TO ALLOW THE REMOVAL OF THE CONCRETE CHANNEL TO OCCUR IN THE DRY.

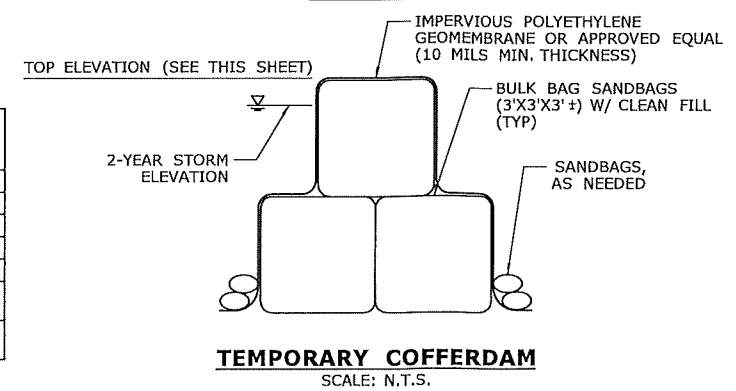
**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

**STAGE 1 TEMPORARY HYDRAULIC DATA**

AVERAGE DAILY FLOW	0.41 CFS
AVERAGE SPRING FLOW	0.80 CFS
2-YEAR FREQUENCY DISCHARGE	69 CFS
TEMPORARY DESIGN DISCHARGE	69 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	506.39 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	468.90 FT.

**STAGE 2 TEMPORARY HYDRAULIC DATA**

AVERAGE DAILY FLOW	0.41 CFS
AVERAGE SPRING FLOW	0.80 CFS
2-YEAR FREQUENCY DISCHARGE	69 CFS
TEMPORARY DESIGN DISCHARGE	69 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	500.66 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	469.65 FT.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017

DESIGNER/DRAFTER: **JE**  
 CHECKED BY: **MF**  
 SCALE IN FEET  
 SCALE 1"=20'

STATE OF CONNECTICUT  
 DEPARTMENT OF TRANSPORTATION

Filename: ...JHW\_MSH\_0096\_0200\_PMT-14\_S1TE2\_STG.dgn

SIGNATURE/BLOCK:

**BU** ARCHITECTURE  
 ENGINEERING  
 ENVIRONMENTAL  
 LAND SURVEYING  
 Companies

PROJECT TITLE:

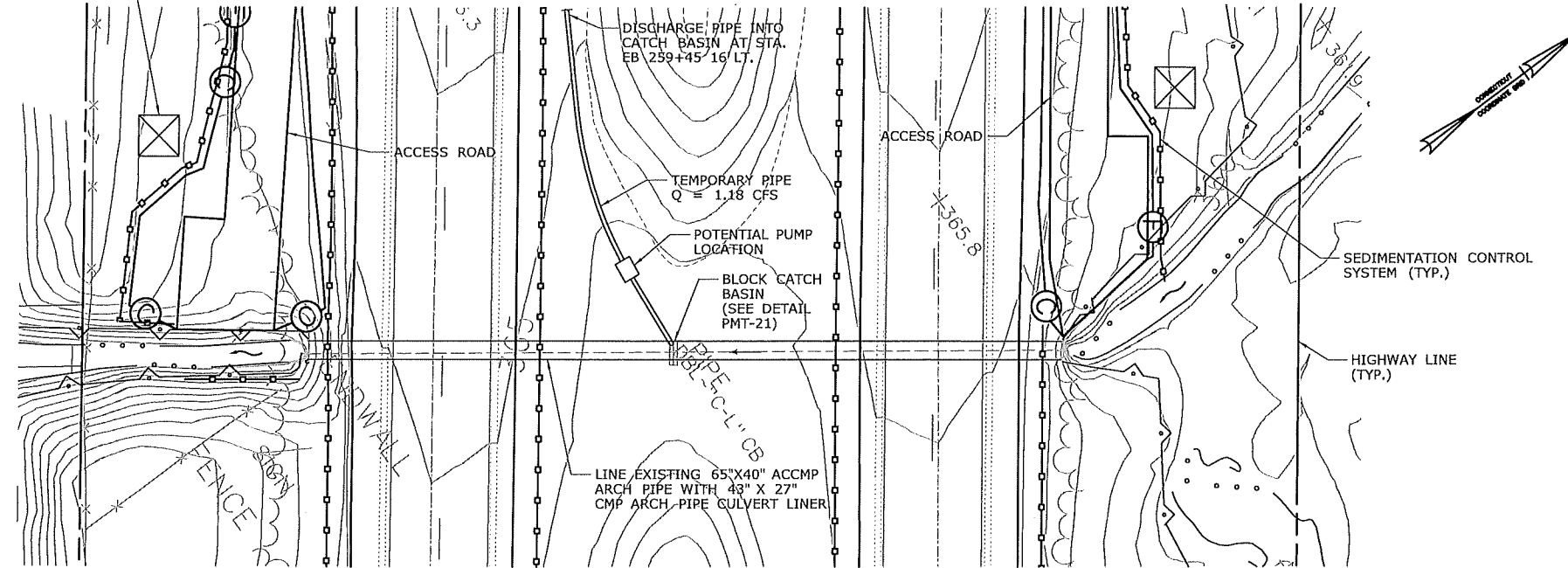
**I-84 RESURFACING,  
 BRIDGE REHABILITATION,  
 AND SAFETY IMPROVEMENTS**

TOWN: **NEWTOWN**

DRAWING TITLE:  
**WATER HANDLING  
 PLAN CULVERT SITE 2**

PROJECT NO. **96-200**  
 DRAWING NO. **PMT-14**  
 SHEET NO.

POTENTIAL DEWATERING BASIN LOCATION (TYP.)



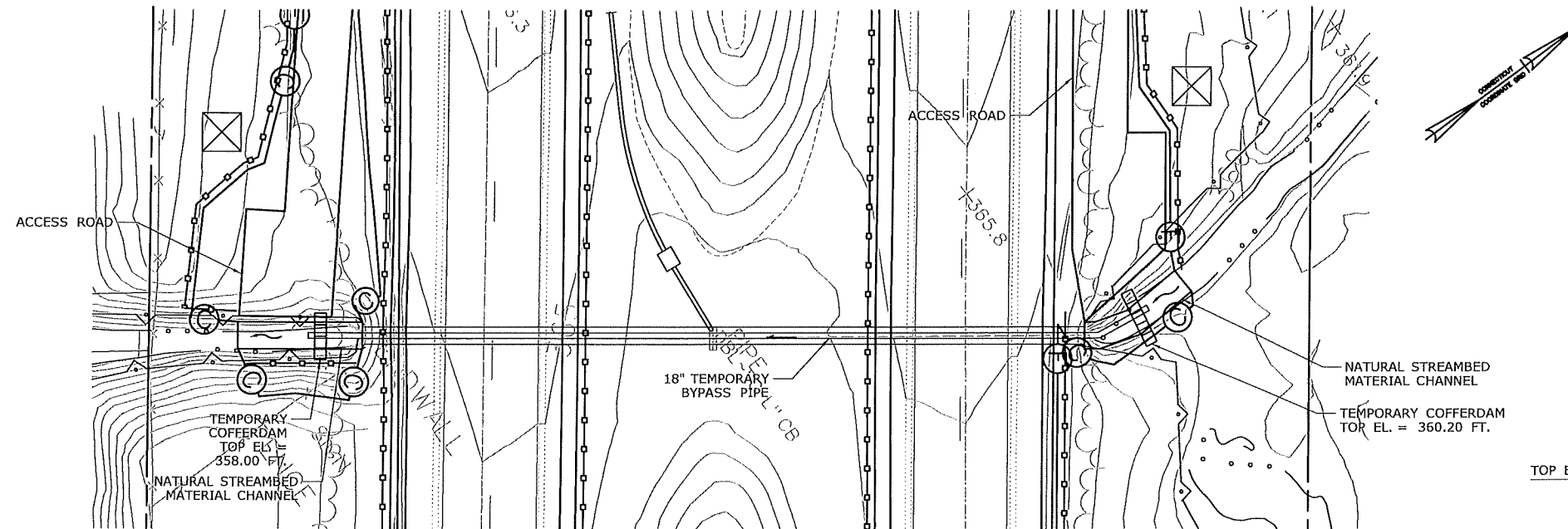
**STAGE 1**

**STAGE 1 SUGGESTED SEQUENCE**

1. INSTALL SEDIMENTATION CONTROL SYSTEM.
2. CONSTRUCT ACCESS ROAD.
3. CONSTRUCT DEWATERING BASIN.
4. BLOCK MEDIAN CATCH BASIN AND LAY OUT PUMPING OPERATION.
5. INSTALL 43" X 27" CMP ARCH PIPE CULVERT LINER WITHIN THE EXISTING 65"X40" ACCMP ARCH PIPE WHILE THE EXISTING CULVERT CONVEYS THE BROOK.

**STAGE 2 SUGGESTED SEQUENCE**

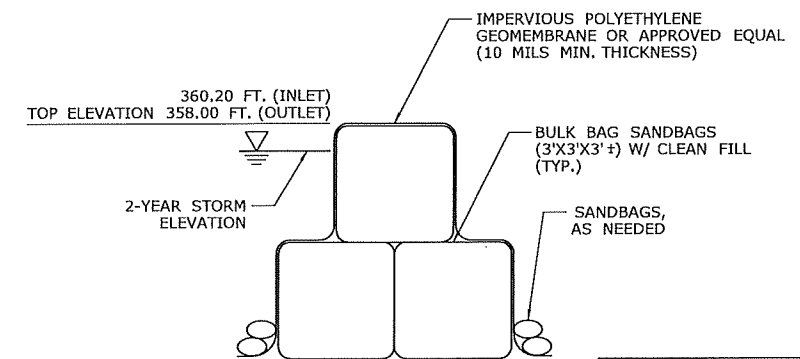
1. INSTALL TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPE. DIVERT WATER THROUGH THE TEMPORARY PIPE.
2. PUMP GROUT INTO THE ANNULAR SPACE BETWEEN THE EXISTING CULVERT AND CULVERT LINER.
3. CUT A HOLE IN THE CULVERT LINER AT THE MEDIAN CATCH BASIN.
4. REMOVE TEMPORARY WATER HANDLING SYSTEM AND PUMPING OPERATION, THEN REDIRECT FLOW INTO THE NEWLY LINED CULVERT.
5. CONSTRUCT FINAL CHANNEL AND INSTALL NATURAL STREAMBED MATERIAL.
6. RESTORE THE SITE AND REMOVE SEDIMENTATION CONTROL SYSTEMS.
7. SEED AND PLANT THE SITE PER PLANTING PLANS.



**STAGE 2**

**TEMPORARY HYDRAULIC DATA**

AVERAGE DAILY FLOW	0.01 CFS
AVERAGE SPRING FLOW	0.02 CFS
2-YEAR FREQUENCY DISCHARGE	4.1 CFS
TEMPORARY DESIGN DISCHARGE	4.1 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	360.01 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	357.92 FT.



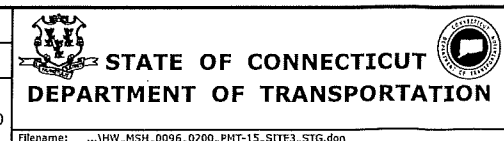
**TEMPORARY COFFERDAM**  
SCALE: N.T.S.

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

DESIGNER/DRAFTER: **JE**  
CHECKED BY: **MF**  
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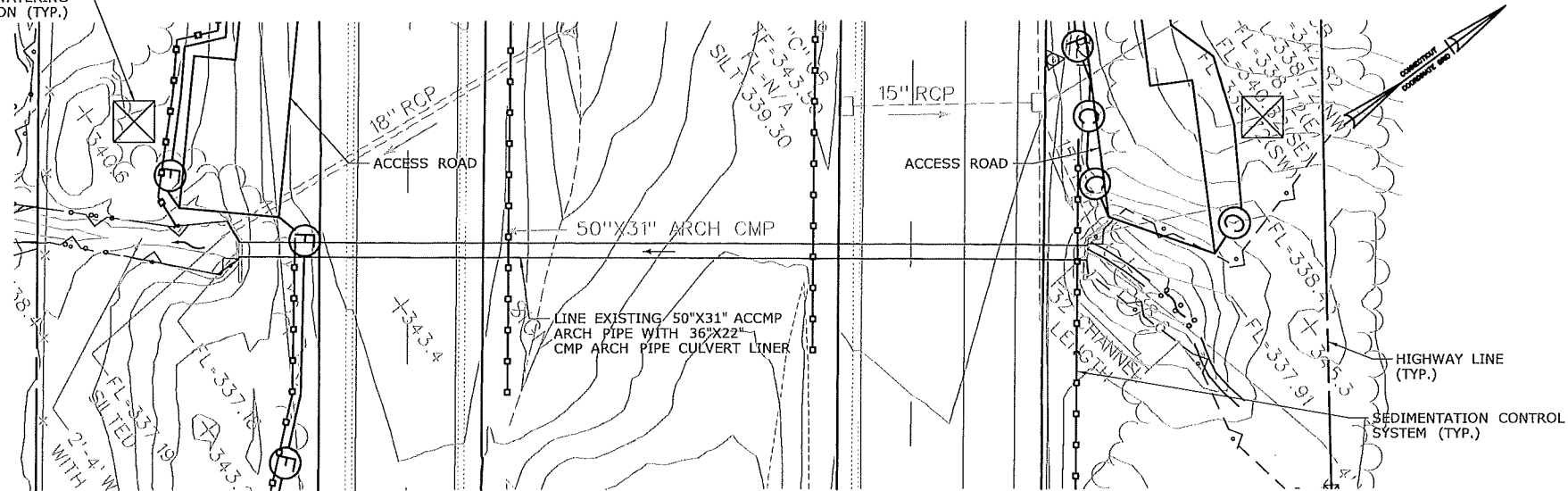


PROJECT TITLE:  
**I-84 RESURFACING,  
BRIDGE REHABILITATION,  
AND SAFETY IMPROVEMENTS**

TOWN:  
**NEWTOWN**  
DRAWING TITLE:  
**WATER HANDLING  
PLAN CULVERT SITE 3**

PROJECT NO.  
**96-200**  
DRAWING NO.  
**PMT-15**  
SHEET NO.

POTENTIAL DEWATERING BASIN LOCATION (TYP.)



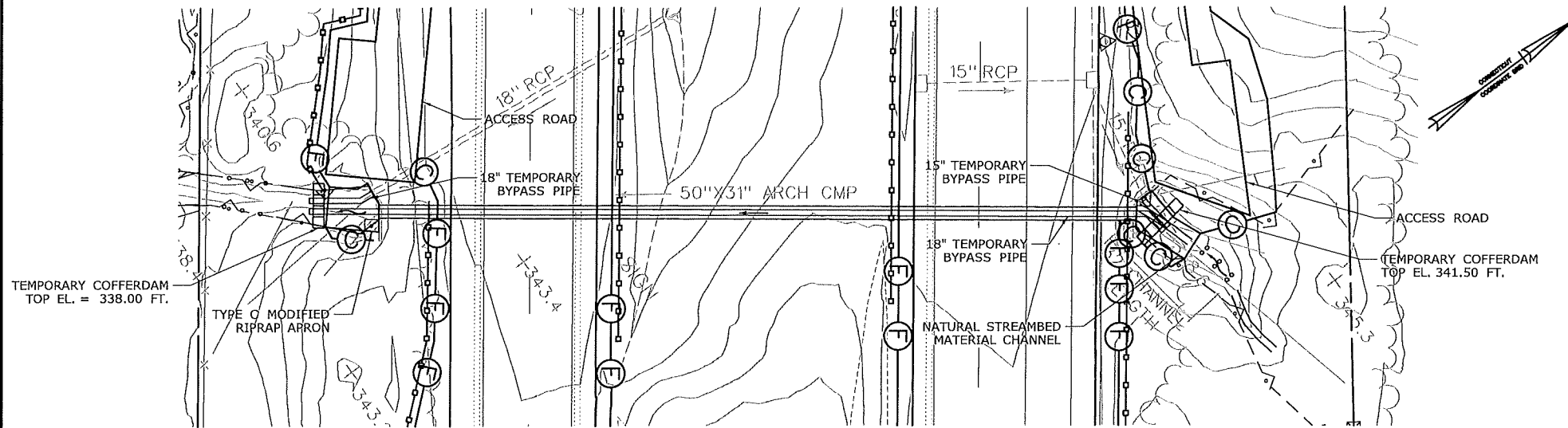
**STAGE 1**

**STAGE 1 SUGGESTED SEQUENCE**

1. INSTALL SEDIMENTATION CONTROL SYSTEM.
2. CONSTRUCT ACCESS ROAD.
3. CONSTRUCT DEWATERING BASIN.
4. CLEAN SEDIMENT AND DEBRIS THAT HAS ACCUMULATED WITHIN THE EXISTING CULVERT.
5. INSTALL 36" X 22" CMP ARCH PIPE CULVERT LINER WITHIN THE EXISTING 50"X31" ACCMP ARCH PIPE WHILE THE EXISTING CULVERT CONVEYS THE BROOK.

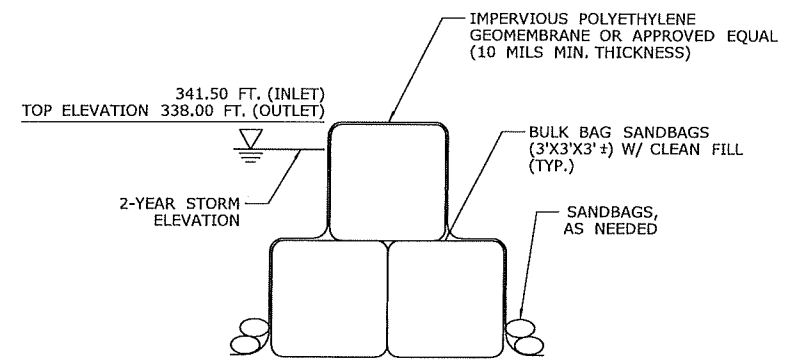
**STAGE 2 SUGGESTED SEQUENCE**

1. INSTALL TEMPORARY WATER HANDLING SYSTEM INCLUDING COFFERDAMS AND WATER HANDLING PIPES. DIVERT WATER THROUGH THE TEMPORARY PIPES.
2. DEWATER THE SITE AND PUMP GROUT INTO THE ANNULAR SPACE BETWEEN THE EXISTING CULVERT AND CULVERT LINER.
3. REMOVE TEMPORARY WATER HANDLING SYSTEM AND REDIRECT FLOW INTO THE NEWLY LINED CULVERT.
4. CONSTRUCT TYPE C MODIFIED RIPRAP APRON, FINAL CHANNEL, AND INSTALL NATURAL STREAMBED MATERIAL.
5. RESTORE THE SITE AND REMOVE SEDIMENTATION CONTROL SYSTEMS.
6. SEED AND PLANT THE SITE PER PLANTING PLANS.



**STAGE 2**

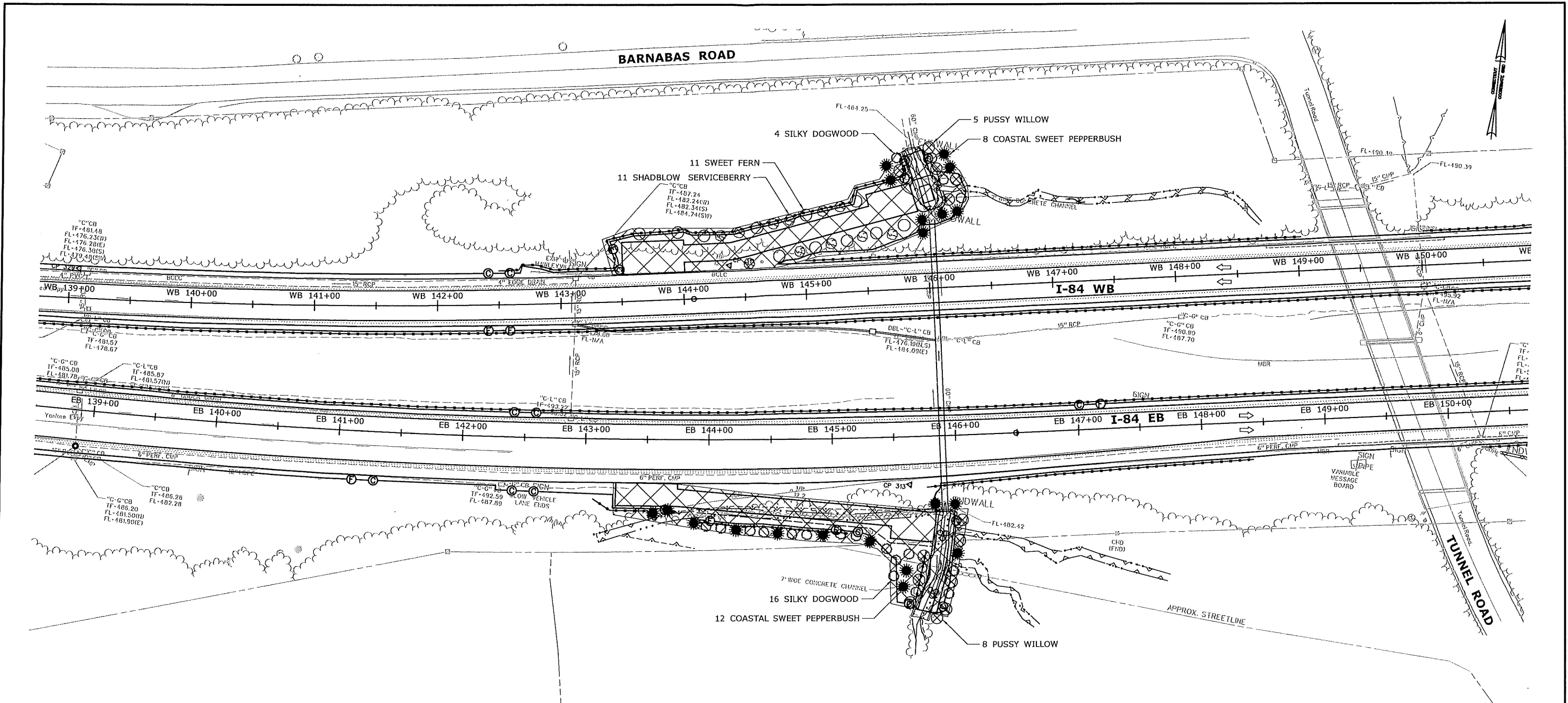
TEMPORARY HYDRAULIC DATA	
AVERAGE DAILY FLOW	0.03 CFS
AVERAGE SPRING FLOW	0.06 CFS
2-YEAR FREQUENCY DISCHARGE	6.0 CFS
TEMPORARY DESIGN DISCHARGE	6.0 CFS
TEMPORARY DESIGN FREQUENCY	2-YEAR FLOW
UPSTREAM TEMPORARY WATER SURFACE ELEVATION	341.41 FT.
DOWNSTREAM TEMPORARY WATER SURFACE ELEVATION	337.83 FT.



**TEMPORARY COFFERDAM**  
SCALE: N.T.S.

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>JE</b>		SIGNATURE/BLOCK: 	PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO.: <b>96-200</b>
	CHECKED BY: <b>MF</b>					
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/19/2017	SCALE IN FEET SCALE 1"=20' 0 20 40	FILENAME: ...\\HW_MSH_0096_0200_PMT-16_SITE4_STG.dgn		<b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	<b>NEWTOWN</b>	<b>96-200</b>



**CULVERT SITE 1 PLANTING PLAN**

**NOTES:**

- WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
- DISTURBED AREA WATERWARD OF THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREA LANDWARD OF THE WETLAND LIMIT SHALL BE COVERED WITH WOOD CHIP MULCH OR TURF ESTABLISHMENT.
- REFER TO SPECIAL PROVISION #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	NWI	SIZE	COMMENTS
	20	<i>CLETHRA ALNIFOLIA</i>	COASTAL SWEET PEPPERBUSH	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
	13	<i>SALIX DISCOLOR</i>	PUSSY WILLOW	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
	11	<i>COMPTONIA PEREGRINA</i>	SWEET FERN	UPL	18"-24" HT. B.B.	10-15 FEET ON CENTER
	20	<i>CORNUS AMOMUM</i>	SILKY DOGWOOD	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
	11	<i>AMELANCHIER CANADENSIS</i>	SHADBLOW SERVICEBERRY	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER

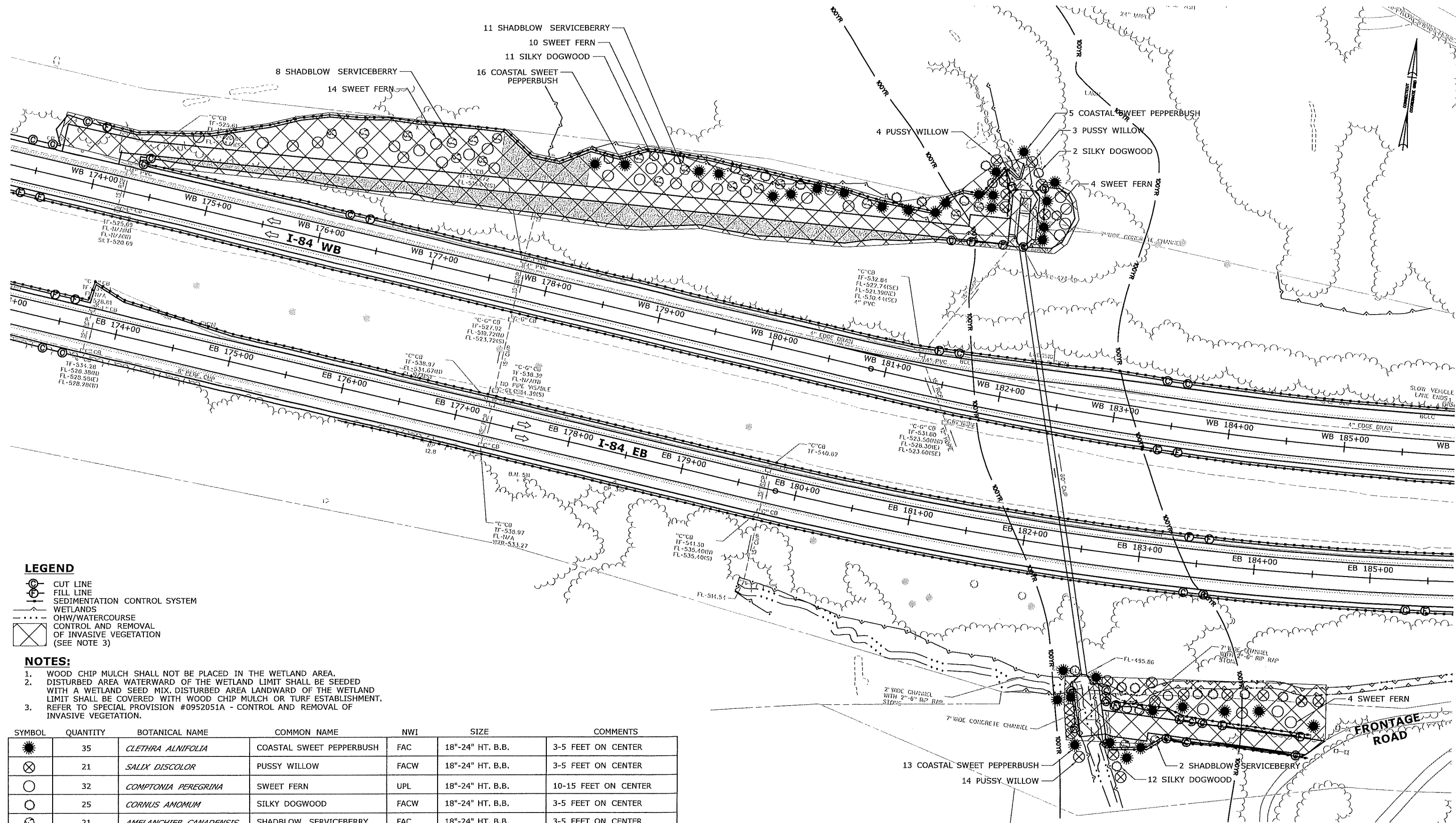
190 SY	WOOD CHIP MULCH
2778 SY	CONTROL AND REMOVAL OF INVASIVE VEGETATION

**LEGEND**

- CUT LINE
- FILL LINE
- SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 3)

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

<p>REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/19/2017</p>	<p>DESIGNER/DRAFTER: <b>JE</b>          CHECKED BY: <b>MF</b>          SCALE IN FEET          0 40 80          SCALE 1"=40'</p>	<p><b>STATE OF CONNECTICUT</b>  <b>DEPARTMENT OF TRANSPORTATION</b></p> <p>Filename: ...VHW_MSH_0096_0200_PMT-17_SITE1_LDS.dgn</p>	<p>SIGNATURE/BLOCK:   ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING  <b>Companies</b></p>	<p>PROJECT TITLE:  <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b></p>	<p>TOWN: <b>NEWTOWN</b>          DRAWING TITLE:  <b>CULVERT SITE 1 PLANTING PLAN</b></p>	<p>PROJECT NO. <b>96-200</b>          DRAWING NO. <b>PMT-17</b>          SHEET NO.</p>
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**LEGEND**

- CUT LINE
- FILL LINE
- SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 3)

**NOTES:**

1. WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
2. DISTURBED AREA WATERWARD OF THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREA LANDWARD OF THE WETLAND LIMIT SHALL BE COVERED WITH WOOD CHIP MULCH OR TURF ESTABLISHMENT.
3. REFER TO SPECIAL PROVISION #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	NWI	SIZE	COMMENTS
	35	<i>CLETHRA ALNIFOLIA</i>	COASTAL SWEET PEPPERBUSH	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
	21	<i>SALIX DISCOLOR</i>	PUSSY WILLOW	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
	32	<i>COMPTONIA PEREGRINA</i>	SWEET FERN	UPL	18"-24" HT. B.B.	10-15 FEET ON CENTER
	25	<i>CORNUS ANOMUM</i>	SILKY DOGWOOD	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
	21	<i>AMELANCHIER CANADENSIS</i>	SHADBLOW SERVICEBERRY	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER

334 SY	WOOD CHIP MULCH
6702 SY	CONTROL AND REMOVAL OF INVASIVE VEGETATION

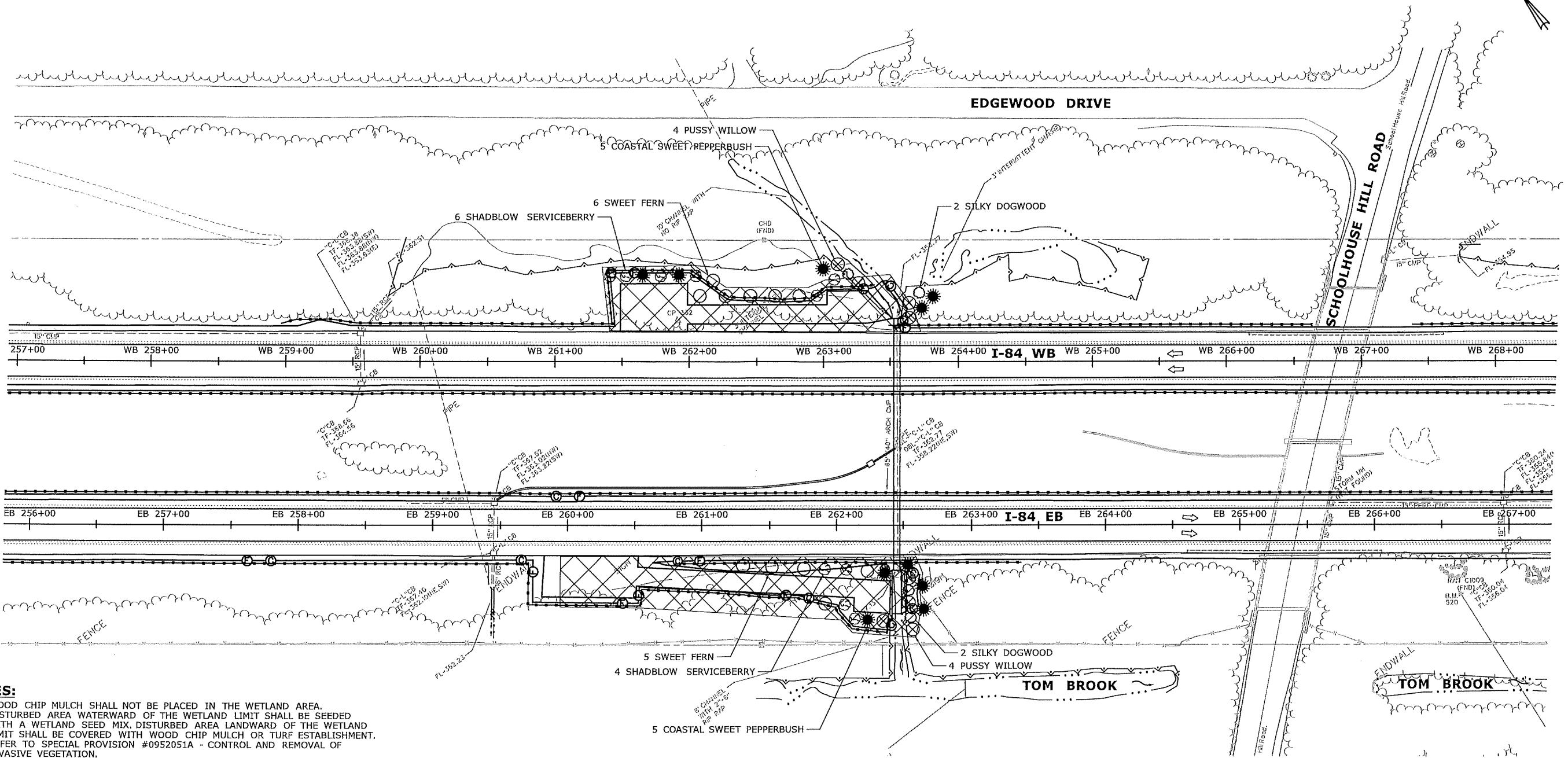
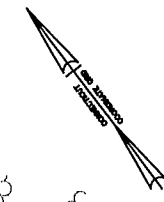
**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

**CULVERT SITE 2 PLANTING PLAN**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. Plotted Date: 12/19/2017	DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE IN FEET 0 40 80 SCALE 1"=40'	<p><b>STATE OF CONNECTICUT</b>  <b>DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/BLOCK: <p>ARCHITECTURE          ENGINEERING          ENVIRONMENTAL          LAND SURVEYING</p>	PROJECT TITLE: <p><b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b></p>	TOWN: <b>NEWTOWN</b> PROJECT NO. <b>96-200</b> DRAWING NO. <b>PMT-18</b> SHEET NO.
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REV.	DATE	REVISION DESCRIPTION	SHEET NO.





**NOTES:**

- WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
- DISTURBED AREA WATERWARD OF THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREA LANDWARD OF THE WETLAND LIMIT SHALL BE COVERED WITH WOOD CHIP MULCH OR TURF ESTABLISHMENT. REFER TO SPECIAL PROVISION #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.
- REFER TO SPECIAL PROVISION #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.

SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	NWI	SIZE	COMMENTS
☼	10	<i>CLETHRA ALNIFOLIA</i>	COASTAL SWEET PEPPERBUSH	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
⊗	8	<i>SALIX DISCOLOR</i>	PUSSY WILLOW	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
○	11	<i>COMPTONIA PEREGRINA</i>	SWEET FERN	UPL	18"-24" HT. B.B.	10-15 FEET ON CENTER
○	4	<i>CORNUS ANOMUM</i>	SILKY DOGWOOD	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
⊗	10	<i>AMELANCHIER CANADENSIS</i>	SHADBLOW SERVICEBERRY	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
	108 SY	WOOD CHIP MULCH				
	2330 SY	CONTROL AND REMOVAL OF INVASIVE VEGETATION				

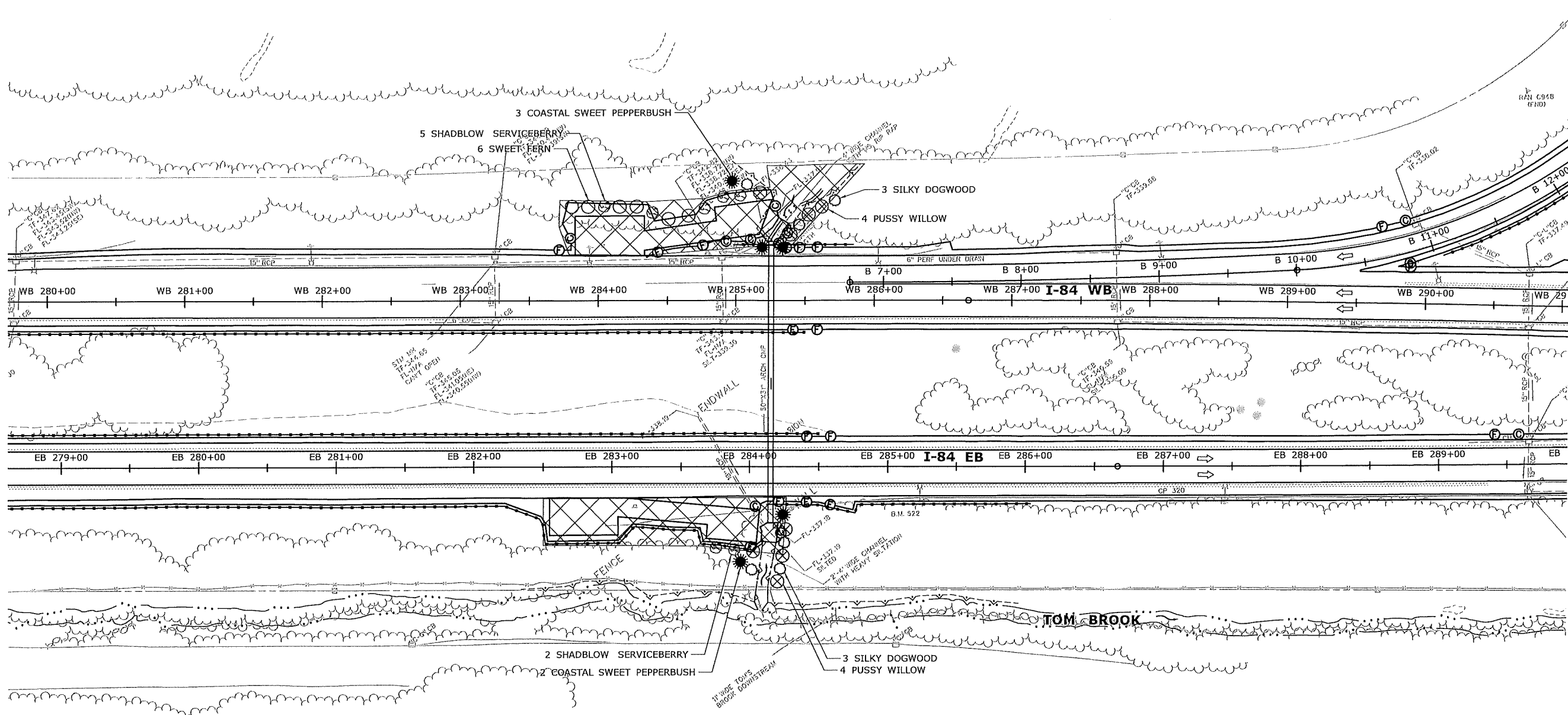
**CULVERT SITE 3 PLANTING PLAN**

**LEGEND**

- CUT LINE
- ⊕ FILL LINE
- ⊙ SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- ⊗ CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 3)

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE IN FEET 0 40 80 SCALE 1"=40'	<p><b>STATE OF CONNECTICUT</b>  <b>DEPARTMENT OF TRANSPORTATION</b></p>	SIGNATURE/BLOCK: 	<p><b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b></p>	TOWN: <b>NEWTOWN</b> DRAWING TITLE: <b>CULVERT SITE 3          PLANTING PLAN</b>	PROJECT NO. <b>96-200</b> DRAWING NO. <b>PMT-19</b> SHEET NO.
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/19/2017						



**CULVERT SITE 4 PLANTING PLAN**

**NOTES:**

- WOOD CHIP MULCH SHALL NOT BE PLACED IN THE WETLAND AREA.
- DISTURBED AREA WATERWARD OF THE WETLAND LIMIT SHALL BE SEEDED WITH A WETLAND SEED MIX. DISTURBED AREA LANDWARD OF THE WETLAND LIMIT SHALL BE COVERED WITH WOOD CHIP MULCH OR TURF ESTABLISHMENT.
- REFER TO SPECIAL PROVISION #0952051A - CONTROL AND REMOVAL OF INVASIVE VEGETATION.

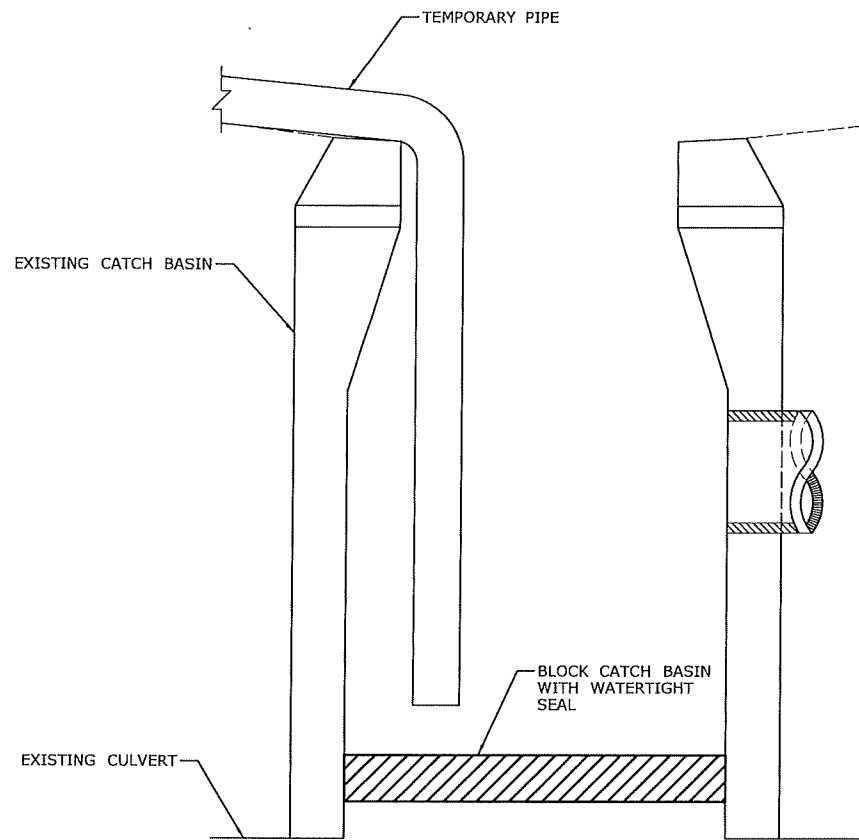
SYMBOL	QUANTITY	BOTANICAL NAME	COMMON NAME	NWI	SIZE	COMMENTS
☀	5	<i>CLETHRA ALNIFOLIA</i>	COASTAL SWEET PEPPERBUSH	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
⊗	8	<i>SALIX DISCOLOR</i>	PUSSY WILLOW	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
○	6	<i>COMPTONIA PEREGRINA</i>	SWEET FERN	UPL	18"-24" HT. B.B.	10-15 FEET ON CENTER
○	6	<i>CORNUS ANOMUM</i>	SILKY DOGWOOD	FACW	18"-24" HT. B.B.	3-5 FEET ON CENTER
⊕	7	<i>AMELANCHIER CANADENSIS</i>	SHADBLOW SERVICEBERRY	FAC	18"-24" HT. B.B.	3-5 FEET ON CENTER
	80 SY	WOOD CHIP MULCH				
	1632 SY	CONTROL AND REMOVAL OF INVASIVE VEGETATION				

**LEGEND**

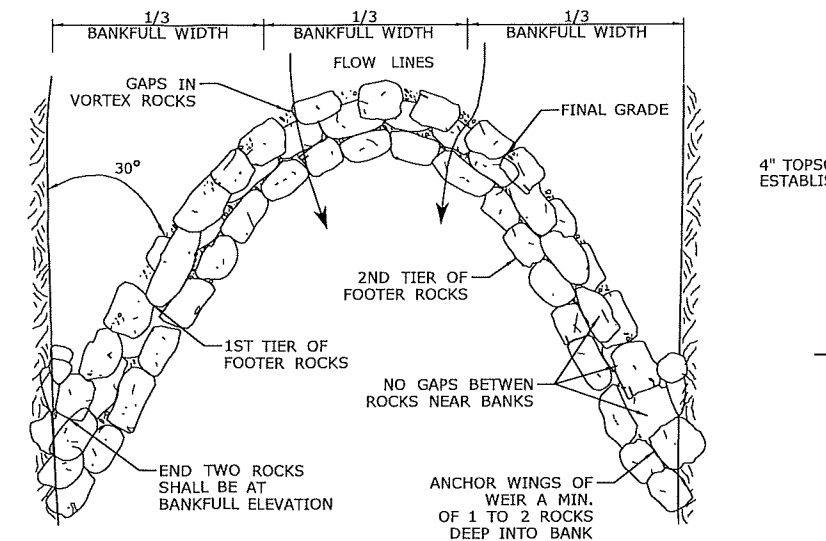
- ⊕ CUT LINE
- ⊗ FILL LINE
- ⊕ SEDIMENTATION CONTROL SYSTEM
- WETLANDS
- OHW/WATERCOURSE
- ⊗ CONTROL AND REMOVAL OF INVASIVE VEGETATION (SEE NOTE 3)

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

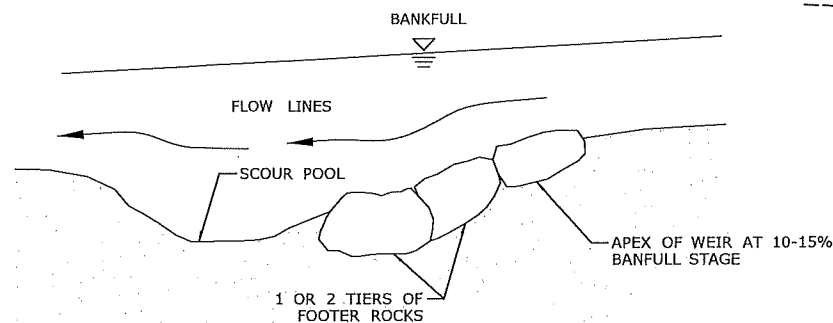
THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.			DESIGNER/DRAFTER: <b>JE</b> CHECKED BY: <b>MF</b> SCALE IN FEET SCALE 1"=40'		 <b>STATE OF CONNECTICUT</b> <b>DEPARTMENT OF TRANSPORTATION</b>		SIGNATURE/ BLOCK:  ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING		PROJECT TITLE: <b>I-84 RESURFACING,          BRIDGE REHABILITATION,          AND SAFETY IMPROVEMENTS</b>		TOWN: <b>NEWTOWN</b>		PROJECT NO. <b>96-200</b>	
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/19/2017							DRAWING TITLE: <b>CULVERT SITE 4          PLANTING PLAN</b>		DRAWING NO. <b>PMT-20</b>		SHEET NO.			



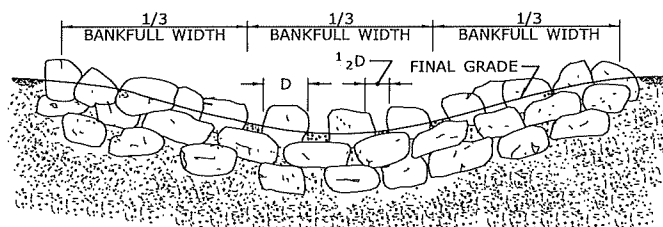
**MEDIAN CATCH BASIN WATER HANDLING**  
SCALE: N.T.S.



**PLAN VIEW**



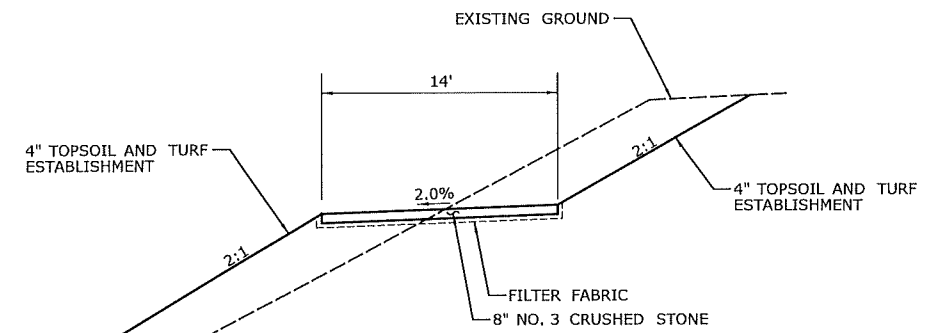
**PROFILE VIEW**



**SECTION VIEW**

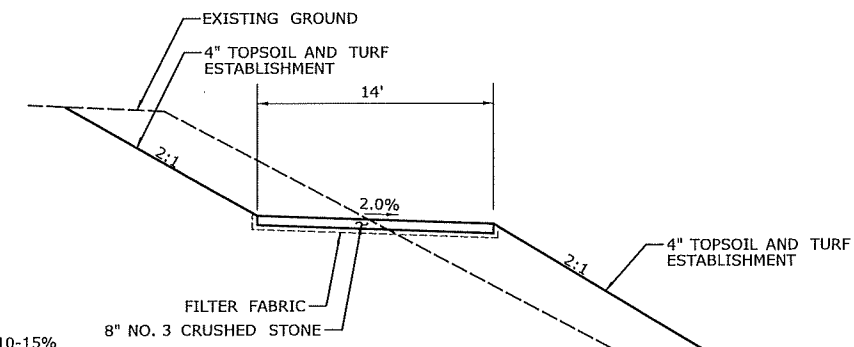
**ROCK WEIR DETAIL**

NOTE:  
THE ROCK WEIR WILL BE INSTALLED AS DIRECTED  
IN THE FIELD BY DEEP FISHERIES/OEP STAFF.



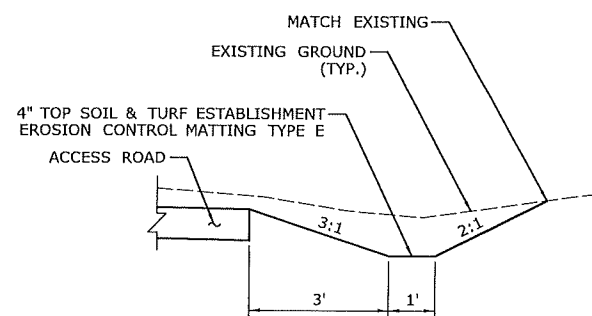
**ACCESS ROAD TYPICAL SECTION**

SCALE: N.T.S.  
CULVERT SITE 1 - WB  
CULVERT SITE 3 - WB  
CULVERT SITE 4 - WB



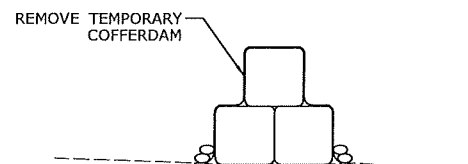
**ACCESS ROAD TYPICAL SECTION**

SCALE: N.T.S.  
CULVERT SITE 1 - EB  
CULVERT SITE 2 - EB  
CULVERT SITE 3 - EB  
CULVERT SITE 4 - EB

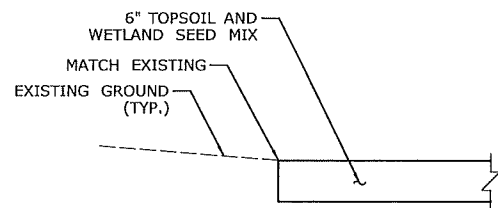


**GRASS LINED SWALE**

SCALE: N.T.S.  
CONSTRUCTION ACCESS ROAD - SITE 1 EB  
STA. EB 144+00 TO STA. EB 145+75



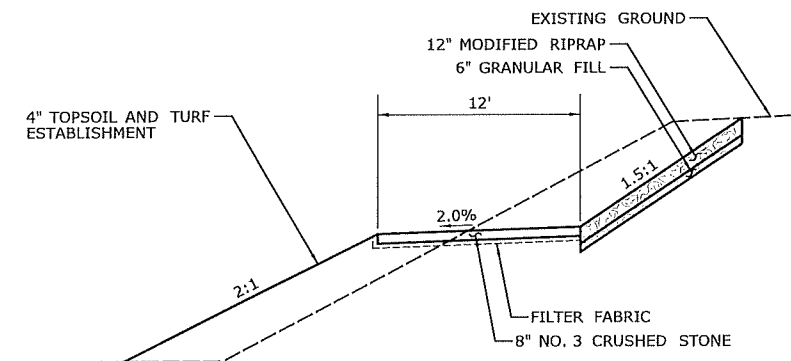
**BELOW OHW IMPACT**



**WETLAND IMPACT**

**TEMPORARY IMPACT RESTORATION**

SCALE: N.T.S.

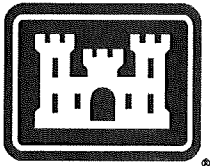


**ACCESS ROAD TYPICAL SECTION**

SCALE: N.T.S.  
SULVERT SITE 2 - WB

**PERMITTING PLAN SET**  
**PLAN DATE: DECEMBER 15, 2017**

REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/19/2017	DESIGNER/DRAFTER: <b>JE</b>	CHECKED BY: <b>MF</b>	SCALE AS NOTED	<p>STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION</p>	<p>ARCHITECTURE ENGINEERING ENVIRONMENTAL LAND SURVEYING</p>	PROJECT TITLE: <b>I-84 RESURFACING, BRIDGE REHABILITATION, AND SAFETY IMPROVEMENTS</b>	TOWN: <b>NEWTOWN</b>	PROJECT NO. <b>96-200</b>
											DRAWING TITLE: <b>MISCELLANEOUS DETAILS SHEET</b>	DRAWING NO. <b>PMT-21</b>
												SHEET NO.



US Army Corps of Engineers  
BUILDING STRONG.

## Errata sheet for the Connecticut General Permits July 25, 2018

The Corps of Engineers, New England District, has compiled this list of corrections and clarifications for the Connecticut General Permits that were issued on August 19, 2016. We may update this list periodically. Please contact Diane M. Ray at [diane.m.ray@usace.army.mil](mailto:diane.m.ray@usace.army.mil) or (978) 318-8831 with any questions or suggestion.

1. Replaced “Not authorized” description in Appendix A – General Permits, GP 7 with the following:

Not authorized under GP 7 are: (a) New dredging with >1000 SF of impacts to intertidal areas or saltmarsh or >100 SF of impacts to vegetated shallows; (b) Maintenance dredging and/or disposal with >1/2 acre of impacts to tidal Special Aquatic Sites (SAS); (c) new dredging where the primary purpose is sand mining for beach nourishment; (d) Beach scraping; (e) Rock removal and relocation for navigation >1/2 acre; or (f) blasting.

2. Added the following General Condition for clarity:

**General Condition 37.** Use of Multiple General Permits. The use of more than one GP for a single and complete project is prohibited, except when the acreage loss of waters of the United States authorized by the GPs does not exceed the acreage limit of the GP as specified. For example, if a road crossing over inland waters is constructed under GP 18, with an associated utility line crossing authorized by GP 6, the maximum acreage loss of waters of the United States for the total project cannot exceed 1 acre.

3. Replace **General Condition 10(d)** as follows:

d. Federal agencies should follow their own procedures for complying with the requirements of the ESA. Non-Federal representatives designated by the Corps to conduct informal consultation or prepare a biological assessment should follow the requirements in the designation document(s) and the ESA. Federal permittees and non-Federal representatives must provide the Corps with the appropriate documentation to demonstrate compliance with those requirements. The Corps will review the documentation and determine whether it is sufficient to address ESA compliance for the GP activity, or whether additional ESA consultation is necessary. Unless it is required elsewhere in this document, a PCN is not required if: (i) another (lead) Federal agency has completed all required §7 consultation; or (ii) a non-Federal representative designated by the Corps in writing has completed all required §7 informal consultation.

4. The attached Table 1. Connecticut Water Quality Certification was edited for clarity.

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 1 of 5**

	Self-Verification (SV)	Pre-Construction Notification (PCN)
	<u>WHERE GRANTED, APPENDIX E: SELF-VERIFICATION NOTIFICATION FORM AND PLANS ARE REQUIRED TO BE FILED WITH CT DEEP – See Appendix E for instructions</u>	<u>WHERE GRANTED, APPLICATION TO CT DEEP IS REQUIRED – See Section 1, II. 3. (pages 2-3 ) of the Army Corps GP for instructions</u>
<b>GP 2. Repair or Maintenance of Existing Currently Serviceable, Authorized or Grandfathered Structures &amp; Fills, Removal of Structures</b>	<p>Granted subject to the following restriction:</p> <ul style="list-style-type: none"> <li>• Drawdown does not exceed 18 months and one growing season (April through September)</li> </ul> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 2. (See GP 19.)</p> <p>Culvert slip-lining is not eligible for Section 401 Water Quality Certification under GP2. (See GP 19.)</p>	<p>Granted for impacts not exceeding 0.5 acre, subject to the following restriction:</p> <ul style="list-style-type: none"> <li>• Drawdown does not exceed 18 months and one growing season (April through September)</li> </ul> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 2. (See GP 19.)</p>
<b>GP 5. Boat Ramps &amp; Marine Railways</b>	Granted	Granted for impacts not exceeding 0.5 acre.
<b>GP 6. Utility Line Activities</b>	Granted	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>Other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</b></p>
<b>GP 9. Shoreline &amp; Bank Stabilization Projects</b>	<p>Granted for shoreline and banks stabilization activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for shoreline and bank stabilization activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>Other shoreline stabilization activities exceeding 50 feet in length are not eligible for Section 401 Water Quality Certification under SV.</b></p> <p><b>Other stream, river, or brook bank stabilization activities exceeding 50 feet in total length for one stream bank or 50 feet cumulative length for both stream banks are not eligible for Section 401 Water Quality Certification under SV.</b></p> <p><b>Activities that include the placement of fill within the streambed beyond the toe of slope of the stream bank are not eligible for Section 401 Water Quality Certification under SV</b></p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>Other shoreline stabilization activities exceeding 100 feet in total length require individual (regular) Section 401 Water Quality Certification.</b></p> <p><b>Other stream, river, or brook bank stabilization activities exceeding 100 feet in total length for one stream bank or 100 feet cumulative length for both stream banks require individual (regular) Section 401 Water Quality Certification.</b></p>

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 2 of 5**

	<p align="center">Self-Verification (SV)</p> <p align="center"><u>WHERE GRANTED, APPENDIX E: SELF-VERIFICATION NOTIFICATION FORM AND PLANS ARE REQUIRED TO BE FILED WITH CT DEEP – See Appendix E for instructions</u></p>	<p align="center">Pre-Construction Notification (PCN)</p> <p align="center"><u>WHERE GRANTED, APPLICATION TO CT DEEP IS REQUIRED – See Section 1, II. 3. (pages 2-3 ) of the Army Corps GP for instructions</u></p>
<p><b>GP 10. Aquatic Habitat Restoration, Establishment &amp; Enhancement Activities</b></p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) or by a federal environmental resource management agency that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>Other activities are not eligible for Section 401 Water Quality Certification under SV.</b></p>	<p align="center">Granted</p>
<p><b>GP 11. Fish &amp; Wildlife Harvesting Activities</b></p>	<p align="center">Granted</p>	<p align="center">Granted</p>
<p><b>GP 12. Oil Spill &amp; Hazardous Material Cleanup</b></p>	<p align="center">Waived</p>	<p align="center">Waived</p>
<p><b>GP 13. Cleanup of Hazardous &amp; Toxic Waste</b></p>	<p align="center">Waived</p>	<p align="center">Waived</p>
<p><b>GP 14. Scientific Measurement Devices</b></p>	<p align="center">Waived</p>	<p align="center">Waived</p>
<p><b>GP 15. Survey Activities</b></p>	<p align="center">Waived</p>	<p align="center">Waived</p>
<p><b>GP 17. New/Expanded Developments &amp; Recreational Facilities</b></p>	<p>Granted, except as noted below.</p> <p><b>New roadway and driveway crossings in wetlands are not eligible for Section 401 Water Quality Certification under GP 17. (See GP 18.)</b></p> <p><b>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP17. (See GP 19.)</b></p>	<p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative state intra-agency screening process.</p> <p><b>Other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</b></p> <p><b>New roadway and driveway crossings in wetlands are not eligible for Section 401 Water Quality Certification under GP 17. (See GP 18.)</b></p> <p><b>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</b></p>

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 3 of 5**

	<p align="center"><b>Self-Verification (SV)</b></p> <p align="center"><u><b>WHERE GRANTED, APPENDIX E: SELF-VERIFICATION NOTIFICATION FORM AND PLANS ARE REQUIRED TO BE FILED WITH CT DEEP – See Appendix E for instructions</b></u></p>	<p align="center"><b>Pre-Construction Notification (PCN)</b></p> <p align="center"><u><b>WHERE GRANTED, APPLICATION TO CT DEEP IS REQUIRED – See Section 1, II. 3. (pages 2-3 ) of the Army Corps GP for instructions</b></u></p>
<p><b>GP 18. Linear Transportation Projects – Wetland Crossings Only</b></p>	<p align="center">Granted</p> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>All other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</b></p> <p><b>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</b></p>
<p><b>GP 19. Stream, River &amp; Brook Crossings (Not Including Wetland Crossings)</b></p> <p>Continued on next page</p>	<p>Granted for stream, river or brook crossings that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p>Granted for all other stream, river, brook or other watercourse crossings by means of a BRIDGE or OPEN-BOTTOM STRUCTURE that meets the following standards:</p> <ul style="list-style-type: none"> <li>• spans at least 1.2 times the watercourse bank full width,</li> <li>• allows for the continuous, uninterrupted flow of the 50-year frequency storm flows,</li> <li>• no riprap is placed within or across the bed of the brook; and,</li> <li>• appurtenant stream bank stabilization does not exceed 50 feet along any upstream or downstream bank.</li> </ul> <p><b>Stream, river, brook and other watercourse crossings that do not meet the standards above are not eligible Section 401 Water Quality Certification for Self-Verification.</b></p> <p><b>Culvert slip lining is not eligible for Section 401 Water Quality Certification for Self-Verification.</b></p> <p><b>Wetland crossings are not eligible for Section 401 Water Quality Certification under GP 19. (See GP 18.)</b></p>	<p>Granted for stream, river or brook crossings that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>All other stream, river and brook crossings require individual (regular) Section 401 Water Quality Certification.</b></p> <p><b>Wetland crossings are not eligible for Section 401 Water Quality Certification under GP 19. (See GP 18.)</b></p>

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 4 of 5**

	<p align="center"><b>Self-Verification (SV)</b></p> <p align="center"><u>WHERE GRANTED, APPENDIX E: SELF-VERIFICATION NOTIFICATION FORM AND PLANS ARE REQUIRED TO BE FILED WITH CT DEEP – See Appendix E for instructions</u></p>	<p align="center"><b>Pre-Construction Notification (PCN)</b></p> <p align="center"><u>WHERE GRANTED, APPLICATION TO CT DEEP IS REQUIRED – See Section 1, II. 3. (pages 2-3 ) of the Army Corps GP for instructions</u></p>
<p><b>GP 19. Stream, River &amp; Brook Crossings (Not Including Wetland Crossings)</b></p>	<p>Granted for stream, river, brook or other watercourse crossings using a culvert provided:</p> <ul style="list-style-type: none"> <li>• the tributary watershed to the culvert does not exceed 1 sq. mile (640 acres);</li> <li>• the culvert gradient (slope) is no steeper than the streambed gradient immediately upstream or downstream of the culvert,</li> <li>• for a crossing constructed using a single box or pipe arch culvert, the inverts are set not less than 12 inches below the streambed elevation</li> <li>• for a crossing constructed using multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set not less than 12 inches below the elevation of the streambed,</li> <li>• for a crossing constructed using a pipe culvert, the inverts are set such that not less than 25% of the pipe diameter or 12 inches, whichever is less, is set below the streambed elevation,</li> <li>• the culvert is backfilled with natural substrate material matching upstream and downstream streambed substrate,</li> <li>• the structure, including inlet and outlet protection measures, does not otherwise impede the passage of fish and other aquatic organisms, and</li> <li>• the structure allows for continuous flow of the 50-year frequency storm flows</li> </ul>	
<p><b>GP 21. Temporary Fill Not Associated With Any Other GP Activities</b></p>	<p align="center">Granted</p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p><b>Other activities with impacts exceeding 0.25 acre require individual (regular) Section 401 Water Quality Certification.</b></p>



TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION  
Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \*  
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**\* ACTIVITIES NOT ELIGIBLE FOR SECTION 401 CERTIFICATION UNDER THIS GENERAL PERMIT CERTIFICATION**

The following activities are not eligible for Section 401 Water Quality Certification under this general permit certification and will require an individual (regular) Section 401 Water Quality Certification:

Detention or retention of stormwater in non-tidal waters, wetlands or watercourses including any watercourse or wetland crossing that by design or default functions to provide stormwater detention, and any construction of a stormwater detention or retention basin in non-tidal waters or wetlands.

Piping, boxing, enclosing or covering of a non-tidal watercourse for a purpose other than a driveway or roadway crossing.

Activities with direct, indirect or secondary impact(s) to: Special Wetlands<sup>(1)</sup>, Threatened, Endangered, or Special Concern Species<sup>(2)</sup>, Significant Natural Communities/Critical Habitats<sup>(2)</sup> identified by the Connecticut Natural Diversity Database.

Activities within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain<sup>(3)</sup>.

**DEFINITIONS**

<sup>(1)</sup> **Special Wetlands:** Include vernal pools, bogs, fens, cedar swamps, spruce swamps, calcareous seepage swamps, and wetlands that provide habitat for threatened or endangered species or species of special concern as designated by the State of Connecticut Natural Diversity Database. The following definitions for bogs, calcareous seepage wetlands, cedar swamps, fens, spruce swamps, and vernal pools apply for the purposes of this GP:

**Bog:** a peat accumulating wetland dominated by sphagnum moss. Typical plant species include sphagnum moss, leatherleaf, black spruce, pitcher plant and sundew.

**Calcareous Seepage Swamp:** a forested wetland characterized by the discharge of groundwater with a chemistry influenced by an underlying limestone geology.

**Cedar Swamp:** a forested wetland characterized by the presence of Northern White Cedar or Atlantic White Cedar.

**Fen:** a peat accumulating wetland dominated by sedges and/or ericaceous shrubs. Typical plant species include low sedges, ericaceous shrubs, sphagnum and other mosses.

**Spruce Swamp:** a forested wetland characterized by the presence of Red or Black Spruce.

**Vernal Pool:** an often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* sp.), fairy shrimp, fingernail clams, and other amphibians, reptiles and invertebrates. Vernal pools lack breeding populations of fish. **All vernal pools are subject to the jurisdiction of the Connecticut Department of Energy and Environmental Protection under Connecticut Water Quality Standards.**

<sup>(2)</sup> **Threatened, Endangered or Special Concern Species; Significant Natural Communities/Critical Habitats:** Species listed by CT DEP pursuant to Chapter 495 of the Connecticut General Statute as threatened or endangered species or species of special concern. General locations of threatened and endangered species and species of special concern, and significant natural communities/critical habitats are identified on maps published by the Connecticut Department of Energy and Environmental Protection entitled "Natural Diversity Data Base Areas" and on the CTECO Interactive Map Viewers at [www.cteco.uconn.edu](http://www.cteco.uconn.edu).

<sup>(3)</sup> **Adverse Effect to Hydraulic Characteristics:** An adverse effect to hydraulic characteristics includes an increase in flood water surface elevation, an increase in flood flow velocity or a restriction of flood flow conveyance in a manner that would impact upstream, downstream or adjacent property.

Applicant: General Public, State of Connecticut

Effective Date: August 19, 2016

Expiration Date: August 19, 2021

**DEPARTMENT OF THE ARMY  
GENERAL PERMITS FOR THE  
STATE OF CONNECTICUT  
&  
LANDS LOCATED WITHIN THE  
BOUNDARIES OF AN INDIAN RESERVATION<sup>1</sup>**

The New England District of the U.S. Army Corps of Engineers (Corps) hereby issues twenty-one (21) General Permits (GPs), listed below, for activities subject to Corps jurisdiction in waters of the United States (U.S.), including navigable waters, within boundaries of the State of Connecticut and lands located within the boundaries of an Indian reservation. These GPs are issued in accordance with Corps regulations at 33 CFR 320 - 332 [see 33 CFR 325.5(c)(1)], and authorizes activity-specific categories of work that are similar in nature and cause no more than minimal individual and cumulative adverse environmental impacts. These GPs will provide protection to the aquatic environment and the public interest while effectively authorizing activities that have no more than minimal individual and cumulative adverse environmental effects.

**GENERAL CRITERIA**

In order for activities to qualify for these GPs, they must meet the terms and eligibility criteria and stipulations listed in Appendix A – General Permits as well as the Appendix B General Conditions.

Projects may qualify for the following:

- Self-Verification (inland) - Self -Verification Notification Form (SVNF) is required
- Self-Verification (coastal) - SVNF NOT required. Corps relies on CT DEEP, OLISP submittals.
- Pre-Construction Notification (PCN) -
  - Inland - Application to and written approval from the Corps is required.
  - Coastal - Notification to Corps provided by CT DEEP, OLISP or by applicants as necessary. Written approval from the Corps is required.

If your project is ineligible for Self-Verification (SV), it may be screened under PCN or may require an Individual Permit. The thresholds for activities eligible for Self-Verification and PCN are defined in Appendix A. These GPs do not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

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<sup>1</sup> Indian reservation lands are considered a sovereign nation, and are therefore acknowledged separately from the State of Connecticut for purposes of this General Permit.

## Connecticut General Permits

An activity is authorized under GPs 1-21 below only if that activity and the permittee satisfy all of the GP's terms and conditions.

1. Aids to navigation & temporary recreational structures
  2. Repair or maintenance of existing currently serviceable, authorized or grandfathered structures/fills, removal of structures
  3. Moorings
  4. Pile-supported structures & floats, including boat lifts/hoists and other miscellaneous Structures & work
  5. Boat ramps and marine railways
  6. Utility line activities
  7. Dredging, transport & disposal of dredged material, beach nourishment, rock removal & rock relocation
- 
8. Discharges of dredged or fill material incidental to the construction of bridges
  9. Shoreline and bank stabilization projects
  10. Aquatic habitat restoration, establishment and enhancement activities
  11. Fish and wildlife harvesting activities
  12. Oil spill and hazardous material cleanup
  13. Cleanup of hazardous and toxic waste
  14. Scientific measurement devices
  15. Survey activities
  16. Aquaculture projects and fisheries
  17. New/expanded developments & recreational facilities
  18. Linear transportation projects – wetland crossings only
  19. Stream, river & brook crossings (not including wetland crossings)
  20. Energy generation and renewable energy generation facilities and hydropower projects
  21. Temporary fill not associated with any other GP activities

**SECTION 1**  
**REVIEW CATEGORIES AND APPLICATION PROCEDURES FOR PROJECTS WITHIN**  
**NON-TIDAL WATERS AND WETLANDS WITHIN THE STATE OF CONNECTICUT AND**  
**LANDS LOCATED WITHIN AN INDIAN RESERVATION**

**I. ACTIVITIES COVERED:**

The discharge of dredged or fill material into Waters of the United States which is regulated by the Corps under Section 404 of the Clean Water Act (CWA), see 33 CFR 328.

**II. REVIEW PROCESS:**

**1. State and Local Approvals:**

In order for authorizations under these GPs to be valid and before commencing any work within Corps jurisdiction, applicants must apply for and obtain State Water Quality Certification as well as any local approvals (see **General Condition 1**):

**Water Quality Certification (WQC)** under Section 401 of the Federal CWA (33 USC Sec. 1341). Section 401(a)(1) of the Clean Water Act requires that applicants obtain a WQC or waiver from the state water pollution control agency which in Connecticut is the Connecticut Department of Energy and Environmental Protection (CT DEEP) or U.S. EPA for Indian reservation lands to discharge dredged or fill material into waters of the U.S. (see **attached Water Quality Certification and table**).

The CT DEEP, Inland Water Resources Division (CT DEEP IWRD) has conditionally granted WQC for Self-Verification (SV) activities in inland wetlands and waterways provided those activities meet the criteria as contained in the attached **Appendix A – General Permits** document.

The CT DEEP- IWRD has granted WQC with terms, limitations and conditions specified therein.

The CT DEEP- IWRD has waived WQC for GP 12, GP 13, GP 14, and GP 15.

The U.S. EPA granted WQC for Self-Verification and PCN activities located on lands within the boundaries of an Indian Reservation.

**2. General Permit Review Categories:**

**a. Self-Verification – An application to the Corps is NOT required. However, submittal of the attached Self-Verification Notification Form at Appendix E to the Corps and CT DEEP, IWRD is required prior to commencement of work authorized by these GPs.**

**Eligibility Criteria**

Activities in Connecticut and lands located within the boundaries of an Indian reservation that meet the following criteria are eligible under Self-verification of this General Permit:

- are subject to Corps jurisdiction (See **General Condition 2**),
- meet the criteria of Self-Verification in the attached **Appendix A - General Permits**, and
- meet the General Conditions of the GPs.

Project proponents seeking Self-Verification authorizations must comply with the General Conditions and other federal laws such as the National Historic Preservation Act, the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act. Therefore, consultation with the Corps and/or outside experts, such as the State Historic Preservation Office and any appropriate Indian tribes, is recommended when there is a high likelihood of the presence of resources of concern.

**b. Pre-Construction Notification (PCN) – An application to the Corps is required.**

Projects not eligible under Self-Verification of the GPs may be screened under PCN, provided they meet the criteria as defined in the attached **Appendix A – General Permits** for PCN activities.

**Eligibility Criteria**

Activities in Connecticut and lands located within an Indian reservation that meet the following criteria are eligible under PCN of this General Permit:

- are subject to Corps jurisdiction (See **General Condition 2**),
- meet the criteria of PCN in the attached **Appendix A – General Permits**, and
- meet the General Conditions of the GPs.

**3. Applying for an authorization through the PCN process:**

Applicants must also submit two copies of the following to the Corps, on a CD if available and hard copy:

- Corps application form (ENG Form 4345) found at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainPermit.aspx>
- 8.5" x 11" or 11" x 17" drawings and one large-scale drawing,
- wetlands functions and values assessment,
- Federal wetland delineation documentation (data sheets),
- The CT DEEP addendum found at: [http://www.ct.gov/deep/lib/deep/Permits\\_and\\_Licenses/LandUse\\_General\\_Permits/Inland\\_Water\\_General\\_Permits/CT\\_addendum\\_app.pdf](http://www.ct.gov/deep/lib/deep/Permits_and_Licenses/LandUse_General_Permits/Inland_Water_General_Permits/CT_addendum_app.pdf)
- Correspondence with the State Historic Preservation Office and Tribal Historic Preservation Officer indicating coordination with these entities along with a completed CT SHPO Form. The CT SHPO Form is available on the CT SHPO website under Historic Preservation – Environmental Review at [http://www.cultureandtourism.org/cct/lib/cct/Project\\_Notification\\_Form\\_final.pdf](http://www.cultureandtourism.org/cct/lib/cct/Project_Notification_Form_final.pdf)
- a plan describing any proposed mitigation along with an Invasive Species Control Plan.

Applicants must concurrently submit three copies of the following to the CT DEEP at the address below:

- the Corps application form,
- 8.5" x 11" or 11" x 17" drawings and one large-scale drawing,
- wetlands functions and values assessment,
- Federal wetlands delineation documentation (data sheets),
- CT DEEP addendum, and
- a plan describing any proposed mitigation.

**State of Connecticut**  
**Department of Energy & Environmental Protection**  
**Central Permit Processing Unit**  
**79 Elm Street**  
**Hartford, CT 06106-5127**

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**NOTE: Applicants must submit all project revisions and modifications to both agencies.**

The Corps will coordinate review of all PCN activities with federal and state agencies to ensure that the proposed activity results in no more than a minimal impact to the aquatic environment. To be eligible and subsequently authorized, an activity must meet the eligibility criteria in **2. General Permit Review Categories** above and result in no more than minimal impacts to the aquatic environment as determined by the Corps in conjunction with the interagency review team which consists of federal and state resource agencies. This may require project modifications involving avoidance, minimization, and/or compensatory mitigation for unavoidable impacts to ensure the net effects of a project are minimal.

**Written approval from the Corps for PCN activities is required before work can commence.**

**Emergency Situation Procedures:** 33 CFR 325.2 (e) (4) states that an "emergency" is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures." Notification to the Corps and CT DEEP – IWRD is required. The Corps will determine if a project qualifies as an emergency and will work with all applicable agencies to expedite authorization in emergency situations. If the project qualifies as an emergency, authorization under Self-verification or PCN of the GPs is not required.

**Individual Permit Procedures:** Work that is NOT eligible for authorization under the GPs as defined in the attached **Appendix A – General Permits**, or that does not meet the terms and conditions of the GPs, will require review under the Corps Individual Permit procedures (see 33 CFR Part 325.1). The applicant shall submit the appropriate application materials (including the Corps ENG 4345 application form) to the Corps of Engineers. General information and application forms can be obtained at the Corps web site noted in Paragraph 3 above. An individual Water Quality Certification is required from the CT DEEP, IWRD. The application form and instructions for Section 401 Water Quality Certification are available from the Connecticut DEEP web site at [http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav\\_GID=1643](http://www.ct.gov/deep/cwp/view.asp?a=2709&q=324168&depNav_GID=1643).



**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 1 of 5**

	Self-Verification (SV)	Pre-Construction Notification (PCN)
<b>GP 2. Repair or Maintenance of Existing Currently Serviceable, Authorized or Grandfathered Structures &amp; Fills, Removal of Structures</b>	<p>Granted subject to the following restriction:</p> <ul style="list-style-type: none"> <li>• Drawdown does not exceed 18 months and one growing season (April through September)</li> </ul> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 2. (See GP 19.)</p> <p>Culvert slip-lining is not eligible for Section 401 Water Quality Certification under GP2. (See GP 19.)</p>	<p>Granted for impacts not exceed 0.5 acre, subject to the following restriction:</p> <ul style="list-style-type: none"> <li>• Drawdown does not exceed 18 months and one growing season (April through September)</li> </ul> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 2. (See GP 19.)</p>
<b>GP 5. Boat Ramps &amp; Marine Railways</b>	Granted	Granted for impacts not exceeding 0.5 acre.
<b>GP 6. Utility Line Activities</b>	Granted	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p><b>Other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</b></p>
<b>GP 9. Shoreline &amp; Bank Stabilization Projects</b>	<p>Granted for shoreline and banks stabilization activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for shoreline and bank stabilization activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p><b>Other shoreline stabilization activities exceeding 50 feet in length are not eligible for Section 401 Water Quality Certification under SV.</b></p> <p><b>Other stream, river, or brook bank stabilization activities exceeding 50 feet in total length for one stream bank or 50 feet cumulative length for both stream banks are not eligible for Section 401 Water Quality Certification under SV.</b></p> <p><b>Activities that include the placement of fill within the streambed beyond the toe of slope of the stream bank are not eligible for Section 401 Water Quality Certification under SV.</b></p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p><b>Other shoreline stabilization activities exceeding 100 feet in total length require individual (regular) Section 401 Water Quality Certification.</b></p> <p><b>Other stream, river, or brook bank stabilization activities not exceeding 100 feet in total length for one stream bank or 100 feet cumulative length for both stream banks require individual (regular) Section 401 Water Quality Certification.</b></p>



**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 2 of 5**

	Self-Verification (SV)	Pre-Construction Notification (PCN)
<b>GP 10. Aquatic Habitat Restoration, Establishment &amp; Enhancement Activities</b>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state Interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) or by a federal environmental resource management agency that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p>Other activities are not eligible for Section 401 Water Quality Certification under SV.</p>	Granted
<b>GP 11. Fish &amp; Wildlife Harvesting Activities</b>	Granted	Granted
<b>GP 12. Oil Spill &amp; Hazardous Material Cleanup</b>	Waived	Waived
<b>GP 13. Cleanup of Hazardous &amp; Toxic Waste</b>	Waived	Waived
<b>GP 14. Scientific Measurement Devices</b>	Waived	Waived
<b>GP 15. Survey Activities</b>	Waived	Waived
<b>GP 17. New/Expanded Developments &amp; Recreational Facilities</b>	<p>Granted, except as noted below.</p> <p>New roadway and driveway crossings in wetlands are not eligible for Section 401 Water Quality Certification under GP 17. (See GP 18.)</p> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP17. (See GP 19.)</p>	<p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative state Intra-agency screening process.</p> <p>Other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</p> <p>New roadway and driveway crossings in wetlands are not eligible for Section 401 Water Quality Certification under GP 17. (See GP 18.)</p> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</p>

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 3 of 5**

	Self-Verification (SV)	Pre-Construction Notification (PCN)
<p>GP 18. Linear Transportation Projects – Wetland Crossings Only</p>	<p style="text-align: center;">Granted</p> <p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p><b>All other activities with impacts exceeding 0.5 acre require individual (regular) Section 401 Water Quality Certification.</b></p>
		<p>Stream, river, brook or other watercourse crossings are not eligible for Section 401 Water Quality Certification under GP 18. (See GP 19.)</p>
<p>GP 19. Stream, River &amp; Brook Crossings (Not Including Wetland Crossings)</p> <p>Continued on next page</p>	<p>Granted for stream, river or brook crossings that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p>Granted for all other stream, river, brook or other watercourse crossings by means of a BRIDGE or OPEN-BOTTOM STRUCTURE that meets the following standards:</p> <ul style="list-style-type: none"> <li>• spans at least 1.2 times the watercourse bank full width,</li> <li>• allows for the continuous, uninterrupted flow of the 50-year frequency storm flows,</li> <li>• no riprap is placed within or across the bed of the brook; and,</li> <li>• appurtenant stream bank stabilization does not exceed 50 feet along any upstream or downstream bank.</li> </ul> <p>Stream, river, brook and other watercourse crossings that do not meet the standards above are not eligible Section 401 Water Quality Certification for Self-Verification.</p> <p>Culvert slip lining is not eligible for Section 401 Water Quality Certification for Self-Verification.</p> <p>Wetland crossings are not eligible for Section 401 Water Quality Certification under GP 19. (See GP 18.)</p>	<p>Granted for stream, river or brook crossings that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP Intra-agency screening process.</p> <p><b>All other stream, river and brook crossings require individual (regular) Section 401 Water Quality Certification.</b></p> <p>Wetland crossings are not eligible for Section 401 Water Quality Certification under GP 19. (See GP 18.)</p>

**TABLE 1. CONNECTICUT WATER QUALITY CERTIFICATION**  
**Water Quality Certification – Non-Tidal Waters, Wetlands, and Watercourses \***  
**Department of the Army - General Permits for the State of Connecticut**  
**WQC-201607149**  
**Page 4 of 5**

	Self-Verification (SV)	Pre-Construction Notification (PCN)
<p><b>GP 19. Stream, River &amp; Brook Crossings (Not Including Wetland Crossings)</b></p>	<p>Granted for stream, river, brook or other watercourse crossings using a culvert provided:</p> <ul style="list-style-type: none"> <li>• the tributary watershed to the culvert does not exceed 1 sq. mile (640 acres);</li> <li>• the culvert gradient (slope) is no steeper than the streambed gradient immediately upstream or downstream of the culvert,</li> <li>• for a crossing constructed using a single box or pipe arch culvert, the inverts are set not less than 12 inches below the streambed elevation</li> <li>• for a crossing constructed using multiple box or pipe arch culverts, the inverts of one of the boxes or pipe arch culverts are set not less than 12 inches below the elevation of the streambed,</li> <li>• for a crossing constructed using a pipe culvert, the inverts are set such that not less than 25% of the pipe diameter or 12 inches, whichever is less, is set below the streambed elevation,</li> <li>• the culvert is backfilled with natural substrate material matching upstream and downstream streambed substrate,</li> <li>• the structure, including inlet and outlet protection measures, does not otherwise impede the passage of fish and other aquatic organisms, and</li> <li>• the structure allows for continuous flow of the 50-year frequency storm flows</li> </ul>	
<p><b>GP 21. Temporary Fill Not Associated With Any Other GP Activities</b></p>	<p align="center">Granted</p>	<p>Granted for activities that receive written approval from the Connecticut Department of Energy and Environmental Protection (CT DEEP) through a formal cooperative state interagency screening process jointly conducted by the Connecticut Department of Transportation (CT DOT) and CT DEEP.</p> <p>Granted for activities conducted or funded by the Connecticut Department of Energy and Environmental Protection (CT DEEP) that receive written approval through a formal cooperative CT DEEP intra-agency screening process.</p> <p>Other activities with impacts exceeding 0.25 acre require individual (regular) Section 401 Water Quality Certification.</p>

**\* ACTIVITIES NOT ELIGIBLE FOR SECTION 401 CERTIFICATION UNDER THIS GENERAL PERMIT CERTIFICATION**

The following activities are not eligible for Section 401 Water Quality Certification under this general permit certification and will require an individual (regular) Section 401 Water Quality Certification:

Detention or retention of stormwater in non-tidal waters, wetlands or watercourses including any watercourse or wetland crossing that by design or default functions to provide stormwater detention, and any construction of a stormwater detention or retention basin in non-tidal waters or wetlands.

Piping, boxing, enclosing or covering of a non-tidal watercourse for a purpose other than a driveway or roadway crossing.

Activities with direct, indirect or secondary impact(s) to: Special Wetlands<sup>(1)</sup>, Threatened, Endangered, or Special Concern Species<sup>(2)</sup>, Significant Natural Communities/Critical Habitats<sup>(2)</sup> identified by the Connecticut Natural Diversity Database.

Activities within a FEMA established floodplain that would adversely affect the hydraulic characteristics of the floodplain<sup>(3)</sup>.

**DEFINITIONS**

<sup>(1)</sup> **Special Wetlands:** Include vernal pools, bogs, fens, cedar swamps, spruce swamps, calcareous seepage swamps, and wetlands that provide habitat for threatened or endangered species or species of special concern as designated by the State of Connecticut Natural Diversity Database. The following definitions for bogs, calcareous seepage wetlands, cedar swamps, fens, spruce swamps, and vernal pools apply for the purposes of this GP:

**Bog:** a peat accumulating wetland dominated by sphagnum moss. Typical plant species include sphagnum moss, leatherleaf, black spruce, pitcher plant and sundew.

**Calcareous Seepage Swamp:** a forested wetland characterized by the discharge of groundwater with a chemistry influenced by an underlying limestone geology.

**Cedar Swamp:** a forested wetland characterized by the presence of Northern White Cedar or Atlantic White Cedar.

**Fen:** a peat accumulating wetland dominated by sedges and/or ericaceous shrubs. Typical plant species include low sedges, ericaceous shrubs, sphagnum and other mosses.

**Spruce Swamp:** a forested wetland characterized by the presence of Red or Black Spruce.

**Vernal Pool:** an often temporary body of water occurring in a shallow depression of natural or human origin that fills during spring rains and snow melt and typically dries up during summer months. Vernal pools support populations of species specially adapted to reproducing in these habitats. Such species may include wood frogs, mole salamanders (*Ambystoma* sp.), fairy shrimp, fingernail clams, and other amphibians, reptiles and invertebrates. Vernal pools lack breeding populations of fish. **All vernal pools are subject to the jurisdiction of the Connecticut Department of Energy and Environmental Protection under Connecticut Water Quality Standards.**

<sup>(2)</sup> **Threatened, Endangered or Special Concern Species; Significant Natural Communities/Critical Habitats:** Species listed by CT DEP pursuant to Chapter 495 of the Connecticut General Statute as threatened or endangered species or species of special concern. General locations of threatened and endangered species and species of special concern, and significant natural communities/critical habitats are identified on maps published by the Connecticut Department of Energy and Environmental Protection entitled "Natural Diversity Data Base Areas" and on the CTECO Interactive Map Viewers at [www.cteco.uconn.edu](http://www.cteco.uconn.edu).

<sup>(3)</sup> **Adverse Effect to Hydraulic Characteristics:** An adverse effect to hydraulic characteristics includes an increase in flood water surface elevation, an increase in flood flow velocity or a restriction of flood flow conveyance in a manner that would impact upstream, downstream or adjacent property.



**SECTION 2:**  
**REVIEW CATEGORIES & APPLICATION PROCEDURES FOR PROJECTS WITHIN  
TIDAL, COASTAL AND NAVIGABLE WATERS WITHIN THE STATE OF  
CONNECTICUT**

Connecticut's coastal area is statutorily defined as: all lands and waters within the municipalities of Greenwich, Stamford, Darien, Norwalk, Westport, Fairfield, Bridgeport, Stratford, Shelton, Milford, Borough of Woodmont, Orange, West Haven, New Haven, Hamden, North Haven, East Haven, Branford, Guilford, Madison, Clinton, Westbrook, Deep River, Chester, Essex, Borough of Fenwick, Old Saybrook, Lyme, Old Lyme, East Lyme, Waterford, New London, Montville, Norwich, Preston, Ledyard, Groton (city, Town and Long Point Borough), Mystic and Stonington (Town & Borough) [Section 22a-94(a) CGS].

**Navigable Waters:** Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The Connecticut River has been determined to be a navigable water of the United States. [Refer to Title 33 CFR Part 329]

**I. ACTIVITIES COVERED:**

- Work and structures that are located in, under or over any navigable water of the U.S. (defined at 33 CFR 329) that affect the course, location, condition, or capacity of such waters; or the excavating from or depositing material in navigable waters. (Regulated by the Corps under Section 10 of the Rivers and Harbors Act of 1899);
- The discharge of dredged or fill material into waters of the U.S. (defined at 33 CFR 328), which is regulated by the Corps under Section 404 of the Clean Water Act (CWA)
- The transportation of dredged material for the purpose of disposal in the ocean. The Corps regulates these activities under Section 103 of the Marine Protection, Research and Sanctuaries Act. See 33 CFR 324.

**II. REVIEW PROCESS:**

**1. Connecticut Department of Energy & Environmental Protection, Office of Long Island Sound Programs (DEEP OLISP) approvals:**

In order for authorizations under these GPs to be valid and before commencing any work within Corps jurisdiction, applicants are responsible for applying for and obtaining any of the following required State or local approvals (see **General Condition 1**):

**Water Quality Certification (WQC)** Issuance or waiver under Section 401 of the Federal CWA (33 USC Section 1341). Section 401(a)(1) of the Clean Water Act requires that applicants obtain a WQC or waiver from the state water pollution control agency (CT DEEP) or EPA for Indian reservation lands to discharge dredged or fill material into waters of the U.S.

**Coastal Zone Management Consistency (CZM) - Concurrence** under Section 307 of the Federal CZM Act of 1972, as amended. Section 307(c) of the CZM of 1972, as amended, requires applicants to obtain a certification or waiver from CT DEEP OLISP that the activity complies with the state's CZM program for activities affecting a state's Coastal Area.

Project proponents involving dredging/excavation and associated disposal within the Byram River must also coordinate with NY DOS directly to obtain a certification or waiver that the activity complies with NYDOS' CZM program. Also, all projects with disposal at any of the Long Island Sound Disposal Sites require NY DOS CZM consistency. Additional information can be found at their website: <http://www.dos.ny.gov/opd/programs/consistency/>.

## **2. Corps Authorizations:**

**a. Self-Verification (SV) – Applicants are not required to submit an Application or Appendix E to the Corps.** Instead, DEEP OLISP will forward copies of application packages and their approvals to the Corps on a weekly basis. If the Corps determines that a project meets this category, the Corps will forward verification of eligibility to the applicant.

### **Eligibility Criteria**

Activities in Connecticut and lands located within the boundaries of an Indian reservation may proceed without application or notification to the Corps if they:

- are subject to Corps jurisdiction
- meet the definition of Self-Verification in **Appendix A - General Permits**, and
- meet the General Conditions of the GPs

**Note:** Activities subject to Corps jurisdiction that are NOT regulated by the DEEP OLISP will be subject to the Pre-Construction Notification (PCN) screening requirements of the GPs as noted below.

Project proponents seeking eligibility under the SV category must comply with the General Conditions of the GPs and other federal laws such as the National Historic Preservation Act, the Endangered Species Act (ESA) and the Wild and Scenic Rivers Act. Therefore, consultation with the Corps and/or outside experts such as the State Historic Preservation Office and any appropriate Indian tribes is recommended when there is a likelihood of the presence of resources of concern.

**b. Pre-Construction Notification (PCN) (notification/application and written authorization required)**

Projects not eligible under the SV category of the GPs may be screened under PCN category, provided they meet the criteria.

### **Eligibility Criteria**

Activities in Connecticut and lands located within the boundaries of an Indian reservation that meet the following criteria **require written approval from the Corps:**

- are subject to Corps jurisdiction,
- meet the definition of PCN in this Section, and
- meet the General Conditions of the GPs

### **3. Applying for authorization through the PCN process:**

#### **a. CT DEEP, OLISP regulated activities**

Structures and Dredging Permit Applications: Applicants/agents shall submit to the Corps, a copy of the DEEP Permit Consultation Form for U.S. Army Corps of Engineers Review along with project plans. The Corps will then coordinate this information with the interagency review team (see paragraph 4 below) and then return the form to applicants/agents for their submission to DEEP OLISP.

Certificates of Permission (COPs), General Permits (GPs) and Modifications: OLISP will forward copies of application packages and approvals to the Corps. If a project is determined to meet any of the PCN activities and is complete, the Corps will coordinate these projects with the interagency review team. If the Corps determines that an Individual permit or additional information is required, the Corps will coordinate directly with the applicant/agent.

**NOTE:** For projects which involve dredging and open water disposal - Applicants/agents must submit requests for sampling plans to the DEEP, OLISP and the Corps simultaneously, along with other required information specific to dredging/open water disposal, a detailed open water disposal site alternative analysis, and a completed New York State, Department of State (NYS DOS) Federal Consistency Assessment Form found at <http://nyswaterfronts.com/downloads/pdfs/fcaf2.pdf>. Please see our website at <http://www.nae.usace.army.mil/Regulatory/> for a list of all required additional information.

#### **b. Aquaculture activities regulated by the Connecticut Department of Agriculture**

This refers to marine- and land-based aquaculture activities, including associated structures regulated by the Department of Agriculture, Bureau of Aquaculture (DA/BA), Connecticut General Statutes Section 22-11h.

Applicants should apply directly to the DA/BA using the Joint Application for Aquaculture form found at: [http://www.nae.usace.army.mil/reg/Permits/CT\\_AquacultureApplication.pdf](http://www.nae.usace.army.mil/reg/Permits/CT_AquacultureApplication.pdf). The DA/BA will forward a copy of the aquaculture application package to the Corps, the State of Connecticut Department of Energy & Environmental Protection's (CT DEEP) Boating Division, Marine Fisheries Division, Office of Long Island Sound Programs (OLISP), and CT DEEP, Inland Water Resources Division (IWRD) for activities impacting inland waters.



These application packages for marine-based activities will be screened by the Corps, the Federal resource agencies, and the CT DEEP, OLISP with input from the CT DEEP Boating and Marine Fisheries Divisions. Screening will also initiate review of the application by the CT DEEP OLISP for Coastal Zone Management consistency concurrence. The CT DEEP OLISP will make a determination on the completeness of the application for CZM consistency review and/or the eligibility of the activity for state aquaculture permit exemption within 30 days from the date of the screening meeting.

#### **4. Review Procedures:**

The Corps will coordinate review of all PCN activities with federal and state agencies (interagency review team), as necessary. To be eligible and subsequently authorized, an activity must meet the eligibility criteria listed above and result in no more than minimal impacts to the aquatic environment as determined by the Corps. This may require project modifications involving avoidance, minimization, and/or compensatory mitigation for unavoidable impacts to ensure the net effects of a project are minimal. Applicants are responsible for applying for the appropriate state and local approvals. Authorizations under these GPs are not valid until all required CT DEEP, OLISP authorizations are granted.

**Emergency Situation Procedures:** 33 CFR 325.2 (e)(4) states that an “emergency” is a situation which would result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process the application under standard procedures.” Notification to the Corps is required. The Corps will determine if a project qualifies as an emergency and will work with all applicable agencies to expedite authorization in emergency situations. If the project qualifies as an emergency, authorization under these General Permits is not required.

**Individual/Standard Permit Procedures:** Work that is not eligible under PCN activities as described therein or that does not meet the terms and general conditions of the GPs, will require the submission of an application to the Corps for an Individual Permit (see 33 CFR Part 325.1). The applicant should submit the appropriate application form and materials at the earliest possible date. General information and application forms can be obtained at our website at <http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/ObtainPermit.aspx> or by calling us. Individual WQC and CZM consistency concurrence are required, when applicable, from the State of Connecticut before Corps issuance of an individual permit. Individual Water Quality Certification must be obtained from EPA for activities on lands located within the boundaries of an Indian reservation. The Corps encourages applicants to concurrently apply for a Corps Individual Permit and state permits.

**APPENDIX A – GENERAL PERMITS**

<b><u>GP 1. AIDS TO NAVIGATION &amp; TEMPORARY RECREATIONAL STRUCTURES (Section 10; navigable waters of the United States)</u></b>	
<p>The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard (see 33 CFR, chapter I, subchapter C, part 66)</p>	
<b>Self-Verification (SV) Eligible</b>	<b>Pre-Construction Notification (PCN) Required</b>
<p>Aids to navigation and regulatory markers that are not located within Corps Federal Navigation Projects (FNPs*).</p> <p>Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are not located within Corps FNPs and are removed within 30 days after use is discontinued.</p> <p>No structures in Submerged Aquatic Vegetation</p>	<p>Work not eligible for SV.</p> <p>Aids to navigation or temporary markers, floats, etc. that are within a Corps FNP.</p> <p>Temporary markers, floats, etc. that are not to be removed within 30 days.</p>
<p>*FNPs are comprised of Federal Channels, anchorages and turning basins. Please click on the link below for more information:  <a href="http://www.nac.usace.army.mil/Missions/Navigation/Connecticut-Projects/">http://www.nac.usace.army.mil/Missions/Navigation/Connecticut-Projects/</a></p>	

**GP 2. REPAIR OR MAINTENANCE OF EXISTING CURRENTLY SERVICEABLE, AUTHORIZED OR GRANDFATHERED\* STRUCTURES & FILLS, REMOVAL OF STRUCTURES (Section 10 & 404; tidal and non-tidal waters of the U.S.)** Repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure, or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3, provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, requirements of other regulatory agencies, or current construction codes or safety standards that are necessary to make the repair, rehabilitation, or replacement are authorized. Includes removal of structures and fill. **Not authorized under GP 2:** (a) Permanent impacts >1/2 acre in tidal and non-tidal waters and/or wetlands, >1,000 SF in tidal Special Aquatic Site (SAS) other than vegetated shallows, or >100 SF in tidal vegetated shallows.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>≤5,000 s.f. of impacts in non-tidal waters &amp; wetlands.</p> <p>No fill in tidal waters &amp; wetlands.</p> <p>Bulkhead replacement via installation of new bulkhead within 18" of existing bulkhead &amp; backfill.</p> <p>Drawdown of impoundment for dam/levee repair provided it does not exceed 18 months and one growing season (April through September)</p> <p>Any stream channel modification is limited to the minimum necessary for the repair, rehabilitation, or replacement of the structure or fill; such modifications, including the removal of material from the stream channel, must be immediately adjacent to the project or within the boundaries of the structure or fill.</p> <p>Any bank stabilization measures not directly associated with the structure requires a separate authorization under GP 9.</p> <p>Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable, when temporary discharges, such as sandbag cofferdams, access fills, etc. are necessary for construction activities or dewatering of construction sites.</p> <p>Temporary fills must consist of materials and be placed in a manner, that will not be eroded by expected high flows. They must be removed in their entirety and the affected areas returned to pre-construction elevations and must be re-vegetated as appropriate.</p> <p>Work to previously approved tide gates with a Corps-approved operation and maintenance plan and tide gates not affecting the hydraulic regime.</p> <p>No impacts in Special Aquatic Sites (SAS) – see definitions.</p> <p>No slip lining or culvert relining that changes invert elevation.</p>	<p>Work not eligible for SV.</p> <p>Removal of accumulated sediments and debris in the vicinity of existing structures (e.g., bridges, culverted road crossings, water intake structures, etc.) and/or the placement of new or additional riprap, minimum necessary to protect the structure.</p> <p>The removal of accumulated sediment is limited to the minimum necessary to restore the waterway in the vicinity of the structure to the approximate dimensions that existed when the structure was built, but cannot extend farther than 200 feet in any direction from the structure. Excavated materials must be deposited and retained in an area that has no waters of the United States unless otherwise specifically approved by the district engineer.</p> <p>Drawdown of impoundment for dam/levee repair provided it does not exceed 18 months and one growing season (April through September)</p> <p>*Grandfather dates include work performed &amp; structures installed before 1968 &amp; fill placed before 1975 for Corps purposes only.</p>
<p><b>NOTES:</b></p> <p>1. Removal of bridge structures in navigable waters are covered under GP 8, if the Coast Guard issues a bridge permit.</p> <p>2. Stream, river, brook or other watercourse crossings are not eligible under GP 2 (See GP 19).</p>	

**GP 3. MOORINGS (Section 10; navigable waters of the U. S.)**

New private, non-commercial, non-rental, single-boat moorings & temporary moorings including moorings to facilitate construction or dredging; minor relocation of previously authorized moorings and mooring field expansions, boundary reconfigurations or modifications of previously authorized mooring fields and maintenance and replacement of moorings.

**Not authorized under GP 3 are:** Moorings within Federal Navigation channels.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>1. Private, non-commercial, non-rental, single-boat moorings and temporary moorings including moorings that facilitate construction or dredging provided:</p> <p>No new moorings located in Federal anchorages;</p> <p>No new moorings located in Special Aquatic Sites (SAS);</p> <p>No new moorings located in shellfish beds;</p> <p>Authorized by local harbormaster/town;</p> <p>When existing, authorized moorings in SAS are going to be replaced, they shall be replaced with low impact mooring technology that prevents mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems.</p> <p>2. Minor relocation of previously authorized moorings, provided:</p> <p>Authorized by the local harbormaster/town;</p> <p>Not located in SAS;</p> <p>Not located in Federal anchorages.</p>	<p>Work not eligible for SV.</p> <p>Moorings associated with an existing boating facility*.</p> <p>Private moorings without harbormaster or local approval.</p> <p>Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits of a Federal Anchorage. The buffer zone is equal to 3 times the authorized depth of that channel.</p> <p><i>*Boating Facility: Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockominiums, etc.</i></p> <p><i>Locating new individual moorings in SAS, including eelgrass, should be avoided to the maximum extent practicable. If SAS cannot be avoided, plans should show elastic mooring systems that prevent mooring chains from resting or dragging on the bottom substrate at all tides and helical anchors, or equivalent SAS protection systems, where practicable. For moorings that appear to impact SAS, the Corps may require an eelgrass survey.</i></p>

**GP 4. PILE-SUPPORTED STRUCTURES & FLOATS, INCLUDING BOAT LIFTS/HOISTS & OTHER MISCELLANEOUS STRUCTURES & WORK (Section 10; navigable waters of the U.S.)** New, expansions, reconfigurations or modifications of structures for navigation access including floats, stairs, and boat/float lifts.

**Not authorized under GP 4 are:** (a) fill or excavation; (b) no structures within Federal Navigation channels; or (c) structures associated with a NEW boating facility\*.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>Private residential structures with a length limit not to exceed 40' beyond mean high water and to a depth of -4' mean low water and limited to 4' in width. The fixed pier component of the dock located in tidal wetlands shall be constructed such that the lowest horizontal member of the fixed pier is no lower than five (5) feet off the surface of any underlying wetland area.</p>	<p>Work not eligible for SV.</p> <p>New structures within an existing boating facility, provided those structures do not extend beyond the existing perimeter of the facility.</p> <p>Structures or work in or affecting tidal or navigable waters that are not defined under any other GP activity.</p>
<p>Floats must be supported at least 18" above the intertidal and shallow sub-tidal substrate during all tidal cycles.</p> <p>No structures located within Submerged Aquatic Vegetation</p> <p>No structures or floats can be located within the buffer zone (3x the authorized depth of the FNP) of the horizontal limits of FNPs.</p> <p>No structures or floats can extend across &gt;25% of the waterway width at mean low water.</p> <p>No new structures within 25' of riparian property line extensions.</p> <p>No new structures or floats associated with boating facilities.</p> <p>No new pile-supported structures within Shellfish Concentration Areas as designated by the Connecticut Department of Environmental Protection, Coastal Area Management Program under CGS Sec. 22a-90</p> <p>Reconfiguration of existing authorized structures; private or commercial, provided those structures do not extend beyond the existing perimeter of the facility or encroach into Special Aquatic Sites.</p>	<p>Structures that are located within 25 feet of riparian property line extensions unless the properties are owned by the same owner. If so, the Corps may require a letter of no objection from the abutter(s).</p> <p><i>*Boating Facility: Facilities that provide for a fee, rent, or sell mooring space, such as marinas, yacht clubs, boat clubs, boat yards, town facilities, dockminiums, etc.</i></p>

**GP 5. BOAT RAMPS & MARINE RAILWAYS (Sections 10 and 404; tidal and non-tidal waters of the U.S.)** Activities required for the construction of boat ramps and marine railways, including excavation and fill.

**Not authorized under GP 5:** (a) Permanent and temporary fill >1/2 acre of non-tidal waters and/or wetlands, (b) permanent and temporary impacts >1/2 acre in tidal waters; >1000 SF in tidal SAS other than vegetated shallows, or >100 SF in tidal vegetated shallows; or (c) dredging in navigable waters of the U.S. (see GP 7)

**Self-Verification (SV) Eligible**

**Pre-Construction Notification (PCN) Required**

No work in tidal waters and wetlands of the United States.

≤5,000 SF of non-tidal waters and/or wetland fill (permanent and temporary).

No work April 1 through June 30 in non-tidal waters that support diadromous fish species.

Work not eligible for SV.

Work occurs in tidal waters and wetlands of the United States.

Boat ramps are located within 25 feet of riparian property line extensions unless the properties are owned by the same owner. If so, the Corps may require a letter of no objection from the abutter(s).

**GP 6. UTILITY LINE ACTIVITIES (Sections 10 & 404; tidal & non-tidal waters of the U.S.)**

Activities required for (a) The construction, maintenance, relocation, repair, & removal of utility lines, including outfall and intake structures, and the associated excavation, backfill, or bedding for utility lines; (b) The construction, maintenance or expansion of utility line substation facilities associated with a power/utility line in non-tidal waters; and (c) The construction and maintenance of foundations for overhead utility line towers, poles, and anchors provided the foundations are the minimum size necessary and separate footings for each tower leg (rather than a larger single pad) are used where feasible. This GP authorizes the construction of access roads to facilitate construction of the above activities provided the activity, in combination with all other activities included in one single and complete project, does not cause the permanent loss of greater than 1 acre of non-tidal waters of the U.S\*. Impacts resulting from mechanized pushing, dragging or other similar activities that redeposit excavated soil material shall be figured into the area limit determination.

**Not authorized under GP 6:** (a) Permanent and temporary fill >1 acre of non-tidal waters and/or wetlands\*, (b) permanent and temporary impacts >1/2 acre in tidal waters; >1000 SF in tidal Special Aquatic Sites other than vegetated shallows, or >100 SF in tidal vegetated shallows; or (c) blasting or storage of equipment in wetlands.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>No work in, over or under tidal waters.</p> <p>No outfalls.</p> <p>≤5,000 SF of non-tidal waters and/or wetland fill (permanent and temporary).</p> <p>Intake structures that are dry hydrants used exclusively for firefighting activities with no stream impoundments.</p> <p>No silt producing activities from April 1 through June 30 in non-tidal waters that support diadromous fish species.</p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.</p>	<p>Work not eligible for SV.</p> <p>Overhead utility lines constructed over Section 10 waters and submarine utility lines that are routed in or under such waters.</p> <p><i>*See Table 1 Connecticut Water Quality Certification (CT WQC) in Section 1 for additional details on thresholds.</i></p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>
<p><b>NOTE:</b> Temporary fills necessary to conduct the utility line activity are also allowed, provided the utility line activity is <b>within</b> Corps jurisdiction. Material resulting from trench excavation may be temporarily sidecasted into waters of the United States for no more than three months, provided the material is not placed in such a manner that it is dispersed by currents or other forces. If the utility line activity is not within Corps jurisdiction but temporary fill will be placed in Corps jurisdiction, then see GP 21 for temporary fills, etc.</p>	

**GP 7. DREDGING (Section 10; navigable waters of the U.S.), TRANSPORT & DISPOSAL OF DREDGED MATERIAL (Sections 10, 404 & 103; tidal waters of the U.S.), BEACH NOURISHMENT (Sections 10 & 404; tidal waters of the U.S.); ROCK REMOVAL (Section 10, navigable waters of the U.S.) & ROCK RELOCATION (Sections 10 & 404; tidal waters of the U.S.)**

New, improvement\* and maintenance\*\* dredging, including: (a) Disposal of dredged material at a confined aquatic disposal, beach nourishment, near shore, designated open water or ocean water disposal site, provided the Corps finds the dredged material to be suitable for such disposal; (b) Beach nourishment not associated with dredging; (c) Rock removal and relocation for navigation.

**Not authorized under GP 7 are:** (a) New dredging with >1000 SF of impacts to intertidal areas; (b) All dredging and/or disposal with >1000 SF of impacts to tidal Special Aquatic Sites (SAS), other than vegetated shallows or >100 SF of impacts to vegetated shallows; (c) new dredging where the primary purpose is sand mining for beach nourishment; (d) Beach scraping; (e) Rock removal and relocation for navigation >1/2 acre; or (f) blasting.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>No work in non-tidal waters or wetlands.</p> <p>Maintenance dredging (with any amount of yardage) provided:</p> <ul style="list-style-type: none"> <li>Contained upland disposal;</li> <li>Proper siltation controls used &amp; maintained to prevent runback into waterway/wetland;</li> <li>No impacts to SAS, intertidal areas or shellfish beds;</li> <li>Not located within 100' of vegetated shallows or shellfish areas;</li> <li>No work in the Connecticut River; and</li> <li>Work occurs from October 1 through January 31.</li> </ul> <p>Rock/boulder relocation with ≤200 SF of impacts and no impacts to SAS.</p> <p>No rock removal.</p>	<p>Work not eligible for SV.</p> <p>Maintenance dredging not eligible for SV; improvement dredging and new dredging.</p> <p>Disposal options include upland disposal, open water disposal, confined aquatic disposal cells (CAD cells), near-shore disposal or beach nourishment.</p> <p><i>*Improvement is dredging to deeper depths in areas previously dredged or authorized.</i></p> <p><i>**Maintenance dredging includes areas and depths previously authorized by the Corps and dredged.</i></p>



**GP 8. DISCHARGES OF DREDGED OR FILL MATERIAL INCIDENTAL TO THE CONSTRUCTION OF BRIDGES (Sections 10 & 404; navigable waters of the U.S.)**

Discharges of dredged or fill material incidental to the construction and modification of bridges across navigable waters of the U.S., including cofferdams abutments, foundation seals, piers, approach fills, and temporary construction and access fills provided that the USCG authorizes the construction of the bridge structure under Section 9 of the Rivers and Harbors Act of 1899 or other applicable laws. A USCG Authorization Act Exemption or a STURRA (144h) exemption do not constitute USCG authorization.

**Not authorized under GP 8 are causeways.**

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
Discharges of dredged or fill material incidental to the construction and modification of bridges.  No fill in Special Aquatic Sites.	Work not eligible for SV.
No fill in the Connecticut River.	

<b>GP 9. SHORELINE &amp; BANK STABILIZATION PROJECTS (Sections 10 &amp; 404; tidal and non-tidal waters of the U.S.)</b> Bank stabilization activities necessary for erosion protection along the banks of lakes, ponds, streams, estuarine and ocean waters, and any other open waters. Includes bulkheads, seawalls, riprap, revetments or slope protection & similar structures as well as vegetative planting, soil bioengineering or alternative techniques that are a combination of the two (e.g. living shorelines), specifically for the purpose of shoreline protection. <b>Not authorized under GP 9 are:</b> (a) Bank stabilization >500 LF* in total length including both stream banks; (b) Permanent and temporary impacts >1/2 acre in tidal waters, >1000 SF in tidal Special Aquatic Sites (SAS) other than vegetated shallows, or >100 SF in tidal vegetated shallows. (c) Stream channelization or relocation activities; or (d) breakwaters, groins and jetties.	
<b>Self-Verification (SV) Eligible</b>	<b>Pre-Construction Notification (PCN) Required</b>
<p>Coastal shoreline &amp; bank stabilization projects ≤200 linear feet; and other stream, river, or brook bank stabilization projects ≤200 linear feet (includes total for more than one stream bank) provided:</p> <p>≤1 cubic yard of fill per linear foot placed between the high tide line (HTL) and mean low water (MLW) or ≤1 cubic yard of fill per linear foot placed waterward of ordinary high water (OHW).</p> <p>No discharge of fill material within SAS, including mudflats, tidal wetlands, Submerged Aquatic Vegetation and/or shellfish beds.</p> <p>Soft stabilization measures such as bioengineered fiber roll revetments or equivalent, shall be used wherever practicable.</p> <p>No vertical stone structures or embankments angled steeper than 1V: 1H. No new bulkheads.</p> <p>No fill within the streambed.</p> <p>Unconfined work, not including installation and removal of cofferdams, is limited to June 30 through September 30 in non-tidal waters supporting diadromous fish.</p> <p>Unconfined work, not including installation and removal of cofferdams, in other non-tidal waters is limited to the low-flow period June 1 through September 30.</p> <p>Work occurring behind a cofferdam may occur at any time.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p>	<p>Work not eligible for SV.</p> <p>The slope of the structure is steeper than 1V:3H in lakes/ponds; and 1V:1H in non-tidal streams and tidal waters and streams.</p> <p>Fill waterward of the HTL in coastal waters including alternative stabilization techniques that are a combination of soft and hard shoreline stabilization techniques that will affect SAS, change the natural shoreline configuration or alter natural or ecological processes.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p>

**GP 10. AQUATIC HABITAT RESTORATION, ESTABLISHMENT & ENHANCEMENT**

**ACTIVITIES (Sections 10 and 404; tidal and non-tidal waters of the U.S.)** Activities in waters of the United States associated with the restoration, enhancement and establishment of non-tidal and tidal wetlands and riparian areas, including invasive, non-native or nuisance species control; the restoration and enhancement of non-tidal streams and other non-tidal open waters; the relocation of non-tidal waters, including non-tidal streams & associated wetlands for reestablishment of a natural stream morphology and reconnection of the floodplain; the restoration and enhancement of shellfish, finfish and wildlife; and the rehabilitation or enhancement of tidal streams, tidal wetlands and tidal open waters; provided those activities result in net increases in aquatic resource functions and services.

**Not authorized under GP 10 are:** (a) Conversions of wetlands to open water, except for the excavation of new salt pannes and (b) Artificial reefs.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>Special Aquatic Site planting and transplanting ≤100 SF in tidal waters.</p> <p>No new ditching to eliminate mosquito breeding habitat.</p>	<p>Work not eligible for SV</p> <p>Pro-active salt marsh restoration work that includes draining of ponded dieback areas through excavation of runnels with handheld tools or low-impact ground equipment; blocking or unclogging of historic mosquito ditches to restore tidal flushing; excavation of new salt pannes to increase shorebird and waterfowl foraging habitat and placing excavated materials on the marsh surface for establishing suitable vegetative beds.</p>
<p>No thin layer deposition.</p> <p>No fill for purposes of converting marsh to upland.</p> <p>Placement of seed shellfish, spatted-shell or cultch in tidal waters for the restoration or enhancement of existing, publicly-managed, recreational shellfish beds provided there is no placement in or impacts to SAS and does not result in degradation of habitat for other aquatic resources.</p> <p>≤5,000 SF of non-tidal waterway and/or non-tidal wetland fill provided the activity is supported in writing by a state or non-Corps Federal environmental resource management agency.</p> <p>No stream channelization.</p>	<p>Pond or lake reestablishment or restoration.</p> <p>Water impoundments.</p> <p>Dam removals.</p> <p>Integrated Marsh Management in tidal wetlands for combined wetland enhancement and mosquito control and reduction.</p>

**GP 11. FISH & WILDLIFE HARVESTING ACTIVITIES (Sections 10 and 404; tidal and non-tidal waters of the U.S.)**

Activities in waters of the United States associated with fish and wildlife harvesting devices including pound nets, crab traps, crab dredging, eel pots, lobster traps, duck blinds, and clam and oyster digging, fish aggregating devices, and small fish attraction devices such as open water fish concentrators (sea kites, etc.).

**Not authorized by GP 11 are:** (a) Artificial reefs, impoundment(s) or semi-impoundment(s) of water; (b) Permanent and temporary impacts >1/2 acre in tidal waters, >1000 SF in tidal Special Aquatic Sites (SAS) other than vegetated shallows, or >100 SF in tidal vegetated shallows; and (c) Shellfish dredging, either mechanical or hydraulic in SAS.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>Activities associated with fish and wildlife harvesting devices including pound nets, crab traps, crab dredging, eel pots, lobster traps, duck blinds, clam and oyster digging, small fish aggregating and attraction devices such as open water fish concentrators (sea kites, etc.).</p> <p>No permanent impacts to SAS, including salt marshes and Submerged Aquatic Vegetation (SAV).</p> <p>No structures, cages or traps located in SAS.</p>	<p>Work not eligible for SV</p> <p>Devices located in tidal SAS, including salt marsh and SAV.</p>

**GP 12. OIL SPILL & HAZARDOUS MATERIAL CLEANUP (Sections 10 and 404; tidal and non-tidal waters of the U.S.):** a. Activities conducted in response to a discharge or release of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) including containment, cleanup, and mitigation efforts, provided activities are done under either (i) The Spill Prevent, Control & Countermeasure Plan require by 40 CFR 112.3; (ii) The direction or oversight of the Federal on-site coordinator designated by 40 CFR 300; or (iii) Any approved existing State, regional or local contingency plan provided that the Regional Response Team concurs with the proposed response efforts or does not object to the response effort. b. Activities required for the cleanup of oil releases in waters of the U.S. from electrical equipment that are governed by EPA's polychlorinated biphenyl (PCB) spill response regulations at 40 CFR 761. c. Booms placed in tidal waters. d. Use of structures & fills for spill response training exercises. Special Aquatic Sites (SAS) must be restored in place to pre-impact elevations.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
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1. Activities that are conducted in accordance with a. or b. above.
  2. Booms placed in navigable waters for hazardous and toxic waste containment, absorption and prevention, provided they are removed upon completion of the cleanup.
  3. Temporary impacts for spill response training exercises are  $\leq 5,000$  SF in non-tidal waters and  $\leq 1,000$  SF in tidal waters, and temporary structures in tidal waters with no impacts to SAS and in place for  $\leq 30$  days.
- Note:** For activities in non-tidal waters of the U.S., permittees have up to two weeks following commencement of these activities to submit the Self-verification form (Appendix B).

- Work not eligible for SV.
1. The activity is planned or scheduled, not an emergency response, and will cause turbidity or sediment resuspension in tidal waters or streams.
  2. Permanent structures or impacts for spill response training exercises.

**GP 13. CLEANUP OF HAZARDOUS & TOXIC WASTE (Sections 10 and 404; tidal and non-tidal waters of the U.S.)** Specific activities to effect the containment, stabilization or removal of hazardous or toxic waste materials, including court ordered remedial action plans or related settlements which are performed, ordered or sponsored by a government agency with established legal or regulatory authority\*. Special Aquatic Sites must be restored in place to pre-impact elevations.

**Not authorized under GP 13 are:** (a) the establishment of new disposal sites; or (b) the expansion of existing sites used for the disposal of hazardous or toxic waste.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
Permanent and temporary impacts are $\leq 5,000$ SF in non-tidal waters and wetlands.	Work not eligible for SV.
Booms placed in navigable waters for oil and hazardous substance containment, absorption and prevention, provided they are removed upon completion of the cleanup.	Permanent and temporary impacts are $> 5,000$ SF in non-tidal waters and wetlands.
<p><b>Notes:</b> For activities in non-tidal waters of the U.S., permittees have up to two weeks following commencement of these activities to submit the Self-verification form (Appendix E).</p>	Work in navigable waters of the U.S. other than booms placed for hazardous and toxic waste containment, absorption and prevention.

*\*Activities undertaken entirely on a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site by authority of CERCLA, are not required to obtain permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.*

**GP 14. SCIENTIFIC MEASUREMENT DEVICES (Sections 10 and 404; tidal and non-tidal waters of the U.S.)** Scientific devices for measuring and recording scientific data, such as staff gauges, tide and current gauges, meteorological stations, water recording and biological observation devices, water quality testing and improvement devices, and similar structures. Also eligible are small temporary weirs and flumes constructed primarily to record water quantity and velocity provided the discharge is less than 25 cubic yards.

**Not authorized under GP 14 are:** (a) Permanent and temporary impacts >1 acre in non-tidal waters and wetlands; and (b) Permanent and temporary impacts >1/2 acre in tidal waters, >1000 SF in tidal Special Aquatic Sites (SAS) other than vegetated shallows, or >100 SF in tidal vegetated shallows.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
Permanent and temporary impacts are $\leq 1,000$ SF in non-tidal waters and wetlands.	Work not eligible for SV.
<p>No impacts in non-tidal SAS, other than non-tidal wetlands.</p> <p>No fill in tidal waters and/or wetlands.</p> <p>No impacts in tidal Submerged Aquatic Vegetation.</p> <p>Devices in tidal waters that do not restrict movement of aquatic organisms and will not adversely affect the course, condition or capacity of a waterway.</p>	
<p><b>NOTE:</b> Upon completion of the use of the device to measure and record scientific data, the measuring device, and any other structures or fills associated with that device (e.g., foundations, anchors, buoys, lines, etc.), must be removed to the maximum extent practicable.</p>	

<b>GP 15. SURVEY ACTIVITIES (Sections 10 and 404; tidal and non-tidal waters of the U.S.)</b>	
<p>Survey activities such as soil borings; core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory-type bore holes, exploratory trenching* and historic resources surveys.</p> <p><b>Not authorized under GP 15 are:</b> (a) Permanent and temporary fill &gt;1 acre of non-tidal waters and/or wetlands, and (b) permanent and temporary impacts &gt;1/2 acre in tidal waters; &gt;1000 SF in tidal Special Aquatic Sites other than vegetated shallows or &gt;100 SF in tidal vegetated shallows.</p>	
<b>Self-Verification (SV) Eligible</b>	<b>Pre-Construction Notification (PCN) Required</b>
<p>Permanent and temporary impacts ≤5,000 SF in non-tidal waters and wetlands.</p> <p>No impacts, other than soil borings or core sampling, in tidal waters.</p>	<p>Work not eligible for SV.</p>
<p>No permanent structures or drilling and discharge of excavated material from test wells for oil and gas exploration allowed.</p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.</p> <p><i>* For the purposes of this GP, the term "exploratory trenching" means mechanical land clearing of the upper soil profile to expose bedrock or substrate, for the purpose of mapping or sampling the exposed material.</i></p>	<p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>
<p><b>NOTE:</b> The area in which the exploratory trench is dug must be restored to its preconstruction elevation upon completion of the work and must not drain a water of the United States. In wetlands, the top 6 to 12 inches of the trench should normally be backfilled with topsoil from the trench.</p>	



**GP 16. AQUACULTURE PROJECTS & FISHERIES (Sections 10 and 404; navigable waters of the U.S.)** The installation of buoys, floats, racks, trays, nets, lines or other structures in navigable waters for the containment and cultivation of indigenous species of shellfish and seaweed/kelp. Also authorized are anchored upweller floats, small-scale shellfish hatchery seawater intake/discharge structures, and discharges of dredged or fill material associated with cultivation such as the placement of cultch or spatted-shell on bottom.

Depth of cultch or spatted-shell must comply with Special Conditions in Section 5, Part (h), items (1) through (7) of CT DEEP. General Permit for Coastal Maintenance (DEEP-OLISP-GP2015-02) and must not result in visible degradation of habitat for other aquatic resources. All structures must be permitted by State of Connecticut Navigation Safety/Boating Access Unit and marked in conformance with applicable State or U.S. Coast Guard Aids to Navigation. **NOTE: All facilities must be installed and operated in compliance with the attached Appendix C Aquaculture Conditions**

**Not authorized under GP 16 are impacts to Special Aquatic Sites, including Submerged Aquatic Vegetation.**

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>Placement of seed shellfish, spatted-shell or cultch for commercial shellfish aquaculture on leased grounds when performed in compliance with the conditions in Section 5 h. of the CT DEEP General Permit for Coastal Maintenance (DEEP-OLISP-GP-2015-02).</p> <p>The installation of temporary (&lt; six months) structures for research, educational or experimental aquaculture gear impacting ≤1,000 SF for indigenous species under the direct supervision of the Dept. of Agricultural, Bureau of Aquaculture provided there is no adverse effect to navigation.</p> <p>Suspended cages or bags located wholly below and within the footprint of an existing <u>authorized</u> fixed or floating structure in water depths ≤ 10 feet MLW; provided no loose lines and there is a vertical clearance of at least 2 feet between the bottom of the gear and the sea floor at mean low water.</p> <p>Shellfish upweller floats not to exceed 160 sf (anchored/berthed only, no piling installation), with a vertical clearance of at least 2 feet between the bottom of the gear and the sea floor at mean low water, cannot be located within the buffer of a Federal Navigation Project.</p>	<p>Work not eligible for SV.</p> <p>Vertical-drop longlines and suspended gear for the culture of shellfish or other marine organisms, such as kelp and seaweed.</p> <p>Cages, trays, racks, netting or other structures on the ocean bottom or floating on the water surface used to contain, cultivate or depurate shellfish.</p> <p>For additional information, please see “A Guide for Marine Aquaculture Permitting in Connecticut” for guidance and application materials found at:  <a href="http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/AquaculturePermitGuide.pdf">http://www.nae.usace.army.mil/Portals/74/docs/regulatory/StateGeneralPermits/CT/AquaculturePermitGuide.pdf</a></p> <p>Intake and discharge structure with a diameter ≤ 3 inches, for the withdrawal and discharge of water to support small-scale shellfish land-based hatchery with negative impact on source or discharge waters.</p> <p>Activities that involve a change from authorized gear for bottom culture to floating or suspended gear.</p> <p>Boundaries of Submerged Aquatic Vegetation may be required to be located/surveyed in the field. See Corps website for guidance:  <a href="http://www.nae.usace.army.mil/Portals/74/docs/regulatory/JurisdictionalLimits/SubmergedAquaticVegetationSurveyGuidance(Updated7-12-2016).pdf">http://www.nae.usace.army.mil/Portals/74/docs/regulatory/JurisdictionalLimits/SubmergedAquaticVegetationSurveyGuidance(Updated7-12-2016).pdf</a></p>

<p><b><u>GP 17. NEW/EXPANDED DEVELOPMENTS &amp; RECREATIONAL FACILITIES (Section 404; non-tidal waters of the U.S.)</u></b> Discharges of dredged or fill material for the construction or expansion of developments and/or recreational facilities. This GP authorizes attendant features that are necessary for the use such as parking lots, garages, and yards. Fill area includes all temporary and permanent fill, and regulated discharges associated with excavation.</p> <p><b>Not authorized under GP 17 are:</b> (a) Permanent impacts that are &gt;1 acre* in non-tidal waters and wetlands; (b) Stormwater treatment or detention systems, or subsurface sewerage disposal systems in waters of the U.S.; and (c) New roadway and driveway crossings in non-tidal waters and/or wetlands. (See GPs 18 &amp; 19)</p>	
<b>Self-Verification (SV) Eligible</b>	<b>Pre-Construction Notification (PCN) Required</b>
<p>Permanent and temporary impacts ≤5,000 SF of non-tidal waters and/or wetlands provided no impacts to Special Aquatic Sites other than wetlands (e.g. riffle and pool stream habitat, shellfish beds).</p>	<p>Work not eligible for SV.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p>
<p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.</p>	<p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>

**GP 18. LINEAR TRANSPORTATION PROJECTS – WETLAND CROSSINGS ONLY**

**(Section 404; non-tidal waters of the U.S.)** Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., driveways, roads, highways, railways, trails, airport runways, and taxiways) and attendant features.

**Not authorized under GP 18 are:** (a) Permanent and temporary impacts for any single and complete project that are >1 acre\* or (b) Stream, river, or brook crossing projects (see GP 19)

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
Permanent and temporary impacts ≤5,000 SF of non-tidal wetland fill provided:	Work not eligible for SV.
No work in non-tidal Special Aquatic Sites other than wetlands.  No slip lining or culvert relining that changes invert elevation.	<i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i>
NOTE: Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.	NOTE: Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.

**GP 19. STREAM, RIVER & BROOK CROSSINGS (NOT INCLUDING WETLAND**

**CROSSINGS) (Sections 10 and 404; tidal and non-tidal waters of the U.S.)** Activities required for the construction, expansion, modification, or improvement of linear transportation projects (e.g., driveways, roads, highways, railways, trails, airport runways, and taxiways) and attendant features, provided that work is performed in accordance with Connecticut General Permit Stream Crossing Best Management Practices to the extent practicable - See Appendix G.

**Not authorized under GP 19 are:** (a) Permanent impacts for any single and complete projects that are >1 acre in non-tidal waters and wetlands\*, >1/2 acre in tidal waters of the U.S., >1000 SF in tidal Special Aquatic Sites (SAS) other than vegetated shallows or >100 SF in tidal vegetated shallows; (b) Temporary impacts >1 acre in tidal waters, >5000 SF in tidal SAS other than vegetated shallows, or >1000 SF in vegetated shallows; or (c) Wetland Crossings (see GP 18).

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>No impacts to tidal waters and/or wetlands.</p> <p>Permanent and temporary impacts ≤5,000 SF of non-tidal waters and wetlands provided for stream, river, brook crossings by means of a Bridge or Open-Bottom Structure that meets the following standards: 1. Spans at least 1.2 times the watercourse bank full width, 2. Allows for the continuous, uninterrupted flow of the 50-year frequency storm flows, and 3. No riprap is placed within or across the bed of the brook, and appurtenant stream bank stabilization does not exceed 50 feet along any upstream or downstream bank.</p> <p>Permanent and temporary impacts ≤5,000 SF of non-tidal waters and wetlands provided for stream, river, brook crossings by means of a culvert provided the tributary watershed to the culvert does not exceed 1 sq. mile (640 acres)*</p> <p>No open trench excavation in flowing waters.</p> <p>Unconfined, in-stream work, not including installation and removal of cofferdams, is limited to the low-flow period, June 1 through September 30 unless CT DEEP requires different resource-driven time of year restriction.</p> <p>Work occurring behind a cofferdam may occur at any time.</p> <p>No stream relocations; no dams or dikes; no new culvert crossings of perennial streams. No slip lining or culvert relining that changes invert elevation.</p> <p>NOTE: Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p>	<p>Work not eligible for SV.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p> <p>NOTE: Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>

**GP 20. ENERGY GENERATION & RENEWABLE ENERGY GENERATION FACILITIES (Sections 10 and 404; tidal waters of the U.S.) & HYDROPOWER PROJECTS (Sections 10 and 404; tidal waters of the U.S.)**

Structures and work in navigable waters of the U.S. and discharges of dredged or fill material into tidal waters of the U.S. for the construction, expansion, modification or removal of: (a) Land-based renewable energy production facilities, including attendant features; (b) Water-based wind or hydrokinetic renewable energy generation pilot projects and their attendant features; and (c) Discharges of dredged or fill material associated with hydropower projects.

Attendant features may include, but are not limited to, land-based collection and distribution facilities, control facilities, and parking lots. For each single and complete project in (b) above, no more than 10 generation units (e.g., wind turbines or hydrokinetic devices) are authorized in navigable waters of the U.S.

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
Not allowed under SV.	<p><b>For land-based facilities, impacts are:</b></p> <p><b>Permanent impacts</b> ≤1/2 acre in tidal waters; or ≤ 100 SF in tidal vegetated shallows or ≤ 1,000 SF in other tidal Special Aquatic Sites (SAS).</p> <p><b>Temporary impacts</b> ≤1 acre in tidal waters; ≤ 1,000 SF in vegetated shallows and ≤ 5,000 SF in other tidal SAS.</p> <p><b>For water-based wind or hydrokinetic renewable energy generation pilot projects, and hydropower projects permanent and temporary impacts are:</b></p> <p>≤1/2 acre in tidal waters.</p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>

**GP 21. TEMPORARY FILL NOT ASSOCIATED WITH ANY OTHER GP ACTIVITIES**  
**(Section 404; non-tidal waters of the U.S.)** Temporary discharges, such as sandbag/earth cofferdams, access fills, etc., necessary for construction activities or dewatering of construction sites.

**Not authorized under GP 21:** Temporary impacts >1 acre in non-tidal waters and wetlands\*

Self-Verification (SV) Eligible	Pre-Construction Notification (PCN) Required
<p>Temporary impacts <math>\leq</math>5,000 SF of temporary non-tidal waters and/or non-tidal wetland.</p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 5,000 SF threshold and should be removed as soon as work is completed.</p>	<p>Work not eligible for SV.</p> <p><i>*See Table 1 CT WQC in Section 1 for additional details on thresholds.</i></p> <p><b>NOTE:</b> Construction mats of any area necessary to conduct activities do not count towards the 1 acre threshold and should be removed as soon as work is completed.</p>



## APPENDIX B - GENERAL CONDITIONS

**1. Other Permits.** Permittees must obtain other Federal, State, or local authorizations required by law. Applicants are responsible for applying for and obtaining all required State or local approvals. Work that is not regulated by the State, but is subject to Corps jurisdiction, may be eligible for these General Permits (GPs).

### **2. Federal Jurisdiction.**

a. Applicability of the GPs shall be evaluated with reference to Federal jurisdictional limits. Applicants are responsible for ensuring that the limits depicted satisfy the Federal criteria defined at 33 CFR 328 "Waters of the United States." and 33 CFR 329 "Navigable Waters of the United States"

**NOTE:** Waters of the U.S. include the subcategories "navigable waters of the United States," and "wetlands."

b. Pre-Construction Notification (PCN) Eligible projects require an application to the Corps which must include a delineation of wetlands, other special aquatic sites, and other waters such as lakes and ponds and perennial, intermittent, and ephemeral streams that are on the project site. Wetland delineations must be prepared in accordance with the current federal method required by the Corps. For Corps Wetland Delineation Manual, regional supplements and data sheets, and the National List of Plant Species that Occur in Wetlands, visit our website at <http://www.nae.usace.army.mil/Missions/Regulatory.aspx> and then click on "Jurisdiction and Wetlands". The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists which can be found at

<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. For the Field Indicators for Identifying Hydric Soils in New England, visit: [www.neiwpcc.org/hydricsoils.asp](http://www.neiwpcc.org/hydricsoils.asp).

### **3. Mitigation (Avoidance, Minimization, and Compensatory Mitigation)**

a. Activities must be designed and constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States (U.S.) to the maximum extent practicable at the project site (i.e., on site). Consideration of mitigation (avoiding, minimizing, rectifying, reducing, or compensating) is required to the extent necessary to ensure that the adverse effects to the aquatic environment are no more than minimal.

b. Applicants should consider riparian/forested buffers for stormwater management and low impact development (LID) best management practices (BMPs) to reduce impervious cover and manage stormwater to minimize impacts to the maximum extent practicable.

c. Compensatory mitigation<sup>1</sup> for effects to waters of the U.S., including direct, secondary and temporal<sup>2</sup>, will generally be required for projects with permanent impacts that exceed the SV area limits, and may be required for temporary impacts that exceed the SV area limits, to offset unavoidable impacts which remain after all appropriate and practicable avoidance and minimization has been achieved and to ensure that the adverse effects to the aquatic environment are no more than minimal. Proactive restoration projects or temporary impact work with no secondary effects may generally be excluded from this requirement.

The Corps **Connecticut In-Lieu Fee Program** allows Corps permittees, as compensation for their project impacts to aquatic resources of the United States in Connecticut pursuant to Section 404 of the Clean Water Act, to make monetary payment *in-lieu* of permittee-responsible mitigation. Information is provided at <http://www.nae.usace.army.mil/Missions/Regulatory/Mitigation.aspx> >>Mitigation>>Connecticut In-Lieu Fee Program. Please note that this only applies to Corps required mitigation and additional Connecticut DEEP mitigation may be required.

**4. Discretionary Authority.** Notwithstanding compliance with the terms and conditions of this permit, the Corps retains discretionary authority to require an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest [33 CFR 320.4(a)]. This authority is invoked on a case-by-case basis whenever the Corps determines that the potential consequences of the proposal warrant Individual Permit review based on the concerns stated above. This authority may be invoked for projects with

<sup>1</sup> Compensatory mitigation projects provided to offset losses of aquatic resources must comply with the applicable provisions of 33 CFR 332. See also the New England District Compensatory Mitigation Guidance at <http://www.nae.usace.army.mil/Missions/Regulatory/Mitigation.aspx>

<sup>2</sup> Temporal loss: The time lag between the losses of aquatic resource functions caused by the permitted impacts and the replacement of aquatic resource functions at the compensatory mitigation site(s) (33 CFR 332.2).



cumulative adverse environmental effects that are more than minimal, or if there is a special resource or concern associated with a particular project. Whenever the Corps notifies an applicant that an Individual Permit may be required, authorization under these GPs is voided and no work may be conducted until a Corps Individual Permit is obtained or until the Corps notifies the applicant that further review has demonstrated that the work may be reviewed under these GPs.

**5. Single and Complete Projects.** The term "single and complete project" is defined at 33 CFR 330.2(i) as the total project proposed or accomplished by one owner/developer or partnership or other association of owners/developers. The GPs shall not be used for piecemeal work and shall be applied to single and complete projects.

a. For non-linear projects, a single and complete project must have independent utility. Portions of a multi-phase project that depend upon other phases of the project do not have independent utility. Phases of a project that would be constructed, even if the other phases were not built, can be considered as separate single and complete projects with independent utility.

b. Unless the Corps determines the activity has independent utility, all components of a single project and/or all planned phases of a multi-phased project (e.g., subdivisions should include all work such as roads, utilities, and lot development) shall be treated together as constituting one single and complete project.

c. For linear projects such as power lines or pipelines with multiple crossings, a "single and complete project" is all crossings of a single water of the U.S. (i.e. single waterbody) at a specific location. For linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies, and crossings of such features cannot be considered separately. If any crossing requires a PCN review or an individual permit review, then the entire linear project shall be reviewed as one project under PCN or the individual permit procedures.

**6. Corps Property and Federal Projects.**

a. In addition to any authorization under these GPs, proponents must contact the Corps Real Estate Division at (978) 318-8585 for work occurring on or potentially affecting Corps properties and/or Corps-controlled easements to initiate reviews and determine what real estate instruments are necessary to perform work. Permittees may not commence work on Corps properties and/or Corps-controlled easements until they have received any required Corps real estate documents evidencing site-specific permission to work.

b. Any proposed temporary or permanent modification or use of a Federal project (including but not limited to a levee, dike, floodwall, channel, anchorage, seawall, bulkhead, jetty, wharf, pier or other work built but not necessarily owned by the United States), or any use which would obstruct or impair the usefulness of the Federal project in any manner, and/or would involve changes to the authorized Federal project's scope, purpose, and/or functioning, is not eligible for SV and will also require review and approval by the Corps pursuant to 33 USC 408. Where Section 408 is applicable, a decision on a Department of the Army general permit application will not be rendered prior to the decision on a Section 408 request.

**7. National Lands.** Activities that impinge upon the value of any National Wildlife Refuge, National Forest, National Marine Sanctuary or any area administered by the National Park Service, U. S. Fish and Wildlife Service (USFWS) or U.S. Forest Service are not eligible for SV.

**8. Wild and Scenic Rivers.** No activity may occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, unless the appropriate Federal agency with direct management responsibility for such river, has determined in writing that the proposed activity will not adversely affect the Wild and Scenic River designation or study status. Information on Wild and Scenic Rivers may be obtained from the appropriate Federal land management agency responsible for the designated Wild and Scenic River or study river (e.g. National Park Service, U.S. Forest Service, Bureau of Land Management, U. S. Fish and Wildlife Service).

As of July 15, 2016, affected rivers in Connecticut include: the West Branch of the Farmington River from Colebrook to Canton (designated river); the Eightmile River and tributaries in Salem, Lyme and East Haddam (designated river); and the Lower Farmington River from Canton to Windsor (study river – including its tributary Salmon Brook). Additional information can be found at: <http://www.rivers.gov/connecticut.php>

## 9. Historic Properties.

a. No undertaking shall cause effects (defined at 33 CFR 325 Appendix C and 36 CFR 800) on properties listed on, determined to be eligible for listing on, or potentially eligible for listing on the National Register of Historic Places<sup>3</sup>, including previously unknown historic properties within the permit area, unless the Corps or another Federal action agency has satisfied the consultation requirements of Section 106 of the National Historic Preservation Act (NHPA). The State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO) and the National Register of Historic Places can assist with locating information on: i) previously identified historic properties; and ii) areas with potential for the presence of historic resources, which may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

b. For activities eligible for SV (inland projects), proponents must ensure and document that the activity will not cause effects as stated in 9(a).

c. Proponents must submit a PCN to the Corps as soon as possible if the authorized activity may cause effects as stated in 9(a) to ensure that the Corps is aware of any potential effects of the permitted activity on any historic property that the consultation requirements of Section 106 of NHPA are satisfied.

d. All PCN (inland projects): i) show notification to the SHPO and applicable THPO(s)<sup>4</sup> for their identification of historic properties, ii) state which historic properties may be affected by the proposed work or include a vicinity map indicating the location of the historic properties or the potential for the presence of historic properties, and iii) include any available documentation from the SHPO or THPO(s) indicating that there are or are not historic properties affected. Starting consultation early in project planning can save proponents time and money.

e. If you discover any previously unknown historic, cultural or archeological remains and artifacts while accomplishing the activity authorized by this permit, you must immediately notify the district engineer of what you have found, and to the maximum extent practicable, avoid construction activities that may affect the remains and artifacts until the required coordination has been completed. The district engineer will initiate the Federal, Tribal and state coordination required to determine if the items or remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

## 10. Federal Threatened and Endangered Species.

a. No activity is authorized which: a) is likely to directly or indirectly jeopardize the continued existence of any listed or proposed species or result in the destruction or adverse modification of designated or proposed critical habitat, as identified under the Federal Endangered Species Act (ESA); b) result in take of a listed species or adversely modifies designated critical habitat; or c) violates the ESA.

b. For listed species or critical habitat under U. S. Fish and Wildlife Service (USFWS) jurisdiction, a PCN is required when a proposed project may affect a listed species or designated critical habitat. To ensure compliance with the Endangered Species Act, project proponents must request an 'Official Species List' from the USFWS IPaC website <http://ecos.fws.gov/ipac> <http://ecos.fws.gov/ipac>>. This USFWS IPaC website will record the request and immediately email the list to you. Include the list with all applications. An activity is SV eligible if the Official Species List states the northern long-eared bat (NLEB) (*Myotis septentrionalis*) is present BUT the activity: i) will not remove trees  $\geq 3$  inches dbh; ii) is not within the "buffer" of a NLEB hibernacula or maternity roost tree; and iii) does not involve work on an existing dam, riprap or bridges.

<sup>3</sup> The majority of historic properties are not listed on the National Register of Historic Places and may require identification and evaluation by qualified historic preservation and/or archaeological consultants in consultation with the Corps and the SHPO and/or THPO(s).

<sup>4</sup> Appendix D, #3 Historic Resources, provides contact information and each tribe's "area of concern."

c. For listed species or habitat under NMFS jurisdiction, the Corps will coordinate with NMFS as appropriate for all work eligible for SV that may have an effect on listed species or habitat; therefore SV eligible project proponents are not required to check for listed species or habitat for their projects.

d. Federal applicants should follow their own procedures for complying with the requirements of the ESA. Work may be eligible for SV if another Federal agency has satisfied the requirements of Section 7 of the ESA. Upon request, permittees must provide the Corps with the appropriate documentation to demonstrate compliance with those requirements.

#### 11. Pile Removal and Related Time of Year Restrictions

a. Derelict, degraded or abandoned piles and sheet piles in navigable waters, except for those inside of existing work footprints for piers, must be completely removed or cut and/or driven to 3 feet below the substrate to prevent interference with navigation and in some cases to remove polluting materials. Existing creosote piles in the project area that are affected by project activities should be completely removed. In areas of fine-grained substrates, piles must be removed by the direct, vibratory or clamshell pull method<sup>5</sup> to minimize turbidity and sedimentation impacts. Removed piles shall be disposed of in an upland location landward of MHW or OHW and not in wetlands, tidal wetlands, their substrate or mudflats.

b. Piles should either be installed between November 1 and March 15 **OR** must use a soft start each day of pile driving, building up power slowly from a low energy start-up over a period of 20-40 minutes to provide adequate time for fish and marine mammals to leave the vicinity. The buildup of power should occur in uniform stages to provide a constant increase in output. Bubble curtains can be used to reduce sound pressure levels during vibratory or impact hammer pile driving.

#### 12. Navigation.

a. No activity may cause more than a minimal adverse effect on navigation.

b. Any safety lights and signals prescribed by the U.S. Coast Guard, through regulations must be installed and maintained at the permittee's expense on authorized facilities in navigable waters of the U.S.

c. Any structure or work that extends closer to the horizontal limits of any Corps Federal Navigation Project than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys. This is applicable to SV and PCN.

d. There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein.

e. The permittee understands and agrees that if future U.S. operations require the removal, relocation, or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

f. An application to the Corps is required for all work in, over or under an FNP or its buffer zone unless otherwise indicated in Appendix A.

<sup>5</sup> Direct Pull: Each piling is wrapped with a choker cable or chain that is attached at the top to a crane. The crane then pulls the piling directly upward, removing the piling from the sediment. Vibratory Pull: The vibratory hammer is a large mechanical device (5-16 tons) that is suspended from a crane by a cable. The vibrating hammer loosens the piling while the crane pulls up. Clamshell Pull: This can remove intact, broken or damaged pilings. The clamshell bucket is a hinged steel apparatus that operates like a set of steel jaws. The bucket is lowered from a crane and the jaws grasp the piling stub as the crane pulls up. The size of the clamshell bucket is minimized to reduce turbidity during piling removal.

**13. Federal Liability.** In issuing this permit, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future modification, suspension, or revocation of this permit.

**14. Heavy Equipment in Wetlands.** Operating heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) within wetlands shall be minimized, and such equipment shall not be stored, maintained or repaired in wetlands, to the maximum extent practicable. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or it shall be placed on swamp/construction/timber mats (herein referred to as "construction mats") that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Other support structures that are capable of safely supporting equipment may be used with written Corps authorization. Similarly, the permittee may request written authorization from the Corps to waive use of mats during frozen or dry conditions. An adequate supply of spill containment equipment shall be maintained on site. Construction mats should be managed in accordance with the following construction mat best management practices:

- Mats should be in good condition to ensure proper installation, use and removal.
- Where feasible, mats should be carried and not dragged unless they are being used as a grading implement.
- Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing.
- Minimize impacts to wetland areas during installation, use, and removal.
- Install adequate erosion & sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats.
- In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground.
- Provide standard construction mat BMP details to work crews.

**15. Temporary Fill.**

a. Temporary fill, construction mats and corduroy roads shall be **entirely** removed as soon as they are no longer needed to construct the authorized work. Temporary fill shall be placed in its original location or disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.

b. All temporary fill and disturbed soils shall be stabilized to prevent its eroding into waters of the U.S. where it is not authorized. Work shall include phased or staged development to ensure only areas under active development are exposed and to allow for stabilization practices as soon as practicable. Temporary fill must be placed in a manner that will prevent it from being eroded by expected high flows.

c. Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. washed stone, stone, etc.).

d. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable when temporary structures, work, and discharges of dredged or fill material, including cofferdams, are necessary for construction activities, access fills, or dewatering of construction sites. Materials shall be placed in a location and manner that does not adversely impact surface or subsurface water flow into or out of the wetland. Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric or other appropriate material laid on the pre-construction wetland grade where practicable to minimize impacts and to facilitate restoration to the original grade. Construction mats are excluded from this requirement.

e. Construction debris and/or deteriorated materials shall not be located in waters of the U.S.

**16. Restoration of Inland Wetland Areas.**

a. Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be stabilized with a wetland seed mix containing only plant species native to New England and shall not contain any species listed in the "Invasive and Other Unacceptable Plant Species" Appendix D in the "New England District Compensatory Mitigation Guidance" found at <http://www.nae.usace.army.mil/Portals/74/docs/regulatory/Mitigation/CompensatoryMitigationGuidance.pdf>

b. The introduction or spread of invasive plant species in disturbed areas shall be controlled. If swamp or timber mats are to be used, they shall be thoroughly cleaned before re-use.

c. In areas of authorized temporary disturbance, if trees are cut they shall be cut at or above ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.

d. Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

**17. Coastal Bank Stabilization.** Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, scour, etc. to the maximum extent practicable. For example, vertical bulkheads should only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. A revetment is sloped and is typically employed to absorb the direct impact of waves more effectively than a vertical seawall. It typically has a less adverse effect on the beach in front of it, abutting properties and wildlife. For more information on this topic, go to the Corps Coastal Engineering Manual (supersedes the Shore Protection Manual), located at <http://chl.erdc.usace.army.mil>. Select "Products/ Services," "Publications." Part 5, Chapter 7-8, a (2) c.

**18. Soil Erosion and Sediment Controls.** Appropriate soil erosion and sediment controls must be used and maintained in effective operating condition during construction, and all exposed soil and other fills, as well as any work below the ordinary high water mark or high tide line, must be permanently stabilized at the earliest practicable date. Permittees are encourage to perform work within waters of the U.S. during periods of low-flow or no-flow, or during low tides.

**19. Aquatic Life Movements & Management of Water Flows.**

a. No activity may substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area, unless the activity's primary purpose is to impound water. Unless otherwise stated, activities impounding water in a stream require a PCN to ensure impacts to aquatic life species are avoided and minimized. All permanent and temporary crossings of waterbodies (e.g., streams, wetlands) shall be:

i. Suitably culverted, bridged, or otherwise designed and constructed to maintain low flows to sustain the movement of those aquatic species; and

ii. Properly aligned and constructed to prevent bank erosion or streambed scour both adjacent to and inside the culvert. Permanent and temporary crossings of wetlands shall be suitably culverted, spanned or bridged in such a manner as to preserve hydraulic and ecological connectivity between the wetlands on either side of the road.

b. To avoid adverse impacts on aquatic organisms, the low flow channel/thalweg shall remain unobstructed during periods of low flow, except when it is necessary to perform the authorized work.

c. To the maximum extent practicable, the pre-construction course, condition, capacity, and location of open waters must be maintained for each activity, including stream channelization and storm water management activities. The activity must be constructed to withstand expected high flows. The activity must not restrict or impede the passage of normal or high flows, unless the primary purpose of the activity is to impound water or

manage high flows. The activity may alter the preconstruction course, condition, capacity, and location of open waters if it benefits the aquatic environment (e.g., stream restoration or relocation activities).

**20. Discharge of Pollutants.** All activities involving any discharge of pollutants into waters of the U.S. authorized under these GPs shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 U.S.C. 1251), and applicable state and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this permit, the authorized work shall be modified to conform with these standards within 6 months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the District Engineer in consultation with the Regional Administrator of the EPA. Applicants may presume that state water quality standards are met with issuance of the Section 401 WQC (Applicable only to the Section 404 activity).

**21. Spawning, Breeding, and Migratory Areas**

a. Jurisdictional activities and impacts such as excavations, discharges of dredged or fill material, and/or suspended sediment producing activities in jurisdictional waters that provide value as fish migratory areas, fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided and minimized to the maximum extent practicable.

b. Jurisdictional activities in waters of the U.S. that provide value as breeding areas for migratory birds must be avoided to the maximum extent practicable. The permittee is responsible for obtaining any "take" permits required under the USFWS's regulations governing compliance with the Migratory Bird Treaty Act or the Bald and Golden Eagle Protection Act. The permittee should contact the appropriate local office of the USFWS to determine if such "take" permits are required for a particular activity.

**22. Storage of Seasonal Structures.** Coastal structures, such as pier sections and floats, that are removed from the waterway for a portion of the year (often referred to as seasonal structures) shall be stored in an upland location, located above mean high water (MHW) and **not** in tidal wetlands. These seasonal structures may be stored on the fixed, pile-supported portion of the structure that is seaward of MHW. This is intended to prevent structures from being stored on the marsh substrate and the substrate seaward of MHW.

**23. Environmental Functions and Values.** The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes any adverse impacts on existing fish, wildlife, and the environmental functions to the extent practicable. The permittee will discourage the establishment or spread of plant species identified as non-native invasive species by any federal or state agency.

**24. Vernal Pools.**

a. Only vernal pools that meet the current definition of waters of the U.S. are regulated by the Corps.

b. Direct and indirect adverse effects to all vernal pools (VPs), including their envelopes and critical terrestrial habitats (VP Management Areas), shall be avoided and minimized to the maximum extent practicable. Site clearing, grading, and construction activities associated with a regulated activity in the VP Management Area may cause these adverse effects to the VP.

c. When any regulated activities occur within 750 feet of a vernal pool, the following management practices must be followed for all work within any VP Management Area (750' of a VP's edge) *in order to qualify for SV*:

i. No disturbance within the VP Depression or VP Envelope (area within 100 feet of the VP Depression's edge) does not apply to temporary impact associated with construction mats in previously disturbed areas of existing utility projects or linear transportation projects provided there is a Vegetation Management Plan that avoids, minimizes and mitigates impacts to aquatic resources.

ii. Maintain a minimum of 75% of the Critical Terrestrial Habitat (area within 100-750 feet of the VP Depression's edge) as unfragmented forest with at least a partly-closed canopy of overstory trees to provide shade, deep litter and woody debris;

iii. Maintain or restore forest corridors connecting wetlands and significant vernal pools;

iv. Minimize forest floor disturbance;

- v. Maintain native understory vegetation and downed woody debris; and
- vi. Cape Cod style-curbings or no curbing options shall be used on new roads to facilitate amphibian passage.

d. A PCN is required for any regulated activity within 750' of a vernal pool when all work within the VP Management Area does not comply with the SV requirements in (c) above. Information on directional buffers in accordance with the VP Directional Buffer Guidance document may be provided in order to demonstrate minimal impact and avoid compensation requirements. Conservation of the un-impacted area within the VP Management Area will often be required.

#### **25. Invasive Species.**

a. The introduction, spread, or the increased risk of invasion of invasive plant or animal species on the project site, into new or disturbed areas, or areas adjacent to the project site caused by the site work shall be avoided. Hence, swamp and timber mats shall be thoroughly cleaned before reuse.

b. Unless otherwise directed by the Corps, all applications for PCN inland projects proposing fill in Corps jurisdiction shall include an Invasive Species Control Plan. Additional information can be found at [www.hort.uconn.edu/cipwg/](http://www.hort.uconn.edu/cipwg/)

~~26. Permit/Authorization Letter On-Site.~~ For PCN projects, the permittee shall ensure that a copy of these GPs and the accompanying authorization letter are at the work site (and the project office) whenever work is being performed, and that all personnel with operational control of the site ensure that all appropriate personnel performing work are fully aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by these GPs. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means these GPs, including General Conditions and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract as a change order. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire authorization letter, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

**27. Inspections.** The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work or post-dredging survey drawings for any dredging work.

**28. Maintenance.** The permittee shall maintain the activity authorized by these GPs in good condition and in conformance with the terms and conditions of this permit. This does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix A – General Permit #7 as well as any conditions included in a written Corps authorization. Maintenance dredging includes only those areas and depths previously authorized and dredged. Some maintenance activities may not be subject to regulation under Section 404 in accordance with 33 CFR 323.4(a) (2).

**29. Property Rights.** These GPs do not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

**30. Transfer of GP Verifications.** When the work authorized by these GPs are still in existence at the time the property is transferred, the terms and conditions, including any special conditions, will continue to be binding on the entity or individual who received the authorization, as well as the new owner(s) of the property. If the permittee sells the property associated with a General Permit authorization, the permittee may transfer the General Permit authorization to the new owner by submitting a letter to the Corps to validate the transfer. A

copy of the General Permit authorization letter must be attached to the letter, and the letter must include the following statement: "The terms and conditions of these General Permits, including any special conditions, will continue to be binding on the new owner(s) of the property". This letter should be signed by both the seller and new property owner(s).

**31. Modification, Suspension, and Revocation.** This permit and any individual authorizations issued thereof may either be modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7; and any such action shall not be the basis for any claim for damages against the United States.

**32. Special Conditions.** The Corps may impose other special conditions on a project authorized pursuant to this general permit that are determined necessary to minimize adverse environmental effects or based on any other factor of the public interest. These may be based on concerns from CT DEEP or a Federal resource agency. Failure to comply with all conditions of the authorization, including special conditions, will constitute a permit violation and may subject the permittee to criminal, civil, or administrative penalties and/or restoration.

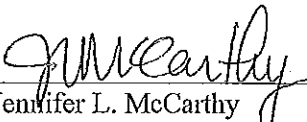
**33. False or Incomplete Information.** If the Corps makes a determination regarding the eligibility of a project under this permit, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the authorization will not be valid, and the U.S. government may institute appropriate legal proceedings.

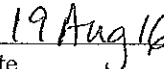
**34. Abandonment.** If the permittee decides to abandon the activity authorized under this General Permit, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

**35. Enforcement cases.** These GPs do not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action.

**36. Duration of Authorization.** These GPs expire five years from the date issued as listed at the top of the cover sheet. Activities authorized by these GPs that have either commenced (i.e., are under construction) or are under contract to commence in reliance upon this authorization will have an additional year from the expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the project was under construction or under contract by the expiration date of these GPs. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization provided the project meets the terms and conditions of the CT GPs in effect at the time.

Activities authorized under these GPs will remain authorized until the GP expires, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2). Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

  
\_\_\_\_\_  
Jennifer L. McCarthy  
Chief, Regulatory Division

  
\_\_\_\_\_  
Date





copy of the General Permit authorization letter must be attached to the letter, and the letter must include the following statement: "The terms and conditions of these General Permits, including any special conditions, will continue to be binding on the new owner(s) of the property". This letter should be signed by both the seller and new property owner(s).

**31. Modification, Suspension, and Revocation.** This permit and any individual authorizations issued thereof may either be modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7; and any such action shall not be the basis for any claim for damages against the United States.

**32. Special Conditions.** The Corps may impose other special conditions on a project authorized pursuant to this general permit that are determined necessary to minimize adverse environmental effects or based on any other factor of the public interest. These may be based on concerns from CT DEEP or a Federal resource agency. Failure to comply with all conditions of the authorization, including special conditions, will constitute a permit violation and may subject the permittee to criminal, civil, or administrative penalties and/or restoration.

**33. False or Incomplete Information.** If the Corps makes a determination regarding the eligibility of a project under this permit, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the authorization will not be valid, and the U.S. government may institute appropriate legal proceedings.

**34. Abandonment.** If the permittee decides to abandon the activity authorized under this General Permit, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

**35. Enforcement cases.** These GPs do not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action.

**36. Duration of Authorization.** These GPs expire five years from the date issued as listed at the top of the cover sheet. Activities authorized by these GPs that have either commenced (i.e., are under construction) or are under contract to commence in reliance upon this authorization will have an additional year from the expiration date to complete the work. The permittee must be able to document to the Corps' satisfaction that the project was under construction or under contract by the expiration date of these GPs. If work is not completed within the one year extended timeframe, the permittee must contact the Corps. The Corps may issue a new authorization provided the project meets the terms and conditions of the CT GPs in effect at the time.

Activities authorized under these GPs will remain authorized until the GP expires, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization in accordance with 33 CFR 325.2(e)(2). Activities completed under the SV or PCN authorizations of these GPs will continue to be authorized after its expiration date.

\_\_\_\_\_  
Jennifer L. McCarthy  
Chief, Regulatory Division

\_\_\_\_\_  
Date



## APPENDIX C

### GENERAL PERMIT 16 - STANDARD AQUACULTURE TERMS AND CONDITIONS

#### DEPARTMENT OF THE ARMY/STATE OF CONNECTICUT

#### 2016 Connecticut General Permit

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1. Aquaculture activities under this General Permit as identified within Appendix 2, Section F are subject to the current General Permit Conditions and Requirements of the Connecticut General Permit.
2. All gear, including buoys shall be marked and maintained in a manner that will make it identifiable to the specific aquaculture project/lease.
3. Before the authorized structures are installed the project proponent **must** contact the CT DEEP Boating Division, Navigation Safety/Boating Access Unit, P.O. Box 280, 333 Ferry Road, Old Lyme, CT 06371-0280 to either obtain a waiver as to the need to install gear-area boundary marker buoys or submit a permit application and receive authorization for Regulatory Markers ([Link to Regulatory Marker Permit](#)). If CT DEEP Boating regulation does not apply, the applicant shall contact the U.S. Coast Guard (USCG), First District; Aids to Navigation Branch at 408 Atlantic Avenue, Boston, MA 02110-3350 (800-848-3942) to coordinate the proper buoy markers. The permittee shall install and maintain lights, markings and other features as the CT DEEP/USCG requires. Note: Documentation of this coordination will be necessary for existing operations that seek reconfigurations and/or new approvals for structures from the Dept. of Army and for authorizations from the CT DA/BA.
4. Gear may not be located over or within beds of submerged aquatic vegetation (SAV) such as eelgrass or turtle grass, and coastal wetlands (salt marsh), nor shall such beds or vegetated marsh areas be damaged or removed. Routine lease activity including cage maintenance, washing etc. shall not occur within 25 feet of the edge of beds of SAV.
5. All gear shall be designed and deployed in such a manner as to limit, to the greatest extent practicable, negative impacts on avian resources such as, but not limited to, shore birds, wading birds or members of the waterfowl group. This is meant to include nesting, feeding or resting activities by migratory birds identified at 50 CFR 10.13.
6. Installation of structures, their mooring tackle and lines and any attendant vessels shall not create a hazard or interfere with existing navigation uses in the waterway, and structures shall be set back from the Federal Navigation Project (FNP) a distance of at least 200 feet. A list of Connecticut FNP projects can be obtained from the U.S Army Corps of Engineers website <http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/>

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7. The right of the public to traverse or utilize the waters not physically occupied by authorized structures and/or moored vessels within the areal limits of the authorized gear perimeter shall not be impeded.
8. The placement of cultch shall comply with all of the Special Conditions in Section 5, part (h), items (1) through (7) of the Connecticut DEEP, General Permit for Coastal Maintenance (DEEP-OLISP-GP2015-02) as listed below:
  - Such placement of cultch shall only be conducted by a licensed shellfish operator in beds or areas designated for shellfishing under section 26-194 or section 26-242 of the General Statutes.
  - Such placement of cultch shall be conducted only in appropriate locations for colonization by oysters, based upon factors of salinity, water quality, water circulation patterns and substrate composition.
  - Such placement of cultch shall not be conducted in areas of tidal wetlands or submerged aquatic vegetation beds.
  - (Prior to the commencement of such placement of cultch, such licensed shellfish operator obtains all required authorizations from the Department of Agriculture Bureau of Aquaculture and Laboratory and the local shellfish commission, as applicable.
  - Prior to the commencement of such placement of cultch, such licensed shellfish operator obtains permission in writing from the owner or lessee of such shellfish bed or area.
  - Such placement of cultch shall be conducted in such a manner that it does not exceed a layer of cultch on the seafloor greater than 12" in depth.
  - Such placement of cultch shall be conducted such that the placement does not exceed 1,500 bushels per acre of seafloor.

## APPENDIX C

### GENERAL PERMIT 16 - STANDARD AQUACULTURE TERMS AND CONDITIONS

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9. The permittee shall be responsible to remove all gear and associated equipment within any leased or designated shellfish area in the event that the operator surrenders or loses the right to its use.<sup>1</sup>
10. The subject aquaculture activity shall not discernibly interfere with natural sedimentation and erosion processes.
11. Suspended cages or nets for the rearing or grow out of shellfish are permitted as Self Verification, provided they are located wholly below and within the footprint of an existing, authorized fixed or floating structure and provided there is a vertical clearance of at least 2 feet between the bottom of the gear and the sea floor at MLW. The structures that the gear will be adhered to must be in conformance with the structures permit for that "site."
12. Aquaculture projects authorized herein shall not interfere with public shore access at or below mean high water or interfere with the access to any riparian or littoral property.
13. The following conditions may be required as Special Conditions of an authorization to protect Federally-listed, protected sea turtles:
  - a. All gear, including buoys shall be marked and maintained in a manner that will make it identifiable to the specific aquaculture project/lease.
  - b. The length of the buoy line shall not exceed 23.1 feet (10% of the maximum water depth at MHHW at the lease site)
  - c. The gear sites shall be visited by an attendant surface vessel at least once a week, site conditions permitting.

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<sup>1</sup> In some situations, a performance bond may be required.

## APPENDIX C

### GENERAL PERMIT 16 - STANDARD AQUACULTURE TERMS AND CONDITIONS

#### DEPARTMENT OF THE ARMY/STATE OF CONNECTICUT

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- d. If any listed species of sea turtle is observed to be entangled or otherwise interacting with the facility structure, the permittee (or onboard staff) shall immediately contact the Mystic Aquarium & Institute for Exploration, Marine Mammal and Sea Turtle Stranding Program Hotline at 860-572-5955 x107 and notify the NOAA Fisheries 24-hour Hotline at (866) 755-6622. The permittee should also contact the NOAA Fisheries Protected Resources Division, Sea Turtle Stranding & Disentanglement Coordinator at (978) 282-8470 or [NERStranding.staff@noaa.gov](mailto:NERStranding.staff@noaa.gov).
- e. The permittee shall keep the enclosed Sea Turtle Handling and Resuscitation Requirements in a visible location on the attendant vessels at all times. If a sea turtle is entangled in the authorized aquaculture gear and comatose or inactive (but not dead), resuscitation should be attempted by following these procedures.

## APPENDIX D

### CONTACTS FOR CONNECTICUT GENERAL PERMIT:

#### 1. FEDERAL

*U.S. Army Corps of Engineers*  
New England District, Regulatory Division  
696 Virginia Road  
Concord, Massachusetts 01742-2751  
(800) 343-4789 or (978) 318-8335  
(978) 318-8303 - fax

*National Park Service*  
North Atlantic Region  
15 State Street  
Boston, Massachusetts 02109  
(617) 223-5203  
(*Wild & Scenic Rivers*)

*Federal Endangered Species (F&WS):*  
U.S. Fish and Wildlife Service  
70 Commercial Street, Suite 300  
Concord, New Hampshire 03301-5087  
(603) 223-2541

*Federal Endangered Species & EFH (NMFS)*  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930  
Phone: (978) 281-9102  
(978) 281-9301 - fax

*U.S. Environmental Protection Agency, Region I*  
5 Post Office Square, Suite 100  
Boston, Massachusetts 02109  
(617) 918-2000

*Department of Agriculture*  
Bureau of Aquaculture  
P. O. Box 97  
190 Rogers Avenue  
Milford, Connecticut 06460  
(203) 874-0696

#### 2. STATE OF CONNECTICUT

##### *Department of Energy & Environmental Protection*

**(Coastal Projects)**  
Office of Long Island Sound Programs  
79 Elm Street  
Hartford, Connecticut 06106-5127  
(860) 424-3034

**(Inland Projects)**  
Inland Water Resources Division  
79 Elm Street  
Hartford, Connecticut 06106-5127  
(860) 424-3019

**(Mashantucket Pequot Tribal Nation)**  
Department of Natural Resources Protection &  
Regulatory Affairs  
550 Trolley Line Boulevard  
P. O. Box 3202  
Mashantucket, Connecticut 06338-3202

**(Aquaculture Projects)**  
Connecticut Department of Agriculture  
Bureau of Aquaculture & Laboratory  
PO Box 97  
Milford, CT 06460  
(203) 874-0696

**(State Endangered Species)**  
Bureau of Natural Resources  
Wildlife Division  
Natural Diversity Data  
Base  
79 Elm Street  
Hartford, Connecticut 06106-5127  
(860) 424-3011



### **3. HISTORIC RESOURCES**

#### *Tribal Historic Preservation Officers*

Mashantucket Pequot Tribal Nation  
Marissa Turnbull, THPO  
550 Trolley Line Boulevard  
P. O. Box 3202  
Mashantucket, Connecticut 06338-3202  
Phone (860) 396-6887  
Fax (860) 396-6914

Mohegan Tribe of Indians of Connecticut  
James Quinn, Tribal Historic Preservation Officer  
13 Crow Hill Rd.  
Uncasville, CT 06382

Mohegan Tribe of Indians of Connecticut  
Compliance and Regulations Department  
13 Crow Hill Road  
Uncasville, CT 06382

Phone (860) 862-6393  
Fax (860) 862-6395

#### *Archaeological Information*

State Historic Preservation Office  
Department of Economic and Community Development  
Catherine Labadia, Deputy State Historic Preservation Officer  
One Constitution Plaza, 2<sup>nd</sup> Floor  
Hartford, Connecticut 06103-6103  
(860) 256-2800 (main)  
(860) 256-2764 (direct)

### **4. ORGANIZATIONAL WEBSITES**

U. S. Army Corps of Engineers – New England District  
[www.nae.usace.army.mil/missions/regulatory.aspx](http://www.nae.usace.army.mil/missions/regulatory.aspx)

U. S. Army Corps of Engineers Headquarters [www.usace.army.mil](http://www.usace.army.mil) (click “Services for the Public”)

U.S. Environmental Protection Agency [www.epa.gov/owow/wetlands/](http://www.epa.gov/owow/wetlands/)

National Marine Fisheries Service [www.nmfs.noaa.gov](http://www.nmfs.noaa.gov)

U.S. Fish and Wildlife Service [www.fws.gov](http://www.fws.gov)

National Park Service [www.nps.gov/rivers/index.html/](http://www.nps.gov/rivers/index.html/)

Federal Emergency Management Agency [www.fema.gov](http://www.fema.gov)

Connecticut Dept. of Energy & Environmental Protection <http://www.ct.gov/deep/site/default.asp>

Connecticut Dept. of Agriculture, Bureau of Aquaculture & Laboratory

<http://www.ct.gov/doag/cwp/view.asp?a=3768&q=451508&doagNav=>

U.S. Environmental Protection Agency, Region 1 – Low Impact Development-practices and state-specific resources, including CT DEP Stormwater Quality Manual [www.epa.gov/ne/topics/water/lid.html](http://www.epa.gov/ne/topics/water/lid.html)

U.S. Environmental Protection Agency – Green Infrastructure website [www.epa.gov/greeninfrastructure](http://www.epa.gov/greeninfrastructure)



**US Army Corps  
of Engineers®**  
New England District

**Appendix E: Self-Verification Notification Form**

This form is required for all **non-tidal projects in Connecticut**, but **not** required if work is done within boundaries of Mashantucket Pequot or Mohegan Tribal Lands. **Before** work commences, complete **all** fields (write "none" if applicable); attach project plans (not required for projects involving the installation of construction mats only); and any state or local approval(s); and send to:

Permits & Enforcement Branch B  
U.S. Army Corps of Engineers  
696 Virginia Road  
Concord, MA 01742-2751  
or cenae-r@usace.army.mil

and

CT DEEP  
Inland Water Resources Division  
79 Elm Street  
Hartford, CT 06106-5127

\*\*\*\*\*

State or local Permit Number: \_\_\_\_\_  
Date of State or local Permit: \_\_\_\_\_  
State/local Project Manager: \_\_\_\_\_

Permittee: \_\_\_\_\_  
Address, City, State & Zip: \_\_\_\_\_  
Phone(s) and Email: \_\_\_\_\_

Contractor: \_\_\_\_\_  
Address, City, State & Zip: \_\_\_\_\_  
Phone(s) and Email: \_\_\_\_\_

Consultant/Engineer/Designer: \_\_\_\_\_  
Address, City, State & Zip: \_\_\_\_\_  
Phone(s) and Email: \_\_\_\_\_

Wetland/Soil Scientist Consultant: \_\_\_\_\_  
Address, City, State & Zip: \_\_\_\_\_  
Phone(s) and Email: \_\_\_\_\_

Project Location (provide detailed description & locus map): \_\_\_\_\_

Address, City, State & Zip: \_\_\_\_\_

Latitude/Longitude Coordinates: \_\_\_\_\_

Waterway Name: \_\_\_\_\_

Project Purpose (include all aspects of the project including those not within Corps jurisdiction):

Work Description: \_\_\_\_\_

Work will be done under the following GP(s) (check all that have associated impacts):

         **GP. 2 - Repair or maintenance of authorized or grandfathered structures/fills**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 5 - Boat ramps/marine railways**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 6 - Utility line activities (include calculations for each single & complete crossing  
– attach additional sheet if necessary)**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 9 - Shoreline and bank stabilization projects**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 10 - Aquatic habitat restoration, establishment and enhancement activities**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 11 - Fish & wildlife harvesting, enhancement and attraction devices and activities**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 12 - Oil Spill and Hazardous material cleanup**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 13 - Cleanup of hazardous and toxic waste**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 14 - Scientific measurements devices**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 15 - Survey activities**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

         **GP. 17 - New/expanded developments & recreational facilities**

Area of total wetland impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF      permanent \_\_\_\_\_ SF

**\_\_\_\_\_ GP. 18 - Linear transportation projects- wetland crossings only (include calculations for each single & complete crossing - attach additional sheet if necessary)**

Area of total wetland impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF

**\_\_\_\_\_ GP. 19 - Stream, river & brook crossings – not including wetland crossings (include calculations for each single & complete crossing – attach additional sheet if necessary)**

Area of total wetland impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF

**\_\_\_\_\_ GP. 21 - Temporary fill not associated with any other GP activities**

Area of total wetland impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF  
Area of total waterway impacts: temporary \_\_\_\_\_ SF permanent \_\_\_\_\_ SF

**Does your project include any secondary effects? Yes \_\_\_\_\_ No \_\_\_\_\_**

(Secondary effects include, but are not limited to non-tidal waters or wetlands drained, flooded, fragmented, or mechanically cleared resulting from a single and complete project. See Appendix F - Definitions.) If YES, describe here: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Proposed Work Dates: Start: \_\_\_\_\_ Finish: \_\_\_\_\_**

**Your name/signature below, as permittee, confirms that your project meets the self-verification criteria and that you accept and agree to comply with the applicable terms and conditions in the Connecticut General Permits.**

\_\_\_\_\_  
**Signature of Permittee**

\_\_\_\_\_  
**Date**



## APPENDIX F - DEFINITIONS

**Artificial Reef:** A structure which is constructed or placed in waters for the purpose of enhancing fishery resources and commercial and recreational fishing opportunities.

**Boating facilities:** These provide, rent or sell mooring space, such as marinas, boat/yacht clubs, boat yards, dockminiums, town facilities, dockminiums, etc. Not classified as boating facilities are piers shared between two abutting properties or town mooring fields that charge an equitable user fee based on the actual costs incurred.

**Construction mats:** Construction, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together.

**Compensatory mitigation:** The restoration (re-establishment or rehabilitation), establishment (creation), enhancement, and/or in certain circumstances preservation of aquatic resources for the purposes of offsetting unavoidable adverse impacts which remain after all appropriate and practicable avoidance and minimization has been achieved.

**Currently serviceable:** Useable as is or with some minor maintenance, but not so degraded as to essentially require reconstruction.

**Direct effects:** Effects that are caused by the activity and occur at the same time and place.

**Dredged material & discharge of dredged material:** These are defined at 33 CFR 323.2(c) and (d). The term dredged material means material that is excavated or dredged from waters of the United States.

**Discharge:** The term "discharge" means any discharge of dredged or fill material into waters of the United States.

**Enhancement:** The manipulation of the physical, chemical, or biological characteristics of an aquatic resource to heighten, intensify, or improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

**Ephemeral stream:** An ephemeral stream has flowing water only during, and for a short duration after, precipitation events in a typical year. Ephemeral stream beds are located above the water table year-round. Groundwater is not a source of water for the stream. Runoff from rainfall is the primary source of water for stream flow.

**Establishment (creation):** The manipulation of the physical, chemical or biological characteristics present to develop an aquatic resource that did not previously exist at an upland site. Establishment results in a gain in aquatic resource area.

**Expansions:** Work that increases the footprint of fill, depth of basin or drainage feature, structures or floats, or slip capacity.

**Fill material & discharge of fill material:** These are defined at 33 CFR 323.2(e) and (f). The term fill material is defined as material placed in waters of the U.S. where the material has the effect of either replacing any portion of a water of the U.S. with dry land or changing the bottom elevation of any portion of a water of the U.S.

**Federal navigation projects (FNPs):** These areas are maintained by the Corps; authorized, constructed and maintained on the premise that they will be accessible and available to all on equal terms; and are comprised of Corps Federal anchorages, Federal channels and Federal turning basins. Information, including the limits, is provided at <http://www.nae.usace.army.mil/Missions/Navigation.aspx>

**FNP Buffer Zone:** The buffer zone of a Corps FNP is equal to three times the authorized depth of the FNP. For additional information see <http://www.nae.usace.army.mil/Missions/Navigation/Connecticut-Projects/>

**Historic Property:** Any prehistoric or historic district, site (including archaeological site), building, structure, or other object included in, or eligible for inclusion in, the National Register of Historic Places maintained by the Secretary of the Interior. This term includes artifacts, records, and remains that are related to and located within such properties. The term includes properties of traditional religious and cultural importance to an Indian tribe or Native Hawaiian organization and that meet the National Register criteria (36 CFR part 60).

**Intermittent stream:** An intermittent stream has flowing water during certain times of the year, when groundwater provides water for stream flow. During dry periods, intermittent streams may not have flowing water. Runoff from rainfall is a supplemental source of water for stream flow.

**Indirect effects:** Effects that are caused by the activity and are later in time or farther removed in distance, but are still reasonably foreseeable.

**Individual Permit:** A Department of the Army authorization that is issued following a case-by-case evaluation of a specific structure or work in accordance with the procedures of 33 CFR 322, or a specific project involving the proposed discharge(s) in accordance with the procedures of 33 CFR 323, and in accordance with the procedures of 33 CFR 325 and a determination that the proposed discharge is in the public interest pursuant to 33 CFR 320.

**Living Shoreline:** A term used to describe a combination of mostly naturally derived materials including plants, shell and rock or manufactured rock-like surfaces that are used along a shoreline exhibiting erosion to dissipate wave energy and to collect naturally deposited sediment.

**Maintenance:** Maintenance does not include any modification that changes the character, scope, or size of the original fill design.

**Navigable waters of the United States:** Navigable waters of the United States are those waters that are subject to the ebb and flow of the tide and/or are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. The Connecticut River has been determined to be a Navigable water of the United States. Refer to Title 33 CFR Part 329.

**Ordinary High Water Mark (OHW):** A line on the shore established by the fluctuations of water and indicated by physical characteristics, or by other appropriate means that consider the characteristics of the surrounding areas. See 33 CFR 328.3(e).

**Perennial stream:** A perennial stream has flowing water year-round during a typical year. The water table is located above the stream bed for most of the year. Groundwater is the primary source of water for stream flow. Runoff from rainfall is a supplemental source of water for stream flow.

**Practicable:** Available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purposes.

**Preservation:** The removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

**Re-establishment:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area.

**Rehabilitation:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

**Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: reestablishment and rehabilitation.

**Secondary effects:** These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. Information about secondary effects on aquatic ecosystems shall be considered prior to the time final Section 404 action is taken by permitting authorities. Some examples of secondary effects on an aquatic ecosystem are a) aquatic areas drained, flooded, fragmented, or mechanically cleared, b) fluctuating water levels in an impoundment and downstream associated with the operation of a dam, c) septic tank leaching and surface runoff from residential or commercial developments on fill, and d) leachate and runoff from a sanitary landfill located in waters of the U.S. See 40 CFR 230.11(h).

**Shellfish dredging:** Shellfish dredging typically consists of a net on a frame towed behind a boat to capture shellfish and leave the sediment behind. Dredges may skim the surface, utilize hydraulic jets, toothed rakes or suction apparatus.

**Special aquatic sites:** These include inland and saltmarsh wetlands, mud flats, vegetated shallows (submerged aquatic vegetation), sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230.3 and listed in 40 CFR 230 Subpart E.

**Stream bed:** The substrate of the stream channel between the OHW marks. The substrate may be bedrock or inorganic particles that range in size from clay to boulders. Wetlands contiguous to the streambed, but outside of the OHW marks, are not considered part of the streambed.

**Stream channelization:** The manipulation of a stream's course, condition, capacity, or location that causes more than minimal interruption of normal stream processes. A channelized stream remains a water of the United States.

**Structure:** An object that is arranged in a definite pattern of organization. Examples of structures include, without limitation, any pier, boat dock, boat ramp, wharf, dolphin, weir, boom, breakwater, bulkhead, revetment, riprap, jetty, artificial island, artificial reef, permanent mooring structure, power transmission line, permanently moored floating vessel, piling, aid to navigation, or any other manmade obstacle or obstruction.

**Temporary impacts:** Temporary impacts include waters of the U.S. that are temporarily filled, flooded, excavated, drained or mechanically cleared because of the regulated activity.

**Tide gates:** Structures such as duckbills, flap gates, manual and self-regulating tide gates, etc. that regulate or prevent upstream tidal flows.

**Utility Line:** Any pipe or pipeline for the transportation of any gaseous, liquid, liquescent, or slurry substance, for any purpose, and any cable, line, or wire for the transmission for any purpose of electrical energy, telephone, data, and telegraph messages, and radio and television communication. The term utility line does not include activities that drain a water of the U.S., such as drainage tile or French drains, but it does apply to pipes conveying drainage from another area.

**Vegetated shallows:** Permanently inundated areas that under normal circumstances support communities of rooted aquatic vegetation, such as eelgrass and widgeon grass (*Ruppia maritima*) in marine systems (doesn't include salt marsh) as well as a number of freshwater species in rivers and lakes. Note: These areas are also commonly referred to as submerged aquatic vegetation (SAV).

**Vernal pools (VPs):** Vernal pools (VPs): For the purposes of these GPs, VPs are depressional wetland basins that typically go dry in most years and may contain inlets or outlets, typically of intermittent flow. Vernal pools range in both size and depth depending upon landscape position and parent material(s). In most years, VPs support one or more of the following obligate indicator species: wood frog, spotted salamander, blue-spotted salamander, marbled salamander, Jefferson's salamander and fairy shrimp. However, they should preclude sustainable populations of predatory fish. VP areas are:

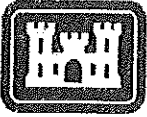
- Depression (includes the VP depression up to the spring or fall high water mark, and includes any vegetation growing within the depression),
- Envelope (area within 0-100 feet of the VP depression's edge), and
- Critical terrestrial habitat (area within 100-750 feet of the VP depression's edge).



The envelope and critical terrestrial habitat protect the water quality of the breeding site (e.g., providing shade, leaf litter, and coarse woody material) and support the non-larval life-cycle stages of amphibian species. Note: The Corps may determine that a waterbody should not be designated as a VP based on available evidence.

**Weir:** A barrier across a river designed to alter the flow characteristics. In most cases, weirs take the form of a barrier, smaller than most conventional dams, across a river that causes water to pool behind the structure (not unlike a dam) and allows water to flow over the top. Weirs are commonly used to alter the flow regime of the river, prevent flooding, measure discharge and help render a river navigable.

**Waters of the United States.:** Waters of the United States are defined in Title 33 CFR Part 328. These waters include more than navigable waters of the U.S. and are the waters where permits are required for the discharge of dredged or fill material pursuant to Section 404 of the Clean Water Act. Waters of the U.S. include jurisdictional wetlands.



Design and construction guidance may be found in the U.S. Forest Service stream simulation manual, "Stream Simulation: An Ecological Approach to Providing Passage for Aquatic Organisms at Road-Stream Crossings"<sup>1</sup>. Section 5.3.3 Headcutting Potential and 6.2 Design of the Stream-Simulation Channel Bed are particularly relevant. Sections 7.5.2.3 Construction Methods and 8.2.11 Stream-Simulation Bed Material Placement both show important steps in the project construction. Chapter 6.1 is relevant for proper alignment and construction to prevent bank erosion or streambed scour.

#### Permanent Crossings in Tidal Streams

These are relevant for new and replacement crossings and culvert extensions.

1. Match the velocity, depth, cross-sectional area, and substrate of the existing stream outside the crossing, if it exists, and size crossings such that they do not restrict tidal flow over the full natural tide range seaward of the crossing. The Corps will typically require a low lying property analysis to ensure flooding is not a concern.
2. Construct crossings in dry conditions.

#### Permanent Crossings in Non-Tidal Streams

These are relevant for new and replacement crossings and culvert extensions:

1. Span<sup>2</sup> streams or size culverts or pipe arches such that they are wider than bankfull width (BFW). Spans are strongly preferred as they avoid or minimize disruption to the streambed, and avoid entire streambed reconstruction and maintenance inside the culvert or pipe arch (see 4, 5 & 7 below), which may be difficult in smaller structures. The span width of bridges, box culverts and arches at bankfull elevation should be  $\geq 1.2$  times BFW where practicable. In many cases bankfull width is not necessarily interchangeable with the elevation of ordinary high water.<sup>3</sup>
2. Embed culverts or pipe arches below the grade of the streambed. This is not required when ledge/bedrock and/or utilities prevents embedment, in which case spans are preferred. The following depths are recommended to prevent streambed washout, and ensure compliance and long-term success:
  - a.  $\geq 1-2$  feet for box culverts and pipe arches<sup>4</sup>, or
  - b.  $\geq 1-2$  feet and at least 25% for round pipe culverts.
3. Match the culvert gradient (slope) with the stream channel profile.
4. Construct crossings carrying normal flows with a natural bottom substrate within the structure matching the characteristics of the substrate in the natural stream channel and the banks

<sup>1</sup> [www.nae.usace.army.mil/missions/regulatory.aspx](http://www.nae.usace.army.mil/missions/regulatory.aspx) >> "Stream and River Continuity."

<sup>2</sup> For the purposes of this GP, spans are bridges, three-sided box culverts, open-bottom culverts or arches that span the stream. The use of bridge piers or similar supports does not prevent a structure from being considered as a span.

<sup>3</sup> BFW corresponds with "bankfull stage" and this should be field delineated in accordance with the U.S. Forest Service documents: a) U.S. Forest Service stream simulation manual<sup>1</sup>; b) "Stream Channel Reference Sites: An Illustrated Guide to Field Technique" (Harrelson, et al. 1994); and c) "A Guide to Identification of Bankfull Stage in the Northeastern United States".

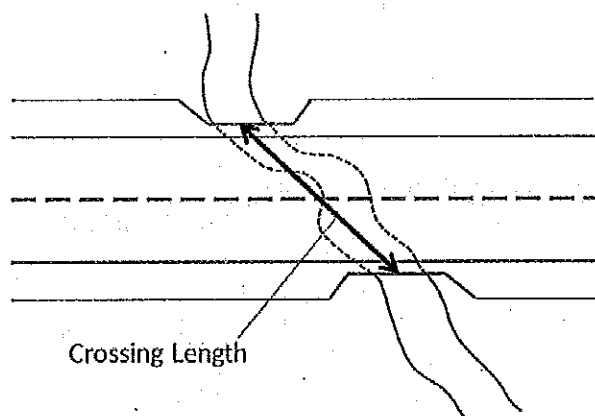
<sup>4</sup> For 2(a) and 2(b), deeper embedment depths may be needed if there are elements of the constructed stream bed that are greater than 15 inches in diameter.

(mobility, slope, stability, confinement, grain and rock size) at the time of construction and over time as the structure has had the opportunity to pass substantial high flow events.

5. Construct crossings with appropriate bed forms and streambed characteristics so that water depths and velocities are comparable to those found in the natural channel at a variety of flows at the time of construction and over time. In order to provide appropriate water depths and velocities at a variety of flows and especially low flows, it is usually necessary to reconstruct the streambed (sometimes including a low flow channel), or replicate or preserve the natural channel within the structure. Otherwise, the width of the structure needed to accommodate higher flows will create conditions that are too shallow at low flows. The grain and rock size, and arrangement of streambed materials within the structure should be in accordance with (4) above. Flows could go subsurface within the structure if only large material is used without smaller material filling the voids.

6. *Openness > 0.82 feet (0.25 meters)*

Openness is the cross-sectional area of a structure opening divided by its crossing length when measured in consistent units (e.g. feet). For a box culvert, openness = (height x width)/ length.



For crossing structures with multiple cells or barrels, openness is calculated separately for each cell or barrel. At least one cell or barrel must meet the appropriate openness standard. The embedded portion of a culvert is not included in the calculation of cross-sectional area for determining openness.<sup>5</sup>

Openness > 0.82 feet is recommended to make the structure more likely to pass small, riverine wildlife such as turtles, mink, muskrat and otter that may tend to

avoid structures that appear too constricted. This openness standard is too small to accommodate large wildlife such as deer, bear, and moose. Structures that meet this openness standard are much more likely than traditional culverts to pass flood flows and woody debris that would otherwise obstruct water passage. It is likely that most structures that meet all the other general standards will also meet this openness standard. However, for some very long structures it may be impractical or impossible to meet this standard.

7. Construct banks on each side of the stream inside the span that match the horizontal profile of the existing stream and banks outside the span. To prevent failure, all constructed banks should have a height to width ratio of no greater than 1:1.5 (vertical:horizontal) unless the stream is naturally incised. Tie the banks into the up and downstream banks and configure them to be stable during expected high flows. Use materials that match the up and downstream banks (avoid the use of angular riprap and armored slopes, except where necessary for structural reasons, in which case they should be top-dressed with natural stream bed material). Construct a wildlife shelf on at least one of the banks. The constructed banks (with a wildlife shelf) will allow for terrestrial passage for wildlife and prevent flow from being focused to one side and

<sup>5</sup> An Openness Ratio Spreadsheet shows how to calculate the open area for embedded pipe culverts to meet the 0.82 standard for openness. See [www.nae.usace.army.mil/missions/regulatory.aspx](http://www.nae.usace.army.mil/missions/regulatory.aspx) >> Stream and River Continuity.

scouring the bed, especially against the structure's sidewall which may undermine the footings in the case of spans.

#### Temporary Crossings in Non-Tidal Streams

Temporary crossings shall consist of spans, culverts, construction mats or fords designed and constructed as follows:

1. All temporary crossings:
  - a. Impacts to the streambed or banks require restoration to their original condition (see U.S. Forest Service stream simulation manual referenced on page 1 of this document for stream simulation restoration methods). Use geotextile fabric or other appropriate bedding for stream beds and approaches where practicable to ensure restoration to the original grade.
  - b. Avoid excavating the stream or embedding crossings.
2. Culverts:
  - a. Install energy dissipating devices downstream if necessary to prevent scour.
3. Stream fords: Equipment may ford streams when: it is not feasible to construct a span or culvert (e.g., streams having no or low banks, emergency situations); the natural stream bed and banks consist of ledge, rock or sand that prevents disturbance and turbidity; and there is a stable, gradual approach.
4. Spans: Anchor spans where practicable so they do not wash out during high water.
5. Construction mats: Build construction mat stream crossings in accordance with the Construction Mat BMPs, specifically the Wetland/Stream Channel Crossing section. See [www.nae.usace.army.mil/missions/regulatory.aspx](http://www.nae.usace.army.mil/missions/regulatory.aspx) >> State General Permits >> Connecticut General Permit Documents.



**INTERDEPARTMENTAL  
MESSAGE**

**STATE OF CONNECTICUT**

<b>To</b>	NAME, TITLE Central Permit Processing Unit, 1 <sup>st</sup> Floor	DATE 10/11/2018
	AGENCY, ADDRESS Department of Energy and Environmental Protection, 79 Elm Street, Hartford	
<b>From</b>	NAME, TITLE Kimberly C. Lesay, Transportation Assistant Planning Director	TELEPHONE 860-594-2931
	AGENCY, ADDRESS Department of Transportation, 2800 Berlin Turnpike, Newington, CT 06131	

**Subject: State Project No. 96-200**  
I-84 Resurfacing, Bridge Rehabilitation, and Safety Improvements, Newtown

Attached is an original CT DEEP Request for Authorization Form for the General Permit for Water Resource Construction Activities associated with the above referenced project.

Any questions pertaining to this application may be directed to Mr. Andrew H. Davis, Transportation Supervising Planner of my staff, at 860-594-2157.

CT Dept of Energy & Environmental Protection  
Central Permit Processing Unit

OCT 16 2018

RECEIVED BY B.C.

**Attachments**

Rachael Hyland / rh

- cc: Kimberly C. Lesay – Kevin F. Carifa – Andrew Piraneo  
Andrew H. Davis – Christopher W. Samorajczyk – Alexander T. Finch  
Susan M. Libatique – Sebastian Cannamela – Pinith B. Mar  
District 4 Construction – John S. Dunham – Richard N. Symonds



**Connecticut Department of  
Energy & Environmental Protection**  
79 Elm Street  
Hartford, CT 06106-5127  
www.ct.gov/deep

KIMBERLY LESAY  
STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION  
2800 BERLIN TPKE  
PO BOX 317546  
NEWINGTON, CT 06111-4113

10/19/2018

Dear Applicant:

This letter is to confirm the receipt of the following application package:

Permit Type: Construction Activities-GP-3(a)(8-9)

CT DOT PROJECT# 096-200: I-84 NEWTOWN RESURFACING, BRIDGE REHABILITATION AND SAFETY IMPROVEMENTS. THIS PROJECT CONSISTS OF SAFETY IMPROVEMENTS ALONG APPROX. FOUR MILES BETWEEN EXITS 9 & 10 AND INCLUDES THE LINING OF FOUR CULVERTS.

Your application has been assigned the following number: 201813401  
Please include this number on all correspondence regarding this application.

As of today, the following materials have been received:

ITEM	REQUIRED FEE	FEE RECEIVED	RECEIVED ON
Application Package			10/16/2018
Application Fee	0.00		

The fee for this application has been discounted 100%.

If there are any questions regarding this notice, please feel free to contact the Central Permit Processing Unit at (860) 424-4004 or DEEP.CentralPermits@ct.gov

If you have specific technical questions regarding your application, please contact the permit program directly: Inland Water Resources Division (860) 424-3019

As a reminder, depending on the type of permit you are seeking, you may be required to publish notice of your application in accordance with section 22a-6g of the General Statutes and submit a copy of such notice to DEEP. If this is the case, DEEP will not process your application further until we have received the certified copy of such notice.

Please remember to check your security settings to be sure you can receive e-mails from (ct.gov) addresses. Also, please notify the department if your e-mail address changes.

Thank you.

Sincerely,

Central Permit Processing Unit